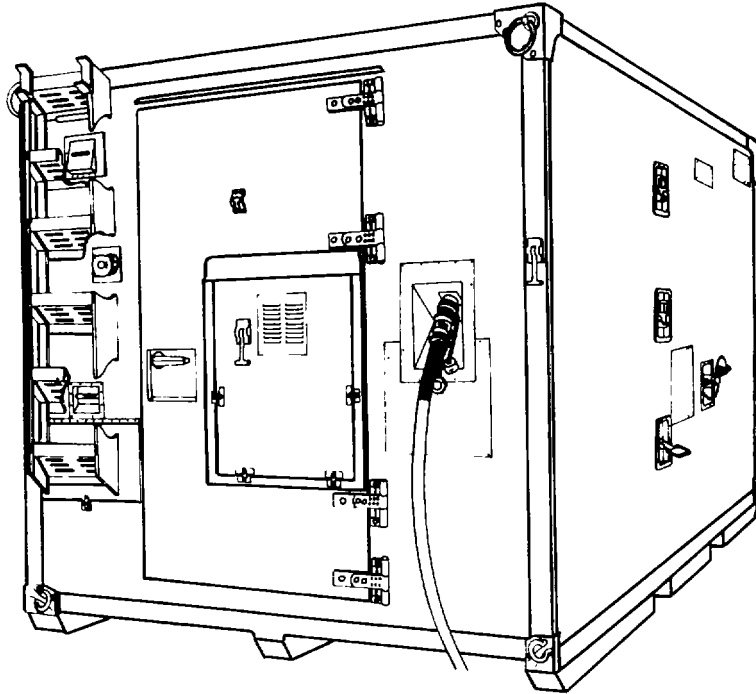


**TECHNICAL MANUAL**

**OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT  
AND GENERAL SUPPORT MAINTENANCE MANUAL**



**EDITORIAL AND PHOTOMECHANICAL SHELTER  
COMPONENT OF PRINTING PLANT, SPECIAL  
WARFARE, TRANSPORTABLE  
MODEL 800  
NSN 3610-01-106-2276**

---

**HEADQUARTERS, DEPARTMENT OF THE ARMY  
21 AUGUST 1984**



**SAFETY****WARNINGS**

Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Do not perform electrical maintenance or make electrical connection or disconnection at the main power receptacle while the generator set is running or the commercial power breaker is ON. Always have another person standing by who is familiar with electrical shock first aid.

Death or serious injury could result by repeated and/or prolonged breathing and/or liquid skin contact of drycleaning solvent P-D-680. Use in a well-ventilated area. Do not use near open flame or in excessive heat. The flash point of this solvent is 100°F 138°F (38°C 59°C).

Injury to personnel or damage to equipment could result if unauthorized or unnecessary individuals are nearby when lifting and lowering shelter. Permit only personnel actually engaged in the lifting operation to be near the vehicle and lifting device. All instructions for the lifting operations must come from the crew supervisor.

**CAUTIONS**

Lift shelter slowly to avoid tearing lifting eye assemblies from the shelter. Do not jerk the sling when lifting. Do not swing the shelter from side to side when lifting. This places additional stress on the lifting eye assemblies which can tear them from the shelter.

Do not bounce or jar the shelter. Bouncing or jarring can loosen the bond between the skin and foam-core and reduce the rigidity and strength of the shelter.

Change

No. 2

**Operator's, Unit, Direct Support, and General Support  
Maintenance Manual  
Editorial and Photomechanical Shelter, Component of Printing Plant,  
Special Warfare, Transportable, Model 800  
(NSN 3610-00-889-3311) (EIC: YDS)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. We'd prefer that you submit your recommended changes electronically, either by e-mail (AMSEL-LC-LEO-PUBS-CHG@mail1.monmouth.army.mil) or online (<http://edm.monmouth.army.mil/pubs/2028.html>). Alternatively, you may mail or fax your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in back of this manual to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LEO-E-ED, Fort Monmouth, NJ 07703-5006. The fax number is 732-532-3421, DSN 992-3421.

In any case, we will send you a reply.

Approved for Public Release; Distribution is Unlimited

TM 5-3610-254-14 dated 21 August 1984, is changed as follows:

1. Title of manual is changed as shown above.
2. Appendix B., Maintenance Allocation Chart, has been revised to implement Army Maintenance Transformation and changes the Maintenance Allocation Chart (MAC) to support Field and Sustainment Maintenance. Because the entire Appendix is revised, no change bars/hands are used.

Remove Pages

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B-1 through B-12

Insert Pages

a and b  
B-1 through B-11/(B-12 Blank)

3. File this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

Official:



SANDRA R. RILEY

*Administrative Assistant to the  
Secretary of the Army*

0523412

PETER J. SCHOOMAKER  
*General, United States Army  
Chief of Staff*

To be distributed in accordance with Initial Distribution Number (IDN) 250724 requirements for TM 5-3610-254-14.

CHANGE

NO. 1

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 30 November 1987

Operator, Organizational, Direct Support,  
and General Support Maintenance Manual

EDITORIAL AND PHOTOMECHANICAL SHELTER  
COMPONENT OF  
PRINTING PLANT, SPECIAL WARFARE, TRANSPORTABLE  
MODEL 800  
NSN 3610-01-106-2276

TM 5-3610-254-14-, 21 August 1984, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

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Insert pages

i and ii  
A-1 and A-2  
C-3 through C-7/C-8  
E-1 through E-6

i and ii  
A-1 and A-2  
C-3 through C-8  
E-1 through E-6

2. Retain this sheet in front of manual for reference purposes.

**By Order of the Secretary of the Army:**

**CARL E. VUONO**  
*General, United States Army*  
*Chief of Staff*

**Official:**

**R. L. DILWORTH**  
*Brigadier General, United States Army*  
*The Adjutant General*

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-25A, Operator, Unit, and Direct Support and General Support Maintenance Requirements for Editorial & Photochemical Shelter, Printing Plant, Special Warfare, Model 800.

**LIST OF EFFECTIVE PAGES**

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES

Dates of issue for original is:

Original .....21 August 1984  
 Change 1 .....30 November 1987  
**Change 2.....1 September 2005**

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 336 CONSISTING OF THE FOLLOWING:

Page	*Change No.	Page	*Change No.
Cover .....	0		
a .....	1		
<b>b</b> .....	<b>2</b>		
i and ii .....	1		
1-1 through 1-18 .....	0		
2-1 through 2-22 .....	0		
3-1 through 3-5/(3-6 Blank) .....	0		
4-1 through 4-118 .....	0		
5-1 through 5-65/(5-66 Blank) .....	0		
6-1 through 6-49/(6-50 Blank) .....	0		
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<b>B-1 through B-11/(B-12 Blank) .....</b>	<b>2</b>		
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\* Zero in this column indicates an original page.

USA

TECHNICAL MANUAL

NO. 5-3610-254-14

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 21 August 1984

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT,  
AND GENERAL SUPPORT MAINTENANCE MANUAL

EDITORIAL AND PHOTOMECHANICAL SHELTER  
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MODEL 800  
NSN 3610-01-106-2276

**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, U. S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.**

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## CHAPTER 1

### INTRODUCTION

#### Section I. GENERAL INFORMATION

##### 1-1. SCOPE

TYPE OF MANUAL:

Operator, Organizational, Direct Support, and General Support Maintenance.

MODEL NUMBER AND NAME:

800 - Editorial and Photomechanical Shelter

PURPOSE OF EQUIPMENT:

Composing of master copies to be used in producing special warfare leaflets.

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

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

##### 1-3. HAND RECEIPT MANUAL

This manual has a companion document with a TM number followed by -HR (which stands for Hand Receipt). The TM 5-3610-254-14-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i. e. , COEI, BII, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from: U. S. Army Adjutant General Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220. For proper requisitioning procedures see DA Pamphlet 310-10-2, The Standard Army Publications System (STARPUBS) Resupply Guide.

##### 1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-3 for information and instructions covering destruction of Army Materiel.

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

If your Editorial Shelter needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you do not like about your equipment. Let us know why you do not like the design. Tell us why a procedure is hard to perform. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at U. S. Army Troop Support Command, ATTN: DRSTR-QX, 4300 Goodfellow Blvd. , St. Louis, MO. 63120. We'll send you a reply.

**1-6 PREPARATION FOR STORAGE OR SHIPMENT**

Refer to paragraph 4-32 for information pertaining to the preparation for storage and shipment.

Section II. EQUIPMENT DESCRIPTION AND DATA

**1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES**

CHARACTERISTICS:

A vehicular transportable reproduction facility, used in conjunction with the press shelter to make up the printing plant.

CAPABILITIES:

Capable of composing a master copy to be used in producing special warfare leaflets.

FEATURES:

Include the following:

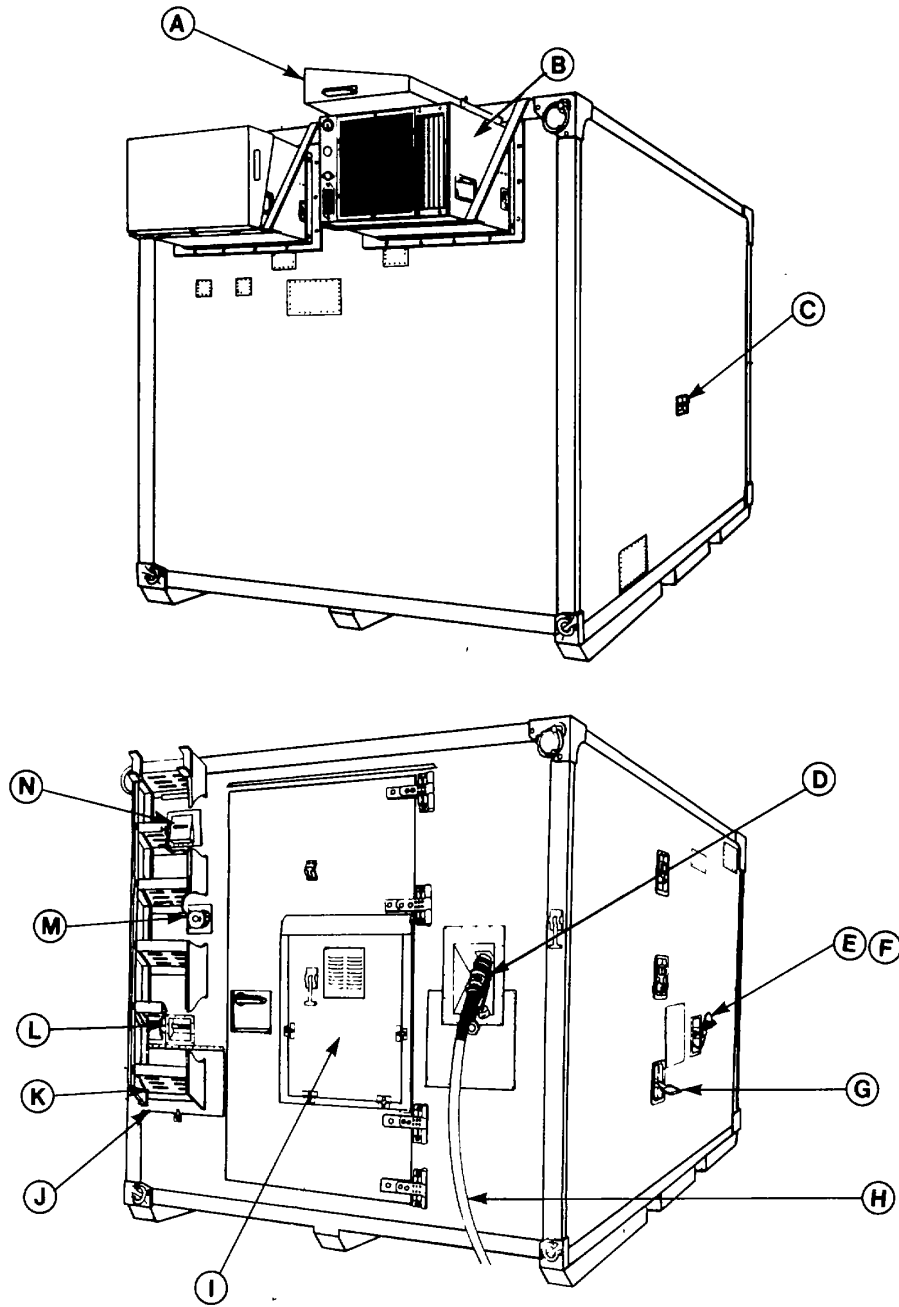
- a. Phototypesetter
- b. Camera

**1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES (cont)**

## FEATURES: (cont)

- c. Vertical vacuum frame
- d. Light tables
- e. Storage cabinets
- f. Air conditioner units
- g. Level indicator gages

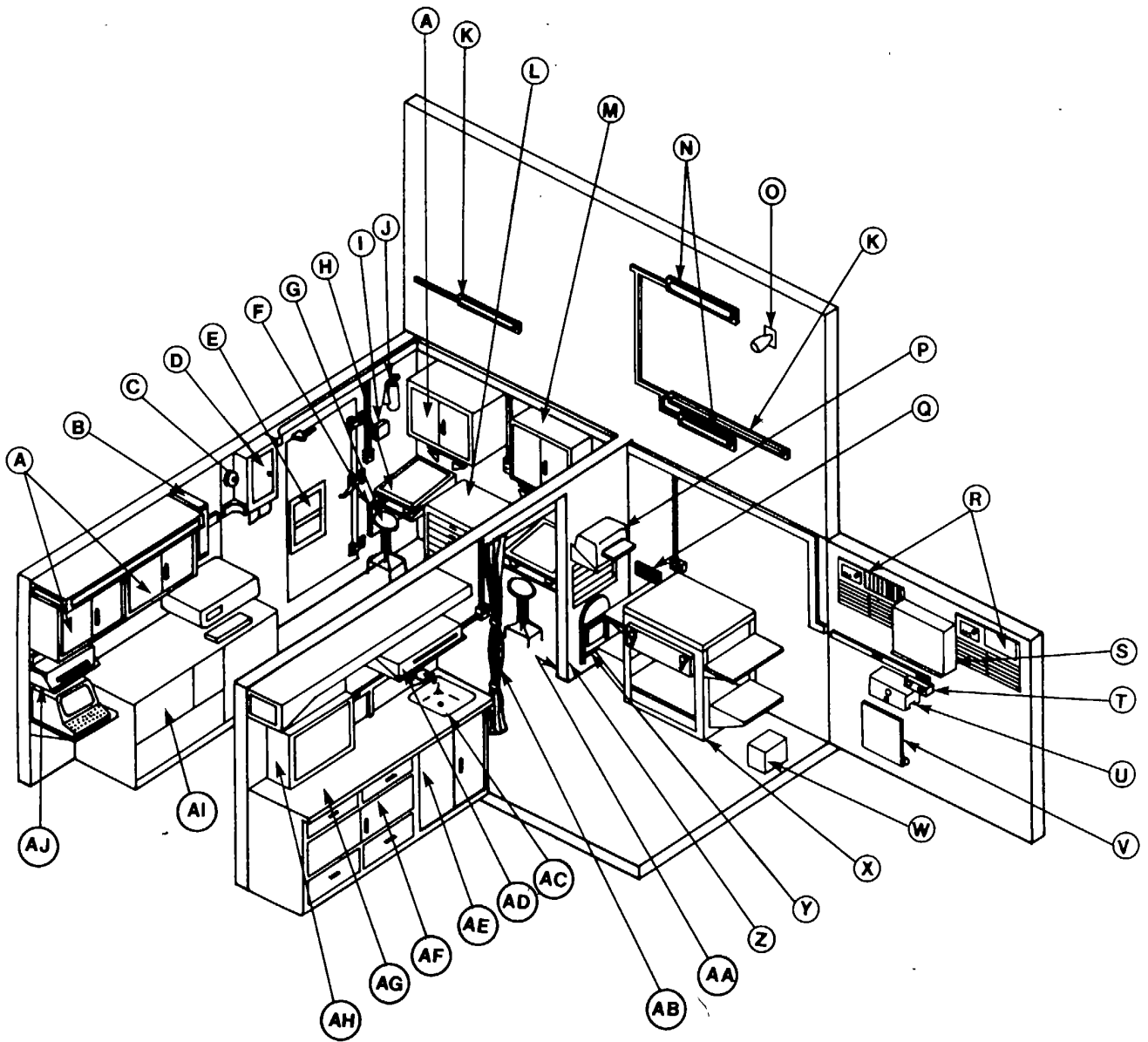
1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



**1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

- (A) CONDENSER COVER. Protects the air conditioner when not in use and during transit of the shelter.
- (B) AIR CONDITIONER. Provides temperature control for the shelter.
- (C) ROADSIDE LEVEL INDICATOR. Roadside bubble gage-type level used to level shelter.
- (D) MAIN POWER RECEPTACLE. Permits supply of power to interior main power service box when power cable is connected.
- (E) SINK DRAIN. Provides a means of draining darkroom sink.
- (F) WATER TANK FILLER. Provides an outside means of filling water tank.
- (G) FOLDING STEPS. Allows access to roof of shelter.
- (H) MAIN POWER CABLE. Used to supply shelter with power from power source.
- (I) AIR FILTER WEATHER COVER. Provides access to the removable foam-type air filter.
- (J) DROP-OFF BOX ASSEMBLY. Provides a means of receiving or sending copy material without opening the shelter door.
- (K) LADDER ASSEMBLY. Provides a means of entry to shelter when truck mounted.
- (L) LEVEL INDICATOR. Rear bubble gage-type level used to level shelter.
- (M) BLACKOUT WARNING SWITCH. Activates an interior blackout buzzer to warn personnel in the shelter to turn off interior lights before opening door during blackout.
- (N) TELEPHONE BINDING POST. Used to facilitate connection of field telephone between units of printing plant.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)



**1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

## EDITORIAL SHELTER INTERIOR

- (A) WALL CABINET. Used to store paper and other supplies.
- (B) REGULATOR. Provides regulated voltage to the phototypesetter.
- (C) BLACKOUT WARNING BUZZER. Along with exterior blackout switch provides a blackout warning system.
- (D) MAIN POWER SERVICE BOX. Contains circuit breakers and distribution terminals for shelter electrical system.
- (E) FRESH AIR FILTER. A foam-type air filter permits filtered outside air to enter shelter when door is closed and exterior weather cover is open.
- (F) DROP-OFF BOX ASSEMBLY. Provides a means of receiving or sending copy material without opening the shelter door.
- (G) STOOL. Used in conjunction with the light table.
- (H) LIGHT TABLE, TILT TOP. Provides a surface for preparing copy for making printing plates.
- (I) FIRST AID KIT. A general purpose 12 unit first aid kit.
- (J) FIRE EXTINGUISHER. A class 2-BC dry chemical type extinguisher suitable for all types of fire, with the exception of LO (liquid oxygen) generating equipment.
- (K) LAMP ASSEMBLIES. Provides fluorescent light for shelter.
- (L) HISTORICAL FILE CABINET. Used to store paper and other supplies.
- (M) ARTIST SUPPLY CABINET. Used to store artist supplies.
- (N) SAFELIGHT. Used for light when working with material sensitive to light.
- (O) PIN-POINT LIGHT SOURCE. Provides pin point light for use with the vacuum frame.
- (P) PMT PROCESSOR. Processes PMT material for use in preparing copy.
- (Q) GUN RACK. Provides storage of weapons.
- (R) AIR CONDITIONER. A combination heating and cooling unit, thermostatically controlled for correct temperature control.
- (S) VIEWING LIGHT. Provides quick inspection of negatives.



**1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

- (T) TIMER. Part of the pin-point light source assembly.
- (U) PAPER TOWEL DISPENSER. Provides convenient access to paper towels.
- (V) COMPOSING TABLE. Used for the production of display typography.
- (W) VACUUM PUMP. Used with the camera.
- (X) CAMERA. Provides a negative or positive of camera copy prepared for printing.
- (Y) FOLDING CHAIR. Used with the phototypesetter.
- (Z) DARKROOM WALL. Provides a separation between the editorial room and dark-room.
- (AA) RUB-UP BOARD. A rubber topped board used to develop metal plates.
- (AB) DARKROOM CURTAINS. A rubberized material used to prevent light from entering the darkroom.
- (AC) SINK. Used to contain and/or eliminate discarded water and other liquids.
- (AD) FILM DRYER. Provides quick film drying.
- (AE ) WATER SUPPLY CABINET. Houses the water tank, water pump, and vacuum frame vacuum pump.
- (AF) STORAGE CABINET. SUPPLY. Used for storing various supplies.
- (AG) COUNTERTOP. Provides a convenient working space.
- (AH) VACUUM FRAME. Used to expose plates.
- (AI) PHOTOTYPESETTER. Used to provide different style and size of lettering for preparing copy.
- (AJ) PHOTOTYPESETTER PROCESSOR. Used to process material from the phototypesetter.

**1-9. EQUIPMENT DATA**

## EDITORIAL SHELTER

Type of Construction	Stressed aluminum panels with foam core bonded between inner and outer panels.
Volume	614 cu ft (17.4 m3)
Dimensions:	
Length	147 in. (373 cm)
Width	87 in. (221 cm)
Height	83 in. (211 cm)
Weight	4720 lb (2141 kg)

## LIGHT TABLE

Manufacturer	NUARC
Model	VLT18T
Dimensions:	
Length	23 in. (58 cm)
Width	21 in. (53 cm)
Height	9 in. (23 cm)

## PMT PROCESSOR

Manufacturer	NUARC
Model	P1400
Dimensions:	
Length	20 in. (51 cm)
Width	21 in. (53 cm)
Height	9 in. (23 cm)
Weight	30 lb (13.6 kg)

**1-9. EQUIPMENT DATA (CONT)**

## PMT PROCESSOR (cont)

Power Requirements:	115 V, 60 Hz
	115 V, 50 Hz
	0.5 amp

## CAMERA

Manufacturer	REPROMASTER
Model	MARK 3
Dimensions:	
Length	55.5 in. (141 cm)
Width	31.5 in. (80 cm)
Height	44 in. (112 cm)
Weight	276 lb (125 kg)
Power Requirements	115 V, 60 Hz, 20A

## FILM DRYER

Manufacturer	DECCO
Model	1418
Dimensions:	
Length	16 in. (41 cm)
Width	26 in. (66 cm)
Height	8 in. (20 cm)
Weight	30 lb (13.6 kg)
Power Requirements	115 V, 60 Hz, 7 amps

## WATER TANK

Material	Polyurethane
Capacity	10 gal (37.85 L)

**1-9. EQUIPMENT DATA (cont)**

## WATER TANK (cont)

## Dimensions:

Length	17 in. (43 cm)
Width	14.5 in. (37 cm)
Height	10 in. (25 cm)

## WATER PUMP

Manufacturer CARR-GRIFF, INC.

Model SHURFLO 121-003

## Dimensions:

Length	6 in. (152 mm)
Width	4 in. (102 mm)
Height	5 in. (127 mm)

Power Requirements 115 V, 60 Hz, 1.2 amps

## VACUUM FRAME, VERTICAL

Manufacturer ICONICS CONTROL, INC.

Model BVL-1617

## Dimensions:

Length	27 in. (69 cm)
Width	10 in. (25 cm)
Height	25 in. (64 cm)

Power Requirements 115 - 130 V, 60 Hz, 8 amp

## VIEWING LIGHT, WALL MTD

Manufacturer NUARC

Model DLV20

**1-9. EQUIPMENT DATA (cont)**

## VIEWING LIGHT, WALL MTD (cont)

## Dimensions:

Length	20.5 in. (52 cm)
--------	------------------

Width	8 in. (20 cm)
-------	---------------

Height	18.5 in. (47 cm)
--------	------------------

Power Requirements	118 V, 60 Hz, 0.5 amp
--------------------	-----------------------

## PIN-POINT LIGHT SOURCE ASSEMBLY

Manufacturer	NURAC
--------------	-------

Model	CP25
-------	------

Power Requirements	115 V, 50/60 Hz, 1.0 amp
--------------------	--------------------------

## PHOTOTYPESETTER PROCESSOR

Manufacturer	AM VARITYPER
--------------	--------------

Model	712
-------	-----

## Dimensions:

Length	21.75 in. (55 cm)
--------	-------------------

Width	12 in. (30 cm)
-------	----------------

Height	7.25 in. (18 cm)
--------	------------------

Power Requirements	115 V, 60 Hz, 5 amps
--------------------	----------------------

## PHOTOTYPESETTER

Manufacturer	AM MULTIGRAPHICS
--------------	------------------

Model	3560W
-------	-------

Volume	61.8 cu ft ( 1.75 m <sup>3</sup> )
--------	------------------------------------

**1-9. EQUIPMENT DATA (cont)**

## PHOTOTYPESETTER (cont)

## Dimensions:

Length 70 in. (178 cm)

Width 27 in. (69 cm)

Height 45 in. (114 cm)

Power Requirements 115 V,  $\pm 10\%$ , 60 Hz, 8 amps

## VOLTAGE REGULATOR

Manufacturer TECHNIPOWER

Model 1591 AR

## Dimensions:

Length 19 in. (48 cm)

Width 6.375 in. (16.2 cm)

Height 5.25 in. (13.3 cm)

Weight 22 lb (10 kg)

Power Requirements 100 to 130 V, 57 to 63 Hz, 0.4 amp no load 0.95 amps full load

## AIR CONDITIONER

Manufacturer KECO INDUSTRIES, INC.

Model MAC6H18-230-1201-0

## Capacity:

Cooling 9,000 Btu hr (9503 kJ/hr)

Heating 7,000 Btu hr (7391 kJ/hr)

Volume 5.1 cu ft (0.14 m<sup>3</sup>)

**1-9. EQUIPMENT DATA (cont)**

## AIR CONDITIONER (cont)

## Dimensions:

Length 23 in. (58 cm)

Width 24 in. (61 cm)

Height 16 in. (41 cm)

Weight 200 lb (90.7 kg)

Power Requirements 230 V, 50/60 Hz, single phase, 30 amp

## BLACKOUT WARNING BUZZER

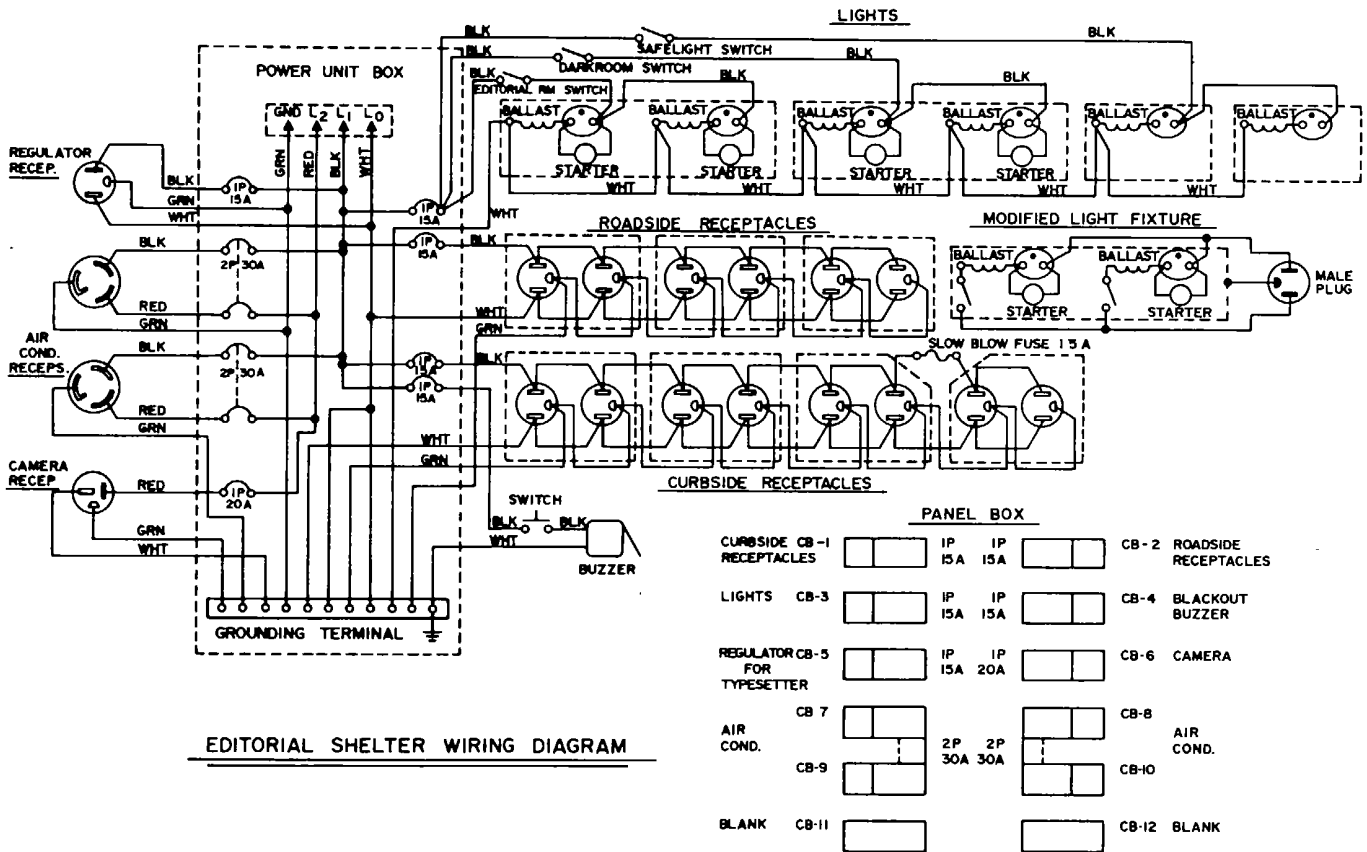
Manufacturer EDWARDS COMPANY INC.

Model 340-A

Power Requirements 120 V, 60 Hz, 0.04 amp

1-10. ELECTRICAL DATA

The total electric demand load for the shelter components is 15 KW.

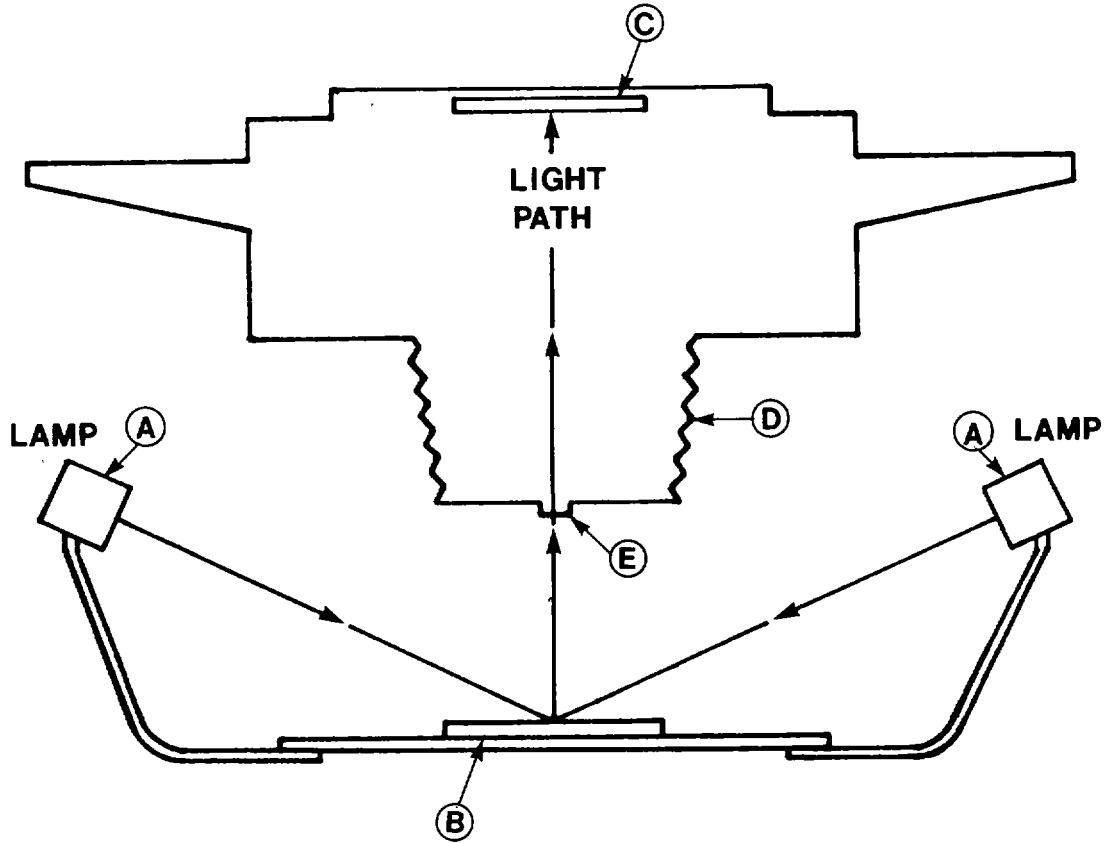


EDITORIAL SHELTER WIRING DIAGRAM



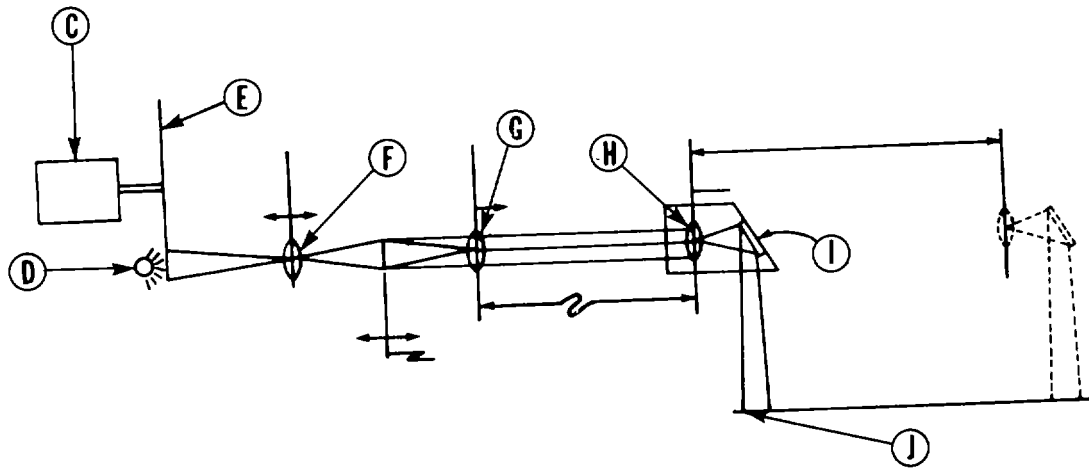
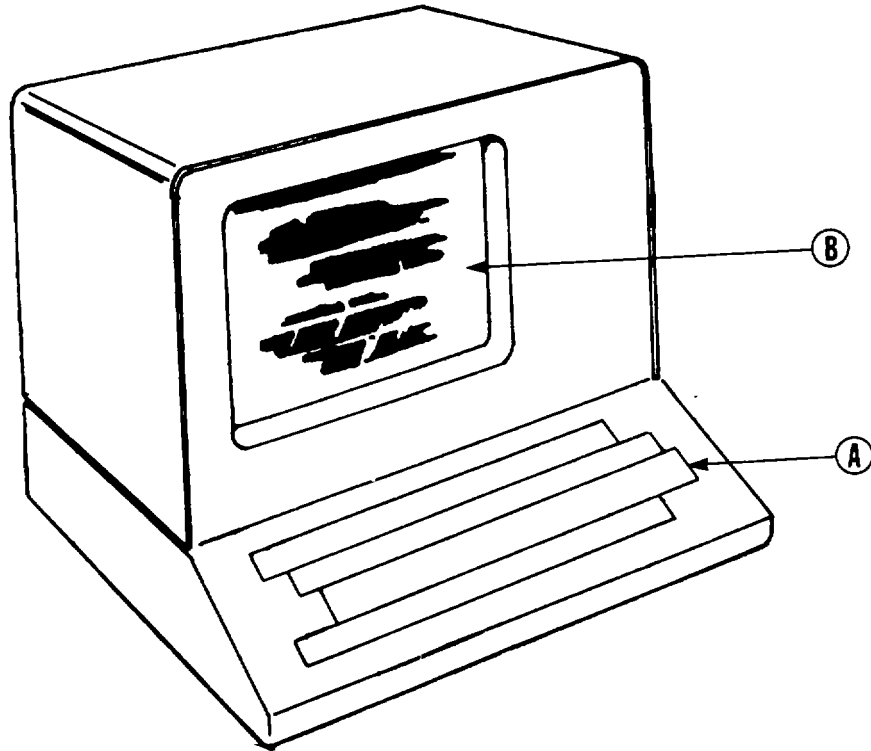
Section III. TECHNICAL PRINCIPLES OF OPERATION

1-11. CAMERA



- (A) Light source - Supplied by four 500 watt halogen lamps.
- (B) Material to be reproduced.
- (C) Photographic material for reproduction.
- (D) One-piece conical bellows.
- (E) Lenses for reduction or enlargement.

1-12. PHOTOTYPESETTER



**1-12. PHOTOTYPESETTER (cont)**

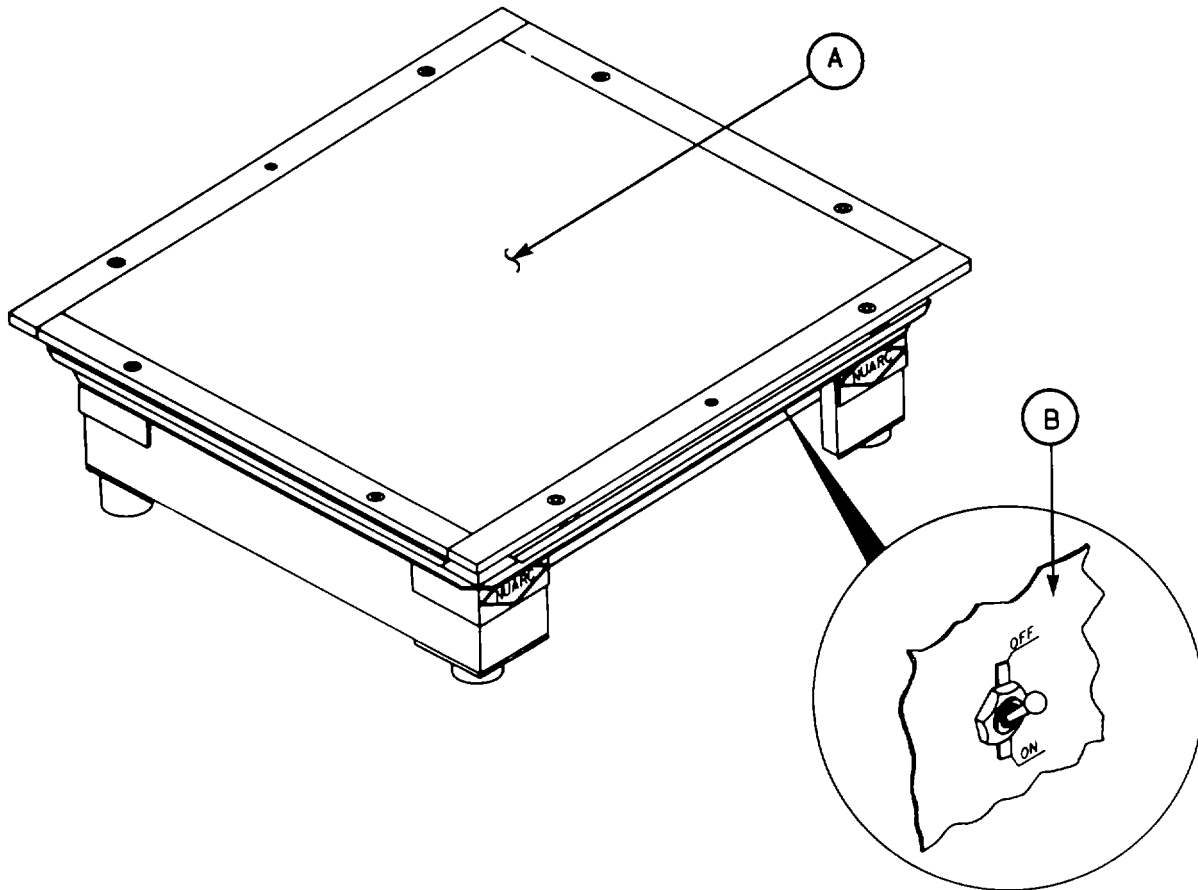
- (A) Keyboard for controlling typesetter.
- (B) CRT for monitoring operation.
- (C) Motor controls character disc.
- (D) Lamp provides light source.
- (E) Character disc provides the characters.
- (F) Enlarging lens is movable and forms an aerial image.
- (G) Collimating lens is movable and is positioned to maintain a relationship of one focal length away from aerial image projected by the enlarging lens.
- (H) Collector lens is on a carriage which moves parallel to the paper plane.
- (I) Mirror reflects light from collector lens downward to film plane.
- (J) Film plane is where the paper is exposed.

## CHAPTER 2

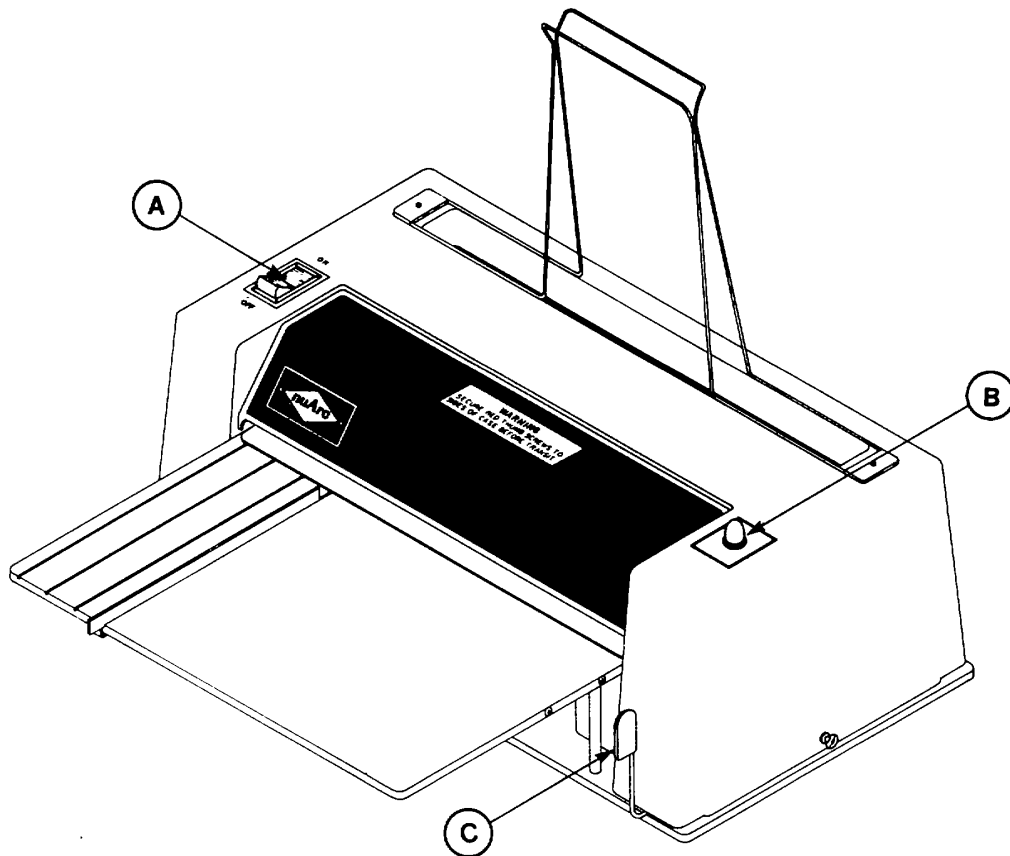
## OPERATING INSTRUCTIONS

## Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROL AND INDICATORS

## 2-1. TILT TOP LIGHT TABLE CONTROLS AND INDICATORS

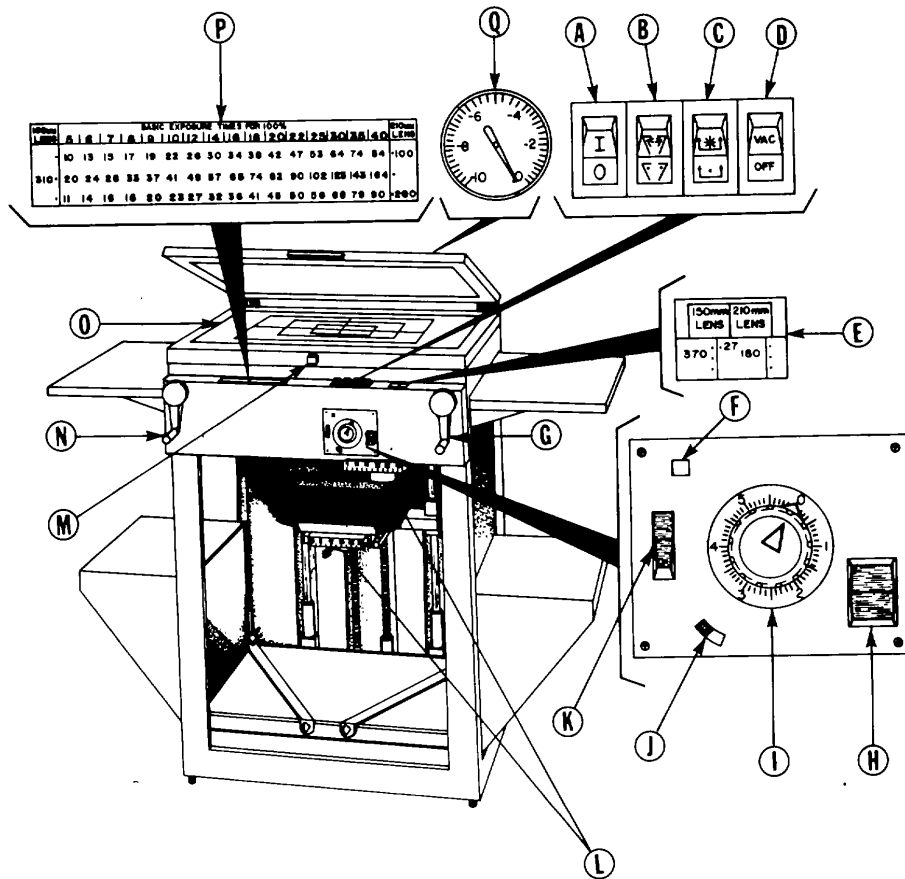


- (A) ILLUMINATED GLASS is used for tracing, artwork, and opaquing negatives.
- (B) ON-OFF SWITCH is used to turn the light table lights on and off.

**2-2. PMT PROCESSOR CONTROLS AND INDICATORS**

- (A) ON-OFF switch is used to turn processor on and off.
- (B) TIMER LIGHT indicates when timer is operating.
- (C) TIMER ACTUATOR turns the internal timer and the timer light to on.

2-3. CAMERA CONTROLS AND INDICATORS

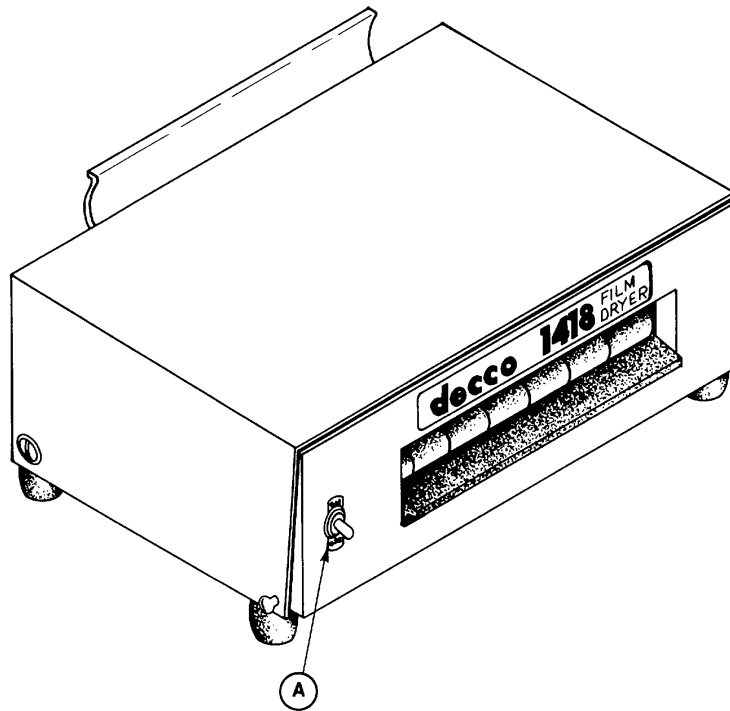


- (A) MAIN SWITCH controls power to camera. This switch and TIMER SWITCH have to be in the I position for manual control of the quartz lamps.
- (B) LAMP SWITCH operates the quartz iodine lamps on and off.
- (C) BACKLIGHT SWITCH operates the backlight on and off.
- (D) VACUUM SWITCH operates the vacuum pump on and off.
- (E) LENS SCALE indicates the figures of the copyboard setting.
- (F) RED TIMER LIGHT indicates the timer motor is running.

**2-3. CAMERA CONTROLS AND INDICATORS (cont)**

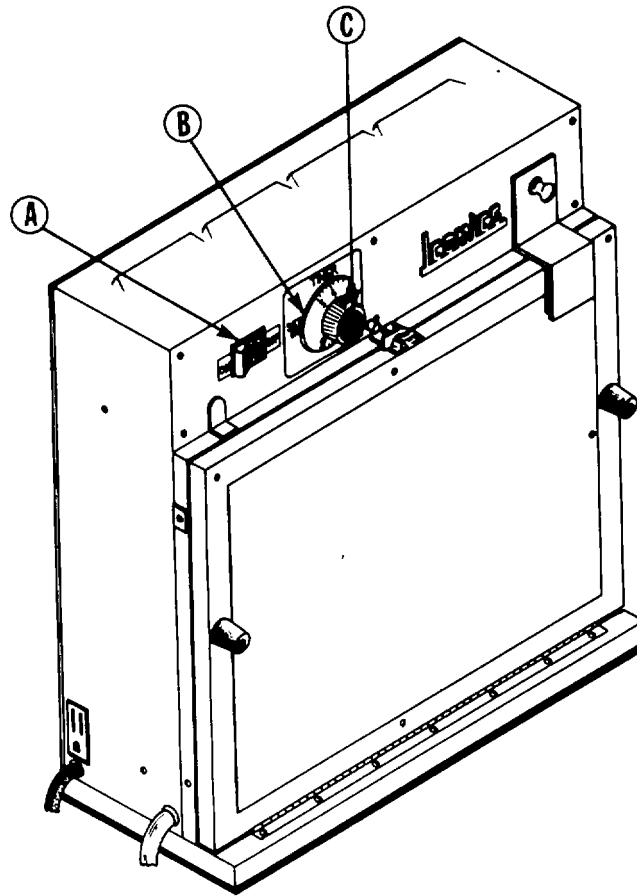
- (G) HANDWHEEL controls the operation of the copyboard up and down.
- (H) TIMER BUTTON releases exposure.
- (I) TIMER DIAL determines time setting of timer.
- (J) TIMER SWITCH OVER SWITCH lengthens or shortens time on timer.
- (K) LAMP SWITCH turns off lamps in preparation for time exposure.
- (L) LENSES (15 cm and 21 cm) are used for focusing, enlarging, and reducing the image. DIAL indicates the lens opening size.
- (M) PUSH BUTTON LATCH releases the vacuum head.
- (N) HANDWHEEL controls the operation of the bellows up and down movement.
- (O) FOCUS SCREEN is for viewing the image and adjusting for focus and size.
- (P) EXPOSURE INDICATOR is for determining the exposure time.
- (Q) VACUUM INDICATOR indicates the amount of vacuum applied to the vacuum head.

2-4. FILM DRYER CONTROLS AND INDICATORS

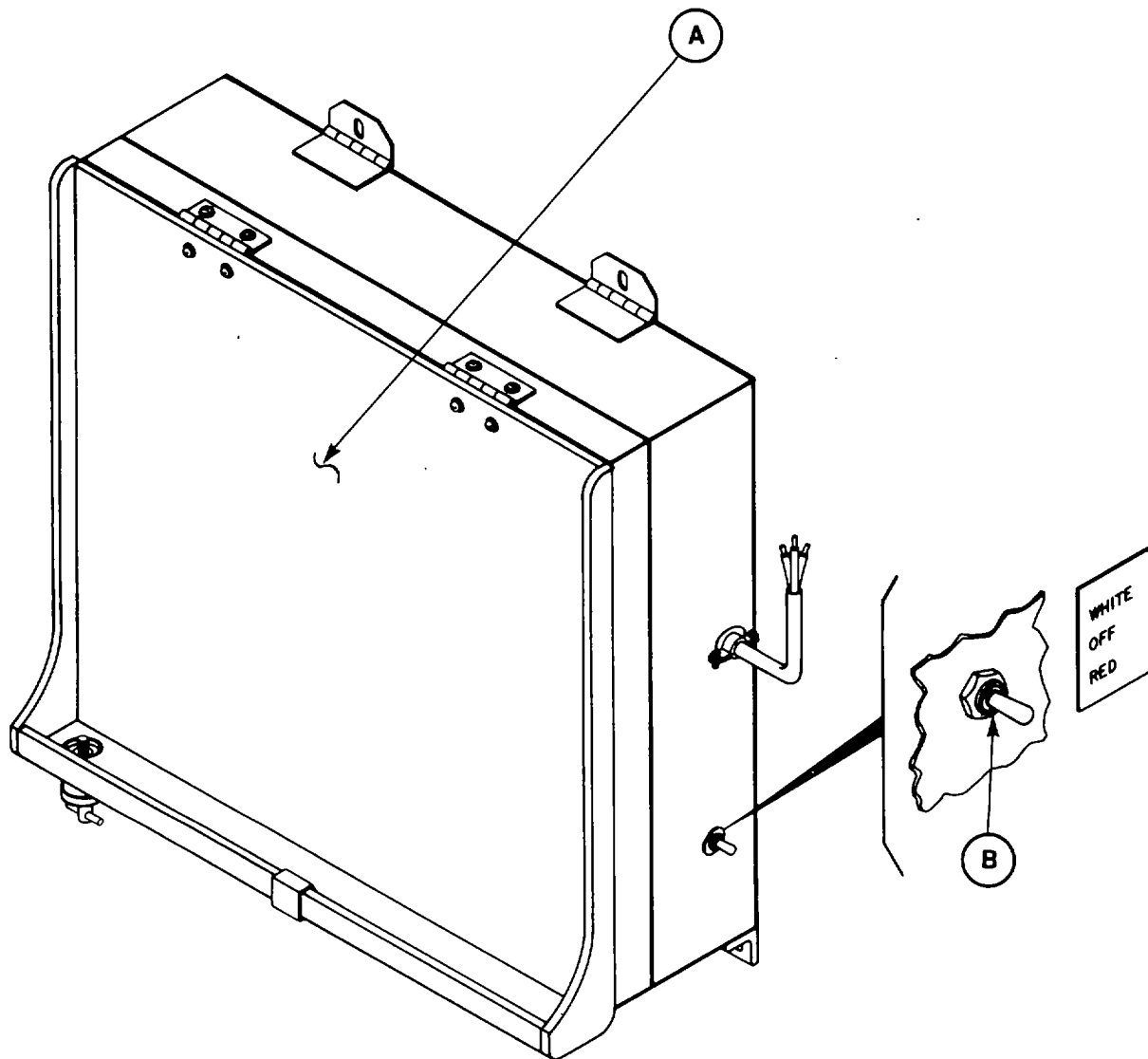


(A) ON-OFF SWITCH turns dryer on and off.



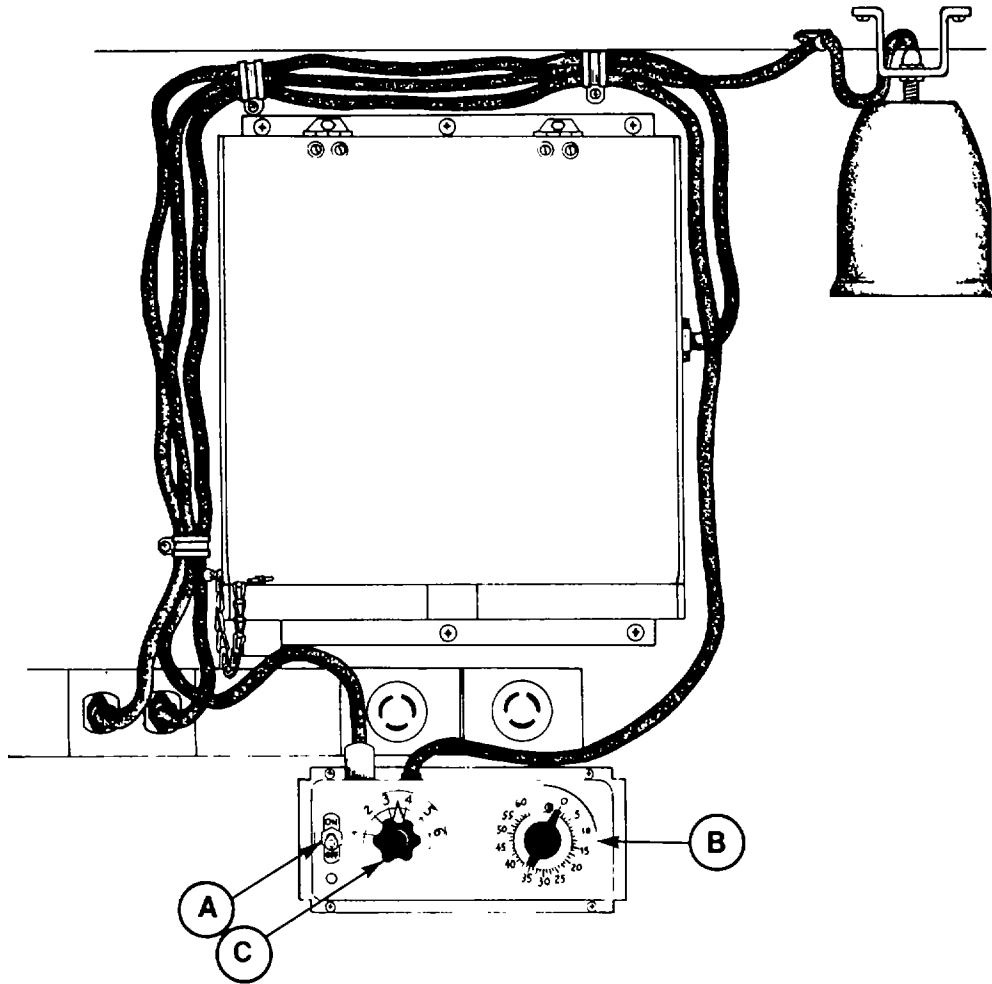
**2-5. VERTICAL VACUUM FRAME CONTROLS AND INDICATORS**

- (A) ON-OFF SWITCH turns vacuum pump on and off.
- (B) AUTO-RESET timer control adjusts for the desired exposure time.
- (C) TIMER START BUTTON, when pressed, turns exposure lights to on and starts timer.

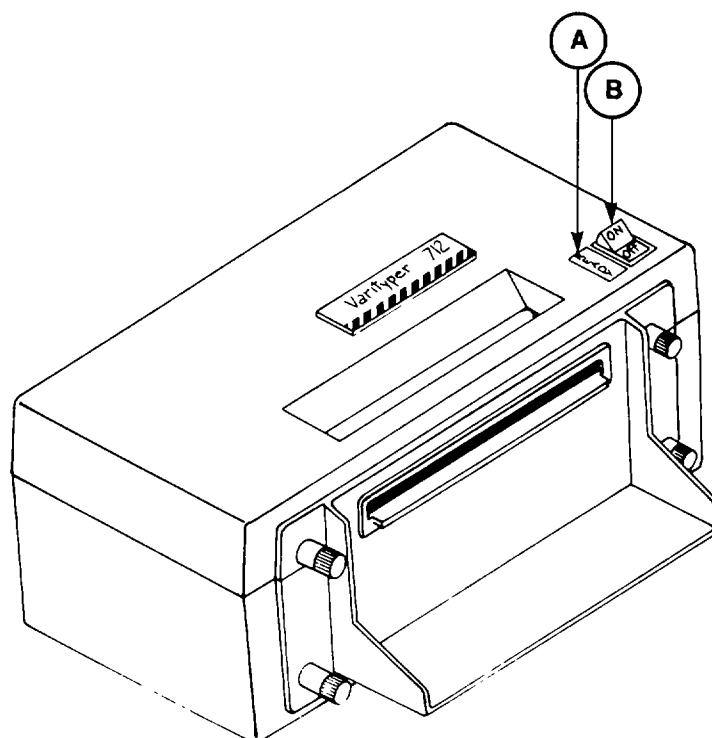
**2-6. WALL MTD VIEWING LIGHT CONTROLS AND INDICATORS**

(A) SCREEN for viewing negatives.

(B) LIGHT CONTROL SWITCH for controlling illumination of screen. RED position is for darkroom illumination and WHITE position is for normal illumination.

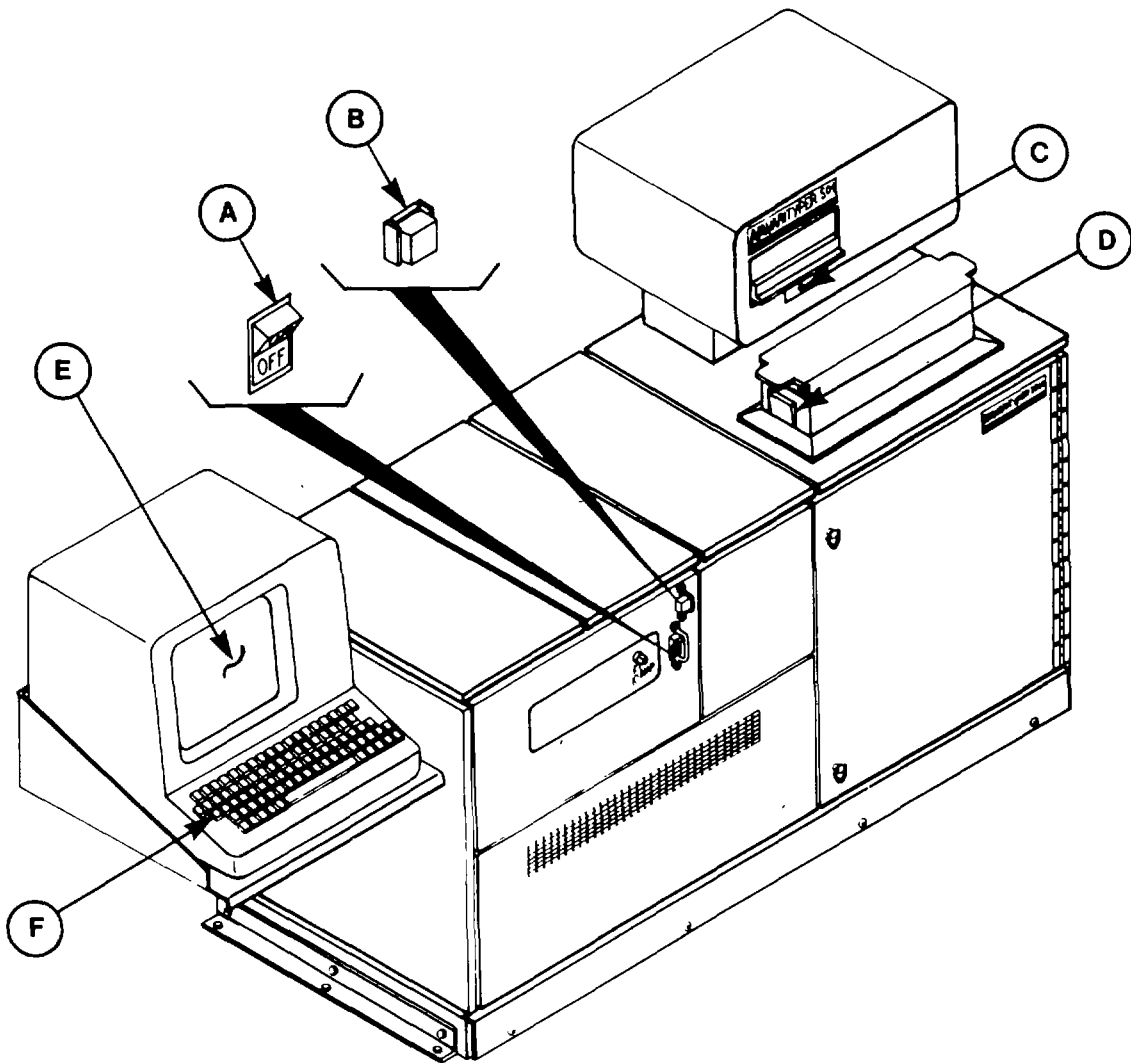
**2-7. PIN POINT LIGHT SOURCE ASSEMBLY CONTROLS AND INDICATORS**

- (A) ON-OFF SWITCH turns light source and timer on and off.
- (B) 60 SEC time control regulates the time the light is on.
- (C) ILLUMINATION CONTROL determines the strength of the light source illumination.

