DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools Lists DARKROOM, PHOTOGRAPHIC, TRANSPORTABLE ES-82A

This copy is a reprint which includes current pages from Changes 1 through 6.

HEADQUARTERS, DEPARTMENT OF THE ARMY

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WARNING

ASPHYXIATION HAZARD

Before operating space heater or film and print drier remove space heater condensate drain cap, exhaust cap and install exhaust pipe (para 2-5g) and open space heater fresh air intake (para 2-5d). Death or serious injury from noxious fumes or insufficient oxygen may result from not performing these operations.

NOXIOUS FUMES

Always operate exhaust fans (fig. 1-18) when using color processes.

FIRE OR EXPLOSION HAZARD

Before operating space heater or film and print drier remove cap from fuel overflow drain port (para 2-5f). DEATH or serious injury from fire or explosion may result from not performing this operation.

BURN HAZARD

After using immersion heater (para 1-10k) always cool before handling.

ELECTRICAL SHOCK HAZARD

Always install ground rod (para 2-4b) before connecting darkroom to power source. Be careful when working on the 120/208-volt ac line connections. Remove power when making any inspections or repairs inside the equipment.

DON'T TAKE CHANCES

TECHNICAL MANUAL
No. 11-6780-225-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 11 September 1969

OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS DARKROOM, PHOTOGRAPHIC, TRANSPORTABLE ES-82A

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CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope.

a. This manual describes Darkroom, Photographic, Transportable ES-82A (fig. 5-1) and covers its installation, operation, and operator's and organizational maintenance. It includes operation under usual and unusual conditions, cleaning and inspection of the equipment, and replacement of parts available for operator and organizational maintenance.

b. A reference listing of applicable publications is given in appendix A; the basic issue items list (BIIL) appears in appendix B.

c. Appendix B is current as of *11 July 1969*. Appendix C is current as of 19 May 70.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) Pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 5538/NAVSUPINST 4610.33A/AFR 75-18/MCO P4610.19B and DSAR 4500.15.

d. Reporting of Errors. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

e. Reporting Equipment Improvement Recommendations (EIR). EIR will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed direct to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. Purpose. The darkroom is a transportable photographic laboratory operated by a 4-man crew, with the capability of film and print processing. It may be secured to a truck bed or placed on the ground (para 2-1), and can be operated under extreme conditions of temperature and humidity.

b. Use. The darkroom is used for

(1) *Color film processing*. Color reversal roll film in sizes 35-mm, No. 120 and No. 220 may be developed by process E-4 or equal.

(2) *Black and white film Processing*. Black and white roll film in sizes 35-mm, No. 120, No. 220, and 70-mm may be developed by conventional or diffusion transfer process. Film packs and cut film in size 4 x 5 inch may be developed by conventional processes.

(3) Printing. Black and white negatives in sizes 35-mm, No. 120, No. 220, 70-mm, and 4 x 5-inch may be printed by projection or contact method on stabilization type of conventional type printing papers.

(4) Print processing. Black and white stabilization type prints may be developed in a print processor up to size 11 x 14 inches. Conventional type printing papers (bromide or chloride) may be tray developed in sizes up to 11 x 17 inches.

(5) Film and print drying. Processed films and prints may be dried rapidly in film or print drying cabinets.

(6) Printing captioning. Rapid print captioning may be accomplished by a typewriter or ditto machine.

1-5. Technical Characteristics

a. Air-Conditioner (Two).

Btu per hour	9000 BTU per hour at ambient temperature of 1 25°F (52°C), approximate 65% humidity.
Operating voltage.....	110±5%
Frequency.....	60 Hz ±5%
Compressor	Sealed unit, 3/4 hp, 10.4 amp
Refrigerant.....	R 12
Fan motor	1/6 hp. 5.1 amp

Control ..... Aft compartment thermostat for air conditioner No 2 and self-contained thermostat for air conditioner No 1

b. Intercommunication Station LS-586/U (Four).

Type ..... All master
Voltage ..... 110 volts ± 5%

c. Darkroom Electrical Requirements.

Power ..... 12 kw, 4 wire wye
Voltage ..... 120/208 volts ± 5%
Frequency ..... 60 Hz ± 5%
Phase ..... 3 phase

d. Darkroom Dimensions and Weight.

Outside overall:
- Length ..... 146.0 in
- Width ..... 87.0 in
- Height ..... 83.375 in.

Inside overall:
- Length ..... 138.0 in.
- Width ..... 81.5 in.

Height ..... 74.5 in.
Darkroom unloaded ..... 1,260 lb.
Darkroom operational ..... 4,500 lb.

e. Water Supply Installation.

Water storage tank
- Capacity ..... 50.0 gal

Sink (two-compartment):
- Large compartment .... 36.0 gal.
- Small compartment .... 17.0 gal

Drainage of system by water
- Pump ..... At 2-foot height drainage is complete in 15 minutes.

Pressure at water pump .. 40 psi
Pressure switch ..... Preset 20 to 40 psi
Water input filter ..... 2 micron, cleanable non-disposable.
Water pump motor ..... 3/4 hp, 110 volt ± 5%, 60 Hz ± 5%

f. Dehumidifier.

Dehumidification rate ..... One pint of water per hour at ambient temperature of 80°F (26.5°C), approximate 55% humidity.
Operating voltage ..... 10 volts ± 5%
Frequency ..... 60Hz ± 5
Current ..... 5 amp
Compressor ..... Hermetically sealed.
Refrigerant R12
Controls ..... Humidstat, and manual reset circuit breaker.

g. Film and Print Drying Cabinets.

Capacity per cycle:
- 35-mm film ..... 7 reels maximum
- No. 120 and No. 220 size film .. 4 reels maximum
- 70-mm film ..... 3 reels maximum
- 4 x 5 inch film ..... 20 film hangers maximum
- 8 x 10 prints ..... 100 maximum
- Control ..... Thermostat, manual set; range 50°F (10°C) to 130°F (26.5° C)

h. Space Heater.

Type ..... Hot air
Fuel ..... Gasoline or diesel oil.
- Type ..... Gasoline up to 100 octane, leaded or aromatic; diesel fuel with cloud point not lower than -55°F (12.5°C)
- Consumption ..... Approximately 1.0 gph
- Storage ..... 5-gal can.

Operating voltage ..... 100 volts ± 5%, 60 Hz ± 5%
Output ..... 60,000 Btu per hour.
Rate of output ..... 500 cubic feet per minute
Type control ..... Thermostat, 35°F (2° C) to 95°F (35°C)

i. Immersion Heater FM-13 ( )

Type ..... Plug-in.
- Power ..... 1,000 watts.
- Operating voltage ..... 110 volts ± 5%
- Use ..... Snow melting for water supply and heating water for chemical mixing.

j. Water Heater.

Type ..... Immersion
Voltage ..... 110 volts ± 5%, 60 Hz ± 5%
Power ..... 4.5 kw.
Water tank capacity ..... 3.5 gal.
Water heating rate ..... 33°F (0.5°C) to 150°F (65.6°C)
Protection ..... 15 gph
Sensor probe for water level and preset thermostat for overheat.
Control ..... Manual on-off switch with pilot light

k. Printer EN-105A (Two)

Type ..... Projection, variable condenser

Characteristics:
Maximum operating height ..... 43.0 in.
Light source ..... Incandescent 75w, GE211 or 212
Operating voltage ..... 110 volts ± 5%
Control ..... Repeating timer, 0 to 60 seconds, 110 volts ± 5%, 60 Hz ± 5%.
Negative carriers:
Quantity ..... 2-35-mm, 2-2 1/4 x 2 1/4 inch, 2-4 x 5-inch.
Size ..... 35mm curved, 2 1/4 x 2 1/4 inch curved, 4 x 5-inch straight.
Type ..... Glassless.

Lens sets:	Negative size		
Maximum magnification (X):		2 1/4 x 2 1/4 inch	4 x 5 inch
Movable shelf, position 1	10X	5.12X	2X
Movable shelf, position 2	18X	10X	4.5X

l. Print Identification.
Type ..... Ditto machine model D-20, and Smith-Corona portable typewriter.

m. Photographic Film Processing Kit EH-92A.
Type ..... Diffusion transfer
Contents ..... Hand-operated film processor and presoaker units.
Characteristics:
Heater unit operating voltage ..... 110 volts ± 5% ac/dc.
Control ..... Thermostat
Power ..... 100 watts.
Capacity ..... 1 roll of exposed black and white film in either 35-mm, 120, No. 220, or 70-mm size.
Processing time ..... Approximately 20 minutes.

n. Photographic Processing Unit FH-19A.
Type ..... Temperature controlled
Characteristics:
Control ..... Thermostat
Water flow rate ..... 3.0 gpm.
Accuracy ..... 0.25°F (0.50°C)
Temperature range ..... 68°F (20°C) to 90°F (32.2°C)
Operating voltage ..... 110 volts ± 5%
Frequency ..... 60 Hz ± 5%
Power cooling cycle ..... 805 watts.
Power heating cycle ..... 1955 watts.
Small tank holder:
Capacity ..... Nine Photographic Film Processing Units EJ-13A, each to accommodate seven 35-mm reels; four No. 120 or four No. 220 reels.
Liquid capacity processing unit EJ-13A ..... 0.9 gal each.
Wash tank:
Capacity ..... Three Photographic Film Processing Units EJ-12A, each to accommodate three 70mm reels.
Liquid capacity processing unit EJ-12A ..... 2 gal each
Liquid capacity of wash tank ..... 6.7 gal

o. Photographic Paper Processing Machine EH-91A.
Type ..... Stabilization
Characteristics:
Paper size ..... 8 x 10 in. or 11 x 14 in.
Operating voltage ..... 110 ± 5%
Frequency ..... 50 or 60 Hz ± 5%
Processing time ..... 7 seconds

p. Refrigerator.
Capacity ..... 6 cubic feet
Temperature stability ..... 45°F (7.5°C) ± 5°F (± 3°C) at ambient temperature of 100° F (37.5°C).
Control ..... Screwdriver set thermostat
Compressor ..... Sealed unit, 1/8 hp

q. Darkroom Photographic Safelights FM-188A (Five).
Type ..... Kodak, adjustable, 5.5 in., 15w incandescent, 110v.
Filter ..... Kodak series OC
Control ..... Line switch

1-6. Components and Dimensions

a. Components. The components of the darkroom are listed in the basic issue items list (BIIL) (app. B).

b. Dimensions of Major Components.

Item	Dimensions (in.)			Weight (lb) (appx)
	Height	Width	Depth	
Air conditioner	15.75	26.125	27.125	160
Dehumidifier	12.0	20.25	18.0	50
Refrigerator	36.0	28.0	30.25	200
Space heater	27.0	25.0	11.0	144
Temperature Control Unit, Photographic Processing FH-19A				

Item	Dimensions (in.)			Weight (lb) (appx)
	Height	Width	Depth	
Processing sink	16.5	57.0	22.0	50
Control unit	18.5	23.25	20.75	150
Processing Machine, Photographic Paper EH-91A	9.25	24.75	13.375	37.0
Processing Kit, Photographic Film EH-92A:	11.0	24.5	14.75	50
Processing Machine, Photographic Film EH-93A	7.5	11.75	9.25	20
Presoaker, Photographic Film FM-187A.....	9.5	8.0	12.25	10
Case, Photographic Equipment FM-186A	11.0	24.5	14.75	15
Diffusion Transfer Equipment Storage Box	24.0	15.0	12.25	10
Printer, Projection, Photographic EN-105A	66.0	18	34	69

1-7. Common Names

Common names have been assigned to the items listed below.

Common name	Item
Carrying case.....	Case, Photographic Equipment FM-186A
Control unit	Temperature control unit
Darkroom	Darkroom, Photographic, Transportable ES-82A
Diffusion transfer kit .	Processing Kit, Photographic Film EH-92A
Enlarger	Printer, Projection, Photographic EN-105A
Film processor	Processing Machine, Photographic Film EH-93A
Intercom	Intercommunication Station LS-586/U
Interval timer	Timer, Interval FN-17(2)
Large developing tank	Processing tank (large) of Processing Unit, Photographic Film EJ-12A.
Loading stand	70-mm semiautomatic loading stand
Presoaker	Presoaker, Photographic Film FM-187A
Print processor.....	Processing Machine, Photographic Paper EH-91A
Processing unit	Temperature Control Unit, Photographic Processing FH-19A.
Repeating timer	Timer, Interval FN-5(3)
Safelight	Safelight, Darkroom, Photographic FM-188A
Small developing tank	Processing tank (small) of Processing Unit, Photographic Film EJ-13A
Stop timer	Timer, Stop RM-10,)

1-8. Description of Darkroom

a. The darkroom is divided into three compartments separated by two lightproof sliding doors (fig. 5-2), and contains thermostatically controlled air conditioning, heating, and dehumidification. An escape door with a film drop is located forward roadside, and the entrance door containing a fresh air intake and filter is located aft. Two air conditioners are mounted forward, outside the darkroom. The forward compartment (film processing compartment) contains the water supply installation, water heater, processing unit, diffusion transfer kit, and diffusion transfer equipment storage box. The center compartment (print processing compartment) contains two enlargers each controlled through a repeating timer (which also controls a safelight), two print processors, a dehumidifier (located curbside), 8 storage drawers for accessories, two paper safes and an exhaust fan. The film processing compartment contains two individually operated safelights, an exhaust fan and a thermostat control for the space heater. The aft compartment contains one film, and two print dryers (film and print drier section) located roadside; a circuit breaker panel located aft curbside; a Ditto machine, typewriter and a 3 drawer file cabinet (print identification section) located curbside. A refrigerator is located curbside below the work area with an individually operated safelight above, and a space heater is located roadside below the film and print driers. A 5-gallon fuel can is located outside aft roadside (fig. 5-1) to supply the heater. A weatherproof box containing the outside intercom is located aft curbside, with the electrical power input connection located directly above it. Three exhaust fans, a fresh air intake, an exhaust pipe, and the exhaust pipe condensate drain are located roadside, operating in conjunction with the space heater and film and print driers. The fresh water input and waste water drain connections (pump operated) are located curbside to the film processing compartment. A lightproof drain manifold for draining the water system is located on the floor of the film processing compartment. All three compartments are connected to the air conditioners and space heater by ducts (fig. 1-16). The film processing compartment contains a thermostat for the space heater, and the aft compartment contains a thermostat for air conditioner No. 2 (fig. 1-18). The three compartments are connected to one another and to the outside by an intercom system. Illumination is provided by two incandescent light fixtures in

the aft and center compartments and three in the forward compartment.

NOTE

The entrance and escape doors both contain a safety mechanism to release the locking device, if either door is locked from the outside. Refer to paragraph 25k for operation.

b. All components, including spare parts, are foam-packed in drawers. Transit cases are secured to the darkroom shelving or floor by web belting with latch fasteners. The drawers are locked closed by two turn screw latches.

1-9. Description of Major Units

a. Air Conditioners. Air conditioner No. 2, mounted forward curbside (fig. 5-1) is controlled by a thermostat in the aft compartment; air conditioner No. 1 mounted forward roadside, is controlled by a self-contained thermostat. Each air conditioner contains a removable filter, a fresh air control, and an ON-OFF-FAN-COOL switch. The cooling fresh air intake is connected to the darkroom air duct installation (fig. 5-2), and the return air is recirculated or vented to the outside. Electric power and thermostat interconnections are made to the air conditioners at a connector located on the forward outside wall of he darkroom (fig. 2-2).

b. Dehumidifier. The dehumidifier is a self-contained unit secured to the floor in the center compartment curbside, under the print processor (fig. 5-2). Humid air from the darkroom is drawn into the dehumidifier from the sides and rear of the unit and from the return air duct (fig. 1-16). The condensate flows outside the darkroom through a drain located curbside (fig. 5-1). The dehumidifier is automatic in operation and the desired humidity is set by a control knob (humidistat) at the side of the unit which also acts as an on-off switch (fig. 2-9). Power connection is made at a male connector located next to the humidistat. A manual reset circuit breaker is located above the humidistat.

c. Diffusion Transfer Kit and Diffusion Transfer Equipment Storage Box. The diffusion transfer kit (fig. 5-2) consists of a film processor, a presoaker, two plastic chemical supply bottles, two film clips, two core adapters, thermometer, scissors, mylar tape, and the carrying case. Refer to TM 11-6740-285-12, for further description. The equipment required for operation is stored in the diffusion transfer equipment storage box (fig. 5-1) located in the forward compartment curbside above the diffusion transfer kit. The contents of the equipment storage box are given below.

Sponges (2)
Plastic bags (12)
Funnels (3)
Stirrer (1)
Plastic bottles (2)
Handles (2)
135 film magazine (2)
35-mm x 100 ft film (4)
MX615 bimat imbibant (8)
Spools (8)
35-mm x 200 ft film (1)
70-mm x 50 ft film (4)
710 m x 100 ft film (4)

d. Film and Print Drying Cabinets. One film and two print drying cabinets are located aft roadside, above the space heater (fig. 1-1). The three cabinets each contain an exhaust fan which operates in conjunction with an individual thermostat. The drying cabinets may be operated with forced hot air from the space heater or with forced air from the darkroom; each print drier contains perforated removable shelves which accommodate the prints to be dried. The film drier contains one sliding rack which holds 4 x 5-inch film carriers, and two wire baskets to contain film reels.

e. Enlarger and Accessories. One enlarger is permanently mounted roadside, and the other curbside in the center compartment (fig. 5-2). The shelf below each enlarger contains a paper safe and the shelf may be lowered to position 2 for increased projection distance. Each enlarger is operated through a repeating audible timer, safelight. With the exception of the 11 x 14-inch which controls the enlarger lamp and associated enlarging easel FN-10 (1) (fig. 1-9), of which one is stowed under each enlarger -(fig. 5-2), and the 12-inch safety trimmer (fig. 1-10) secured between the Ditto machine and typewriter, all of the accessories (figs. 1-2 through 1-8) for both enlargers are stowed in drawers numbered 1 through 8 (fig. 5-2) in the center compartment. Refer to TM 11-6740-265-12 for further description of the enlarger and accessories.

f. Refrigerator. A refrigerator is located in the aft compartment (fig. 5-2) adjacent to the 3-drawer file cabinet. The desired temperature setting may be made by a screwdriver set thermostat (fig. 2-10) located at the top inside of the refrigerator. Electrical power is controlled by inserting or withdrawing the line plug in the circuit 4 receptacle (fig. 1-18). The refrigerator is

used for storage of imbibed diffusion transfer film and photographic supplies requiring temperature control.

g. Space Heater. The space heater is located in the aft compartment below the film and print drying cabinets (figs. 1-1 and 5-2), and contains its own control panel and thermostat (fig. 2-8). A summer and winter mode of operation is obtained by a SUMMER-WINTER slide damper controlling the flow of heated air through the

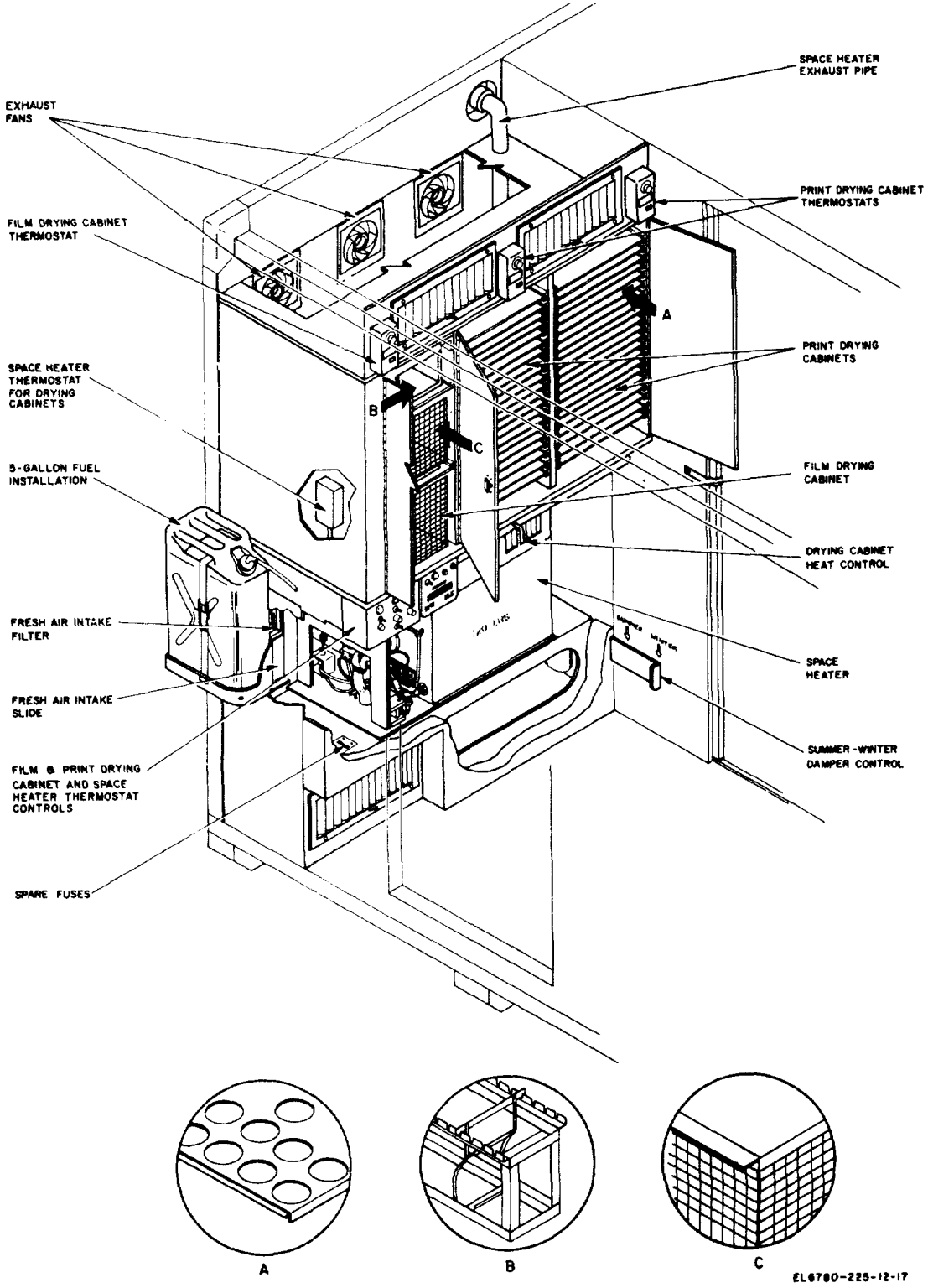


Figure 1-1. Film, print drier and space heater installation

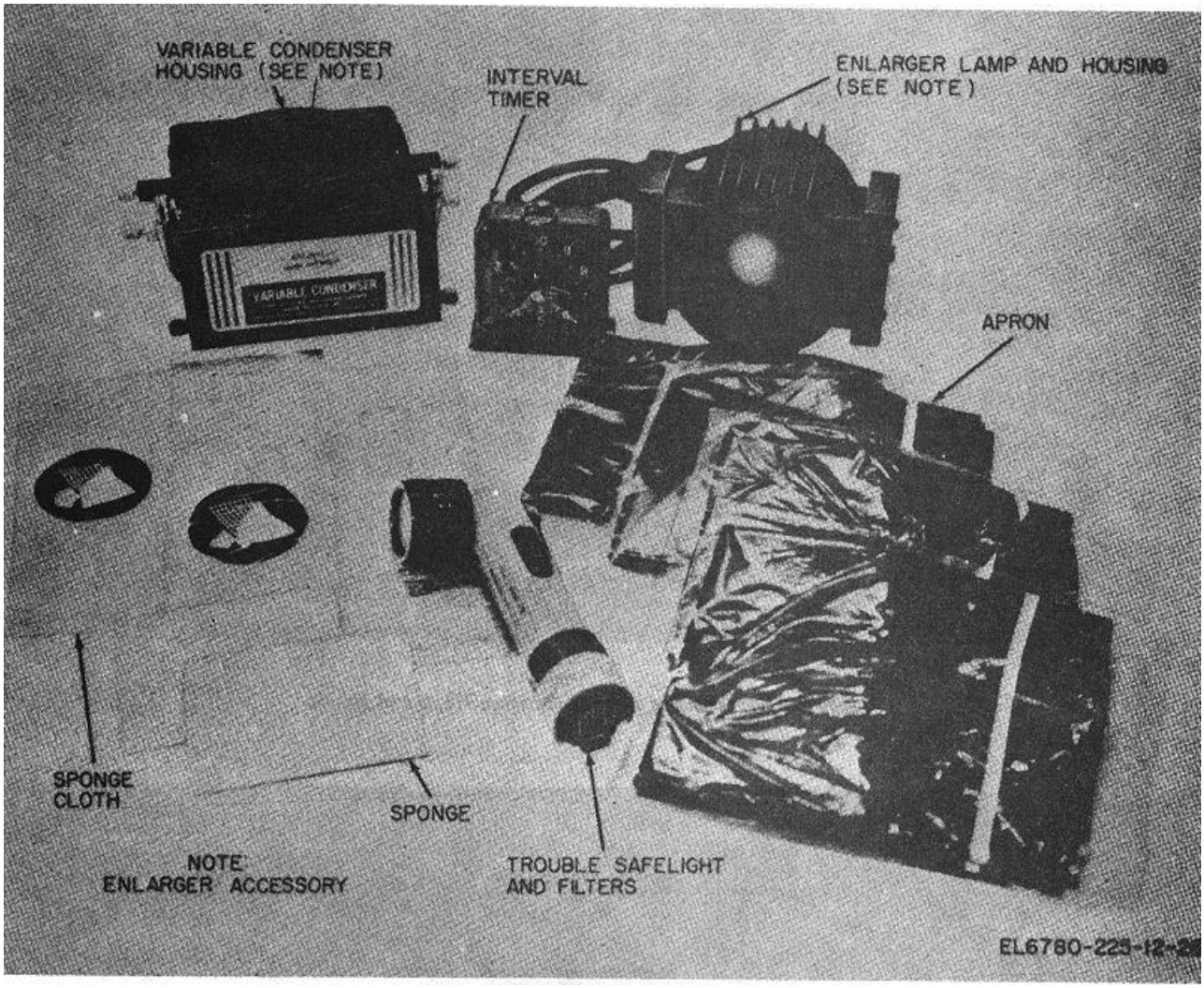


Figure 1-2. Contents of storage drawer No. 1.