**2-8. PHOTOTYPESETTER PROCESSOR CONTROLS AND INDICATORS**

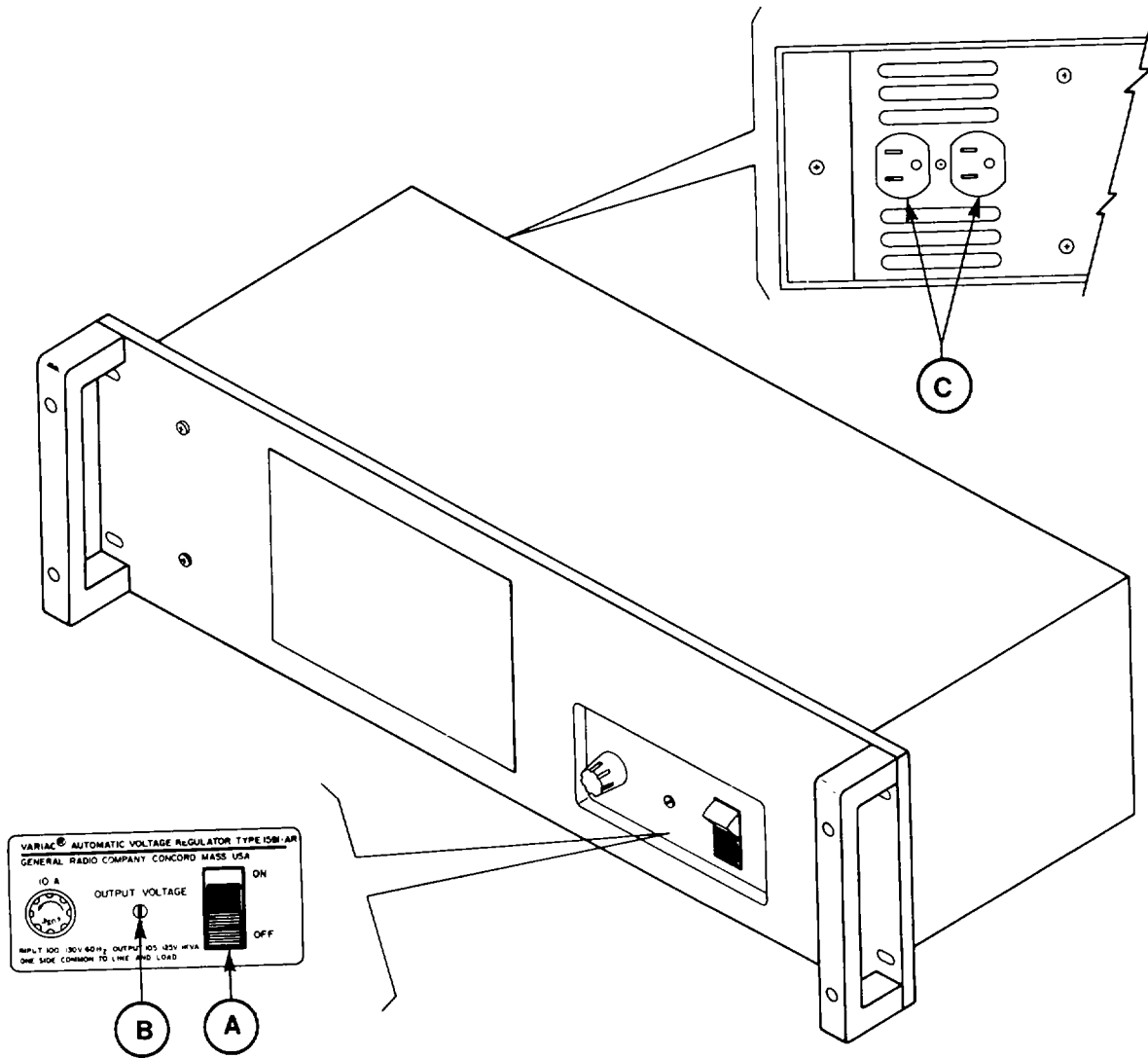
- (A) ON-OFF SWITCH turns processor on and off.
- (B) READY light indicates the proper temperature of the processor has been reached.

## 2-9. PHOTOTYPESETTER CONTROLS AND INDICATORS



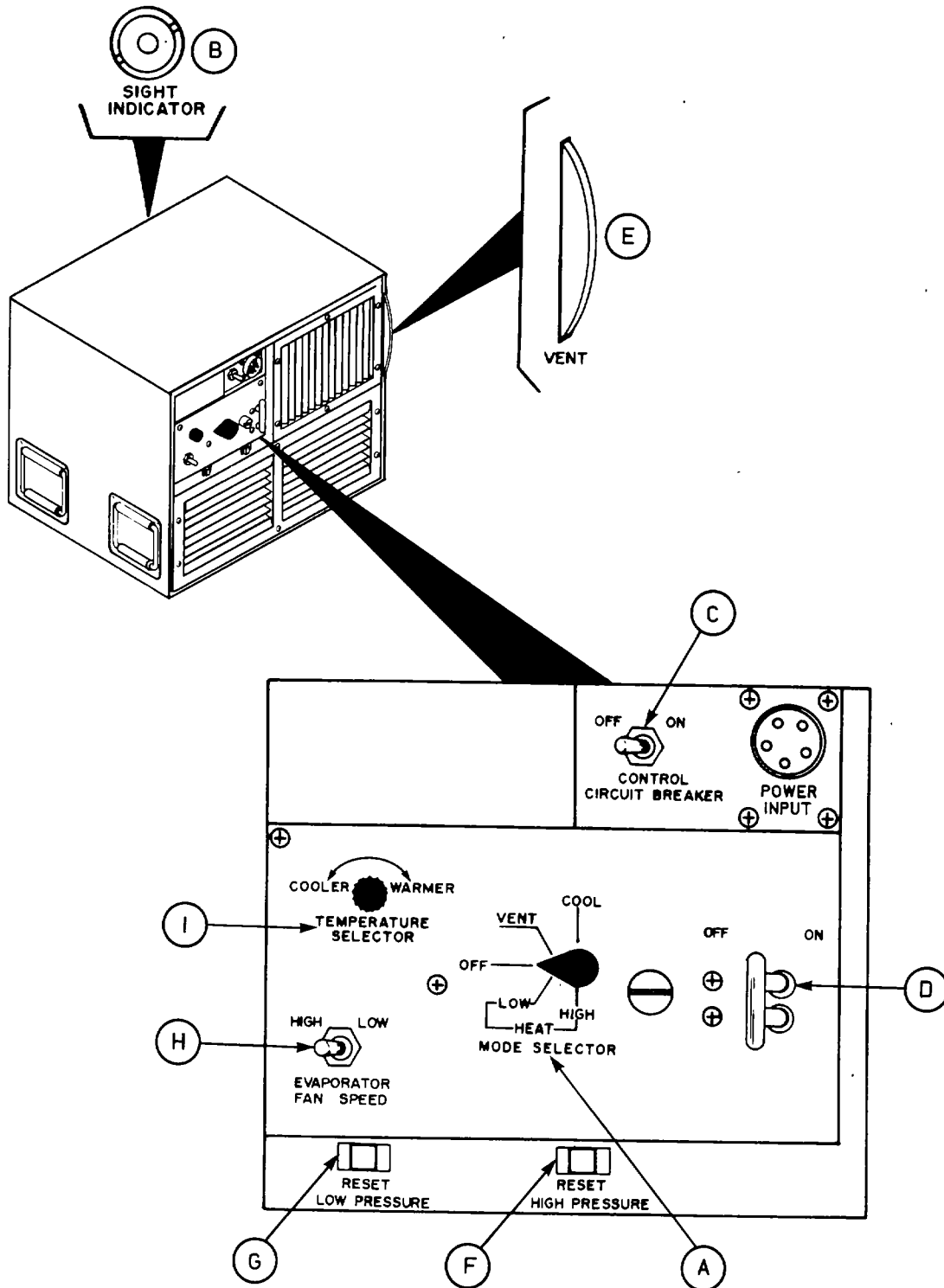
- (A) ON-OFF SWITCH turns phototypesetter on and off.
- (B) PAPER CUTTER control button, when pressed, cuts paper being fed into cartridge so cartridge can be removed from phototypesetter.
- (C) PROGRAM LIGHT indicates when preprogramming is complete.
- (D) CARTRIDGE RELEASE BUTTON releases cartridge from phototypesetter.
- (E) VIEWING SCREEN indicates programming of phototypesetter.
- (E) KEYBOARD controls operation of phototypesetter.

2-10. VOLTAGE REGULATOR CONTROLS AND INDICATORS



- (A) ON-OFF SWITCH turns regulator on and off.
- (B) OUTPUT VOLTAGE adjust controls the output voltage of the regulator.
- (C) OUTPUT RECEPTACLES are for connecting the regulated output of the regulator to the unit requiring a regulated voltage.

2-11. AIR CONDITIONER CONTROLS AND INDICATORS

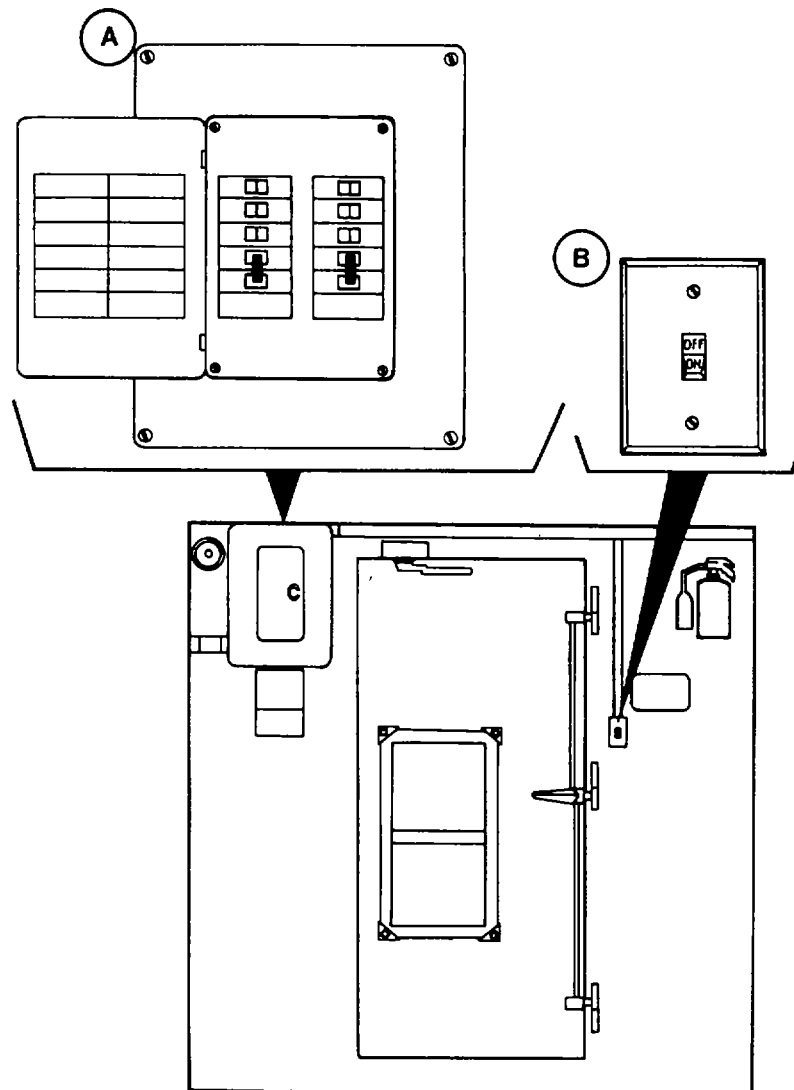


**2-11. AIR CONDITIONER CONTROLS AND INDICATORS (cont)**

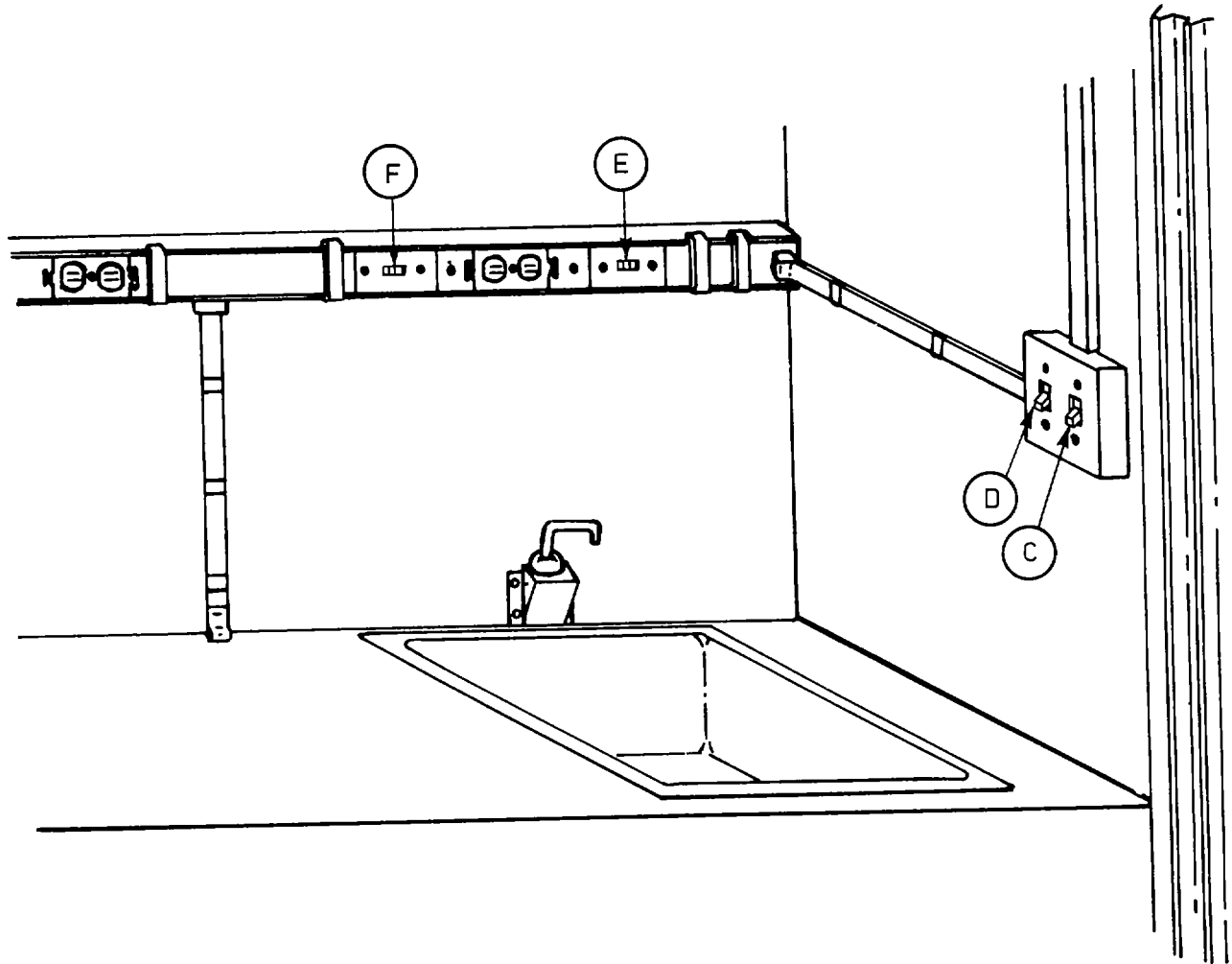
- (A) MODE SELECTOR SWITCH selects heating or cooling operation.
- (B) SIGHT INDICATOR indicates if there is insufficient charge or contaminated refrigerant.
- (C) CONTROL CIRCUIT BREAKER turns air conditioner on or off.
- (D) COMP CIRCUIT BREAKER is a protective device for the compressor unit.
- (E) VENT control opens and closes the outside vent.
- (F) HIGH PRESSURE RESET resets unit after a high pressure failure.
- (G) LOW PRESSURE RESET resets unit after a low pressure failure.
- (H) EVAPORATOR FAN SPEED controls speed of fan.
- (I) TEMPERATURE SELECTOR determines cooling or heating temperature of air conditioner.



## 2-12. INTERIOR SHELTER CONTROLS AND INDICATORS

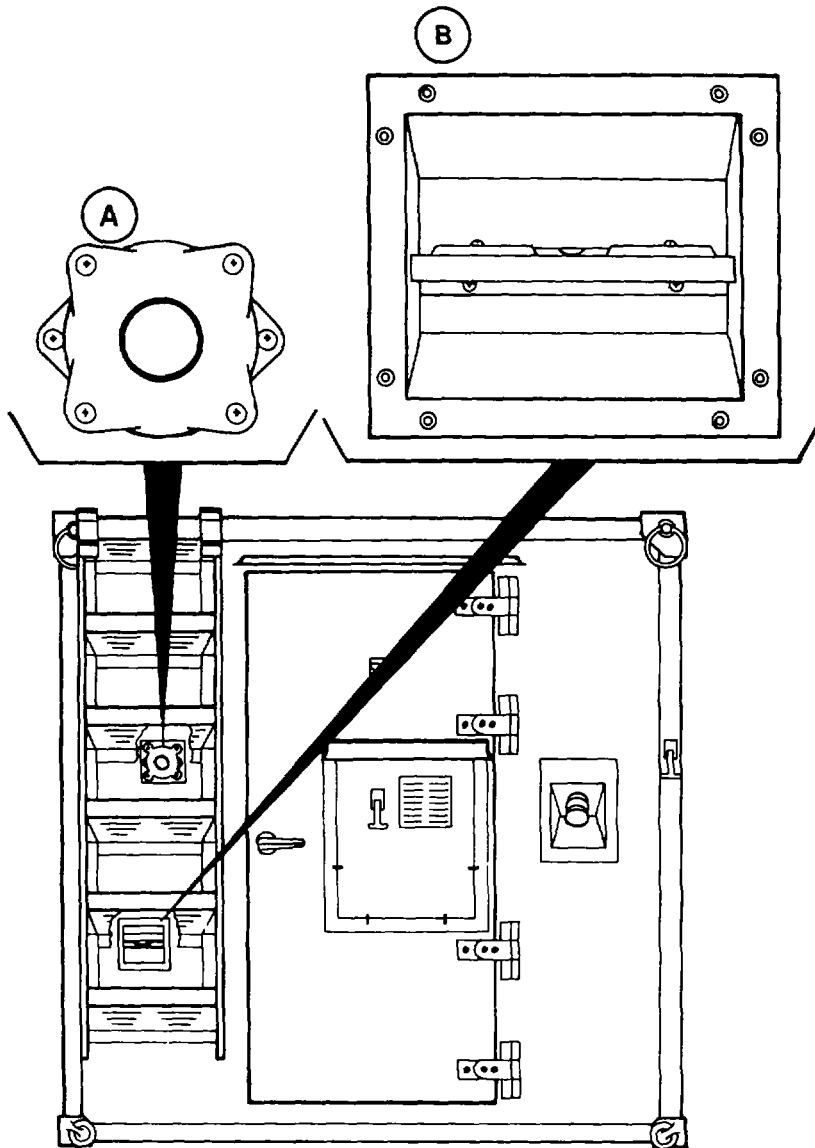


- (A) MAIN POWER SERVICE BOX switches control voltage to everything in the shelter. The switches or circuit breakers are safety devices and open when an overload occurs.
- (B) WALL LAMP SWITCH turns the lamps in the editorial part of shelter on and off.

**2-12. INTERIOR SHELTER CONTROLS AND INDICATORS**

- (C) WALL LAMP SWITCH turns the lamps in the darkroom part of shelter on and off.
- (D) WALL LAMP SWITCH turns the safelights on and off.
- (E) WATER HEATER SWITCH turns the water heater on and off.
- (F) WATER PUMP SWITCH turns the water pump on and off.

2-13. EXTERIOR SHELTER CONTROLS AND INDICATORS



EXTERIOR REAR

- (A) BLACKOUT WARNING BUZZER SWITCH, when depressed, activates a warning buzzer inside the shelter.
- (B) LEVEL INDICATOR-is used to level the shelters. Another level indicator is located on the roadside of shelter.

**Section II. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)****2-14. INTRODUCTION TO OPERATOR PREVENTIVE MAINTENANCE CHECKS**

Operator preventive maintenance checks and services are listed in table 2-1. Observe the following:

**NOTE**

**Always keep in mind the WARNINGS and CAUTIONS.**

- a. Before you operate. Perform your before (B) PMCS.
- b. While you operate. Perform your during (D) PMCS.
- c. If your equipment fails to operate. Troubleshoot with proper equipment. Report any deficiencies as appropriate using the proper forms, as specified in TM 38-750.
- d. Items to be inspected are indicated by a black dot in the appropriate interval column. If items are to be inspected in two or more intervals they will be indicated by a dot in the appropriate interval column, i. e. at monthly intervals before, during, or after operation.
- e. If you find a faulty condition that you are not authorized to correct, notify organizational maintenance.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (cont)

NOTE

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

B - Before Operation

D - During Operation

Item No.	Interval		Item to be Inspected Procedure	Equipment Is Not Ready/Available If:
	B	D		
1		●	Light table, tilt top Check that both fluorescent tubes are illuminated. If necessary, refer to Organizational Maintenance for service/repair.	
2	●	●	PMT Processor Be sure that there are proper levels of chemicals. Check for correct and smooth operation. If necessary, service unit in accordance with commercial manual instructions.,	
3	●	●	Camera, vertical Check for correct lens calibration. Check for correct operation of vacuum pumps and smooth operation of lens and copyboard system. Check for leaks in vacuum system. If necessary, service unit in accordance with commercial manual instructions.	Leaks in vacuum system.
4	●	●	Film dryer Check correct and smooth operation of the unit and cleanliness of filter intake pads and drive and air mechanism. If necessary, service unit in accordance with commercial manual instructions.	Unit does not operate.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (cont)

NOTE

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

B - Before Operation

D - During Operation

Item No.	Interval		Item to be Inspected Procedure	Equipment Is Not Ready/Available If:
	B	D		
5	●		Water system Check that water tank is filled to correct level and for a smooth and leak-free operation of faucet. Check that water pump works properly.	Leaks in system. Water pump does not operate.
6		●	Vertical vacuum frame Check for correct operation of vacuum pump and 1000 watt mercury vapor lamp and smooth operation of flip top release knob and frame. If necessary, service unit in accordance with commercial manual instructions.	Vacuum leaks. Pump will not operate.
7		●	Wall mounted viewing light Check for proper operation. If necessary, service unit in accordance with paragraph 4-31.	
8		●	Phototypesetter processor Check for correct and smooth operation of the unit. If necessary, service unit in accordance with commercial manual instructions and TM5-7430-215-14.	Processor does not operate.
9		●	Phototypesetter Check for proper operation. If necessary, service unit in accordance with commercial manual instructions and TM5-7430-215-14.	Phototypesetter does not operate.

**Section III. OPERATION UNDER USUAL CONDITIONS****2-15. OPERATION PROCEDURES**

The following paragraphs provide generalized operating procedures for the information and guidance of the personnel responsible for the operation of the editorial and photomechanical plant and the installed equipment. More detailed information pertaining to equipment operation is contained in the various commercial manuals supplied with the equipment.

**2-16. PRESTART PROCEDURE****NOTE**

Power to the shelter unit can be provided by commercial power or portable generator set.

- a. Set all circuit breakers in main power service box to OFF position.

**WARNING**

Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure that the generator/commercial power system is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.

- b. Connect the main power cable to the main power receptacle located near the door of the shelter, prior to connecting the cable to the power source. The cable connector and the receptacles are keyed to ensure proper connection.
- c. Connect the main power cable to the generator power source.

**2-17. START PROCEDURE**

Starting the System.

- a. Set commercial power breaker to ON or start the generator set in accordance with the applicable Department of the Army Technical Manual.
- b. Set all circuit breakers in the main power service box to ON.
- c. Set fluorescent light switches to on.
- d. Set the air conditioner controls for the desired mode of operation temperature setting.

**2-18. SHUTDOWN PROCEDURE****WARNING**

Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure that the generator/commercial power system is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.

- a. Set all equipment and shelter power switches to the off or neutral position.
- b. Set all circuit breakers in the main power service box to OFF.
- c. Set commercial power breaker to OFF or shut down the generator set power source in accordance with the applicable Department of the Army Technical Manual.
- d. Disconnect the main power cable from the generator power source.
- e. Disconnect the cable from the main power receptacle.
- f. Coil and correctly stow main power cable.



**2-19. OPERATION OF AUXILIARY EQUIPMENT**

- a. The editorial and photomechanical unit of the special warfare printing plant is used in conjunction with the press shelter unit, operating procedures for which are contained in TM 5-3610-255-14. The primary mission of both units is the production of special psychological warfare leaflets.
- b. The generator is operated in accordance with the applicable Department of the Army Technical manual.

**Section IV. OPERATION UNDER UNUSUAL CONDITIONS****2-20. OPERATION UNDER UNUSUAL CONDITIONS**

Some of the unusual conditions that may be encountered are extreme cold, extreme heat, dust or sand, and rain or high humidity.

**OPERATION IN EXTREME COLD.** The operation of the internal equipment is performed within environmentally controlled conditions; however, the main power supply cable and grounding cable in extreme cold will be hard, brittle and difficult to handle. Be careful when handling or connecting the cables to the shelter so that kinks and unnecessary loops will not result in permanent damage. Make certain that connections and cable receptacles on the outside of the shelter are free of frost, snow, and ice. When shelter heaters are not operating or when the shelter is being transported, liquid consumable supplies may freeze, break their containers, and then melt and ruin equipment or documents.

**OPERATION IN EXTREME HEAT.** The operation of the internal equipment is performed within environmentally controlled conditions; however, during transportation or when air-conditioning units are not operating, consumable supplies may suffer reduced shelf-life, and internal components may have accelerated deterioration of gaskets, seals, or insulation.

**OPERATION IN TROPICAL CONDITIONS.** Fungi, mildew or mold will form on and in equipment, documents, and supplies if internal environment is not operating and outside heat and humidity are allowed to enter the shelter.

**OPERATION IN DESERT CONDITIONS.** Dust, grit and sand will ruin supplies, equipment, and documents. Use extreme care to prevent dust, grit, and sand from getting into the shelter. Air filters will be changed whenever air flow is restricted and vacuuming of shelter interior must be conducted more frequently than specified by PMCS schedules.

**CHAPTER 3****OPERATOR'S MAINTENANCE INSTRUCTIONS****Section I. LUBRICATION INSTRUCTIONS****3-1. GENERAL LUBRICATION INFORMATION**

This section contains lubrication instructions for the editorial shelter unit of the special warfare printing plant.

**3-2. DETAILED LUBRICATION INFORMATION**

- a. . Keep all lubricants in closed containers and store in a clean, dry place away from external heat. Do not allow dust, dirt, or other foreign material to mix with the lubricants. Keep all lubrication equipment clean and ready for use.
- b. . Keep all external parts not requiring lubrication clean of lubricants. Before lubricating the equipment, wipe all lubrication points free of dirt and grease. Clean all lubrication points after lubricating to prevent accumulation of foreign matter.
- c. . Lubricate the door hinges and handles of the editorial shelter with a few drops of lubricating oil (item 16, app D) monthly or if binding occurs during operation.
- d. . Consult the commercial instruction manuals for recommended lubrication of the different components of the editorial shelter.

**Section II. OPERATOR TROUBLESHOOTING****3-3. INTRODUCTION TO OPERATOR TROUBLESHOOTING**

- a. If you suspect a problem, you should first verify that the PRESTART PROCEDURE in paragraph 2-16 has been performed before continuing with OPERATOR TROUBLESHOOTING in table 3-1.

**3-3. INTRODUCTION TO OPERATOR TROUBLESHOOTING (cont)**

- b. The common malfunctions which you may encounter during operation or maintenance of the components of the editorial shelter are listed in table 3-1, OPERATOR TROUBLESHOOTING. You should perform the tests, inspections, and corrective actions in the order listed.
- c. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions possible. If a malfunction is not listed or is not corrected by listed corrective actions in this manual, refer to the commercial manual. If at this point you cannot correct the malfunction, notify your supervisor.
- d. Refer to table 3-1 for troubleshooting information and procedures applicable to the editorial shelter system and components. Any trouble the operating crew is not authorized to correct should be reported to the maintenance category indicated in the Maintenance Allocation Chart (MAC).

**Table 3-1. OPERATOR TROUBLESHOOTING**

<b>MALFUNCTION</b>	<b>TEST OR INSPECTION</b>	<b>CORRECTIVE ACTION</b>
1.	NO ELECTRICAL POWER TO SHELTER SYSTEM	<p style="text-align: center;"><b>WARNING</b></p> <p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF, and that cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p> <p>Step 1. Check that main power cable is correctly connected at main power receptacle.</p> <p>Connect the primary power cable to the input power receptacle located near the door of the shelter. The cable connector and the receptacles are keyed to ensure proper connection.</p>

Table 3-1. OPERATOR TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	<p>Step 2. Check to see if the main power cable leads are properly connected at generator.</p> <p>The leads of the power cable are color coded as follows:</p> <p>L1 - black - Pin 1</p> <p>L2 - red - Pin 2</p> <p>Ground - green (marked with blue band) - Pin 3</p> <p>L0 - white - Pin 4</p> <p>Step 3. Inspect to see that the generator is operating properly. Start the generator set in accordance with the applicable Department of the Army Technical Manual.</p> <p>Step 4. Inspect to see if main breaker is in the ON position. Position applicable circuit breaker to ON.</p>	
2.	<p>NO ELECTRICAL POWER AT EQUIPMENT RECEPTACLES</p> <p>Inspect to see if main circuit breaker is in the ON position.</p> <p>Position applicable circuit breaker to ON.</p>	
3.	<p>LIGHT TABLE WILL NOT ILLUMINATE</p> <p>Check for defective fluorescent tube.</p> <p>Replace defective fluorescent tube as described in paragraph 4-19.</p>	
4.	<p>CAMERA VACUUM COPYBOARD INOPERATIVE</p> <p>Using foot pedal, operate vacuum pump and check for leaks from vacuum hose extending from pump to underside of copyboard.</p> <p>Disconnect defective hose at pump and copyboard and replace hose as described in manufacturers manual.</p>	

Table 3-1. OPERATOR TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5.	NO WATER FROM FAUCET	<p>Step 1. Check to see if there is water in tank.</p> <p style="padding-left: 40px;">Fill tank.</p> <p>Step 2. Check to see if the proper circuit breaker in main panel for the water pump is in the ON position.</p> <p style="padding-left: 40px;">Position applicable circuit breaker to ON.</p>
6.	TEMPERATURE IN SHELTER TOO HOT OR TOO COLD	<p>Check thermostat for proper setting.</p> <p>Set thermostat to proper temperature.</p>
7.	PMT PROCESSOR FILM OR PAPER FAILS TO TRANSPORT	<p style="padding-left: 40px;">Film or paper pileup or jamming.,</p> <p style="padding-left: 80px;">Clear processor of remaining material and refer to manufacturer's manual for further instructions.</p>
8.	PIN-POINT LIGHT SOURCE WON'T WORK	<p>Step 1. Light source not plugged in.</p> <p style="padding-left: 40px;">Plug light source in.</p> <p>Step 2. Timer not set.</p> <p style="padding-left: 40px;">Set timer.</p> <p>Step 3. Lamp burned out.</p> <p style="padding-left: 40px;">Replace lamp.</p>

**Section III. OPERATOR MAINTENANCE PROCEDURES****3-4. INTRODUCTION TO OPERATOR MAINTENANCE PROCEDURES**

- a. Operator maintenance is limited to servicing and secondary type maintenance on the commercial equipment.
- b. These service and maintenance procedures are outlined in the commercial publications supplied with the various items of equipment.
- c. This section contains those procedures not covered by commercial publications and deemed operator's responsibility.
- d. You should call organizational maintenance for any other maintenance requirements on the editorial shelter.

**3-5. FILLING WATER STORAGE TANK**

- a. Check that faucet and all valves in water line are closed.
- b. Remove the tank filler cap.
- c. Fill the tank to its full capacity with clean water.
- d. Replace filler cap.

**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, or support equipment are required by Organizational Maintenance for the maintenance of the Editorial Shelter.

**4-3. REPAIR PARTS**

Repair parts are listed and illustrated in TM 5-3610-254-24P, Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools Lists (including Depot Maintenance Repair Parts and Special Tools) covering organizational maintenance of this equipment. Repair parts required for maintenance of the various items of equipment which form a part of the shelter system are defined in the applicable commercial manual supplied with each unit.

**Section II. SERVICE UPON RECEIPT****4-4. UNPACKING**

- a. Use care when unpacking any of the items of the Editorial Shelter.
- b. Remove tape seals which secure doors and other apertures.

**4-4. UNPACKING (cont)****NOTE**

Many pieces of equipment are modified to include shipping brackets, holddown brackets, or thumbscrews. These devices are used to secure fragile or loosely mounted items such as the glass tops of the light tables. These devices are painted bright red and are not to be discarded during unpacking. These devices will be used each time the shelter is moved to a new work site.

- c. Remove tiedown straps which secure smaller items of equipment inside shelter.
- d. Remove paper or other packing material from cables, etc.

**WARNING**

Death or serious injury could result by repeated and/or prolonged breathing and/or liquid skin contact of drycleaning solvent P-D-680. Use in a well-ventilated area. Do not use near open flame or in excessive heat. The flash point of this solvent is 100OF 1380F (38°C 59°C).

- e. Remove preservative compound from all unfinished metal surfaces with drycleaning solvent (item 50, app E).

**4-5. CHECKING UNPACKAGED EQUIPMENT**

- a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, Packaging Improvement Report.
- b. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of DA Pam 738-750.



**4-6. INSTALLATION INSTRUCTIONS**

The Editorial Shelter is installed for operation either on the bed of a 2-1/2 ton 6 X 6 cargo truck or on the ground. The individual items of equipment in the Editorial Shelter are usually transported intact in their operating position and no installation procedures are deemed necessary. Refer to the following paragraphs for things to do when installing the shelter:

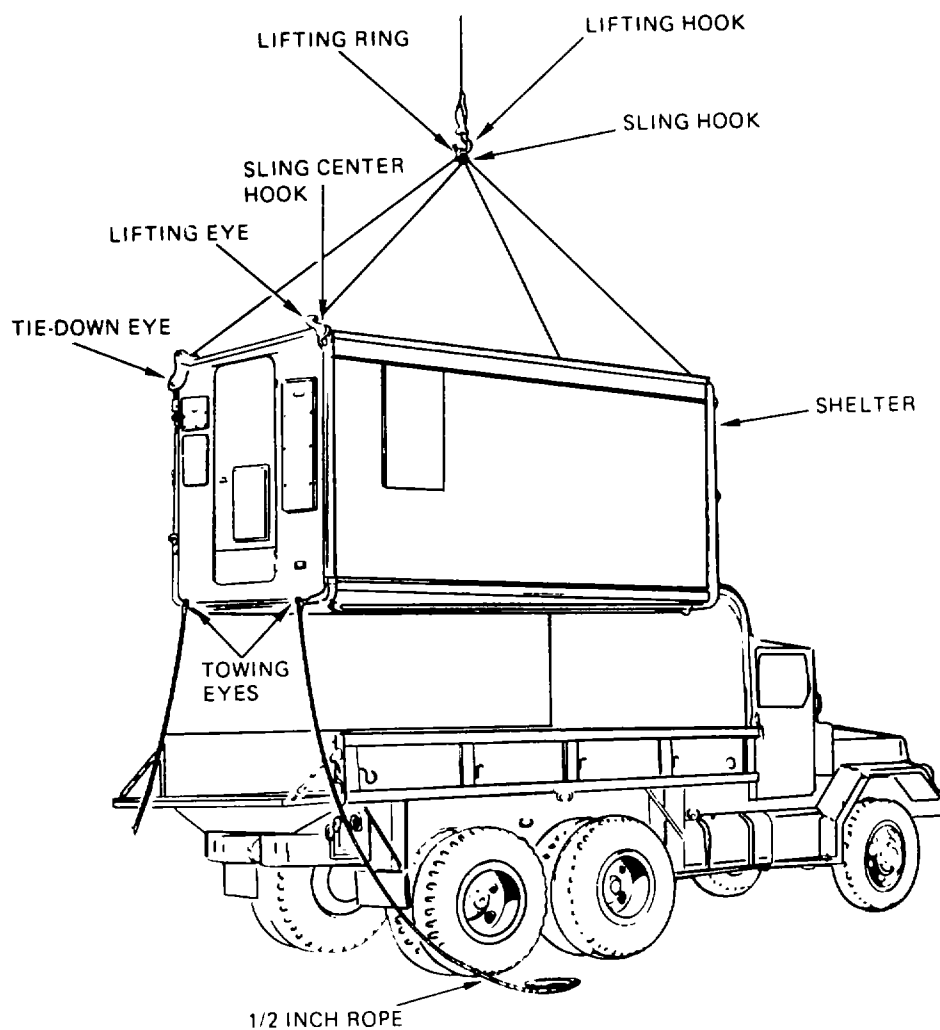
Paragraph

- |   |    |  |      |
|---|----|--|------|
| ★ | a. | Site Preparation                                     | 4-7  |
| ★ | b. | Unloading Shelter                                    | 4-8  |
|   | c. | Grounding Editorial Shelter                          | 4-9  |
|   | d. | Setting Up Generator and Connecting Main Power Cable | 4-10 |
|   | e. | Setting Up Equipment                                 | 4-11 |
|   | f. | Lubrication  | 3-1  |
|   | g. | PMCS 2-13  | 4-14 |
|   | h. | Fill Water Tank                                      | 3-4  |
| ★ |    | Required if shelter is to be emplaced on the ground. |      |

**4-7. SITE PREPARATION**

- a. Select a site where ground is firm, dry, and has good drainage.
- b. Level ground on which shelter will be placed.
- c. Place enough concrete blocks or wooden beams on level spot to support shelter adequately.

## 4-8. UNLOADING SHELTER



- a. Loosen tiedown turnbuckles and remove sling hooks from transporter and tiedown rings.
- b. Remove any blocking between shelter and transporter.
- c. Install sling assembly to lifting eyes and lifting hook.
- d. Tie a 1/2-inch rope at least 15 feet long to each rear shelter towing eye.
- e. Position a person on each rope to assist in positioning shelter during lifting operation.

**4-8. UNLOADING SHELTER (cont)****WARNING**

**Injury to personnel or damage to equipment could result if unauthorized or unnecessary individuals are nearby when lifting and lowering shelter. Permit only personnel actually engaged in the lifting operation to be near the vehicle and lifting device. All instructions for the lifting operations must come from the crew supervisor.**

**CAUTION**

**Lift shelter slowly to avoid tearing lifting eye assemblies from the shelter. Do not jerk the sling when lifting.**

**CAUTION**

**Do not swing the shelter from side to side when lifting. This places additional stress on the lifting eye assemblies which can tear them from the shelter.**

- f. Slowly lift the shelter with the crane or helicopter to a position just high enough to clear the body of the transportation vehicle.

**CAUTION**

**Do not bounce or jar the shelter. Bouncing or jarring can loosen the bond between the skin and foam-core and reduce the rigidity and strength of the shelter.**

- g. Move the transportation truck clear of the area and carefully lower the shelter to the previously prepared area of ground.
- h. Check the level at the rear of the shelter and at the side. Make any adjustment necessary to level the shelter.
- i. Remove sling assemblies from the shelter and 1/2-inch ropes from towing eyes.

**4-9. GROUNDING EDITORIAL SHELTER**

The editorial shelter is grounded to the power source through the main power cable. Be sure the power source is properly grounded.

**4-10. SETTING UP GENERATOR AND CONNECTING MAIN POWER CABLE****WARNING**

**Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.**

**SETTING UP GENERATOR**

- a. Set all circuit breakers in main power service box to OFF.
- b. Refer to the appropriate generator technical manual for instruction on installation and operation of the generator.

**CONNECTING MAIN POWER CABLE TO SHELTER**

Connect the main power cable to the input power receptacle located near door of shelter prior to connecting cable to power source.

- a. The cable connector and receptacle are keyed to ensure proper connection.
- b. The leads of power cable are color coded as follows:

L1 - black - Pin 1

L2 - red - Pin 2

Ground - green - Pin 3 (marked with blue band)

LO - white - Pin 4

**4-11. SETTING UP EQUIPMENT**

Plug the power cords of the individual items of equipment into the wall receptacles provided near their operating positions. Specialized preoperating instructions for individual items of equipment, where necessary, will be found in the respective commercial equipment manuals provided with the shelter. Set all circuit breakers in main power service box to on.

**4-12. MOVING TO NEW WORKSITE****PREPARATION FOR MOVEMENT**

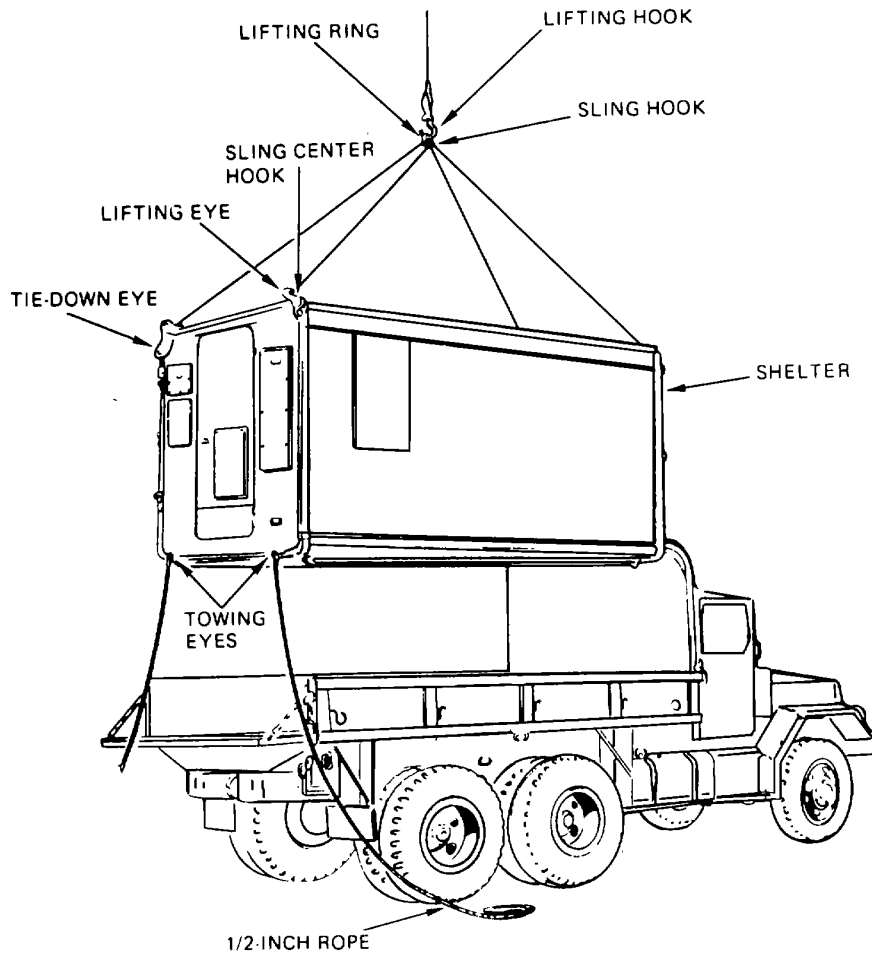
- a. Secure all expendable materials and supplies. Stow all loose supplies.
- b. Secure telephone in telephone bracket with shipping clamp.
- c. Secure red shipping bracket to top of light table.
- d. Be sure lock bar is installed in historical file cabinet.
- e. Secure folding artist shelves in upright position with red shipping brackets.
- f. Close and secure wall cabinet and artist supply cabinet doors.
- g. Secure stools under light table shelves with straps.
- h. Prepare camera for shipping by doing the following:
  - (1) Remove lenses and stow in supply storage cabinet drawer.
  - (2) Install red holddown bars on copyboard.
  - (3) Move lenseboard up with bellows compressed.
  - (4) Close and secure top of camera.
- i. Secure cover on PMT processor with red thumbscrews. Secure base of processor to shelf with red thumbscrews.

**4-12. MOVING TO NEW WORKSITE (cont)**

- j. Secure folding chair and rub-up board to darkroom wall with strap.
- k. Be sure no weapons are in the weapon rack or shelter.
- l. Secure varigraph to front wall with strap.
- m. Secure viewing light lense with holddown bracket.
- n. Secure vacuum frame in the upright position with red shipping bracket.
- o. Secure the film dryer cover with red thumbscrews.
- p. Drain sink and water tank.
- q. Secure storage cabinet and water supply cabinet doors.
- r. Close and lock storage cabinet drawers.
- s. Secure red shipping bracket to phototypesetter diskette cover.
- t. Secure rowshift bracket to phototypesetter main frame.
- u. Secure cover of phototypesetter processor with red thumbscrews. Secure base of processor to shelf with red thumbscrews.
- v. Apply a preservative compound (item 12, app E) to all unfinished metal surfaces of the various pieces of equipment.
- w. Set all circuit breakers to OFF.
- x. Close and secure the film drop off box.
- y. Close the field phone cover.
- z. Close and secure the fresh air vent.
- aa. Disconnect, cap, and stow the main power cable. Cap main power receptacle.
- ab. Disconnect and stow the sink drain hose. Secure cap to sink drain and water filler.
- ac. Install and secure the air conditioner covers.
- ad. Close and secure shelter door.
- ae. Cover all shelter apertures with pressure sensitive tape.
- af. Stow and secure ladder.

4-12. MOVING TO NEW WORKSITE (cont)

LOADING SHELTER



- a. Connect sling assembly to lifting eyes and lifting hook.
- b. Tie a 1/2-inch rope at least 15 feet long to rear towing eyes.
- c. Position a person on each rope.
- d. Lower truck tailgate.

**4-12. MOVING TO NEW WORKSITE (cont)****WARNING**

Injury to personnel or damage to equipment could result if unauthorized or unnecessary individuals are nearby when lifting and lowering shelter. Permit only personnel actually engaged in the lifting and lowering operation to be near the vehicle and lifting device. All instructions for the lifting operations must come from the crew supervisor.

**CAUTION**

Lift shelter slowly to avoid tearing lifting eye assemblies from the shelter. Do not jerk the sling when lifting.

**CAUTION**

Do not swing the shelter from side to side when lifting. This places additional stress on the lifting eye assemblies which can tear them from the shelter.

- e. Slowly lift shelter with suitable lifting device.

**NOTE**

The unit may be transported to new operating site by helicopter if necessary.

**CAUTION**

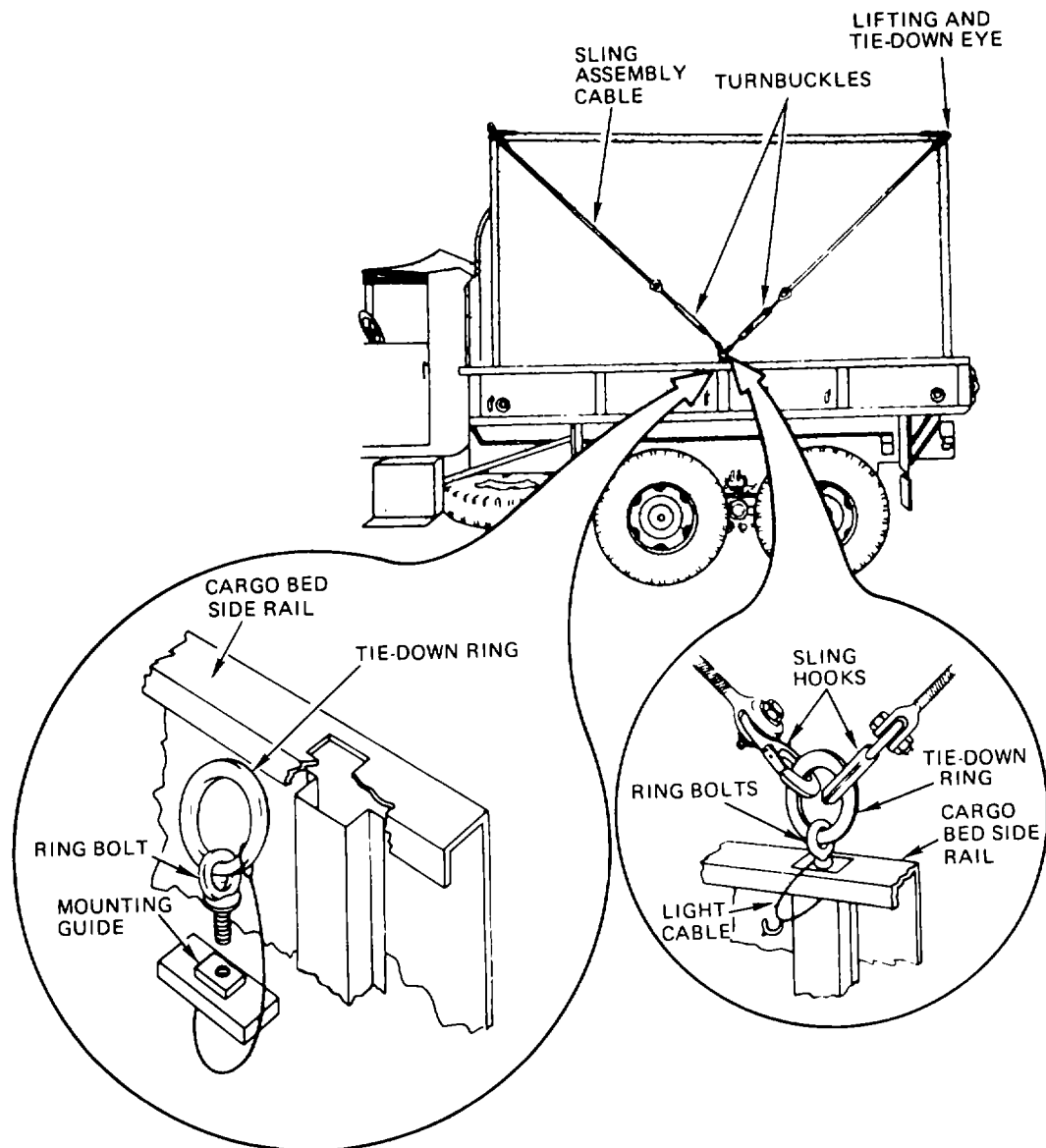
Bouncing or jarring can loosen the bond between the skin and foam-core and reduce the rigidity and strength of the shelter. Do not bounce or jar the shelter.

- f. Position truck under shelter and slowly lower it onto truck using towing eye rope to help guide it into position.
- g. Remove lifting ring from lifting hook. Disassemble lifting ring and sling hooks. Remove sling center hooks from the lifting eyes. Remove rope from rear towing eyes.



4-12. MOVING TO NEW WORKSITE (cont)

SECURING SHELTER



- a. Use the hook at the farthest end from turnbuckle and hook each end of the sling assemblies to a tiedown eye of the assemblage.
- b. Secure sling hooks to tiedown ring.

**CAUTION**

**Overtightening turnbuckles will tear the lifting eye assemblies from the shelter. Do not overtighten the turnbuckle.**

- c. Tighten turnbuckles evenly by hand; then turn each turnbuckle an additional one-half turn using a bar or rod inserted in the turnbuckle slot.

**4-12. MOVING TO NEW WORKSITE (cont)**

- d. Insert appropriate size wooden blocks between shelter skids and side of truck bed.
- e. Insert wooden blocks between shelter skids and cab wall.

**4-13. RADIO INTERFERENCE SUPPRESSION****DEFINITIONS**

- a. INTERFERENCE. The term "interference" as used herein applies to electrical disturbances in the radio frequency range which are generated by the printing plant, special warfare, and which may interfere with the proper operation of radio receivers or other electronic equipment, or may enable the enemy to locate the equipment.
- b. INTERFERENCE SUPPRESSION. The term "interference suppression" as used herein applies to the methods used to eliminate or effectively reduce radio interference generated by the printing plant.

**GENERAL METHODS USED TO ATTAIN PROPER SUPPRESSION**

- a. Essentially, suppression is attained by providing a low resistance path to ground stray currents. Methods used include shielding the ignition and high-frequency wires, grounding the frame with bonding straps, and using capacitors and resistors.
- b. The items of equipment which make up the printing plant shelters have been chosen to meet military requirements for radio interference suppression. All electric motors are either of the brushless type or have built-in suppression features. The van construction is such that radio interference from the fluorescent lighting or other equipment is greatly attenuated.

**REPLACEMENT OF SUPPRESSION COMPONENTS**

Refer to the applicable technical publication for removal and installation of suppression components used in the phototypesetter, film dryer, PMT processor, camera, timer, and air conditioning system.

**TESTING OF RADIO INTERFERENCE SUPPRESSION COMPONENTS**

Test capacitors for leaks and shorts on a capacitor tester; replace defective capacitors. If test equipment is not available and interference is indicated, isolate the cause of interference by the trial and error method of replacing each capacitor in turn until the cause is located and eliminated.

**Section III. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

**4-14. INTRODUCTION TO ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

Organizational preventive maintenance checks and services are listed in table 4-1. Observe the following:

- a. Items to be inspected are indicated by a black dot in the appropriate column.
- b. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.
- c. If you find a faulty condition that you are not authorized to correct, notify direct support maintenance.

**Table 4-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

**Legend**

**M - Monthly**

**Q - Quarterly**

**S - Semiannually**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	M	Q	S		
1	•			Light table	Inspect the light table for condition and security of attachment. Inspect lights for proper operation. If inspection indicates that replacement of the light table is necessary, refer to paragraph 4-19.
2	•			PMT Processor	Inspect processor for general condition and security. If inspection indicates that replacement of the processor is necessary, refer to paragraph 4-22.
3	•			Camera Vacuum Pump	Inspect for security and proper operation. If inspection indicates that replacement of camera vacuum pump is necessary, refer to paragraph 4-23.
4	•			Safelight Assembly	Inspect lamps for correct illumination. Inspect lamp covers for condition. If inspection indicates that replacement of the lamp assembly is necessary, refer to paragraph 4-24.

Table 4-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Legend

M - Monthly

Q - Quarterly

S - Semiannually

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE
	M	Q	S		
5	•			Film Dryer	Inspect dryer for general condition and security of mounting. If inspection indicates that replacement of the dryer is necessary, refer to paragraph 4-25.
6	•			Vertical Vacuum Frame	Inspect vacuum frame for security and condition of glass and lights. If inspection indicates that replacement of the vacuum frame is necessary, refer to paragraph 4-30.
7	•			Vertical Vacuum Frame Vacuum Pump	Inspect vacuum pump for security and condition. If inspection indicates that replacement of the vacuum pump is necessary, refer to paragraph 4-30.
8	•			Wall Mounted Viewing Light	Inspect viewing light for general condition and security of mounting. If inspection indicates that replacement of the viewing light is necessary, refer to paragraph 4-31.
9	•			Pin Point Light Source Assembly	Inspect light assembly for security of mounting. Inspect light assembly casing for damage. Inspect power cord and timer for proper operation. Inspect bulb for proper operation. If inspection indicates replacement of the light assembly is necessary, refer to paragraph 4-32.
10	•			Phototypesetter Processor Assembly	Inspect processor assembly and shelf for general condition and security of mounting. If inspection indicates that replacement of the processor is necessary, refer to paragraph 4-33.

Table 4-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Legend

M - Monthly

Q - Quarterly

S - Semiannually

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	M	Q	S		
11			•	Fire Extinguisher	Inspect nozzle and adapter assembly for security and condition. Weigh cylinder every 6 months and replace if gross weight has decreased by 6 ounces (170 gm) or more. If inspection indicates that replacement of the fire extinguisher is necessary, refer to paragraph 4-35.
12	•			Fresh Air Door Filter	Inspect for cleanliness, damage, and proper installation. If necessary, clean filter as follows:  (a) Remove the filter by pulling the foam material from the frame.  (b) Clean by washing in a soap and water solution. Dry thoroughly and spray with coater (NSN 4130-00-860-0042).  (c) Install filter by inserting foam material under bottom lip of frame, then tucking it under remaining three lips of frame.
13		•		Ladder Assembly	Inspect for damage and ensure that mounting bracket and holddown assembly are properly attached and are not damaged. If inspection indicates replacement of ladder assembly is necessary, refer to paragraph 4-38.
14		•		Circuit Breaker	Inspect circuit breakers for proper operation. If inspection indicates that replacement is necessary, refer to paragraph 4-40.
15		•		Equipment Receptacles	Inspect for secure mounting, broken or cracked body, and proper cover installation. If inspection indicates that replacement or repair of the receptacle is necessary, refer to paragraph 4-43.

**Table 4-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

**Legend**

**M - Monthly**

**Q - Quarterly**

**S - Semiannually**

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURE
	M	Q	S		
16				Composing Table	Inspect for secure mounting and general condition. If inspection indicates that replacement of the table is necessary, refer to paragraph 4-44.

**Section IV. ORGANIZATIONAL TROUBLESHOOTING**

**4-15. INTRODUCTION TO ORGANIZATIONAL TROUBLESHOOTING**

- a. If you suspect an editorial shelter problem, you should first verify that the PRESTART PROCEDURE in paragraph 2-16 has been performed before continuing with ORGANIZATIONAL TROUBLESHOOTING in table 4-2.
- b. The common malfunctions which you may encounter during operation or maintenance of the editorial shelter or its components are listed in table 4-2, ORGANIZATIONAL TROUBLESHOOTING. You should perform the tests, inspections, and corrective actions in the order listed.
- c. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions possible. If a malfunction is not listed or is not corrected by listed corrective actions in this manual, then refer to commercial manual. If at this point you cannot correct the malfunction, notify your supervisor.

Table 4-2. ORGANIZATIONAL TROUBLESHOOTING

<b>MALFUNCTION</b> <b>TEST OR INSPECTION</b> <b>CORRECTIVE ACTION</b>
<p>1. NO WATER AT FAUCET</p> <p>Step 1. Inspect for lack of water in storage tank. Fill storage tank to proper level.</p> <p>Step 2. Inspect water pump for proper operation.</p> <ol style="list-style-type: none"> <li>a. If necessary, position ROADSIDE RECEPTACLES circuit breaker to ON.</li> <li>b. Check water pump fuse and replace if defective.</li> <li>c. Check for proper operation of water pump switch.</li> </ol> <p>Step 3. Inspect water lines between faucet, pump, and tank for damage which would prevent water flow.</p> <p>If necessary, replace lines as per paragraph 5-13.</p>
<p>2. SHELTER LIGHTING COMPONENT FAILURE</p> <p>Step 1. Inspect for failure of one or more fluorescent tubes.</p> <p>If necessary, replace defective fluorescent tubes as follows:</p> <ol style="list-style-type: none"> <li>a. Grasp lamp tube, rotate 90° and lower from sockets.</li> <li>b. Place replacement lamp below sockets with pins vertical. Insert lamp into sockets and twist until pins lock.</li> </ol> <p>Step 2. Inspect lamp switches for excessive wear, loose connections, and improper operation and check switchbox cover for security of mounting.</p> <p>If necessary, replace defective switch as per paragraph 4-42.</p> <p>Step 3. Check position of the LIGHTS circuit breaker in the main power service box.</p> <p>If necessary, set LIGHTS circuit breaker to ON.</p>

Table 4-2. ORGANIZATIONAL TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. NO POWER AT ONE OR MORE EQUIPMENT RECEPTACLES	<p>Step 1. Check position of the applicable RECEPTACLE circuit breaker in the main power service box.</p>	<p>If necessary, set applicable RECEPTACLE circuit breaker to ON.</p>
	<p>Step 2. Inspect for defective receptacle or faulty wire connections as follows:</p>	<p><b>WARNING</b></p>
		<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF, and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>
		<p>a. Set applicable RECEPTACLE circuit breaker in main power service box to OFF.</p> <p>b. Remove three screws which attach receptacle cover to conduit box.</p> <p>c. Pull receptacle from conduit box and inspect receptacle and wiring connections.</p>
		<p>If necessary, replace defective receptacle and secure wiring connections as follows:</p>
		<p>(1) Tag and disconnect wires and remove receptacle.</p> <p>(2) Remove tags and connect wires to new receptacle.</p> <p>(3) Insert receptacle into conduit.</p> <p>(4) Position receptacle cover and secure with screws.</p> <p>(5) Set applicable RECEPTACLE circuit breaker in main power service box to ON.</p>



**Section V. ORGANIZATIONAL MAINTENANCE PROCEDURES**

**4-16. INTRODUCTION TO ORGANIZATIONAL MAINTENANCE**

The instructions contained in this section are for the use of organizational maintenance personnel responsible for maintenance of the editorial shelter unit of the special warfare printing plant.

Procedures for general repair and maintenance are defined where they occur during the performance of maintenance activity covered by the various paragraphs of this section. Maintenance procedures for the items of equipment which form a part of the shelter system are included in the various commercial manuals supplied with the equipment.

Refer to TM 5-4120-239-14, Operator's, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Horizontal Compact, 9000 BTU (Trane Models) or TM 5-4120-340-14, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Compact, Horizontal, 9000 BTU (KECO Models) for organizational maintenance and repair procedures pertaining to the air conditioners.

Refer to TB 43-0124, Maintenance and Repair Procedures for Shelter, Electrical Equipment for organizational maintenance and repair procedures pertaining to the shelter itself.

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4-16. INTRODUCTION TO ORGANIZATIONAL MAINTENANCE (cont)	
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4-17. WALL CABINET MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<b>a. Inspection</b>		<b>c. Repair</b>	
<b>b. Removal</b>		<b>d. Installation</b>	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Editorial Room, Roadside	Wall cabinet	Check for security of mounting. Check for dents and structural damage. Inspect welds for breaks or separation.	
2. Wall Cabinet	a. Handles	Check for security of installation and damage.	
	b. Latching mechanism	Check for proper operation and security.	