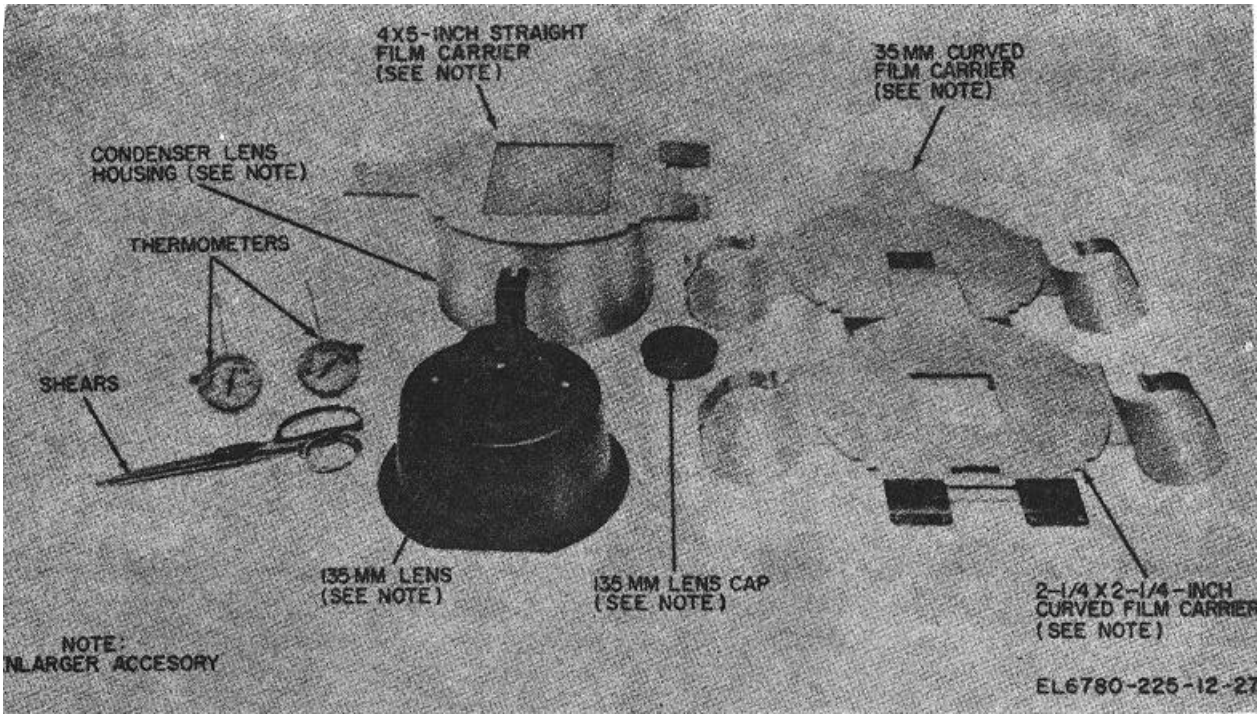


Figure 1-3. Contents of storage drawers No. 2 and No. 6.

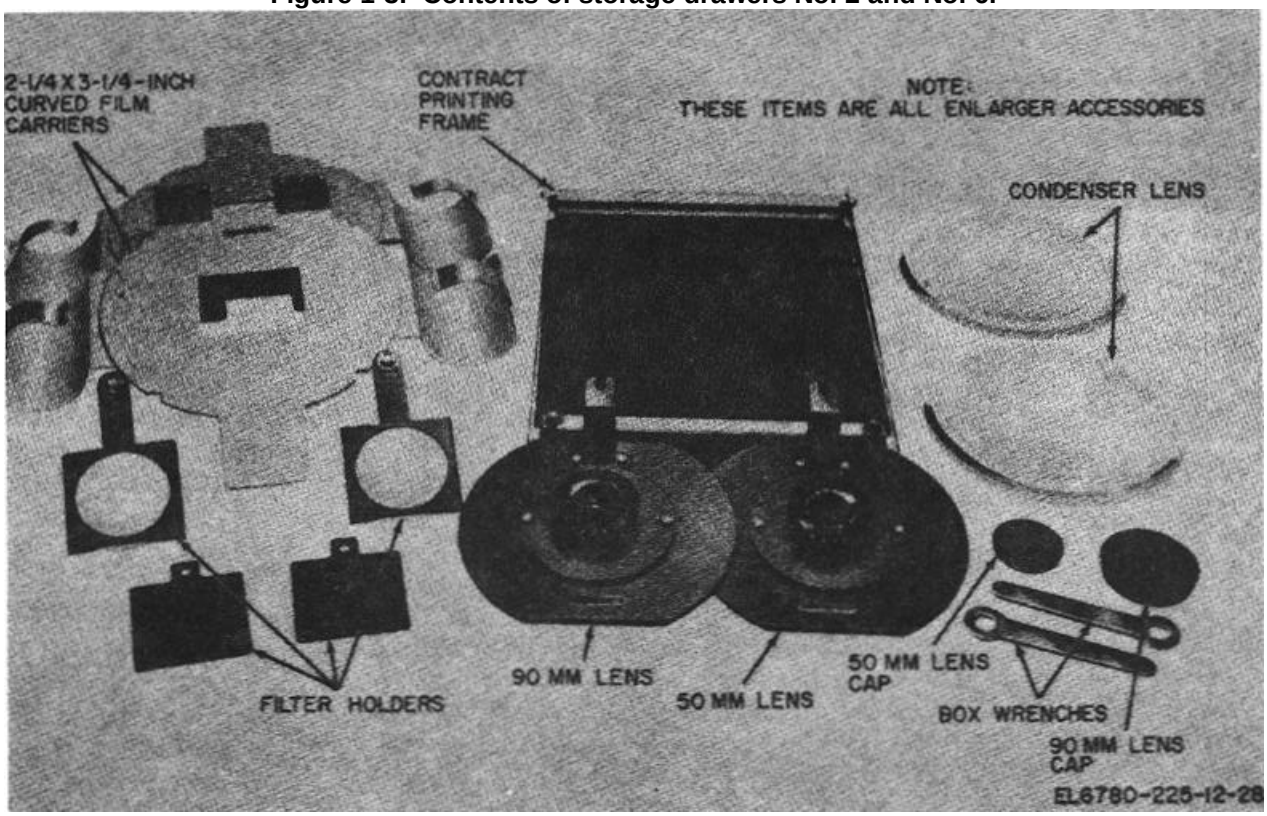


Figure 1-4. Contents of storage drawer No. 3.

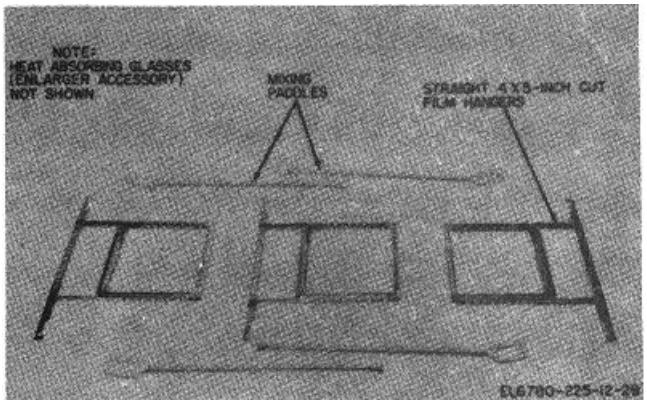


Figure 1-5. Contents of storage drawer No. 4.

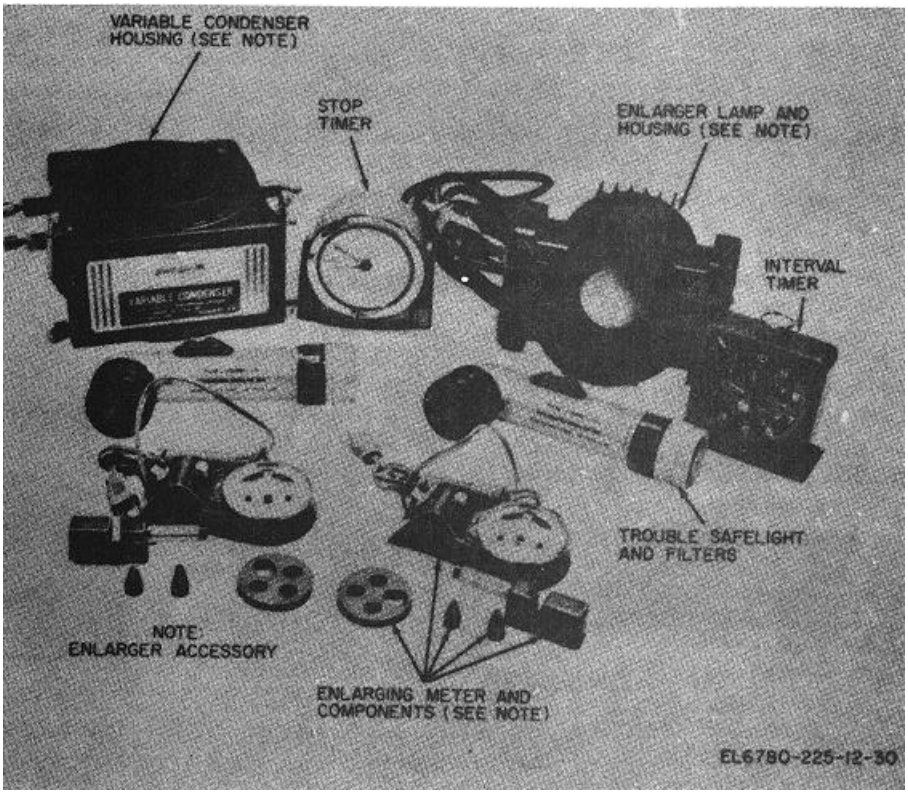


Figure 1-6. Contents of storage drawer No. 5.

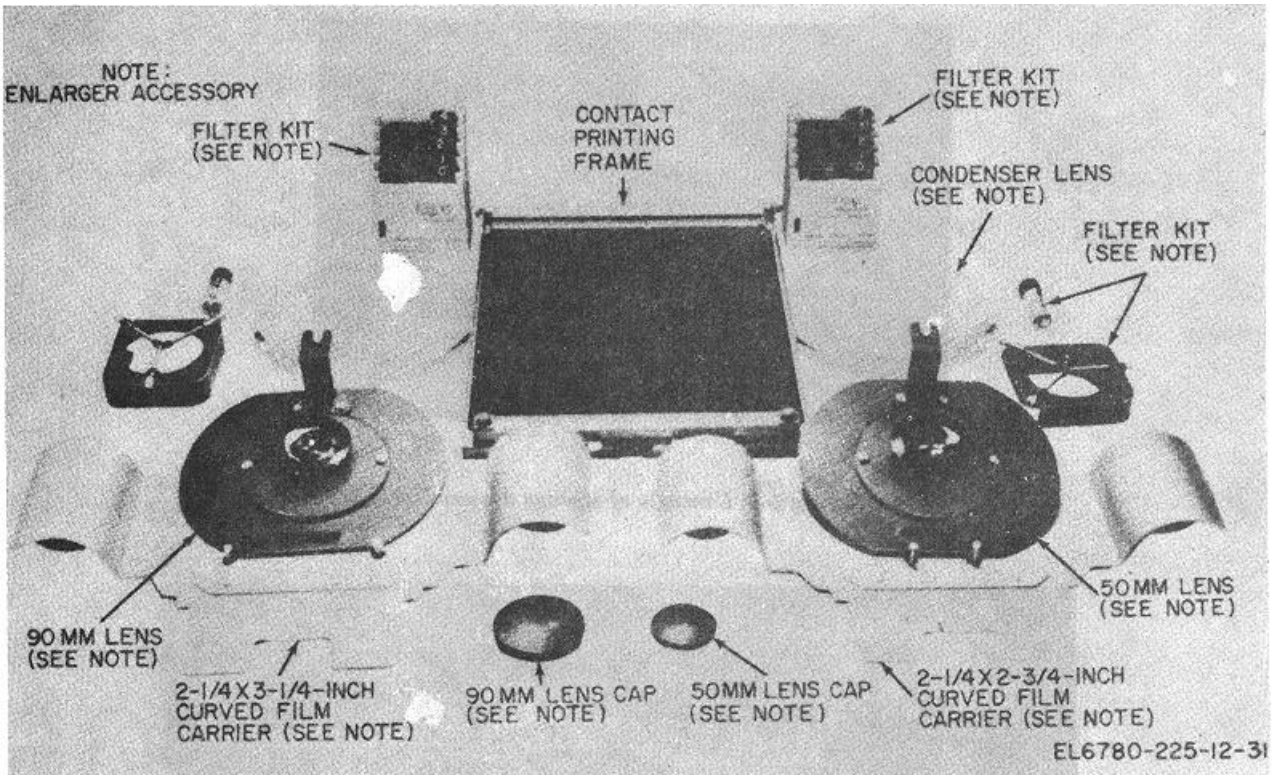


Figure 1-7. Contents of storage drawer No. 7.

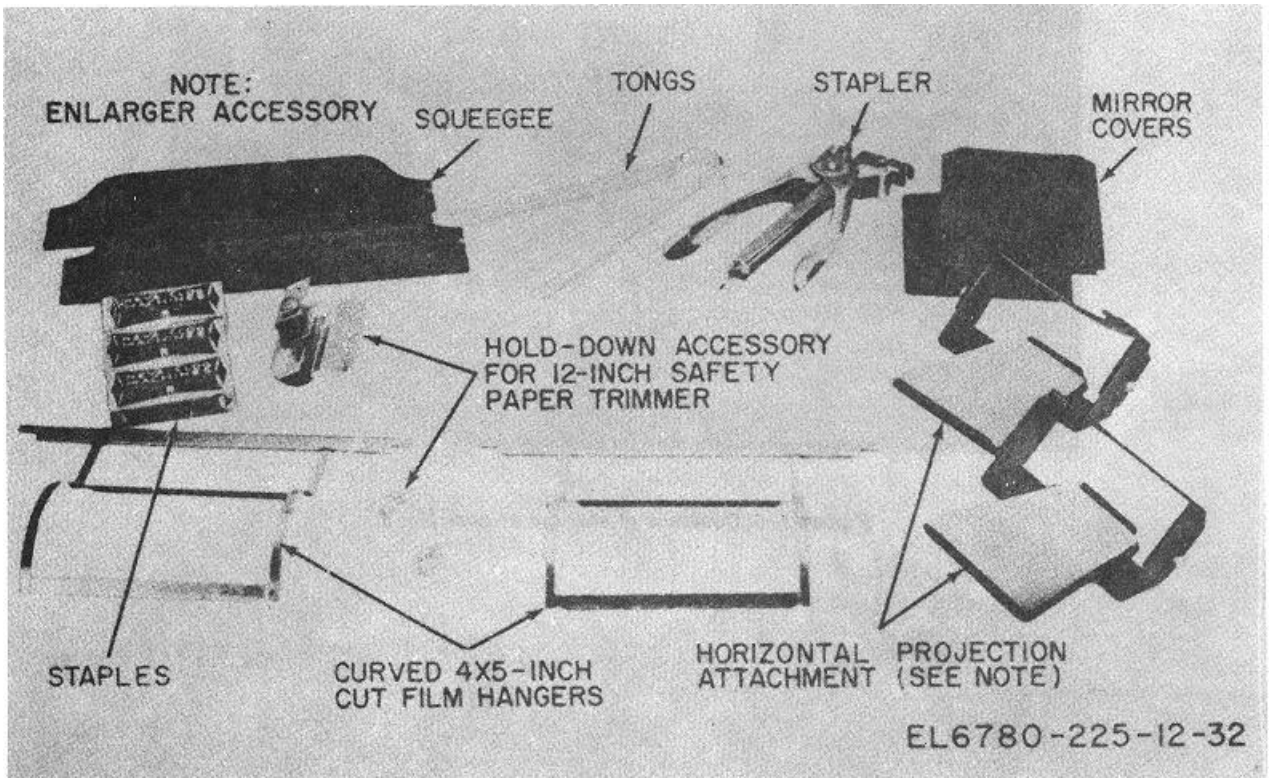


Figure 1-8. Contents of storage drawer No. 8.

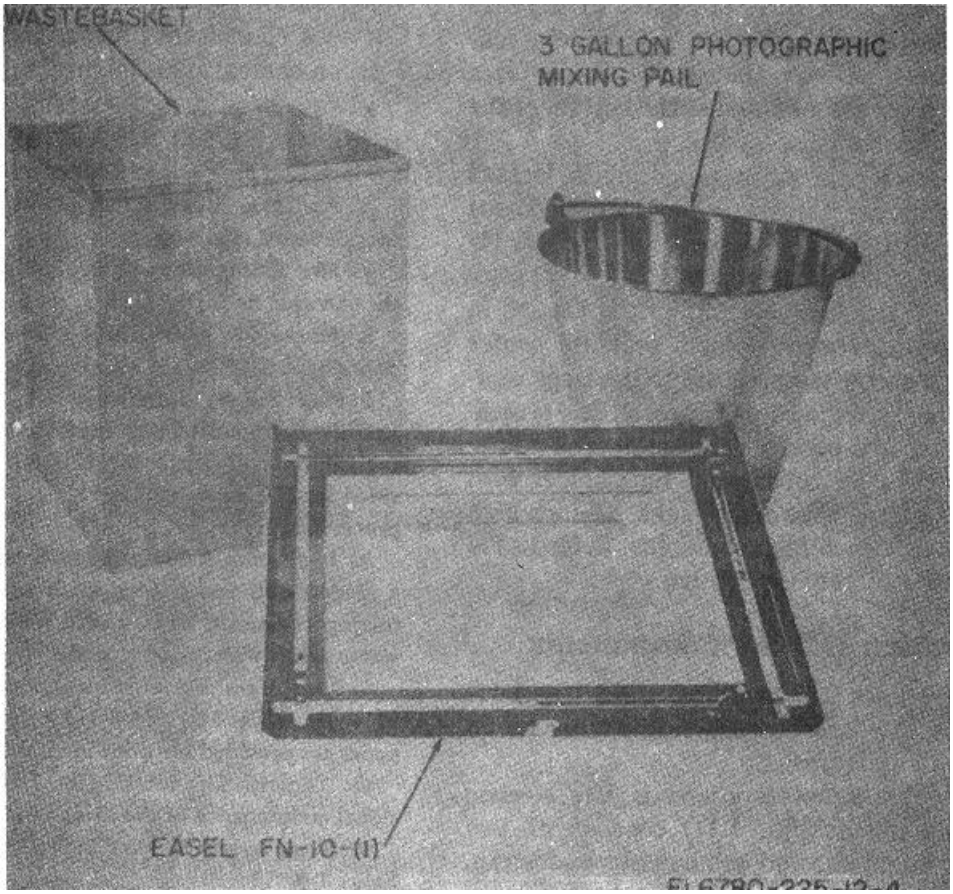


Figure 1-9. Easel FN-10(1), waste-basket, and 3-gallop photographic mixing pail.

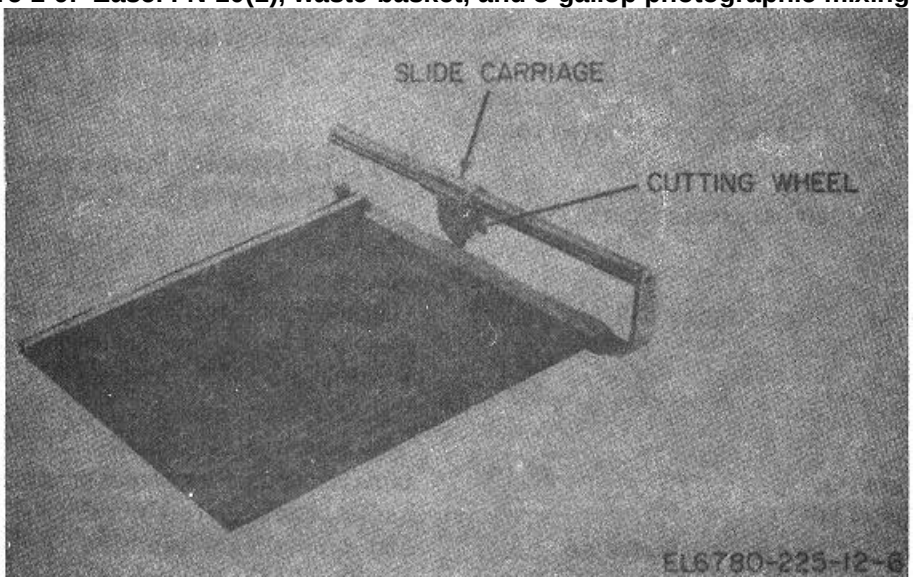


Figure 1-10. 12-inch safety trimmer.

air duct installation (fig. 1-1). An Adjustable fresh air intake, and fresh air filter is located at the rear of the space heater compartment to provide a constant flow of fresh air from the outside. Spare fuses for the space heater are mounted at the bottom of the space heater compartment.

h. Print Processor. A print processor is located next to each enlarger to permit rapid development of exposed stabilization type papers. Refer to TM 11-6740-287-12 for further description.

i. Processing Unit. A processing unit is located in the forward compartment which provides water maintained at a preset temperature to the large compartment of the processing sink (fig. 5-2). The processing unit consists of a control unit, small tank holder and 9 small developing tanks, wash tank holder with wash tank and 3 large developing tanks, a 6-inch high standpipe, and a 12-inch high standpipe. Refer to TM 11-6740-286-12 for further description.

1-10. Description of Minor Components

a. Boarding Ladder. The boarding ladder (fig. 1-11) is used to enter the darkroom when it is mounted on a truck as shown in figure 5-1.

b. Electric Installation Equipment. The electric installation equipment (fig. 1-11) consists of two power cables, adapters, and ground rod and strap. This equipment is used to interconnect the darkroom with an external power source.

c. File Cabinet. A 3-drawer file cabinet is located in the aft compartment in the print identification section. The drawers may be secured by turning two turnscrew latches at the top of each drawer. The drawers will accommodate 9 1/2 x 11 3/4-inch file folders.

d. Film Processing Equipment. Film processing equipment supplied with the darkroom is given below and in figure 1-12.

Interval timer, 0 to 120 minutes, figure 1-2 and figure 1-6.
Apron, figure 1-2.
Trouble safelight and filters, figure 1-2 and figure 1-6.
Sponge, figure 1-2.
Sponge cloth, figure 1-2.
Shears, figure 1-3.
Thermometer, figure 1-3.
Mixing paddles, figure 1-5.
Straight 4 x 5-inch cut film hangers, figure 1-5.
Stop timer, minutes and seconds to 1 hour, figure 1-8.
Squeegee, figure 1-8.
Tongs, figure 1-8.
Curved 4 x 5-inch cut film hangers, figure 1-8.
3-gallon photographic mixing pail, figure 1-9.

e. Film Drop. A lightproof film drop is installed in the escape door (fig. 5-2), which will accommodate up to one 4 x 5-inch film pack or one 70mm film cartridge.

f. Fire Axe. A fire axe is located curbside in the center compartment (fig. 5-2).

g. Fire Extinguisher. A fire extinguisher is installed on the entrance door (fig. 5-2).

h. Flashight. A flashlight is installed on the entrance door (fig. 5-2).

i. Fuel Supply Installation. A 5-gallon can and fuel strainer are mounted rear roadside as shown in figure 1-13.

j. Equipment Protective Covers. Plastic covers are provided for the air conditioners (fig. 5-1), enlargers, and print processors.

k. Immersion Heater. The immersion heater (fig. 1-12) is a plug-in unit and is used as an auxiliary water heater for mixing chemicals, and to melt snow in the sink to supply water to the water storage tank.

l. Print Identification Equipment. A Ditto machine and typewriter (fig. 5-2) and 8-1/2 x 11-inch pressure sensitive paper are provided for print identification.

m. Tool kit. The tool kit (fig. 1-14) is used for organizational maintenance of the darkroom.

n. Wastebasket. A wastebasket is provided as shown in figure 1-9.

o. Water Installation Equipment. A 50-foot water hose with float is provided for connection of the darkroom to a fresh water supply (fig. 1-15). A 50-foot drain hose also is provided to carry off the waste water from the darkroom.

p. Exhaust Pipe. An exhaust pipe (fig. 5-1) is provided to prevent lethal gases from space heater operation from being drawn into the fresh air intakes.

1-11. Additional Equipment And Materials Required But Not Supplied

a. Power Source. A generator set capable of supplying a minimum of 12 kilowatts (kw), 3 phase, 120/208 volts, 60 Hertz (Hz) is required to supply electrical power to the darkroom. A generator set capable of a minimum output of 12 kw is not part of the darkroom and must be requisitioned separately.

b. Expendable Supplies. The following table contains a list of expendable supplies denoting item names, Federal stock numbers (FSN), unit of supply, and approximate number of units used per 90 days. Use this list as a quick reference source for ordering depleted supplies.

Expendable Supplies

Item name	FSN	Unit	90-day supply
Ektamatic SC paper	6750-926-1695	Box	450
Ektamatic A-10 activator	6750-063-3739	Qt	180
Ektamatic S-30 stabilizer	6750-912-0455	Qt	180
Bimat Transfer Imbient Kit MX-615-3.	6750-935-7715	Qt	30
Dry Bimat Cover Sheet Type 3439, spec No. 753 (35-mm).	6750-481-5769	Roll	15
Dry Bimat Cover Sheet Type 3439, spec No. 546 (70-mm).	6750-481-5768	Roll	4
Dry Bimat Transfer Film Type 2436, spec No. 539 (35-mm).	6750-481-5766	Roll	45
Dry Bimat Transfer Film Type 2436, spec No. 539 (70-mm).	6750-231-4893	Roll	15
Developer, Photographic D-76.	6750-153-8911	Gal	45
Developer, Photographic DK-50.	6750-153-8909	Gal	90
Developer, photographic microdol.	6750-817-1364	Gal	3
Developer, Photographic DK-60A.	6750-237-8126	Gal	9
Chemical kit, photographic	6750-685-5833	1/2 Gal	15
Chemical kit, photographic	6750-880-3429	Gal	15
Chemical kit, photographic	6750-680-7877	Gal	15
Fixing bath, photographic	6750-802-5470	Gal	90

Expendable Supplies

Item name	FSN	Unit	90-day supply
Acetic acid, glacial photographic	6750-543-4407	lb	3
Paper, photographic projection.	6750-803-9436	Box	3
Paper, photographic projection.	6750-043-4298	Box	1
Solution, film wetting	6750-344-8133	Qt	4

1-11.1. Silver Recovery Unit

a. The silver recovery unit (fig. 2-17) is an electrolytic system for recovering silver from photographic solutions. The unit has a recovery capacity of 1/2 troy ounce per hour.

b. A special tool is provided for removal and installation of the cathode.

1-12. System Application

a. Heating and Air-Conditioning System. The heating and air-conditioning system (fig. 1-16) distributes heated, cooled, or direct outside air to the three compartments of the darkroom. The system includes the space heater, two air conditioners, a dehumidifier, and a network of ducts with adjustable registers. The ducts and components can be set to supply heated cooled, and/or

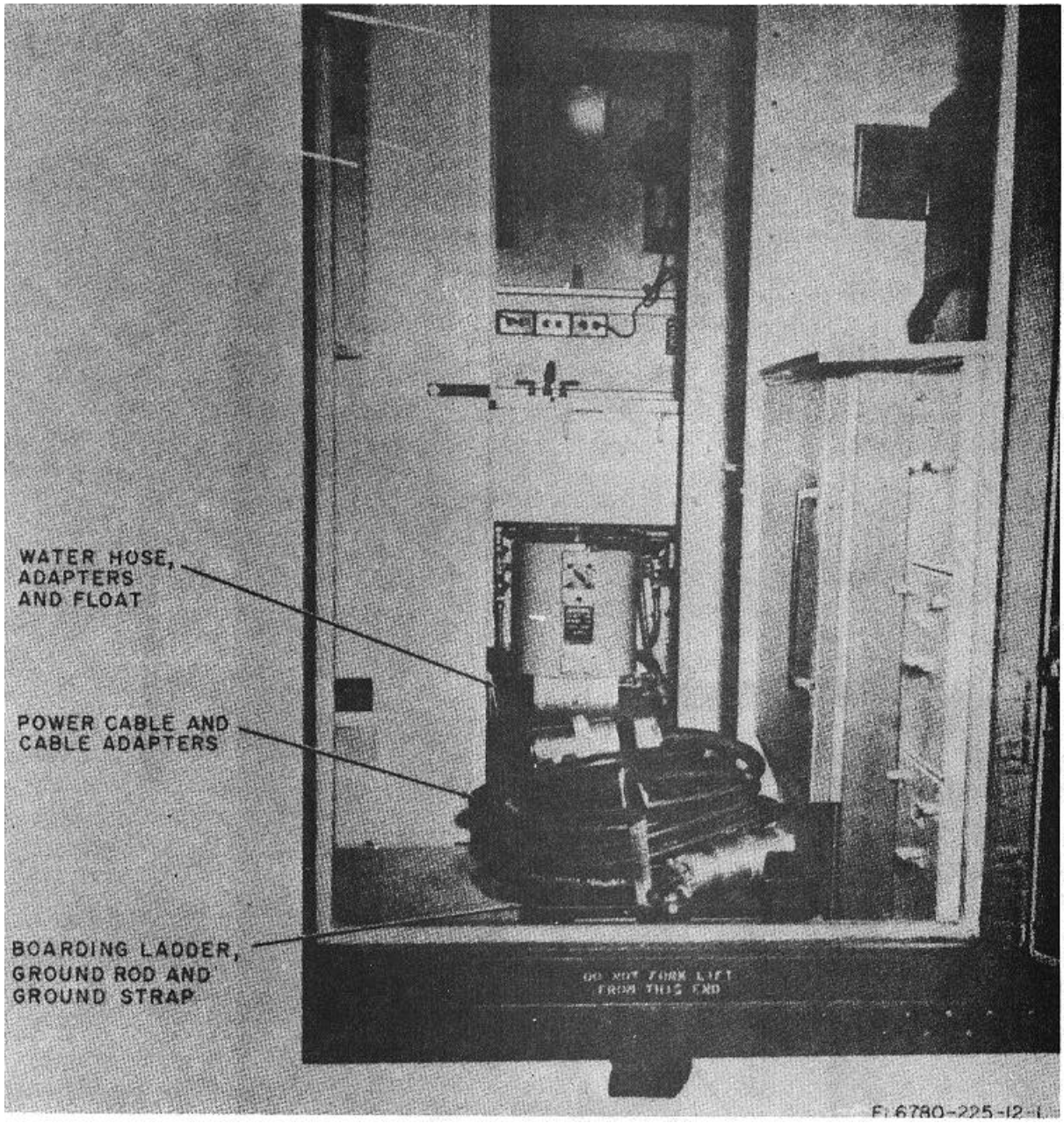


Figure 1-11. Boarding ladder, adapters, ground rod and strap, power cables, water hose, and float storage location diagram.

direct air to the compartments in the darkroom. Airflow can be controlled to supply heated air to the film and print drying cabinets from the space heater. At the same time, the airflow system can be channeled to supply cooled air to the operating personnel. Heating and air-conditioning airflow can be regulated automatically to maintain preset darkroom operating temperatures. Fresh air can be drawn into the darkroom through the heater or the air conditioner, or through both, for ventilation purposes. Heated or cooled air may also be recirculated.

b. Water Supply System. The water supply system, located in the forward compartment of the darkroom (fig. 1-17), includes a water pump and an on-off switch, a filter, strainer, flow indicator, water heater, and an on-off switch with pilot lamp, water tank, pipes, and valves. Water for distribution within the darkroom can be drawn from either an outside source under pressure, a

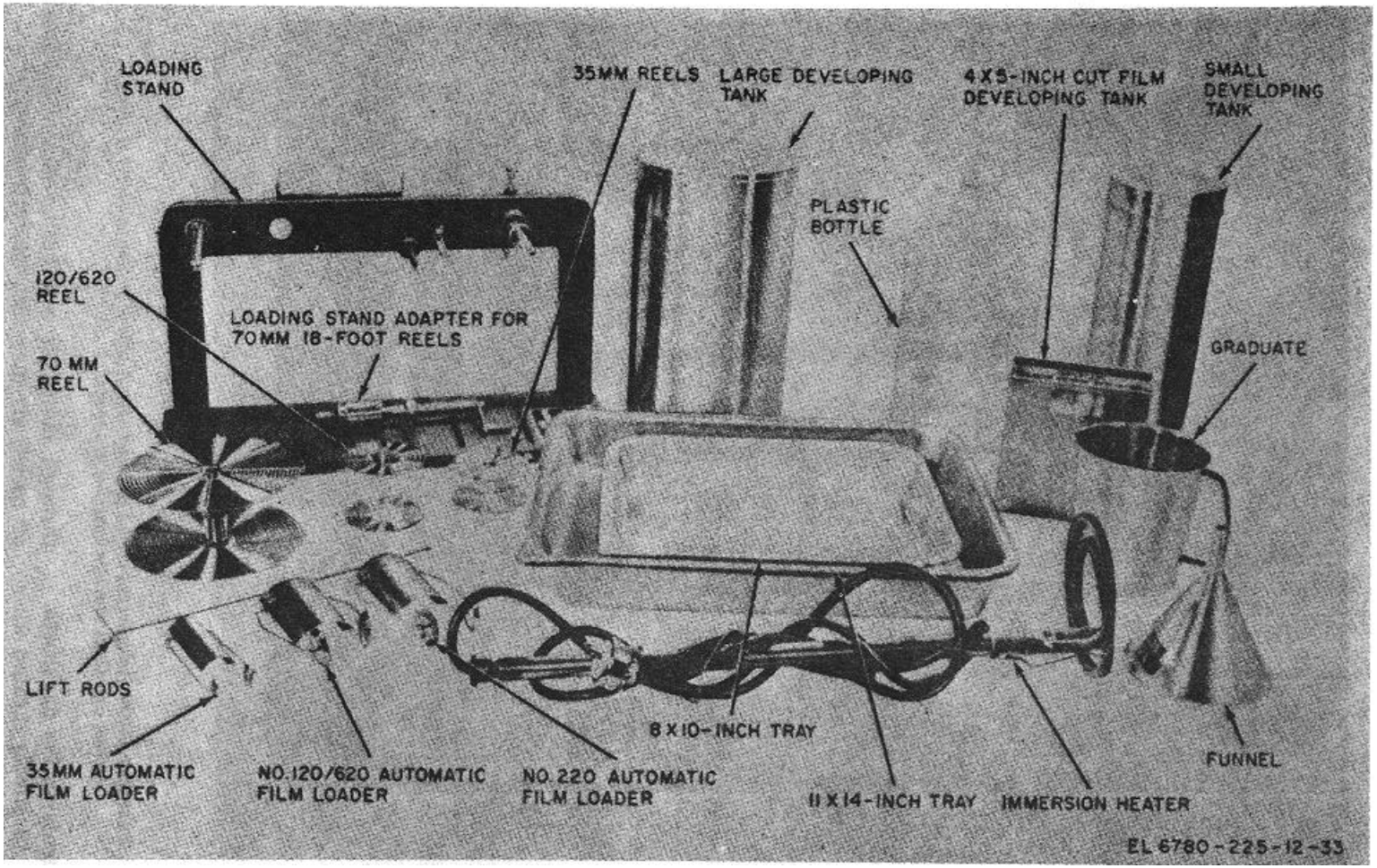


Figure 1-12. Sink stowage.

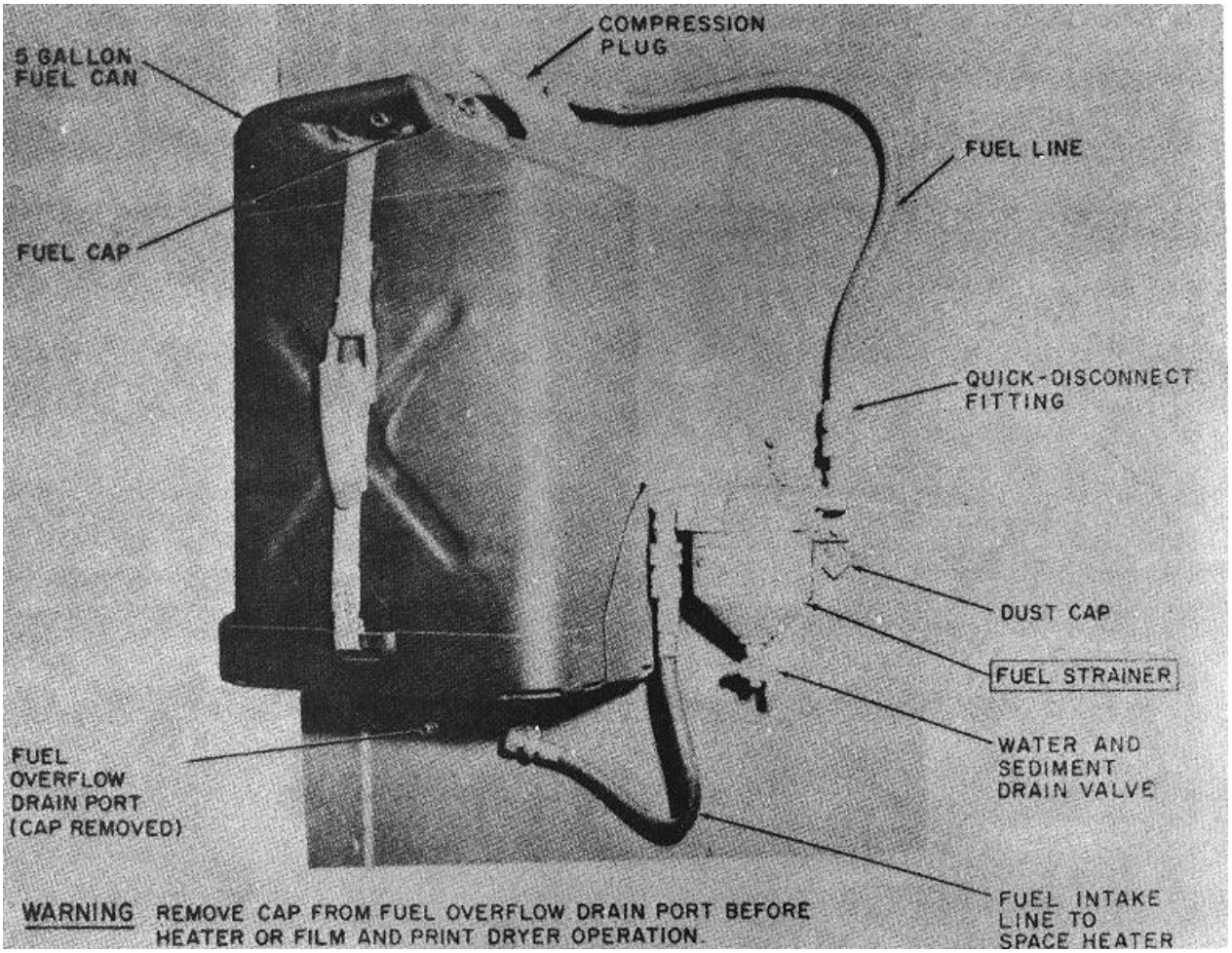


Figure 1-13. 5-gallon fuel supply installation.

lake or stream, or from the water tank in the darkroom. Water from the water tank can be channeled either to the processing sink or the processing unit, or both.

c. Intercom and Wire Raceway System. The intercom and wire raceway system (fig. 1-18) houses 110-volt and intercommunication wiring to each compartment in the darkroom and communication to the outside. External power (paras *1-1 and 2-4) is brought into the darkroom through the circuit breaker panel located in the aft compartment (fig. 5-2), and distributed to 11 circuits. The thermostat for air conditioner No. 2, the space heater, and film and print drying cabinets are included in this system. The circuit breakers controlling the circuits of the darkroom are given below.

Circuit breaker	Controls
1	Air conditioner No. 1.
2	Air conditioner No. 2.
3	Dehumidifier.
4	Immersion heater, refrigerator, intercom, and exhaust fan,
5	Water heater.
6	Safelights.
7	Space heater and film and print drier exhaust fans.
8	Print processors and enlargers.
9	Processing unit.
10	Water pump.
11	Compartment lighting.
12	(Spare)
13	All power to darkroom.

NOTE
The circuit breaker number designates the circuit number which it controls.

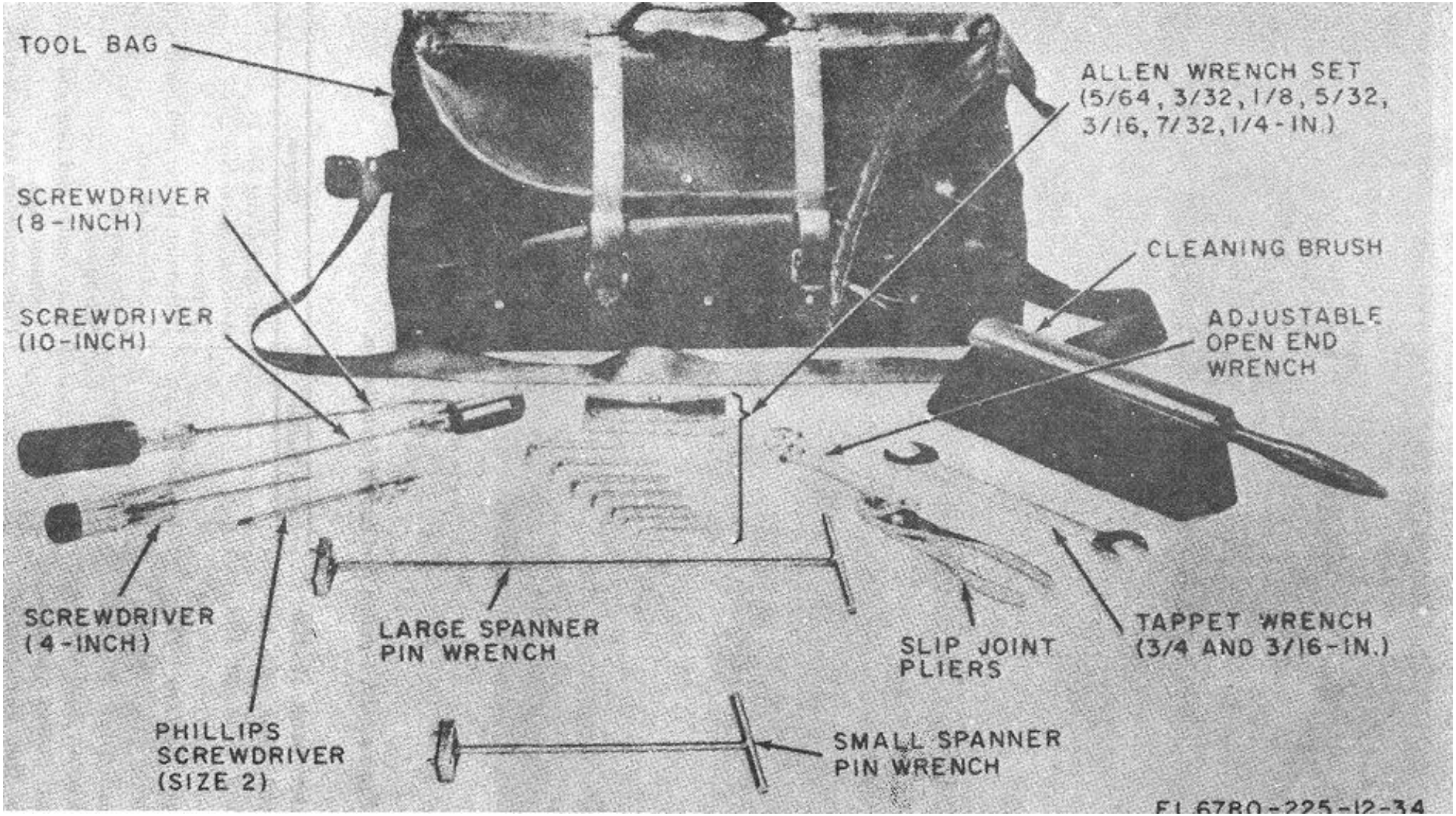


Figure 1-14. Toolkit

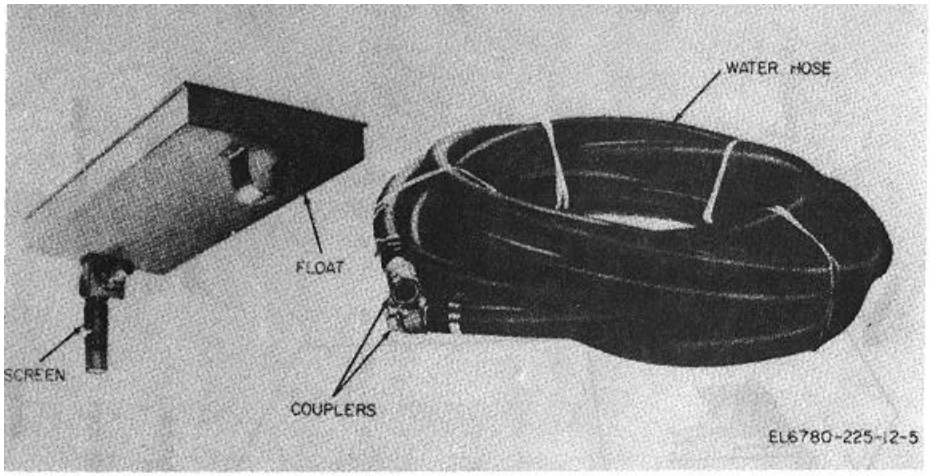
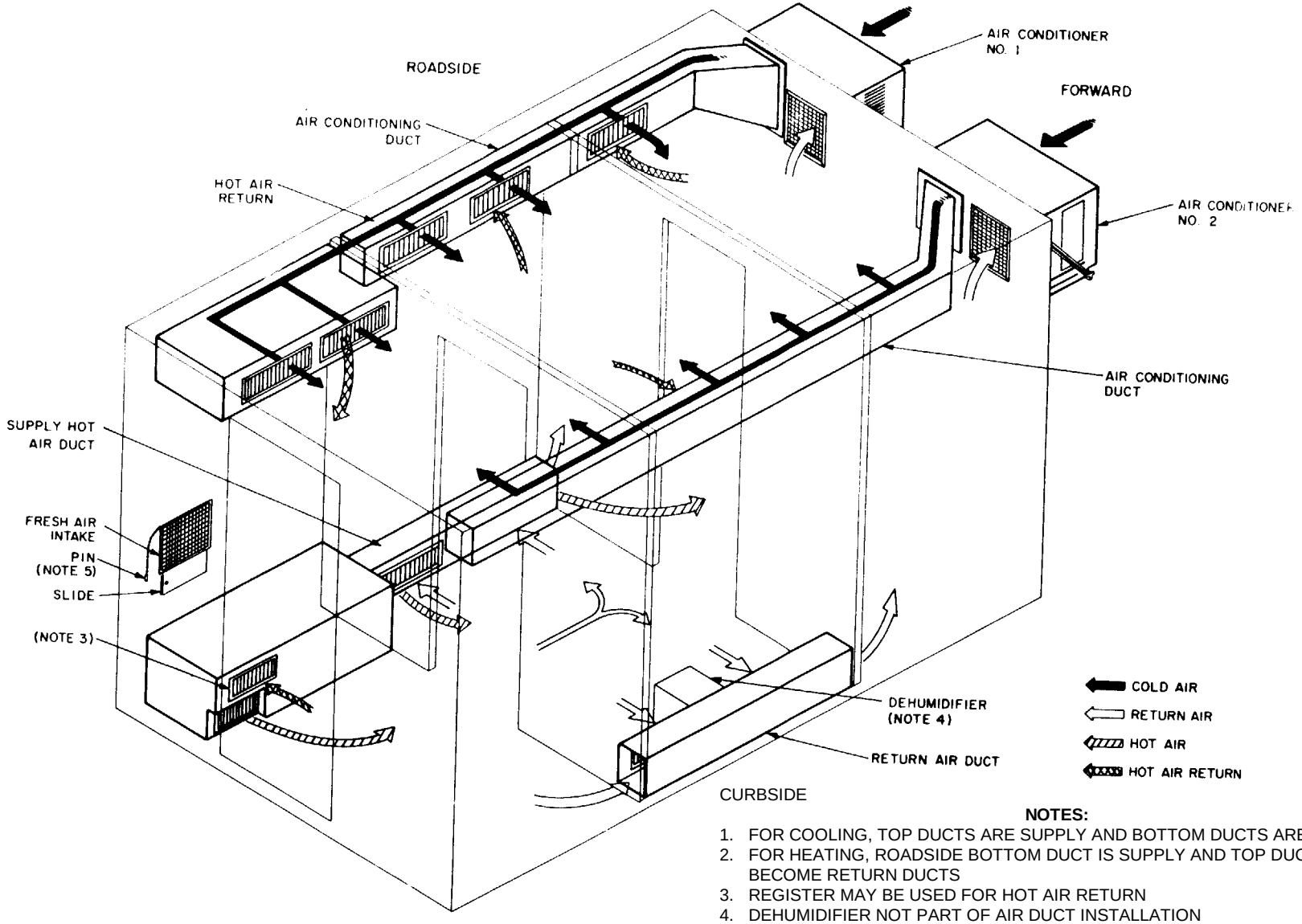


Figure 1-15. Water hoses and float.



NOTES:

1. FOR COOLING, TOP DUCTS ARE SUPPLY AND BOTTOM DUCTS ARE RETURN
2. FOR HEATING, ROADSIDE BOTTOM DUCT IS SUPPLY AND TOP DUCTS BECOME RETURN DUCTS
3. REGISTER MAY BE USED FOR HOT AIR RETURN
4. DEHUMIDIFIER NOT PART OF AIR DUCT INSTALLATION
5. PLACE PIN IN DESIRED ADJUSTMENT HOLE

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Figure 1-16. Heating and air-conditioning system.