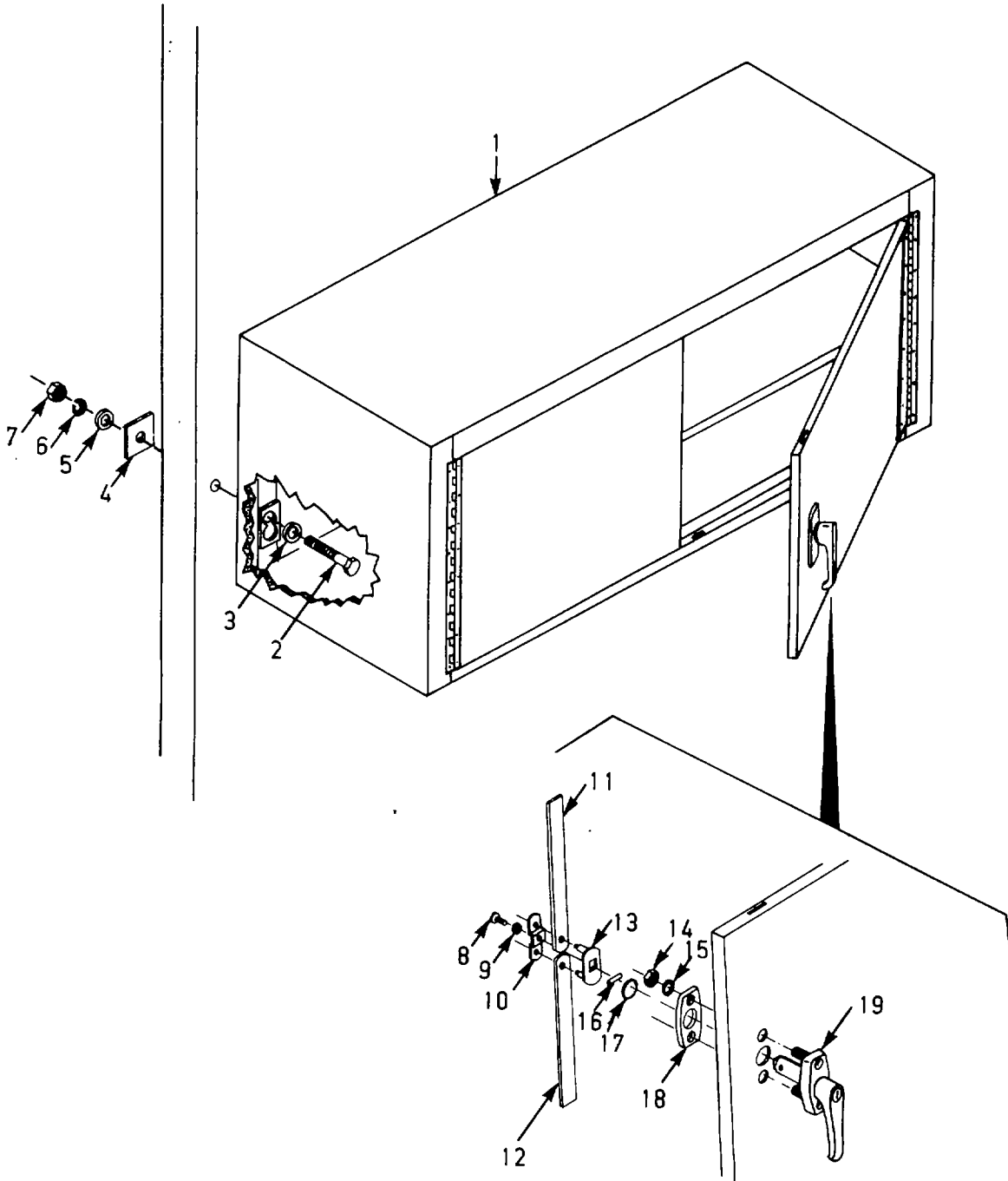
## 4-17. WALL CABINET MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
3. Wall Cabinet (1)	a. Shelves	Remove contents.	
	b. Bolts (2), flat washers (3), backing plates (4), flat washers (5), lockwashers (6), and nuts (7)	Remove.	
4. Door Handle Assembly	a. Screw (8), lockwasher (9), and plate (10)	Remove.	
	b. Rods (11 and 12) and backing plate (13)	Remove.	
	c. Nuts (14), lockwashers (15), pin (16), and spring (17)	Remove.	
	d. Plate (18) and handle (19)	Remove.	

4-17. WALL CABINET MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



**4-17. WALL CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
5. Wall Cabinet (1)	a. Body	Remove minor dents and bends.	
	b. Shelf	Remove minor dents and bends.	
	c. Welds	Repair as needed.	
	d. Doors	Replace if necessary.	
	e. Handle assemblies	Replace if necessary.	
<b>INSTALLATION</b>			
6. Door Handle Assembly	a. Plate (18) and handle (19)	Install.	
	b. Nuts (14), lock-washers (15), spring (17), and pin (16)	Install.	
	c. Rods (11 and 12) and backing plate (13)	Install.	
	d. Screws (8), lock-washers (9), and plate (10)	Install.	
7. Wall Cabinet (1)	Bolts (2), flat washers (3), backing plates (4), flat washers (5), lock-washers (6), and nuts (7)	Install.	Seal backing plates to shelter wall with RTV (item 3, app E).

**4-18. HISTORICAL FILE CABINET MAINTENANCE INSTRUCTIONS**

**This task covers:**

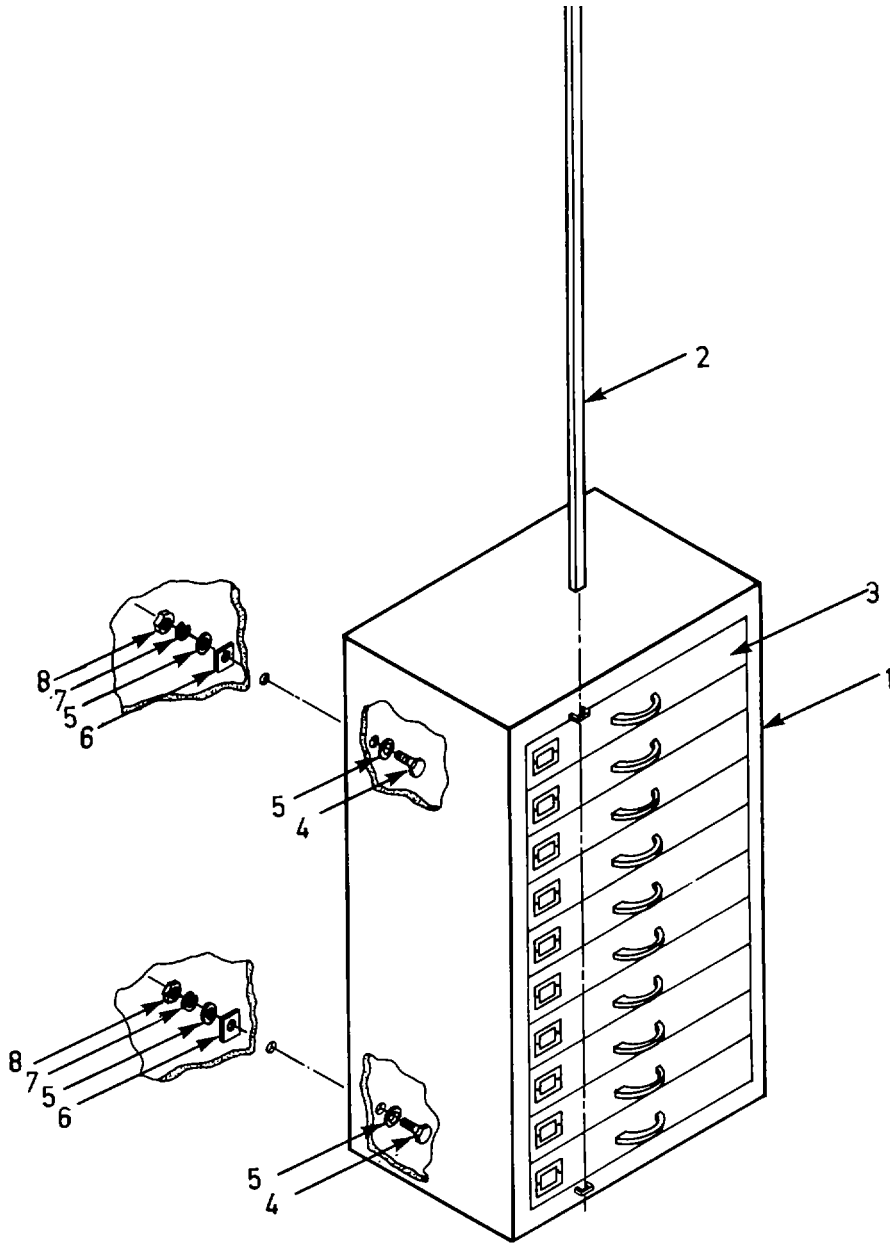
- |                      |                        |
|----------------------|------------------------|
| <b>a. Inspection</b> | <b>c. Repair</b>       |
| <b>b. Removal</b>    | <b>d. Installation</b> |

<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Editorial Room, Roadside	File cabinet	Check for security of mounting, dents, and structural damage. Inspect welds for breaks or separation.	
2. File Cabinet	a. Locking bar	Inspect for bends or other damage.	
	b. Locking clips	Inspect for breaks or other damage.	
3. Drawers	a. Handles	Inspect for security of installation and damage.	
	b. Label holders	Inspect for security of installation and damage.	
<b>REMOVAL</b>			
4. File Cabinet (1)	a. Locking bar (2)	Remove.	
	b. Drawers (3)	Remove.	
	c. Bolts (4), flat washers (5), backing plates (6), lockwashers (7), and nuts (8)	Remove.	

4-18. HISTORICAL FILE CABINET MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



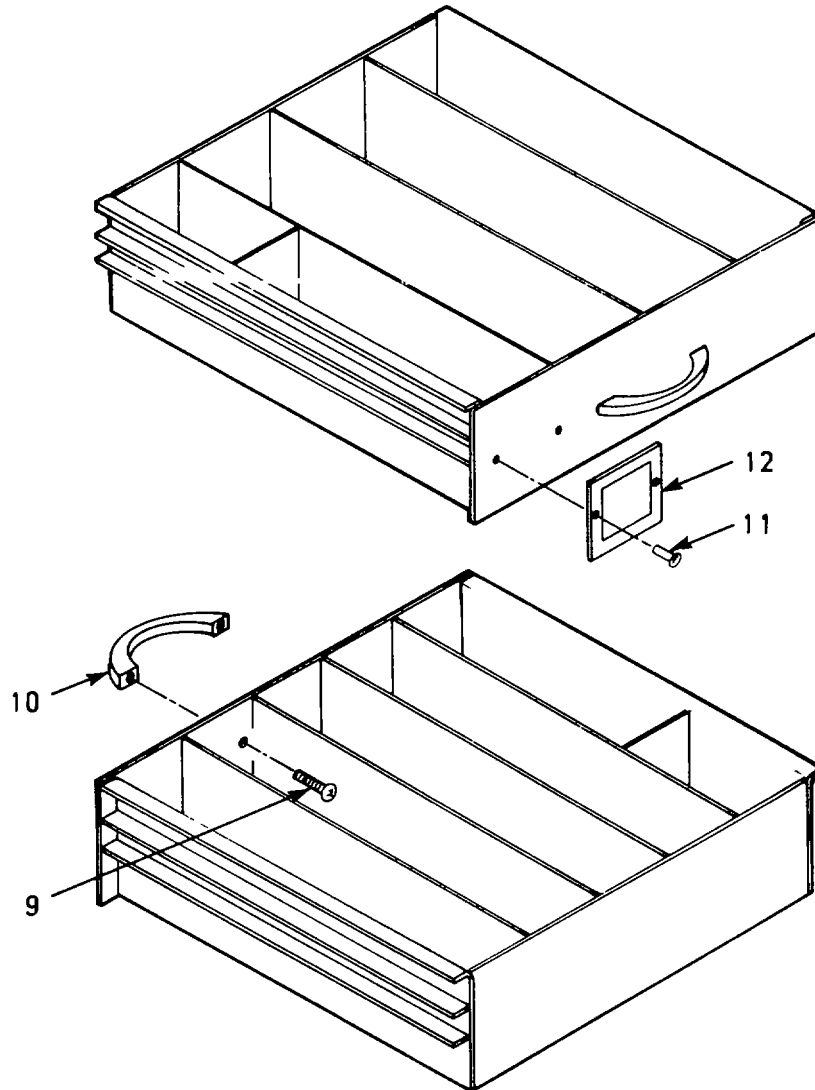
5. Drawer (3)	a. Screws (9)	Remove.	
	b. Handle (10)	Remove.	
	c. Rivets (11)	Remove by drilling or chiseling off heads.	

4-18. HISTORICAL FILE CABINET MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- |                      |         |  |  |
|----------------------|---------|--|--|
| d. Label holder (12) | Remove. |  |  |
|----------------------|---------|--|--|





**4-18. HISTORICAL FILE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
6. File Cabinet (1)	a. Locking bar (2)	Repair by straightening.	
	b. Cabinet (1)	Remove minor dents and bends.	
	c. Welds	Repair as needed.	
7. Drawer (3)	a. Handle (10)	Replace if necessary.	
	b. Label holders (12)	Replace if necessary.	
<b>INSTALLATION</b>			
8. Drawer (3)	a. Label holders (12)	Install and secure with rivets (11).	
	b. Handles (10)	Secure to drawer with screws (9).	
9. Cabinet (1)	a. Bolts (4), flat, washers (5), backing plates (6), lockwashers (7), and nuts (8)	Install.	Seal backing plates to shelter wall with RTV (item 3, app E).
	b. Drawers (3)	Install.	
	c. Locking bar (2)	Install.	

**4-19. LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

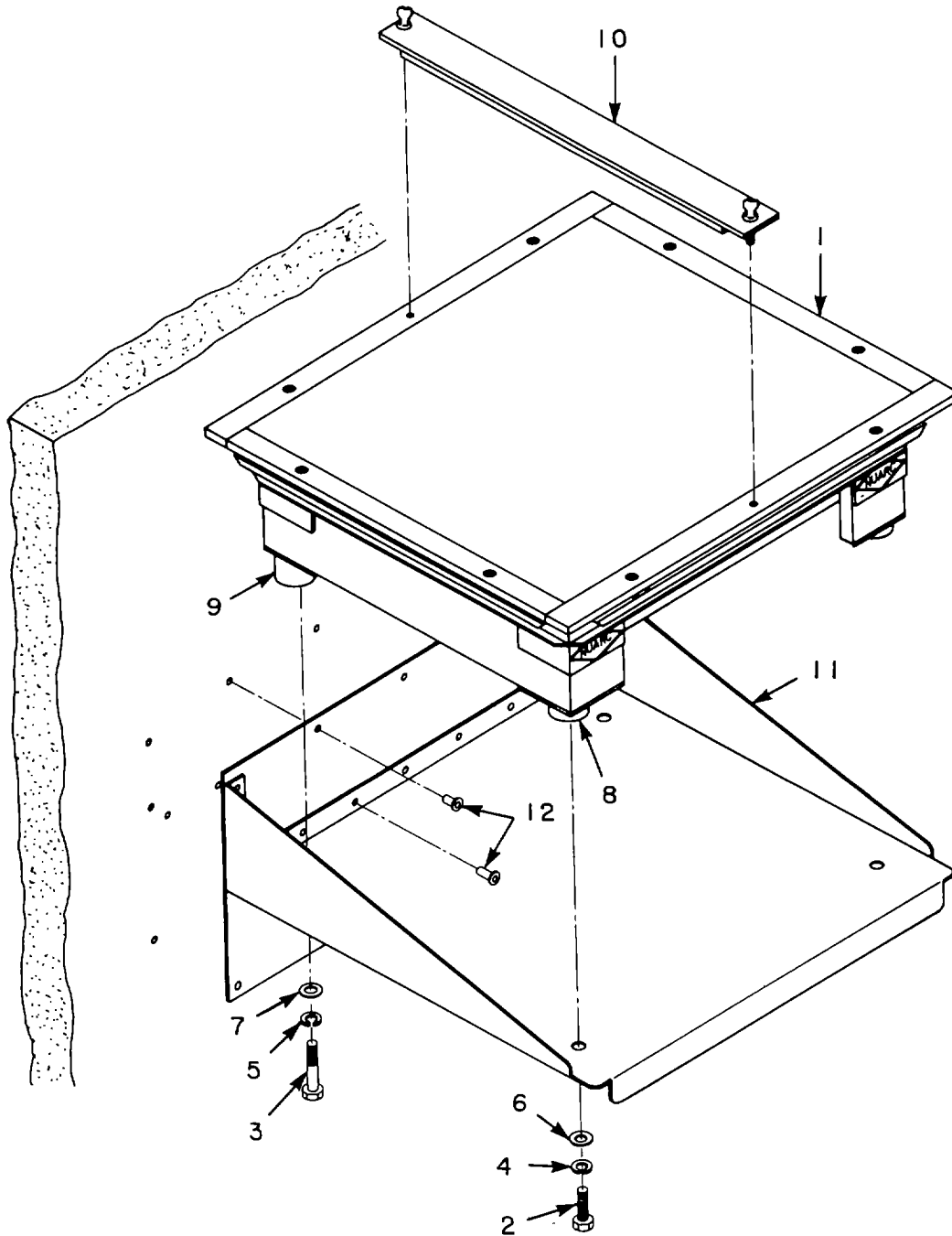
- a. Inspection
- b. Removal
- c. Repair
- d. Modification
- e. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Editorial Room, Curbside	Light table	Inspect for security.	
2. Light Table	a. Glass top	Check for damage.	
	b. Lights	Check for proper operation.	
	c. OFF and ON switch	Inspect for proper operation and for security of mounting.	
<b>REMOVAL</b>			
3. Light Table (1)	a. Bolts (2 and 3), lockwashers (4 and 5), flat washers (6 and 7), and rubber legs (8 and 9)	Remove.	
	b. Power Cord	Disconnect.	
	c. Light table (1)	Remove.	
	d. Shipping bracket	Remove if installed.	
4. Shelf (11)	a. Rivets (12)	Remove by drilling or chiseling off heads.	
	b. Shelf (11)	Remove.	

4-19. LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



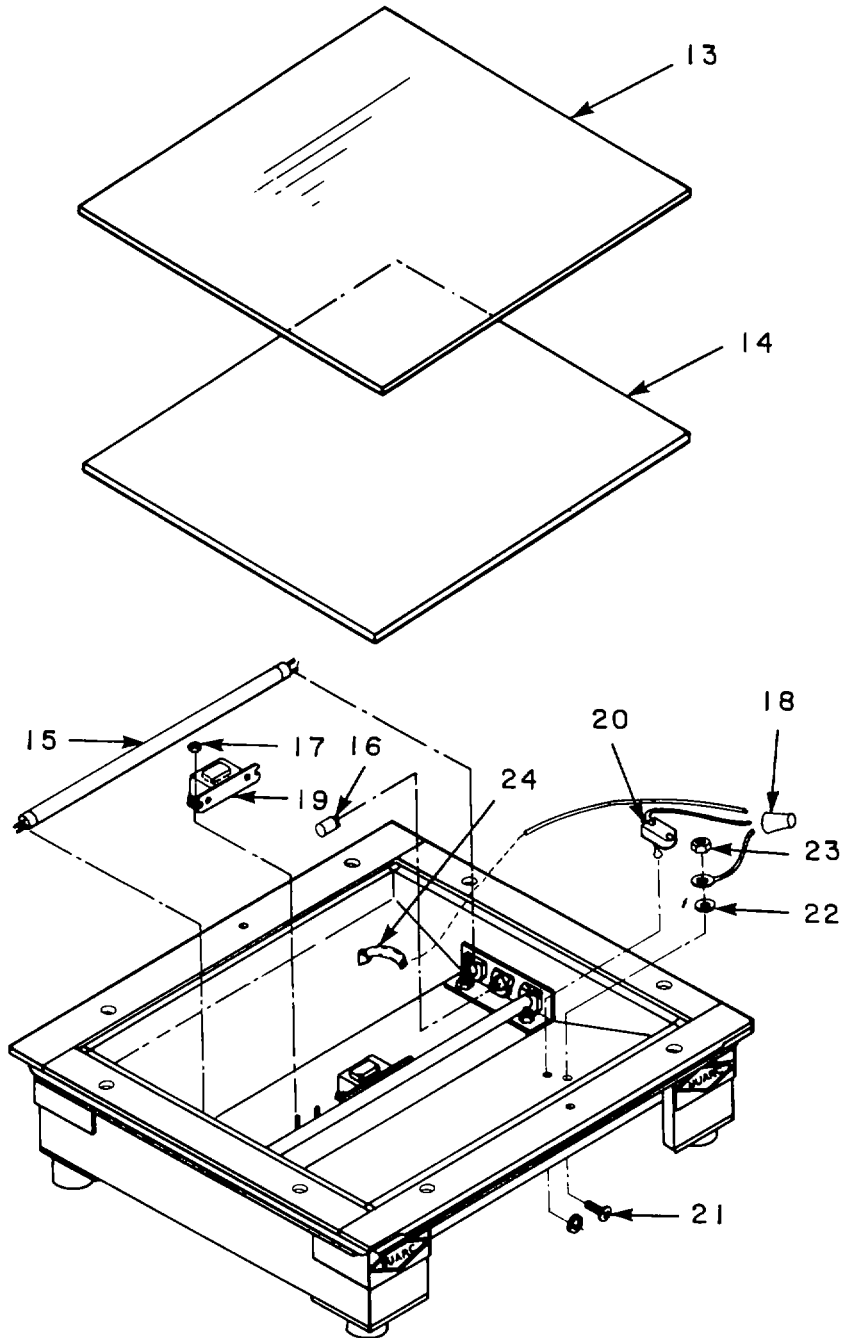
**4-19. LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
5. Light Table	a. Glass (13) and plastic top (14)	Remove.	
	b. Fluorescent tubes (15)	Grasp tube, rotate 90°, and remove from table tube sockets.	
	c. Starter (16)	Rotate counterclockwise and remove from socket.	
	d. Nuts (17)	Remove.	
	e. Wire nuts (18)	Remove.	
	f. Ballast (19)	Remove.	
	g. Switch (20)	Remove.	
	h. Screw (21), flat washer (22), and nut (23)	Remove.	
	i. Power cord (24)	Remove.	

4-19. LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



**4-19 LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REPAIR**

6. Light Table		Repair of the light table consists of replacement of parts.	
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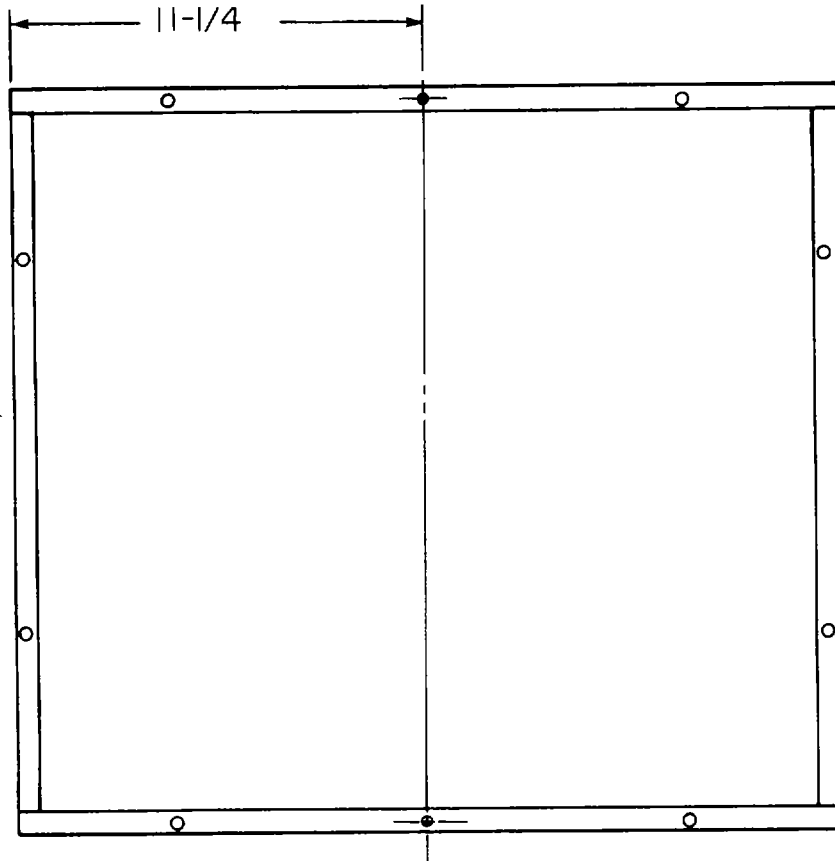
**MODIFICATION**

7. Light Table			
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**NOTE**

The following modification procedure is for modifying a light table that has not been modified for this shelter.

- |                                    |                       |
|------------------------------------|-----------------------|
| a. Shipping bracket mounting holes | a. Measure and drill. |
|                                    | b. Tap drilled holes. |



## 4-19. LIGHT TABLE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>MODIFICATION (cont)</b>			
	b. Shipping bracket (10)	Secure to light table with thumbscrews.	
<b>INSTALLATION</b>			
8. Light Table	a. Power cord (23)	Install.	
	b. Screw (21) and nut (22)	Install.	
	c. Switch (20)	Install.	
	d. Ballast (19)	Install.	
	e. Wire nuts (18)	Install.	
	f. Nuts (17)	Install.	
	g. Starter (16)	Install in socket and rotate clockwise until secure.	
	h. Fluorescent tubes (15)	Install in tube sockets and rotate 90° until secure.	
	i. Plastic (14) and glass (13) top	Install.	
9. Shelter Wall	Shelf (11)	Aline with mounting holes.	
10.Shelf (11)	a. Rivets (12)	Install.	
	b. Light table (1)	Install.	
11. Light Table (1)	a. Bolts (2 and 3), lockwashers (4 and 5), flat washers (6 and 7), and rubber legs (8 and 9)	Install.	
	b. Power cord	Connect to proper receptacle.	

**4-20. ARTIST SUPPLY CABINET MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection
- b. Removal
- c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Editorial Room, Roadside	Supply cabinet	Check for security of mounting. Check for dents and structural damage. Inspect welds for breaks or separation.	
2. Supply Cabinet	a. Handles b. Latching mechanism	Check for security of installation and damage. Check for proper operation and security.	
<b>REMOVAL</b>			
3. Supply Cabinet	a. Shelves b. Bolts (2), flat washers, (3), backing plates (4), lockwashers (5), and nuts (6)	Remove contents. Remove.	
4. Door Handle Assembly	a. Screw (7), lock-washer (8), and plate (9) b. Rods (10 and 11) and backing plate (12) c. Nuts (13), lock-washers (14), pin (15), and spring (16)	Remove. Remove. Remove.	



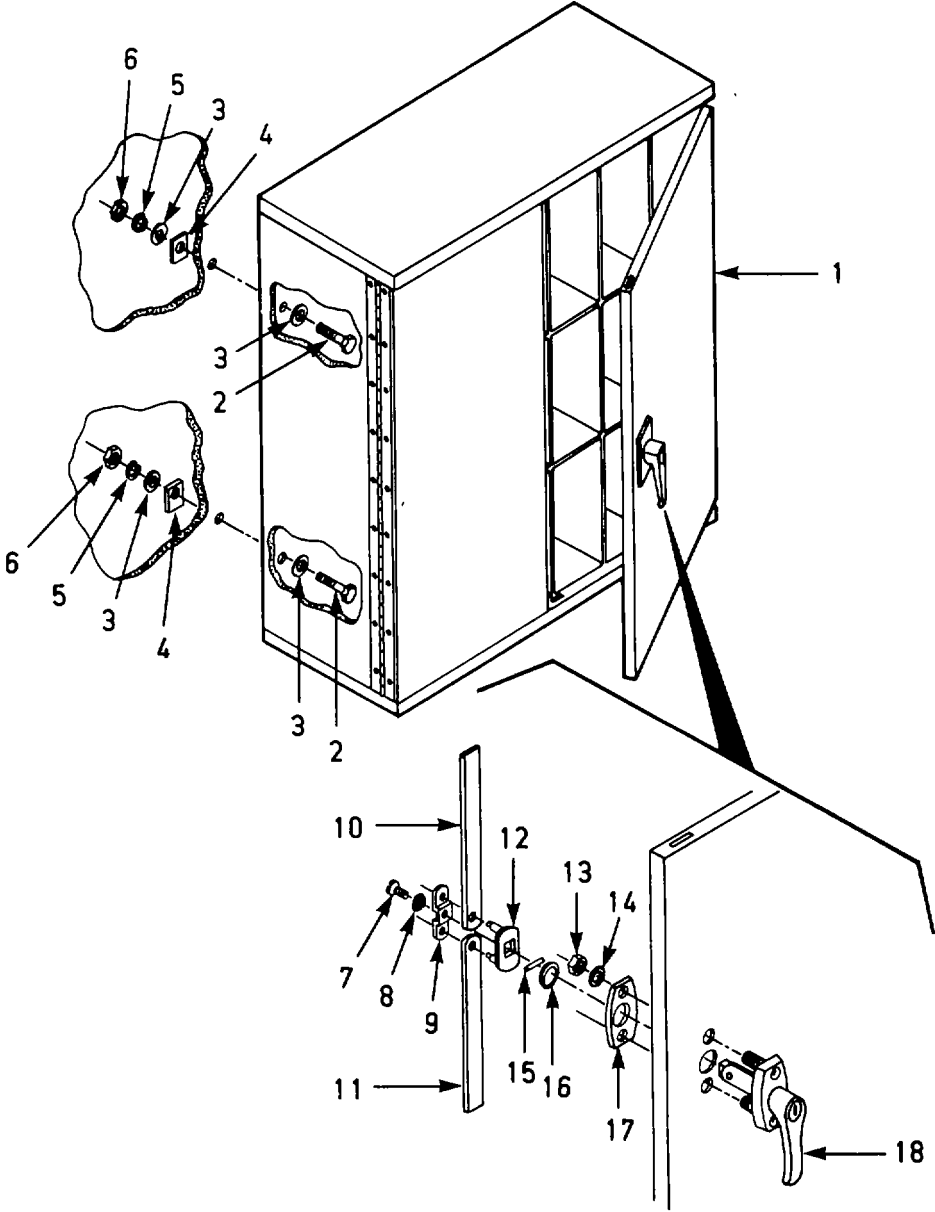
4-20. ARTIST SUPPLY CABINET MAINTENANCE INSTRUCTIONS

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION (cont)

d. Plate (17) and handle (18)

Remove.



**4-20. ARTIST SUPPLY CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
5. Supply Cabinet (1)	a. Body	Remove minor dents and bends.	
	b. Shelf	Remove minor dents and bends.	
	c. Welds	Repair as needed.	
	d. Doors	Replace if necessary.	
	e. Handle assemblies	Replace if necessary.	
<b>INSTALLATION</b>			
6. Door Handle Assemblies	a. Plate (17) and handle (18)	Install.	
	b. Nuts (13), lock-washers (14), spring (16), and pin (15)	Install.	
	c. Rods (10 and 11) and backing plate (12)	Install.	
	d. Screws (7), lock-washers (8), and plate (9)	Install.	
7. Supply Cabinet	Bolts (2), flat washers (3), backing plates (4), lock-washers (5), and nuts (6)	Install.	Seal backing plates to shelter wall with RTV (item 3, app E).

**4-21. FOLD DOWN ARTIST SHELF MAINTENANCE INSTRUCTIONS**

**This task covers:**

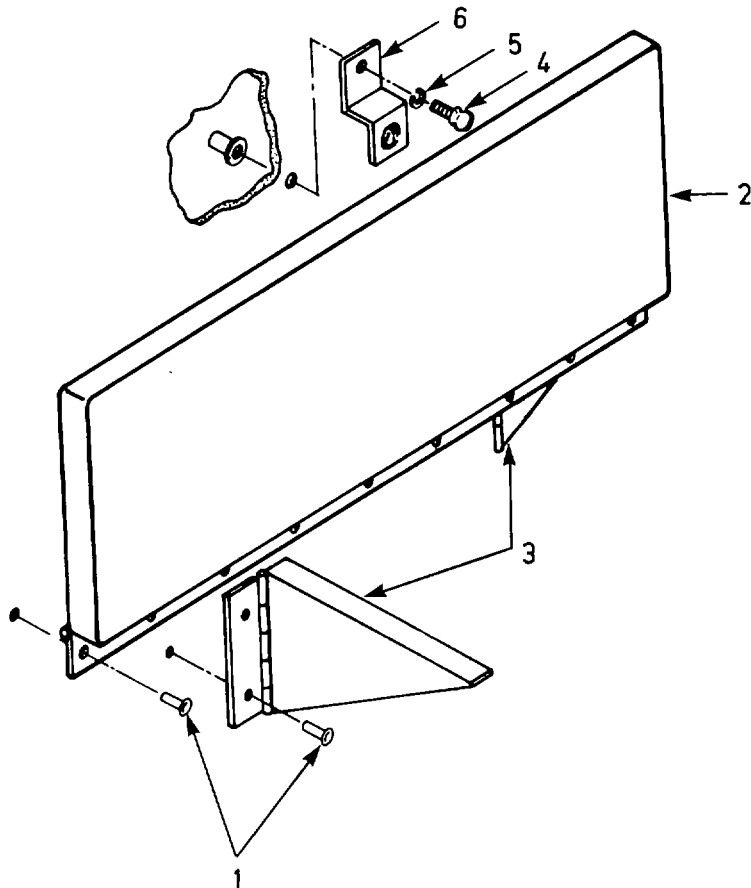
- a. Inspection
- b. Removal
- c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Editorial Room, Road-side Wall	Artist shelf	Inspect for security and general condition.	
<b>REMOVAL</b>			
2. Artist Shelf	a. Rivets (1)	Remove by drilling or chiseling off heads.	
	b. Shelf (2)	Remove.	
	c. Supports (3)	Remove.	
3. Holding Bracket	a. Thumbscrew (4) and lockwasher (5)	Remove.	
	b. Bracket (6)	Remove.	

4-21. FOLD DOWN ARTIST SHELF MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



REPAIR

4. Artist Shelf

a. Shelf

- a. Remove bends or dents.
- b. Repair cracks or tears by welding.
- c. Replace hinge if necessary.

b. Support

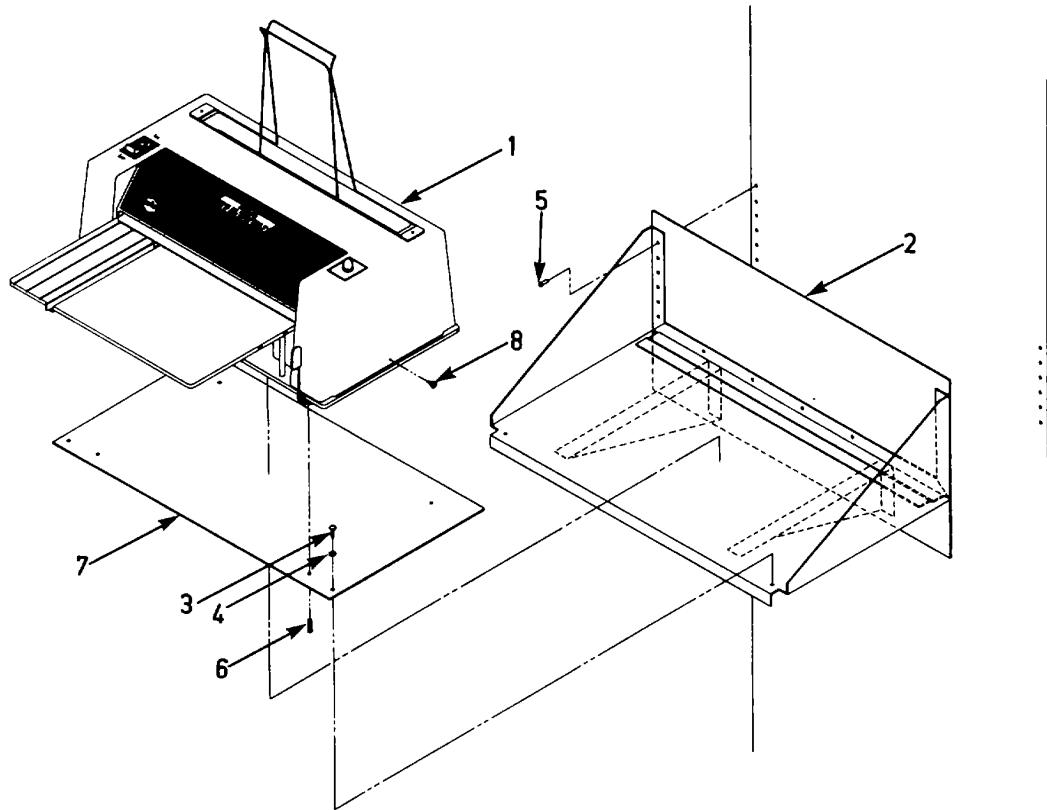
- a. Remove bends or dents.
- b. Repair cracks or tears by welding.
- c. Replace hinges if necessary.

4-21. FOLD DOWN ARTIST SHELF MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
5. Artist Shelf	a. Support (3)	Secure to shelter wall with rivets (1).	
	b. Shelf (2)	Secure to shelter wall with rivets (1).	
	c. Holding bracket (6)	Secure to shelter wall with thumbscrew (4) and lockwasher (5).	

4-22. PMT PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection		c. Repair	
b. Removal		d. Installation	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom	a. PMT Processor (1)	Check for security and completeness.	
	b. Processor shelf (2)	Check for security and general condition.	
<b>REMOVAL</b>			
2. PMT Processor (1)	a. Chemicals	Drain.	
	b. Thumbscrews (3) and lockwashers (4)	Remove.	

**4-22. PMT PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	c. Power cord	Disconnect.	
	d. Processor (1)	Remove.	
3. Processor Shelf (2)	Rivets (5)	Remove by drilling or chiseling off heads.	
4. PMT Processor (1)	a. Screws (6)	Remove.	
	b. Mounting plate (7)	Remove.	
	c. Thumbscrews (8)	Remove.	



**REPAIR**

- 5. PMT Processor

Refer to commercial manual for repair.

**INSTALLATION**

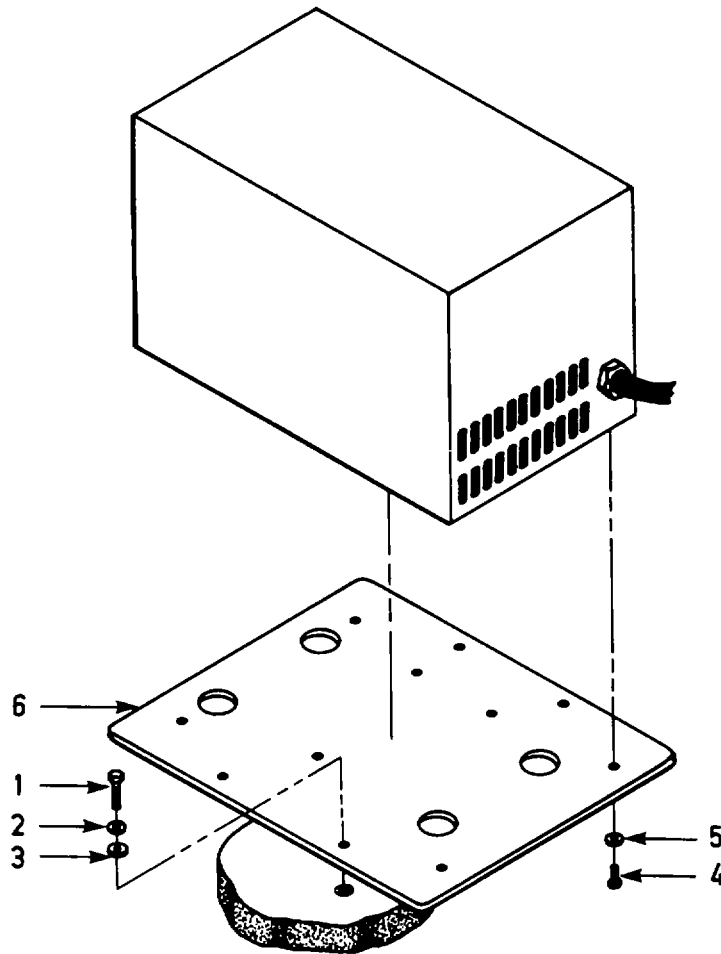
- 6. PMT Processor (1)
  - a. Mounting plate (7) Install.

4-22. PMT PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	b. Screws (6)	Install.	
	c. Thumbscrews (8)	Install.	
7. Processor Shelf	Shelf (2)	Secure to wall with rivets (5).	
8. PMT Processor	a. Processor (1)	Install.	
	b. Power cord	Connect.	
	c. Thumbscrews (3) and lockwashers (4)	Install.	

4-23. VERTICAL CAMERA AND VACUUM PUMP MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection		d. Repair	
b. Removal		e. Installation	
c. Modification			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Vertical Camera	a. Camera	a. Check for completeness and security.	
		b. Check for shipping bracket modification.	
	b. Vacuum pump	Check for security and proper installation.	

4-23. VERTICAL CAMERA AND VACUUM PUMP MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2. Vacuum Pump	a. Screws (1), lock-washers (2), and flat washers (3)	Remove.	
	b. Screws (4), lock-washers (5), and mounting plate (6)	Remove.	
	c. Power cord and vacuum hose	Disconnect.	
	d. Pump (7)	Remove.	





4-23. VERTICAL CAMERA AND VACUUM PUMP MAINTENANCE INSTRUCTIONS (cont)

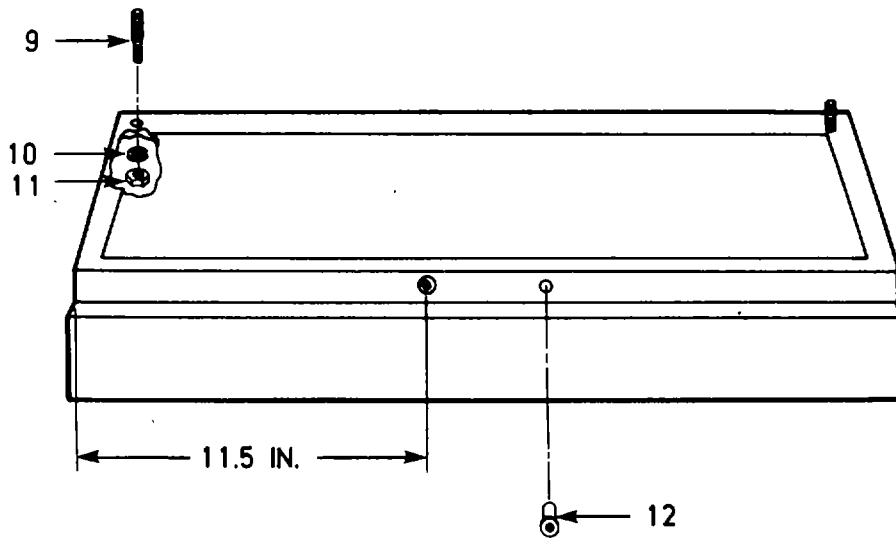
LOCATION	ITEM	ACTION	REMARKS
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**MODIFICATION**

**NOTE**

The following modification procedure is for modifying a camera that has not been modified for the shelter.

- |                         |   |                            |
|-------------------------|---|----------------------------|
| 3. Camera Copyboard (8) | a. Manufacturer's studs, lock-washers, and nuts | Remove.                    |
|                         | b. Studs (9), lock-washers (10), and nuts (11)  | Install.                   |
|                         | c. Mounting holes                               | Measure and drill.         |
|                         | d. Rivnuts (12)                                 | Install.                   |
|                         | e. Shipping bracket                             | Install per paragraph 6-8. |



**REPAIR**

- |           |  |
|-----------|--|
| 4. Camera | Refer to commercial manual for repair. |
|-----------|--|

4-23. VERTICAL CAMERA AND VACUUM PUMP MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
5. Vacuum Pump	a. Screws (4), lock-washers (5), and mounting plate (6)	Install.	
	b. Screws (1), lock-washers (2), and flat washers (3)	Install.	
	c. Power cord and vacuum hose	Connect to proper receptacle.	

4-24. SAFELIGHT ASSEMBLY MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<p style="text-align: center;"> <b>a. Inspection      b. Removal      c. Repair      d. Installation</b> </p>			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom	Lamp filters lamp.	Check that filter covers Check for cracks or tears in filter.	
2. Light	a. Fluorescent tubes Fixture	Check for discoloration, inadequate illumination, and failure.	
	b. Tube socket	Check for security and damage.	

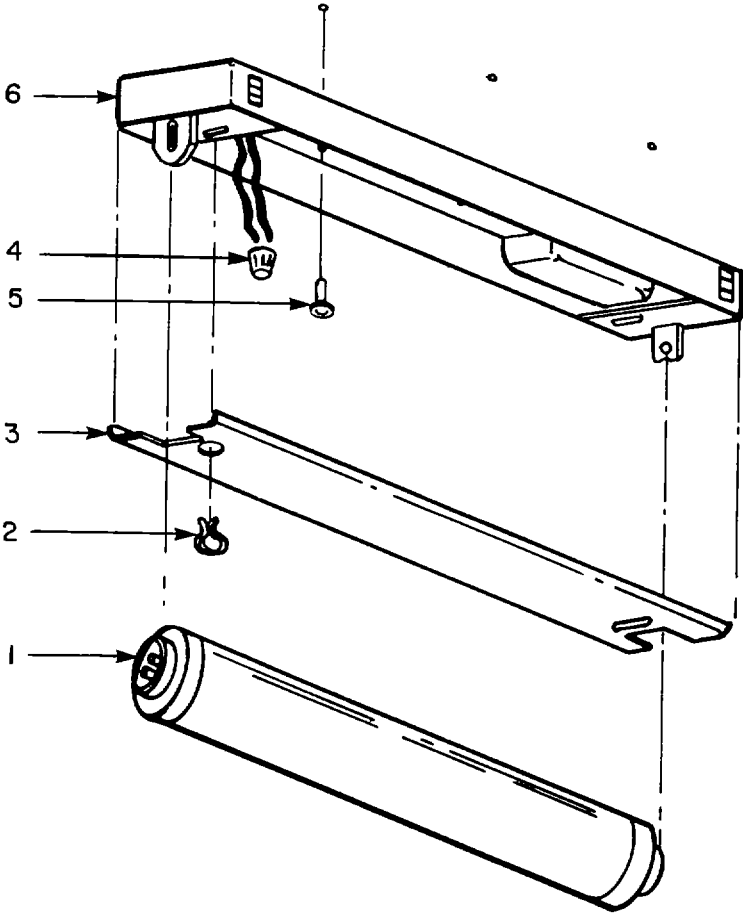
**4-24. SAFELIGHT ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
	c. Light fixture	Check for damage and incorrect attachment.	
REMOVAL			
3. Light Fixture Assembly	a. Lamp (1)	Rotate 90° and remove.	
<b>WARNING</b>			
<b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF, and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b>			
	b. Lock (2)	Remove.	
	c. Cover (3)	Remove.	
	d. Wire nuts (4)	Remove.	
	e. Rivets (5)	Remove by drilling or chiseling off heads.	
	f. Light fixture (6)	Remove.	

4-24. SAFELIGHT ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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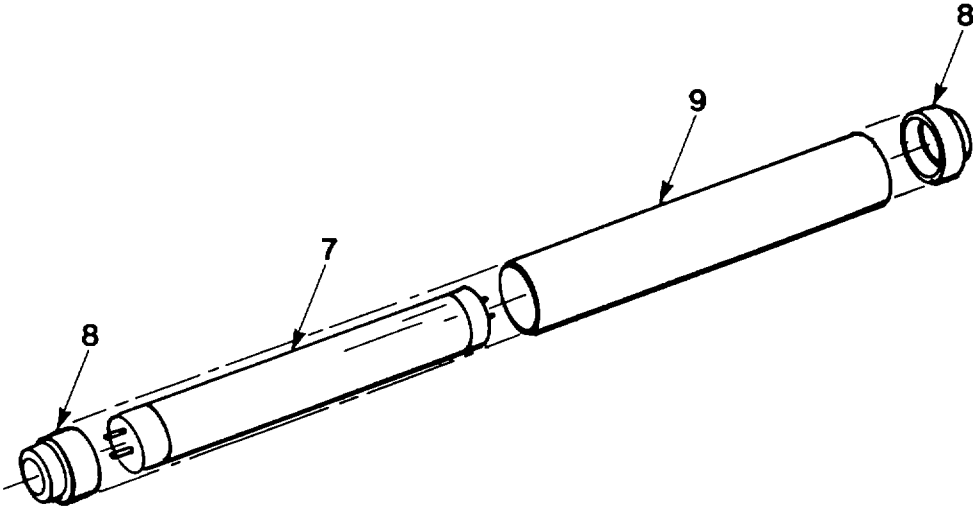
REMOVAL (cont)



4.Lamp  
Assembly

Filter (7) and filter  
end covers (8)

Remove from lamp (9).



**4-24. SAFELIGHT ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
5. Light Fixture Assembly	a. Light fixture (6)	Replace.	
	b. Lamp (9)	Replace.	
	c. Filter (7) and filter end covers (8)	Replace.	
<b>INSTALLATION</b>			
6. Light Fixture Assembly	a. Light fixture (6)	Secure to shelter ceiling with rivets (5).	
	b. Wire nuts (4)	Connect.	
	c. Cover (3)	Install.	
	d. Lock (4)	Install.	
7. Lamp (9)	Filter (7) and filter end covers (8)	Install.	
8. Light Fixture Assembly	Lamp assembly (1)	Install.	

**4-25. FILM DRYER ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

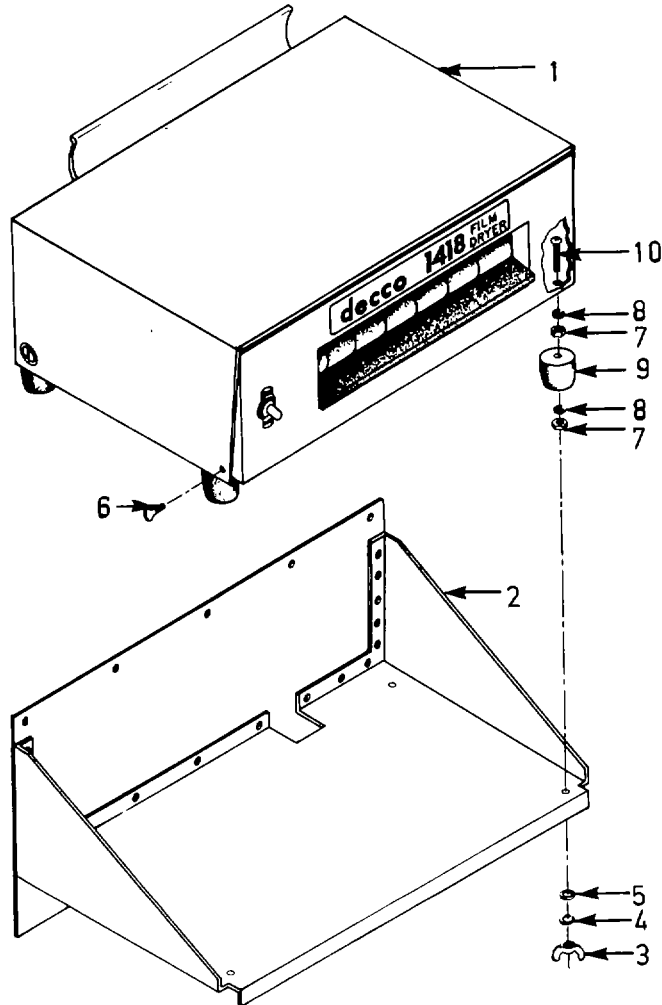
- a. Inspection      b. Removal      c. Repair      d. Modification      e. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom	a. Film dryer (1)	Check for security and general condition.	
	b. Dryer shelf (2)	Check for security and general condition.	
<b>REMOVAL</b>			
2. Film Dryer (1)	a. Power cord	Disconnect.	
	b. Wingnuts (3) lockwashers t4), and flat washers (5)	Remove.	
	c. Dryer (1)	Remove.	
	d. Red thumbscrews (6)	Remove. cover is to be removed.	Remove only if
	e. Nuts (7), lock-washers (8), legs (9), and screws (10)	Remove.	

4-25. FILM DRYER ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



3. Dryer Shelf a.  
(2)

Rivets (11)

Remove by drilling or chiseling off heads.

The shelf and shelf backing plate comes apart when removed from shelter wall.

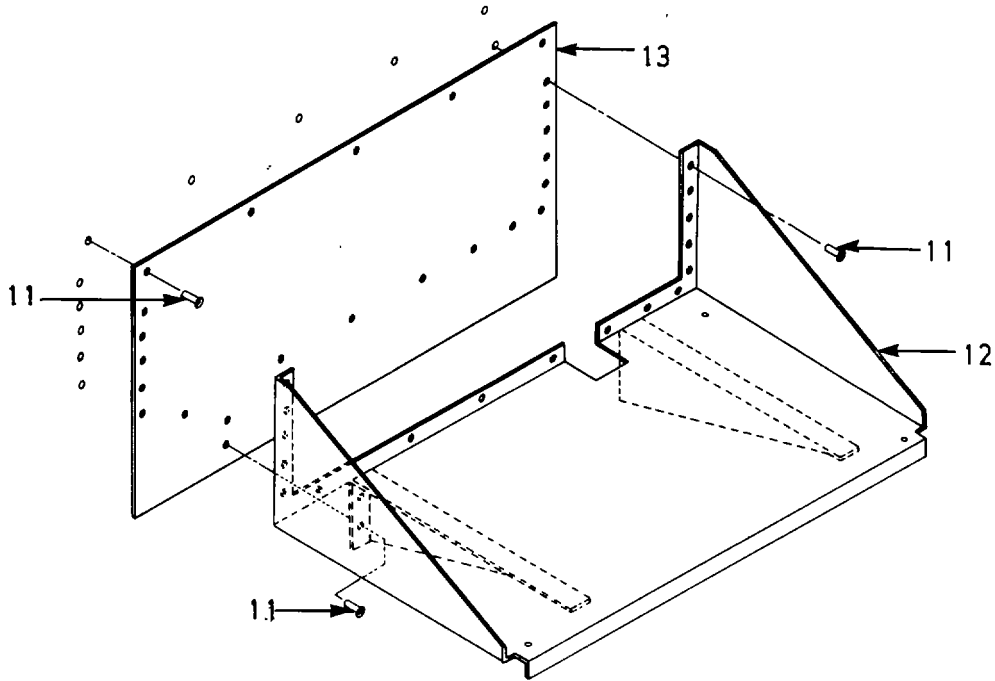
b. Shelf (12) and shelf backing plate (13)

Remove.

**4-25. FILM DRYER ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**REPAIR**

4. Film Dryer

Refer to commercial manual for repair.

**MODIFICATION**

**NOTE**

The following modification procedure is for modifying a film dryer that has not been modified for this shelter.

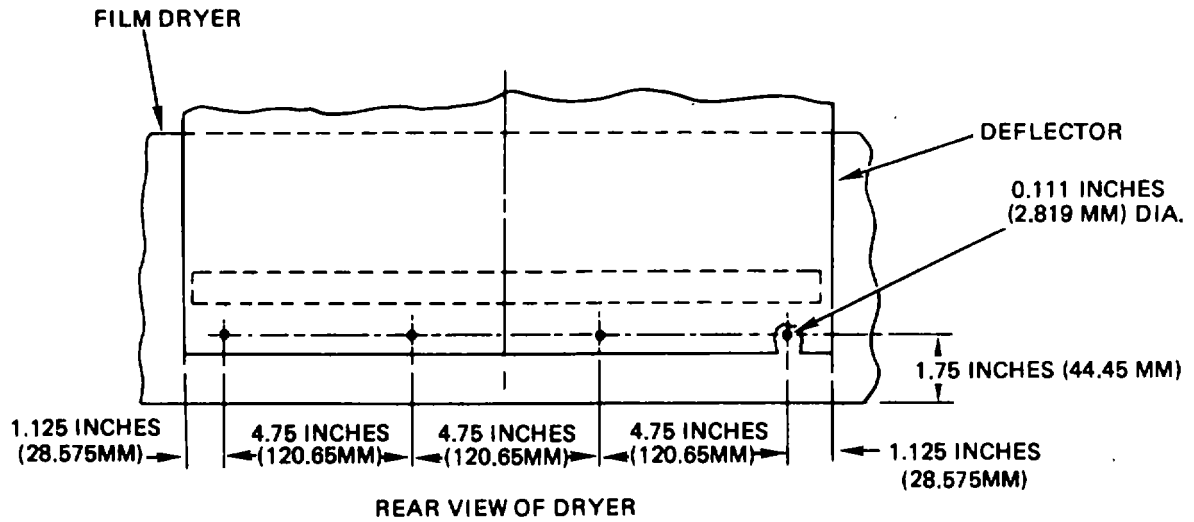
- |               |                             |                    |
|---------------|-----------------------------|--------------------|
| 5. Film Dryer | a. Legs                     | Remove.            |
|               | b. Deflector mounting holes | Measure and drill. |



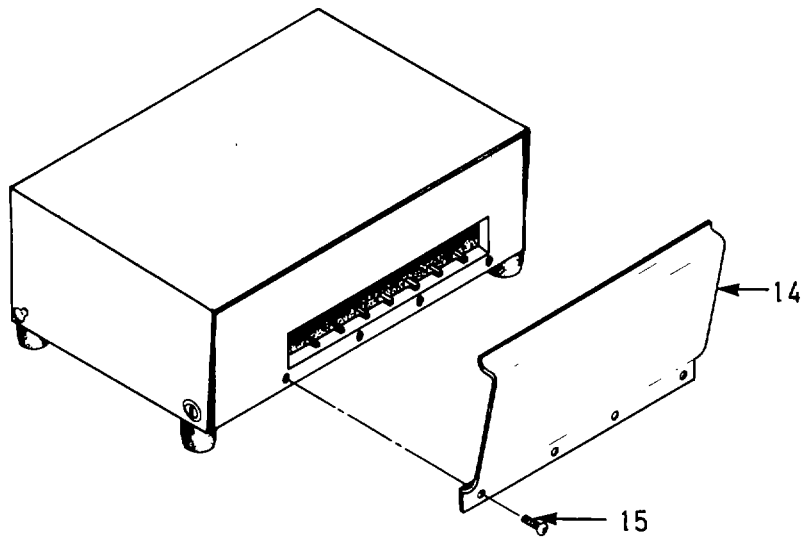
4-25. FILM DRYER ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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MODIFICATION (cont)



- |                             |  |
|-----------------------------|--|
| c. Deflector plate.<br>(14) | Secure to back of dryer<br>with screws (15). |
|-----------------------------|--|



4-25. FILM DRYER ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
6. Film Dryer Shelf	Shelf backing plate (13) and shelf (12)	Install and secure with rivets (11).	
7. Film Dryer	a. Nuts (7), lock-washers (8), legs (9) (10)	Install. and screws	
	b. Red thumbscrews (6)	Install.	
	c. Dryer (1)	Install.	
	d. Wingnuts (3) lockwashers (4), and flat washers (5)	Install.	

4-26. LOCK HANDLE SUPPLY STORAGE CABINET, MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection		b. Removal	c. Installation
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Supply Storage Cabinet Door	Door handle assembly	Check for proper operation and secureness.	

4-26. LOCK HANDLE SUPPLY STORAGE CABINET, MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2. Door Handle Assembly	a. Screw (1), lock-washers (2), and plate (3)	Remove.	
	b. Rods (4 and 5) and backing plate (6)	Remove.	
	c. Nuts (7), lock-washers (8), pin (9), and spring (10)	Remove.	
	d. Plate (11) and handle (12)	Remove.	
<b>INSTALLATION</b>			
3. Door Handle Assembly	a. Plate (11) and handle (12)	Install.	
	b. Nuts (7), lock-washers (8), pin (9), and spring (10)	Install.	

4-26. LOCK HANDLE SUPPLY STORAGE CABINET, MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	c. Rods (4 and 5) and backing plate (6)	Install.	
	d. Screw (1), lock-washer (2), and plate (3)	Install.	

4-27. RUB-UP BOARD MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b> a. Inspection      b. Removal      c. Repair      d. Installation			
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL AND INSPECTION</b>			
1. Rub-up Board Storage	a. Rub-up board (1)	Remove.	
	b. Strap assemblies (2)	Inspect webbing for wear, frayed sewing, and decayed fabric.	
	c. Fastener loops (3)	Inspect for secure mounting to wall.	
2. Rub-up Board	a. Board assembly	Inspect for burrs, sharp edges, and signs of rust or excessive dirt. Check for dents or cracks.	

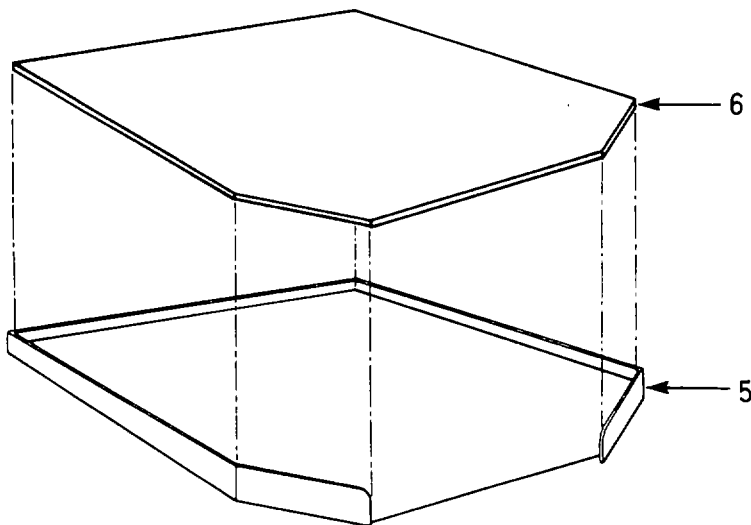
4-27. RUB-UP BOARD MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL AND INSPECTION (cont)</b>			
	b. Rubber pad	Inspect for damage and security.	
<b>REMOVAL</b>			
3. Strap Assembly	a. Screws (4)	Remove.	
	b. Fastener loops (3) and strap assembly (2)	Remove.	
<b>REPAIR</b>			
4. Rub-up Board (5)	a. Dents	Remove with hammer.	
	b. Burrs	Remove.	
	c. Rubber pad (6)	Remove.	Remove only if damaged.
	d. Adhesive	Remove.	Use approved solvent (item 10, app E).

**4-27. RUB-UP BOARD MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REPAIR (cont)**



**NOTE**

Allow the cementing compound sufficient time to dry (at least 48 hours) before cleaning the rubup board assembly.

	e. Rubber pad (2)	Apply adhesive.	
	f. Rub-up board (5)	Position rubber pad (6) on board.	
5. Strap Assembly	Retaining strap	a. Cut 3 feet of cotton webbing to match previously removed retaining strap.  b. Machine sew loop ends and buckle to webbing.  c. Cut webbing end to receive clip and press clip to webbing.	
6. Strap Assembly	a. Fastener loops (2)	Install into loops of strap assembly (3).	

4-27. RUB-UP BOARD MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	b. Screws (1)	Install and secure fastener loops to wall partition.	
7. Rub-up Board Storage	Rub-up board	Install and secure to wall with strap assembly.	