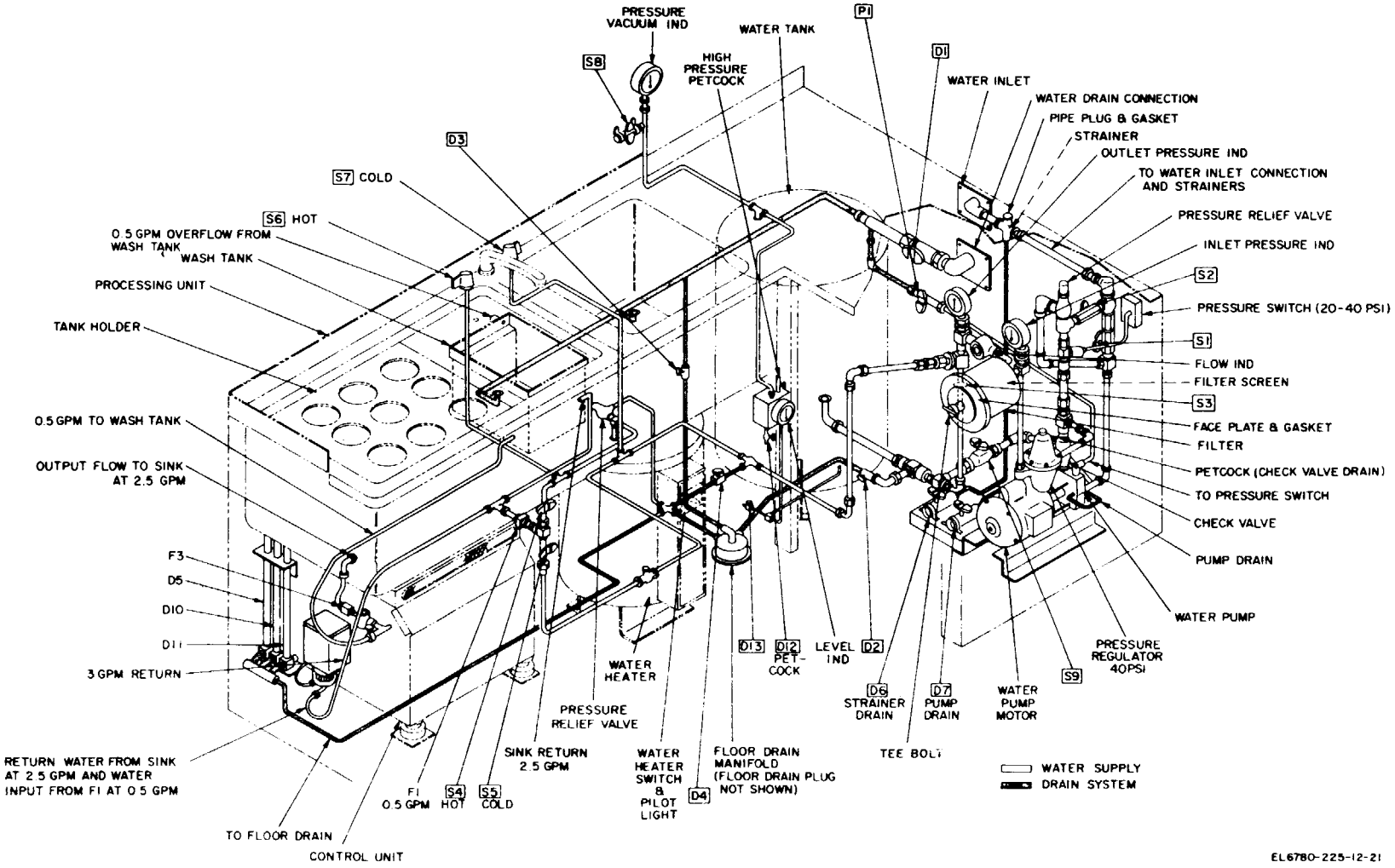


Figure 1-17. Water supply system.

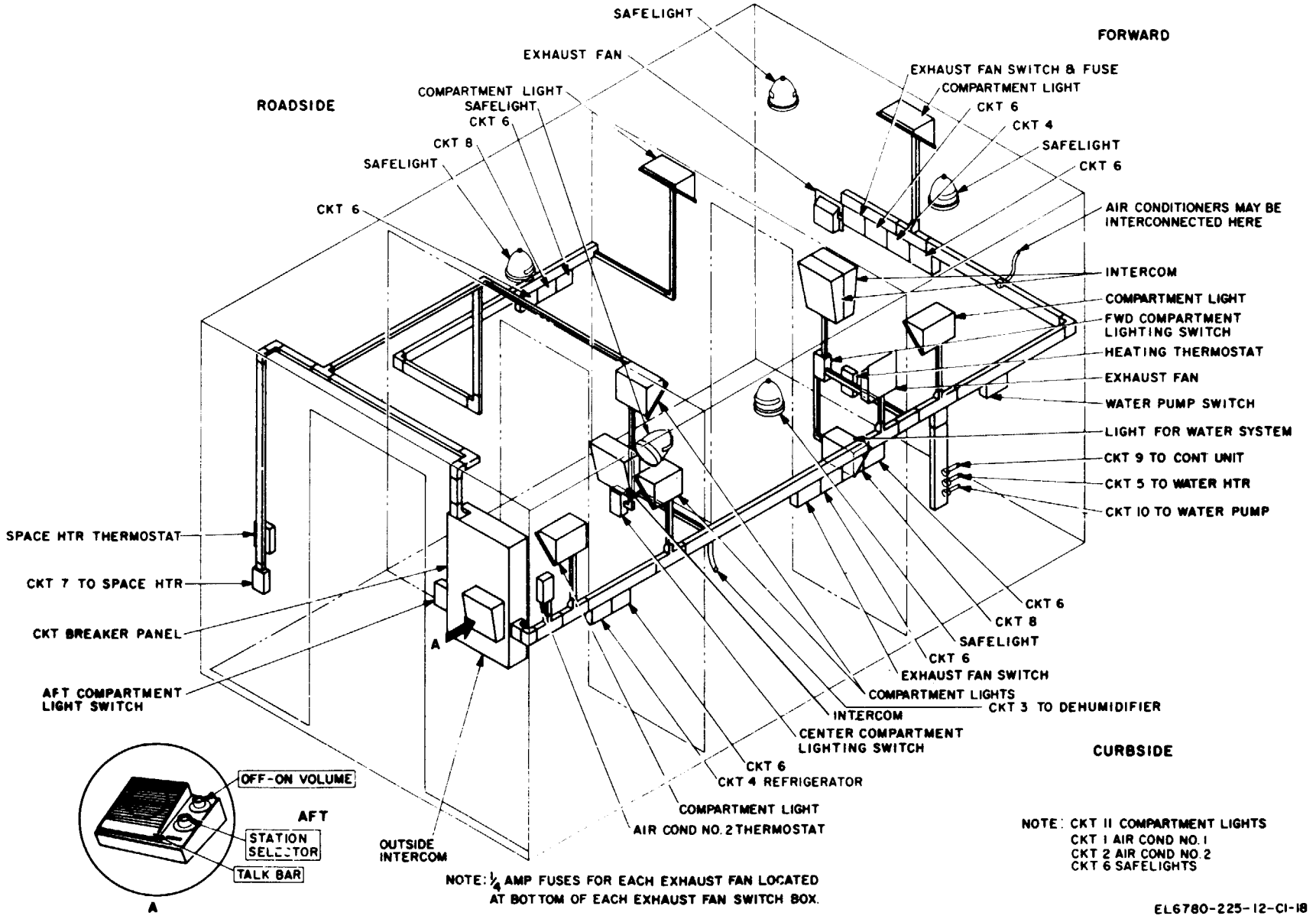


Figure 1-18. Intercom and wire raceway system.

CHAPTER 2
INSTALLATION AND OPERATION

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Siting

CAUTION

The darkroom may be positioned by using a forklift. Forklift slots are located curbside and roadside (fig. 5-1). Make certain that the forks pass completely under the darkroom and extend through the three skids. The darkroom may also be towed by attaching cables to the tow rings.

a. Ground. The darkroom site must be firm ground, reasonably level, with good drainage characteristics to carry off water waste. The darkroom must be located within 40 feet of water, drain, and electric power connections. The curbside must face the prevailing wind, so that the exhaust gas from the space heater blows away from the darkroom. During summer operation, select a shaded site to decrease the solar load on the air conditioners. The darkroom may be leveled by inserting screwjacks under the jack pads. The darkroom shall be checked with a spirit level in both the vertical and horizontal planes. If a spirit level is not available, fill the large compartment of the processing sink with water until the water level is adjacent to the bottom of the small tank holder (TM 11-6740-286-12). When the darkroom is level, the water will be evenly distributed over the top surface of the small tank holder (without small developing tanks). The site must be convenient to airdrop or messenger service. If an external source of water not under pressure is to be used, choose a site for the darkroom within 40 feet and on the same level as the water source. The darkroom is equipped to lift a column of water to a maximum height of 15 feet below the level of the water pump.

WARNING

Make certain that escape door will always open when darkroom is secured to truck.

b. Vehicle. The darkroom is normally used when mounted on a truck (fig. 5-1). The darkroom is equipped with four lifting rings. The lifting rings with sling assembly (fig. 2-1) provide the facility for loading and off-loading. Folding steps (fig. 5-1) provide access to the roof of the darkroom. Refer also to paragraph 311*n* or securing the darkroom to a truck.

2-2. Unpacking

WARNING

After unpacking boarding ladder, cable adapter, ground rod and strap, power cables, water hoses, and float, make certain that the three holddown rings are removed from the darkroom floor (fig. 5-2).

a. Remove the lock (fig. 5-1), unlock and open the entrance door.

b. Remove the toolkit (fig. 5-2).

c. Remove the air-conditioner covers (fig. 5-1), and covers from the print processors and enlargers.

d. Remove the cover from the 5-gallon fuel can and dust cap from fuel strainer (fig. 1-13).

e. Unbolt and remove the easels (fig. 5-2).

f. Unbolt the processing rack assemblies.

g. Unbolt the cover from the diffusion transfer equipment storage box.

h. Unlock storage drawers 1 through 8 and the file cabinet drawers.

i. Unstrap and remove the boarding ladder, cable adapters, ground rod and strap, power cables, water hoses, and float (fig. 1-11). Refer to paragraph 24*d* for cable adapters and power cables required.

j. Unstrap and remove the wastebasket and 3-gallon mixing pail (fig. 5-2).

k. Unstrap the Ditto machine carrying case and typewriter. Remove the 12-inch safety trimmer.

l. Remove the equipment stowed in the sink (fig. 1-12).

m. Unstrap the diffusion transfer kit (fig. 5-2).

n. Remove contents of storage drawers numbered 1 through 8 (figs. 1-2 through 1-8) as required.

o. Release the refrigerator door holding latch (fig. 5-2).

p. Remove the part kits for the print processor stored in the print processor solution tray (TM 11-6740-287-12).

q. Check to see that circuit breaker panel door is unlocked at all times.

WARNING

Make certain that circuit breaker panel door is unlocked at all times.

r. Remove the exhaust pipe (fig. 5-1) from the file cabinet (fig. 5-2).

s. Remove the straps from the silver recovery unit.

2-3. Checking Unpacked Equipment

a. Checking Equipment for Completeness. Check to see that the darkroom is complete (figs. 5-1 and 5-2) and check the equipment against the basic issue items list (app. B). Report all discrepancies (para 1-4). Check the contents of storage drawers 1 through 8 against figures 1-2 through 1-8. Check the contents of the sink against figure 1-12.

WARNING

Check that the gage on the fire extinguisher (fig. 5-2) indicates a safe charge.

NOTE

Storage of a minor assembly or part that does not affect proper functioning of the equipment should not prevent use of the equipment.

b. Checking Equipment for Damage. Inspect the darkroom and components for damage incurred during shipment. Check that there is no damage to power cables (fig. 1-11) and to water and drain hoses (fig. 5-2). Report all damaged equipment (para 1-3).

c. Checking Equipment for Modifications. If the darkroom has been used or reconditioned, see whether it has been changed by a modification work order (MWO). If the equipment has been modified, the MWO number(s) will appear on the front panel near the nomenclature plate. Check to see whether the modified equipments are covered in the manual.

NOTE

This manual does not include modification work orders (MWO).

2-4. Interconnections

WARNING

Be careful when working on the 120/ 208-volt alternating current (ac) line connections. Serious injury or death may result from contact with these terminals. DON'T TAKE CHANCES!

a. Power. Determine the voltage and type of electric current available before connecting the darkroom to a commercial power source (*c* below) or generator set power (*d* below). The darkroom is designed for operation from a 220-volt, 60-cycle, 3-chase, 4-wire wye electrical power source.

WARNING

The darkroom must be grounded (*b* below) to prevent a serious electrical shock when standing on the ground and contacting the darkroom.

b. Grounding. To ground We darkroom, proceed as follows:

(1) Drive ground rod (fig. 1-11) into the ground approximately 3 feet deep and 2 feet from the ground tie point (fig. 5-1). Insure that the ground contains moisture. If the ground is dry, wet the area around the ground rod with water.

(2) Connect the ground strap attached to the ground rod, to the ground tie point (fig. 5-1) on the darkroom and secure it.

NOTE

Interconnect the air conditioners as shown in figure 2-2 before applying power to the darkroom.

c. Commercial Power Connection. To connect the darkroom to a commercial power source, proceed as follows:

(1) Check that all circuit breakers on the circuit breaker panel (fig. 2-11) are set to OFF. Ensure that all power switches of the individual equipments in the darkroom are in the OFF position. Disconnect the line plug of the refrigerator from circuit 4.

(2) Remove the cover from the darkroom electric power connection (fig. 5-1).

WARNING

Connect power cable to darkroom electric power connection before connecting to power source.

(3) Connect one end of the power cable to the darkroom electric power connection.

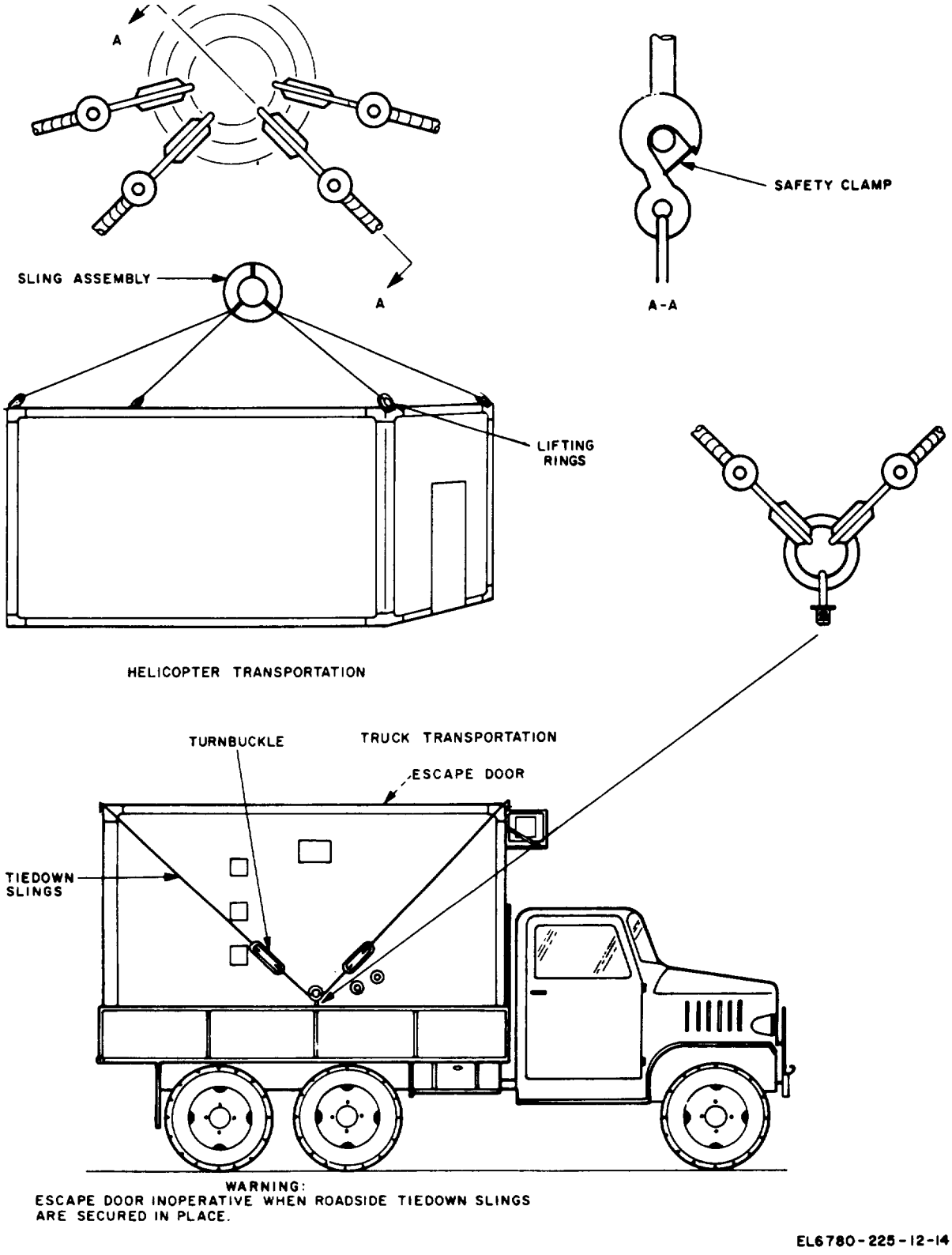


Figure 2-1. Darkroom loading and off-loading diagram.

(4) Connect the other end of the power cable to the power source.

(5) Check to see that the power cables of the individual equipments within the darkroom are connected to their respective receptacles (fig. 1-18).

(6) Turn all circuit breakers to the ON position. The darkroom is now ready for operation.

(7) Connect each repeating timer (curbside and roadside) mounted on the walls of the center compartment (fig. 5-2) between its respective enlarger and safelight, and circuit No. 8 (fig. 1-18) as shown in figure 2-5.

d. Generator Set Power Connection. To connect the darkroom to a generator set (para 1-11) power source, proceed as follows:

(1) Perform the procedures in *c*(1) and (2) above.

WARNING

Be sure the generator set is shut down and voltage does not exist at the connection terminals. Serious injury or death may result from contact with these terminals. DON'T TAKE CHANCES

(2) Connect the darkroom to the generator set using darkroom wiring diagram Figure 5-3.

(3) Perform the procedures in c(3) through (7) above.

NOTE

The fuel supply is normally ready to operate from a 5-gallon can. For operation from a 55 gallon can perform the procedure given in *e* below.

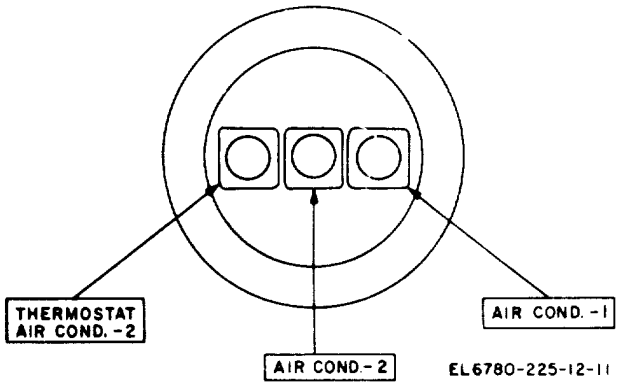


Figure 2-2. Air-conditioners interconnection diagram.

e. Fuel Supply. If a 55-gallon fuel drum is to be used in place of the 5-gallon fuel can, remove the fuel intake line and compression plug from the 5-gallon fuel can, and proceed as follows:

(1) Unscrew the 5-gallon fuel intake pipe from the compression plug (fig. 1-18) and remove.

(2) Check that the fuel available is the same type as specified in paragraph 1-5*h*.

(3) Screw the 55-gallon intake pipe (fig. 2-3) into the compression plug.

(4) Insert the compression plug into the 55-gallon duel drum and secure.

f. Water Source and Drainage.

CAUTION

Before making connection between the darkroom and a water source, install the hose supports (fig. 2-4) to the water and drain connections (fig. 5-1) by removing the hose support retaining bolts and installing the hoses in the hose sup

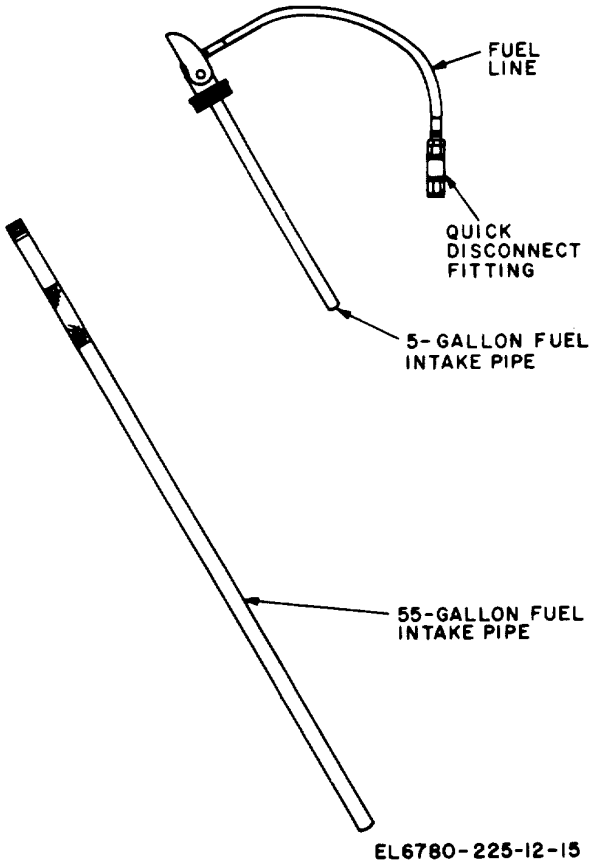


Figure 2-3. Fuel tank conversion.

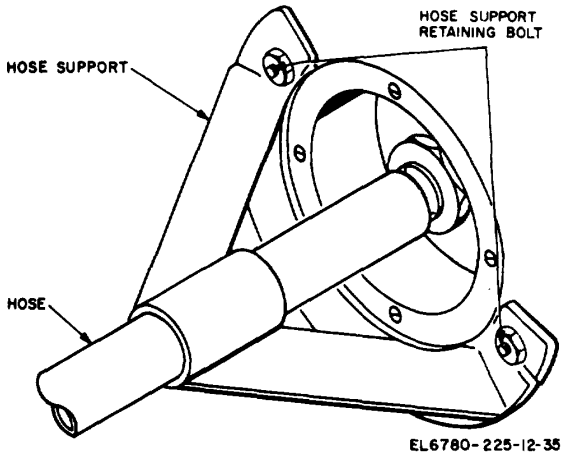


Figure 2-4. Hose supports.

ports. Connect the water input and water drain hoses to their respective connections, and secure the hose support with the hose support retaining bolts.

CAUTION

Before connecting the darkroom to a water source make certain that supply valves S-1 and S-2 are closed (fig. 1-17).

(1) *Water under pressure*. Connect the darkroom to a water source under pressure as follows:

CAUTION

Do not open the valve on the water source.

(*a*) Remove quick-disconnect caps from the darkroom water input and drain connections (fig. 5-1).

(*b*) Connect one end of the water drain hose to the darkroom drain connection.

NOTE

If necessary, dig a sump for the waste water from the water drain hose if drainage away from the darkroom and from the lake or steam is impossible.

(*c*) Connect the other end of the water supply hose to the water source connection and turn water on.

(*d*) Connect the other end of the water drain hose to the drainpipe connection or carry the end of the water drain hose away from the darkroom. Be certain the drainage will be away from the darkroom.

(2) *Lake or stream water*. Connect the dark room to a source of lake or stream water as follows:

(*a*) Perform the procedures in (1) (*a*), (*b*), and (*d*) above.

(*b*) Connect the other end of the water supply hose to the float (fig. 1-11).

(*c*) Place the float, with the strainer facing downward, into the lake or stream.

g. Repeating Timer. The interconnection of the repeating timer is shown in figure 2-5.

2-5. Assembly of Components and Initial Adjustment of Equipment

a. Equipment Covered by Technical Manuals. Refer to appendix A for the technical manuals covering the assembly and initial adjustment of the diffusion transfer kit, enlarger, print processor, and processing unit.

b. Ditto Machine. Instructions for the Ditto machine are contained in the Ditto machine accessory kit (fig. 5-2).

c. Dehumidifier. Connect the power cord to circuit 3 (fig. 1-18) and set the humidistat (fig. 2-9) for the desired humidity.

d. Fresh Air Intakes. Perform the steps given below.

(1) Open the entrance door, unlatch and secure the fresh air intake cover (fig. 5-1) in the open position according to weather conditions.

WARNING

Do not operate the space heater unless space heater fresh air intake (fig. 1-1) is open.

(2) Open the access door to the space heater compartment, adjust the fresh air intake and secure in desired position. Loosen screws and secure fresh air intake cover in the open position by securing wire braces.

(3) Close the access door.

e. Exhaust Fan Covers. Loosen the screws and secure all five exhaust fan covers in the open position (fig. 5-1) by securing wire braces.

WARNING

Do not operate space heater unless cap is removed from fuel overflow drain port.

f. Fuel Supply Installation. Remove the cap from the fuel overflow drain port and the dust cap from fuel strainer (fig. 1-13). Connect the quick disconnect fitting on free end of fuel line to the fuel strainer.

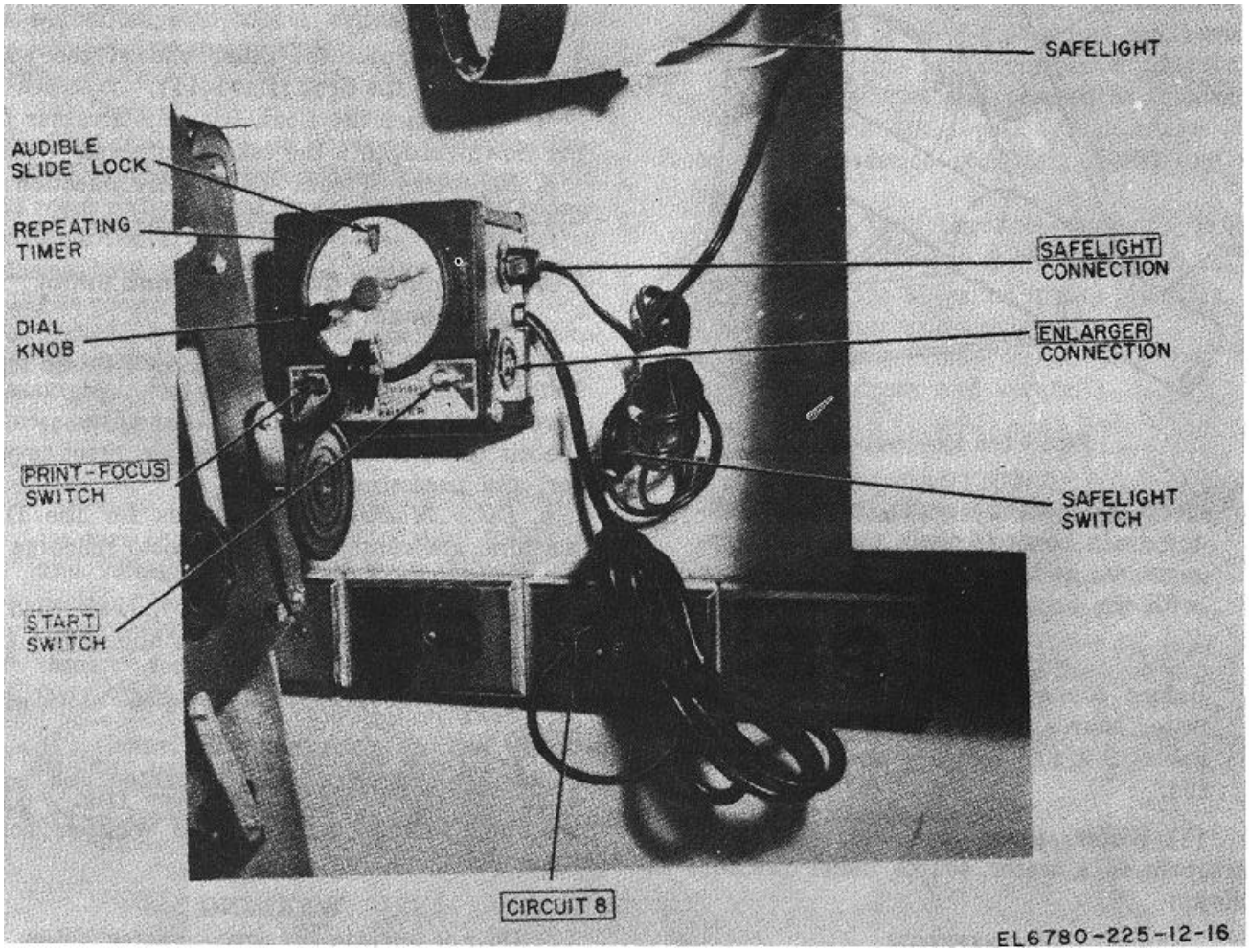


Figure 2-5. Repeating timer interconnection diagram.

WARNING

Do not operate the space heater unless the exhaust pipe is installed in a vertical position with the opening at the top.

g. Space Heater Exhaust Pipe and Condensate Drain.

Remove the space heater exhaust cap (fig. 5-1) and the condensate drain cap and install the exhaust pipe.

NOTE

Check to see that the refrigerator line plug is connected to circuit 4 (fig. 1-18).

h. Refrigerator. With a screwdriver, set the temperature control (fig. 2-10) to 40°F (4.5°C), checking the temperature against a thermometer (fig. 1-3).

i. Heating and Air-Conditioning System. Set registers of the louvres in the open or closed position according to weather conditions.

j. Thermostats. Set the heating or air-conditioning thermostats (fig. 1-18) to desired temperature according to weather conditions.

k. Door Safety Lock Releases. With the entrance door and escape door locked from the outside, remove the thumbscrew (fig. 2-6) on the inside of each door to determine that the door safety lock releases are operative.

l. Equipment Covered by Manuals Stored in Darkroom File Cabinet. Refer to the equipment manuals stored in the darkroom file cabinet for instructions for the refrigerator, dehumidifier and other components of the darkroom not covered by technical manuals.

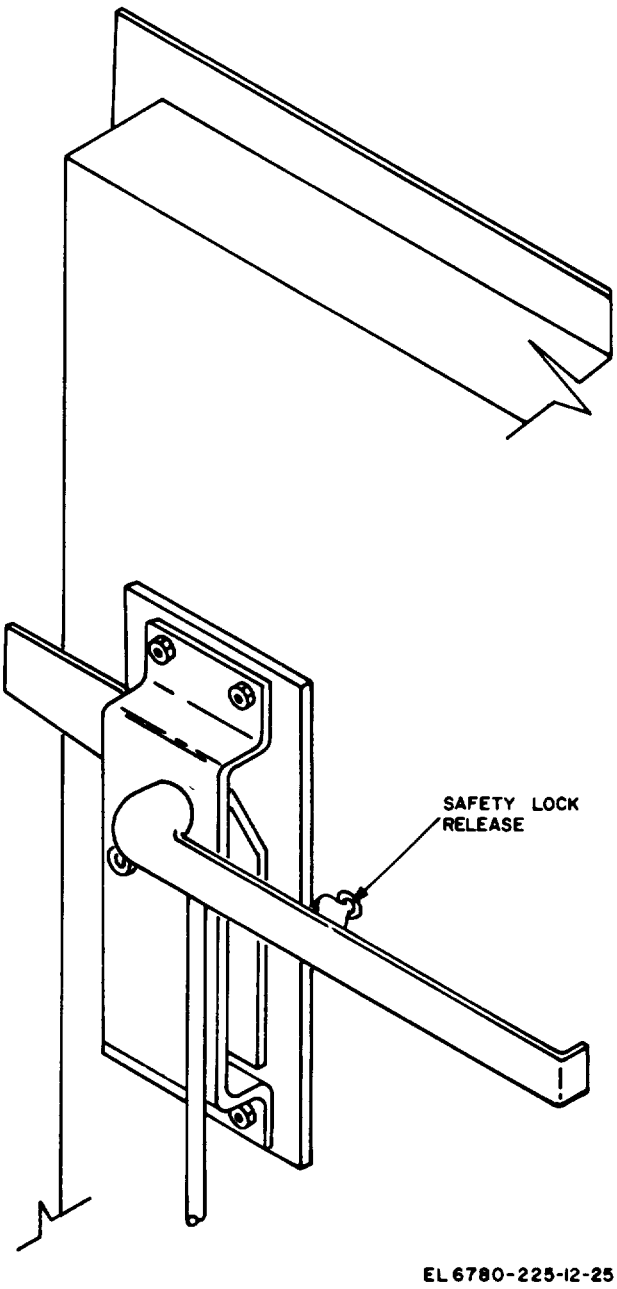


Figure 2-6. Door safety lock release.

Section II. OPERATING INSTRUCTIONS

2-6. Planning Mission

a. Semiautomatic Film Loader. 35-mm, No. 220 film may be loaded into the reels by following -the instructions given below and referring to figure 2-7.

(1) Hold the reel in the left hand with the ends of the outermost spiral wire facing to the right (fig. 2-7, step 1).

(2) Holding the semiautomatic film loader (loader) in the right hand, force the two discs of the loader over the outside of the reel and snap them in place on center axis of reel, with the loading guide curved downward and to the right of the reel. Make sure the discs are seated so that the reel turns freely (fig. 2-7, step 2).

(3) Turn out the lights and remove film.

(4) Slide the end of film from right to left into the curved loading guide, with emulsion side facing away from guide (downward). Insert film until enough film projects out of left side of guide to -almost reach the center core of the reel.

(5) Turn the reel in either direction until the open side of its center core is felt to face the film end projecting from the loading guide.

(6) Push the film as far as possible into the open side of the center core, and turn the reel a half turn counterclockwise to secure the film in the core.

(7) Hold the end of the film in place with the index finger gently pressing the film against the center of the reel.

(8) Holding the loader by its outside bracket arms only, turn the reel counterclockwise until all film is wound onto the reel. Do not touch the loading guide itself during winding.

(9) To remove the loader, pull it off the reel.

b. Photographic Supplies. The operator shall make certain that the proper chemicals and photographic paper are available at all times, and also be thoroughly indoctrinated in the procedures for developing black and white and color films, and photographic papers.

c. Loading Stand. To use the loading stand shown in figure 1-12, follow the steps below.

(1) Swing the loader to the right until it rests on the film spool axle.

(2) Push the reel on the reel axle.

(3) Swing the locking level to hold the arm of the reel marked "X" bin its outer end. This positions the clip for starting.

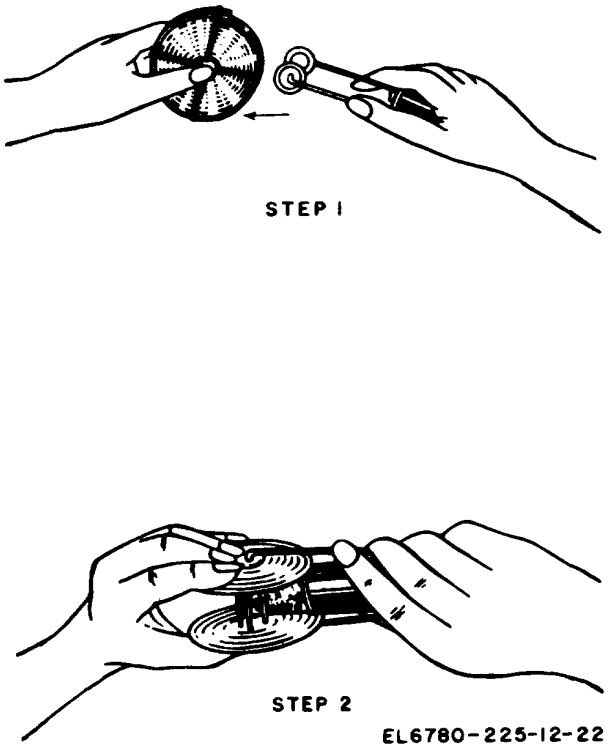


Figure 2-7. Semiautomatic film loader operation diagram.

(4) In darkness or under an appropriate safelight, place the spool of film ;w be developed on the film axle.

(5) Holding the loader approximately level, slide the film through until it is firmly under the clip, which should be raised with the clip lever or with your finger.

(6) Throw off the locking lever and wind the film on the reel by rotating it slowly and evenly.

(7) In damp weather or with thin film it will be found that the film will wind more smoothly if a tension is applied by means of the film spool brake, particularly toward the end of the winding. Only a little tension is generally needed but a few trials with a test film will quickly show whether or not tension is required.

d. Use of Enlarging Meter for Measuring Density Difference. When using the enlarging meter (fig. 1-6) for measuring the density difference between two negatives, make certain that the position of the meter with respect to each negative remains the same. To prevent excess light from reaching the meter, each negative should be masked with black paper having a 1/2 inch square opening.

2-7. Operator's Controls and Indicators

a. Equipment Covered by Technical Manuals. Refer to appendix A for the technical manual covering the operator's controls and indicators for the diffusion transfer kit, enlargers, print processors, processing unit, and air conditioners.

b. Ditto Machine. Refer to the instruction manual contained in the Ditto machine accessory kit.

c. Space Heater.

Control or indicator	Function
Forward compartment room thermostat (fig. 1-18).	Controls darkroom temperature.
HEATER-OFF-FAN switch (fig. 2-8).	Position Operation HEATER .... Controls heating cycle FAN..... Controls ventilating cycle OFF..... Shuts off power to space heater
Red indicating light.....	Glows red when heater fails to start or stops due to malfunction.

Control	Function
RESET switch	Press to restart after malfunction correction.
White indicating light	Glows white when heater is operating.

d. Intercom (fig. 1-18).

Control	Function	
	Position	Operation
OFF-ON volume	.OFF.....	Removes power to intercom
	ON.....	Applies power to intercom
	Volume.....	Selects degree of loudness
STATION SELECTOR switch	Position 1.....	Selects forward compartment
	Position 2.....	Selects center compartment
	Position 3.....	Selects aft compartment
	Position 4.....	Selects outside intercom
TALK BAR	Release	Listen
	Press	Talk

e. Dehumidifier (fig. 2-9).

Control	Function
Humidistat.....	Controls power to dehumidifier (turn clockwise) and controls percent of humidity.
Manual reset circuit breaker	Press to restart after malfunction correction.

f. Refrigerator (fig. 2-10).

Control	Function
Thermostat.....	Regulates temperature.

g. Film and Print Drying Cabinets.

Control	Function
Drying cabinet heat control (fig. 1-1).	Controls flow of air from space heater to drying cabinets.

Control	Function	
	Position	Operation
Film drier AUTO-OFF-MAN switch (fig. 2-8).	AUTO.....	Selects thermostat operation of film drier cabinet exhaust fans (fig. 5-1).
	MAN.....	Selects manual operation of film drier cabinet exhaust fan.
FILM DRIER indicator lamp.	Glows red to indicate film drier exhaust fan operation.	
	Position	Operation
HEATER THERMOSTAT CONTROL DRIER-ROOM switch (fig. 2-8).	ROOM	Selects compartment thermostat (fig. 1-8).
	DRIER	Selects drying cabinet thermostat (fig. 1-1).
Print drier 1 AUTO-OFF-MAN switch.	AUTO	Selects thermostat operation of print drier 1 exhaust fan.
	MAN	Selects manual operation of print drier 1 exhaust fan.
PRINT DRIER 1 indicator lamp.	Glows red to indicate print drier 1 exhaust fan operation.	
	Position	Operation
Print drier 2 AUTO-OFF-MAN switch.	AUTO	Selects thermostat operation of print drier 2 exhaust fan.
	MAN.....	Selects manual operation of print drier 2 exhaust fan.
PRINT DRIER 2 indicator lamp.	Glows red to indicate print drier 2 exhaust fan operation.	

Control	Function
Thermostat (at top of each cabinet) (fig. 1-1).	Regulates temperature inside cabinet.
Thermostat (in film drier compartment).	Regulates temperature of space heater.

h. Heating and Air-Conditioning System

Control	Function
Air conditioner No. 2 thermostat (fig. 1-18).	Controls temperature of air conditioner No. 2.
Registers (fig. 1-16)	Controls flow of air to darkroom compartments.
	Position Operation
SUMMER-WINTER damper control (fig. 1-1).	SUMMER ... Directs flow of air from space heater to film and print drying cabinets.
	WINTER..... Directs flow of air from space heater to darkroom heating ductwork.

i. Repeating Timer (fig. 2-5).

Control	Function
	Position Operation
Audible slide lock	UP Shuts off audible second count
	DOWN Operates audible second count
Dial knob	Sets time.
	Position Operation
PRINT-FOCUS switch	FOCUS Bypasses timer and turns off safelight to focus enlarger.
	Operates safelight and enlarger through timer.
START switch	Starts timer.

j. Electrical Power System (fig. 2-11).

Control	Function
Circuit breaker No. 1.....	Controls power to air conditioner No. 1.
Circuit breaker No. 2.....	Controls power to air conditioner No. 2.
Circuit breaker No. 3.....	Controls power to circuit 3 (dehumidifier humidi stat control).
Circuit breaker No. 4.....	Controls power to circuit No. 4 outlets (refrigerator, immersion heater, and intercom and exhaust fan switches).
Circuit breaker No. 5.....	Controls power to water heater switch.
Circuit breaker No. 6.....	Controls power to circuit No. 6 general purpose outlets (safelight switches).
Circuit breaker No. 7.....	Controls power to circuit No. 7 (space heater and film and print driers).
Circuit breaker No. 8.....	Controls power to circuit No. 8 outlets (repeating timer, enlarger, print processor switch) (TM 11-6740-285-12).
Circuit breaker No. 9.....	Controls power to control unit switch (TM 11-6740-286-12).
Circuit breaker No. 10.....	Controls power to water pump switch.
Circuit breaker No. 11.....	Controls power to compartment light switches.
Circuit breaker No. 12.....	Spare circuit breaker for additional circuits.
Exhaust fan switches (fig. 1-18).	Controls exhaust fans.
Indcandescent light switches (fig. 1-18).	Controls incandescent lights.
MAIN CIRCUIT BREAKER NO. 13.	Controls all power to darkroom.
Safelight switches (fig. 1-18)	Controls safelights.

k. Water Supply System (fig. 1-17).

Control	Function
	Position Operation
Drain valve D1.....	Open ..... Allows waste water to be expelled through the outside drain connection.
	Closed..... Diverts water from sink.

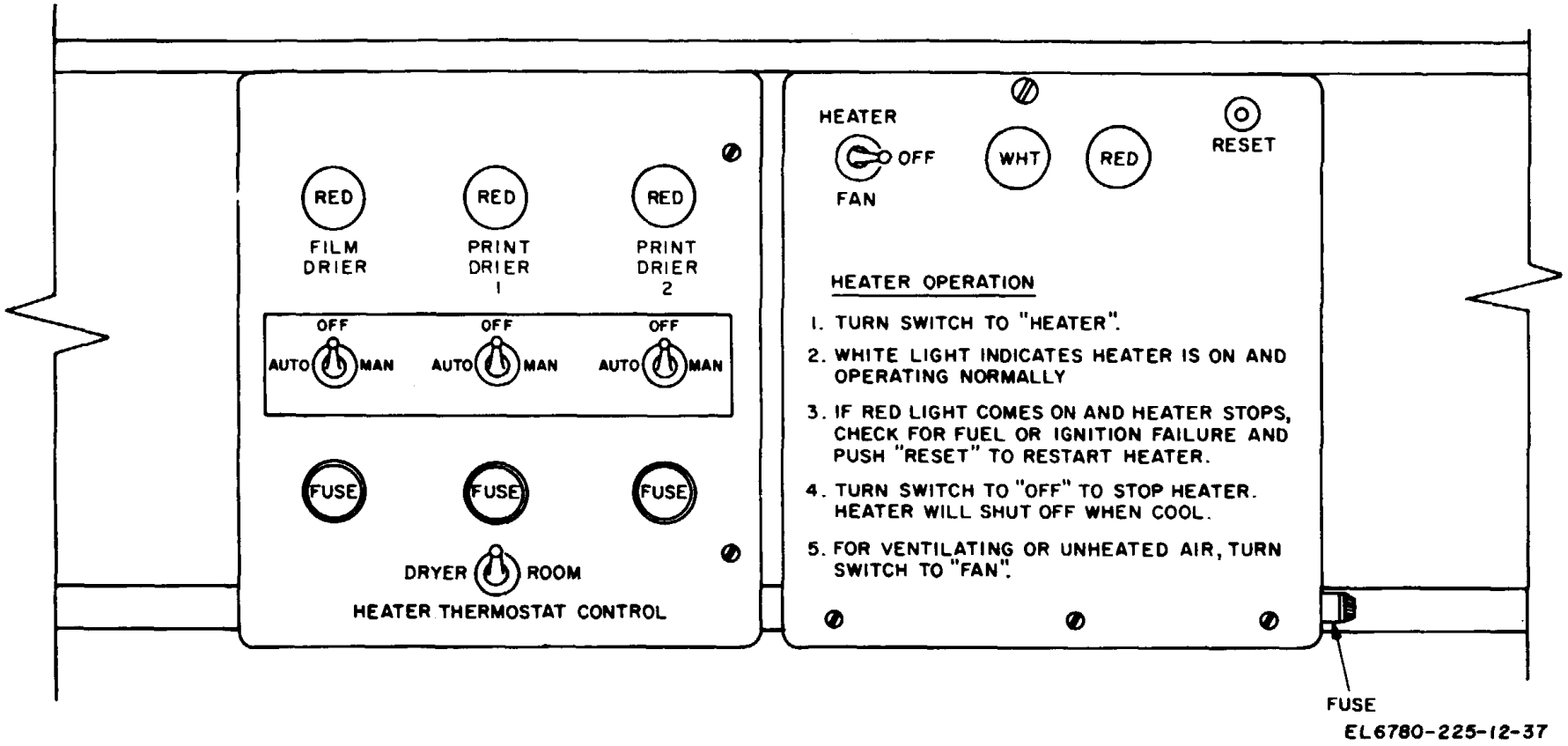


Figure 2-8. Film, print drier and heater control panel.

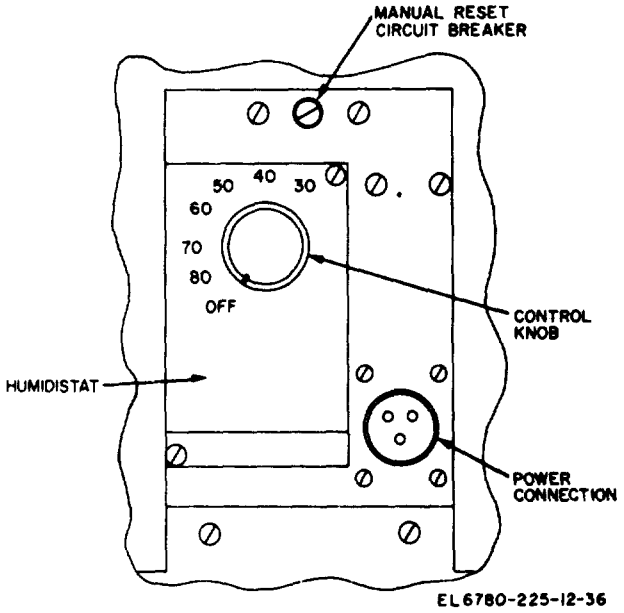


Figure 2-9. Dehumidifier control

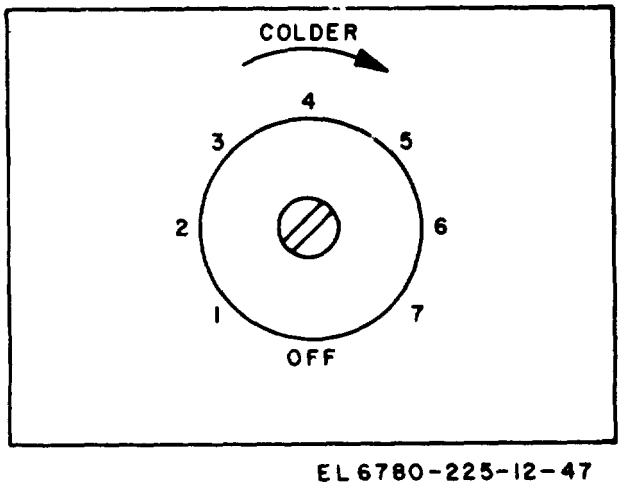


Figure 2-10. Refrigerator control

Control	Function	
	Position	Operation
Drain valve D2	Open	Allows water into water pump through valve P-1.
	Closed	Allows water to flow out of the water tank to the floor drain.
Drain valve D3	Open	Keeps water from draining out of the water tank.
	Closed	Allows water flow from the sink and the water heater pressure relief valve to the floor drain.
Drain valve D4	Open	Diverts drain water from sink to valve D1.
	Closed	Allows water flow from the water heater to the floor drain.
Drain valve D5	Open	Prevents water flow from the water heater and diverts cold water supply to water heater and valve S-5.
	Closed	Allows water flow from the control unit to the floor drain.
Drain valve D6 (strainer)	Open	Prevents water flow from the control unit.
	Closed	Allows water to flow out of the input water strainer on to floor.
Drain valve D7 (pump)	Open	Prevents water flow from out of the input water strainer.
	Closed	Allows residual water to flow out of the water pump onto the floor.
		Prevents water from flowing out of the water pump

Control	Function
	Position Operation through valve D7.
Drain valve D10	Open ..... Allows water to flow from the control unit to the floor drain.
	Closed ..... Prevents water flow from the control unit.
Drain valve D11	Open ..... Allows water to flow from the control unit to the floor drain.
	Closed ..... Prevents water flow from the control unit.
Drain valve D13	Open ..... Allows water now from high-pressure side of level indicator.
	Closed ..... Prevents water flow from high-pressure side of level indicator.
Flow control valve F1.....	Allows 1/2 gp water replenishment from water system to processing sink.
Flow control valve F3.....	Allows 2 1/2 gpm tempered water to flow to the processing sink from control unit.
Flow indicator.....	Indicates water flow in wa. ter system when white needle is rotating.
	Position Operation
High pressure petcock.....	Open ..... Allows evacvation of air from high-pressure side of level indicator.
	Closed ..... Prevents evacuation of air from high-pressure side of level indicator.

Control	Function
Level indicator	Indicates water level in water tank.
Outlet and inlet pressure indicators.	Used to determine differential pressure across water filter.
	Position Operation
Petcock D12	Open Allows water to flow to low-pressure side of level indicator.
	Closed Prevents - water flow to low-pressure side of level indicator.
Pressure regulator	Maintains pressure of 40 psi.
Pressure relief valve	Allows water to flow into floor drain if pressure in system exceeds 90 psi.
Pressure switch	Starts water pump when pressure falls below 20 psi and shuts off water pump at 40 psi.
Pressure vacuum indicator	When vacuum in psi is indicated, valve S8 is closed when operating water system from water tank.
	Position Operation
Prime valve P1	Open Allows water to flow from the processing sink to prime the water pump. It, also allows the water system to be filled by pumping water from the processing sink into the water system and water tank.
	Closed Prevents water from entering water pump through valve P-I and diverts water to drain valve D-1.