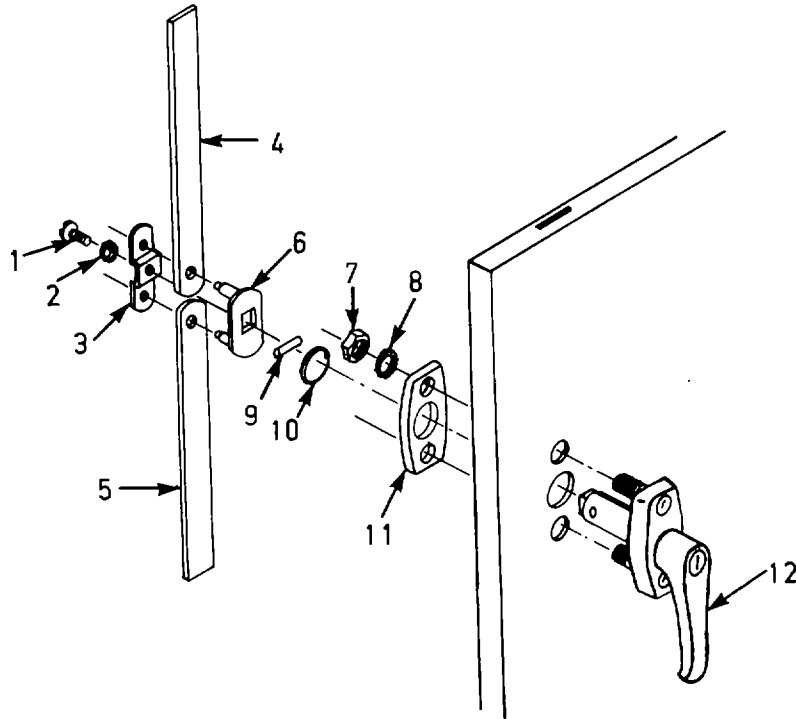
4-28. LOCK HANDLE, WATER SUPPLY CABINET, MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<p style="text-align: center;"> <b>a. Inspection      b. Removal      c. Installation</b> </p>			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Water Supply Cabinet Door	Door handle assembly	Check for proper operation and secureness.	
<b>REMOVAL</b>			
2. Door Handle Assembly	<p>a. Screw (1), lock-washer (2), and plate (3)</p> <p>b. Rods (4 and 5) and backing plate (6)</p>	Remove.	

**4-28. LOCK HANDLE, WATER SUPPLY CABINET, MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

- c. Nuts (7), lock-washers (8), pin (9) and spring
- d. Plate (11) and handle (12)



**INSTALLATION**

- 3. Door Handle Assembly
  - a. Plate (11) and handle (12)      Install.
  - b. Nuts (7), lock-washers (8), pin (9), and spring      Install.
  - c. Rods (4 and 5) and backing plate (6)      Install.
  - d. Screw (1), lock-washer (2), and plate (3)      Install.



**4-29. PHOTOTRAY ASSEMBLY MAINTENANCE INSTRUCTIONS**

This task covers:

- a. Inspection      b. Removal      c. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
1. Storage Location	Phototray assembly	Remove.	
<b>INSPECTION</b>			
2. Phototray Assembly	a. Frame (1)	Inspect for rust and	
	b. Trays (2)	Inspect for cracks.	
<b>INSTALLATION</b>			
3. Storage Location	Phototray assembly	Install.	

**4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

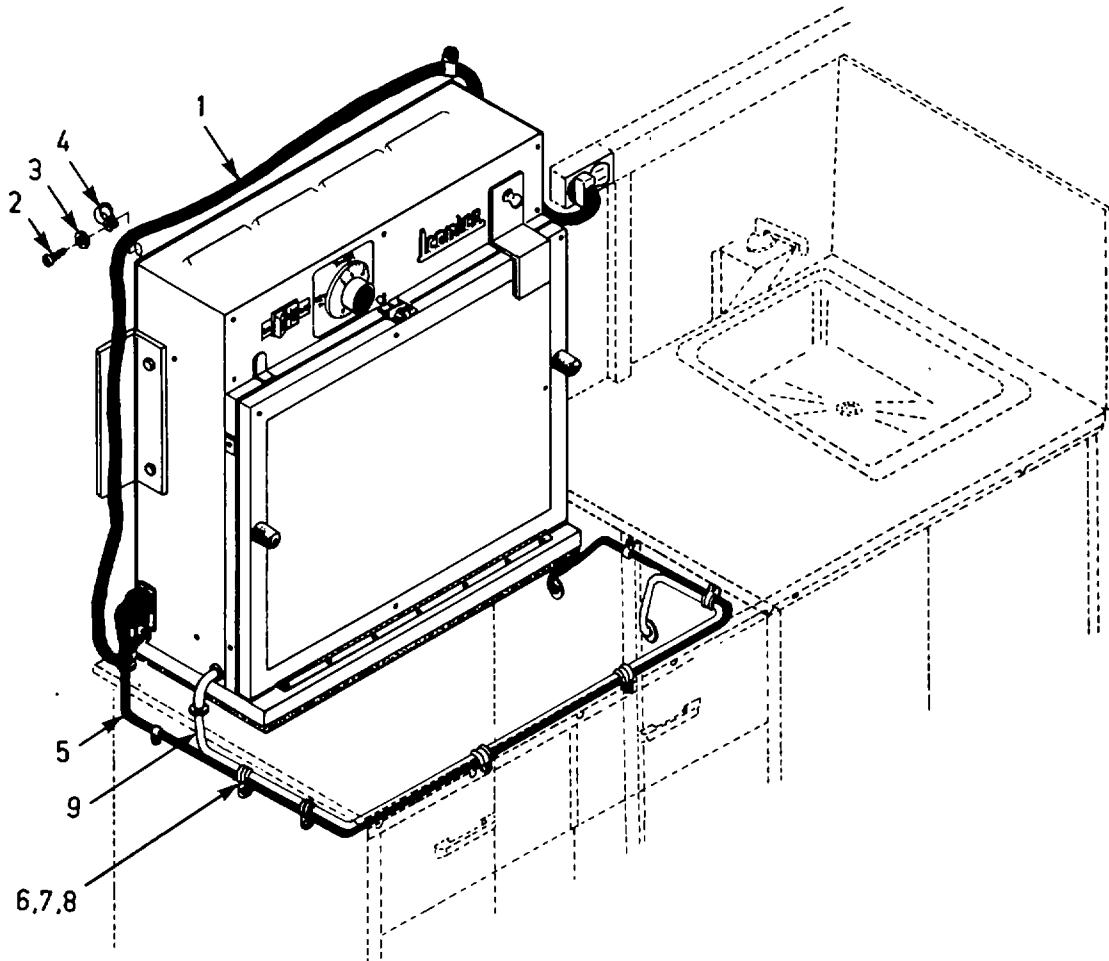
- a. Inspection      b. Removal      c. Repair      d. Installation**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom on	Vacuum frame assembly Countertop	Check for security of mounting and proper operation.	Refer to com- mercial manual for proper operation.
2. Water Vacuum pump Supply Cabinet	Check for security of mounting and proper operation.	Refer to com- mercial manual for proper operation.	
<b>REMOVAL</b>			
3. Vacuum Frame Assembly	a. Power cord (1)	Disconnect from recep- tacle.	
	b. Screws (2), lock- washers (3), and cable clamps (4)	Remove.	
	c. Vacuum pump power cord (5)	Disconnect from vacuum frame.	
4. Supply Storage Cabinet	a. Screws (6), lock- washers (7), and cable clamps (8)	Remove.	
	b. Vacuum hose (9)	Remove.	

4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



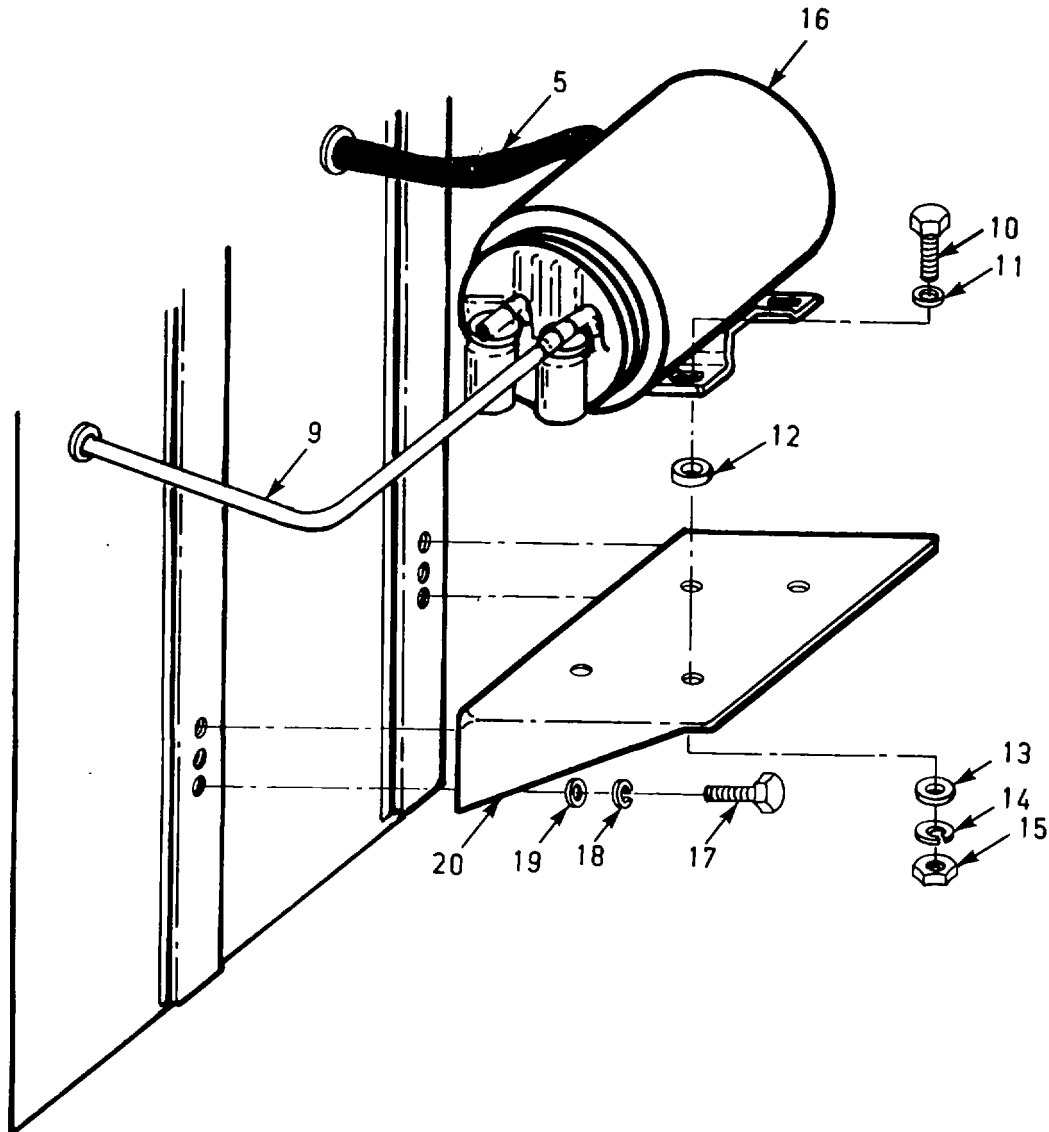
5. Water Supply Cabinet	a. Vacuum pump power cord (5)	Tag and disconnect from pump. Remove from cabinets.
	b. Vacuum hose (9)	Disconnect from pump and remove from cabinets.
	c. Bolts (10), flat washers (11), rubber washers (12), flat washers (13), lockwashers (14), and nuts (15)	Remove.
	d. Vacuum pump (16)	Remove.

4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- e. Bolts (17), lock-washers (18), and flat washers (19) Remove.
- f. Shelf (20) Remove.



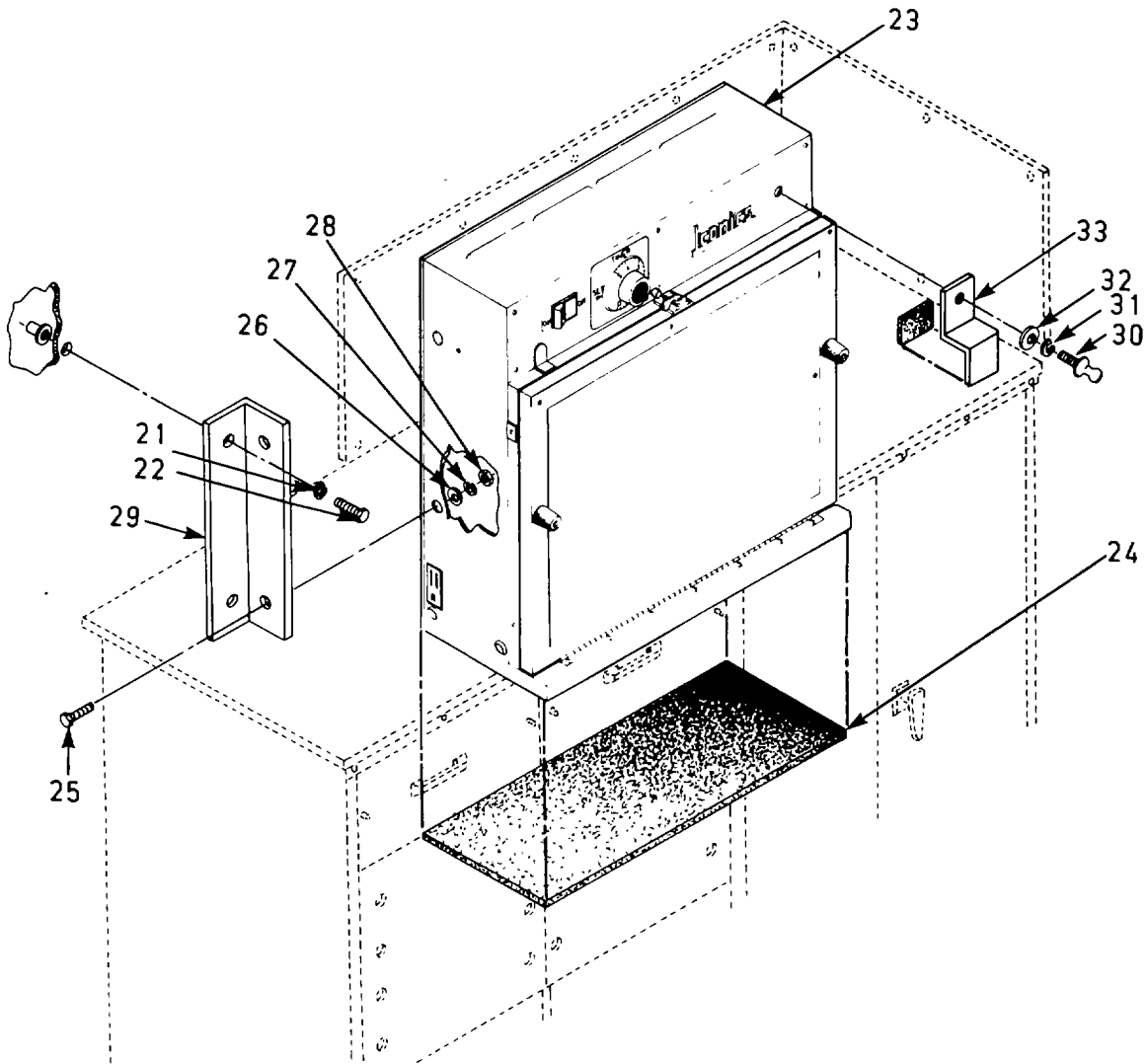
- 6. Vacuum
  - a. Bolts (21) and Frame Remove. flat washers (22)
  - b. Vacuum frame (23) Remove from counter-top.
  - c. Rubber pad (24) Remove.

4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

- |    |  |                      |  |
|----|--|----------------------|--|
| d. | Bolts (25), flat washers (26), lockwashers (27), and nuts (28)                                 | Remove.              |  |
| e. | Mounting bracket (29)  | Remove.              |  |
| f. | Thumbscrews (30), lockwasher (31), flat washer (32), and shipping bracket with rubber pad (33) | Remove if necessary. | Remove rubber pad from shipping bracket only if necessary. |



4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
7. Vertical Vacuum Frame			Refer to commercial manual for repair.
<b>INSTALLATION</b>			
8. Vacuum Frame	a. Mounting bracket (29)	Install and secure with bolts (25), lockwashers (26), flat washers (27), and nuts (28).	
	b. Rubber mat (24)	Install on bottom of vacuum frame.	
	c. Vacuum frame (23)	Install on counter top.	
	d. Bolts (21) and flat washers (22)	Install.	
9. Water Supply Cabinet	a. Shelf (20)	Install and secure to cabinet with bolts (17), lockwashers (18), and flat washers (19).	
	b. Vacuum pump (16)	Install.	
	c. Bolts (10), flat washers (11), rubber washers (12), flat washers (13), lockwashers (14), and nuts (15)	Install.	
10. Supply Storage Cabinet	a. Vacuum pump power cord (5) and vacuum hose (9)	Install.	
	b. Cable clamps (8), lockwashers (7), and screws (6)	Install.	

4-30. VERTICAL VACUUM FRAME ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
11. Vacuum Pump	Vacuum hose (9) and power cord (5)	Connect.	
12. Vacuum Frame Assembly	a. Vacuum pump power cord (5)	Connect.	
	b. Vacuum frame power cord (1)	Connect to proper receptacle.	
	c. Cable clamps (4), lockwashers (3), and screws (2)	Install.	
	d. Mounting bracket (33), flat washer (32), lockwasher (31), and thumb-screw (30)	Install.	

4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<p style="text-align: center;"> <b>a. Inspection      b. Removal      c. Repair      d. Installation</b> </p>			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Front Shelter Wall	Viewing light (1)	Check for security of mounting and for damage.	

**4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)**

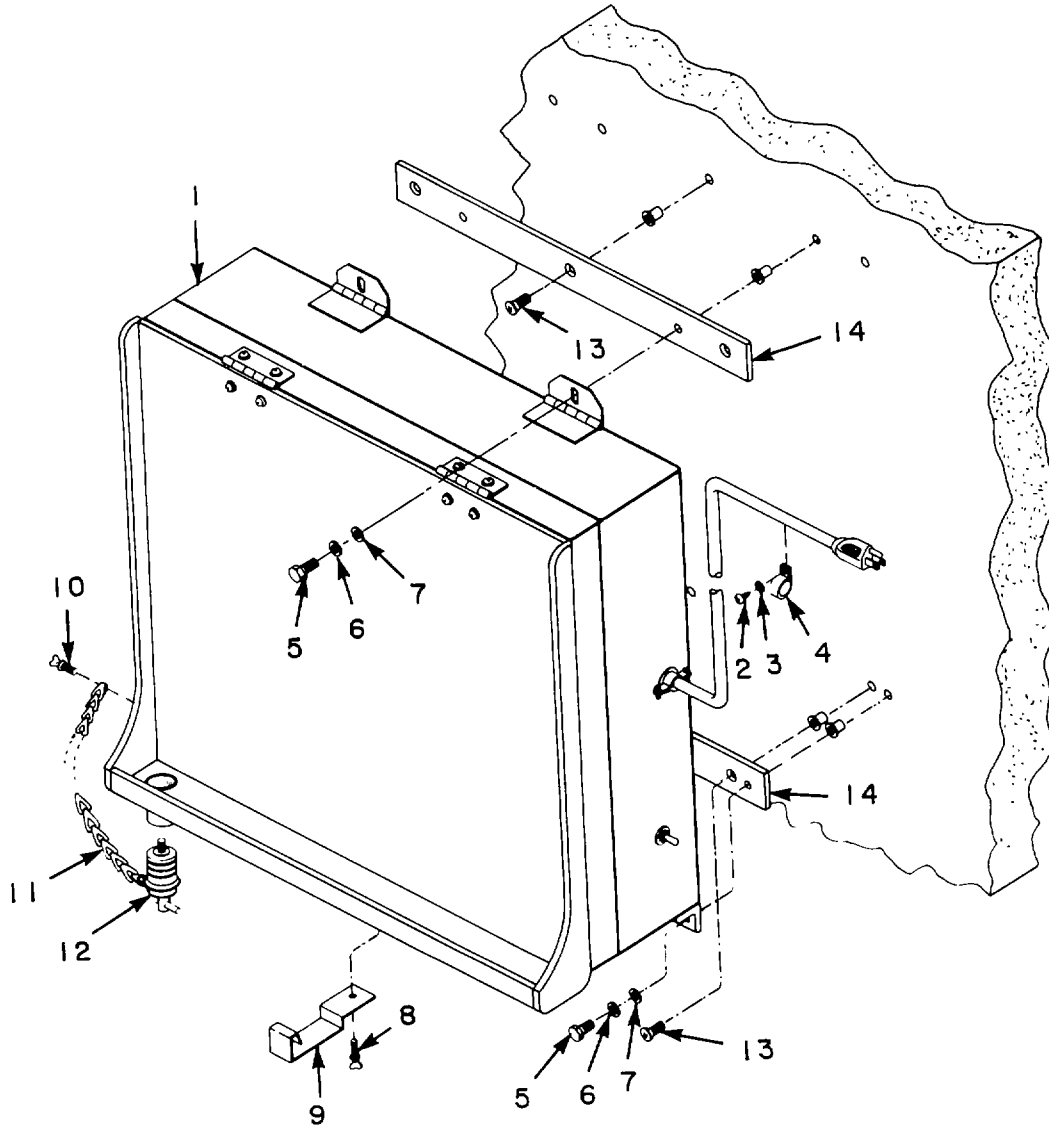
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
2. Viewing Light	Switch and lights	Check for proper operation.	
<b>REMOVAL</b>			
3. Viewing	<ul style="list-style-type: none"> <li>a. Power cord Light</li> <li>b. Screws (2), lock-washers (3), and cable clamps (4)</li> <li>c. Bolts (5), lock-washers (6), and flat washers (7)</li> <li>d. Thumbscrew (8) and shipping bracket (9)</li> <li>e. Thumbscrew (10), chain (11), and plug (12)</li> </ul>	<ul style="list-style-type: none"> <li>Disconnect from wall receptacle.</li> <li>Remove.</li> <li>Remove.</li> <li>Remove.</li> <li>Remove if necessary.</li> </ul>	
4. Mounting	<ul style="list-style-type: none"> <li>a. Screws (13) Strips</li> <li>b. Strips (14)</li> </ul>	<ul style="list-style-type: none"> <li>Remove if necessary.</li> <li>Remove if necessary.</li> </ul>	



4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



5. Viewing Light

**NOTE**

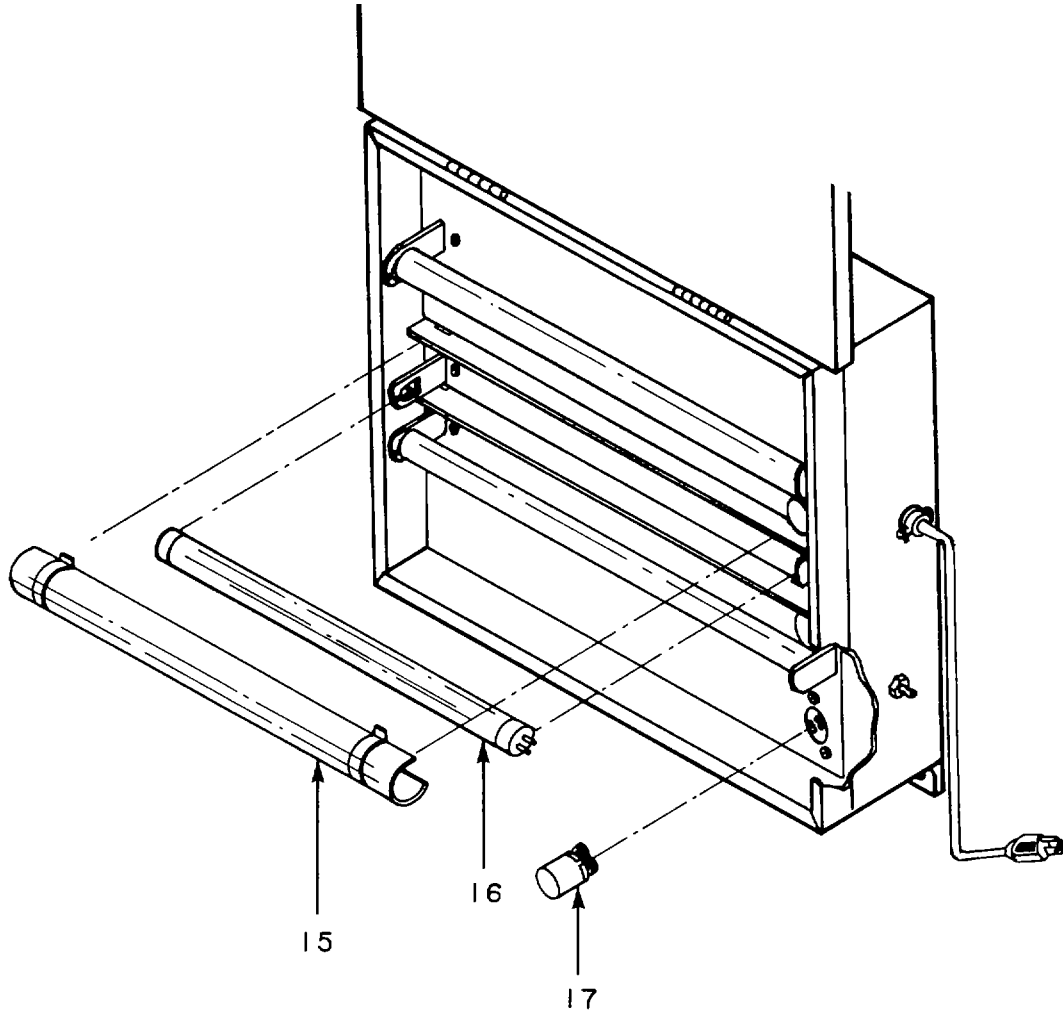
- The following items are removed only if necessary for repair.
- |                        |                                 |
|------------------------|---------------------------------|
| a. Front viewing cover | Lift away from viewing light.   |
| b. Filter (15)         | Press ends slightly and remove. |

4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL (cont)

- |  |  |
|--|--|
| c. Fluorescent tubes (16)                | Rotate 90° and remove from tube sockets. |
| d. Starters (17) and remove from socket. | Rotate counterclockwise                  |



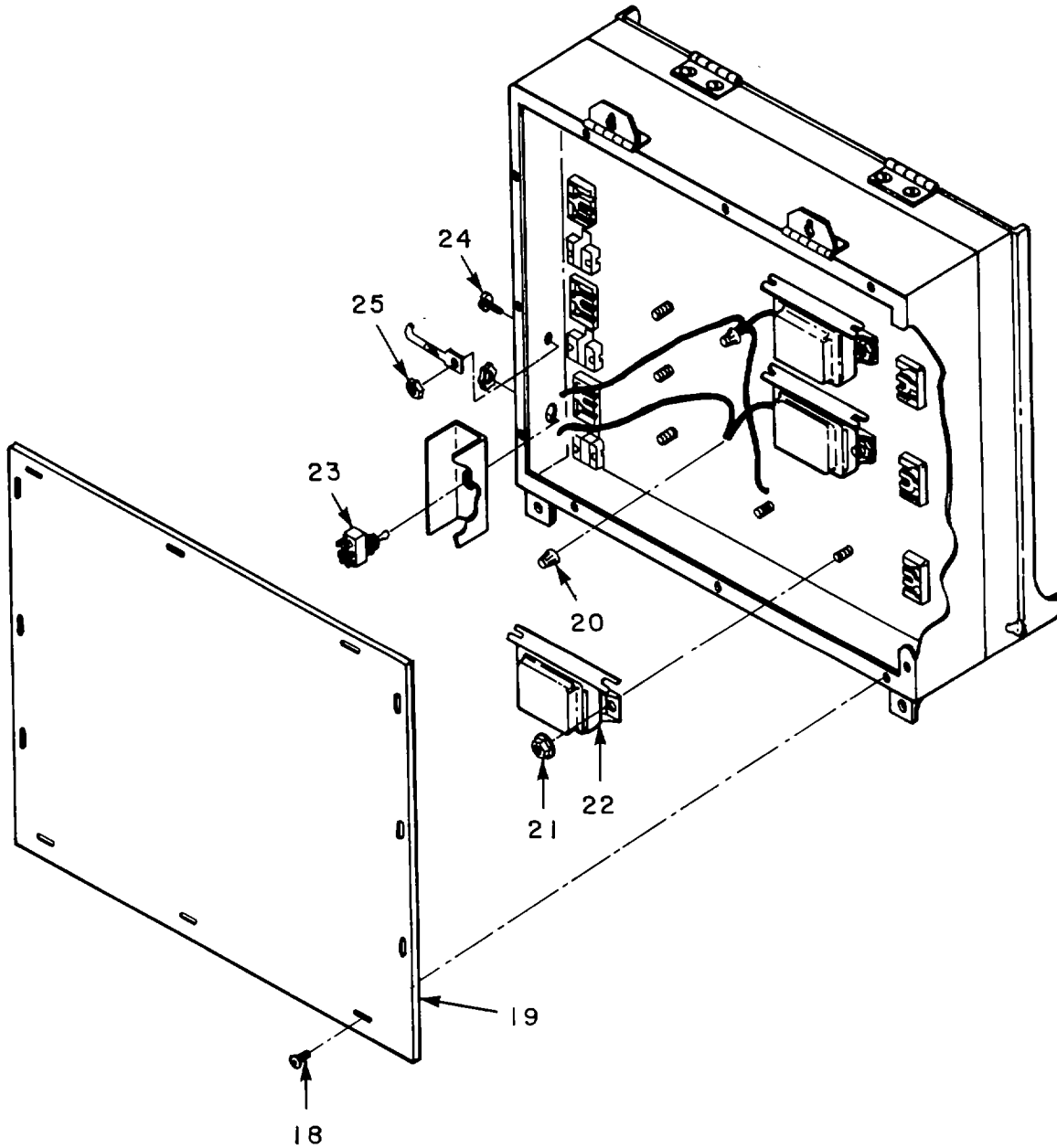
- |                    |         |
|--------------------|---------|
| e. Screws (18)     | Remove. |
| f. Back cover (19) | Remove. |
| g. Wire nuts (20)  | Remove. |
| h. Nuts (21)       | Remove. |
| i. Ballast (22)    | Remove. |

4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- |    |                         |                      |  |
|----|-------------------------|----------------------|--|
| j. | Switch (23)             | Remove.              |  |
| k. | Screw (24) and nut (25) | Remove.              |  |
| 1. | Power cord              | Remove if necessary. |  |



**4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
6. Viewing Light			Repair consists of replacement of parts.
<b>INSTALLATION</b>			
7. Viewing Light	a. Power cord	Install.	
	b. Screw (24) and nut (25)	Install.	
	c. Switch (23)	Install.	
	d. Ballast (22)	Install.	
	e. Nuts (21)	Install.	
	f. Wire nuts (20)	Install.	
	g. Back cover (19) and screws (18)	Install.	
	h. Starters (17)	Install in socket and rotate clockwise.	
	i. Fluorescent tubes (16)	Install in tube socket and rotate 90°.	
	j. Filter (15)	Press ends slightly and install.	
	k. Front viewing cover	Close.	
8. Mounting Strips	Strips (14) and screws (13)	Install on wall.	
9. Viewing Light	a. Bolts (5), lock-washers (6), and flat washers (7)	Install and secure viewing light (1) to wall.	
	b. Screws (2) lock-washers (3), and cable clamps (4)	Install.	

4-31. WALL MOUNTED VIEWING LIGHT MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	c. Power cord	Connect to proper receptacle.	
	d. Shipping bracket (9) and thumbscrew (8)	Install.	
	e. Plug (12), chain (11), and thumbscrew (10)	Install.	

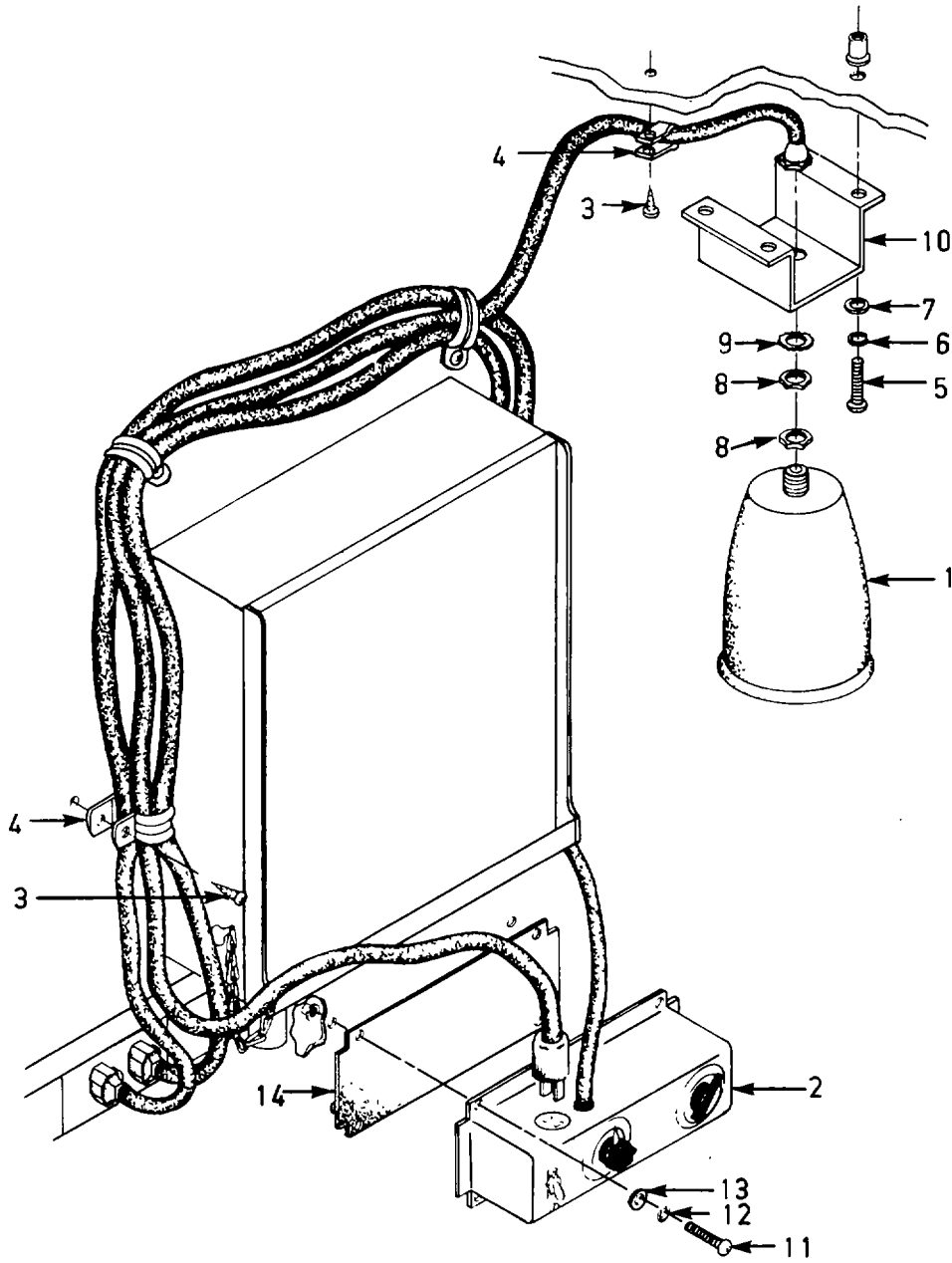
4-32. PIN-POINT LIGHT SOURCE ASSEMBLY MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>b. Removal</b>	<b>c. Repair</b>
			<b>d. Installation</b>
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom	a. Light source (1)	Check for security of mounting and damage.	
	b. Timer (2)	Check for security of mounting and damage.	
2. Light	a. Power cord Source (1)	Inspect for damage.	
	b. Light	Check for proper operation.	Refer to commercial manual for proper operation.
3. Timer (2)	a. Power cord	Inspect for damage.	

4-32. PIN-POINT LIGHT SOURCE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
	b. Timer control and intensity control	Inspect for proper operation.	Refer to commercial manual for proper operation.
<b>REMOVAL</b>			
4. Light Source (1)	a. Power cord	Disconnect from timer.	
	b. Screws (3) and cable clamps (4)	Remove.	
	c. Screws (5), lock-washers (6), and flat washers (7)	Remove.	
	d. Nuts (8), lock-washers (9), and mounting bracket (10)	Remove from light source.	
5. Timer (2)	a. Power cord	Disconnect from wall receptacle.	
	b. Screws (11), lock-washers (12), and flat washers (13)	Remove.	
	c. Timer (2) and backing plate (14)	Remove.	

4-32. PIN-POINT LIGHT SOURCE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



**4-32. PIN-POINT LIGHT SOURCE ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
6. Light Source Assembly			Repair consists of replacement of parts.
<b>INSTALLATION</b>			
7. Timer (2)	a. Screws (11), lock-washers (12), flat washers (13), and backing plate (14)	Install.	
	b. Power cord	Connect to proper receptacle.	
8. Light Source (1)	a. Nuts (8), lock-washers (9), and mounting bracket (10)	Install.	
	b. Screws (5), lock-washers (6), and flat washers (7)	Install.	
	c. Power cord	Connect to timer.	
	d. Screws (3) and cable clamps (4)	Install.	



**4-33. PHOTOTYPESETTER PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

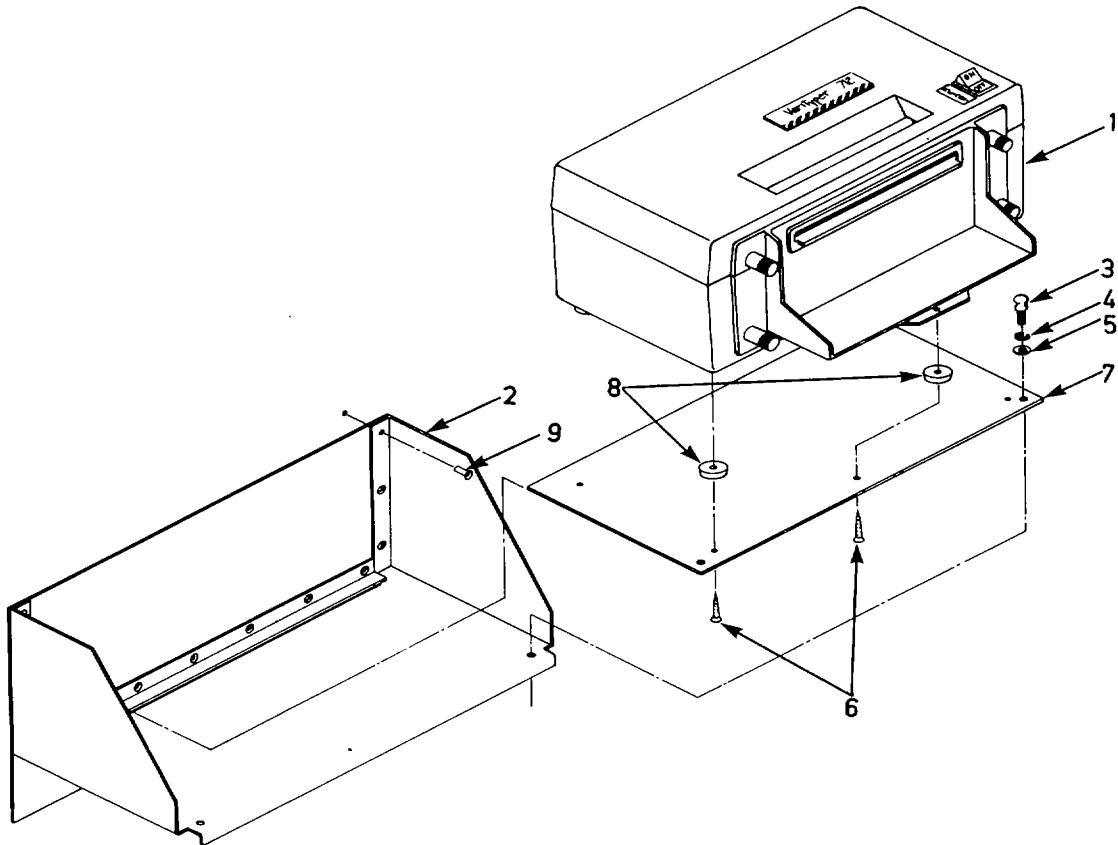
- a. Inspection
- b. Removal
- c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Editorial Room Curb-side Wall	Processor (1)	Check for security of mounting and proper operation.	Refer to commercial manual for proper operation.
2. Processor (1)	a. Power cord	Check for damage.	
	b. Processor shelf (2)	Check for security and damage.	
<b>REMOVAL</b>			
3. Processor (1)	a. Power cord	Disconnect from receptacle.	
	b. Thumbscrews (3), lockwashers (4), and flat washers (5)	Remove.	
	c. Processor (1)	Remove from shelf (2).	
	d. Screws (6)	Remove.	
	e. Base plate (7) and rubber legs (8)	Remove.	
4. Processor Shelf (2)	a. Rivets (9)	Remove by drilling or chiseling off heads.	
	b. Shelf (2)	Remove.	

4-33. PHOTOTYPESETTER PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



REPAIR

5. Processor

Refer to commercial manual for repair.

INSTALLATION

6. Processor Shelf (2)

Rivets (9)

Secure shelf (2) to shelter wall.

7. Processor

a. Base plate (7) and rubber legs (8)

Secure to processor with screws (6).

**4-33. PHOTOTYPESETTER PROCESSOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	b. Processor (1)	Install on shelf (2).	
	c. Thumbscrew (3), lockwashers (4), and flat washers (5)	Install.	
	d. Power cord	Connect to proper recep- tacle.	

**4-34. AIR CONDITIONER CONDENSER COVERS MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection
- b. Removal
- c. Installation

LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

- |   |                      |   |
|---|----------------------|---|
| 1. Outside<br>Front of<br>Shelters on<br>Air Condi-<br>tioner | Condenser covers (1) | Inspect for security of<br>mounting and damage. |
|---|----------------------|---|

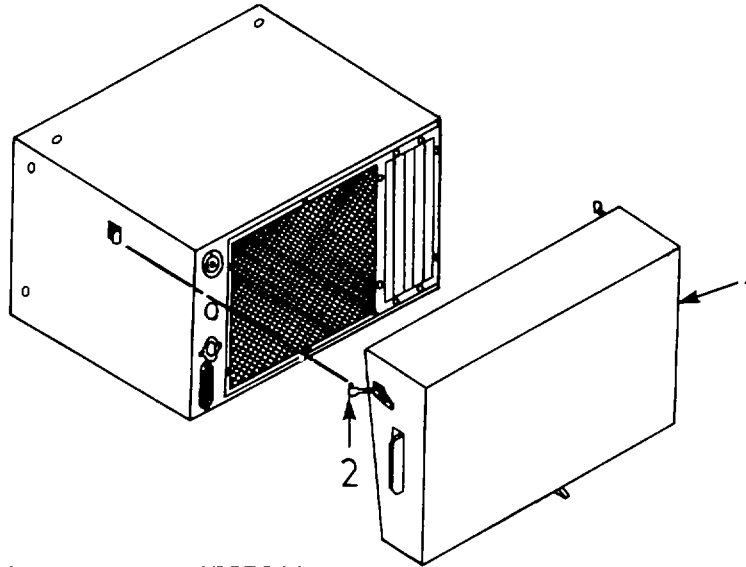
**REMOVAL**

- |                       |              |             |
|-----------------------|--------------|-------------|
| 2. Condenser<br>Cover | a. Latch (2) | Disconnect. |
|                       | b. Cover (1) | Remove.     |

**4-34. AIR CONDITIONER CONDENSER COVERS MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

3. Condenser Cover	a. Cover (1)	Install.	
	b. Latch (2)	Secure.	

**4-35. FIRE EXTINGUISHER MAINTENANCE INSTRUCTIONS**

**This task covers:**

- |               |                 |
|---------------|-----------------|
| a. Inspection | c. Service      |
| b. Removal    | d. Installation |

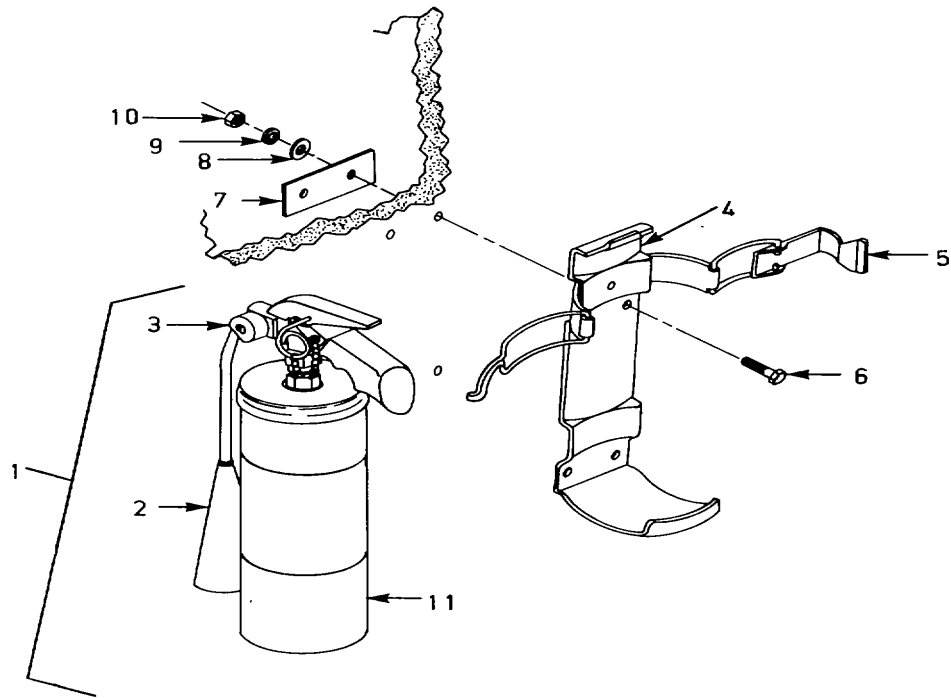
LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

1. Interior Shelter Wall by Door	Fire extinguisher (1)	Check for security of mounting.	
----------------------------------	-----------------------	---------------------------------	--

**4-35. FIRE EXTINGUISHER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
2. Fire Extinguisher	Nozzle (2) and adapter (3)	Check for security and damage.	
<b>REMOVAL</b>			
3. Mounting Bracket (4)	a. Quick release (5) b. Fire extinguisher (1)	Unlock. Remove.	
4. Fire Extinguisher (1)	Adapter (3) and nozzle (2)	Remove from cylinder (11).	
5. Mounting Bracket (4)	Bolts (6), backing plates (7), flat washers (8), lock-washers (9), and nuts (10)	Remove.	



**4-35. FIRE EXTINGUISHER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>SERVICE</b>			
6. Fire Extinguisher (1)	Cylinder (11)	Weigh,	Replace if gross weight has decreased 6 ounces (170 gm) or more.
<b>INSTALLATION</b>			
7. Mounting Bracket (4)	Bolts (6), backing plates (7), flat washers (8), lock-washers (9), and nuts (10)	Install.	Seal backing plates to shelter wall with RTV (item 3, app E).
8. Fire Extinguisher (1)	Adapter (3) and nozzle (2)	Install on cylinder (11).	Lubricate threads on cylinder with one drop of oil (item 25, app E).
9. Mounting Bracket (4)	a. Fire extinguisher (1)	Install.	
	b. Quick release (5)	Lock.	
10. Fire Extinguisher	Inspection Tag	Update with date and initials.	

**4-36. FIRST AID KIT MAINTENANCE INSTRUCTIONS**

**This task covers:**

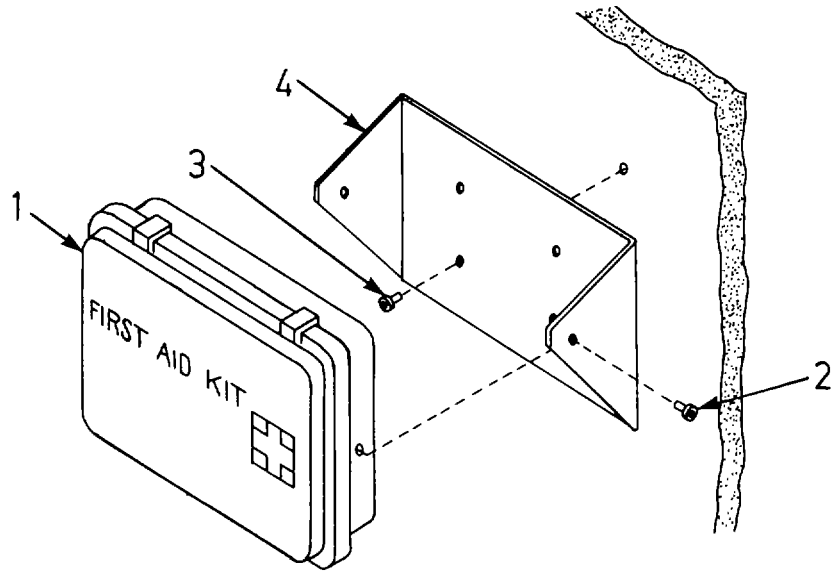
- a. Inspection
- b. Removal
- c. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Interior Shelter Wall by Door	First aid kit (1)	Check for security.	
2. First Aid Kit (1)	Contents	Check inventory and condition.	
<b>REMOVAL</b>			
3. First Aid Kit (1)	a. Contents	Remove.	
	b. Rivets (2)	Remove by drilling or chiseling off the heads.	
	c. Kit (1)	Remove.	
4. Mounting Bracket (4)	a. Rivets (3)	Remove by drilling or chiseling off the heads.	
	b. Bracket (4)	Remove.	

**4-36. FIRST AID KIT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

5. Mounting Bracket (4)	a. Rivets (3)	Install.
	b. Kit (1)	Install and secure with rivets (2).
6. First Aid Kit (1)	a. Contents	Replace outdated/consumed items and update and initial inspection tag.
	b. Lid	Secure.

**4-37. DOOR FRESH AIR FILTER MAINTENANCE INSTRUCTIONS**

**This task covers:**

- |               |                 |
|---------------|-----------------|
| a. Inspection | c. Service      |
| b. Removal    | d. Installation |

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

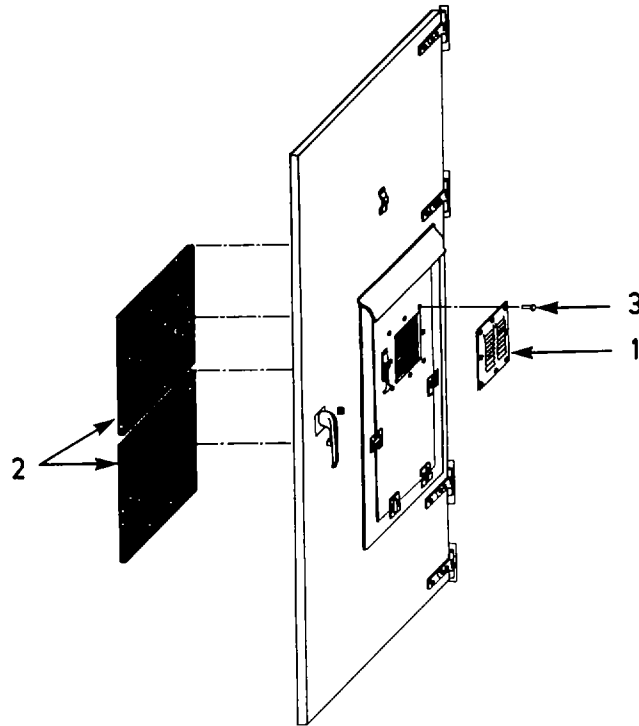
**INSPECTION**

1. Shelter Door	a. Lower panel (1)	Check for proper installation and security.
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**4-37. DOOR FRESH AIR FILTER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
	b. Filter (2)	a. Check for dirt, cuts, tears, or other damage.  b. Check for correct installation.	
<b>REMOVAL</b>			
2. Louver Panel (1)	a. Rivets (3)	Remove by drilling or chiseling off heads.	
	b. Panel (1)	Remove.	
3. Shelter Door	Filter (2)	Remove.	



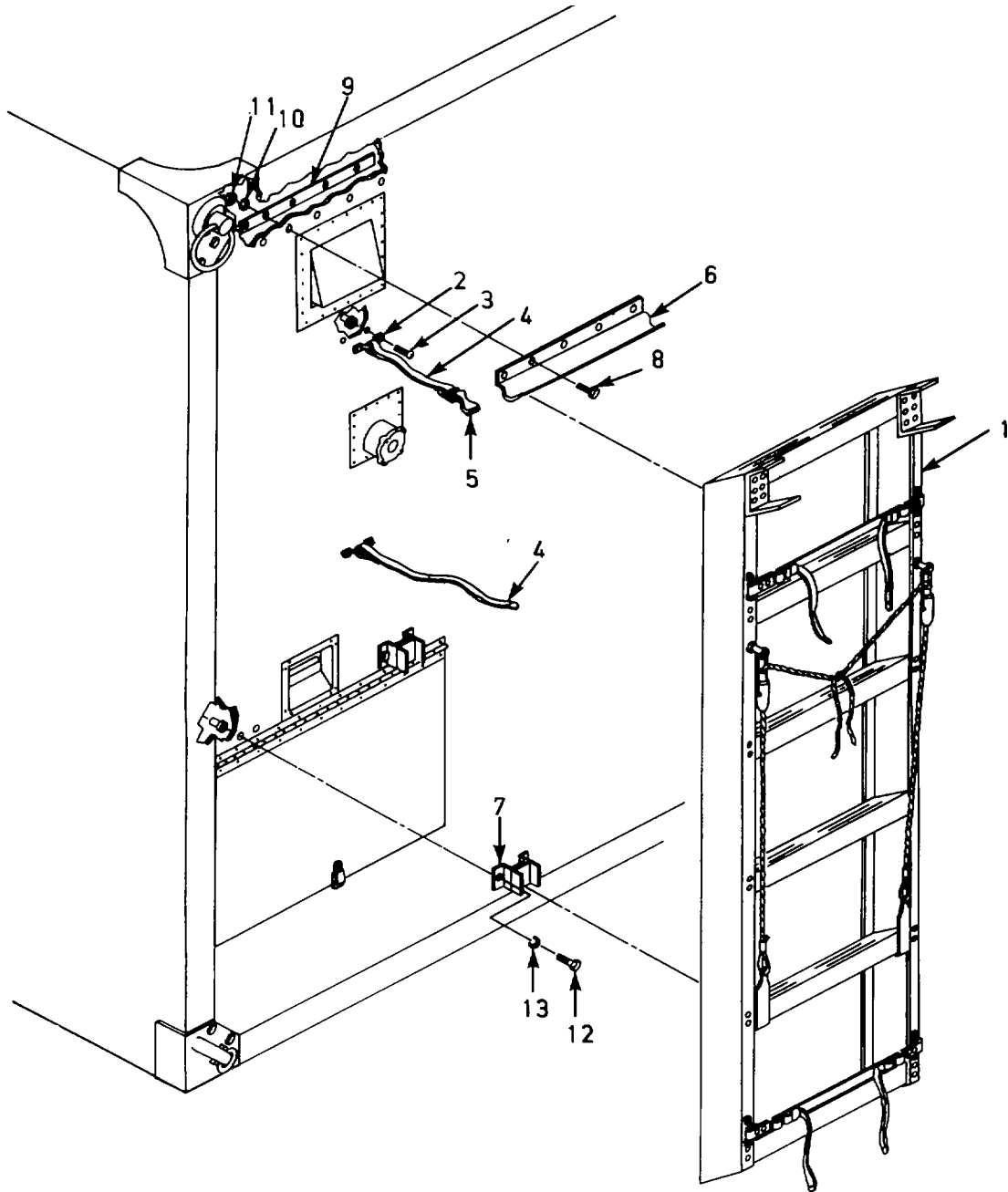
<b>4-37. DOOR FRESH AIR FILTER MAINTENANCE INSTRUCTIONS (cont)</b>					
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>		
<b>SERVICE</b>					
4. Fresh Air Filter	Filter (2)	a. Wash in a soap and water solution. b. Rinse and dry thoroughly. c. Spray with air filter coater.			
<b>INSTALLATION</b>					
5. Louver Panel (1)	Rivets (3)	Install and secure panel (1) to door.			
6. Shelter Door	Filter (2)	Install.			
<b>4-38. LADDER AND MOUNTING BRACKET ASSEMBLY MAINTENANCE INSTRUCTIONS</b>					
This task covers: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;">                         a. Inspection                          b. Removal                     </td> <td style="width: 50%; vertical-align: top;">                         c. Repair                          d. Installation                     </td> </tr> </table>				a. Inspection b. Removal	c. Repair d. Installation
a. Inspection b. Removal	c. Repair d. Installation				
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>		
<b>INSPECTION</b>					
1. Shelter Rear	Ladder assembly	Check for security and completeness.			
2. Ladder Assembly	a. Ladder (1)	Inspect for dents, cracks, or other damage.			

4-38. LADDER AND MOUNTING BRACKET ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
	b. Fastener loops (2) and screws (3)	Check for security.	
	c. Retaining strap (4) and buckle (5)	Check for security and condition.	
	d. Upper mounting bracket (6)	Check for cracks, rust, corrosion, security of attachments, and sealant condition.	
	e. Retainer brackets (7)	Check for cracks, rust, corrosion, security of attachment, and sealant condition.	
<b>REMOVAL</b>			
3. Ladder Assembly	a. Retaining strap (4)	Unlatch.	
	b. Ladder (1)	Remove.	
4. Retaining Strap	a. Fastener loops (2) and screws (3)	Remove.	
	b. Retaining strap	Remove.	
5. Upper Mounting Bracket	a. Bolts (8), backing plate (9), lock-washers (10), and nuts (11)	Remove.	
	b. Bracket (6)	Remove.	
6. Retainer Bracket	a. Bolts (12) and lockwashers (13)	Remove.	
	b. Bracket (7)	Remove.	

4-38. LADDER AND MOUNTING BRACKET ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



**4-38. LADDER AND MOUNTING BRACKET ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

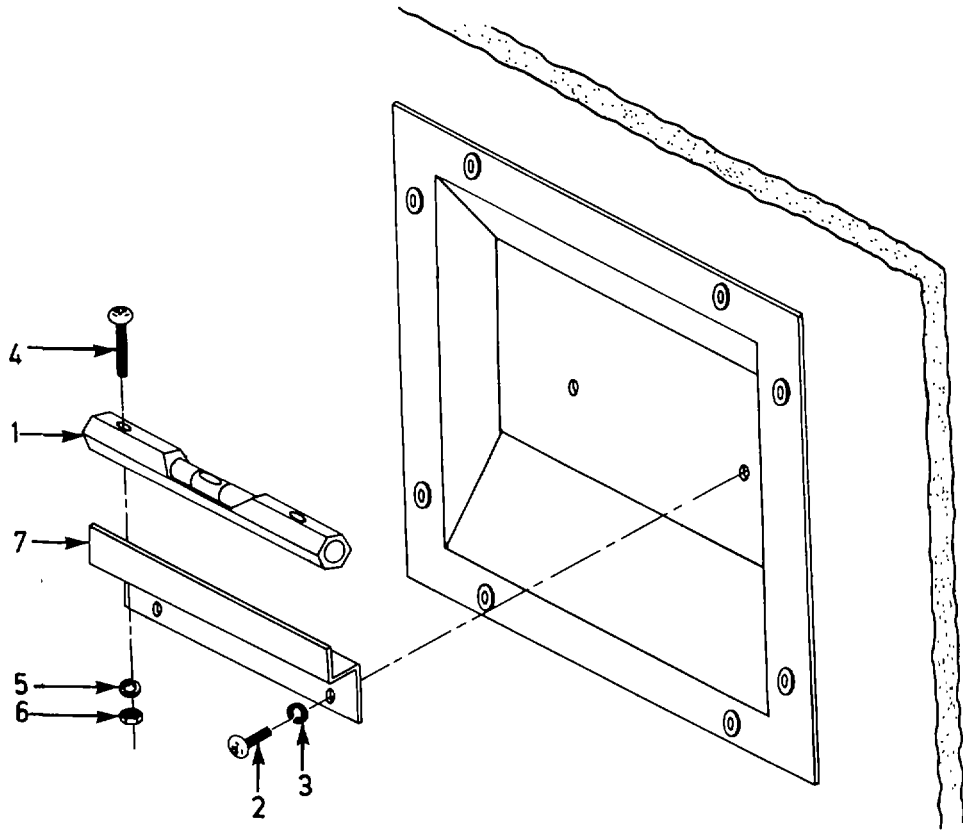
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
7. Ladder Assembly	a. Ladder (1), mounting brackets (6), and retainer brackets (7)	Repair by replacing parts or by minor welding where necessary.	
	b. Retaining strap (4)	a. Cut 3 feet of cotton webbing to match previously removed retaining strap.  b. Machine sew loop ends and buckle to webbing.  c. Cut webbing end to receive clip and press clip to webbing.	
<b>INSTALLATION</b>			
8. Retainer Bracket (7)	Bolts (12) and lock-washers (13)	Install.	Seal bracket to shelter wall with RTV (item 3, app E).
9. Upper Mounting Bracket (6)	Bolts (8), backing plate (9), lock-washers (10), and nuts (11)	Install.	Seal bracket to shelter wall with RTV (item 3, app E).
10. Retaining Strap	Fastener loops (2) and screws (3)	Install.	
11. Ladder Assembly	a. Ladder (1)	Install on brackets.	
	b. Retaining strap (4)	Secure ladder.	

4-39. LEVEL INDICATOR ASSEMBLY MAINTENANCE INSTRUCTIONS			
<p>This task covers:</p> <p style="text-align: center;">a. Inspection                      b. Repair</p>			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Exterior Rear and Roadside Shelter Walls	Level indicator assembly	Check for secure mounting.	If replacement of entire level assembly is necessary, refer to paragraph 5-21.
2. Level Indicator Assembly	Indicator gage (1)	Check for broken or cracked sight glass. Check for proper level indication.	Place several levels in various locations and positions on the shelter floor and compare indications with shelter levels.
<b>REPAIR</b>			
<b>NOTE</b>			
<b>Repair of level indicator assembly is limited to replacement of the gage.</b>			
3. Indicator Gage (1)	a. Screws (2) and lockwashers (3)	Remove.	
	b. Screws (4), lockwashers (5), nuts (6), and bracket (7)	Remove.	

4-39. LEVEL INDICATOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REPAIR (cont)



- |   |                        |
|---|------------------------|
| c. Gage (1)   | Replace with new gage. |
| d. Screws (4), lockwashers (5), nuts (6), and bracket (7) | Install.               |
| e. Screws (2) and lockwashers (3)                         | Install.               |

**4-40. MAIN POWER SERVICE BOX CIRCUIT BREAKERS MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection
- b. Removal
- c. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Main Power Service Box	Circuit breakers	Check for proper operation.	
<b>REMOVAL</b>			
<b>NOTE</b>			
For repair of main power service box, refer to paragraph 5-24.			
<b>WARNING</b>			
Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF, and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.			
2. Main Power Service Box	a. Screws (1)	Remove.	
<b>NOTE</b>			
Remove the voltage regulator prior to removing switch box. Refer to paragraph 5-15 for removal procedure and installation procedure.			
	b. Cover (2)	Remove.	



4-40. MAIN POWER SERVICE BOX CIRCUIT BREAKERS MAINTENANCE INSTRUCTIONS (cont)

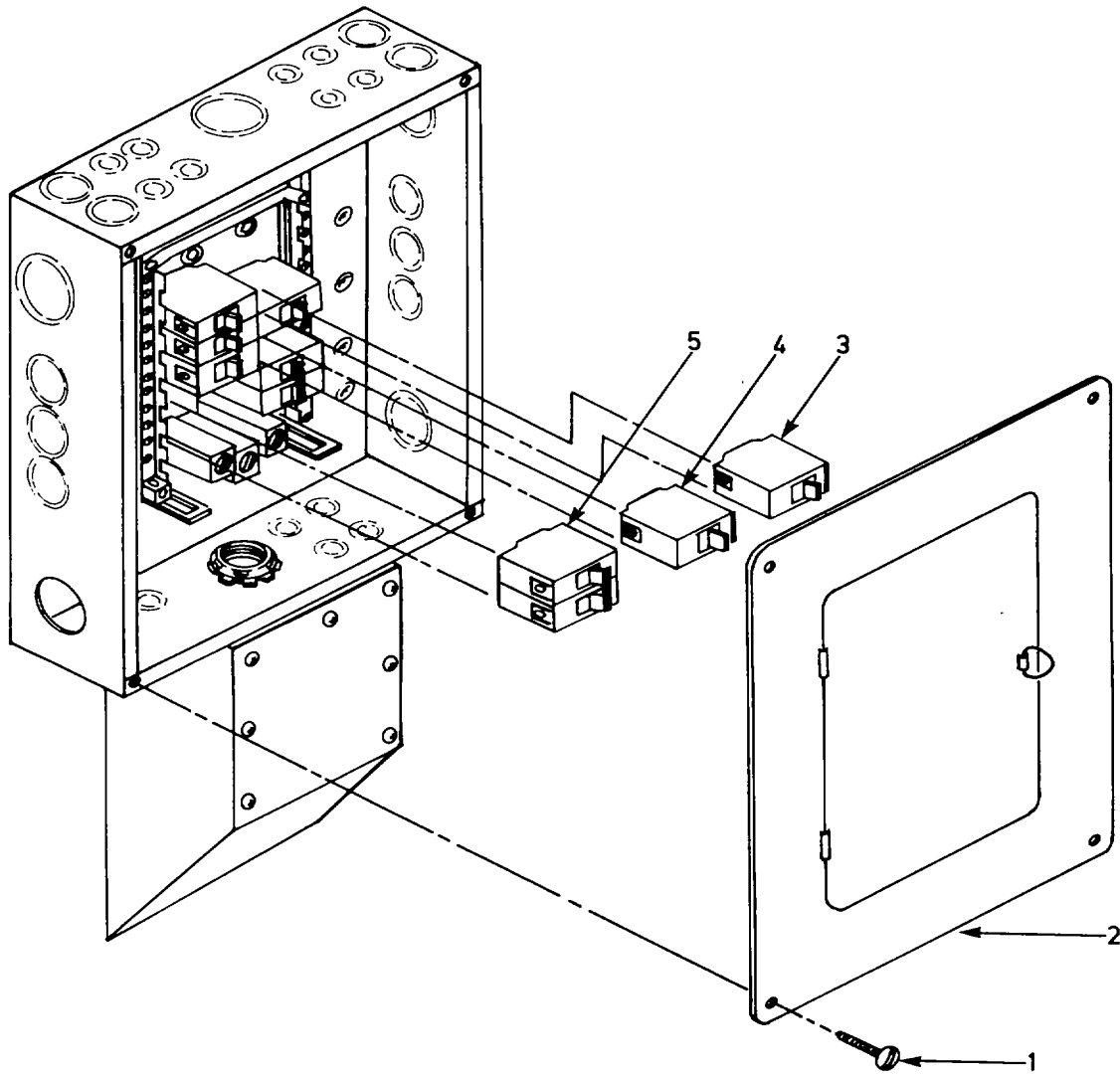
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

c. Circuit breakers  
(3, 4, and 5)

Pull free.

15 amp (3), 20  
amp (4), and 30  
amp (5) circuit  
breakers are  
removed the  
same way.



4-40. MAIN POWER SERVICE BOX CIRCUIT BREAKERS MAINTENANCE INSTRUCTIONS (cont)							
LOCATION	ITEM	ACTION	REMARKS				
<b>INSTALLATION</b>							
3. Main Power Service Box	a. Circuit breakers (3, 4, and 5)	Position and push into mounting.	15 amp (3), 20 amp (4), and 30 amp (5) circuit breakers are installed the same way.				
	b. Cover (2)	Position on service box and secure with screws (1).					
4-41. CEILING LAMP ASSEMBLY MAINTENANCE INSTRUCTIONS							
<p><b>This task covers:</b></p> <table border="0"> <tr> <td>a. Inspection</td> <td>c. Repair</td> </tr> <tr> <td>b. Removal</td> <td>d. Installation</td> </tr> </table>				a. Inspection	c. Repair	b. Removal	d. Installation
a. Inspection	c. Repair						
b. Removal	d. Installation						
LOCATION	ITEM	ACTION	REMARKS				
<b>INSPECTION</b>							
<b>WARNING</b>							
<p>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</p>							
1. Ceiling Lamp Assembly	Lamp Assemblies	Inspect for security of mounting and for corrosion.					

4-41. CEILING LAMP ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
2. Lamp Assemblies	a. Fluorescent tubes (1)	Inspect for discoloration or failure.	
	b. Tube sockets	Inspect for damage and inability to hold the tube securely.	
	c. Fixture halves	Inspect for corrosion and security of mounting.	
	d. Starter (2) and ballast	Inspect for proper operation.	
	e. Electrical wires	Inspect for bared conductors, cut, chafed, or brittle insulation.	
	f. Toggle switch	Inspect for proper operation and for security of mounting.	Lamps that are located under the curbside cabinets have toggle switches.
<b>REMOVAL</b>			
3. Lamp Assemblies	a. Fluorescent lamp tube (1)	Grasp tube, rotate 90°, and lower from tube sockets.	
	b. Starter (2)	Rotate counterclockwise and remove from socket.	
	c. Screws (3)	Remove from lower and upper half of fixture. Support the lower half to prevent it from falling.	

4-41. CEILING LAMP ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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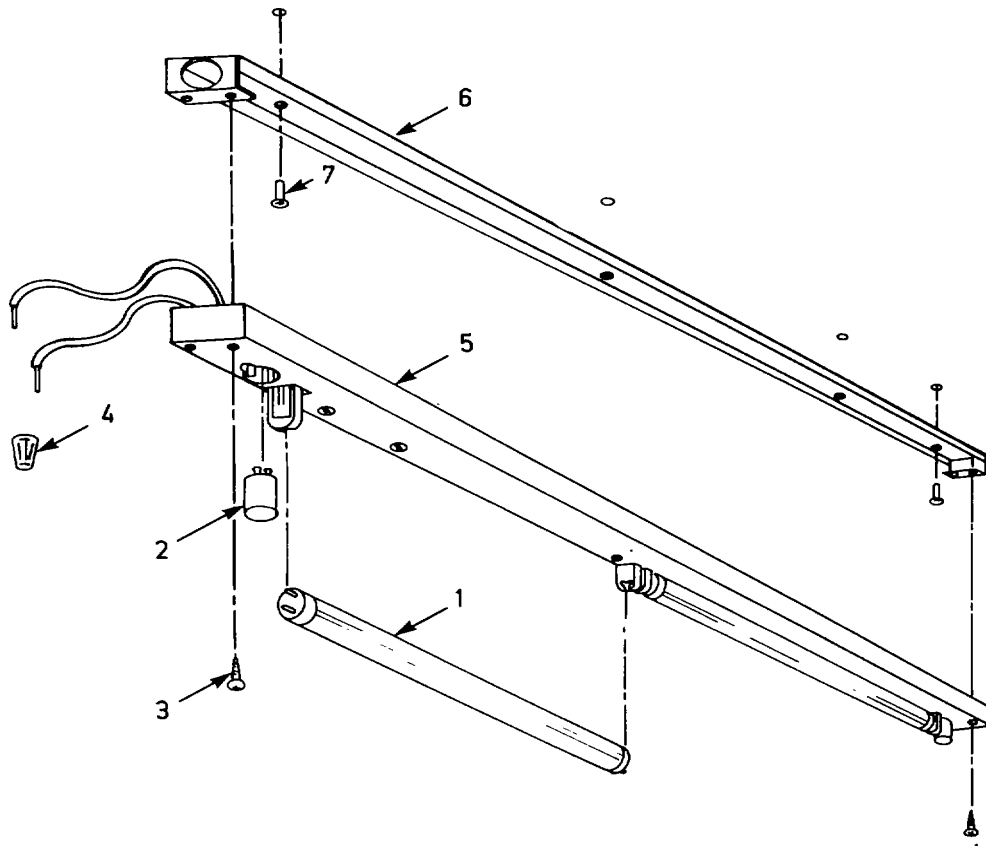
REMOVAL (cont)

**CAUTION**

**Lower the bottom half of fixture slowly to prevent damage to the connecting wires.**

- d. Wire nuts (4) Remove. Tag and disconnect the wires from the fixture components.
- e. Bottom half of light fixture (5) Remove.

- 4. Upper Half of Light Fixture (6) Rivets (7) Remove by drilling or chiseling off heads.



**4-41. CEILING LAMP ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REPAIR**

**NOTE**

**Substitute a questionable component with a new one to isolate the cause of malfunction.**

5. Lamp Assemblies			Repair of the fluorescent lamp assemblies consists of replacement of the components.
--------------------	--	--	--

**INSTALLATION**

6. Upper Half of Light Fixture (6)	Rivets (7) and light fixture (6)	Install.	
7. Lamp Assemblies	a. Electrical supply wires	Connect to fixture wires, remove tags, and secure with wire nuts (4).	

**CAUTION**

**Use care not to trap or pinch any electrical wires between the two fixture halves.**

b. Lower half of fixture (5)	Position to upper half of fixture (6) and secure with screws (3).
c. Starter (2)	Position in socket and carefully rotate clockwise until it locks.
d. Lamp tube (1)	Position lamp tube below socket receptacles with pins vertical. Insert lamp into sockets and twist until pins lock.

<b>4-41. CEILING LAMP ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)</b>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSTALLATION (cont)</b>			
	e. Power cord (under cabinet lamps only)	Connect to curbside wall receptacle.	Lamps that are located under the curbside cabinets plug into receptacles.
<b>4-42. WALL LAMP SWITCHES MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	a. Inspection	c. Installation	
	b. Removal		
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Darkroom Wall and Editorial Room	a. Lamp switches	Check for proper operation, loose connections, and excessive wear.	
	b. Switch-box cover	Inspect for secure mounting.	

4-42. WALL LAMP SWITCHES MAINTENANCE INSTRUCTIONS (cont)

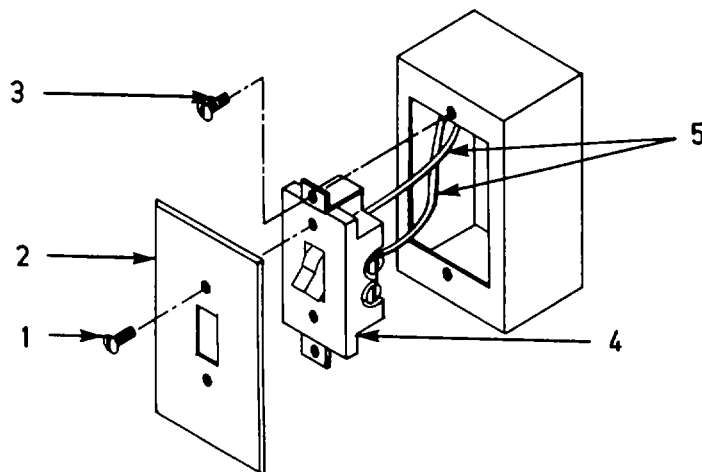
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

**WARNING**

Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.

- |                               |               |                       |
|-------------------------------|---------------|-----------------------|
| 2. Editorial Room Lamp Switch | a. Screws (1) | Remove.               |
|                               | b. Cover (2)  | Remove.               |
|                               | c. Screws (3) | Remove.               |
|                               | d. Switch (4) | Pull from switch-box. |
|                               | e. Wires (5)  | Tag and disconnect.   |

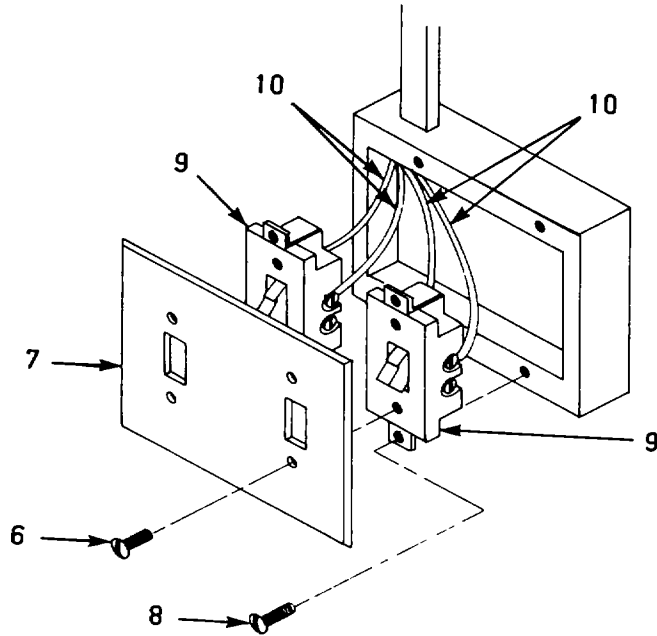


- |                              |                 |                       |
|------------------------------|-----------------|-----------------------|
| 3. Darkroom Wall Lamp Switch | a. Screws (6)   | Remove.               |
|                              | b. Cover (7)    | Remove.               |
|                              | c. Screws (8)   | Remove.               |
|                              | d. Switches (9) | Pull from switch-box. |
|                              | e. Wires (10)   | Tag and disconnect.   |

**4-42. WALL LAMP SWITCHES MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**



**INSTALLATION**

4. Darkroom Wall Lamp Switch	<ul style="list-style-type: none"> <li>a. Wires (10)</li> <li>b. Switch (9)</li> <li>c. Screws (8)</li> <li>d. Cover (7)</li> <li>e. Screws (6)</li> </ul>	<ul style="list-style-type: none"> <li>Connect to switch (9) and remove tags.</li> <li>Install in switch-box.</li> <li>Install.</li> <li>Install.</li> <li>Install.</li> </ul>
5. Editorial Room Lamp Switch	<ul style="list-style-type: none"> <li>a. Wires (5)</li> <li>b. Switch (4)</li> <li>c. Screws (3)</li> <li>d. Cover (2)</li> <li>e. Screws (1)</li> </ul>	<ul style="list-style-type: none"> <li>Connect to switch (4) and remove tags.</li> <li>Install in switch-box.</li> <li>Install.</li> <li>Install.</li> <li>Install.</li> </ul>



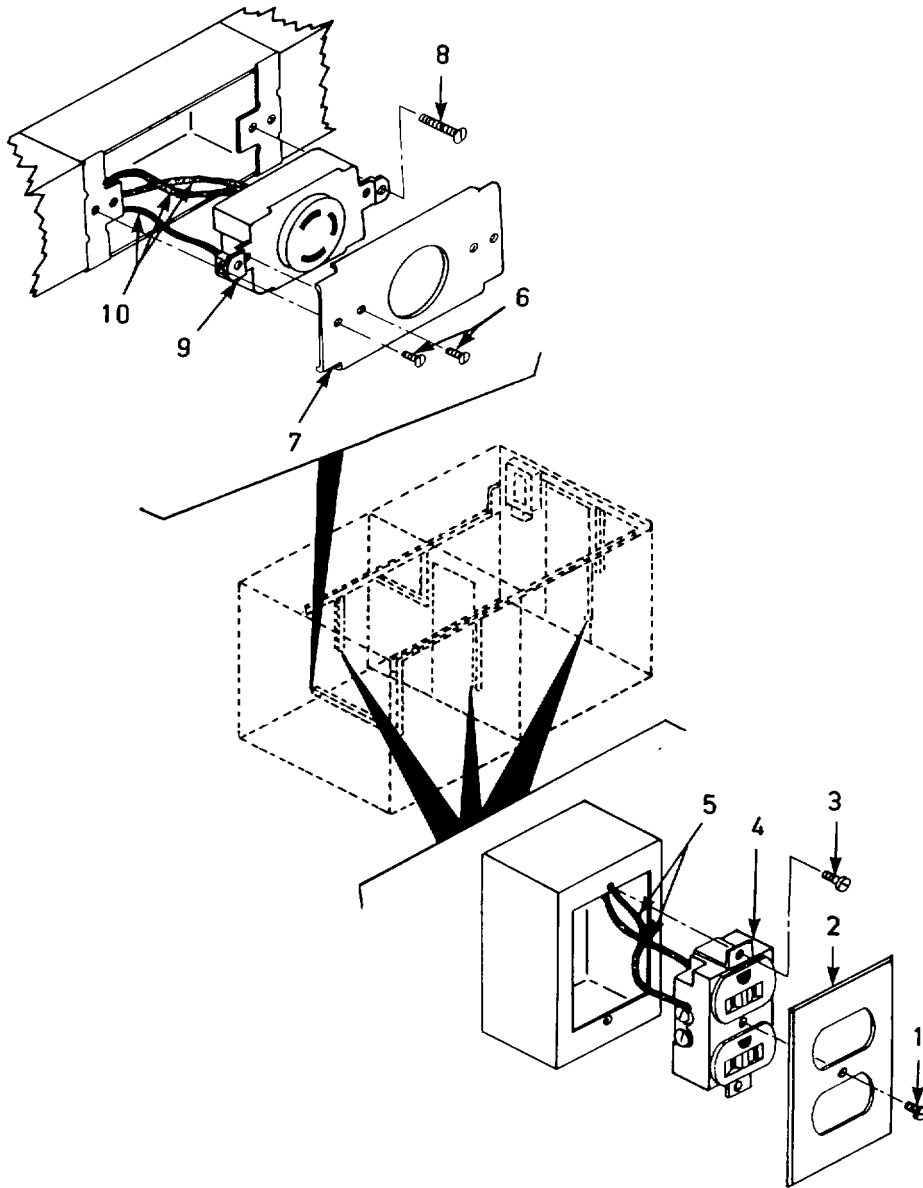
<b>4-43. EQUIPMENT RECEPTACLES MAINTENANCE INSTRUCTIONS</b>			
<p><b>This task covers:</b></p> <p style="margin-left: 40px;">a. Inspection                      c. Installation</p> <p style="margin-left: 40px;">b. Removal</p>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Shelter Wall	Equipment receptacles	Check for loose connections and excessive wear.	
2. Equipment Receptacles	Covers	Inspect for secure mounting.	
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>			
<b>REMOVAL</b>			
3. Equipment Receptacles	a. Screw (1)	Remove.	
	b. Cover (2)	Remove.	
	c. Screws (3)	Remove.	
	d. Receptacle (4)	Pull from conduit.	
	e. Wires (5)	Tag and disconnect.	
	f. Receptacle (4)	Remove.	
4. Air Conditioner Receptacle	a. Screws (6)	Remove.	
	b. Cover (7)	Remove.	
	c. Screws (8)	Remove.	
	d. Receptacles (9)	Pull from conduit.	

4-43. EQUIPMENT RECEPTACLES MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- e. Wires (10) Tag and disconnect.
- f. Receptacle (9) Remove.



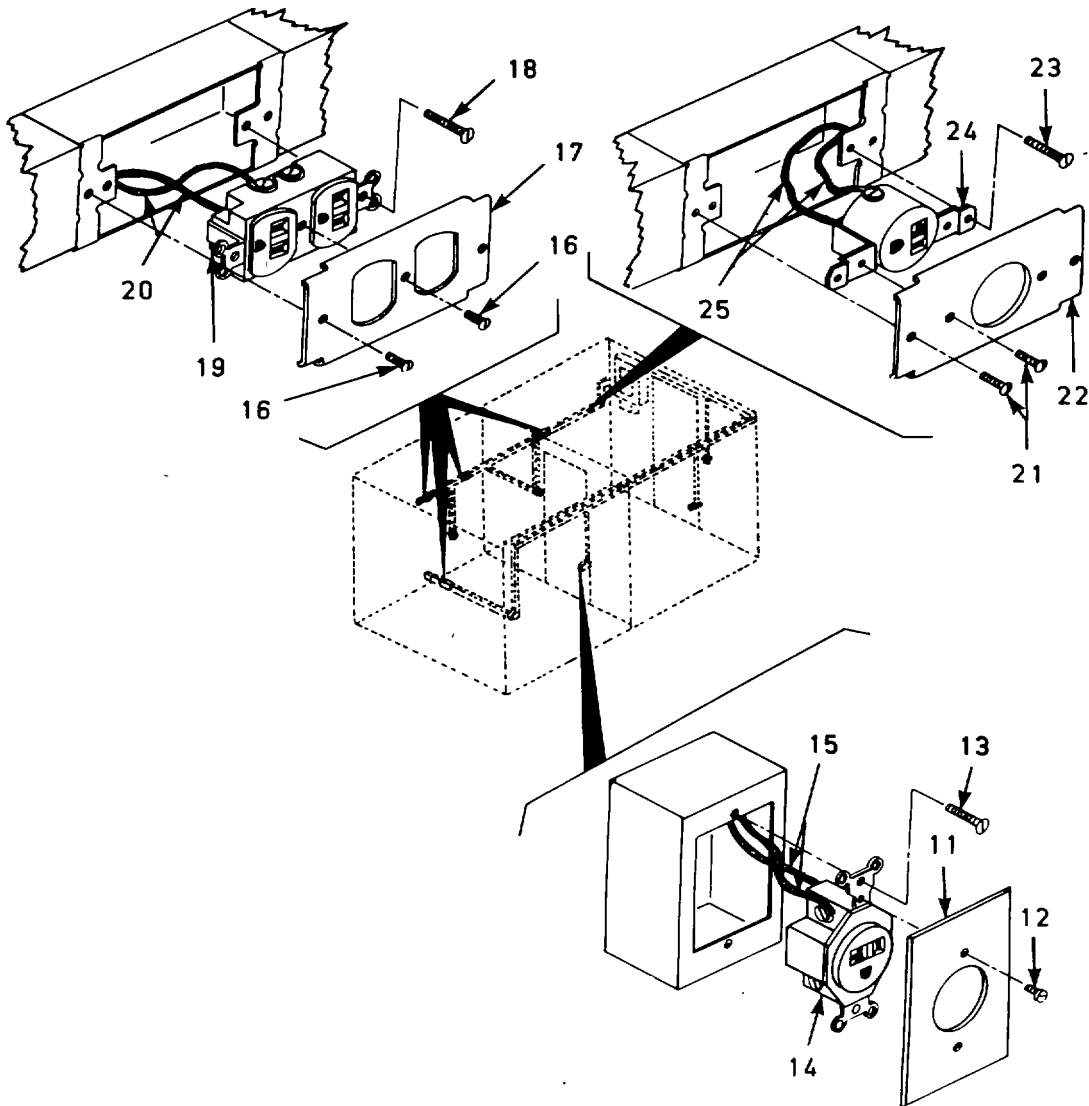
**4-43. EQUIPMENT RECEPTACLES MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
5. Camera Receptacle	a. Screws (11)	Remove.	
	b. Cover (12)	Remove.	
	c. Screws (13)	Remove.	
	d. Receptacle (14)	Pull from conduit.	
	e. Wires (15)	Tag and disconnect.	
	f. Receptacle (14)	Remove.	
6. Equipment Receptacles	a. Screws (16)	Remove.	
	b. Cover (17)	Remove.	
	c. Screws (18)	Remove.	
	d. Receptacle (19)	Pull from conduit.	
	e. Wires (20)	Tag and disconnect.	
	f. Receptacle (19)	Remove.	
7. Regulator Receptacle	a. Screws (21)	Remove.	
	b. Cover (22)	Remove.	
	c. Screws (23)	Remove.	
	d. Receptacle (24)	Pull from conduit.	
	e. Wires (25)	Tag and disconnect.	
	f. Receptacle (24)	Remove.	

4-43. EQUIPMENT RECEPTACLES MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



INSTALLATION

8. Regulator Receptacle	a. Receptacle (24)	Connect wires (25) and remove tag. Position in conduit. Install.
	b. Screws (23)	Install.
	c. Cover (22)	Install.

**4-43. EQUIPMENT RECEPTACLES MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION (cont)**

	d. Screws (21)	Install.	
9. Equipment Receptacles	a. Receptacle (19)	Connect wires (2) and remove tags. Position in conduit.	
	b. Screws (18)	Install.	
	c. Cover (17)	Install.	
	d. Screws (16)	Install.	
10. Air Conditioner Receptacle	a. Receptacle (9)	Connect wires (10) and remove tags. Position in conduit.	
	b. Screws (8)	Install.	
	c. Cover (7)	Install.	
	d. Screws (6)	Install.	
11. Camera Receptacle	a. Receptacle (14)	Connect wires (15) and remove tags. Position in conduit.	
	b. Screws (13)	Install.	
	c. Cover (12)	Install.	
	d. Screw (11)	Install.	
12. Equipment Receptacle	a. Receptacles (4)	Connect wires (5) and remove tags. Position in conduit.	
	b. Screws (3)	Install.	
	c. Cover (2)	Install.	
	d. Screw (1)	Install.	

**4-44. COMPOSING TABLE MAINTENANCE INSTRUCTIONS**

**This task covers:**

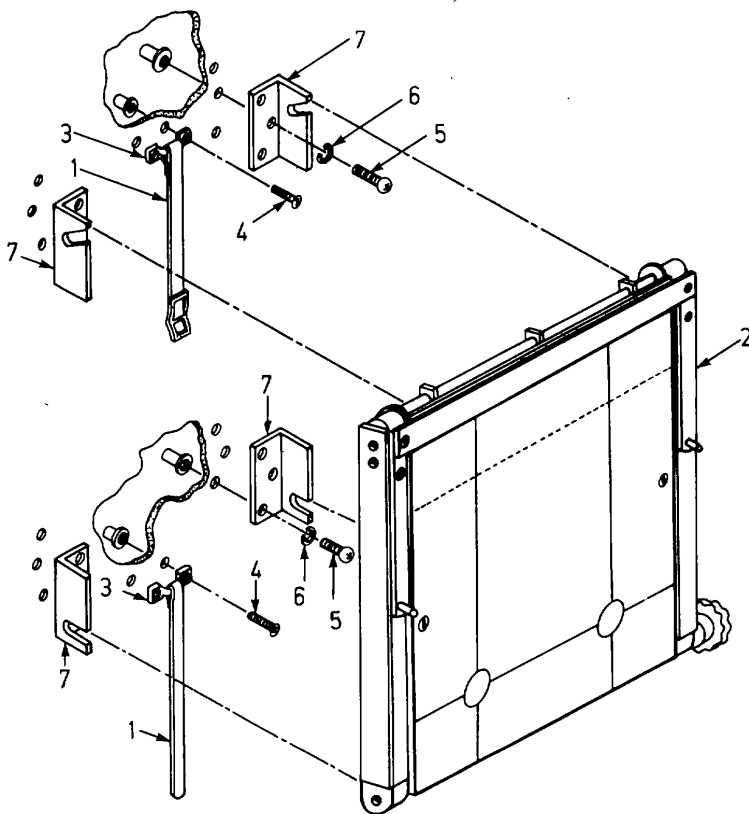
- a. Inspection
- b. Removal
- c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom Front Interior Wall	a. Composing table	Check for completeness and security.	
	b. Headwriter	Check that it is in the curbside wall cabinet and for completeness.	
<b>REMOVAL</b>			
2. Composing Table	a. Retaining strap (1)	Unlatch buckle.	
	b. Composing table (2)	Remove from storage mounting brackets.	
<b>NOTE</b>			
<b>Remove the following only if necessary.</b>			
3. Retaining Strap	a. Fastener loops (3) and screws (4)	Remove.	
	b. Retaining strap (1)	Remove.	
4. Mounting Brackets	a. Screws (5) and lockwashers (6)	Remove.	
	b. Brackets (7)	Remove.	

4-44. COMPOSING TABLE MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



REPAIR

5. Strap Assembly

Retaining strap

- a. Cut 3 feet of cotton webbing to match previously removed retaining strap.
- b. Machine sew loop ends and buckle to webbing.
- c. Cut webbing end to receive clip and press clip to webbing.

4-44. COMPOSING TABLE MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
6. Mounting Bracket	Screws (5) and lock-washers (6)	Secure brackets (7) to wall.	
7. Retaining Strap	Fastener loops (3) and screws (4)	Install.	
8. Composing Table	a. Table (2)	Install on storage mounting brackets.	
	b. Retaining strap (1)	Secure composing table.	

4-45. GUN RACK ASSEMBLY MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection		c. Installation	
b. Removal			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom Roadside	Gun rack assembly	Inspect for damage, completeness, and security of mounting.	
<b>REMOVAL</b>			
2. Wall Gun Support Assembly (1)	a. Bolts (2)	Remove.	
	b. Wall gun support assembly (1)	Remove.	
	c. Bolts (3), flat washers (4), lock-washers (5), and nuts (6)	Remove.	

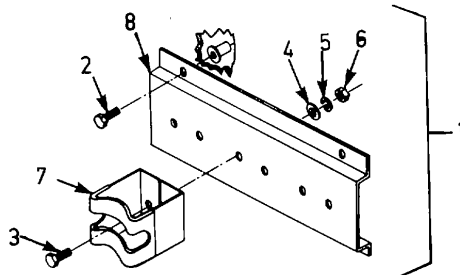


**4-45. GUN RACK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

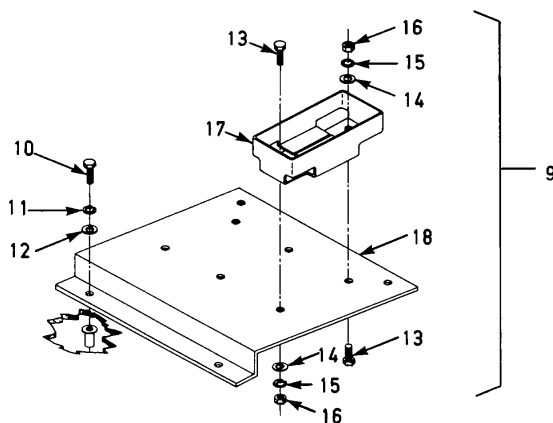
- d. Wall gun support (7) and mounting bracket (8) Separate.



- 3. Floor Gun Support Assembly (9)
  - a. Bolts (10), lock-washers (11), and flat washers (12) Remove.

- b. Bolts (13), flat washers (14), lock-washers (15), and nuts (16) Remove.

- c. Gun support (17) and mounting bracket (18) Separate.



4-45. GUN RACK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
4. Floor Gun Support Assembly (7)	a. Gun support (17) and mounting bracket (18)	Secure together with bolts (13), flat washers (14), lockwashers (15), and nuts (16).	Bolts (13) will be mounted as shown in drawing.
	b. Bolt (10), lockwashers (11), and flat washers (12)	Install.	
5. Wall Gun Support Assembly (1)	a. Gun support (7) and mounting bracket (8)	Secure together with bolts (3), flat washers (4), lockwashers (5), and nuts (6).	
	b. Bolts (2)	Install.	

4-46. TELEPHONE BRACKET MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection	c. Installation		
b. Removal			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Roadside Wall of Shelter by Door	Telephone bracket	Check for completeness, damage, and security.	

**4-46. TELEPHONE BRACKET MAINTENANCE INSTRUCTIONS (cont)**

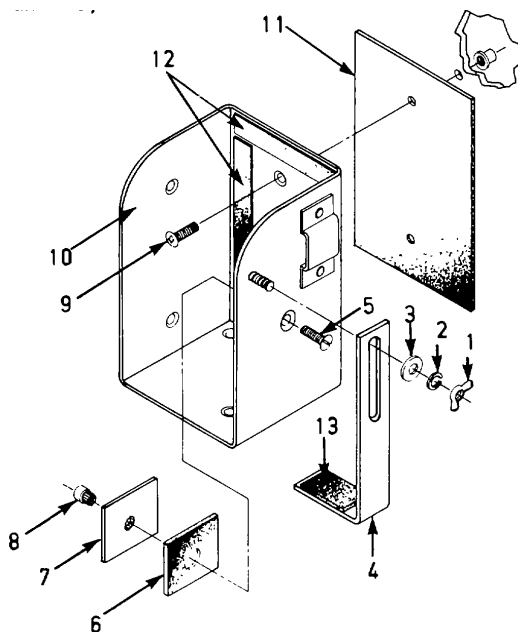
LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL**

**NOTE**

**Repair of telephone bracket is by replacing component parts.**

2. Telephone Bracket	a. Wingnut (1), lock-washer (2), flat washer (3), and bracket (4).	Remove.	
	b. Screw (5), rubber backing (6), plate (7), and clinch nut (8)	Remove.	
	c. Screw (9), bracket (10), and rubber backing (11)	Remove.	
	d. Rubber padding (12 and 13)	Remove.	Remove padding only if necessary.



4-46. TELEPHONE BRACKET MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
3. Telephone Bracket	a. Rubber padding (12 and 13)	Install by gluing to brackets (10 and 4).	
	b. Screw (9), bracket (10), and rubber backing (11)	Install.	
	c. Clinch nut (8)	Press into plate (7).	
	d. Plate (7), rubber backing (6), and screw (5)	Install.	
	e. Wingnut (1), lock-washer (2), flat washer (3), and bracket (4)	Install.	

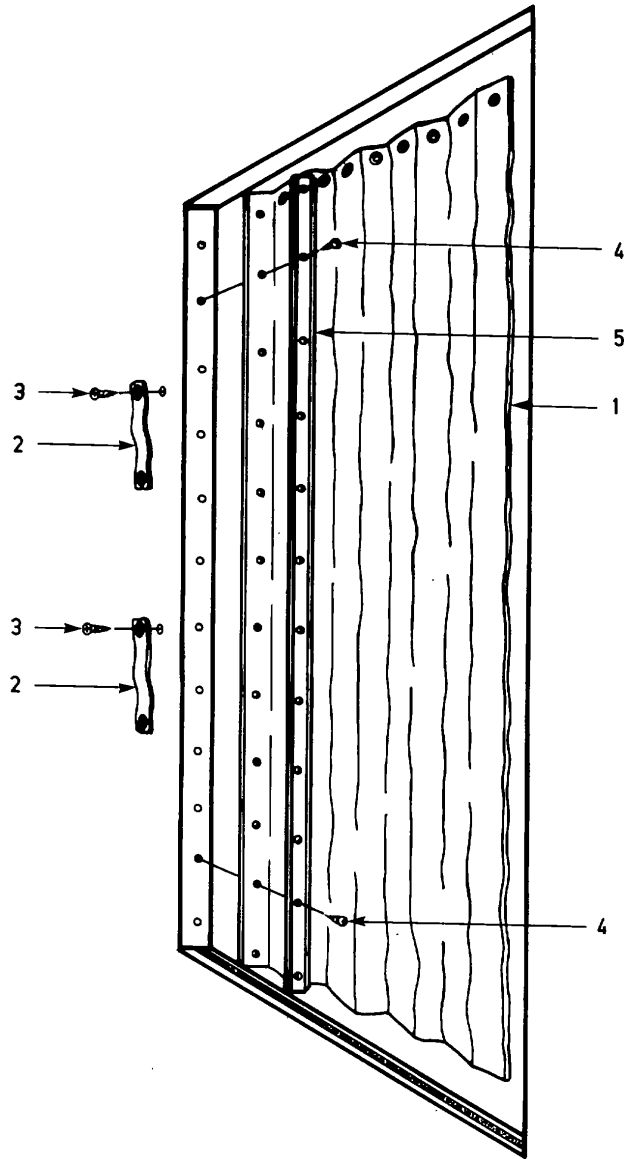
4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection	c. Installation		
b. Removal			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Wall Partition	Wall	Check for completeness, damage that will allow light through, and security.	
2. Darkroom Doorway	Curtain	Inspect curtain and valance for holes and for damage that will allow light through.	

<b>4-47. WALL PARTITION MAINTENANCE INSPECTIONS (cont)</b>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION (cont)</b>			
3. Curtain	a. Tape hook	Check for damage.	
	b. Curtain hooks motion through track.	Inspect for freedom of	
mounting.	c. Track	Check for secure	
4. Wall Partition	Louver assembly	Inspect for bends, holes, and any damage that will restrict air flow or allow light through.	
<b>REMOVAL</b>			
5. Curtain (1)	a. Holdback strap (2)	Disconnect.	
	b. Screws (3) and holdback strap (2)	Remove.	
	c. Screws (4), metal strap (5), and curtain (1)	Remove.	

4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



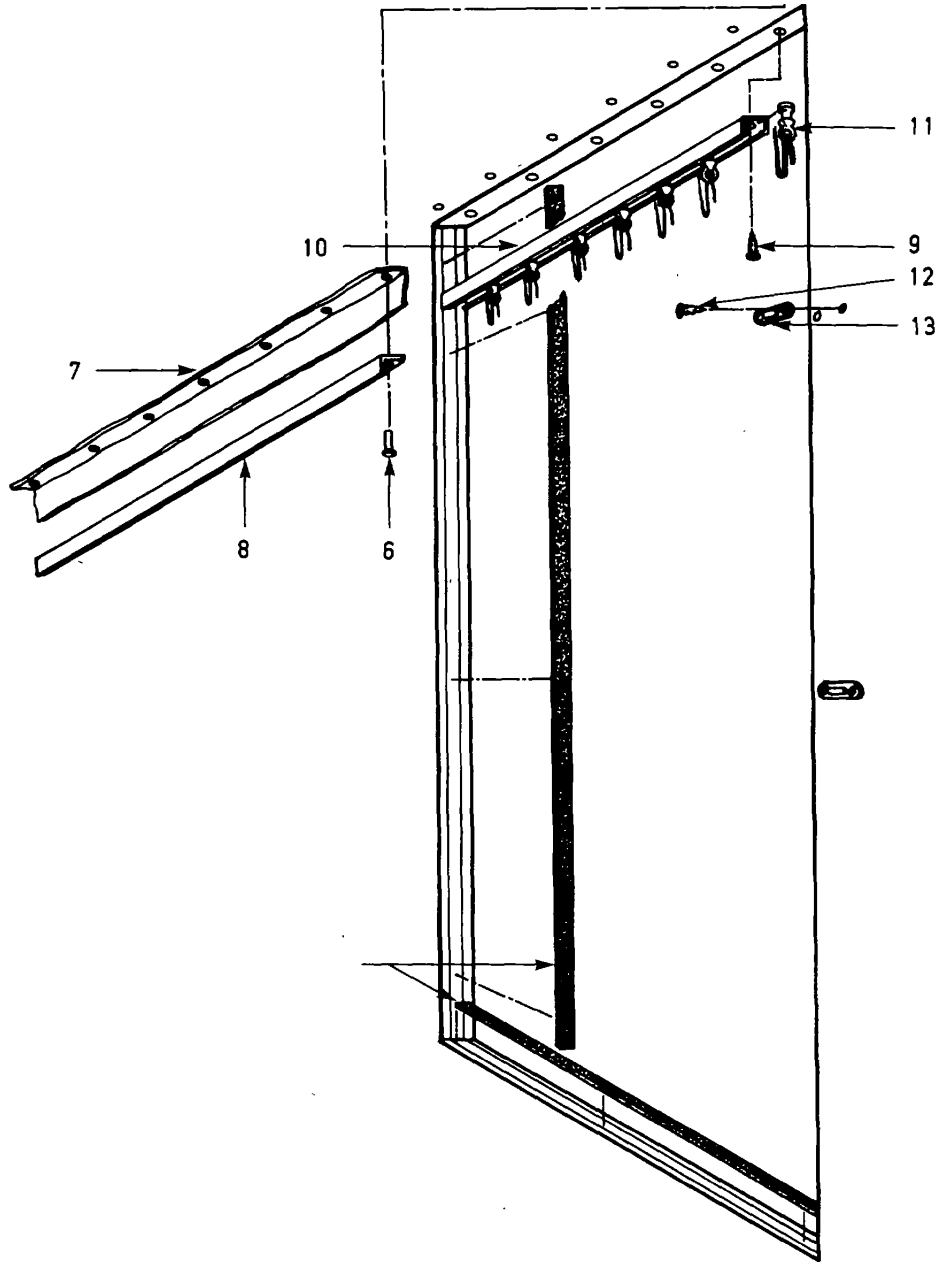
**4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
6. Darkroom Doorway	a. Rivets (6)	Remove by drilling or chiseling off heads.	
	b. Valance (7) and valance retaining strap (8)	Remove.	
	c. Screws (9) and carrier (10)	Remove.	
	d. Hook (11)	Remove.	
	e. Screws (12) and connectors (13)	Remove.	
	f. Tape hook (14)	Remove.	

4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



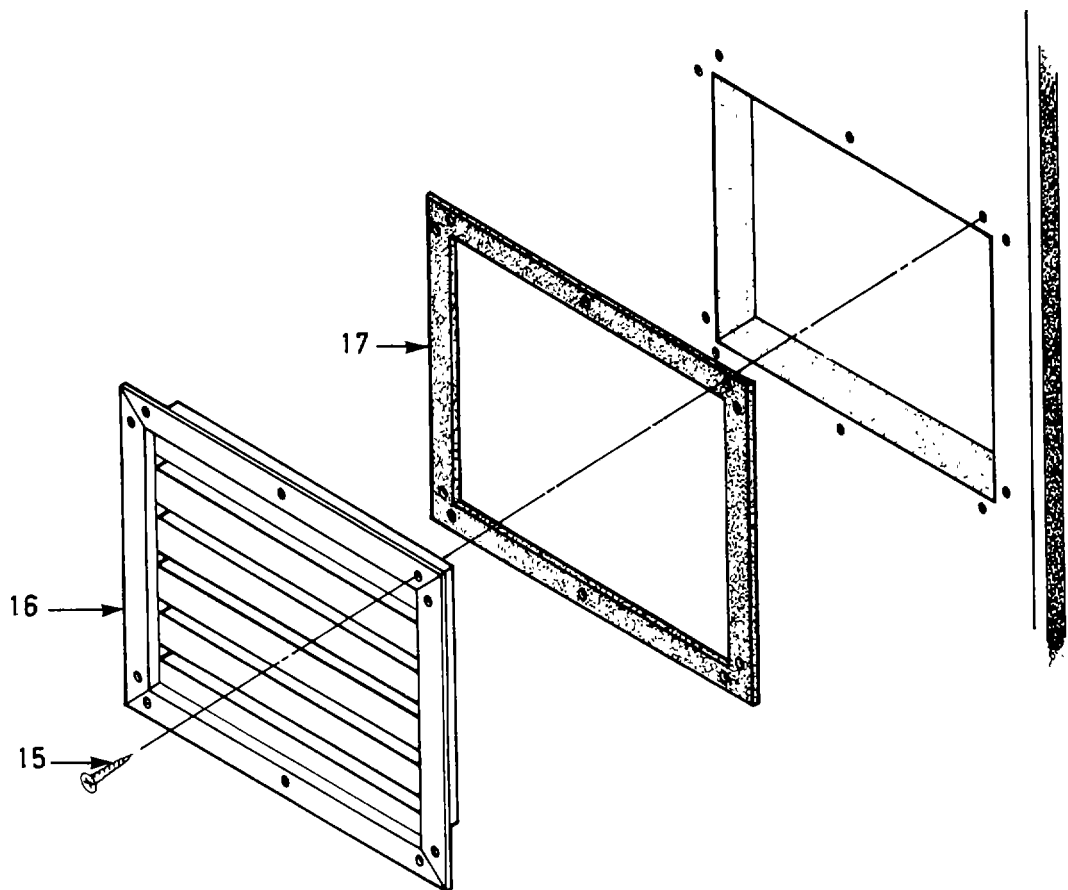


4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

7. Louver Assembly	a. Screws (15), louver (16), and rubber gasket (17)	Remove.	
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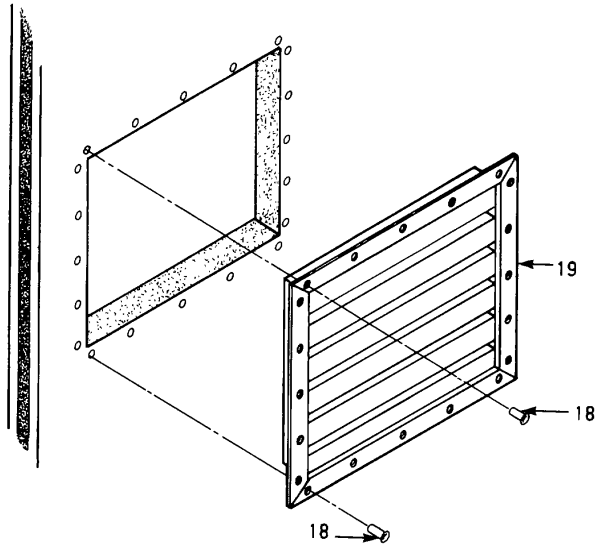


b. Rivets (18)	Remove by drilling or chiseling off head.
c. Louver (19)	Remove.

**4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

8. Louver Assembly	a. Louver (19) and rivets (18)	Install.	
	b. Rubber gasket (17), louver (16), and screws (15)	Install.	
9. Darkroom	a. Tape (14) Doorway	Install.	
	b. Hooks (11), carrier (10), and screws (9)	Install.	
	c. Connectors (13) and screws (12)	Install.	
	d. Valance (7), valance retaining strap (8) and rivets (6)	Install.	

**4-47. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION (cont)**

- |                    |   |          |  |
|--------------------|---|----------|--|
| 10. Curtain<br>(1) | a. Curtain (1), metal strap (5), and screws (4) | Install. |  |
|                    | b. Holdback strap (2) and screws (3)            | Install. |  |
|                    | c. Holdback strap (2)                           | Connect. |  |

**Section VI. PREPARATION FOR STORAGE OR SHIPMENT****4-48. PREPARATION FOR STORAGE OR SHIPMENT INSTRUCTIONS****EDITORIAL SHELTER**

Specific shipment and limited storage instructions relative to the shelter in which equipment of the printing plant is installed are found in TB 43-0124, Maintenance and Repair procedures for shelters.

**SUPPLEMENTAL INSTRUCTIONS**

In addition to following the instructions given in TB 43-0124 relative to shipment and limited storage, perform the following operations: a. Drain the water from the water tank and water lines.

- b. Remove the electrical cable from the shelter and the generator and store inside the shelter.
- c. Store all minor components in the proper storage cabinet.
- d. Be certain that loose equipment is fastened securely.
- e. Thoroughly clean and inspect all items of equipment to be certain they are in serviceable condition. Correct deficiencies or report them as stipulated in DA Pam 738-750.
- f. Lubricate, inspect, and clean shelter.

**4-48. PREPARATION FOR STORAGE OR SHIPMENT INSTRUCTIONS (cont)**

- g. Coat precision machined surfaces with Type P-6 Preservative, which conforms to MIL-C-11796, Class 3 (item 13, app E); and either wrap or cover the surfaces with Type I, Grade C greaseproof Barrier Material which conforms to MIL-B-121 (item 5, app E).
- h. Coat unpainted and exposed nonprecision metal surfaces with Type-i Preservative conforming to MIL-C-16173, Grade 1 (item 12, app E).
- i. While the printing plant is in limited storage, periodically perform a visual inspection of all items to discover any evidence of deterioration such as rust or leaks and any evidence of pilferage.

## CHAPTER 5

### DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

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

##### 5-1. COMMON TOOLS AND EQUIPMENT

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

##### 5-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools, TMDE, or support equipment are required by Direct Support Maintenance for the maintenance of the Editorial Shelter.

##### 5-3. REPAIR PARTS

Repair parts are listed and illustrated in TM 5-3610-254-24P, Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools Lists (including Depot Maintenance Repair Parts and Special Tools) covering organizational maintenance of this equipment which form a part of the shelter system are defined in the applicable commercial manual supplied with each unit.

##### 5-4. FABRICATED TOOLS AND EQUIPMENT

No fabrication of special tools and equipment is necessary for maintenance of the editorial shelter.

#### Section II. SERVICE UPON RECEIPT, STORAGE, OR SHIPMENT

##### 5-5. SERVICE UPON RECEIPT

Refer to chapter 4, section II for service upon receipt of materiel.

##### 5-6. PREPARATION FOR STORAGE OR SHIPMENT

Refer to chapter 4, section VI, paragraph 4-48 for preparation for storage or shipment.

**Section III. DIRECT SUPPORT TROUBLESHOOTING**

**5-7. INTRODUCTION TO DIRECT SUPPORT TROUBLESHOOTING**

- a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the editorial unit of the special warfare printing plant. Each malfunction for an individual component, unit, or system is followed by a list of tests or inspections which will help you to determine corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed.
- b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions in this manual, then refer to commercial manual. If at this point you cannot correct the malfunction, notify your supervisor.
- c. Refer to table 5-1 for troubleshooting information and procedures applicable to the editorial shelter system and components.

**Table 5-1. DIRECT SUPPORT TROUBLESHOOTING**

<b>MALFUNCTION</b>	<b>TEST OR INSPECTION</b>	<b>CORRECTIVE ACTION</b>
<b>SHELTER SYSTEM AND COMPONENTS</b>		
1. AIR CONDITIONING UNIT DOES NOT HEAT		
<b>NOTE</b>		
<p><b>For maintenance and repair procedures pertaining to the air conditioner refer to TM 5-4120-239-14, Operator, Organizational, Direct Support and General Support Maintenance (TRANE models) or TM 5-4120-340-14, Organizational, Direct Support and General Support Maintenance Manual Air Conditioner (KECO models).</b></p>		
Step 1.	Inspect air conditioner control box function switch as follows:	
	a.	Position the AIR CONDITIONER circuit breaker to OFF.

Table 5-1. DIRECT SUPPORT TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
		<ul style="list-style-type: none"> <li>b. Disconnect the electrical cable which extends between the control box and the air conditioner at the air conditioner connector.</li> <li>c. Remove the cable clamps which secure the control box cable to the shelter wall.</li> <li>d. Remove the screws and lockwashers which attach the control box to the shelter wall and remove the box complete with cable.</li> </ul> <p style="text-align: center;"><b>CAUTION</b></p> <p><b>Extreme care must be exercised while performing maintenance on humidistats and/or thermostats. They are designed to operate within a very small change in temperature and will easily become maladjusted.</b></p> <ul style="list-style-type: none"> <li>e. Check the function switch to ensure correct control operation and smooth rotation to each switch position.</li> </ul> <p>Step 2. Test for defective heating elements. Replace defective elements as necessary.</p>
2.	BLACKOUT WARNING BUZZER WILL NOT ACTIVATE WHEN SWITCH IS DEPRESSED	<p>Step 1. Inspect main power service box for correct positioning of BLACKOUT BUZZER circuit breaker. Position BLACKOUT BUZZER circuit breaker to ON.</p> <p>Step 2. Inspect for correct electrical connection at buzzer as follows:</p> <ul style="list-style-type: none"> <li>a. Position BLACKOUT BUZZER circuit breaker in main power service box to ON.</li> <li>b. Remove the screws that attach the buzzer cover to the base and remove the cover.</li> <li>c. Using a suitable meter or test light, check for continuity at wire connections when blackout warning switch is depressed.</li> </ul> <p>Repair or replace defective buzzer as described in paragraph 5-22..</p>

Table 5-1. DIRECT SUPPORT TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
Step 3.	Inspect for correct electrical connection at BLACKOUT WARNING switch as follows:	<ul style="list-style-type: none"> <li>a. Remove three nuts, lockwashers, and bolts that secure the cover to the housing. Loosen the fourth nut and allow the cover to swing down.</li> <li>b. Using a suitable meter or test light, check for continuity at wire connections when blackout warning switch is activated. If necessary, replace defective switch as described in paragraph 5-22.</li> </ul>
3. UNABLE TO MAKE TELEPHONE CONNECTION WITH OTHER UNITS OF THE SPECIAL WARFARE PRINTING PLANT	Inspect for one or more defective telephone binding posts.	If necessary, repair or replace defective binding posts as described in paragraph 5-25.
4. NO ELECTRICAL POWER TO SHELTER SYSTEM	Step 1.	<p>Inspect for generator set power source not operating.</p> <p>Start the generator set in accordance with the applicable Department of the Army Technical Manual.</p>
	Step 2.	<p>Inspect for circuit breakers not positioned to ON.</p> <p>Position applicable circuit breakers to ON.</p>
	Step 3.	Check that main power cable is correctly connected at main power receptacle.



Table 5-1. DIRECT SUPPORT TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<b>WARNING</b>		
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected, that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>		
		<ul style="list-style-type: none"> <li>a. Connect the primary power cable to the input power receptacle located near the door of the shelter.</li> <li>b. The cable connector and the receptacles are keyed to ensure proper connection. The leads of the power cable are color coded as follows: <ul style="list-style-type: none"> <li>L1 - black - Pin 1</li> <li>L2 - red - Pin 2</li> <li>Ground - green - Pin 3 (marked with blue band)</li> <li>LO - white - Pin 4</li> </ul> </li> </ul>
Step 4.	Inspect main power cable for continuity as follows:	<ul style="list-style-type: none"> <li>a. Disconnect power cable from shelter receptacle and generator.</li> <li>b. Using a suitable test meter, check for continuity across power cable leads.</li> </ul>
		If necessary, repair or replace defective power cable as described in paragraph 5-27.
Step 5.	Inspect main power receptacle for pin damage or faulty wiring as necessary.	If necessary, repair or replace main power receptacle as described in paragraph 5-28.

Table 5-1. DIRECT SUPPORT TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. CIRCUIT BREAKER WILL NOT REMAIN IN ON POSITION	Step 1.	<p>Inspect the component served by the circuit breaker concerned for electrical defects in accordance with the applicable commercial manual.</p> <p>If necessary, rectify any defects in accordance with the applicable commercial manual.</p>
	Step 2.	<p>Inspect breaker involved for failure.</p> <p>If necessary, replace circuit breaker as described in paragraph 4-40.</p>
6. SHELTER LIGHTING COMPONENT FAILURE	Step 1.	<p>Inspect the main power service box for LIGHTS circuit breaker positioned to OFF.</p> <p>If necessary, position LIGHTS circuit breaker in service box to ON.</p>
	Step 2.	<p>Inspect for failure of fluorescent lamp. If necessary, replace defective lamp as follows:</p> <ol style="list-style-type: none"> <li data-bbox="404 978 1357 1005">a. Position the LIGHTS circuit breaker in the main power service box to OFF.</li> <li data-bbox="404 1037 1295 1064">b. Grasp fluorescent lamp tube, rotate 90° and lower from tube sockets.</li> <li data-bbox="404 1096 1500 1157">c. Position new fluorescent lamp below socket receptacles with pins vertical. Insert lamp into sockets and twist until pins lock.</li> <li data-bbox="404 1188 1352 1215">d. Position the LIGHTS circuit breaker in the main power service box on ON.</li> </ol>
	Step 3.	<p>Inspect for failure of fluorescent lamp starter.</p> <p>If necessary, replace defective lamp starter as follows: a. Rotate the starter counterclockwise and remove from starter socket.</p>

Table 5-1. DIRECT SUPPORT TROUBLESHOOTING (cont)

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
		b. Insert serviceable starter and rotate clockwise until the starter locks.

**Section IV. DIRECT SUPPORT MAINTENANCE PROCEDURES**

**5-8. INTRODUCTION TO DIRECT SUPPORT MAINTENANCE**

The instructions contained in this section are for the use of direct support maintenance personnel responsible for maintenance of the editorial shelter unit of the special warfare printing plant.

Procedures for general repair and maintenance are defined where they occur during the performance of maintenance activity covered by the various paragraphs of this section. Maintenance procedures for the items of equipment which form a part of the shelter system are included in the various commercial manuals supplied with the equipment.

Refer to TM 5-4120-239-14, Operator's, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Horizontal Compact, 9000 BTU (Trane Models) or TM 5-4120-340-14, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Compact, Horizontal, 9000 BTU (KECO Models) for direct support maintenance and repair procedure pertaining to the air conditioners.

Refer to TB 43-0124, Maintenance and Repair Procedures for Shelter, Electrical Equipment for direct support maintenance and repair procedures pertaining to the shelter itself.

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	PARA
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**5-8. INTRODUCTION TO DIRECT SUPPORT MAINTENANCE (cont)**

SECTION INDEX (cont)

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**5-9. STOOL HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

- |                      |                        |
|----------------------|------------------------|
| <b>a. Inspection</b> | <b>c. Repair</b>       |
| <b>b. Removal</b>    | <b>d. Installation</b> |

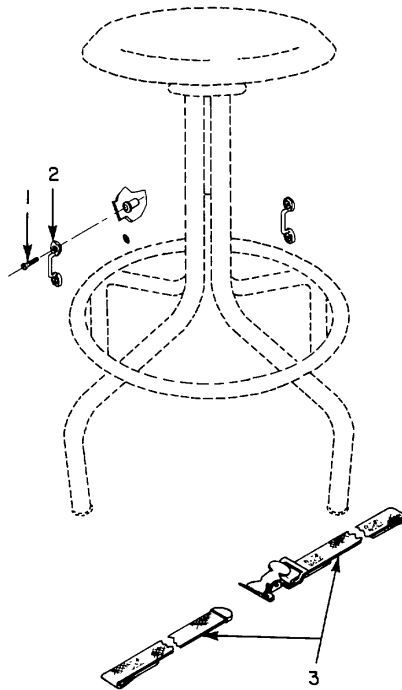
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Roadside Shelter Wall Under Each Light Table	a. Strap assemblies	Inspect webbing for wear, frayed sewing, and decayed fabric.	
	b. Fastener loops	Inspect for secure mounting to wall.	

**5-9. STOOL HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

- |                   |  |         |  |
|-------------------|--|---------|--|
| 2. Strap Assembly | a. Screws (1)                                | Remove. |  |
|                   | b. Fastener loops (2) and strap assembly (3) | Remove. |  |



**REPAIR**

- |                   |                 |  |  |
|-------------------|-----------------|--|--|
| 3. Strap Assembly | Retaining strap | <p>a. Cut 3 feet of cotton webbing to match previously removed retaining strap.</p> <p>b. Machine sew loop ends and buckle to webbing.</p> |  |
|-------------------|-----------------|--|--|

5-9. STOOL HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR (cont)</b>			
		c. Cut webbing end to receive clip and press clip to webbing.	
<b>INSTALLATION</b>			
4. Strap Assembly	a. Fastener loops (2)	Install into loops of strap assemblies (3).	
	b. Screw (1)	Install and secure fastener loops to shelter wall.	

5-10. PMT PROCESSOR MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection		b. Repair	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. PMT Processor	Processor	Inspect for completeness and security of mounting.	
<b>REPAIR</b>			
2. PMT Processor			Refer to commercial manuals for repair.

5-11. VERTICAL CAMERA MAINTENANCE INSTRUCTIONS			
This task covers:			
a. Inspection		b. Repair	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Vertical Camera	Camera	Inspect for completeness and security of mounting.	
<b>REPAIR</b>			
2. Vertical Camera			Refer to commercial manual for repair.

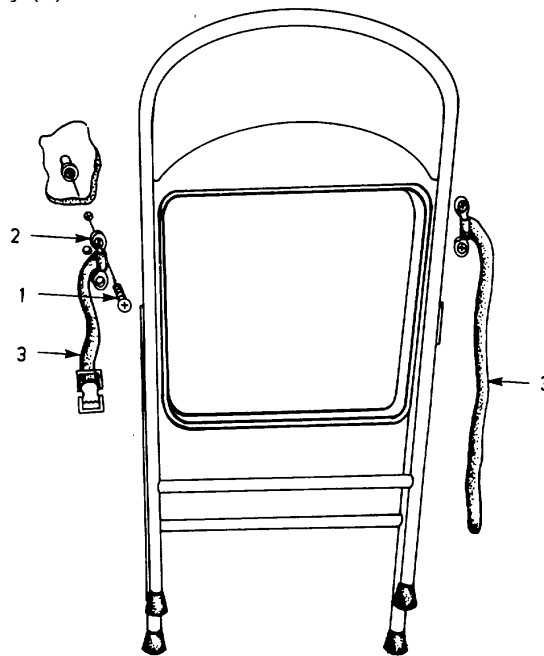
5-12. FOLDING CHAIR HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS			
This task covers:			
a. Inspection		c. Repair	
b. Removal		d. Installation	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Roadside Partition Opposite Camera	a. Strap assemblies	Inspect webbing for wear, frayed sewing, and decayed fabric.	
	b. Fastener loops	Inspect for secure mounting to wall.	

**5-12. FOLDING CHAIR HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL**

- |                   |  |         |  |
|-------------------|--|---------|--|
| 2. Strap Assembly | a. Screws (1)                                | Remove. |  |
|                   | b. Fastener loops (2) and strap assembly (3) | Remove. |  |



**REPAIR**

- |                   |                 |   |  |
|-------------------|-----------------|---|--|
| 3. Strap Assembly | Retaining strap | <p>a. Cut 3 feet of cotton webbing to match previously removed retaining strap.</p> <p>b. Machine sew loop ends and buckle to webbing.</p> <p>c. Cut webbing end to receive clip and press clip to webbing.</p> |  |
|-------------------|-----------------|---|--|



5-12. FOLDING CHAIR HOLDDOWN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
4. Strap Assembly	a. Fastener loops (2)	Install into loops of strap assembly (3).	
	b. Screws (1)	Install and secure fastener loops to wall partition.	

5-13. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<b>a. Inspection</b>		<b>b. Repair</b>	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Curbside of Darkroom	Storage cabinet	Inspect for dents, cracks, and security of mounting.	
2. Storage Cabinet	a. Welding	Inspect for breaks or separation of seams.	
	b. Paintwork	Inspect for peeling, cracking, and corrosion.	
	c. Drawers	Inspect for ease of movement and ability to close completely.	
	Drawer handles	Inspect for security of installation.	
	e. Drawer locks	Inspect for ease of operation and ability to secure drawers.	

**5-13. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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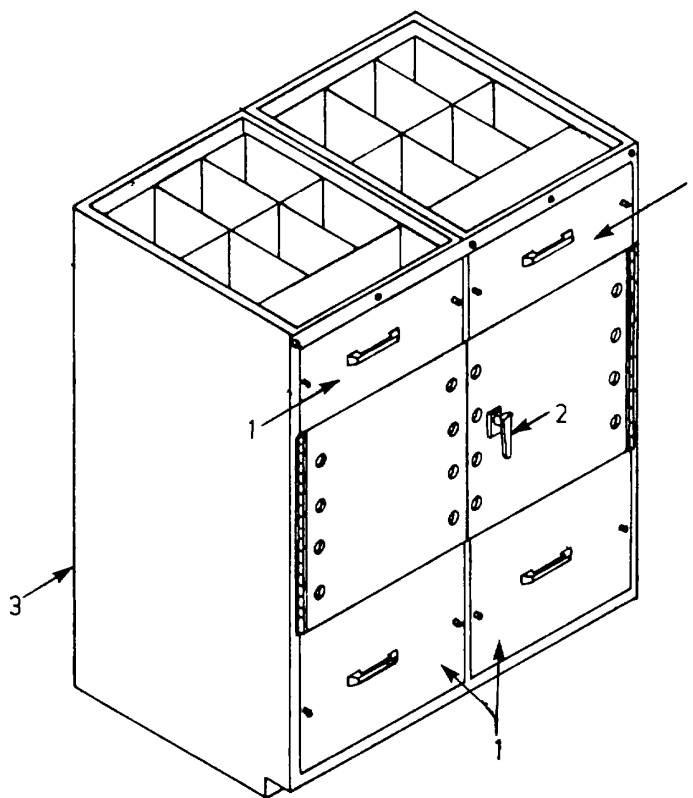
**INSPECTION (cont)**

f. Door handle assembly	Inspect for ease of operation ability to secure doors.
-------------------------	--

**REPAIR**

3. Storage Cabinet

a. Drawers (1)	Remove.	
b. Door lock handle (2)	Remove and replace as per paragraph 4-27.	Repair of lock handle is by replacement.
c. Cabinet (3)	Remove dents and straighten doors and panels.	