Contra	Function	
	Position	Operation
Supply valve S1.....	Open	Allows water flow from water input to water-pump.
	Closed	Diverts water to valve S-2.
Supply valve S2.....	Open	Allows water flow from pressurized water input into water system.
	Closed	Diverts water to valve SI.
Supply valve S3.....	Open	Allows water flow to or from water pump to water tank.
	Closed	Allows water flow to or from water pump into water system.
Supply valve S4, (hot).....	Open	Allows hot water flow from the water heater to the processing unit.
	Closed	Diverts hot water to valve S6.
Supply valve S5 (cold)....	Open	Allows cold water flow to the processing unit.
	Closed	Prevents cold water flow to the processing unit.
Supply valve S6 (hot).....	Open	Allows hot water flow to processing sink.
	Closed	Prevents hot water flow to processing sink.
Supply valve S7 (cold)....	Open	Allows cold water flow to processing sink.
	Closed	Prevents cold water flow to processing sink.
Supply valve S8.....	Open	Allows air venting (or pressurizing) and water overflow from water tank.
	Closed	Prevents air from entering water tank and water system.
Supply valve S9.....	Open	Allows water flow from pressurized water input to water tank.
	Closed	Prevents water flow.
Water heater on off switch .... (fig. 1-17).	On	Allows power to heating element.
	Off	Shuts off power to heating element.
Water heater pilot lamp (fig. 1-17).	On	Indicates heating element operating.
	Off	Indicates heating element not operating.
Water pump on-off switch (fig. 1-18).	On	Allows power to water pump for operation.
	Off	Shuts off power to water pump.

l. Silver Recovery Unit (fig. 2-17).

Control	Function	
	Position	Operation
High Off Low.....	High	Applies power to unit and high current to cathode.
	Off	Removes all power from unit.
	Low	Applies power to unit and low current to cathode.

m. Equipment Covered by Manuals Stored in Darkroom File Cabinet. Refer to the equipment manuals stored in the darkroom file cabinet for instructions for components of the darkroom not covered by technical manuals.

2-8. Preliminary Procedures

a. Starting Space Heater (fig. 1-1 and 2-8).

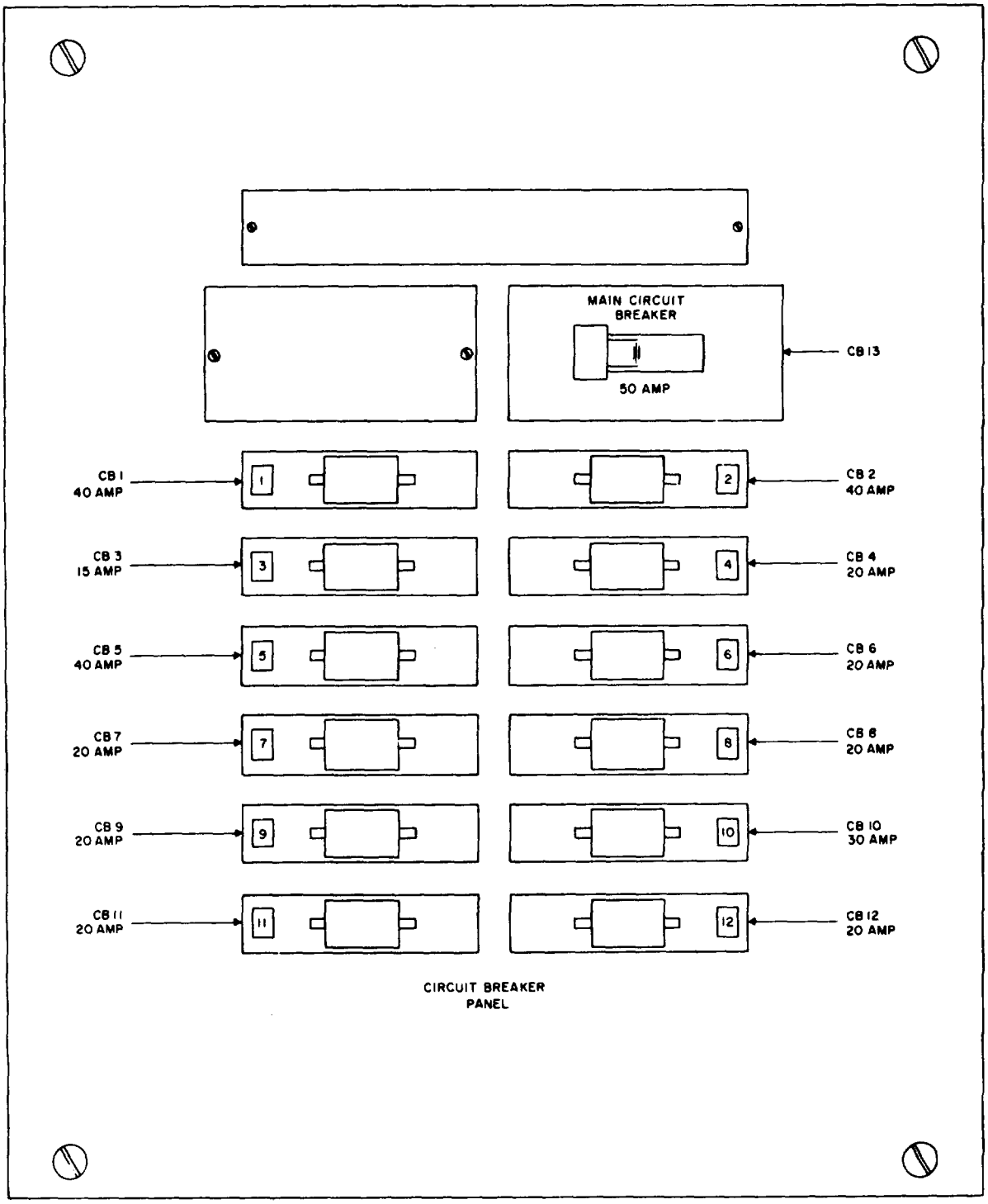


Figure 2-11. Circuit breaker panel.

Use the following procedures to heat the entire darkroom ((1) below), to heat only the film and print drying cabinets ((2) below), to circulate fresh air through the entire darkroom, if necessary, ((3) below), and to circulate fresh air through the film and print drying cabinets only ((4) below).

NOTE

The temperature in the various compartments of the darkroom may be controlled by adjusting the registers on the heating ducts (fig. 1-6) in each of the compartments.

(1) *Heating darkroom.*

WARNING

Make certain that the fresh air intake (para 2-5*d*) is open, the condensate drain cap has been removed and the exhaust pipe installed (para 2-5*g*), and the cap has been removed from the fuel overflow drain port (para 2-5*f*).

(*a*) Place the SUMMER-WINTER damper control (fig. 1-1) to the WINTER position.

(*b*) Place the HEATER-OFF-FAN switch (fig. 2-8) in the HEATER position.

(*c*) The white heater indicator lamp shall glow.

(*d*) Set the DRIER-ROOM switch to ROOM position and set the compartment heating thermostat (fig. 1-18) to desired temperature.

(2) *Heat to film and print drying cabinets only.*

(a) Place the SUMMER-WINTER damper control (fig. 1-1) to SUMMER position.

(b) Set the drying cabinet heat control to the open position (push in) and the DRIERROOM switch (fig. 2-8) to the DRIER position.

(c) Set the film or print drier cabinet thermostats (fig. 1-1) as required to the desired temperature (maximum operating temperature is 80°F (26.5°C)).

(d) Set the AUTO-OFF-MAN switch (fig. 2-8) to the MAN or AUTO position as desired.

(e) Place the HEATER-OFF-FAN switch to the HEATER position, the white heater indicator lamp shall glow.

(3) *Circulate fresh air through darkroom*.

NOTE

If necessary, additional air circulation may be obtained by performing (*a*) through (*e*) below.

(*a*) Place the HEATER-OFF-FAN switch to the FAN position.

(*b*) Set the SUMMER-WINTER damper control to the WINTER position.

(*c*) Set the drying cabinet heat control to the closed position (pull out).

(4) *Fresh air to film and print drying cabinets*.

(*a*) Place the HEATER-OFF-FAN switch to the FAN position.

(*b*) Set the SUMMER-WINTER damper control to the SUMMER position.

(*c*) Set the drying cabinet heat control to the open position (push in).

b. Starting Air Conditioner. Start air conditioner as follows:

CAUTION

Before staring the air conditioners, make certain that the plastic covers (fig. 5-1) have been removed.

(1) Check that air conditioners are properly interconnected. Refer to figure 2-2.

(2) Set circuit breakers 1 and 2 to the ON positions.

(3) Set thermostat on air conditioner No. 1 to the desired temperature range.

(4) Set the compartment air conditioning thermostat (fig. 1-18) to the desired temperature range.

(5) Set the registers of air-conditioning ducts (fig. 1-16) to desired positions.

(6) First place the selector switch on each air conditioner to the FAN position to start the fans, then place each selector switch to the COOL position.

c. Water System Valve Settings. Use the following procedures to supply water to the darkroom from a water source under pressure ((1) below), a water source from a lake or stream ((2) below), and from the darkroom water tank ((3) below). Procedures for filling the water tank by using snow as a water source is given in ((4) below).

CAUTION

Do not turn the water heater switch to ON until the water heater -tank is full, as indicated by water flowing from valve S6 (fig. 1-17), Remove floor drain plug and install floor drain manifold. Check to see that circuit breakers 6 and 10 (fig. 2-11) are set to ON.

(1) *Water source under pressure* (fig. 2-12).

(*a*) Close the valves given below (fig. 1-17).

1. Drain valve D1
2. Drain valve D2
3. Drain valve D3
4. Drain valve D4
5. Drain valve D5
6. Drain valve D6
7. Drain valve D7
8. Drain valve D10
9. Drain valve D11
10. Drain valve D12 (petcock)
11. Drain valve D18

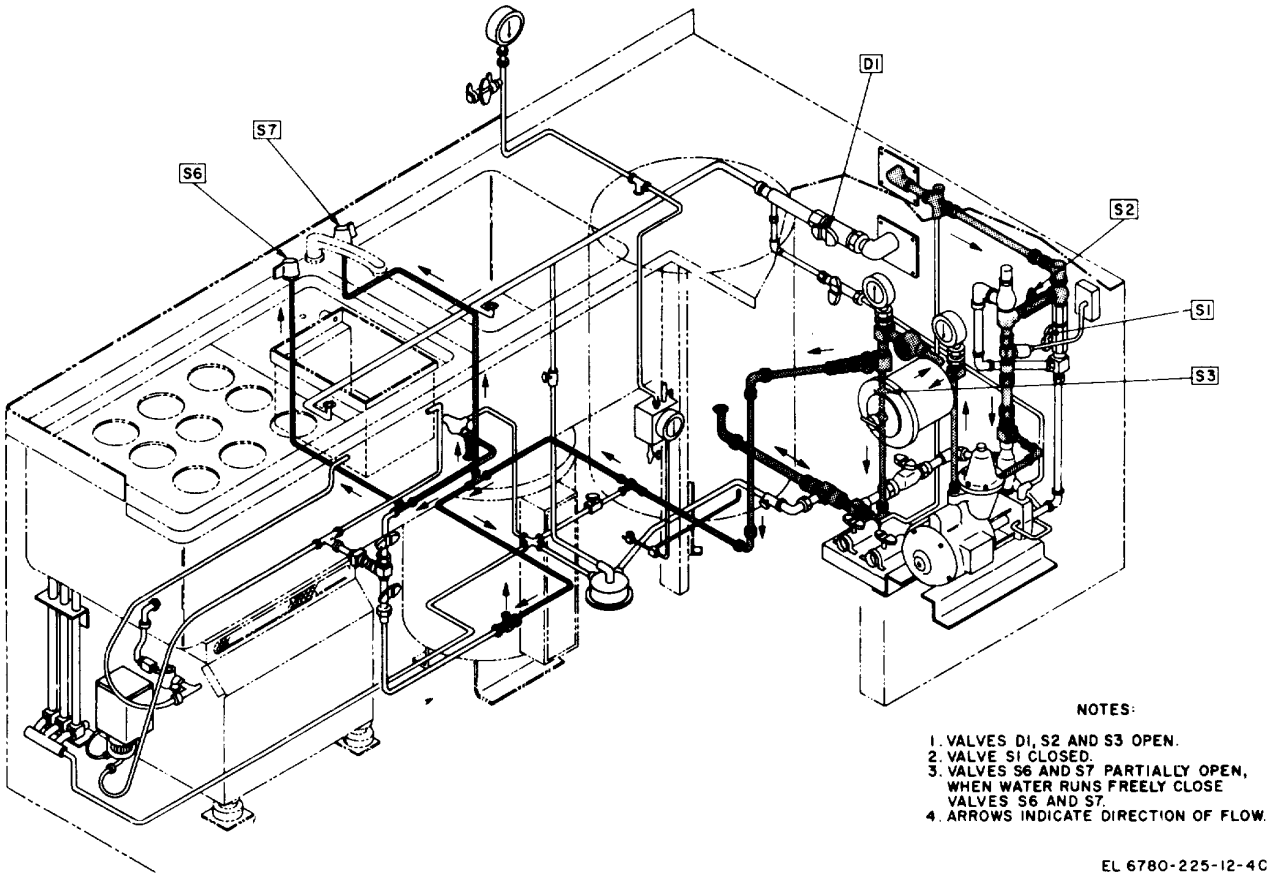


Figure 2-12. Valves used for water source under pressure.

12. Prime valve P1
13. Supply valve S1
14. Supply valve S2
15. Supply valve S3
16. Supply valve S4
17. Supply valve S5
18. Supply valve S6
19. Supply valve S7
20. Supply valve S8
21. Supply valve S9
22. Petcock

(*b*) Connect the darkroom to the water source (para 2-4*f*(1)).

(*c*) Open valves D1, S2 and S3 (fig. 2-12).

(*d*) Partially open valves S6 and S7. When the water runs freely, close valves S6 and S7.

(*e*) The water system is now ready for operation. Hot water may be obtained by setting the water heater switch (fig. 1-17) to the ON position.

NOTE

The water heater is preset at 150°F (65.5°C).

(2) *Water source from a lake or stream* (fig. 2-13).

(*a*) Close all valves in the darkroom ((1)(*a*) above).

(*b*) Connect the darkroom to the water source (para 2-4*f*(2)).

(*c*) Hand carry a sufficient number of pails of water to fill the small compartment of the processing sink (fig. 1-17) until it is approximately 1/4 full.

(*d*) Open valve P1 (fig. 2-13) to prime the water pump. When the water stops flowing from the processing sink (*c*) above), close valve P1.

(*e*) Open valves S1 and S3, then start the water pump by setting the water pump switch to ON position. Allow 5 to 10 minutes for water pump to evacuate the air from the water hose, then open valve S6.

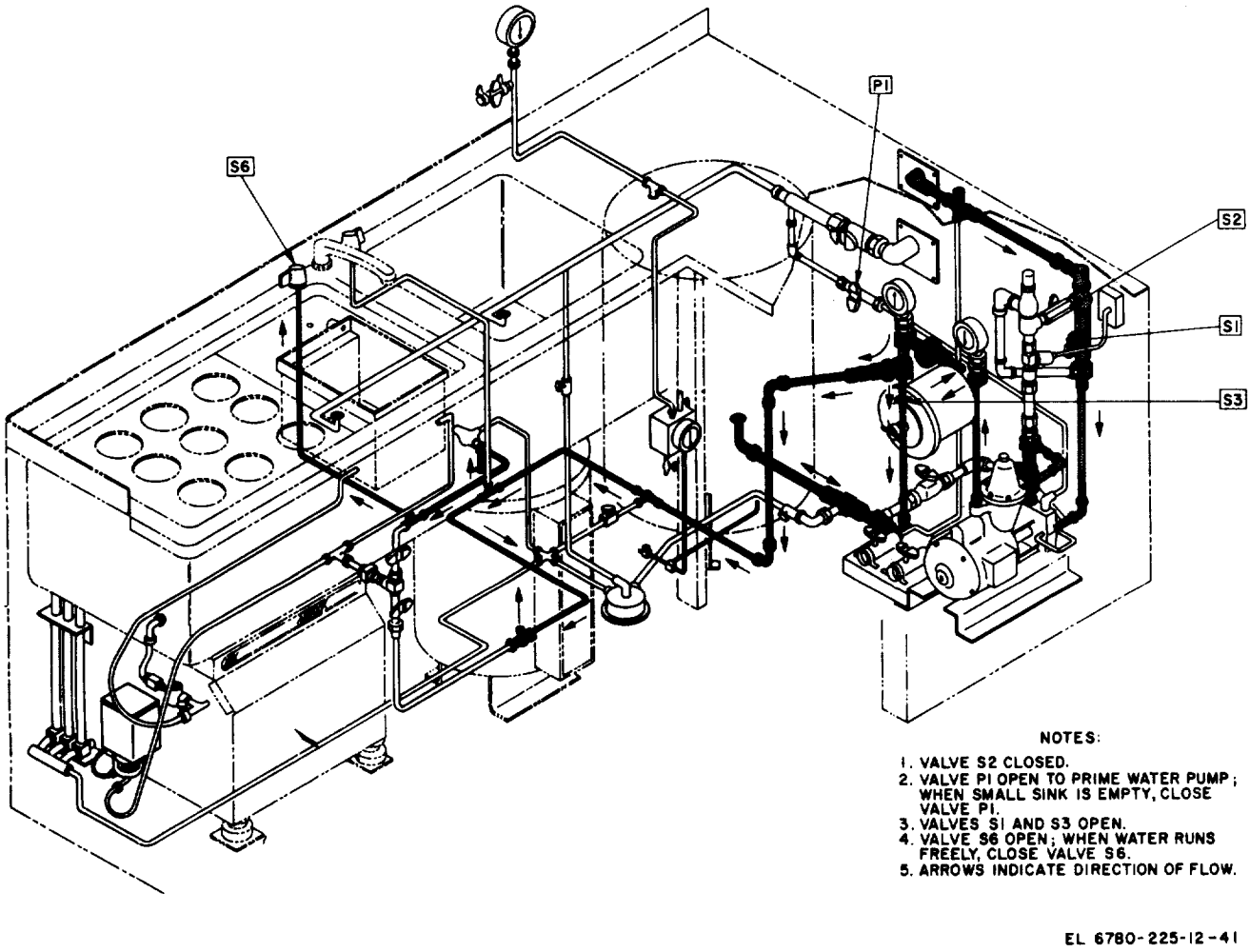


Figure 2-13. Valves used for water source from lake or stream.

(*f*) When water runs freely, close valve S6.

(*g*) The water system is now ready for operation. Hot water may be obtained by setting the water heater switch (fig. 1-17) to the ON position.

(3) *Darkroom water tank water source* (fig. 2-14).

WARNING

When using the darkroom water tank (fig. 1-17) as a water source, valve S8 must be open at all times. If water is pumped from the water tank with valve S8 closed, the water tank will collapse:

(*a*) Fill the water tank as directed in (1) or (2) above.

(*b*) Close all valves in the darkroom ((1) (*a*) above).

(*c*) Open valves S8, S9, and D1 (fig. 2 14).

NOTE

When using the darkroom water tank as a water source, the water pump cycles on and off continuously.

(*d*) Start the water pump by setting water pump switch (fig. 1-18) to the ON position.

(*e*) Partially open valves S6 (fig. 2-14) to fill the water heater, and S7 to fill the supply lines. When the water runs freely, close valves S6 and S7.

(*f*) The water system is now ready for operation. Hot water may be obtained by setting the water heater switch (fig. 1-17) to the ON position.

(4) Snow as water source (fig. 2-15).

(*a*) Close all valves in the darkroom ((1) (*a*) above).

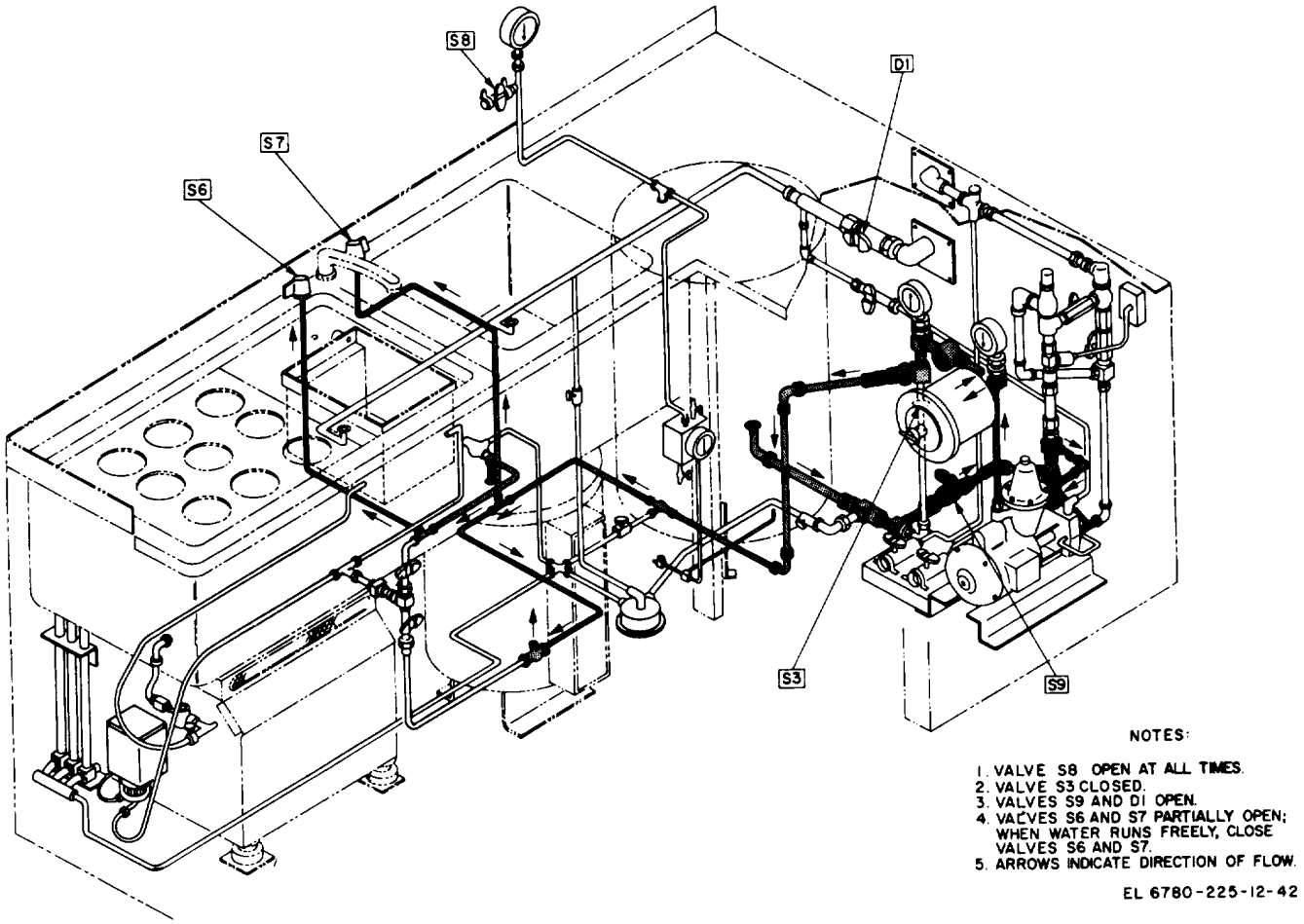


Figure 2-14. Valves used for water source from darkroom water tank

(*b*) Open valves P1, S8, and S9 (fig. 2-15).

(*c*) Fill the small section of the processing sink (fig. 1-17) with snow.

(*d*) Plug the immersion heater (fig. 1-12) into circuit 4 and immerse into snow.

(*e*) When there is sufficient water, set the water pump switch (fig. 1-18) to the ON position.

NOTE

Approximately 5 minutes will elapse from the time snow becomes water until the time water flows from valve S8.

(*f*) Set the water heater switch (fig. 1-17) to the ON position.

(*g*) Close valve S9 (fig. 2-15). The water tank is now full and ready for operation.

(*h*) Unplug immersion heater (fig. 1-12) from circuit 4. Repeat procedures in step (3) above.

WARNING

Immersion heater is HOT. Handle with care. Allow immersion heater to cool on a surface that will riot burn.

d. Level Indicator (fig. 1-17). Use the following procedure to measure the level of water in the water tank.

(1) Open the high pressure petcock.

(2) When water runs freely, close the high-pressure petcock.

NOTE

If water tank is full (indicated by water flowing from valve S8), and reading on level gage indicates water tank is half empty, bleed water from valve D12.

e. Outlet and Inlet Pressure Indicators (fig. 1-17). A difference of pressure between the outlet and inlet pressure indicators denotes that the filter requires cleaning. Refer to paragraph 3-7 for the cleaning procedures.

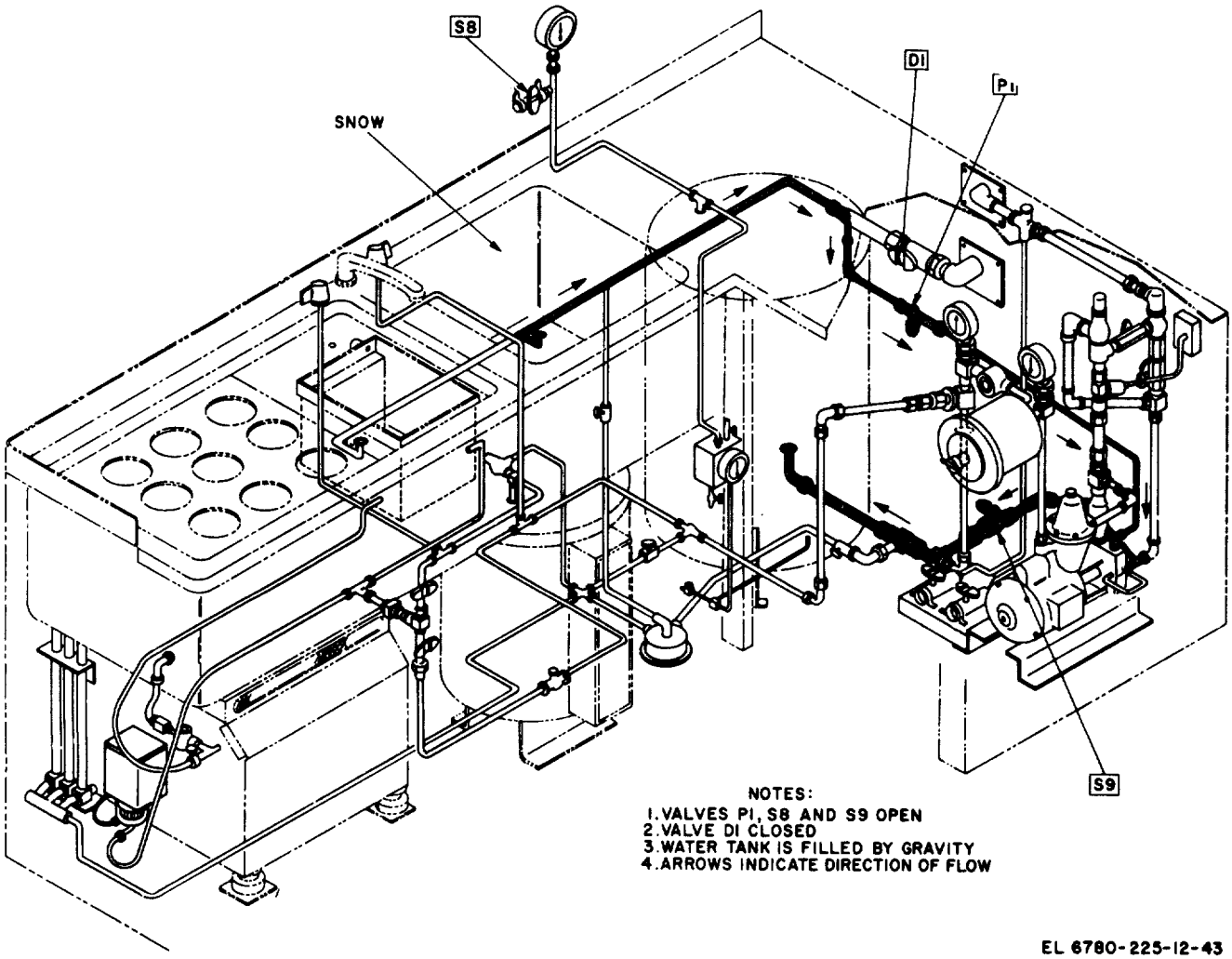


Figure 2-15. Valves used for water source from snow.

f. Refrigerator. Refer to the manual stored in the darkroom file cabinet for instructions for starting the refrigerator.

g. Dehumidifier. Refer to the manual stored in-the darkroom file cabinet for instructions for starting the dehumidifier.

2-9. Operating Under Usual Conditions (fig. 2-16)

a. Film and Print Drying Cabinets. Film and print drying cabinets are operated by following procedures outlined in paragraph 2-4*a*(2) or (4).

b. Equipment Covered by Technical Manuals. Refer to appendix A for the technical manual covering operation under usual conditions of the diffusion transfer kit, enlargers, print processors, processing unit, and air conditioners.

c. Space Heater. The space heater is operated by following procedures in paragraph 2-4*a*.

d. Water System. The water system is operated by following the procedures in paragraph 2-8c.

e. Equipment Covered by Manuals Stored in Darkroom File Cabinet. Refer to the manuals stored in the darkroom file cabinet for instructions for the refrigerator, dehumidifier, and other components of the darkroom not covered by technical manuals.

2-10. Operation Under Unusual Conditions

a. Operation in Desert Climates. When the darkroom is used under conditions of extreme heat such as those found in desert regions, use the following precautions:

(1) Shade the darkroom from the sun.

(2) Operate the air conditioner.

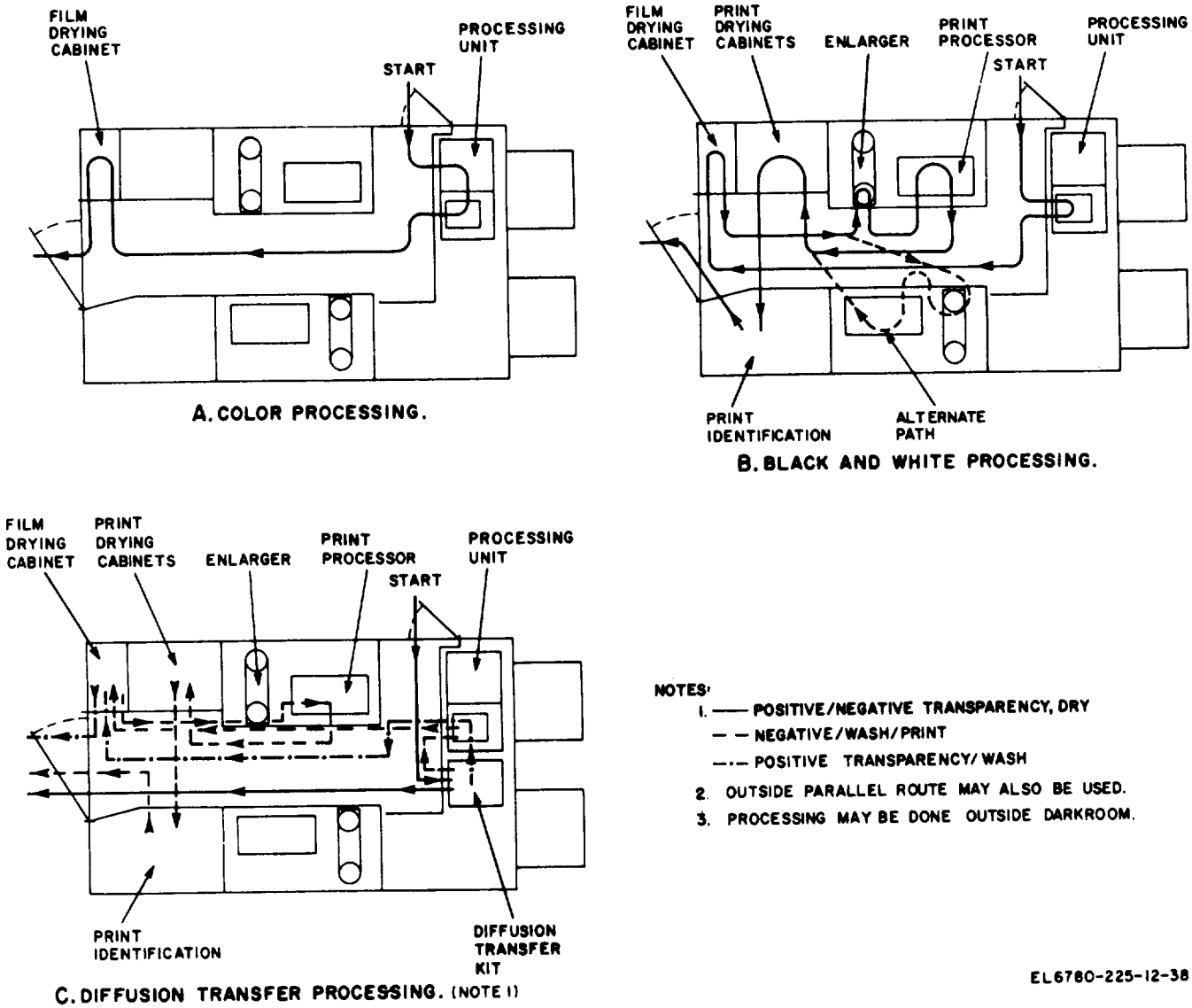


Figure 2-16. Work flow diagram.

(3) Operate the space heater for ventilation.

(4) Keep the equipment free from dust; use a soft bristle brush (para 3-2) to remove sand and other foreign particles from the equipment and components.

(5) Dust all lenses with a soft camel's-air brush, if available, or an air syringe, before cleaning them with lens tissue.

(6) Do not sweep the inside of the darkroom before operating the equipment.

(7) Keep the cover on the air conditioner when the air conditioner is not in use.

b. Operation in Tropical Climates. Moisture conditions are more acute in tropical swampy areas. The high relative humidity causes moisture condensation when the temperature of the equipment drops below that of the surrounding air. Use the precautions below and maintain continuous operation of the air conditioners and dehumidifier.

(1) Inspect the equipment for traces of mold, mites, fungus, and metallic corrosion; remove all fouling immediately.

(2) Keep the equipment clean and have it lubricated frequently by higher category of maintenance personnel.

(3) Dry the equipment thoroughly before operating it.

c. Operation in Arctic Climates. Subzero temperatures and climatic conditions associated with cold weather affect the operation of the darkroom. Use the following precautions:

(1) Operate the space heater continuously.

(2) Dry the equipment thoroughly before operating it.

(3) Drain the water supply system when the space heater is not in use.

(4) Store the chemicals in a warm place.

(5) Operate the immersion heater in the sink and melt snow to provide water for the water tank if required.

2-11. Silver Recovery Unit Operating Procedures

a. Place the silver recovery unit in a convenient place in the shelter.

b. Lift off the power head of the silver recovery unit (fig. 2-17) and fill the tank to approximately 1-inch of the top with exhausted fixer solution.

c. Test the exhausted fixer solution for silver concentration with silver estimating papers.

d. Calculate the operating time required in accordance with the following example:

NOTE

The capacity of the silver recovery unit tank is 2 gallons.

Silver concentration	*Number of gallons of fixer*	*Recovery capacity*
0.64 troy ounces/per gallon x	2	÷ 1/2 troy, ounce/hour = 2.5 hours

e. Replace the power head.

f. Connect the power cord into a convenience outlet.

NOTE

When the server recovery unit is first placed into operation, or after the cathode (fig. 2-18) is changed, operate the silver recovery unit with the operating control set to LOW for 30 minutes. This will coat the cathode with a hard, metallic silver deposit.

g. Set the silver recovery unit control on HIGH and operate the unit for the amount of time calculated in d above.

h. Disconnect the power cord; set the control to OFF and remove the power head and check the fixer solution in the silver recovery unit tank to insure that the silver has been completely recovered. If silver remains in the fixer, recalculate the time required as described in *d* above and repeat *g* above.

NOTE

If a black deposit accumulates on the cathode it may indicate that the exhausted fixer did not contain silver. Check the fixer solution carefully for silver content and if none is indicated discard the fixer solution. If silver is present, repeat *d* above and set the silver recovery unit control to LOW. Do not discard the soft, black deposit accumulated on the cathode or that may have fallen to the bottom of the tank. Refer to paragraph 2-12.

i. After the silver has been completely stripped from the solution, disconnect the silver recovery unit from the power source, remove the power head and empty the tank into a drain.

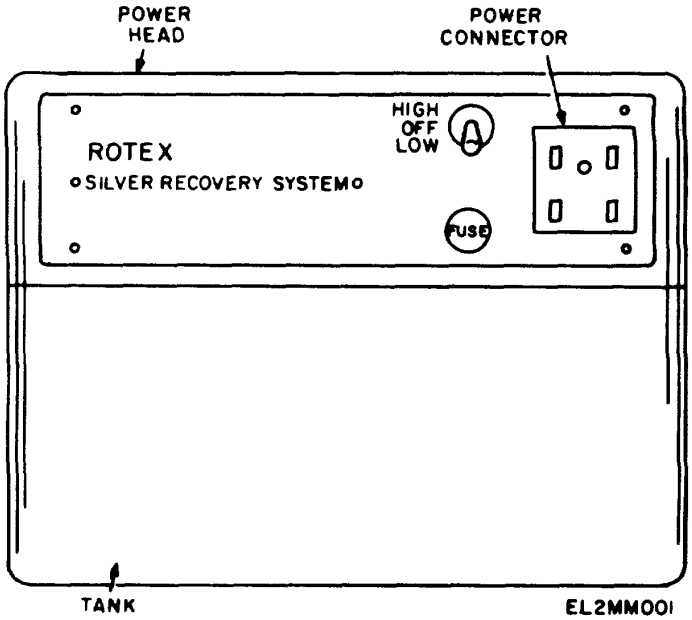


Figure 2-17. Silver recovery unit.

2-12. Removal of Silver and Sliver Recovery Unit

When the thickness of the cathode and silver plate is between 3/8- and 1/2-inch thick the cathode should be desilvered. To desilver the cathode, proceed as follows:

a. Turn the unit off and disconnect it from the power source.

b. Disconnect the power cable from the power head.

c. Set a large sheet of paper or plastic on a table or on the floor of the shelter.

d. Lift the power head straight up so that the cathode is out of the fixer solution. Allow the cathode to drain into the tank for about 10 seconds.

e. Set the power head on the paper with the cathode down.

CAUTION

To prevent any fluid from entering the power head, do not set the power head upside down.

f. With the special tool (fig. 2-18) provided, loosen the setscrew and pry the cathode away from the coupling; lift off the power head and set it aside.

g. Set the cathode on its side on the paper.

CAUTION

Do not use steel wool. cleansing pads, sand paper, nitric acid, or a hammer to remove the silver from the cathode. These items may damage the cathode.

h. Remove the silver by flexing or scoring the cathode cylinder. If necessary, a putty knife may be used to scrape off the silver.

i. Place the silver and any sludge accumulated on the bottom of the tank into a container. The container may, be turned in to the Property Disposal Office or shipped to:

Precious Metals Recovery Office
Earl Naval Ammunition Depot
Building C38
Colts Neck, New Jersey 07722

j. Insert the cathode in to the power head coupler. Be sure that the flat side of the cathode shaft is oriented towards the setscrew. Tighten the setscrew with the special tool provided.

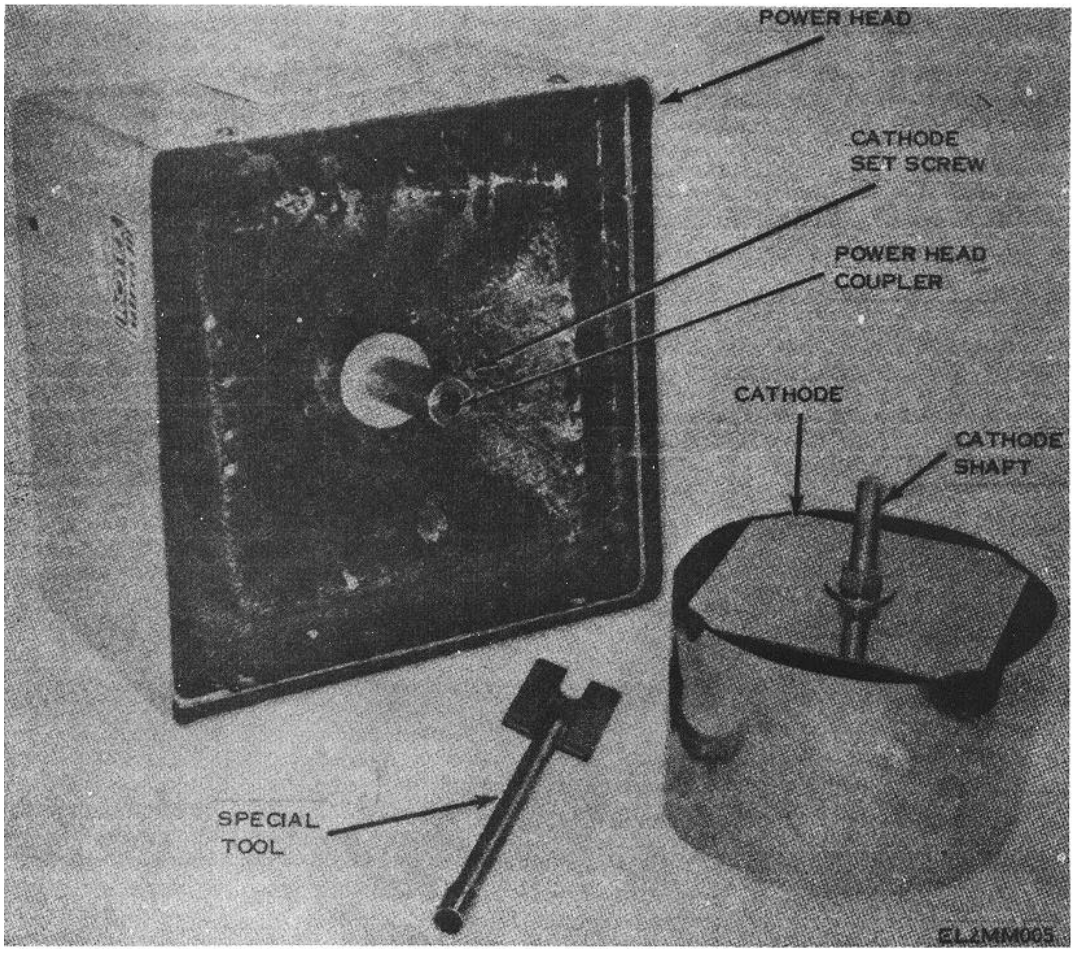


Figure 2-18. Silver recovery unit, power cathode, and special tool.

CHAPTER 3

OPERATOR'S MAINTENANCE

Section I. GENERAL

3-1. Scope of Operator's Maintenance

NOTE

Manuals (app. A) are provided in the darkroom file cabinet (fig. 5-2) for all photographic equipment contained in the darkroom and should be referred to for additional operator's maintenance information for those equipments.

The maintenance duties normally assigned to the operator of the darkroom are listed below, together with a reference to the paragraphs covering the specific maintenance function. The tools and materials required are listed in paragraph 3-2.

a. Daily preventive maintenance checks and services (para 3-5).

b. Weekly preventive maintenance checks and services (para 3-6).

c. Cleaning (para 3-7).

d. Touchup painting (para 3-8).

e. Troubleshooting (para 3-9).

3-2. Tools and Materials Required for Operator's Maintenance

a. Tools. The tools required are contained in the toolkit (fig. 1-14).

b. Materials.

(1) Cellulose sponges.
(2) Trichloroethane.
(3) Cleanser.
(4) Lens tissue.
(5) Lintfree cloth.
(6) Stiff bristle brush.
(7) Fine sandpaper.
(8) Soft bristle brush.
(9) Air syringe.
(10) Mild soap.

Section II. OPERATOR'S PREVENTIVE MAINTENANCE

3-3. Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is service able.

a. Systematic Care. The procedures given in paragraphs 3-4 through 3-10 cover routine systematic care, cleaning, and touchup painting essential to proper upkeep and operation of the equipment. The handbooks supplied for each photographic equipment (para 3-1) contain procedures that should be followed. The procedures contained in this chapter are intended to supplement the individual equipment procedures.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services charts (paras 3-5 and 3-6) outline functions to be performed at specific intervals; however, the procedures established in the photographic equipment manuals should be followed.

These checks and services are to maintain army equipment in a combat serviceable condition, that is, in good general (physical) condition and in good operating condition. If the defect cannot be remedied by the operator, higher category, maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

3-4. Operator's Preventive Maintenance Checks and Services Periods

a. Paragraph 3-5 specifies checks and services that must be accomplished daily and under the special conditions listed below.

(1) *In vehicular installations*.

(*a*) Before the vehicle starts on a mission,

(*b*) When the equipment is initially installed,

(*c*) When the equipment is reinstalled after removal for any reason, and

(*d*) At least once each week if the equipment is not used daily, but is maintained in standby condition (i.e., ready for immediate use) .

(2) *In fixed, transportable, and mobile installations*.

(*a*) When the equipment is initially installed,

(b) When the equipment is reinstalled after removal for any reason, and

(c) At least once a week if the equipment is not used daily, but is maintained in standby condition (i.e., ready for immediate use).

b. Paragraph 3-6 specifies additional checks and services that must be performed once each week.

3-5. Operator's Daily Preventive Maintenance Checks and Services

Sequence No.	Item to be Inspected	Procedure	Reference
1	Completeness	Check to see that the equipment is complete.	App. B
2	Exterior surfaces	Visually inspect for signs of deterioration (dirt, corrosion, fungus, etc.)	Para 3-7
3	Electrical cables	Check all electrical cables and their associated connectors for worn, cracked, broken, and frayed areas. Replace electrical cables that have damaged wiring or broken connectors.	Para 3-9
4	Connectors	Check the tightness of all connectors and check for leaks.	Para 3-9
5	Controls and indicators	Observe that the mechanical action of each control is smooth and free of external or internal binding, and that there is no excessive looseness. Also, make sure glass on indicators is secure, and that indicator pointers register zero with no input.	Para 3-9
6	Water pump	Check that water pump is operable, maintains required pressure, and does not run constantly.	Para 3-9
7	Filter	Check differential pressure at filter.	Para 2-8*e*
8	Water heater	Check that water temperature remains approximately constant.	Para 3-9
9	Circuit breakers	Check for constant tripping	Para 3-9

3-6. Operator's Weekly Preventive Maintenance Checks and Services

Sequence No.	Item to be Inspected	Procedure	Reference
1	Daily preventive maintenance.	Perform the daily preventive maintenance.	Para 3-5
2	Tubes and hoses	Check for evidence of physical damage	Para 3-9
3	Valves	Check without flow or pressure to ascertain proper mechanical function, and with flow to check for no leakage due to worn valves.	Para 3-9
4	Air conditioner ducts	Inspect for leaks	Para 3-9
5	Exhaust fans	*a.* Inspect and clean, as required *b.* Check that air is being exhausted	*a*. Para 3-7 *b*. Para 3-9
6	Water supply system strainer	Check for dirt and filter.	Para 3-7 and 3-9
7	Publications	Check that all publications are complete, serviceable, and current.	DA Pam 310-series
8	Modifications	Check DA Pam 310-7 to determine if new applicable MWO's have been published. ALL, URGENT MWO's must be applied immediately. ALL. NORMAL MWO's must be scheduled.	DA Pam 310-7

3-7. Cleaning

Inspect the exterior surfaces of all the equipment in the darkroom. The exterior surfaces should be free of dust, dirt, grease, and fungus.

a. Remove dust and loose dirt with a clean, soft cloth.

WARNING

The fumes of trichloroethane are toxic. Provide thorough ventilation whenever used. DO NOT use near an open flame. Trichloroethane is not flammable, but exposure of the fumes to an open flame converts the fumes to highly toxic, dangerous gases.

b. Remove grease, fungus, and ground-in dirt from all equipment; use a cloth dampened (not wet) with trichloroethane.

c. Remove dust or dirt from electrical connectors with a brush.

CAUTION

Do not press on the indicator faces (glass) when cleaning; the indicator many be damaged.

d. Clean the front panels, indicators, and controls; use a soft, clean cloth. If difficulty in removing dirt occurs, dampen the cloth with water; mild soap may be used to make the cleaning more effective.

e. To clean the water supply system strainer (fig. 1-17), proceed as follows:

CAUTION

Make certain that the water hose has been removed from water input connection before cleaning water supply system strainer.

(1) Disassembly.

(*a*) Unscrew and remove the pipe plug.

(*b*) Remove the gasket.

(*c*) Lift the strainer out of the housing.

(2) Cleaning.

(a) Place the strainer in a pail of water and brush all dirt from the screen.

(*b*) Use compressed air, if available, to blow all excess dirt from the strainer.

(3) Assembly.

(*a*) Insert the strainer inside the housing.

(*b*) Position the gasket.

(*c*) Screw in the pipe plug.

CAUTION

Before cleaning the water supply system filter, close valves S1, S2, and S3.

f. To clean the water supply system filter (fig. 1-17), proceed as follows:

(1) *Disassembly*.

(*a*) Unscrew the tee bolt and remove the faceplate and gasket.

(*b*) Remove the filter screen from the filter.

(2) *Cleaning*.

(*a*) Place the filter screen in a pail of water and brush all dirt from holes.

(*b*) Use compressed air, if available, to blow all excess dirt from the holes.

(3) *Assembly*.

(*a*) Install the filter screen in the filter.

(*b*) Install the gasket and faceplate.

(*c*) Install the tee bolt and secure it.

g. The silver recovery unit must be cleaned as follows each time silver is removed from the cathode:

(1) Clean the chemical deposits accumulated on the power head coupling (fig. 2-17) and the underside of the power head with a damp cloth.

(2) Wipe it dry with a lint-free cloth.

(3) Wash the cathode with soap and water.

(4) Rinse the soap off with clean water and wipe dry with a lint-free cloth.

3-8. Touchup Painting Instructions

Remove rust and corrosion from metal surfaces bv lightly sanding them with fine sandpaper. Brush two thin coats of paint of the bare metal to prevent it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in SB 11-573 and TB 43-0118.

Section III. OPERATOR'S TROUBLESHOOTING AND PREPARATION FOR TRAVEL

3-9. General Troubleshooting Information

Troubleshooting the darkroom is based on the operational checks in the daily and weekly preventive maintenance checks and services chart. To troubleshoot the equipment, perform all the functions in the daily, weekly preventive maintenance checks and services chart (paras 3-5 and 3-6) until an abnormal condition or result is observed. Perform the checks and corrective measures indicated in the troubleshooting chart (para 3-10). If the corrective measures indicated do not result in correction of the trouble, a higher category of maintenance is required.