**5-13. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR (cont)</b>			
4. Drawers	a. Screw (4) and handle (5)	Remove.	
	b. Rivets (6) and fastener (7)	Remove.	
	c. Rivets (8) and latch (9)	Remove.	
	d. Drawer (10)	Remove dents and straighten panels and runners.	
	e. Latch (9)	Install and secure with rivets (8).	
	f. Fastener (7)	Install and secure with rivets (6).	
	g. Handle (5)	Install and secure with screws (4).	
5. Storage Cabinet	Drawers (1)	Install.	

<b>5-14. WATER SUPPLY CABINET MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>b. Repair</b>	
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Curbside of Darkroom	Water supply cabinet	Inspect for dents, cracks, and security of mounting.	
2. Water Supply Cabinet	a. Welding	Inspect for breaks or separation of seams.	
	b. Paintwork	Inspect for peeling, cracking, and corrosion.	
	c. Doors and door hinges	Inspect for ease of operation and proper closing.	
	e. Door handle and latching mechanism	Inspect for ease of operation and ability to secure doors.	
<b>REPAIR</b>			
3. Water Supply Cabinet	a. Cabinet	a. Remove dents and straighten doors and cabinet panels.	
		b. Repair breaks on separation of seams by minor welding.	
		c. Paint where needed.	
	b. Door handle assembly	Remove and install per paragraph 4-28.	Repair consists of replacement.

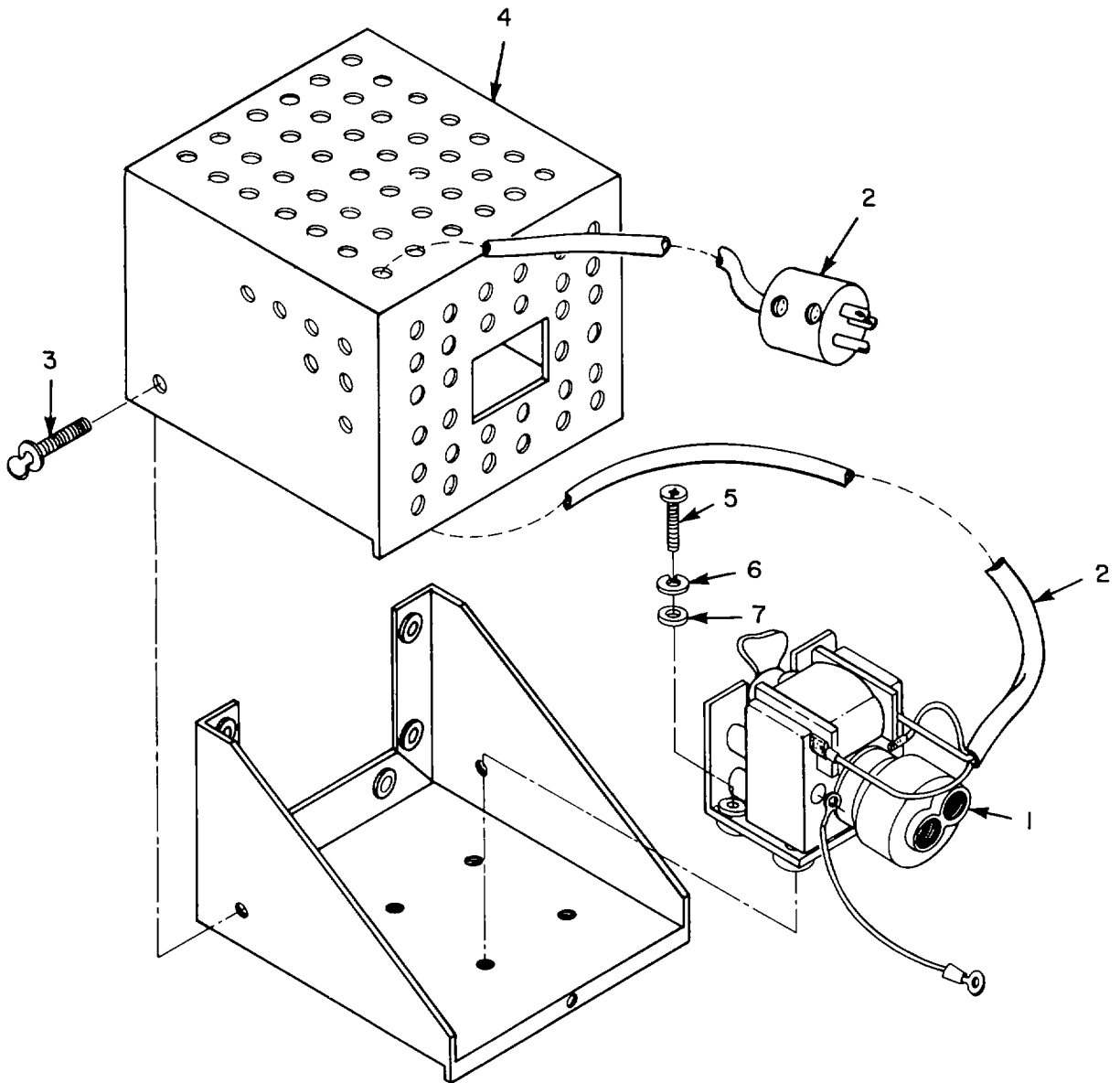
<b>5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>c. Repair</b>	
	<b>b. Removal</b>	<b>d. Installation</b>	
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Water Supply Cabinet	a. Water tank	a. Inspect for breaks or separation of seams.	
		b. Inspect for security of mounting.	
	b. Water pump	Inspect for completeness, security, and proper operation.	
	c. Water heater	Inspect for damage and security of mounting.	
	d. Water tubing	Inspect for breaks and proper connections.	
<b>REMOVAL</b>			
2. Water Supply Cabinet	Tubing	a. Disconnect from water pump.	
		b. Disconnect from faucet and exterior wall if necessary.	
3. Water Pump (1)	a. Power cord (2)	Unplug.	
	b. Thumbscrews (3)	Remove.	
	c. Pump cover (4)	Remove from mounting bracket. Slide power cord through cover until there is room to disconnect cord from pump.	
	d. Power cord (2)	Tag and disconnect from pump.	

5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL (cont)

- e. Screws (5), lock-washers (6), and flat washers (7) Remove.
- f. Pump (1) Remove.



**5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL (cont)**

g. Rivets (8) Remove by drilling or chiseling off heads.

h. Mounting bracket (9) Remove.

4. Water Tank a. Clamp (10) Loosen.

b. Tubing (11) Disconnect.

c. Elbows (12) Remove if necessary.

d. Tubing (13) Remove if necessary.

e. Nipple (14) Remove if necessary.

**CAUTION**

RTV is used to secure spigot to drain hole in shelter. Loosen the RTV around the spigot before removing to prevent damage to spigot.

f. Spigot (15) Remove if necessary.

g. Screws (16) and water heater (17) Remove if necessary.

5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL (cont)			
<p>h. Screws (18), flat washers (19), lockwashers (20), and nuts (21)</p>	<p>Remove.</p>		
<p>i. Water heater power cord</p>	<p>Unplug.</p>		
<p>j. Water tank (22)</p>	<p>Lift from water supply cabinet.</p>		

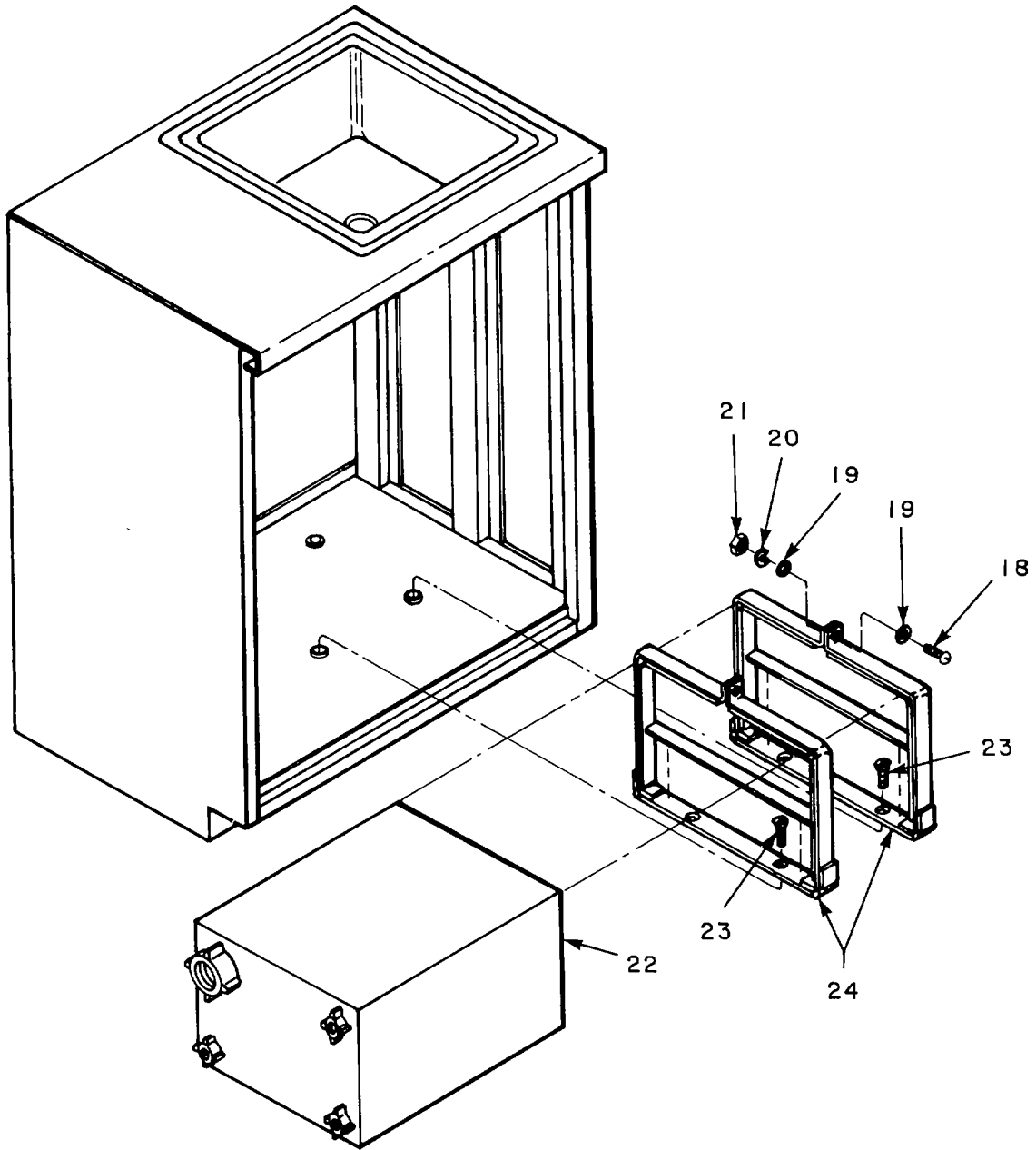


5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- k. Screw (23) Remove.
- 1. Water tank bracket (24) Remove.



**5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REPAIR****NOTE**

Repair of water system consists of replacement of part.

- |               |  |                                     |  |
|---------------|--|-------------------------------------|--|
| 5. Water Tank | a. Spigot, elbows, tubing, and connecting hardware | Remove and replace only if damaged. |  |
|               | b. Heater  | Remove and replace only if damaged. |  |

**INSTALLATION**

- |                    |  |   |  |
|--------------------|--|---|--|
| 6. Water Tank (22) | a. Water tank bracket (24) and screws (23)                         | Install.  |  |
|                    | b. Water tank (22)   | Install.  |  |
|                    | c. Screws (18), flat washers (19), lockwashers (20), and nuts (21) | Install.  |  |
|                    | d. Water heater (17) and screws (16)                               | Install and seal tank with RTV (item 3, app E).     |  |
|                    | e. Spigot (15)   | Install and seal to floor with RTV (item 3, app E). |  |
|                    | f. Nipple (14)   | Install.  |  |
|                    | g. Tubing (13)   | Install and secure with clamp (10).                 |  |
|                    | h. Elbows (12)   | Install.  |  |
|                    | i. Tubing (11)   | Install and secure with clamps (10).                |  |
|                    | j. Clamps (10)   | Tighten.  |  |

5-15. WATER TANK ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
7. Water Pump	a. Mounting bracket (9) and rivets (8)	Install.	
	b. Pump (1), screws (5), lockwashers (6), and flat washers (7)	Install.	
	c. Power cord (2)	Insert through pump cover (4), connect to pump (1), and remove tags.	
	d. Pump cover (4) and thumbscrews (3)	Install.	
8. Water Supply Cabinet	a. Water tubing	a. Connect to water pump. b. Connect to faucet and exterior wall if removed.	
	b. Water heater and water pump power cords	Connect to proper receptacle.	

**5-16. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS**

This task covers:

- a. Inspection
- b. Removal
- c. Repair
- d. Installation

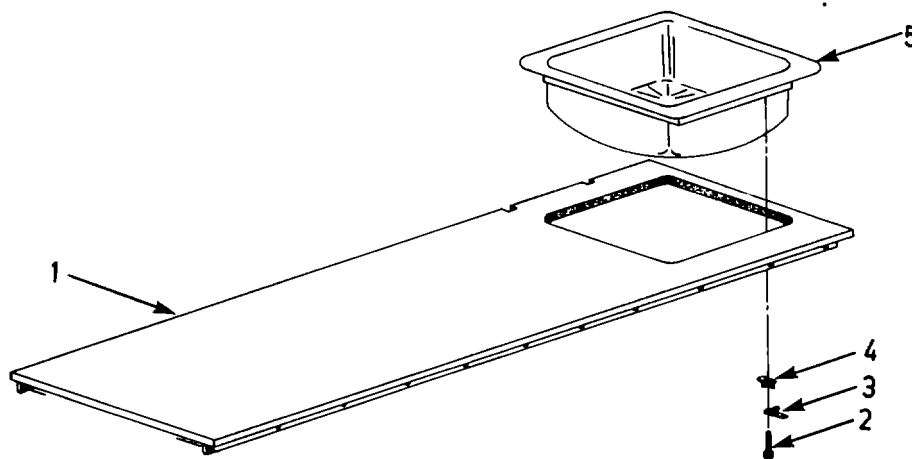
LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

1. Curbside of Darkroom	Countertop, sink, and shield	<ul style="list-style-type: none"> <li>a. Inspect for dents, deep scratches, burrs, corrosion, and security of mounting.</li> <li>b. Inspect welding for breaks or separation of seams.</li> </ul>	
2. Countertop and Shield	Sink Faucet	Check for proper operation and security of mounting.	

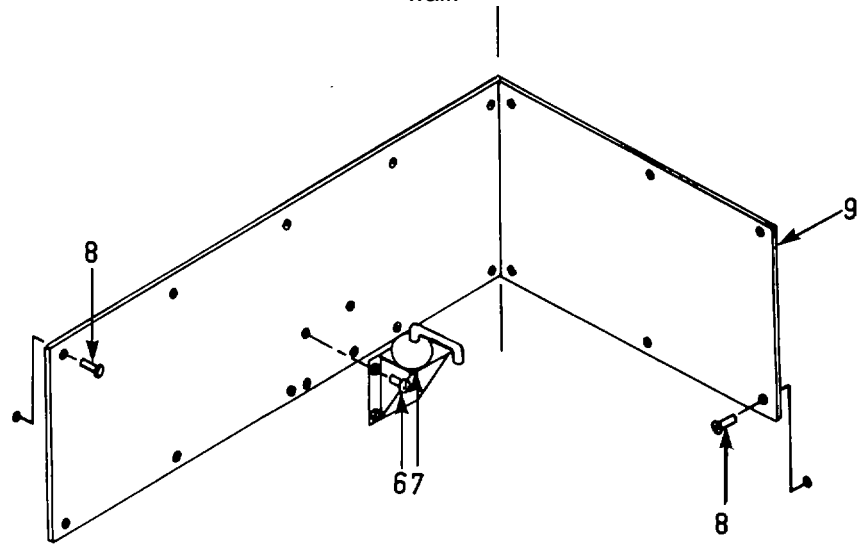
**REMOVAL**

3. Countertop	Countertop (1)	Remove as per paragraph 6-11.	
4. Sink	<ul style="list-style-type: none"> <li>a. Screws (2), fasteners (3), and spacers (4)</li> <li>b. Sink (5)</li> </ul>	<ul style="list-style-type: none"> <li>Remove.</li> <li>Remove.</li> </ul>	Repair of sink is by replacement.



**5-16. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
5. Sink Faucet	a. Tubing	Remove.	
	b. Rivets (6)	Remove by drilling or chiseling off heads.	
	c. Faucet (7)	Remove.	
6. Shield	a. Rivets (8)	Remove.	
	b. Shield (9)	Remove from shelter wall.	



**REPAIR**

7. Countertop	a. Countertop	Remove dents, scratches, burrs, and corrosion.	
	b. Sink		Repair of sink is by replacement.
	c. Faucet		Repair of faucet is by replacement.
	d. Shield	Remove dents, scratches, and corrosion.	

5-16. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
8. Shelter Wall	Shield (9)	Secure to shelter wall with rivets (8).	
9. Shield	Sink Faucet (7)	Secure to shield with rivets (6).	
10. Sink Faucet	Tubing	Connect.	
11. Countertop	a. Sink (5)	Install and secure with screw (2), fasteners (3), and spacer (4). Install per paragraph 6-11.	
	b. Countertop		

5-17. PHOTOTYPESETTER CONSOLE DESK MAINTENANCE INSTRUCTION			
<b>This task covers:</b>			
a. Inspection		b. Repair	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Console Desk	Desk	Inspect for dents, burrs, corrosion, and security of mounting.	
<b>REPAIR</b>			
2. Console Desk	Desk	Remove dents, burrs, and corrosion.	Refer to paragraph 6-12 if replacement of desk is necessary.

<b>5-18. PHOTOTYPESETTER PROCESSOR MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
<b>a. Inspection</b>		<b>b. Repair</b>	
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Photo-typesetter Processor	Processor	Inspect for completeness, security, and proper operation.	Refer to commercial manual or TM5-7430-215-14 for proper operation or repair.
<b>REPAIR</b>			
2. Photo-typesetter Processor			Refer to commercial manual or TM5-7430-215-14 for proper operation or repair.

<b>5-19. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
<b>a. Inspection</b>		<b>b. Repair</b>	
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Photo-typesetter	Phototypesetter	Inspect for completeness, security, and proper operation.	Refer to commercial manual or TM5-7430-215-14 for proper operation or repair.
<b>REPAIR</b>			
2. Photo-typesetter			Refer to commercial manual or TM5-7430-215-14 for proper operation or repair.

5-20. VOLTAGE REGULATOR MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
	<b>a. Inspection</b> <b>b. Removal</b>	<b>c. Repair</b> <b>d. Installation</b>	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Curbside Wall, Rear	a. Regulator	a. Inspect for security of mounting.	Refer to commercial manual for proper operation.
		b. Inspect for any exterior damage.	
		c. Inspect for proper operation.	
	b. Mounting brackets	a. Inspect for broken welds and cracked metal.	
		b. Inspect for loose mounting of brackets to shelter wall.	
<b>REMOVAL</b>			
2. Regulator	a. Power cord	Disconnect from shelter power receptacle.	Phototypesetter power cord must be disconnected from rear of regulator in order to completely remove regulator.
	b. Regulator (1)	a. Remove screws (2), lockwashers (3), and flat washers (4).  b. Slide regulator out of mounting frame.	

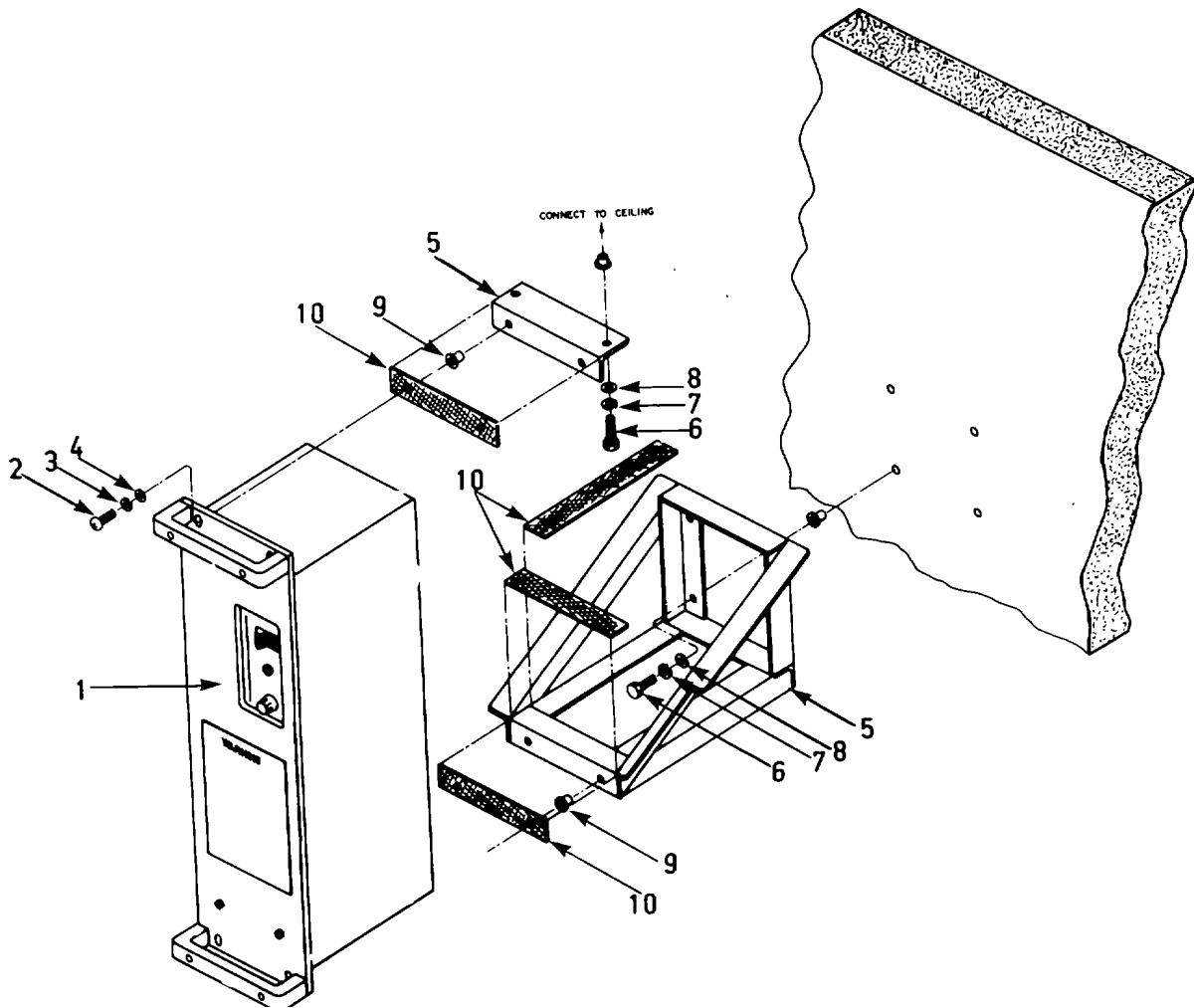


5-20. VOLTAGE REGULATOR MAINTENANCE INSTRUCTIONS

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- |                          |  |  |
|--------------------------|--|--|
| c. Mounting brackets (5) | a. Remove bolts (6), lockwashers (7), and flat washers (8).<br><br>b. Remove brackets (5). |  |
|--------------------------|--|--|



REPAIR

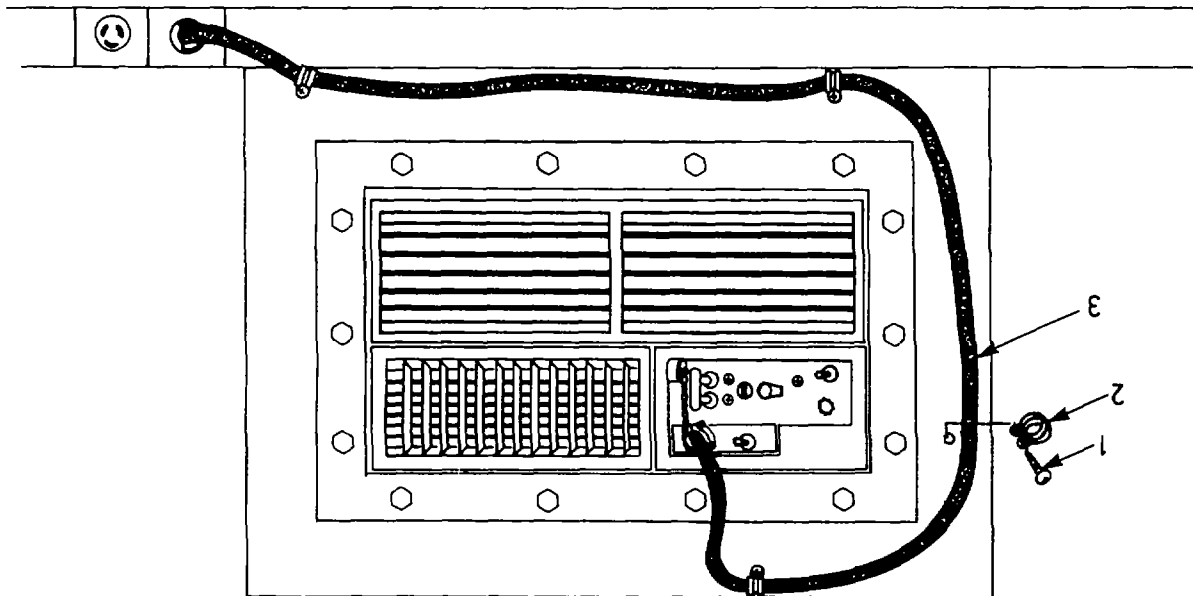
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|----------------------|----------|--|--|
| 3. Mounting Brackets | Brackets | a. Remove bends, burrs, and corrosion. |  |
|----------------------|----------|--|--|

5-20. VOLTAGE REGULATOR MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR (cont)</b>			
4. Regulator		b. Replace rivnuts (9) and rubber pads (10) if necessary.	Refer to commercial manual for repairs.
<b>INSTALLATION</b>			
5. Regulator (1)	Mounting brackets (5)	Install to wall and secure with bolts (6), lockwashers (7), and flat washer (8).	
6. Photo-typesetter	Power cord	Insert into output receptacle of voltage regulator.	
7. Regulator	a. Regulator	a. Slide into mounting brackets (5).  b. Install screws (2), lockwashers (3), and flat washer (4).	
	b. Power cord	Insert into wall receptacle marked REGULATOR OUTLET.	

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
<b>a. Inspection</b> <b>b. Removal</b>		<b>c. Repair</b> <b>d. Installation</b>	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Front Wall of Shelter	Air conditioner	Inspect for security of mounting.	Inspection procedures are identical for both air conditioners.
2. Air Conditioner	a. Electrical power cable	a. Inspect for proper connection to wall receptacle and to air conditioner.  b. Inspect for breaks, cracks, cuts, or age-checks on the rubber insulation.  c. Inspect cable clamps for security of mounting and ensure that clamps do not pinch or chafe cable.	
	b. Controls	Inspect for proper operation.	Refer to TM 5-4120-239-14 (TRANE models) or TM 5-4120-340-14 (KECO models) for proper operation and test procedures.
	c. Air conditioner main body and ductwork	Inspect missing rivets, dents, breaks, corrosion, and proper connection of adapter boot to airduct and to discharge grill of air conditioner.	Ductwork exists on curbside air conditioner only.

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
	d. Mounting bracket assembly	Inspect for security of mounting and for structural damage such as separated or broken weld joints.	
<b>REMOVAL</b>			
<b>WARNING</b>			
<p>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</p>			
3. Air Conditioner	a. Screws (1) and cable clamps (2)	Remove.	
	b. Power cable (3)	Disconnect from air conditioner and shelter receptacles.	

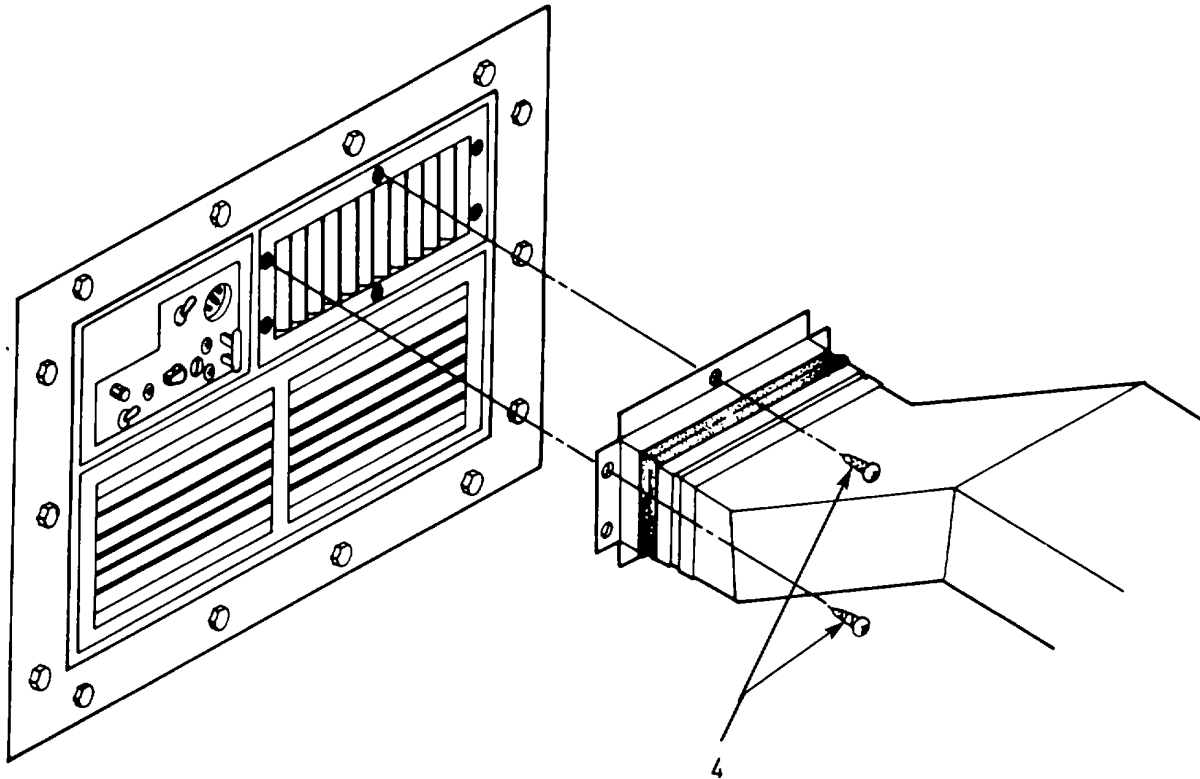


5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

c. Screws (4)	Remove.	Curbside air conditioner only.
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4. Ductwork

**NOTE**

Ductwork is for curbside air conditioner only.

a. Rivets (5) and mounting brackets (6)	Remove.
b. Adapter (7) and boot (8)	Remove.
c. Darkroom duct (9), mounting brackets (10), and rivets (11).	Remove.

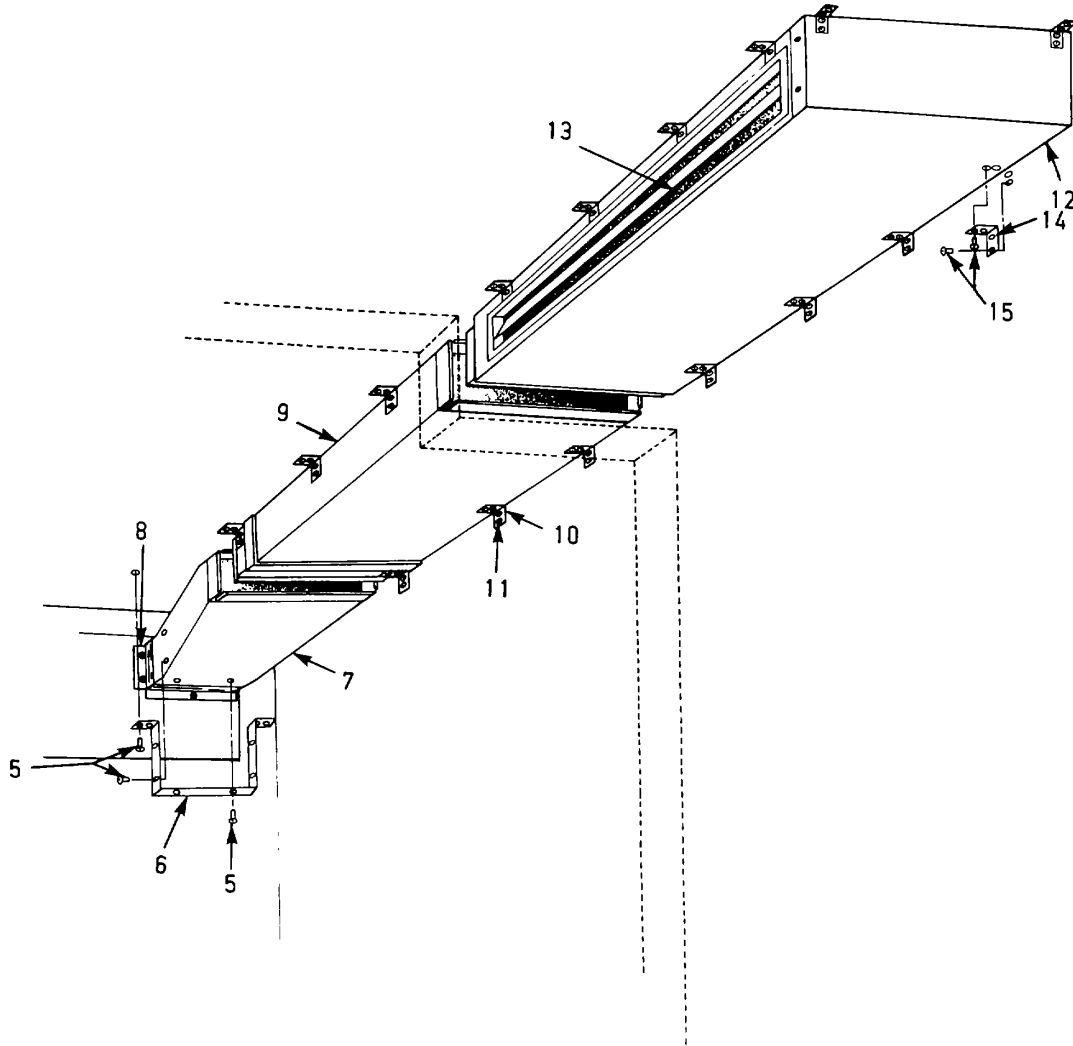
5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

d. Editorial room duct (12), air vent (13), mounting brackets (14), and rivets (15)

Remove.



5. Support Frame	a. Bolts (16), lock-washers (17), and flat washers (18)	Remove.	
	b. Cover (19)	Remove.	
	c. Bolts (20), lock-washers (21), and flat washers (22)	Remove.	

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

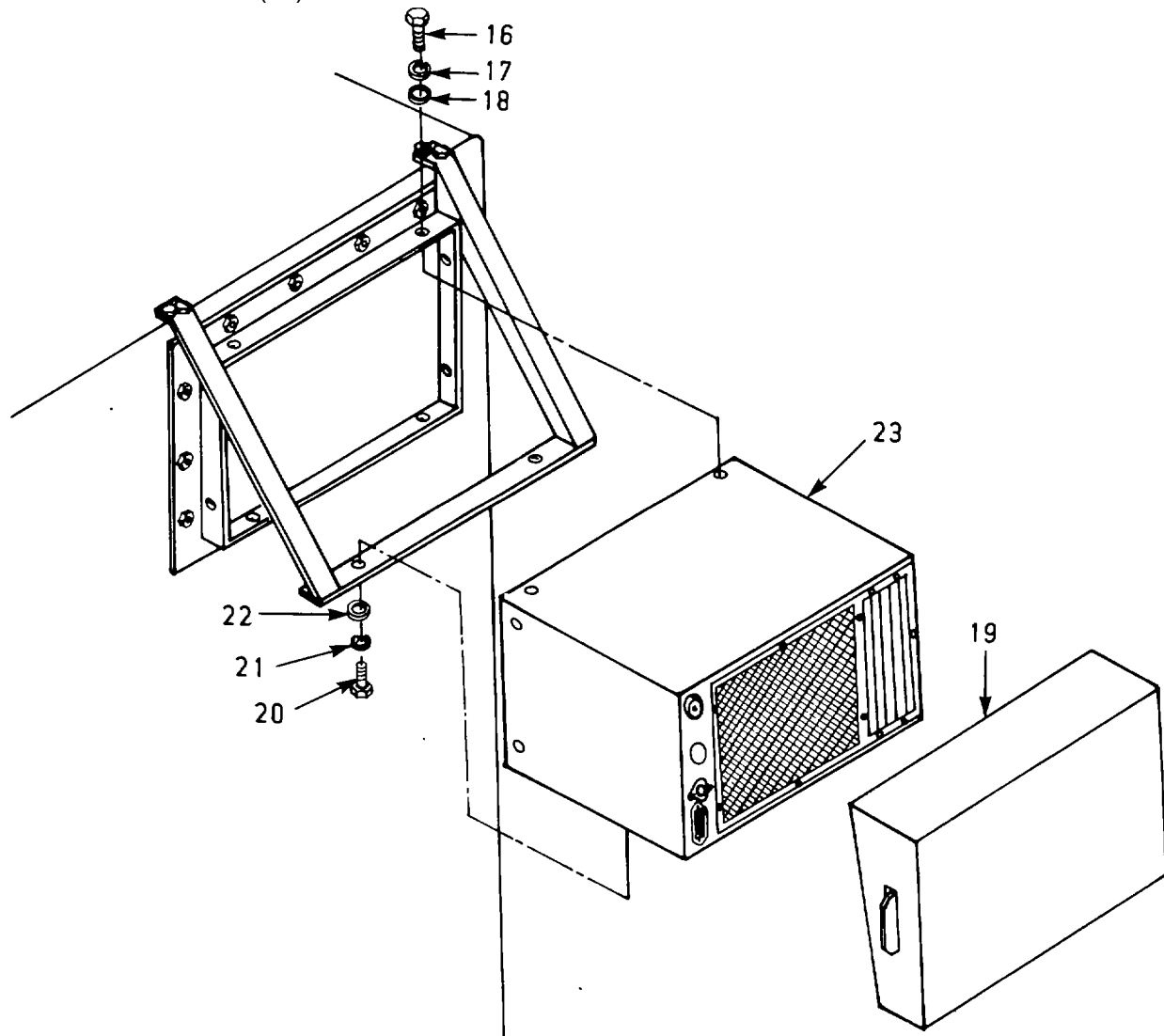
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

**WARNING**

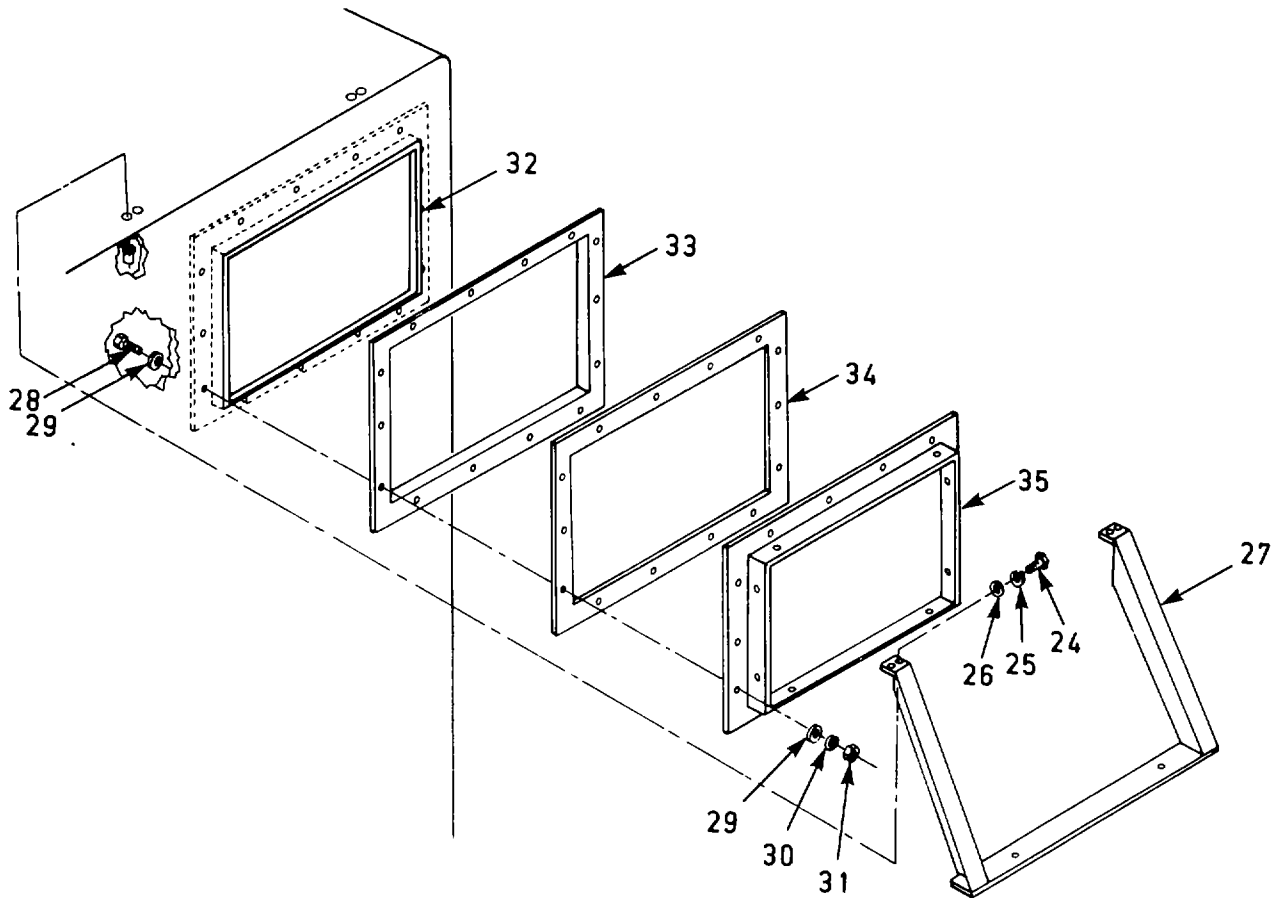
Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.

d. Air conditioner (23) Remove.



5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	e. Bolts (24), lock-washers (25), and flat washers (26)	Remove.	
	f. Support frame (27)	Remove.	
	g. Bolts (28), flat washers (29), lockwashers (30), and nuts (31)	Remove.	
	h. Inner frame (32), outer frame (33), gasket (34), and collar (35)	Remove.	





**5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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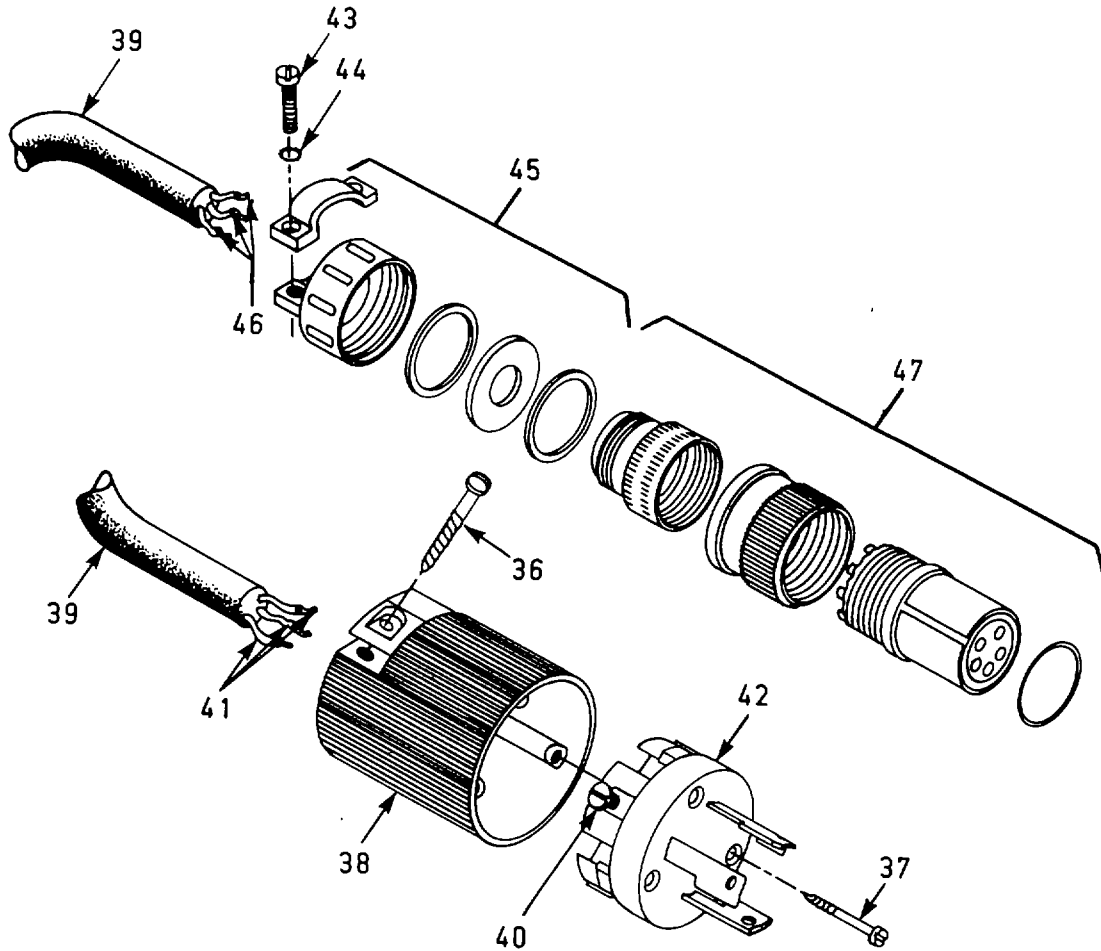
**REMOVAL (cont)**

- |                |   |  |  |
|----------------|---|--|--|
| 6. Power Cable | a. Screws (36 & 37)                               | Remove.  |  |
|                | b. Connector body (38)                            | Slide up cable (39).                                   |  |
|                | c. Screws (40)                                    | Loosen.  |  |
|                | d. Wires (41)                                     | Record hookup location and remove from connector (42). |  |
|                | e. Connector (42) and connector body (38)         | Remove.  |  |
|                | f. Screws (43) and lockwashers (44)               | Remove.  |  |
|                | g. Cable clamp (45) (47) and slide up cable (39). | Remove from connector                                  |  |
|                | h. Wires (46)                                     | Record hookup location and remove from connector (47). |  |
|                | i. Cable clamp (45) and connector (47)            | Remove.  |  |

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



REPAIR

7. Air Conditioner

Refer to TM 5-4120-239-14 or TM 5-4120-340-14 for repair of air conditioner.

INSTALLATION

- |                |                     |  |
|----------------|---------------------|--|
| 8. Power Cable | a. Cable clamp (45) | Position on cable (39).  |
|                | b. Wire (46)        | Connect to terminals of connector (47) as recorded in removal section. |

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	c. Cable clamp (45)	Secure to connector (47).	
	d. Screws (43) and lockwashers (44)	Install.	
	e. Connector body (38)	Position on cable (39).	
	f. Wire (41)	Connect to terminals of connector (42) as recorded in removal section and secure with screws (40).	
	g. Connector body (38)	a. Secure to connector (42) with screws (37).	
	with screws (36).	b. Secure cable (39)	
9. Support Frame Assembly	a. Inner frame (32), outer frame (33), gasket (34), and collar (35)	Install.	Seal to shelter wall with RTV (item 3, app E).
	b. Bolts (28), flat washers (29), lockwashers (30), and nuts (31)	Install	
	c. Support frame (27)	Install.	
	d. Bolts (24), lockwashers (25), and flat washers (26).	Install.	

**5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**INSTALLATION (cont)**

**WARNING**

Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.

- |   |          |
|---|----------|
| e. Air conditioner (23)                                 | Install. |
| f. Bolts (20), lock-washers (21), and flatwashers (22)  | Install. |
| g. Bolts (16), lock-washers (17), and flat washers (18) | Install. |
| h. Cover  | Install. |

10. Ductwork

**NOTE**

Ductwork is for curbside air conditioner only.

- |   |          |
|---|----------|
| a. Editorial room duct (12), air vent (13), mounting brackets (14), and rivets (15) | Install. |
| b. Darkroom duct (9), mounting bracket (10), and rivets (11)                        | Install. |
| c. Adapter (7) and boot (8)   | Install. |
| d. Rivets (5) and mounting bracket (6)  | Install. |

5-21. AIR CONDITIONER MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
11. Air Conditioner	a. Screws (4)	Install.	
	b. Power cable (3)	Connect to air conditioner and shelter receptacles.	
	c. Screws (1) and cable clamps (2)	Install.	

5-22. BLACKOUT WARNING SYSTEM MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
	a. Inspection b. Removal	c. Repair d. Installation	
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Rear Wall	Blackout warning system	Inspect for proper operation.	Warning buzzer should ring when button is depressed.
2. Blackout Warning System	a. Push button switch	Inspect for ease of operation and security of mounting.	
	b. Warning buzzer	Inspect for corrosion and security of mounting.	

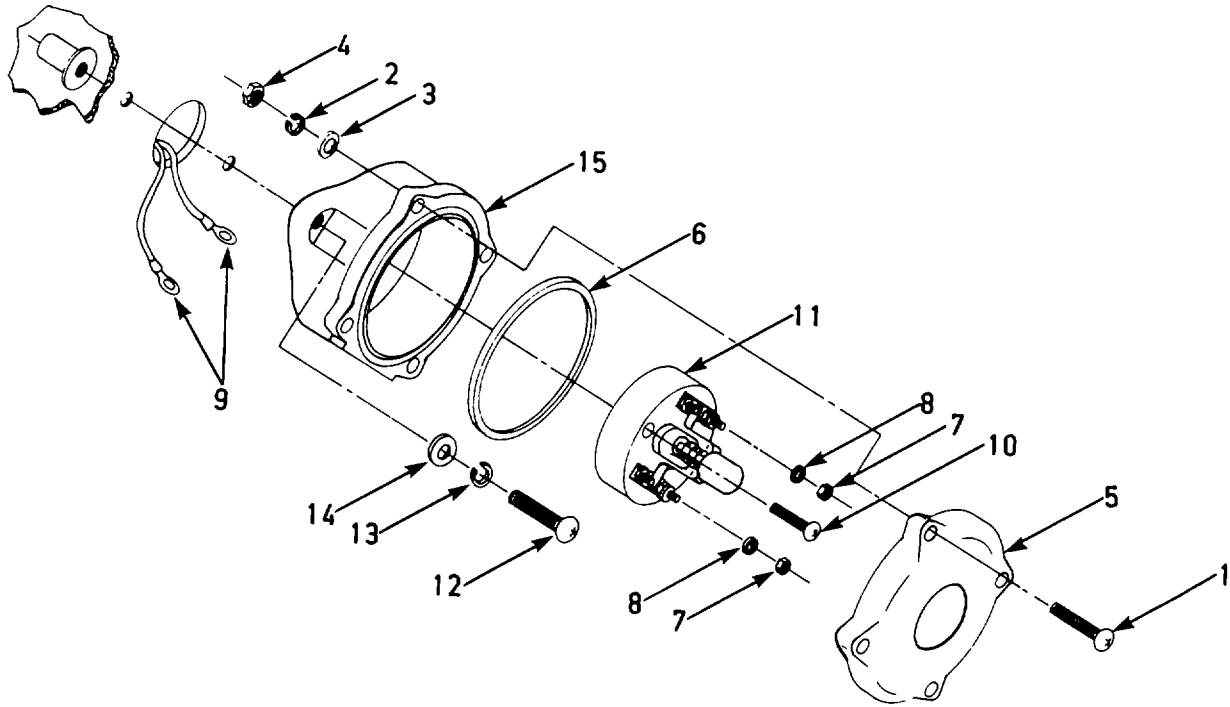
## 5-22. BLACKOUT WARNING SYSTEM MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>			
3. Push Button Switch	a. Screws (1), lock-washers (2), flat washers (3), and nuts (4)	Remove from switch cover (5).	
	b. Switch cover (5) and gasket (6)	Remove.	
	c. Nuts (7) and lock-washers (8)	Remove.	
	d. Electrical wires (9)	Tag and disconnect.	
	e. Screw (10) and switch (11)	Remove.	
	f. Screws (12), lock-washers (13), and flat washers (14)	Remove.	
	g. Housing (15)	Remove.	

5-22. BLACKOUT WARNING SYSTEM MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

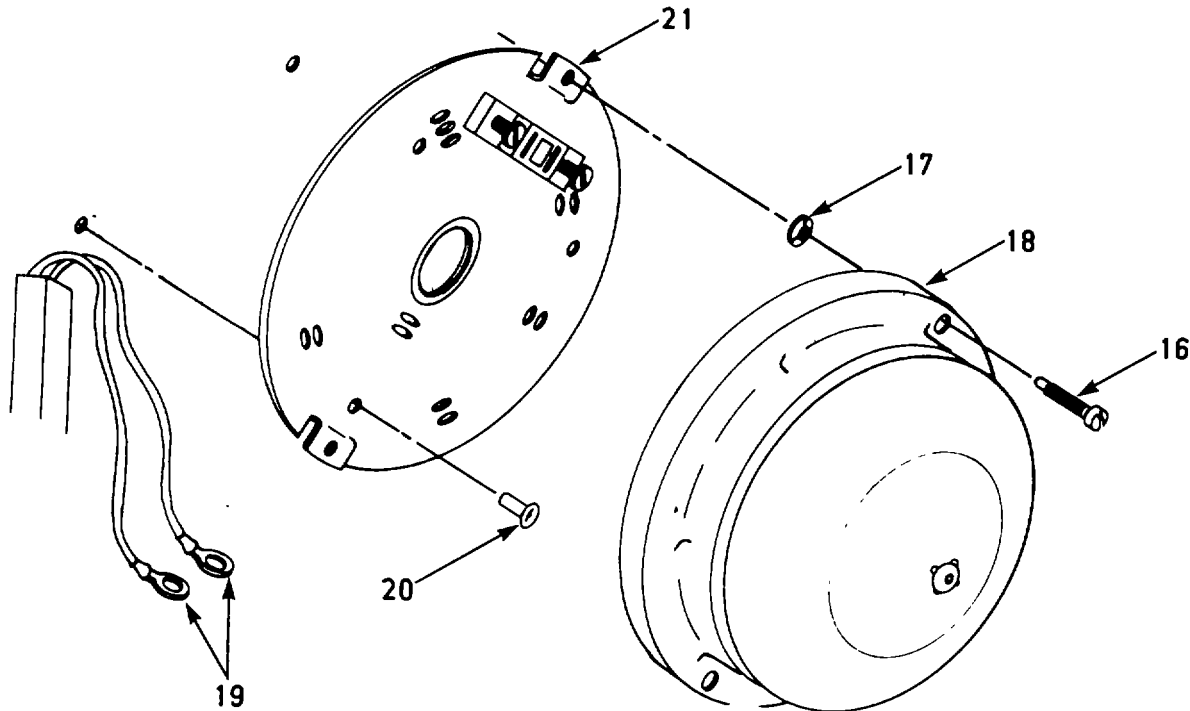


4. Warning Buzzer	a. Screws (16) and lockwashers (17)	Remove.	
	b. Buzzer (18)	Remove.	
	c. Electrical wires (19)	Tag and disconnect.	
	d. Rivets (20)	Remove by drilling or chiseling off heads.	
	e. Buzzer base (21)	Remove.	

**5-22. BLACKOUT WARNING SYSTEM MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**REPAIR**

5. Blackout Warning System

Repair of the blackout warning system consists of replacing components.

**INSTALLATION**

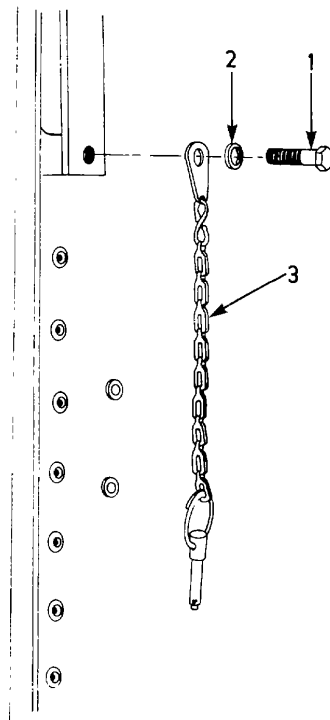
6. Warning Buzzer	a. Buzzer base (21)	Position on wall and secure with rivets (20).
	b. Electrical wires (19)	Connect to terminals and remove tags.
	c. Buzzer cover (18)	Position on base and secure with screws (16) and lockwashers (17).





5-23. DOOR BLACKOUT LOCKPIN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2. Blackout Lockpin Assembly	a. Chain mounting plate bolt (1) and lockwasher (2)	Remove.	The chain mounting plate attachment bolt also secures the center latch plate. If a new lockpin is not to be immediately installed, install latch plate bolt.
	b. Lockpin assembly (3)	Remove.	



5-23. DOOR BLACKOUT LOCKPIN ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR</b>			
3. Blackout Lockpin Assembly		Repair or replace as necessary.	The pin to chain attachment ring is an ordinary keyring device and both the pin and the ring can be replaced in the same manner as a key.
<b>INSTALLATION</b>			
4. Blackout Lockpin Assembly	Lockpin Assembly (3)	Secure to shelter with bolt (1) and lockwasher (2)	

5-24. DROP-OFF BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
<b>This task covers:</b>			
	a. Inspection d. Installation	b. Removal	c. Repair
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Rear Wall Roadside	a. Drop-off box assembly	Inspect for dents, cracks, and security of mounting.	
	b. Doors and hinges	Inspect for dents, ease of operation, and proper closing.	

**5-24. DROP-OFF BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

- |                  |                   |   |  |
|------------------|-------------------|---|--|
|                  | c. Paintwork      | Inspect for bare metal and corrosion.   |  |
| 2. Exterior Door | a. Rubber gasket  | a. Inspect for proper seal against door.<br><br>b. Inspect for wear and weathering.<br><br>c. Inspect for secure attachments. |  |
|                  | b. Latch and hook | Inspect for ease of operation and proper security of door.  |  |

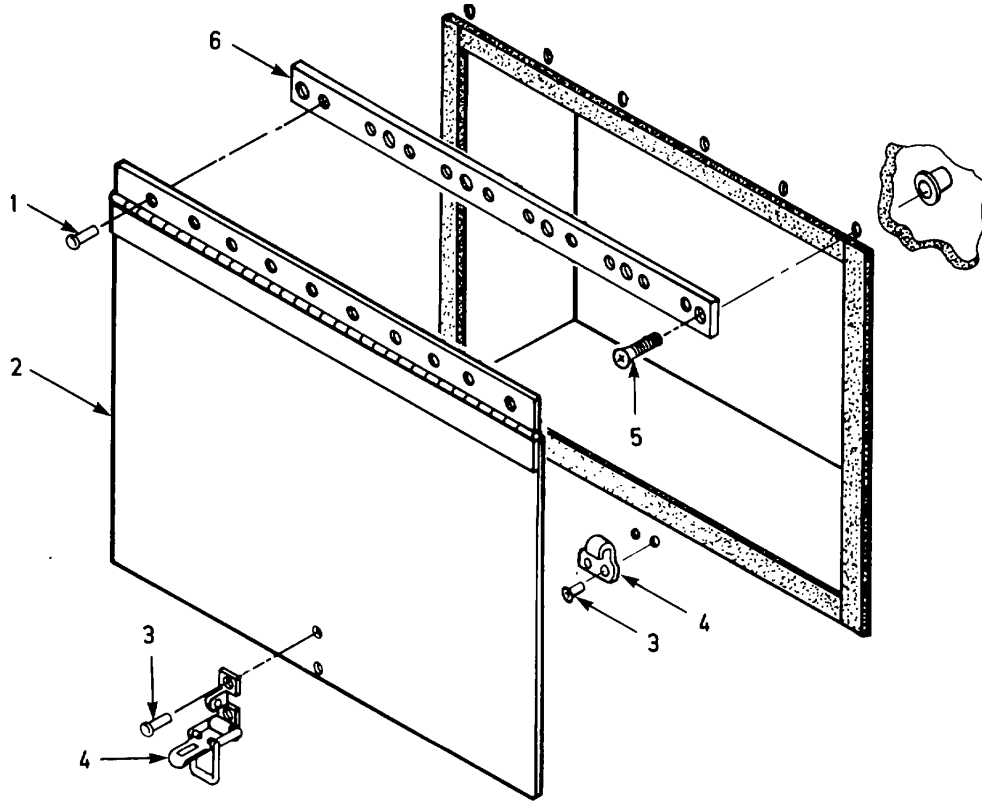
**REMOVAL**

- |                    |                     |  |  |
|--------------------|---------------------|--|--|
| 3. Ladder Assembly | Ladder              | Remove per paragraph 4-38.                 |  |
| 4. Exterior Door   | a. Rivets (1)       | Remove by drilling or chiseling off heads. |  |
|                    | b. Door (2)         | Remove.                                    |  |
|                    | c. Rivets (3)       | Remove by drilling or chiseling off heads. |  |
|                    | d. Door latch (4)   | Remove.                                    |  |
| 5. Spacer Block    | a. Screws (5)       | Remove.                                    |  |
|                    | b. Spacer block (6) | Remove.                                    |  |

5-24. DROP-OFF BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

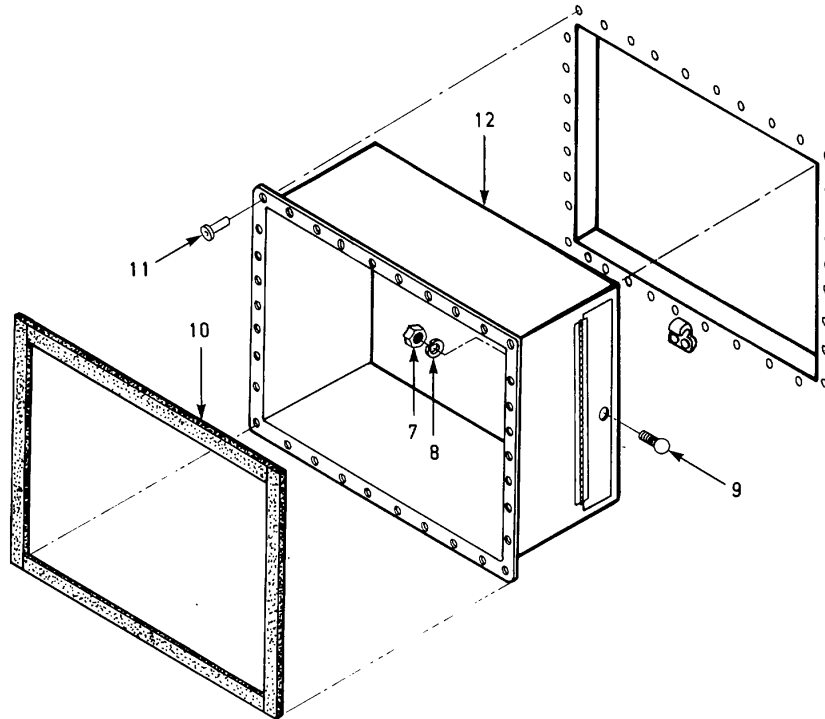


6. Interior Door	a. Knob nut (7) and lockwasher (8)	Remove.	
	b. Knob (9)	Remove.	
7. Exterior	a. Rubber gasket (10)	Remove.	
	b. Rivets (11)	Remove by drilling or chiseling off heads.	
	c. Box (12)	Remove from shelter wall.	

5-24. DROP-OFF BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



REPAIR

8. Drop-off Box Assembly	a. Main body	Hammer out dents.	
	b. Doors and hinges	Hammer out dents and straighten hinges for proper door closing.	
	c. Knob	Replace.	Repair by replacing damaged items with new items.
	d. Rubber gaskets	Replace.	
	e. Latch and hook	Replace.	

**5-24. DROP-OFF BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
9. Drop-off Box Assembly	a. Box (12)	Slide into shelter wall.	Seal outside lip of box to shelter wall with RTV (item 3, app E).
	b. Rivets (11)	Install.	
	c. Rubber gasket (10)	Install using adhesive.	
	d. Spacer block (6)	Install and secure with screws (5).	Seal spacer block to shelter wall with RTV (item 3, app E).
	e. Latch assembly (4)	Install and secure with rivets (3).	
	f. Exterior door (2)	Install and secure with rivets (1)	
10. Interior Door	Knob (9)	Install and secure with nut (7) and lockwasher (8).	
11. Ladder Assembly	Ladder	Install per paragraph 4-38.	

**5-25. TELEPHONE BINDING POST ASSEMBLY MAINTENANCE INSTRUCTIONS**

This task covers:

- a. Inspection
- b. Removal
- c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Rear Wall Roadside	Binding post assembly	a. Inspect hinged cover for damage, ease of movement, and presence of nomenclature plate.  b. Inspect binding posts for freedom of movement and correct return to the spring loaded OUT position.  c. Inspect binding post assembly for corrosion, damage, and security of mounting.	
<b>REMOVAL</b>			
2. Binding Post Assembly	a. Exterior posts (1) interior posts (2), and insulating washers (3 and 4)  b. Hinged cover (6)  c. Nomenclature plate (8)  d. Receptacle frame (10)	Unscrew exterior posts from interior post studs and remove posts and washers.  Remove screws (5) and remove cover.  Remove rivets (7) by drilling or chiseling off heads and remove plate.  a. Remove rivets (9) by drilling or chiseling off heads.	Removal procedures are identical for each binding post assembly.

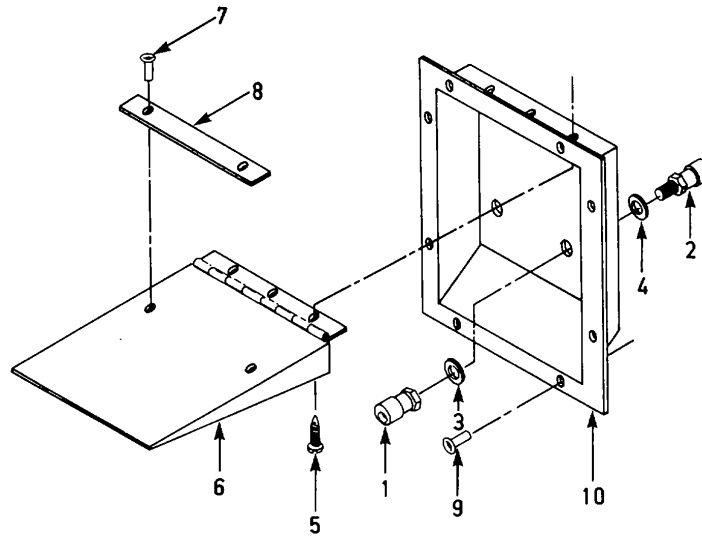


5-25. TELEPHONE BINDING POST ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

b. Remove receptacle frame (10) from shelter wall.



REPAIR

3. Binding Post Assembly

Repair of the telephone binding post assembly consists of replacement.

INSTALLATION

4. Binding Post Assembly

a. Receptacle frame (10)

Install and secure with rivets (9).

b. Nomenclature plate (8)

Install and secure with rivets (7).

c. Hinged cover (6)

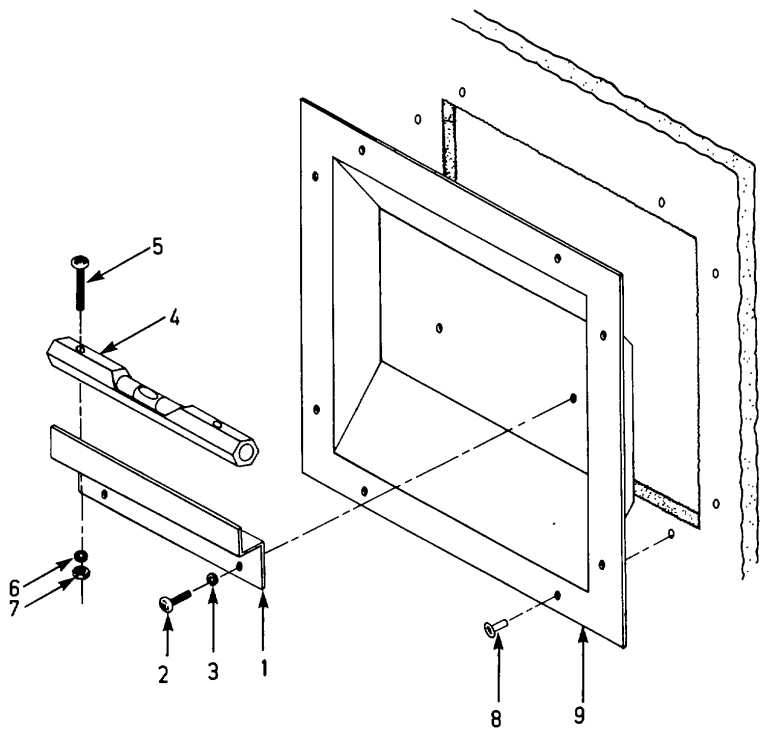
Install and secure with screws (5).

5-25. TELEPHONE BINDING POST ASSEMBLY MAINTENANCE INSTRUCTIONS			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	d. Interior binding posts (2)	Install from inside through insulating washer (4), then through shelter wall.	
	e. Exterior binding posts (1)	Thread onto interior post using insulating washer (3) between shelter wall and exterior binding post.	Modify a new interior post by cutting off the threaded stud. Locate center and drill a No. 21 size hole 0.5 in. (1.27 cm) deep. Tap hole with 10-32 U.N.F. bottom tap.

5-26. LEVEL INDICATOR ASSEMBLY MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
a. Inspection	b. Removal	c. Installation	
LOCATION	ITEM	ACTION	REMARKS
<b>NOTE</b>			
If level indicator gage (4) and/or bracket (1) need repair, refer to paragraph 4-39.			
<b>INSPECTION</b>			
1. Outer Road-side Wall and Outer Rear Wall	Level indicator assembly	Check for damage, completeness, and security.	

5-26. LEVEL INDICATOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2. Level Indicator Assembly	a. Level bracket (1), screws (2), and lockwashers (3)	Remove.	Removal procedures are identical for both assemblies.
	b. Level (4), screws (5), lockwashers (6), and nuts (7)	Remove.	
	c. Rivets (8)	Remove by drilling or chiseling off heads.	
	d. Receptacle frame (9)	Remove.	



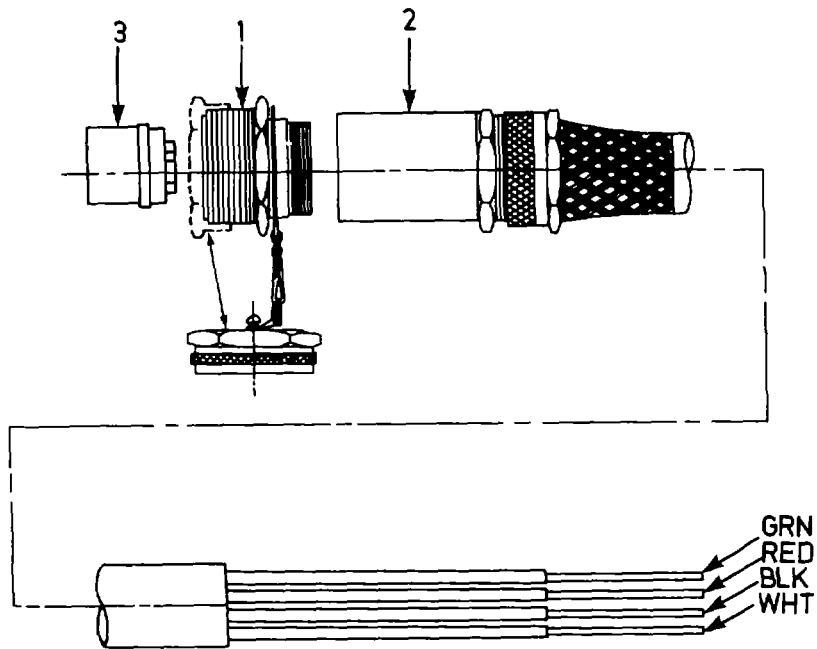
5-26. LEVEL INDICATOR ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
3. Level Indicator Assembly	a. Receptacle frame (9)	Install and secure with rivets (8)	Installation procedures are identical for both assemblies. Seal between receptacle frame and shelter wall with RTV (item 3, app E).
	b. Level (4), screw (5), lockwasher (6), and nut (7)	Install.	
	c. Level bracket (1), screws (2), and lockwashers (3)	Install.	

5-27. MAIN POWER CABLE ASSEMBLY MAINTENANCE INSTRUCTIONS											
This task covers: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">a. Inspection</td> <td style="width: 33%; text-align: center;">b. Removal</td> <td style="width: 33%; text-align: center;">c. Repair</td> <td></td> </tr> <tr> <td style="text-align: center;">d. Installation</td> <td></td> <td></td> <td></td> </tr> </table>				a. Inspection	b. Removal	c. Repair		d. Installation			
a. Inspection	b. Removal	c. Repair									
d. Installation											
LOCATION	ITEM	ACTION	REMARKS								
<b>INSPECTION</b>											
<b>WARNING</b>											
<p>Death or serious injury could result if electrical precautions are not taken when disconnecting this cable. Use extreme caution during the disconnect process. Disconnect the power source from power cable and disconnect cable.</p>											
1. Outside Rear Wall of Shelter	Main power cable assembly	a. Inspect for deterioration of rubber insulation.  b. Inspect for general condition of insert, barrel, cable adapter, and protective cap.  c. Inspect metal parts for corrosion.									
<b>REMOVAL</b>											
2. Main Power Cable Assembly	a. Female barrel (1) and cable adapter (2)  b. Female barrel (1) and female insert (3)	Loosen the connection between the two and separate unit.  Separate.									

**5-27. MAIN POWER CABLE ASSEMBLY MAINTENANCE INSTRUCTIONS**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**REPAIR**

3. Main Power Cable Assembly

Repair consists of replacing components.

**INSTALLATION**

4. Main Power Cable Assembly

Female barrel (1) and female insert (3)

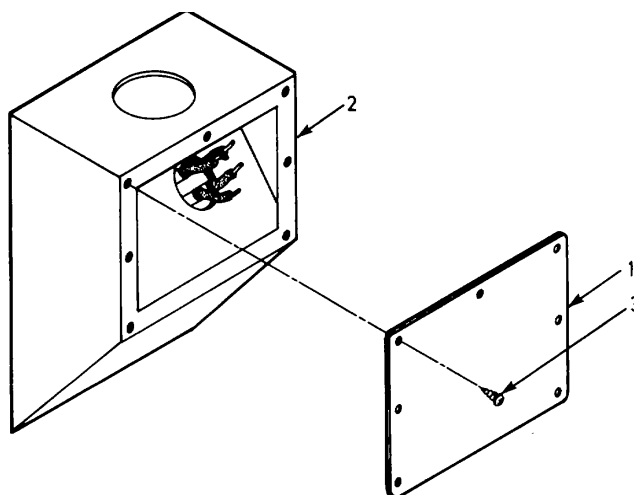
Install in the threaded portion of the cable adapter (2) and tighten.

5-28. MAIN POWER CABLE RECEPTACLE MAINTENANCE INSTRUCTIONS			
This task covers:			
	a. Instructions	b. Removal	c. Repair
	d. Installation		
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Use extreme caution during the disconnect process. Disconnect the power source from power cable and disconnect cable.</b></p>			
1. Outside Rear Wall of Shelter	a. Main power receptacle	Inspect for general condition and security of mounting.	
	b. Electrical connector pins	Inspect for damage and corrosion.	
	c. Knurled, threaded female portion	Inspect for thread damage and corrosion.	
	d. Protective cap and chain	Inspect for damage and security of chain attachment.	
	e. Electrical shield and mounting screws	Inspect for damage, security, and correct sealing.	
<b>REMOVAL</b>			
2. Rear of receptacle box (inside shelter)	Receptacle access plate (1)	Remove from receptacle box (2) by removing attaching screws (3).	

**5-28. MAIN POWER RECEPTACLE MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



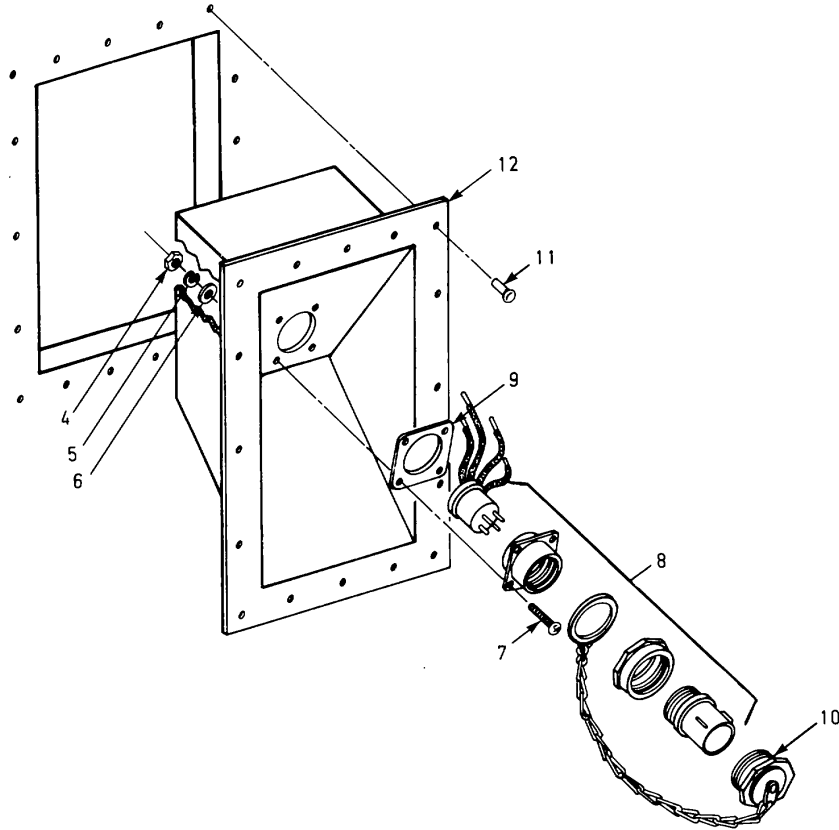
3. Main Power Service Box	a. Door and cover assembly	Remove from main power service box by removing attaching screws.	Refer to paragraph 6-15.
4. Main Power Receptacle	b. Four main electrical wires	Tag and disconnect from terminals.	Remove wiring clamps as necessary.
	a. Nuts (4), lock-washers (5), flat washers (6), and screws (7)	Remove.	
	b. Receptacle (8), gasket (9), and cap (10)	Remove from recessed receptacle box.	
5. Recessed Receptacle Box	a. Rivets (11)	Remove by drilling or chiseling off heads.	
	b. Box (12)	Remove.	Remove if necessary for replacement.
	c. Data plate (power requirements)	Remove from receptacle box by drilling out rivets.	Remove if necessary.



**5-28. MAIN POWER RECEPTACLE MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

**REMOVAL (cont)**



**REPAIR**

6. Main Power Receptacle

Repair of the main power receptacle consists of replacement of receptacle and cap, gasket, and wiring as necessary.

**5-28. MAIN POWER RECEPTACLE MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
7. Recessed Receptacle Box	a. Data plate (power requirements)	Position on recessed box, match drill holes, and secure with rivets.	
	b. Recessed box (12)	Position in shelter wall opening and secure with rivets (11).	Seal to shelter wall with RTV (item 3, app E).
8. Main power Receptacle	a. Receptacle (8), cap (10), and gasket	Install.	
	b. Screws (7), flat washers (6), lock-washers (5), and nuts (4)	Install.	
9. Main Power	a. Four main electrical wires	Connect to terminals and receptacle. Refer to wiring diagram in - para graph 6-17 for proper connection.	Install wiring clamps as necessary.
	b. Door and cover assembly	Position on service box and secure with attaching screws.	Refer to paragraph 6-15.
10. Rear of Receptacle Box	Receptacle access plate (1)	Position on receptacle box (2) and secure with attaching screws (3).	

**5-29. MAIN POWER SERVICE BOX ASSEMBLY MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection
- b. Repair

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Curbside of Front Wall	Main power service box assembly	Inspect for dents, corrosion, and security of mounting.	
2. Main Power Service Box Assembly	a. Door and hinge	Inspect for ease of movement, complete closure, proper latching, and legible circuit decals.	
	b. Circuit breaker aperture blanks.	Inspect for presence and security of mounting.	
	c. Circuit breakers	Inspect for proper operation and security of mounting.	
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Do not perform electrical maintenance or make electrical connections or disconnections at the main power receptacle while the generator set is running or the commercial power breaker is ON. Always have another person standing by who is familiar with electrical shock first aid.</b></p>			
<b>REPAIR</b>			
3. Main Power Service Box Assembly	a. Service box	a. Hammer out dents.	
	b. Polish away corrosion.		
	c. Tighten loose mounting hardware.		

5-29. MAIN POWER RECEPTACLE MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REPAIR (cont)</b>			
	b. Door and hinge	Lubricate hinge if needed.	Repair of door and decals consists of replacement.
4. Circuit Breakers	a. Circuit breaker panel cover	Remove by removing cover attachment screws.	
	b. Circuit breaker wire	Tag and disconnect.	
	c. Circuit breaker	Pull from mounting and contact bars.	Repair of circuit breakers consists of replacement. Refer to paragraph 4-40.
	d. Replacement of circuit breaker	Position and push onto mounting and contact bars.	
	e. Circuit breaker wire	Connect to circuit breaker terminal and remove tag.	
	f. Panel cover	Position on service box and secure with cover attachment screws.	

5-30. DARKROOM CURTAIN ASSEMBLY MAINTENANCE INSTRUCTIONS			
This task covers: a. Inspection                      b. Repair			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Darkroom Partition	Curtain	Inspect for tears, deterioration, security of installation.	
<b>REPAIR</b>			
2. Curtain Assembly	a. Curtain and curtain valance	Sew, patch, or replace as needed.	Visible light leaks are not acceptable.
	b. Curtain hooks and glide rollers	Replace.	
	c. Curtain fasteners tape hook on bottom and road-side edge	Repair or replace as necessary.	
	d. Curtain retainer strap assembly	Repair or replace as necessary.	

## CHAPTER 6

## GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

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

**6-1. COMMON TOOLS AND EQUIPMENT**

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

**6-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT**

No special tools, TMDE, or support equipment are required by General Support Maintenance for the maintenance of the Editorial Shelter.

**6-3. REPAIR PARTS**

Repair parts are listed and illustrated in the repair parts and special tools list TM 5-3610-254-24P covering general support maintenance of this equipment. Repair parts required for maintenance of the various items of equipment which form a part of the shelter system are defined in the applicable publication supplied with each unit.

**6-4. FABRICATED TOOLS AND EQUIPMENT**

No fabrication of special tools and equipment is necessary for maintenance of the editorial shelter.

**6-5. SERVICE UPON RECEIPT**

Refer to chapter 4, section II for service upon receipt of materiel.

**6-6. PREPARATION FOR STORAGE OR SHIPMENT**

Refer to chapter 4, section VI, paragraph 4-48 for preparation for storage or shipment.

**Section II. GENERAL SUPPORT MAINTENANCE PROCEDURES**

**6-7. INTRODUCTION TO GENERAL SUPPORT MAINTENANCE**

The instructions contained in this section are for the use of general support maintenance personnel responsible for maintenance of the editorial shelter unit of the special warfare printing plant.

Procedures for general repair and maintenance are defined where they occur during the performance of maintenance activity covered by the various paragraphs of this section. Maintenance procedures for the items of equipment which form a part of the shelter system are included in the various commercial manuals supplied with the equipment.

Refer to TM 5-4120-239-14, Operator's, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Horizontal Compact, 9000 BTU (Trane Models) or TM 5-4120-340-14, Organizational, Direct Support, and General Support Maintenance Manual, Air Conditioner, Compact, Horizontal, 9000 BTU (KECO Models) for general support maintenance and repair procedures pertaining to the air conditioners.

Refer to TB 43-0124, Maintenance and Repair Procedures for Shelter, Electrical Equipment for general support maintenance and repair procedures pertaining to the shelter itself.

SECTION INDEX

	PARA
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Supply Storage Cabinet .....	6-9
Water Supply Cabinet .....	6-10
Countertop w/Sink and Shield .....	6-11
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Phototypesetter Processor .....	6-13
Phototypesetter .....	6-14
Main Power Service Box Assembly .....	6-15
Rigid Conduit .....	6-16
Electrical Wiring.....	6-17
Wall Partition .....	6-18

**6-8. VERTICAL CAMERA MAINTENANCE INSTRUCTIONS**

This task covers:

- a. Inspection
  - b. Removal
  - c. Repair
- d. Installation

LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

1. Roadside of Camera  
Darkroom

- a. Inspect for broken glass, dents, scratches, and missing parts.
- b. Inspect for security of mounting.
- c. Inspect lenses for cracks, chips, stains, and inoperative iris.
- d. Inspect hand cranks for proper operation.
- e. Inspect vacuum pump and hose for leaks and other damage related to proper operation.

**REMOVAL**

**WARNING**

**Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.**

2. Camera	a. Power cord	Remove from wall receptacle.	
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**6-8. VERTICAL CAMERA MAINTENANCE INSTRUCTIONS (cont)**

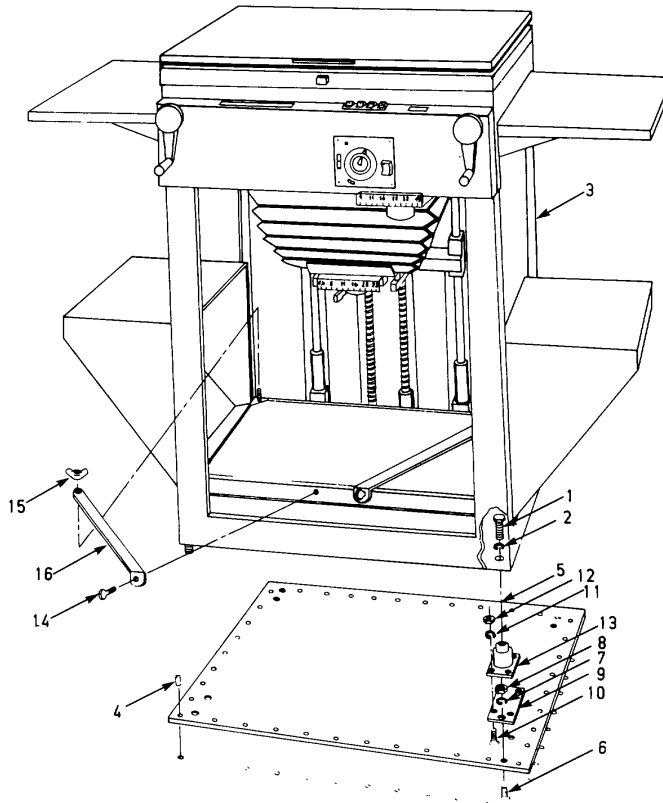
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	b. Vacuum hose	Remove from camera.	
	c. Vacuum pump power cord	Remove from camera receptacle.	
	d. Shipping brackets (16)	Secure to copy board with wingnuts (15) and thumbscrews (14).	
	e. Bolts (1) and lockwashers (2)	Remove.	
<b>WARNING</b>			
<b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly, if possible, or have sufficient personnel available for the task to prevent injury to personnel.</b>			
<b>CAUTION</b>			
<b>To prevent damage to other equipment, use care when removing the camera because of the close proximity of other shelter components.</b>			
	f. Camera (3)	Lift to clear shock mounts and remove from shelter.	
3. Mounting Hardware	a. Rivets (4)	Remove by drilling or chiseling off heads.	
	b. Mounting plate (5)	Remove.	
	c. Screws (6), lockwashers (7), and nuts (8)	Remove.	
	d. Mounting bracket (9)	Remove.	
	e. Screws (10), lockwashers (11), and nuts (12)	Remove.	
	f. Shock mounts (13)	Remove.	

**6-8. VERTICAL CAMERA MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

4. Camera	Thumbscrews (14), wingnuts (15), and shipping brackets (16)	Remove.	
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**REPAIR**

5. Camera	Refer to commercial manual for repair.
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6-8. VERTICAL CAMERA MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
6. Mounting Hardware	a. Shock mounts (13)	Secure to mounting bracket (9) with screws (10), lockwashers (11), and nuts (12).	
	b. Mounting bracket (9)	Secure to mounting plate (5) with screws (6), lockwashers (7), and nuts (8).	
	c. Mounting plate (5)	Secure to shelter floor with rivets (4).	
7. Camera	a. Shipping bracket (16)	Secure to camera (3) with thumbscrews (14) and wingnut (15).	
<b>WARNING</b>			
<p><b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</b></p>			
<b>CAUTION</b>			
<p><b>To prevent damage to other equipment, use care when removing the camera because of the close proximity of other shelter components.</b></p>			
	b. Camera (3)	Lift into shelter and position on shock mounts.	
	c. Bolts (1) and lockwashers (2)	Install.	
	d. Vacuum hose	Connect to camera.	
	e. Vacuum pump power cord	Connect to camera receptacle.	
	f. Camera power cord	Connect to wall receptacle.	

6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS			
This task covers:			
	a. Inspection	b. Removal	c. Installation
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Curbside of Darkroom	Storage cabinet	Inspect for dents, cracks, and security of mounting.	
2. Storage Cabinet	a. Welding	Inspect for breaks or separation of seams.	
	b. Paintwork	Inspect for peeling, cracking, and corrosion.	
	c. Drawers	Inspect for ease of movement and ability to close completely.	
	d. Drawer locks	Inspect for ease of operation and ability to secure drawers.	
	e. Drawer handles	Inspect for security of mounting.	
	f. Door handle assembly	Inspect for ease of operation and ability to secure doors.	
<b>REMOVAL</b>			
<b>NOTE</b>			
<b>The bench assembly (water supply cabinet, supply storage cabinet, and the countertop w/sink) is removed as a unit.</b>			
3. Countertop	Vertical vacuum frame	Remove per paragraph 4-30.	

**6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

4. Water Supply Cabinet	a. Vacuum pump	Remove per paragraph 4-30.	
	b. Water tank assembly	Remove per paragraph 5-13.	
	c. Sink drain	Remove per paragraph 6-11.	
5. Sink Faucet	a. Plumbing	Disconnect.	
		b. Rivets (1)	Remove by drilling or chiseling off heads.
	c. Faucet (2)	Remove.	
6. Bench Assembly	a. Cabinet drawers (3)	Remove.	Removed for access to mounting hardware.
	b. Bolts (4), flat washers (5), lock-washers (6), backing plate (7), and nuts (8)	Remove.	Remove exterior backing plates, secured by weatherproof adhesive, if necessary.

**WARNING**

**Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.**

**CAUTION**

**To prevent damage to other equipment, use care when removing the bench assembly because of the close proximity of other shelter components.**

c. Bench assembly	Slide from wall and remove from shelter.
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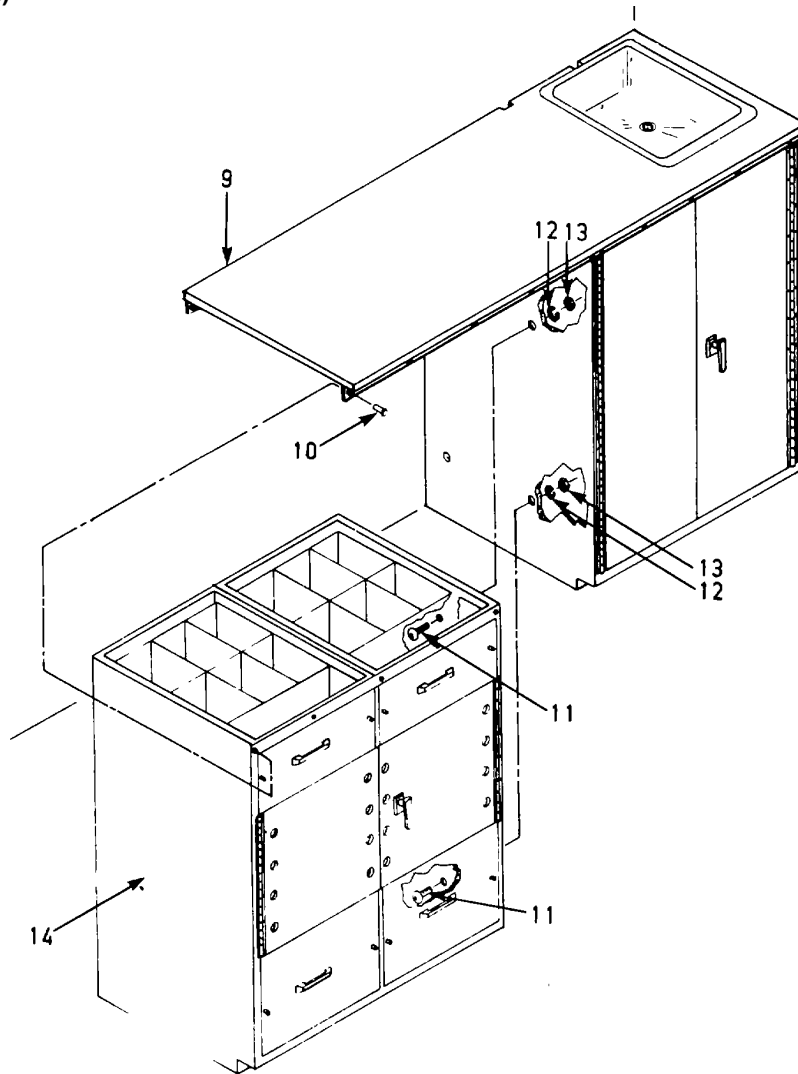
6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL (cont)			
7. Countertop (9)	Rivets (10)	Remove by drilling or chiseling off heads.	Remove only the rivets which secure the storage cabinet to countertop.
8. Storage Cabinet and Water Supply Cabinet	a. Bolts (11), lock-washers (12), and nuts (13)	Remove.	
	b. Storage cabinet (14)	Remove.	

**6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

9. Storage Cabinet and Water Supply Cabinet	Bolts (11), lock-washers (12), and nuts (13)	Install.
10. Storage Cabinet and Countertop	Rivets (10)	Install.

**6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
<b>WARNING</b>			
<p><b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</b></p>			
<b>CAUTION</b>			
<p><b>To prevent damage to other equipment, use care when removing the bench assembly because of the close proximity of other shelter components.</b></p>			
11. Bench Assembly	a. Bench assembly  b. Bolts (4), flat washers (5), lock-washers (6), backing plates (7), and nuts (8)	Install in shelter.  Install.	Seal between the backing plates and shelter wall with RTV (item 3, app E). Use RTV to seal countertop to shield.
12. Storage Cabinet	Drawers (3)	Install.	
13. Sink Faucet	Faucet (2)	Install and secure with rivets (1).	
14. Water Supply Cabinet	a. Sink drain  b. Water tank assembly  c. Vacuum pump  d. Plumbing	Install per paragraph 6-11.  Install per paragraph 5-13.  Install per paragraph 4-30.  Connect.	



<b>6-9. SUPPLY STORAGE CABINET MAINTENANCE INSTRUCTIONS (cont)</b>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSTALLATION (cont)</b>			
15.	Countertop Vertical vacuum frame	Install per paragraph 4-30.	

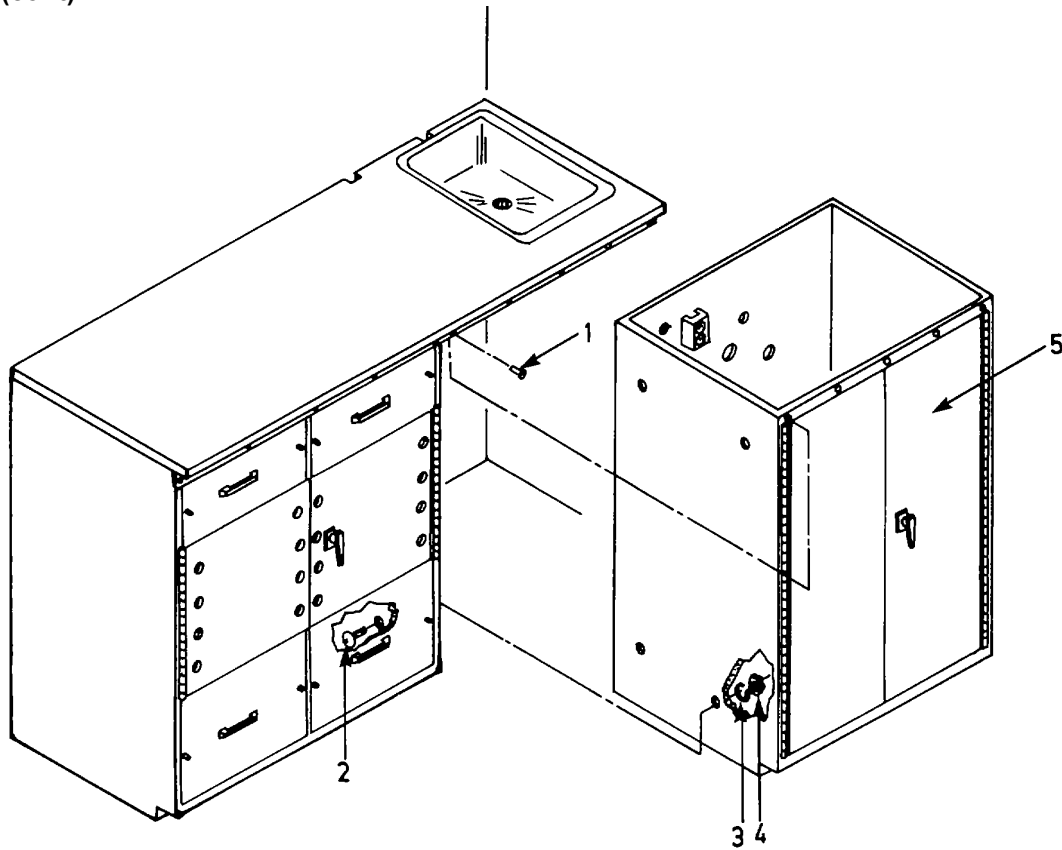
<b>6-10. WATER SUPPLY CABINET MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>b. Removal</b>	<b>c. Installation</b>
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1.	Curbside of Darkroom	Water supply cabinet	Inspect for dents, cracks, and security of mounting.
2.	Water Supply Cabinet	a. Welding	Inspect for breaks or separation of seams.
		b. Paintwork	Inspect for peeling, cracking, and corrosion.
		c. Doors and hinges	Inspect for ease of operation and ability to close completely.
		d. Door handle assembly	Inspect for ease of operation and ability to secure doors.

6-10. WATER SUPPLY CABINET MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
<b>NOTE</b>			
The bench assembly (water supply cabinet, supply storage cabinet, and countertop w/sink) is removed as a unit.			
3. Countertop	Vertical vacuum frame	Remove per paragraph 4-30.	
4. Water Supply Cabinet	a. Vacuum pump	Remove per paragraph 4-30.	
	b. Water tank assembly	Remove per paragraph 5-13.	
	c. Sink drain	Remove per paragraph 6-11.	
5. Sink Faucet and Bench Assembly		Remove per paragraph 6-9.	
6. Countertop	Rivets (1)	Remove by drilling or chiseling off heads.	Remove only the rivets which secure the water supply cabinet to countertop.
7. Water Supply Cabinet and Storage Cabinet	a. Bolts (2), lock-washers (3), and nuts (4)	Remove.	
	b. Water supply cabinet (5)	Remove.	

**6-10. WATER SUPPLY CABINET MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

8. Water Supply Cabinet and Storage Cabinet	Bolts (2), lockwasher (3), and nuts (4)	Install.
9. Countertop	Rivets (1)	Install.
10. Shelter	Bench assembly	Install per paragraph 6-9.
11. Countertop	Sink faucet	Install per paragraph 6-9.
12. Water Supply Cabinet	a. Sink drain	Install per paragraph 6-11.

<b>6-10. WATER SUPPLY CABINET MAINTENANCE INSTRUCTIONS (cont)</b>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSTALLATION (cont)</b>			
	b. Water tank assembly	Install per paragraph 5-13.	
	c. Vacuum pump	Install per paragraph 4-30.	
13. Countertop	Vertical vacuum frame	Install per paragraph 4-30.	

<b>6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>b. Removal</b>	<b>c. Installation</b>
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Curbside of Darkroom	Countertop, sink, and shield	Inspect for dents, deep scratches, burrs, corrosion, and secure mounting.	
<b>REMOVAL</b>			
<b>NOTE</b>			
The bench assembly (water supply cabinet, supply storage cabinet, and the countertop w/sink) is removed as a unit.			
2. Countertop	Vertical vacuum frame	Remove per paragraph 4-30.	

**6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)**

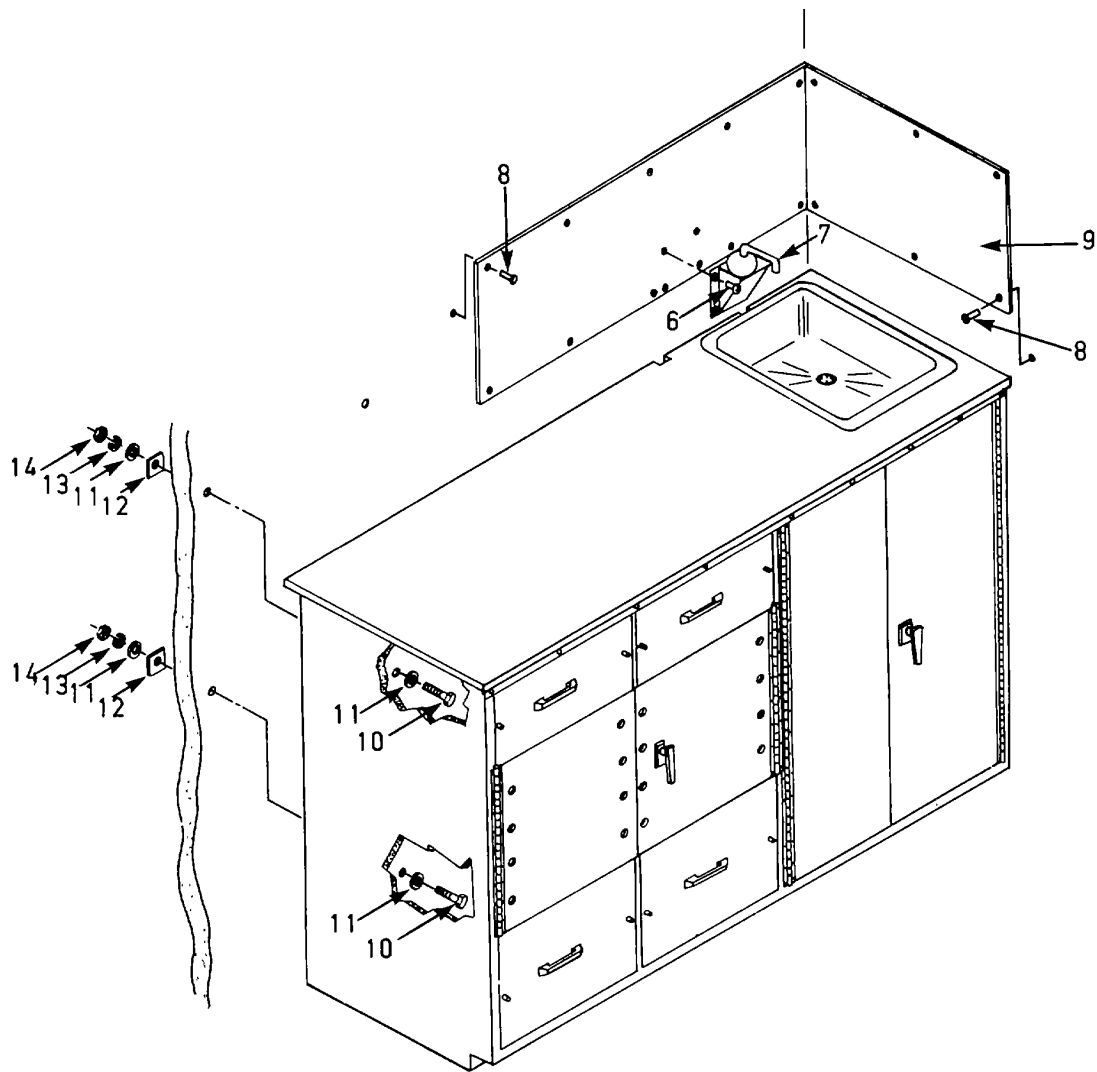
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
3. Water Supply Cabinet	a. Vacuum pump	Remove per paragraph 4-30.	
	b. Water tank assembly	Remove per paragraph 5-13.	
4. Sink Drain Assembly	a. Hose clamp (1)	Loosen.	
	b. Hose (2)	Disconnect from nipples (3).	
	c. Nipples (3)	Remove from elbow (4).	
	d. Elbow (4) and drain (5)	Using a suitable wrench, separate elbow from drain.	
5. Sink Faucet	a. Hose	Disconnect.	
	b. Rivets (6)	Remove by drilling or chiseling off heads.	
	c. Faucet (7)	Remove.	

**6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

- |                   |   |  |  |
|-------------------|---|--|--|
| 6. Shield         | a. Rivets (8)   | Remove by drilling or chiseling off heads. |  |
|                   | b. Shield (9)   | Remove.                                    |  |
| 7. Bench Assembly | a. Bolts (10) flat washers backing plates (12), lockwashers (13), and nuts (14) | Remove.                                    |  |

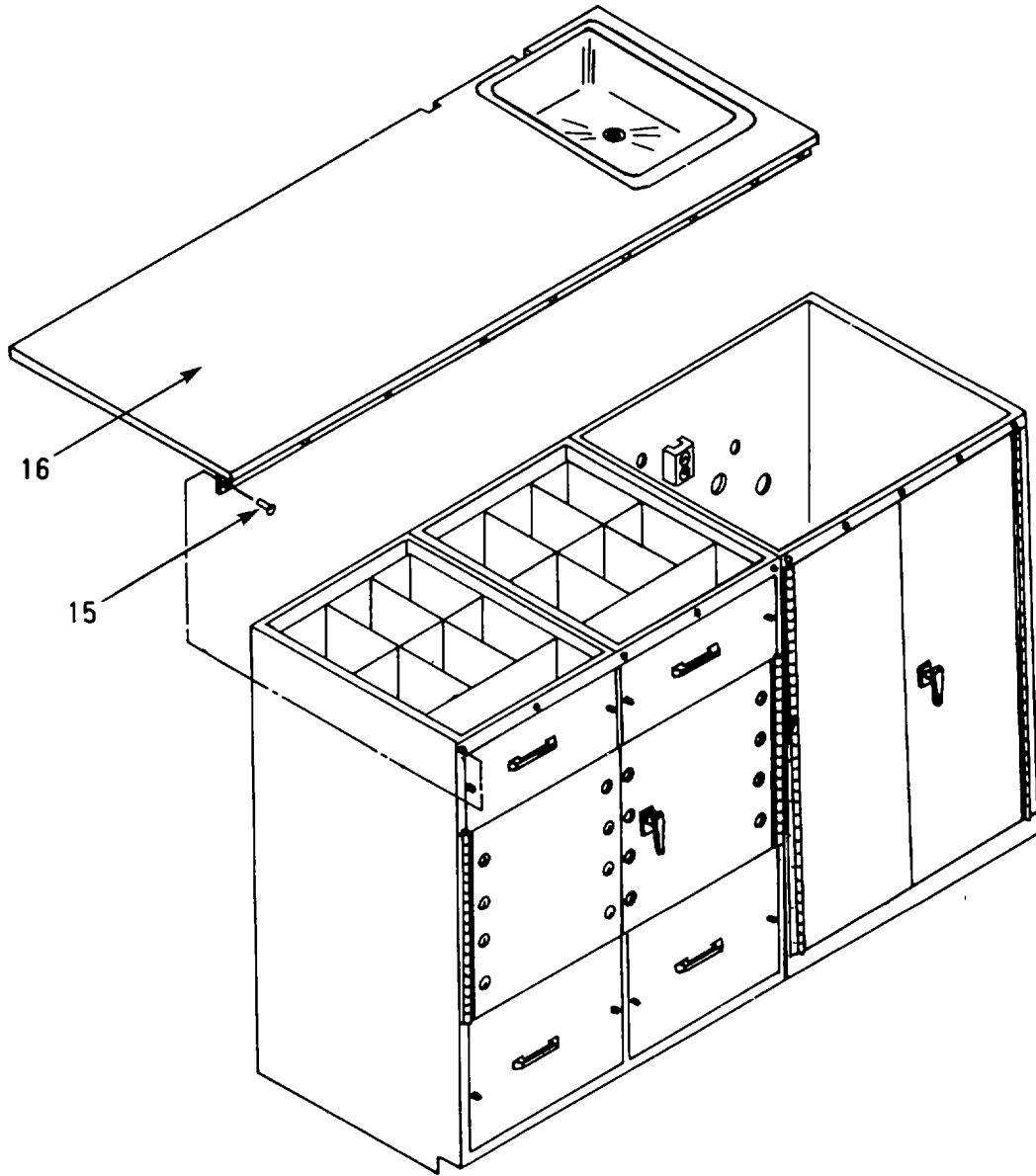


6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
<b>WARNING</b>			
<p>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</p>			
<b>CAUTION</b>			
<p>To prevent damage to other equipment, use care when removing the bench assembly because of the close proximity of other shelter components.</p>			
	b. Bench assembly	Remove from shelter.	
8. Countertop	a. Rivets (15)	Remove by drilling or chiseling off heads.	
	b. Countertop (16)	Remove.	

6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



c. Screw (17),  
fastener (18),  
and spacer (19)

Remove.

d. Sink (20)

Remove.

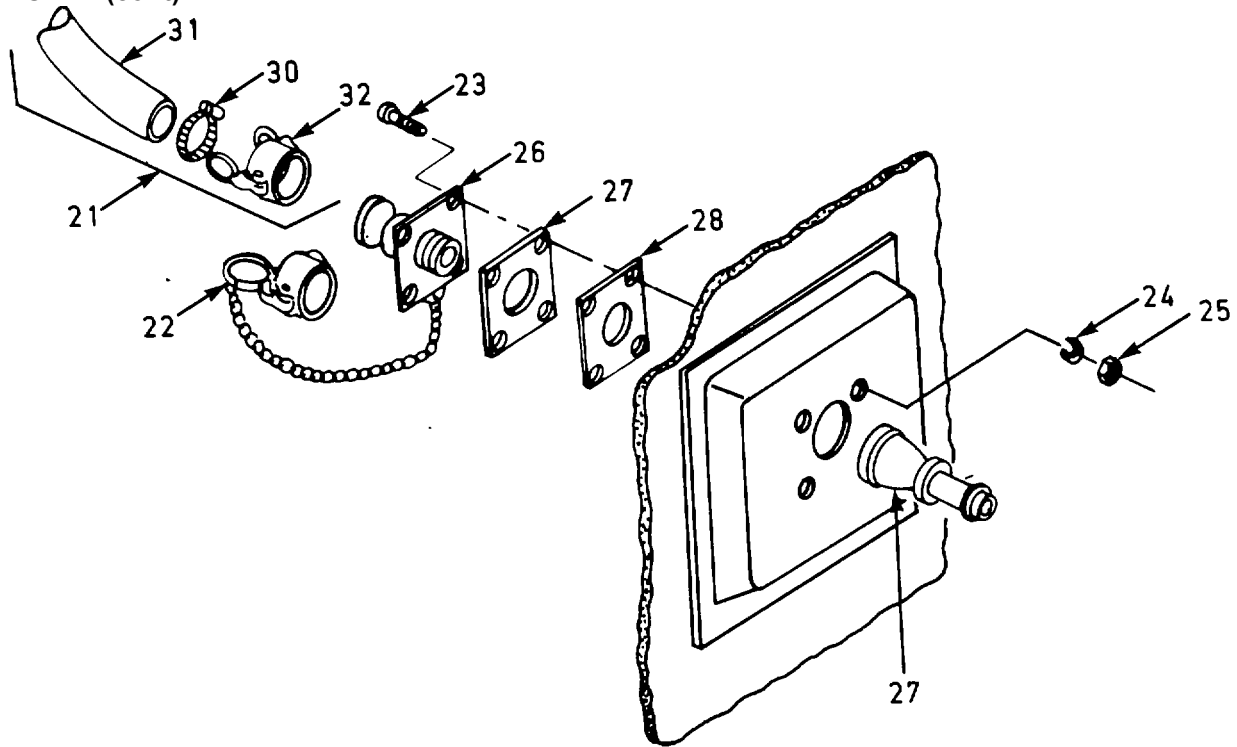


6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
9. Drain Assembly	a. Hose assembly (21)	Remove if connected.	
	b. Cover (22)	Remove if connected.	
	c. Screws (23), lock-washers (24), and nuts (25)	Remove.	
	d. Adapter (26), plate (27), gasket (28), and reducer (29)	Remove.	
<b>NOTE</b>			
<b>Separate drain hose assembly if necessary.</b>			
10. Drain Hose Assembly	a. Clamp (30)	Loosen.	
	b. Hose (31) and coupler (32)	Separate.	

**6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

11. Drain Hose Assembly	Hose (31) and coupler (32)	Connect together and secure with clamp (31).	
12. Drain Assembly	a. Adapter (26), plate (27), gasket (28), and reducer (29) b. Screws (23), lock-washers (24), and nuts (25) c. Hose assembly (21) or cover (22)	Install and seal to shelter with RTV (item 3, app E). Install. Install as required.	
13. Countertop	a. Sink (20) b. Screw (17), fastener (18), and spacer (19)	Install. Install.	

**6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	c. Countertop (16)	Install.	
	d. Rivets (15)	Install.	
<b>WARNING</b>			
<p><b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</b></p>			
<b>CAUTION</b>			
<p><b>To prevent damage to other equipment, use care when installing the bench assembly because of the close proximity of other shelter components.</b></p>			
14. Bench Assembly	a. Bench assembly	Install.	
	b. Bolts (10), flat washers (11), backing plate (12), lockwashers (13), and nuts (14)	Install. plate to shelter wall with RTV (item 3, app E).	Seal backing
15. Shelter Wall	a. Shield (9)	Install.	
	b. Rivets (8)	Install.	
16. Sink Faucet	a. Faucet (7) rivets (6).	Install and secure with	
	b. Hose	Connect.	
17. Sink Drain Assembly	a. Elbow (4) and drain (5) to drain on sink.	Using a suitable wrench, connect elbow	Seal to sink with RTV (item 3, app E).
	b. Nipples (3)	Connect to elbow (4).	

6-11. COUNTERTOP W/SINK AND SHIELD MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	c. Hose (2) and tighten clamps (1).	Connect to nipples (3)	
18. Water Supply Cabinet	a. Water tank assembly	Install per paragraph 5-13.	
	b. Vacuum pump	Install per paragraph 4-30.	
19. Countertop	Vertical vacuum frame	Install per paragraph 4-30.	

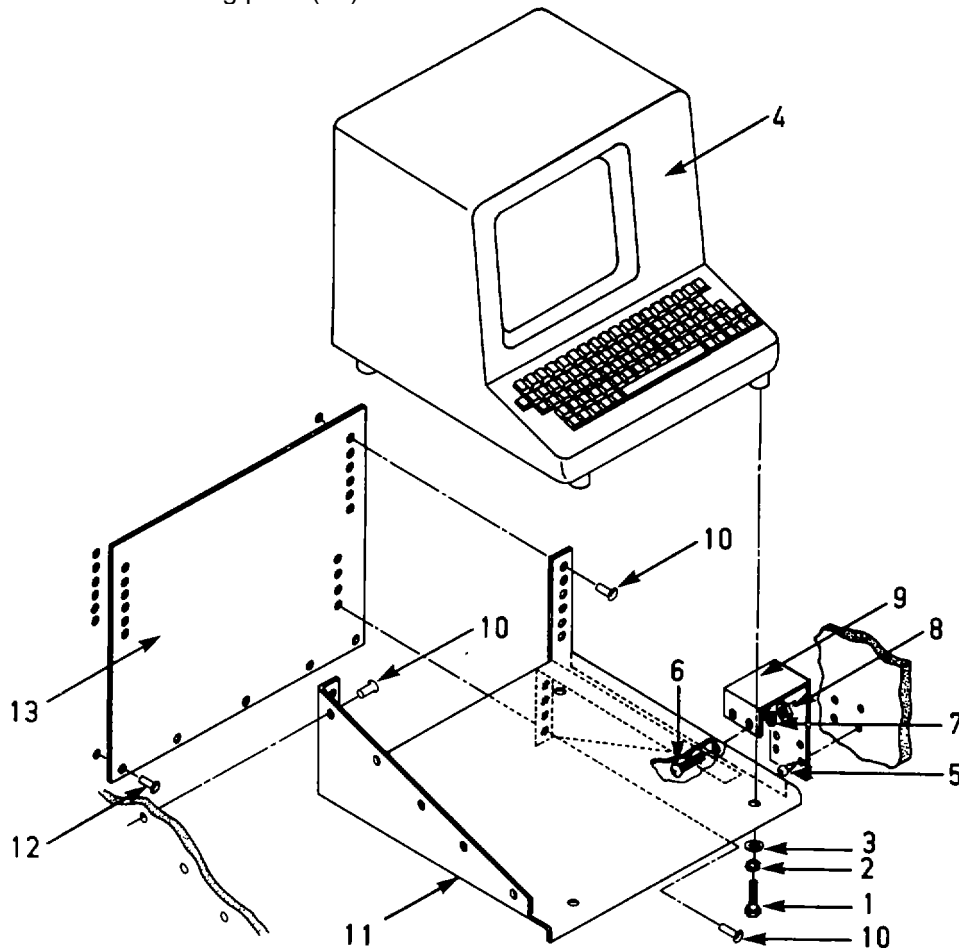
6-12. PHOTOTYPESETTER CONSOLE DESK MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
	a. Inspection	b. Removal	c. Installation
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Curbside Wall of Editorial Room	Console desk	Inspect for sharp edges, corrosion, and security of mounting.	
<b>REMOVAL</b>			
2. Console Desk	a. Bolts (1), lock-washers (2), and flat washers (3)	Remove.	
	b. Console (4)	Remove.	

6-12. PHOTOTYPESETTER CONSOLE DESK MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- |    |  |  |  |
|----|--|--|--|
| c. | Screws (5)   | Remove.                                    |  |
| d. | Screws (6) lock-washers (7), nuts (8), and support bracket (9) | Remove.                                    |  |
| e. | Rivets (10)  | Remove by drilling or chiseling off heads. |  |
| f. | Shelf (11)   | Remove.                                    |  |
| g. | Rivets (12)  | Remove by drilling or chiseling off heads. |  |
| h. | Backing plate (13)   | Remove.                                    |  |



6-12. PHOTOTYPESETTER CONSOLE DESK MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
3. Console Desk	a. Backing plate (13) and rivets (12)	Install.	
	b. Shelf (11) and rivets (10)	Install.	
	c. Screws (5 and 6), lockwashers (7), nuts (8), and support bracket (9)	Install.	
	d. Console	Install.	
	e. Bolts (1), lockwashers (2), and flat washers (3)	Install.	

6-13. PHOTOTYPESETTER PROCESSOR MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b> <div style="display: flex; justify-content: space-around;"> <span>a. Inspection</span> <span>b. Repair</span> </div>			
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Phototype-setter Processor	Processor	Inspect for proper operation, completeness, damage, and security.	Refer to the commercial manual for proper operation.
<b>REPAIR</b>			
2. Phototype-setter Processor			Refer to the commercial manual for repairs.

**6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS**

**This task covers:**

**a. Inspection**

**b. Removal**

**c. Installation**

LOCATION	ITEM	ACTION	REMARKS
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**INSPECTION**

1. Curbside Wall of Editorial Room	Phototypesetter (main unit)	Inspect for damaged panels, doors, and hinges, and for security of mounting.	
2. Phototypesetter	a. Console	Inspect for damaged C.R.T. or keyboard and inspect for security of mounting.	
	b. Diskette reader/recorder	Inspect for damage and security of mounting.	
	c. Paper takeup cassette	Inspect for damage and ability to fasten to paper feed slot.	

**REMOVAL**

**WARNING**

**Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that circuit breakers are set to OFF. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.**

3. Phototypesetter (1)	Power cord	Disconnect from voltage regulator.	Voltage regulator must be removed to obtain access to receptacles. Refer to paragraph 5-15 for removal of regulator.
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**6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS (cont)**

**This task covers:**

**a. Inspection**

**b. Removal**

**c. Installation**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**

4. Console and Console Desk	Remove as per paragraph 6-12.		Console desk will be removed to prevent damage to phototypesetter or console desk.
5. Phototypesetter (1)	a. Kick plate (2) and screws (3)	Remove.	
	b. Screw (4) and cable clamp (5)	Remove.	
	c. Thumbscrews (6), lockwashers (7), flat washers (8), and shipping bracket (9)	Remove.	
	d. Rivets (10)	Remove by drilling or chiseling off heads.	
	e. Kickplate mounting bracket (11)	Remove.	
	f. Bolts (12), flat washer (13), backing plates (14), lockwashers (15), and nuts (16)	Remove and slide phototypesetter from wall into aisleway.	



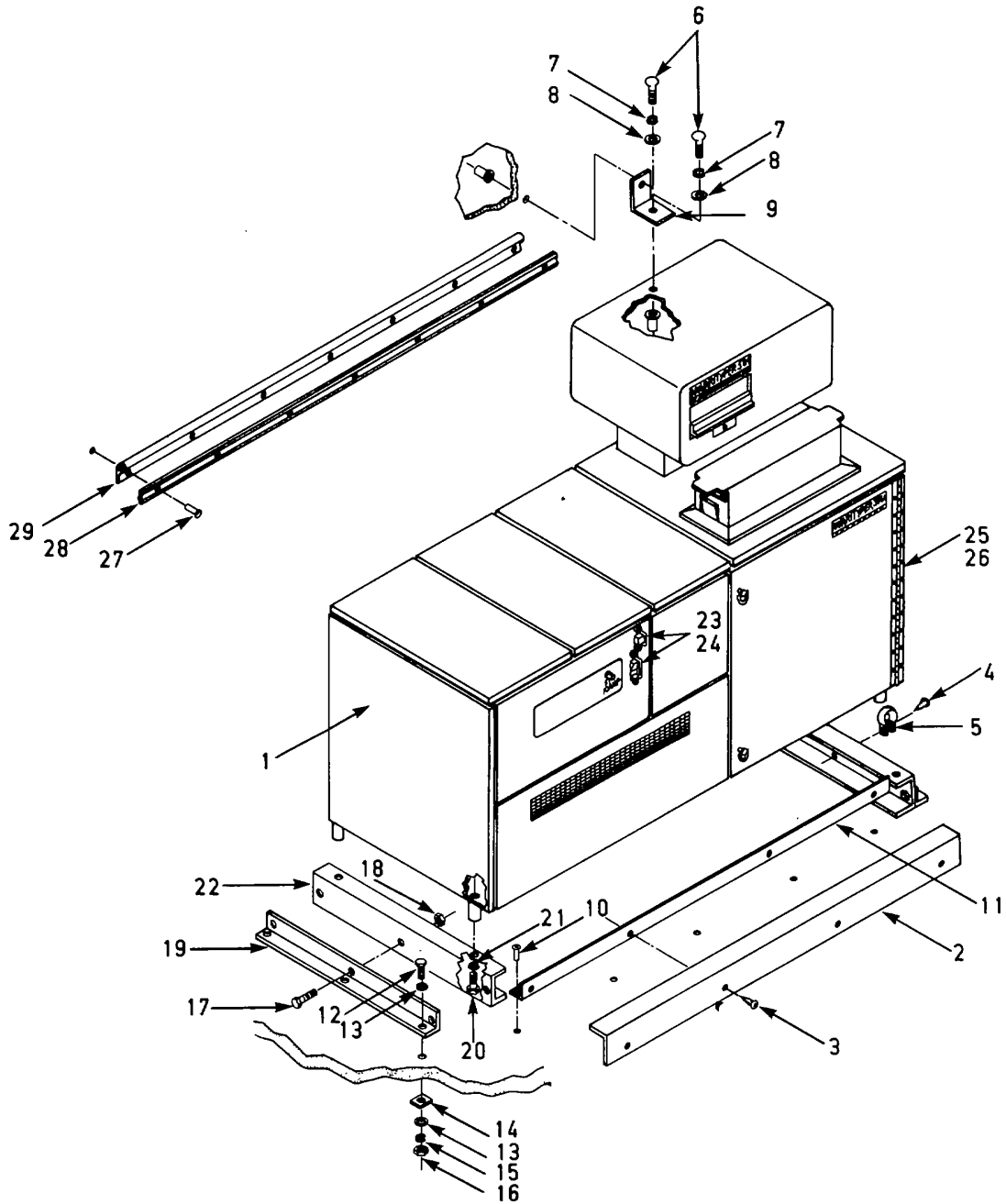
**6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
<b>WARNING</b>			
<b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</b>			
<b>CAUTION</b>			
<b>To prevent damage to other equipment, use care when removing the phototypesetter because of the close proximity of other shelter components.</b>			
	g. Phototypesetter (1)	Remove from shelter.	
	h. Bolts (17), nuts (18), and mounting bracket (19)	Remove.	
	i. Bolts (20), lock-washers (21), and mounting bracket (22)	Remove.	
	j. Switch guards (23) and screws (24)	Remove if necessary.	
	k. Rivets (25) and hinge (26)	Remove if necessary.	
	l. Rivets (27), metal strip (28), and rubber insulation (29)	Remove if necessary.	

6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



**6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
6. Curbside Shelter Wall	Rivets (27), metal strip (28), and rubber insulation (29)	Install.	
7. Phototype-Setter	a. Rivets (25) and hinge (26)	Install.	
	b. Switch guard (23) and screws (24)	Install.	
	c. Bolts (20), lock-washers (21), and mounting bracket (22)	Install.	
	d. Bolts (17), nuts (18), and mounting bracket (19)		Install.
<b>WARNING</b>			
<p><b>Serious injury could result if heavy equipment is moved/lifted without sufficient personnel. Use a suitable lifting device/dolly if possible or have sufficient personnel available for the task to prevent injury to personnel.</b></p>			
<b>CAUTION</b>			
<p><b>To prevent damage to other equipment, use care when installing the phototypesetter because of the close proximity of other shelter components.</b></p>			
	e. Phototypesetter (1)	Install in shelter and slide to curbside wall.	
	f. Bolts (12), flat washers (13), backing plate (14), lockwashers (15), and nuts (16)	Install.	Seal backing plate to shelter with RTV (item 3, app E).
	g. Rivets (10) and kickplate mounting bracket (11)	Install.	

<b>6-14. PHOTOTYPESETTER MAINTENANCE INSTRUCTIONS (cont)</b>			
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSTALLATION (cont)</b>			
	h. Kickplate (2) and screws (3)	Install.	
	i. Thumbscrews (6), lockwashers (7), flat washers (8), and shipping brackets (9)	Install.	
	j. Power cord	Connect to regulator.	
	k. Screw (4) and cable clamp (5)	Install.	
8. Console and Console Desk		Install as per paragraph 6-12.	

<b>6-15. MAIN POWER SERVICE BOX ASSEMBLY MAINTENANCE INSTRUCTIONS</b>			
<b>This task covers:</b>			
	<b>a. Inspection</b>	<b>b. Removal</b>	<b>c. Installation</b>
<b>LOCATION</b>	<b>ITEM</b>	<b>ACTION</b>	<b>REMARKS</b>
<b>INSPECTION</b>			
1. Curbside of Front Wall	Main power service box assembly	Inspect for dents, corrosion, and security of mounting.	
2. Main Power Service Box Assembly	a. Door and hinges	Inspect for ease of movement, complete closure, proper latching, and legible circuit decals.	

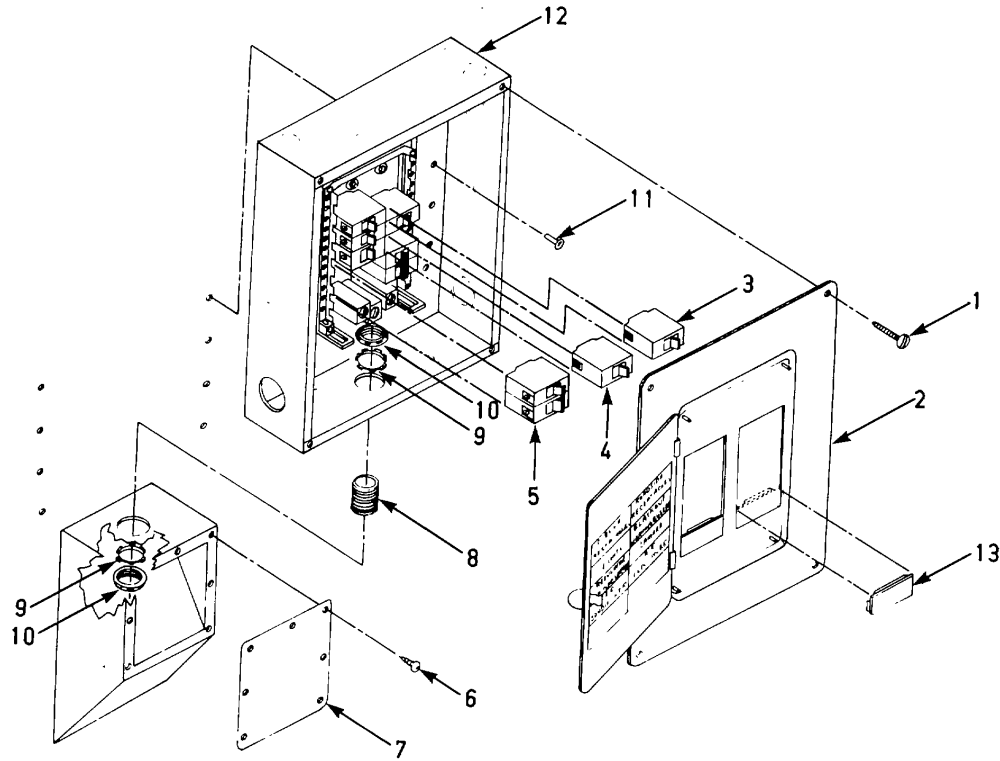
**6-15. MAIN POWER SERVICE BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION (cont)</b>			
	b. Circuit breaker aperture blanks mounting.	Inspect for presence and security of	
	c. Circuit breakers	Inspect for proper operation and security of mounting.	
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>			
<b>REMOVAL</b>			
3. Main Power Service Box Assembly	a. Screws (1)	Remove.	
	b. Door panel assembly (2)	Remove.	
	c. Circuit breakers (3, 4, and 5)	Remove all breakers.	
	d. Electrical wires	Tag and remove from service box.	
	e. Screws (6) and cover (7)	Remove.	
	f. Bushing (8), lock-washers (9), and nuts (10)	Remove.	
	g. Rivets (11)	Remove by drilling or chiseling off heads.	
	h. Service box (12)	Remove.	

**6-15. MAIN POWER SERVICE BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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**REMOVAL (cont)**



**INSTALLATION**

4. Main Power Service Box Assembly	a. Service box (12)	Install and secure with rivets (11).
	b. Bushing (8), lock-washers (9), and nuts (10)	Install.
	c. Electrical wires terminal in service box and remove tags.	Connect to proper
	d. Screws (6) and cover (7)	Install.
	e. Circuit breakers (3, 4, and 5)	Install.

6-15. MAIN POWER SERVICE BOX ASSEMBLY MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	f. Door panel assembly (2)	Install and secure with screws (1).	
	g. Blanks (13)	Install if necessary.	

6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS			
<b>This task covers:</b>			
	a. Inspection	b. Removal	c. Installation
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
<b>WARNING</b>			
<p><b>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</b></p>			
1. Shelter Walls and Ceilings	Conduit channels, channel covers, and clips	<ul style="list-style-type: none"> <li>a. Inspect for bends, breaks, and sharp edges.</li> <li>b. Inspect for corrosion.</li> <li>c. Inspect for security of installation.</li> </ul>	

**6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
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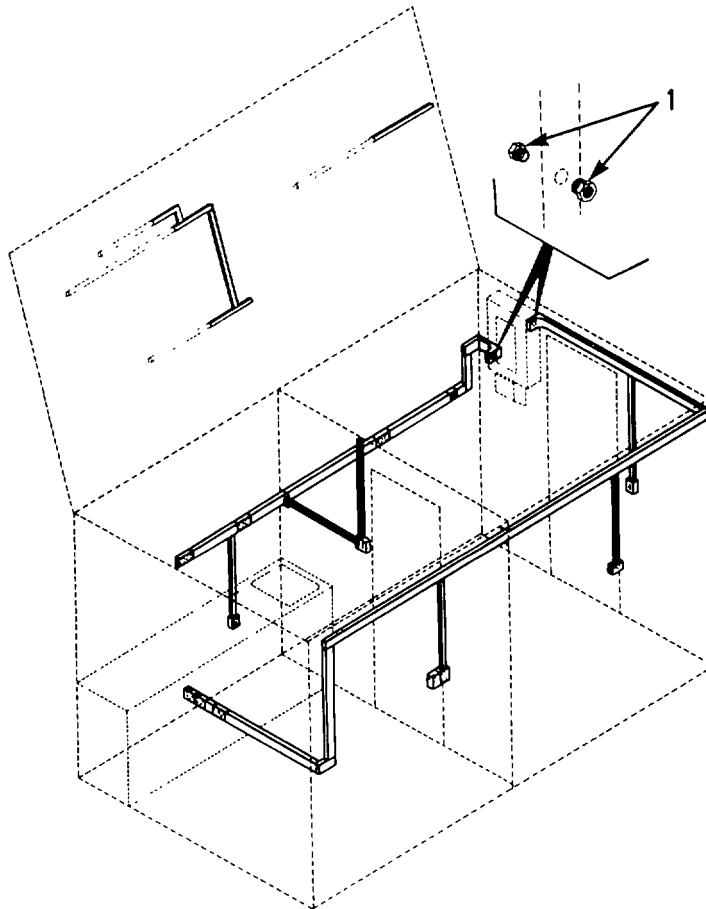
**REMOVAL**

2. Conduit

**NOTE**

**Remove conduit as necessary. Complete removal of all conduit is not shown.**

a. Bushings (1) Remove.



b. Clips (2) Remove.

c. Cover (3) Remove.



**6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	d. Wires	Remove as per paragraph 6-17.	
	e. Screws (4)	Remove.	
	f. Rivets (5)	Remove.	
	g. Corner bracket (6)	Remove.	
	h. Channel (7)	Remove.	
	i. Receptacle clips (8)	Remove.	

6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)

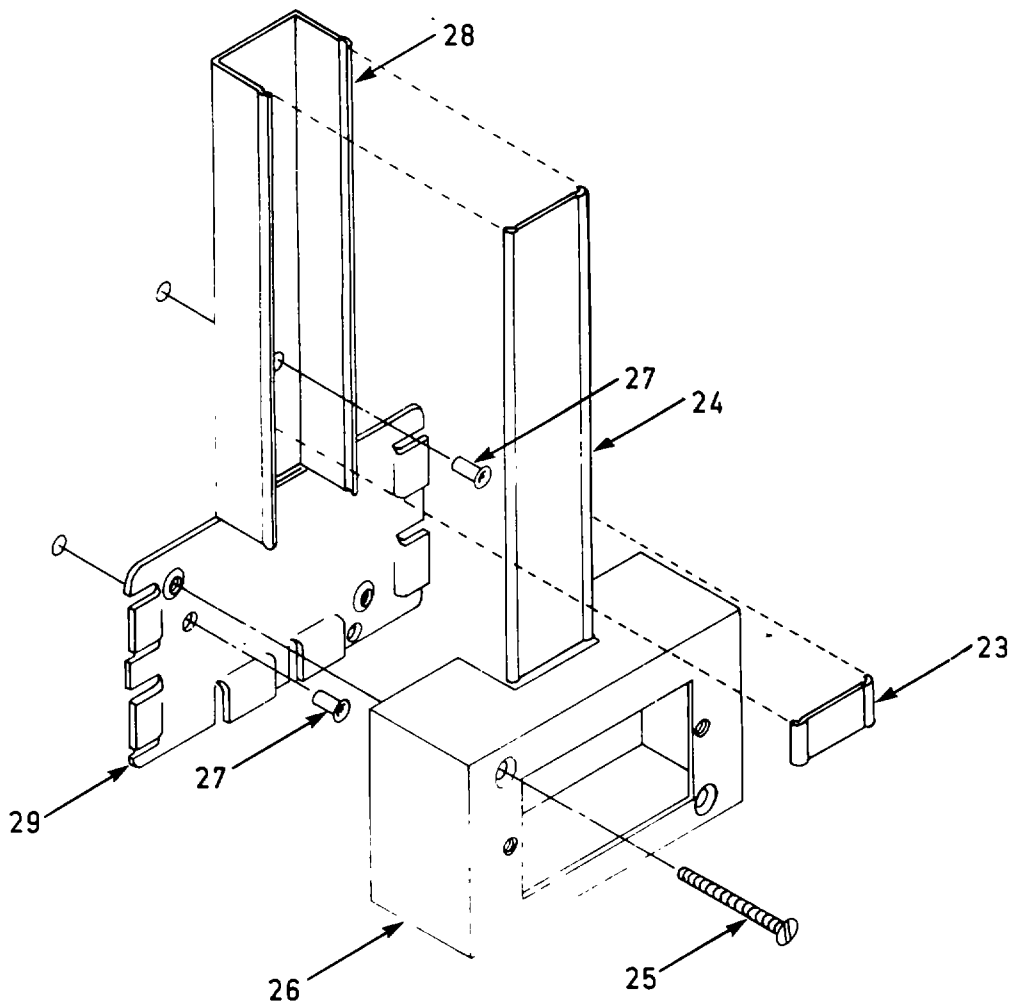
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
3. Right Angle Corner Conduit	a. Screws (9)	Remove.	
	b. Right angle bracket (10)	Remove.	
	c. Rivets (11)	Remove.	
	d. Channel (12)	Remove.	
4. Entrance End Fitting	a. Clip (13)	Remove.	
	b. Screw (14) and fitting cover (15)	Remove.	

**6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	c. Cover (16)	Remove.	
	d. Screws (17) and bracket (18)	Remove.	
	e. Rivets (19) and channel (20)	Remove.	
	f. Rubber grommet (21)	Remove.	
	g. End fitting (22)	Remove.	

6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
5. Utility Boxes	a. Clip (23)	Remove.	
	b. Cover (24)	Remove.	
	c. Screws (25)	Remove.	
	d. Box (26)	Remove.	
	e. Rivets (27)	Remove.	
	f. Channel (28) and box mounting plate (29)	Remove.	



**6-16. RIGID CONDUIT MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
6. Utility Boxes	a. Channel (28) and mounting plate (29)	Install and secure with rivets (27).	
	b. Box (26)	Secure to mounting plate (29) with screws (25).	
	c. Cover (24)	Install.	
	d. Clip (23)	Install.	
7. Entrance End Fitting	a. Channel (20)	Install and secure with rivets (19).	
	b. End fitting (22) and brackets (18)	Install and secure with screws (17).	
	c. Rubber grommet (21)	Install.	
	d. Cover (16) and clip (13)	Install.	
	e. Fitting cover (15)	Install and secure with screw (14).	
8. Right Angle Corner Bracket	a. Channel (12)	Install and secure with rivets (11).	
	b. Right angle bracket (10)	Install and secure with screws (9).	
9. Conduit	a. Channel (7)	Install and secure with rivets (5).	
	b. Corner bracket (6)	Install and secure with screws (4) and rivets (5).	
	c. Receptacle clips (8)	Install.	
	d. Cover (3) and clips (2)	Install.	
	e. Bushings (1)	Install.	

**6-17. ELECTRICAL WIRING MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection**
- b. Removal**
- c. Installation**

LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
<b>WARNING</b>			
<p>Death or serious injury could result if electrical precautions are not taken when maintaining this equipment. Be sure that power cables are unplugged/disconnected and that circuit breakers are set to OFF and that generator cables are unplugged/disconnected. Be sure the equipment is properly grounded. Always have another person standing by who is familiar with electrical shock first aid.</p>			
<p>1. Inside Rigid Conduit</p>	<p>Electrical wires</p>	<ul style="list-style-type: none"> <li>a. Inspect for burnt, cracked, or missing insulation.</li> <li>b. Inspect for frayed, broken, corroded, or exposed conductors.</li> <li>c. Inspect for loose or improper connection.</li> <li>d. Inspect for proper labeling of individual wires.</li> <li>e. Inspect for security of mounting (safely held inside conduit by the use of wire clips.)</li> </ul>	

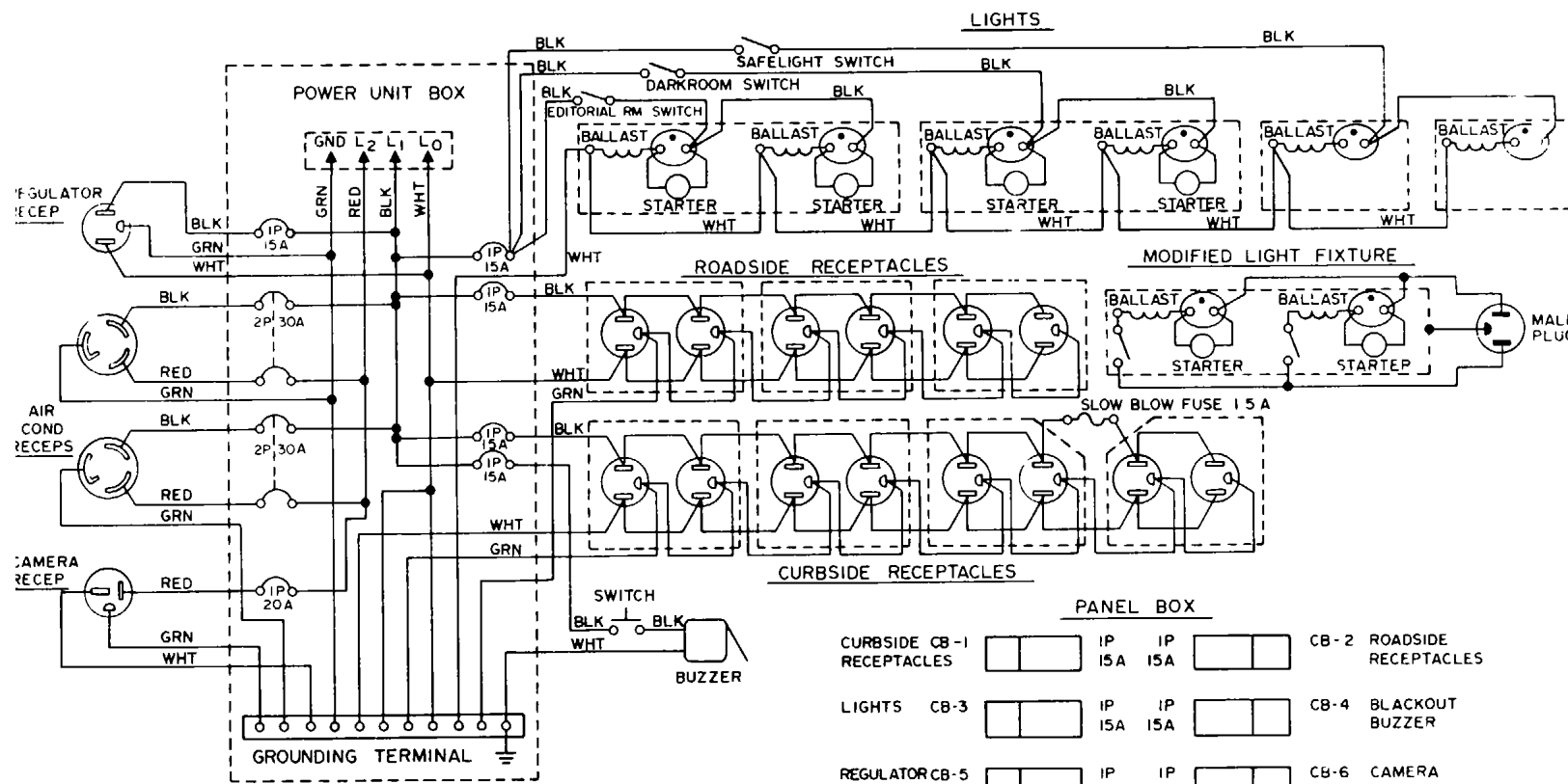
**6-17. ELECTRICAL WIRING MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL</b>			
2. Conduit	a. Cover clips, cover, and wire clips	Remove.	
	b. Electrical wires	Tag, disconnect from terminals, and remove from conduit.	Remove wiring if necessary.
<b>INSTALLATION</b>			
3. Conduit	a. Electrical wires	Install into conduit, cut to length, connect to terminals, and remove tags.	Refer to wiring diagram for proper connections.
	b. Wire clips, channel cover, and cover clips	Install.	

6-17. ELECTRICAL WIRING MAINTENANCE INSTRUCTIONS

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION (cont)



EDITORIAL SHELTER WIRING DIAGRAM

		PANEL BOX			
CURBSIDE RECEPTACLES	CB-1	IP 15A	IP 15A	CB-2	ROADSIDE RECEPTACLES
LIGHTS	CB-3	IP 15A	IP 15A	CB-4	BLACKOUT BUZZER
REGULATOR FOR TYPESETTER	CB-5	IP 15A	IP 20A	CB-6	CAMERA
AIR COND	CB-7			CB-8	AIR COND
	CB-9	2P 30A	2P 30A	CB-10	
BLANK	CB-11			CB-12	BLANK



**6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS**

**This task covers:**

- a. Inspection
- b. Removal

c. Installation

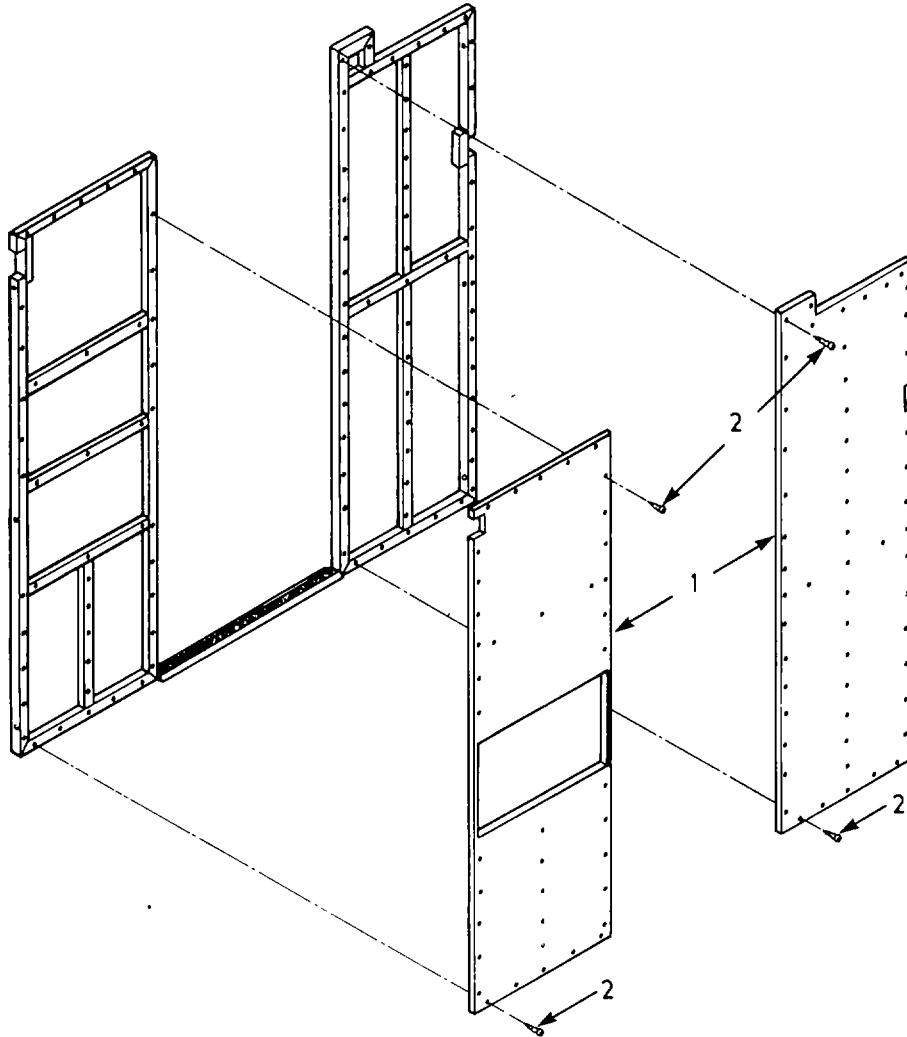
LOCATION	ITEM	ACTION	REMARKS
<b>INSPECTION</b>			
1. Center of Shelter	Darkroom wall	<ul style="list-style-type: none"> <li>a. Inspect for dents, deep scratches, corrosion, and missing hardware.</li> <li>b. Inspect for separation from shelter walls, floor, and ceiling.</li> <li>c. Inspect for a secure mounting of framework to shelter and of sheet metal skins to framework.</li> </ul>	Light leaks from editorial room into darkroom are not acceptable.
<b>REMOVAL</b>			
2. Darkroom Wall			
<b>NOTE</b>			
<p>The following equipment items are attached directly to or in close proximity to the darkroom partition and must be removed from the darkroom wall before the wall can be removed.</p>			
	a. Curtain assembly	Remove per paragraph 4-47.	
	b. Air diffuser assembly	Remove per paragraph 4-47.	
	c. Rigid conduit	Remove per paragraph 6-16.	

6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)			
LOCATION	ITEM	ACTION	REMARKS
<b>REMOVAL (cont)</b>			
	d. Electrical wiring	Remove per paragraph 6-17.	
	e. Lamp switches	Remove per paragraph 4-42.	
	f. Phototypesetter console shelf	Remove per paragraph 6-12.	
	9. Phototypesetter processor shelf	Remove per paragraph 4-33.	
	h. PMT processor	Remove per paragraph 4-22.	
	i. Sink shield	Remove per paragraph 6-11.	
	j. Folding chair holddown assembly	Remove per paragraph 5-10.	
	k. Tilt top light table (front table only)	Remove per paragraph 4-19.	
	1. Wall cabinet (front curbside cabinet only)	Remove per paragraph 4-17.	
	m. Artist supply cabinet	Remove per paragraph 4-20.	
	n. Rub-up board	Remove per paragraph 4-27.	
3. Darkroom Editorial Wall	Sheet metal skin (1)	Remove from wall framework by removing sheetmetal screws (2).	Roadside and curbside walls use the same removal procedures.

6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)



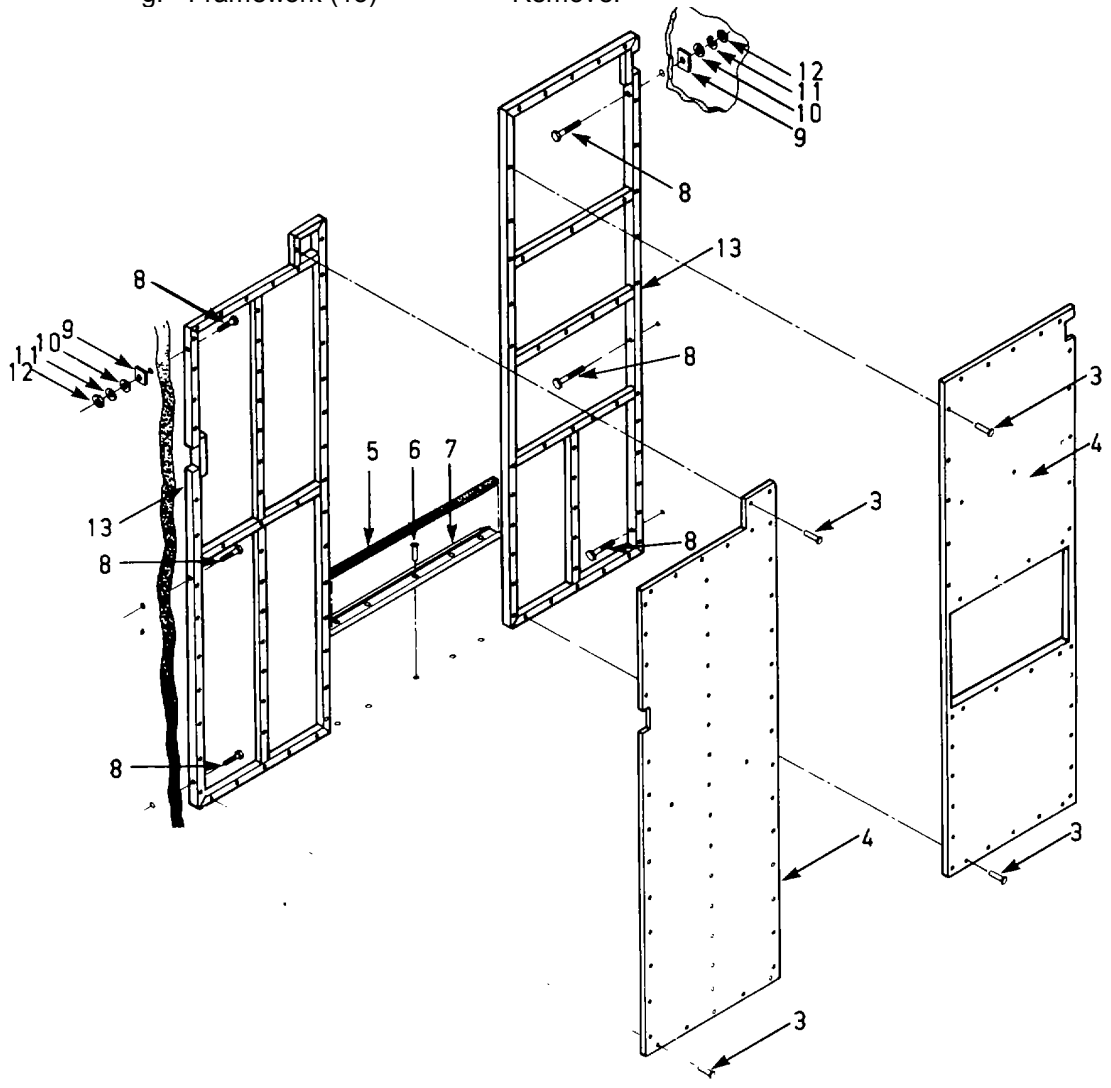
4. Darkroom Wall (Dark-room Side)	a. Rivets (3)	Remove by drilling or chiseling off heads.
	b. Sheet metal skin (4)	Remove.
	c. Tape hook (5)	Remove.

6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL (cont)

- d. Rivets (6) Remove by drilling or chiseling off heads.
- e. Threshold (7) Remove.
- f. Bolts (8), backing plate (9), flat washers (10) lockwashers (11), and nuts (12) Remove. Remove backing plate (9) only if necessary.
- g. Framework (13) Remove.



**6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION</b>			
5. Darkroom Wall	a. Framework (13)	Position in shelter.	Roadside and curbside portions of wall use the same installation procedure.
	b. Bolts (8), backing plates (9), flat washers (10), lockwashers (11), and nuts (12)	Install securing framework (13) to shelter wall.	Seal between the backing plates and shelter walls with RTV (item 3, app E).
6. Darkroom Wall (Darkroom Side)	a. Rivets (3)	Install securing sheet metal skin (4) to frame (13).	
	b. Rivets (6)	Install securing threshold (7) to floor.	
	c. Tape hook (5)	Secure to threshold (7) with adhesive.	
7. Darkroom Wall (Editorial Side)	Sheetmetal skin (1)	Position over framework and secure with screws (2).	Seal any light leaks with RTV (item 3, app E).
8. Darkroom Wall	a. Curtain assembly	Install per paragraph 4-47.	
	b. Air diffuser assembly	Install per paragraph 4-47.	
	c. Rigid conduit	Install per paragraph 6-16.	
d. Electrical wiring		Install per paragraph 6-17.	

**6-18. WALL PARTITION MAINTENANCE INSTRUCTIONS (cont)**

LOCATION	ITEM	ACTION	REMARKS
<b>INSTALLATION (cont)</b>			
	e. Lamp switches	Install per paragraph 4-42.	
	f. Phototypesetter console shelf	Install per paragraph 6-12.	
	g. Phototypesetter processor shelf	Install per paragraph 4-33.	
	h. PMT processor	Install per paragraph 4-22.	
	j. Sink shield	Install per paragraph 6-11.	
	k. Folding chair holddown assembly	Install per paragraph 5-10.	
	l. Tilt top light table (front table only)	Install per paragraph 4-19.	
	m. Wall cabinet (front curbside cabinet only)	Install per paragraph 4-17.	
	n. Artist supply cabinet	Install per paragraph 4-20.	
	o. Rub-up board	Install per paragraph 4-27.	

**APPENDIX A**

**REFERENCES**

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A-1. SCOPE

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

A-2. FORMS

Equipment Daily or Monthly Log .....	DA Form 2408-1
Equipment Inspection and Maintenance Work Sheet .....	DA Form 2404
Maintenance Request.....	DA Form 2407
Quality Deficiency Report.....	SF 368
Packaging Improvement Report.....	DD Form 6
Recommended Changes to DA Publications DA Form.2028-2	
Uncorrected Fault Record DA Form 2408-14	

A-3. FIELD MANUALS

Basic Cold Weather Manual .....	FM 31-70
Mountain Operations .....	FM 31-72
Northern Operations .....	FM 31-71

A-4. TECHNICAL BULLETINS

Maintenance and Repair Procedures for S-141/G, S-144/G, S-250/G, S-280/G, and S-318/G, type shelters .....	TB 43-0124
Preservation of USAMEC Mechanical Equipment for Shipment and Storage.....	TB 740-93-2

A-5. TECHNICAL MANUALS

Organizational, Direct and General Support, and Depot Maintenance Repair Parts and Special Tools Lists. Press Shelter Component of Printing Plant, Special Warfare, Transportable, NSN 3610-01-106-2276 ..... TM 5-3610-254-24P

Operator, Organizational, Direct Support and General Support Maintenance Air Conditioner, Horizontal, Compact; 9,000 BTU (Trane models) 208V, 3-phase, 50/60 hertz (model MAC659-208-1101-03) NSN 4120-00-411-5444, 208V, 3-phase, 400 hertz (model MAC4H9-208-1101-04) NSN 4120-00-411-5445, 115V, 1-phase, 50/60 hertz (model MAC6H9-1151101-01) NSN 4120-00-411-5442, 230V, 1-phase, 50/60 hertz (model MAC6H9-230-1101-02) NSN 4120-00-411-5443 ..... TM 5-4120-239-14

Organizational, Direct Support and General Support Maintenance Manual Air Conditioner, Compact, Horizontal, Type II, Size A, 9,000 BTU/HR, 50/60 hertz, single-phase, class 2, 115 volt Electric motor drive (Keco Industries Inc F9000 H-1) NSN 4120-00-411-5442, 230 volt, Electric motor driven (Keco Industries Inc. model F9000 H-2) NSN 4120-00-411-5443 ..... TM 5-4120-340-14

The Army Maintenance Management System (TAMMS) ..... DA Pam 738-750

Preservation and Packing of Military Equipment - ..... TM 38-230-1

Destruction of Material to Prevent Enemy Use - ..... TM 750-244-3

A-6. MISCELLANEOUS PUBLICATIONS

The Standard Army Publication System Resupply Guide ..... DA PAM 310-10-2



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**APPENDIX B****MAINTENANCE ALLOCATION CHART (MAC)**

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**INTRODUCTION****The Army Maintenance System MAC**

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

This MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component levels, which are shown on the MAC in column (4) as:

Field – includes two columns, Unit maintenance and Direct Support maintenance. The Unit maintenance column is divided again into two more subcolumns, C for Operator or Crew and O for Unit maintenance.

Sustainment – includes two subcolumns, General Support (H) and Depot (D)

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

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

**Maintenance Functions**

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.
2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms. The following are examples of service functions:
  - a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.
  - b. Repack. To return item to packing box after service and other maintenance operations.
  - c. Clean. To rid the item of contamination.

- d. Touch up. To spot paint scratched or blistered surfaces.
- e. Mark. To restore obliterated identification.
- 4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
- 5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- 6. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
- 7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- 8. Paint. To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
- 9. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
- 10. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

**NOTE**

The following definitions are applicable to the "repair" maintenance function:  
Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

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

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

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

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

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

### Explanation of Columns in the MAC

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

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized. Column (3) Maintenance Function.

Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above). Column (4) Maintenance Level.

Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field: C Operator or Crew maintenance  
O Unit maintenance  
F Direct Support maintenance

Sustainment:

L Specialized Repair Activity  
H General Support maintenance  
D Depot maintenance

### NOTE

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

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

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

**Table 1. MAC for  
Edit and Photomechanical Shelter**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
00	Ed & Mech Shelter								
01	Wall Cabinet	Inspect Replace Repair		0.2 0.5 1.0					
	Handle, Lock	Inspect Replace		0.1 1.0					
02	Historical File Cabinet	Inspect Replace Repair		0.2 0.7 1.5					
	Handle, Drawer	Inspect Replace		0.1 0.4					
	Drawer, Lock	Inspect Replace		0.1 0.4					
03	Light Table, Tilt Top	Inspect Replace Repair Modification	0.2	0.2 0.7 1.5 1.0					
04	Artist Supply Cabinet	Inspect Replace Repair		0.2 0.5 1.0					
	Handle, Lock	Inspect Replace		0.1 1.0					
05	Fold Down Artist Shelf	Inspect Replace Repair		0.2 0.5 1.0					
06	Stool Hold Down Assy	Inspect Replace Repair			0.1 1.0 1.0				
07	PMT Processor	Inspect Replace Repair	0.2		0.2				
				1.0	1.5			A	

**Table 1. MAC for  
Edit and Photomechanical Shelter  
(Continued)**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
08	Camera, Vertical	Inspect	0.2	0.2	0.2		0.5	A	
		Replace					4.0		
		Repair		2.0	6.0		16.0		
	Camera Modification	Replace		0.4					
	Vacuum Pump, Camera	Inspect		0.2					
		Replace		0.5					
09	Safelight Assy	Inspect		0.2				A	
		Replace		1.0					
		Repair		0.5					
	Lamp, Fluorescent	Inspect		0.1					
		Replace		0.3					
10	Folding Chair Hold Down Assy	Inspect			0.1			A	
		Replace			1.0				
		Repair			1.0				
11	Dryer, Film	Inspect	0.2	0.2				A	
		Replace		0.5					
		Repair		1.0					
	Dryer, Modification	Inspect		0.2					
		Replace		0.7					
12	Storage Cabinet, Supply	Inspect			0.2		0.2	A	
		Replace					1.5		
		Repair			0.7				
	Handle, Lock	Inspect		0.1					
		Replace		1.0					
13	Rub-Up Board	Inspect		0.1				A	
		Replace		0.2					
		Repair		1.0					
	Rubber Surface	Inspect		0.1					
		Replace		1.0					
	Rub-Up Board Hold Down Assy	Inspect			0.1			A	
		Replace			1.0				
		Repair			1.0				

**Table 1. MAC for  
Edit and Photomechanical Shelter  
(Continued)**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
14	Water Supply Cabinet	Inspect	0.2		0.2				
		Replace Repair			0.7		0.2 1.5		
14	Handle, Lock	Inspect		0.1					
		Replace		1.0					
15	Phototray Assy	Inspect		0.1					
		Replace		0.2					
16	Water Tank System	Inspect	0.2		0.3				
		Replace Repair			1.5 2.0				
16	Tank Hold Down Plumbing	Inspect			0.7				
		Replace			0.2				
		Repair			1.0				
16	Water Pump, 115V	Inspect	0.2		0.2				
		Replace			1.0				
16	Water Heater	Inspect			0.2				
		Replace			1.0				
17	Countertop w/Sink and Shield	Inspect							
		Replace							
		Repair							
17	Sink Faucet	Inspect							
		Replace							
		Repair							
17	Sink Drain	Inspect							
		Replace							
		Repair							
18	Vacuum Frame, Vertical	Inspect		0.2					
		Replace		1.0					
		Repair		1.2					A
18	Vacum Pump Assembly	Inspect		0.1					
		Replace		0.5					
19	Viewing Light, Wall Mtd	Inspect	0.2	0.2					
		Replace		0.7					
		Repair		1.0					A

**Table 1. MAC for  
Edit and Photomechanical Shelter  
(Continued)**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
20	Pin-Point Light Source Assy	Inspect		0.2					
		Replace		0.7					
		Repair		1.0					
21	Console Desk Phototypesetter	Inspect			0.2		0.2		
		Replace					1.0		
		Repair			1.0		2.0		
22	Processor, Photo- Typesetter Assembly	Service	0.2						
		Inspect		0.2	0.3		0.5		
		Replace		0.5					
23	Phototypesetter	Repair		1.0	2.0		8.0	A	
		Service	0.2						
		Inspect			0.3		0.5		
24	Voltage Regulator	Replace			0.3				
		Repair			0.7				
		Repair			1.0			A	
25	Air Conditioner	Inspect		0.5	0.5				
		Replace		1.5	1.5				
		Repair		2.0	2.0			B	
26	Fire Extinguisher	Inspect		0.1					
		Service		0.5					
		Replace		0.2					
27	First Aid Kit	Inspect		0.1					
		Replace		0.2					
28	Backout Warning System	Test			0.1				
		Inspect			0.3				
		Replace			1.0				
		Repair			0.5				
29	Blackout Lockpin Assy, Door	Inspect			0.2				
		Replace			0.5				
		Repair			0.7				

**Table 1. MAC for  
Edit and Photomechanical Shelter  
(Continued)**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
30	Fresh Air Filter, Door	Inspect		0.1					
		Service		0.5					
		Replace		0.3					
31	Drop-Off Box Assy	Inspect			0.2				
		Replace			1.0				
		Repair			1.0				
32	Ladder Assy	Inspect		0.1					
		Replace		0.3					
33	Telephone Binding Post Assy	Inspect			0.1				
		Replace			1.0				
		Repair			0.5				
34	Level Indicator Assy	Inspect		0.1					
		Replace			4.0				
		Repair		0.5					
35	Main Power Cable Assy	Test			0.1				
		Inspect			0.2				
		Replace			0.2				
		Repair			1.0				
36	Main Power Receptacle	Test			0.1				
		Inspect			0.2				
		Replace			4.0				
		Repair			2.0				
37	Main Power Service Box Assy	Test			0.1				
		Inspect			0.2		0.2		
		Replace					2.0		
		Repair			0.5				
38	Circuit Breaker	Test		0.1					
		Inspect		0.1					
		Replace		0.5					
38	Lamp Assy, Ceiling	Inspect		0.2					
		Replace		1.0					
		Repair		0.5					
38	Lamp, Fluorescent	Inspect		0.1					
		Replace		0.2					



Table 1. MAC for  
Edit and Photomechanical Shelter  
(Continued)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT- ENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
	Starter, Lamp	Inspect		0.1					
		Replace		0.2					
39	Lamp Switches, Wall	Inspect		0.1					
		Replace		0.2					
40	Equipment Receptacle	Inspect		0.1					
		Replace		0.5					
41	Conduit Assy, Rigid	Inspect					0.2		
		Repair					2.0		
42	Wiring, Electrical	Inspect					0.2		
		Repair					1.0		
43	Table, Composing	Inspect		.02					
		Replace		0.7					
		Repair		1.0					
44	Rifle Rack	Inspect		0.2					
		Replace		0.5					
45	Telephone Bracket	Inspect		0.2					
		Replace		0.5					
46	Partition, Wall Assy	Inspect					0.3		
		Replace					24.0		
	Curtain Assembly	Inspect		0.2	0.2				
		Replace		2.0					
		Repair			1.0			C	
	Louver Assembly	Inspect		0.2					
		Replace		1.0					

**Table 2. Tool and Test Equipment  
for Edit and Photomechanical Shelter**

Tool or Test Equipment	Maintenance Level	Nomenclature	National Stock Number	Tool Number
N/A	N/A	N/A	N/A	N/A

**Table 3. Remarks for  
Edit and Photomechanical Shelter**

REFERENCE CODE	REMARKS
A	Consult commercial service manuals for maintenance instructions and repair parts.
B	Consult TM 5-4120-239-14 for maintenance instructions and TM 5-4120-239-20P and TM 5-4120-239-34P for repair parts.
C	Mend curtain fabric.

APPENDIX C  
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

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**C-1. SCOPE**

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

**C-2. GENERAL**

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

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are connected, coupled, linked, affixed, mounted, or combined with other components to form the end item. 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 editorial shelter in operation, to operate it, and to perform emergency repairs. Although packaged separately BII must be with the editorial shelter during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

**C-3. EXPLANATION OF COLUMNS**

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

a. Column (1) Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) National Stock Number. Indicates the National stock number assigned to the item and which 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) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
	4120-00-903-3569	AIR CONDITIONER: Type II, Size A, Class I. (81349) MIL-A-52767		EA	2
	7125-00-286-5259	CABINET STORAGE: Metal; Gray, 2 doors; 12 in. D. 18 in. H, 30 in. W; 1 shelf (81349) MIL-C-40060-1		EA	3
	6145-00-NIIN	CABLE, POWER ELECTRICAL: ptble cable; 600V; 3 cop- per conductors; w/ground wire (green) tinned; No. 6 AWG; stranded; 133 strands No. 27 AWG; rubber insulat- ed; covering in sequence from conductors, cotton, and polychloroprene (81349) MIL-C-3432 (81337) Natick 6-1-7545		FT	50
	*3610-00-NIIN	CAMERA: process vertical, 17-3/4 x 22-3/4 copying area with vacuum back, 19 x 26 copyboard, two lenses (21 cm lens and 15 cm lens) 4 500 W halogen lamps, 115V, 60 Hz AC. (25631) AGFA-GEVAERT Re- promaster Mark 3 with va- cuum pump.		EA	1

## Section II. COMPONENTS OF END ITEM (cont)

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
	6720-01-064-8071	CAMERA: still picture, self-processing, 3-1/4 x 4-1/4 inch print size, 8 exposure film pack capacity; F8.8 114 mm lens, electric eye automatic exposure with range, finder-view finder (47904) EE-100 or equal.		EA	1
	7105-00-269-8463	CHAIR,FOLDING: front-to-back folding; metal seat back; gray, No. 26134, std 595, type I, class 1, style 4 (81348) AA-C-291		EA	1
	6675-00-514-3537	CURVE, DRAFTING, IRREGULAR: plastic; French; pattern 13, type I (81348) GG-C-871		EA	1
	6675-00-641-3531	DRAFTING INSTRUMENT SET: in lined case (81348) SC 6675-97-CL-E07		EA	1
	3610-01-NIIN	DRYER, FILM: 14 in. max. width film, 26W x 14D x 8H (07183) 1418		EA	1
	5110-00-595-8400	KNIFE, CRAFTSMAN'S: 6 blades, one ea broad and curved, two ea double-edge and close corner; 5 in. lg handle; class 2 (81349) GGG-K-450		EA	1
	3610-00-NIIN	LAMP, CONTACT PRINTING: w/cabinet housing power pack, switch and reset timer, 100 watt 1 amp (03699) Goodkin or equal		EA	1

## Section II. COMPONENTS OF END ITEM (cont)

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	(4) USABLE ON CODE U/M	(5) QTY RQD
	5120-00-293-0589	NEEDLE, ETCHING: Oval scraping (81349) MIL-N-43186	EA	1
	5120-00-293-0591	NEEDLE, ETCHING ROUND (81349) MIL-N-43186	EA	1
	7430-00-NIIN	PHOTOTYPESETTER: direct en- try, language model Comp/Set 3560W with single diskette record/playback option 504H and dry process option 20- 1349-0 A.M. Varityper (62812) and PROCESSOR, Dry-X for 12" wide paper, table-top mounted Varityper (62812) AM 712	EA	1
	*3610-00-NIIN	PROCESSOR: diffusion trans- fer, 14" capacity, stain- less steel casing, (93791) P1400 or equal	EA	1
	4320-00-NIIN	PUMP: Model 121-003, IGPM w/motor 115V 60 Hz SHUR-FLO 190-7923 or equal	EA	1
	5110-00-161-6912	SHEARS, STRAIGHT TRIMMERS: pointed blades; 14 in. lg; type I, class 1, style A (81349) GGG-S-278	EA	1
	6675-00-NIIN	TABLE LIGHT: Table mtd 18" x 20" glass area (93791) VLT18T	EA	1
	6645-00-246-4934	TIMER, INTERVAL: electric, AC, Automatic OFF, 60 Sec; 1 pointer hand (30703) PIM	EA	1

## Section II. COMPONENTS OF END ITEM (cont)

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
		TRIANGLE, DRAFTING: Metal; open center, finger lifts right angle; 10 in. lg (81349)			
	6675-00-NIIN	30 - 60 deg GG-T-671		EA	1
	6675-00-NIIN	45 deg GG-T-671		EA	1
	3610-00-NIIN	VACUUM FRAME: exposure, ultra violet, 21" x 16" max. area 8 lamps with exposure timer, vacuum pump 115 volt 60 Hz (6K938) BVL-1617		EA	1
	7420-00-NIIN	VARIGRAPH PRODUCTION OUTFIT: w/composing table complete (94767) Varigraph Co. or equal		EA	1
	6650-00-252-6250	MAGNIFIER Single lens reading glass with 2 X Magnifying power GG-M-95 (81348)		EA	1
	6470-01-033-1075	RACK, PHOTO TRAY C/O 1 metal rack, 3 Wire trays, plastic coated, 11" x 14" P/N 1400 (10068)		EA	
	6740-00-NIIN	SAFELIGHT, darkroom, flu- orescent, 20 watts, 24" lg, photo red safety sleeve ARM-A-SAFELITE or equal #F20-T12 w/light fixture - Lithonia S120 TS 120 or equal (16543)		EA	
	5110-00-161-6912	SHEARS, STRAIGHT TRIMMERS: pointed blades; 14 in. lg; type I, class 1, style A (81349) GGG-S-278		EA	1
	6675-00-NIIN	TABLE, LIGHT: Table mtd 18" x 20" glass area (93791) VLT18T		EA	1

## Section II. COMPONENTS OF END ITEM (cont)

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
	6645-00-246-4934	TIMER, INTERVAL: electric, AC, Automatic OFF, 60 Sec; 1 pointer hand (30703) PIM		EA	1
		TRIANGLE, DRAFTING: Metal; open center, finger lifts right angle; 10 in. lg (81349)		EA	1
	6675-00-NIIN	30 - 60 deg GG-T-671		EA	1
	6675-00-NIIN	45 deg GG-T-671		EA	1
	3610-00-NIIN	VACUUM FRAME: exposure, ultra violet, 21" x 16" max. area 8 lamps with exposure timer, vacuum pump 115 volt 60 HZ (6K938) BVL-1617		EA	1
	7420-00-NIIN	VARIGRAPH PRODUCTION OUTFIT: w/composing table complete (94767) Varigraph Co. or equal		EA	1
	6740-00-137-6137	VIEWING LIGHT: two-way (or-tho-safe/white) 18" x 20" size, wall mounted (93791) DLV20 (Modified)		EA	1
	6110-00-NIIN	VOLTAGE, REGULATOR: 1KVA capacity, rack mounted 115v Type 1591-AR (24655) #1591-9712		EA	1



## Section III. BASIC ISSUE ITEMS

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
1	8415-00-634-5023	APRON, LAB. Synthetic rubber Laboratory aprons ZZ-A605 (81348)		EA	1
2	7910-00-267-1205	CLEANER, VACUUM: 115 v, 60 Hz, Type HVU w/attach- ments		EA	1
3	4730-00-360-0944	COUPLING HALF, QUICK DIS- CONNECT: aluminum alloy body matl camlock quick disconnect all ends 1.078 in. Nom. ID hose accom. (82995) 5-14-29-11		EA	1
4	4210-00-555-8837	EXTINGUISHER, FIRE, MONO- BROMOTRIFLUOREMETHANE: w/bracket (81349) MIL-E-52031		EA	1
5	6645-00-922-1200	FIRST AID KIT, GENERAL PURPOSE		EA	1
6	5805-00-189-6123	FRAME ASSEMBLY TELEPHONE: 6.5" lg, 4.125" wd; 3.526" high, 0.125" thk aluminum alloy 5052 temper H32 (80063) SC-C-539507		EA	1
7	3610-00-843-5818	FUNNEL, STEEL: rigid spout 1 pt (63277) 8476		EA	1
8	3610-00-843-5747	GAGE, TYPE: brass, pt and in. (52071) 12		EA	1
9	8145-00-663-6459	GLOVES, RUBBER INDUSTRIAL: Type 1 Size 10 (81348) ZZ-G-381		PR	1
10	4720-00-882-1379	HOSE, NONMETALLIC: 1" ID, 250 psi max. pressure -40°F to 2000F, (-4.4° to 93.3°C) (79470) H39-1		EA	1
11	2450-00-763-7348	KIT, RIFLE (19207) 11630529		KT	3

## Section III. BASIC ISSUE ITEMS--Continued

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQD
12	2540-00-892-6243	LADDER, VEHICLE BOARDING (22585) MX3391G		EA	1
13	4930-00-253-2478	LUBRICATING GUN, HAND: w/loader fitting (81349) MIL-G-3859		EA	1
14	7240-00-889-3765	MEASURE, GRADUATED: 32 oz, measures from 100,000 cubic centimeters to 1.0 liters MSS 7240-1A (94990) 11-29923B35		EA	1
15	7350-00-NIIN	PITCHER, SOLUTION: stainless 2 qt. (91313) SP-64 (39428) 4325T1		EA	2
16	5940-00-504-3993	POST, BINDING: stud mtg (05587) C1245		EA	2
17	6685-00-826-1662	PSYCHROMETER: dry and wet bulb readings on metal plate (81348) GG-P-00725		EA	1
18	3610-00-843-5797	ROD, STIRRING (81902) 4704356		EA	2
19	3940-00-846-9858	SLING ASSEMBLY, VEHICLE LIFTING: 15,000 # Capacity, 4 slings 0.375" dia. wire rope (80063) SCD36423		EA	1
20	6640-00-439-7350	SPATULA, LABORATORY: Steel blades (81348) NNN-S-001 356		EA	2
21	7110-00-634-8596	STOOL, REVOLVING: metal legs and wood seat, w/foot rest (81348) AA-S-700		EA	1
22	6685-00-051-9480	THERMOMETER, STANDARD BATH: thermometer temperature 0 range 30 to 140 F (-1.1 (81348) GG-T-291		EA	1

APPENDIX D  
ADDITIONAL AUTHORIZATION LIST

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(NONE AUTHORIZED)

**D-1/(D-2 Blank)**

## APPENDIX E

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

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## Section I. INTRODUCTION

## E-1. SCOPE

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the Editorial Shelter. This listing is for information purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970. Expendable/Durable items (except Medical, Class V, Repair Parts and Heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

## E-2. EXPLANATION OF COLUMNS

a. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use drycleaning solvent (item 10, app E)").

b. Column 2 - Category. This column identifies the lowest category 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. Indicates the Federal item name and, if required, a description to identify the item. The last line of 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). A "V" in this column indicates that the amount used will vary. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Category	(3) National Stock Number	(4) Description	(5) U/M
1	C	6750-00-NIIN	ACTIVATOR, PMT: 1 quart bottle (19139) 154-9153	QT
2	C	8040-00-291-8625	ADHESIVE: natural or synthetic rubber base; for paper bonding; 4 oz jar, w/brush in cap (81349) MMM-A-185	VR
3	C	7520-00-935-7136	BALLPOINT PEN: Pocket, w/o cap, w/ pocket clip; medium retractable pt; black, lettered "US GOVERNMENT" Type I (81348) GG-B-60 National Ind for the Blind, Bloomfield, NJ 07003	DZ
4	C	8530-00-162-5629	BLADE, SAFETY RAZOR: single edge (81348) GG-R-60 BRUSH ARTIST'S: Metal ferrule rd taper pt, red sable hair (81348) H-B-118	PG
5	C	8020-00-598-5907	26/128 in. dia at ferrule: 13/16 in. exposed lg; type II, class 2, style A, 26/128 size	EA
6	C	8020-00-224-8027	34/128 in. dia at ferrule; 1 in. exposed lg; type II, class 2, style A, 34/128 size	EA
7	C	8020-00-285-1167 8020-00-200-2843 8020-00-224-8026 8020-00-257-0378 8020-00-262-9098 8020-00-598-5907	BRUSH SET ARTIST'S C/O: (81348) H-B-118 1 ea 18/128 x 11/16 1 ea 15/128 x 5/8 1 ea 13/128 x 19/32 1 ea 10/128 x 1/2 1 ea 26/128 x 13/16	SE

## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (Cont)

(1) Item Number	(2) Category	(3) National Stock Number	(4) Description	(5) U/M
8	C	9310-00-NIIN	CARDBOARD: Chemical wood; white, 22 in. lg, 15 in. w (81348) UU-C-190	SH
9	C	6850-00-015-3507	CLEANER, LITHOGRAPHIC SOLVENT: 3M Improved (81348) O-L-1031	QT
10	C	6850-00-264-9038	DRY CLEANING SOLVENT: (SD-1) (81348) P-D-680, Type 1	GL
11	C	7530-00-612-4000	ENVELOPE, PHOTOGRAPHIC NEGATIVE: X-ray negative preserver 12 x 19 in. size (81348) GE 550	HD
12	C	7510-00-223-7044	ERASER, RUBBER: gum; rectangular; 2-1/4 in. 9lg, 1-1/8 in. w, 1-1/8 in. thk; type IV, composition B (81349) ZZ-E-661	DZ
13	C	6750-00-252-9553	FILM: for 3-1/4 x 4-1/4 in. black and white prints (47904) No. 107	PG
14	C	6750-00-NIIN	FILM: Transparent receiver, sheet 8 x 10 in. size, 100 sh/pkg (19139) 172-4459	PKG
15	C	6750-00-NIIN	FIXER, PMT: paper plate (19139) 186-5252	QT
16	C	8415-00-663-6459	GLOVES, RUBBER INDUSTRIAL: Type 1 Size 10 (81348) ZZ-6-381C	PR
17	C	6850-00-NIIN	INK, DRAWING: Waterproof; opaque; w/o dwg paper and cloth, or tracing paper and cloth; 3/4 oz bottle (81349) Black; TT-I-528	OZ
18	C	7510-00-237-7048	White; TT-I-531	OZ

## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (Cont)

(1) Item Number	(2) Category	(3) National Stock Number	(4) Description	(5) U/M
19	C	6700-00-NIIN	LAMP: halogen, 500W, 110 volts (25631) 12548	EA
20	C	6240-00-152-2983	LAMP, FLUORESCENT: 15 w. medium bipin 18 in. lg; ballast operated (16S43) W-L-116-9T	EA
21	C	6240-00-NIIN	LAMP, FLUORESCENT: 20. W. U.V., 115 volts (6K938) 1-0510	EA
22	C	9150-00-252-6173	LUBRICATING OIL, GENERAL PURPOSE: noncorrosive; low viscosity; 4 oz can; (81348) VV-L-820	CN
		6675-00-551-3234	INSTANT PHOTOSCREEN: for EE100 Camera (Instant Photoscreen Inc.)	
23	C	6750-00-NIIN	100 Screen Value P/N #10012	EA
24	C	6750-00-NIIN	85 Screen Value P/N #8512	EA
25	C	6750-00-264-6764	OPAQUE, PHOTOGRAPHIC FILM-PLATE: Retouching, red, paste form, Water vehicle, red rouge, 2,500 oz. unit Qty, Jar (81349) MIL-0-22039	EA
26	C	7530-00-875-8102	OVERLAY PAD, ACETATE: clear finish; 14 x 17 in. (81562) no. 73F or equal	EA
27	C	3610-00-864-5385	PADS, LITHOGRAPHIC: Cotton; AM International 4 in. lg 3.75 in. w; 2000 pads per box (81348) MIL-P-43296	BX
28	C	7530-00-297-1566	PAPER, BLOTTING: white, chemical wood pulp; substance 140 per 500 sheets of 24 x 19 in. basic size; free from chemicals injurious to photographs; 30 in. , 24 in. w; 12 per pack; grade B (81348) UU-P-417	DZ

## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) Item Number	(2) Category	(3) National Stock Number	(4) Description	(5) U/M
29	C	7530-00-NIIN	PAPER, DRY-X: 12 in. wide x 150 ft. roll for Comp/Set Phototypesetter (62812) AM Varityper	EA
30	C	6750-00-NIIN	PAPER, PMT: Litho, Negative, 11 x 8-1/2 in. size, 100 sh/pkg (19139) 187-9261	PKG
31	C	6750-00-159-0705	PAPER, PMT: Negative, 8 x 10 in. size, 100 sh/pkg (19139) 349-4960	PKG
32	C	6750-00-NIIN	PAPER, PMT: receiver (positive) 8 x 10 in. size, 100 sh/pkg (19139) 183-4712	PKG
33	C	6640-00-559-1385	PAPER, LENS: lightweight, 7 x 11 in., 100 sh/pkg, (81349) NNN-P-40	HD
34	C	7510-00-237-7991	PEN CLEANER, LIQUID: 2-1/2 oz bottle; (81349) P-P-200	JR
35	C	7510-00-286-6899	PEN HOLDER: Type III (81348) GG-P-181	DZ
36	C	7510-00-223-0400	PEN POINT AND PENHOLDER: lettering crow quill; fine pt, superflexible 12 pen pt (81349) GG-P-1264	SE
37	C	7510-00-227-1548	PEN POINT ASSORTMENT: 6 per box (81348) MSS 7510-24 PENCIL: Drawing (81348) SS-P-181	BX
38	C	7510-00-189-7875	2B	DZ
39	C	7510-00-189-7878	HB	DZ
40	C	7510-00-189-7880	2H	DZ



## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (cont)

(1) Item Number	(2) Category	(3) National Stock Number	(4) Description	(5) U/M
41	C	7510-00-237-4926	PENCIL POINTER: flint, 7-1/2 in. lg. 1-1/4 in. w, 1/8 in. thk, type 2 (81348) SS-P-551	EA
42	C	3610-00-NIIN	PLATE: lithographic printing, PMT, paper, 11 in. x 8-1/2 PB size, 100 plates/pkg (19139) 188-4196	PKG
43	C		PLATES, SUBTRACTIVE: "S" 5.5 mills thk, 100/pkg 11 x 18 in. (19139) 1244177	PKG
44	C	4320-00-NIIN	PUMP KIT: conversion, self priming 12 volts, D.C. with spigot 66-67150 SHUR-FLO or, equal	EA
45	C	6700-00-NIIN	SCREEN: contact, gray (100 line) 11 x 14 in. size (19139) 104-7014	EA
46	C	6700-00-NIIN	SCREEN: contact, gray (85 line) 11 x 14 in. size (19139) 140-0344	EA
47	C	6250-00-299-2884	STARTERS, FLUORESCENT BULB: Glow starter, Lamp Watt (14-20), Lamp Volt (110-NOM) (04655) FS2NA	EA
48	C	7510-00-266-6711	TAPE, PRESSURE SENSITIVE, ADHESIVE: masking, 3/4 in. w, 60 yd roll; type I (81349) UU-T-106	RO
49	C	7530-00-875-8103	TRACING PAD, EMPIRE: 11 x 14 in. (81562) No. 62B	EA

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# THE METRIC SYSTEM AND EQUIVALENTS

## Linear Measure

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3.2808.8 feet

## Weights

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

## Cubic Measure

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

## Square measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. in.  
 1 sq. decimeter = 100 sq. centimeters = 15.5 inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 feet  
 1 sq. dekameter (are) = 100 sq. meters = 1.076.4 sq. ft.  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 hectometers = .386 sq. miles

## Liquid Measure

1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.18 gallons  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 metric ton = 10 quintals = 1.1 short tons

## Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce inches	newton-meters	.0070062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
sq. inches	sq. centimeters	6.451	kilometers	miles	.621
sq. feet	sq. meters	.093	sq. centimeters	sq. inches	.155
sq. yards	sq. meters	.836	sq. meters	sq. yards	10.764
sq. miles	sq. kilometers	2.590	sq. kilometers	sq. miles	1.196
acres	sq. hectometers	.405	sq. hectometers	acres	2.471
cubic feet	cubic meters	.028	cubic meters	cubic feet	35.315
cubic yards	cubic meters	.765	milliliters	fluid ounces	.034
fluid ounces	milliliters	29.573	liters	pints	2.113
pints	liters	.472	liters	quarts	1.057
quarts	liters	.946	grams	ounces	.035
gallons	liters	3.785	kilograms	pounds	2.205
ounces	grams	28.349	metric tons	short tons	1.102
pounds	kilograms	.454	pound-feet	newton-meters	1.356
short tons	metric tons	.907			
pound inches	newton-meters	.11296			

## Temperature (Exact)

°F Fahrenheit temperature

5/9 ( after subtracting 32)

Celsius Temperature °C

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