3-10. Operator's Troubleshooting Chart

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Line pressure more or less than 40 psi with pressurized input.	Defective or misadjusted pressure switch.	Adjust pressure switch or replace (refer to higher category of maintenance).
2	a. Water pump does not start.	*a*. Defective water pump	*a.* Replace (refer to higher category of maintenance).
	b. Thermal overload	*b*. Allow pump to cool.	
	b. Water pump does not maintain required water pressure and runs constantly.	*a*. Defective or misadjusted relief valve.	*a.* Adjust relief valve or replace (refer to higher category of maintenance).
		b. Worn pump	*b.* Replace (refer to higher category of maintenance).
		c. Defective check valve	*c.* Replace (refer to higher category of maintenance).
3	Pressure difference between water outlet and inlet indicators.	Dirty filter	Clean (para 3-7J).
4	Water temperature drops	Water heater element not energized	Check that circuit breaker S and water heater switch are set to ON.
5	Constant tripping of a circuit breaker.	*a.* A malfunction of the equipment controlled by the circuit breaker.	*a.* Repair or replace (refer to higher category of maintenance).
		b. Defective circuit breaker	*b.* Replace (refer to higher category of maintenance).

3-11. Preparing Darkroom for Travel

NOTE

Refer to applicable manuals listed in appendix A for instructions covering equipment not listed below.

a. If required, shut off the outside water source and remove the water hose from the water source.

b. Turn the water heater switch to the OFF position (fig. 1-17) and set circuit breaker 5 to the OFF position (fig. 2-11).

c. Set all switches on control unit to the OFF position (TM 11-6740-286-12) and set circuit breaker 9 to the OFF position.

d. Close supply valves S I and S3 (fig. 1-17).

e. To drain the water tank by using the water pump (fig. 3-1) proceed as follows:

(1) Close valve D2.

(2) Open valves S2, S8 and S9.

(3) Set the water pump switch (fig. 1-18) to the ON position.

(4) When the water tank is empty as indicated by level gage (fig. 1-17) proceed to *f* below.

f. Drain the water system by gravity (fig. 3-2) by opening the valves listed below.

NOTE

Normal drainage of the water system is by gravity.

(1) Drain valve D1
(2) Drain valve D2
(3) Drain valve D3
(4) Drain valve D4
(5) Drain valve D5
(6) Drain valve D6
(7) Drain valve D7
(8) Drain valve D10
(9) Drain valve D11
(10) Drain valve D 12 (petcock)
(11) Drain valve D13
(12) Prime valve P1
(13) Supply valve S1
(14) Supply valve S2
(15) Supply valve S3
(16) Supply valve S4
(17) Supply valve S5
(18) Supply valve S6
(19) Supply valve S7
(20) Supply valve S8
(21) Supply valve S9
(22) Petcock (check valve drain)

g. Replace the floor drain plugs (figs. 1-17 and 5-2).

h. Disconnect the power cable and water hoses from the darkroom and sources, coil neatly and stow them. Disconnect the ground strap, remove ground rod (fig. 1-17 and stow it.

i. Empty all processing chemicals.

j. Lower the carriage assembly of the projection printer and lock it in position.

k. Install all protective covers.

l. Store all minor components, running spares, and accessories as shown in figures 1-2 through 1-8, and 3-3. Bolt the easels and processing rack assemblies in position and secure all components as shown in figure 5-2.

CAUTION

Make certain that all storage drawers are secured.

m. Remove the hose from the 5-gallon fuel can and fuel strainer. Install the cap on the fuel can and the duet cap on the fuel trainer (fig. 1-18).

n. If the darkroom is to remain mounted on a truck, engage the lifting rings to the eyebolts on the sides of the truck (fig. 2-1). Tighten the turnbuckles, securing the darkroom to the bed of the truck. To prevent the darkroom from shifting on the truck, place blocks adjacent to each of -the four corners of the darkroom. Some truck models have no fender as such but the wheel wells extend above the bed of the truck. On these trucks install cribbing both in front and in back of the wheel wells to provide a flat base for the darkroom. Make the height of the cribbing and blocking equal to that of the wheel well and place suitable blocking under the exterior floor skids of the darkroom.

o. Remove the exhaust pipe and install the space heater exhaust cap and condensate drain plug (fig. 5-1).

p. Secure the space heater fresh air intake cover.

q. Secure the five exhaust fan covers (fig. 5-1) and the refrigerator door holding latch (fig. 5-2).

r. Replace the caps on the water input, drain, and dehumidifier drain connections.

CAUTION

Make certain that all equipment switches and circuit breakers are set to the OFF position 8. Replace the cap on the power connection.

t. Secure the outside intercom door (fig. 5-1).

u. Remove the boarding ladder (fig. 1-11) and stow it.

WARNING

Make certain that no personnel remain Din darkroom before performing v below.

v. Secure the entrance and the escape doors, if necessary.

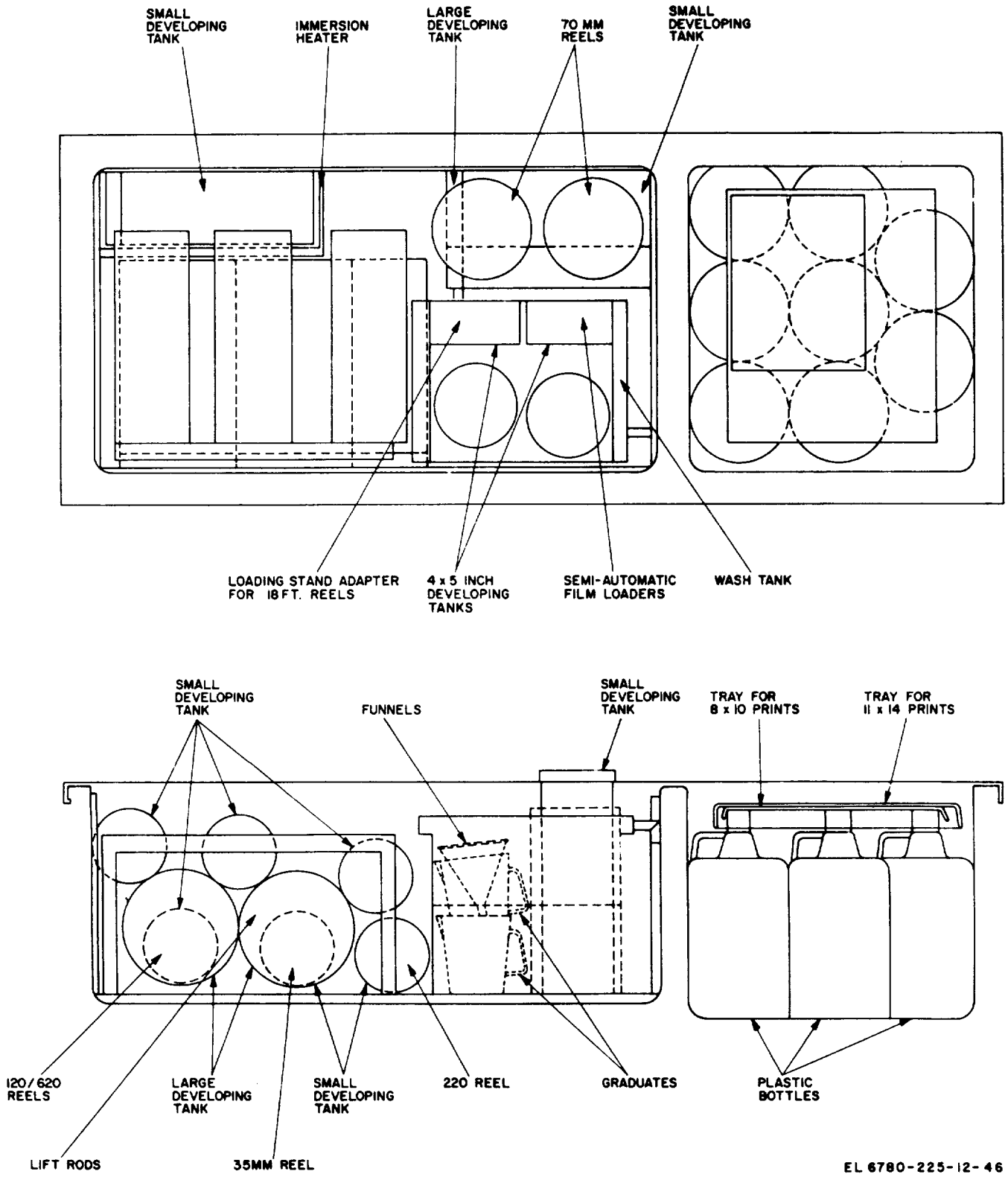


Figure 3-1. Valves used for draining water tank using water pump.

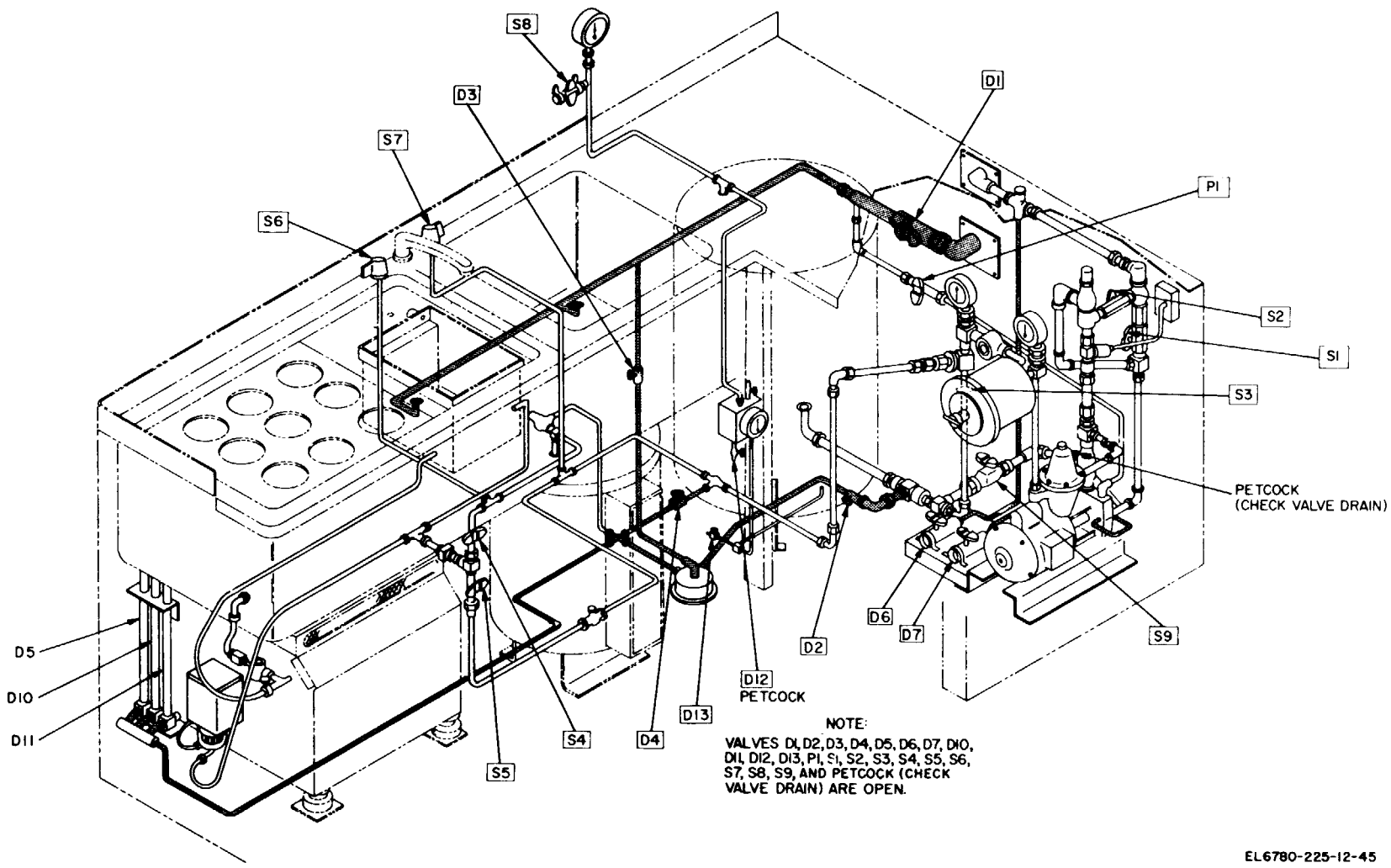


Figure 3-2. Valves used for gravity water system.

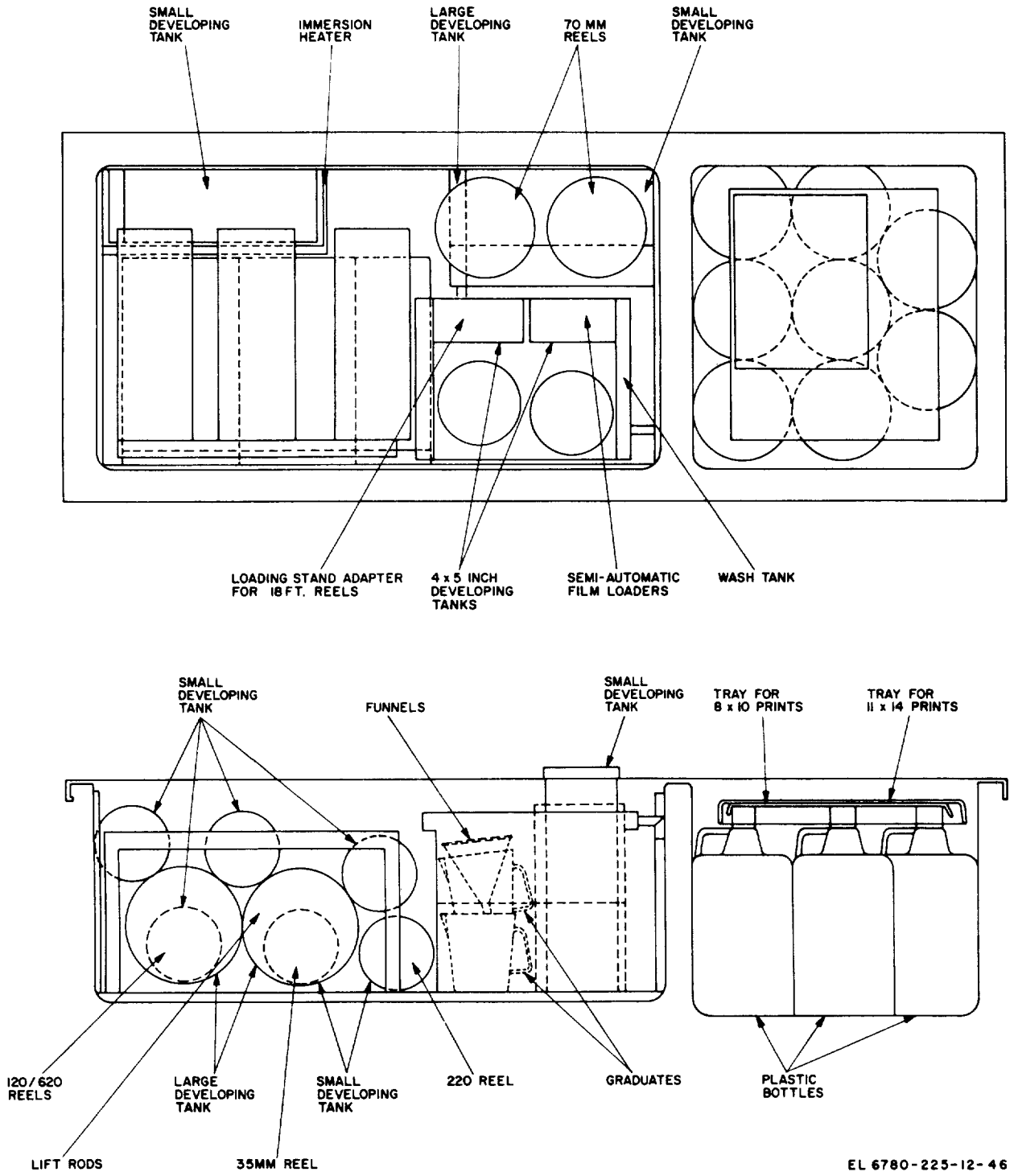


Figure 3-3. Sink storage location diagram.

CHAPTER 4
ORGANIZATIONAL MAINTENANCE

Section I. GENERAL LUBRICATION INSTRUCTIONS

4-1. Scope of Organizational Maintenance

NOTE

Manuals (app. A) are provided in the darkroom file cabinet for all equipment and should be referred to for organizational maintenance information for those equipments.

The maintenance duties assigned to organizational maintenance are listed below together with the references to paragraphs covering specific functions. The tools, test equipment, and materials are listed in paragraph 4-2.

a. Lubrication (para 4-3).

b. Preventive maintenance (para 4-4).

c. Troubleshooting (para 4-5).

4-2. Tools, Test Equipment, and Materials Required for Organizational Maintenance

Tools and materials required for organizational maintenance are the same as those required for operator's maintenance.

4-3. Lubrication

Refer to the manuals listed in appendix A and manuals provided in the darkroom filing cabinet for equipment lubrication instructions. The lubrication charts have symbols representing the lubrication interval. Note that the intervals are based on 8-hour operating days and would have to be prorated when other than 8-hour-per-day operation occurs. Intervals and symbols are given in the chart below.

Intervals	Standard symbol
Daily	D
Weekly	W
Monthly	M
Quarterly (3 months)	Q
Semiannually (6 months)	S
Annually	A

Section II. PREVENTIVE MAINTENANCE AND TROUBLESHOOTING

4-4. Organizational Preventive Maintenance

a. Organizational maintenance is responsible for performing the preventive maintenance procedures outlined in *b* and *c* below.

b. Preventive maintenance for components of the darkroom are covered in the equipment manuals stored in the darkroom file cabinet.

c. Preventive maintenance procedures for components not covered in other manuals are provided in the following chart:

Step No.	Item	Procedure
1	Cables	Check all cables and wires for kinks, frays, and sharp bends.
2	Storage cabinets and storage drawers	Remove all items from storage drawers. Wipe dust and dirt from interior with clean cloth. Clean dirt from drawer slides with trichloroethane.
3	Shelves	Brush dirt from shelves and recesses. Clean with a cloth moistened with trichloroethane.
4	Floor and walls	Wash floor and wipe walls; remove all dust and dirt.
5	Stainless steel sinks	Wipe dry with lint free cloth and remove spots with cleanser.

d. Every 6 months, clean the carbon anodes and mounting bolts, in the tank of the silver recovery unit, with a stiff-bristled brush to remove any chemical buildup. Inspect anode mounting bolts and wire connections. If wires or connections are frayed or corroded, refer to a higher category of maintenance.

4-5. Organizational Troubleshooting

Refer to the operator's troubleshooting charts and figure 5-3 for information sectionalizing troubles in the darkroom. Localization procedures are covered in other manuals (app. A) for the components. Troubleshooting of the silver recovery unit is covered in the following chart.

Item	Trouble symptom	Probably cause	Checks and corrective measures
1	Unit does not operate	*a.* Improper power	*a.* Check to see that power source is 115 volts 60 hz.
		b. Fuse blown.	*b.* Replace fuse.
2	Motor will not operate.	*a.* Fuse blown.	*a.* Replace fuse.
		b. Excessive friction.	*b.* Check cathode for easy rotation. If it will not rotate or is difficult to turn, refer to higher category maintenance.
		c. Motor burned out	*c.* Refer to higher category maintenance.

CHAPTER 5

SHIPMENT, ADMINISTRATIVE STORAGE, AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND ADMINISTRATIVE STORAGE

5-1. Packaging

Use the original packaging to pack the darkroom components. Refer to figures 1-2 through 1-8, 3-3 and 5-2 for storage locations.

5-2. Loading by Crane (Flatbed Trailer or Railroad Flatcar) (fig. 2-1)

a. Position the darkroom so that the crane can lift the darkroom onto the trailer or flatcar (flatbed).

b. Connect the lifting cable to the lifting rings at the corners of the darkroom and insert the crane hook in the lifting ring. Take up the slack with the crane.

c. Using the crane, lift the darkroom to the flatbed. When properly situated, remove the lifting cable and stow it inside darkroom.

d. Secure the darkroom to the flatbed per the carrier specifications.

5-3. Offloading by Crane (Flatbed Trailer or Flatcar)

a. Remove the tiedown cables from the darkroom.

b. Connect the lifting cable to the lifting rings at the corners of the darkroom and insert the crane hook in the lifting ring. Take up the cable slack with the crane.

c. Lift the darkroom from the flatbed and lower it into position.

5-4. Administrative Storage of Darkroom

The darkroom shall be placed into administrative storage according to the instructions found in TM 740-90-1.

Section II. DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

5-5. Authority for Demolition

Demolition of the equipment will be accomplished only upon order of the commander. Use the destruction procedures in paragraphs 5-7 and 5-8 to prevent further use of the equipment.

5-6. Priorities for Destruction

Priorities for destruction for equipment and parts thereof will be accomplished in accordance with the following instructions:

a. Top priority shall always be given to the destruction of classified equipment and associated documents.

b. Priority shall be given to the destruction of essential parts, and the same priority shall be given to the same parts on all like equipment.

c. Spare parts of a major item shall be given the same priority of destruction as the corresponding parts in the major item.

5-7. Degree of Damage

a. General. Destruction must achieve such damage to equipment and essential spare parts that it will not be possible to restore the equipment to a usable condition in the combat zone either by repair or cannibalization. Whenever possible, equipment should be destroyed to the extent required to prevent its eventual repair and use by the enemy.

b. Classified equipment. Classified equipment must be destroyed to such a degree as to prevent duplication by the enemy or revealing means of operation or function.

c. Associated Classified Documents. Any classified documents, notes, instructions, or other written material pertaining to function, operation, maintenance, or employment, including drawings or parts lists, must be destroyed in a manner to render them useless to the enemy.

5-8. Methods of Destruction

NOTE

Report the destruction of the equipment through command channels.

a. If complete destruction of the equipment cannot be accomplished in the time available, destroy the following components in the older given:

(1) All optics.

(2) All mechanical and electrical items.

(3) All film.

(4) All plumbing.

(5) Driers.

(6) All other equipment.

b. Use any of the following methods:

(1) *Smash*. Smash the plumbing, sinks, storage drawers and cabinets, controls, switches, safelights, timers, motors, pumps, pressure switch, thermostats, circuit breakers, doors, and lamps; use sledges, axes, hammers, crowbars, and any other heavy tools available to smash the equipment.

(2) *Cut*. Use axes, handaxes, machetes, and similar tools to cut cabling, tubing, and wiring. Cut all cords and cables in a number of places.

WARNING

Be extremely careful with explosives and incendiary devices. Use these items only when the need is urgent.

(3) *Burn*. Burn cords, cables, film, hoses, and technical manuals; use gasoline, kerosene, oil, flamethrowers, or incendiary grenades.

(4) *Bend*. Bend chassis, control mechanisms, trays, and tongs.

(5) *Explode*. Use explosives to complete demolition or to cause maximum damage when time does not permit demolition by other means. Powder charges, fragmentation grenades, or incendiary grenades may be used. Incendiary grenades usually are most effective if destruction of small parts and wiring, is desired.

(6) Dispose. Bury or scatter the destroyed pants in slit trenches, foxholes, or throw them into streams. This is particularly important if a number of parts have not been completely destroyed.

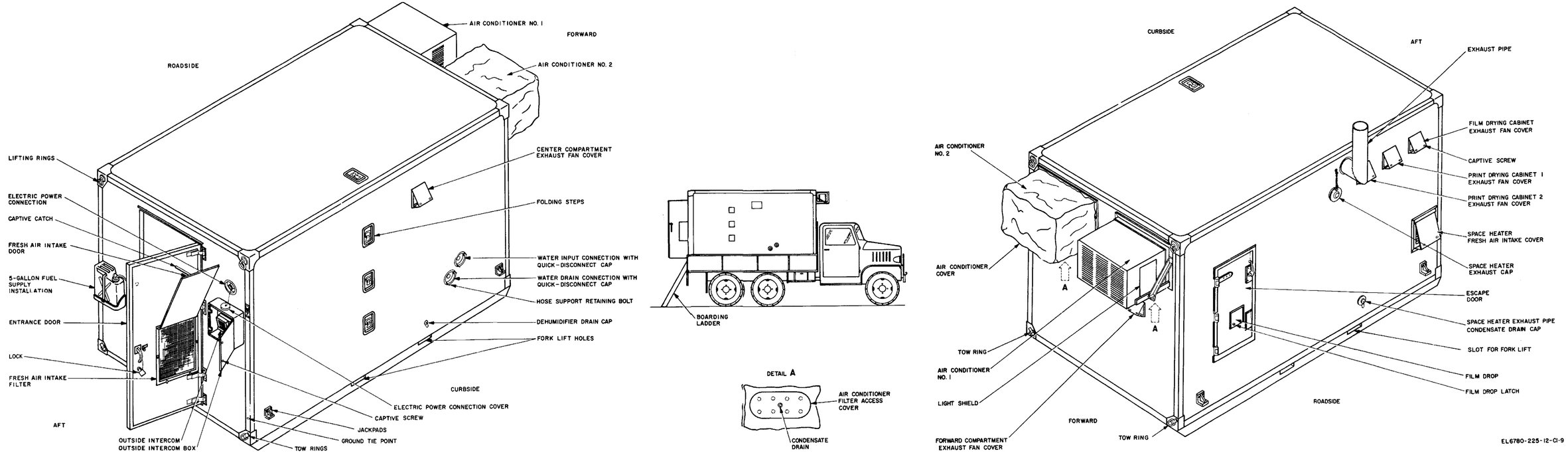


Figure 5-1. Darkroom, Photographic, Transportable/ ES-82A.

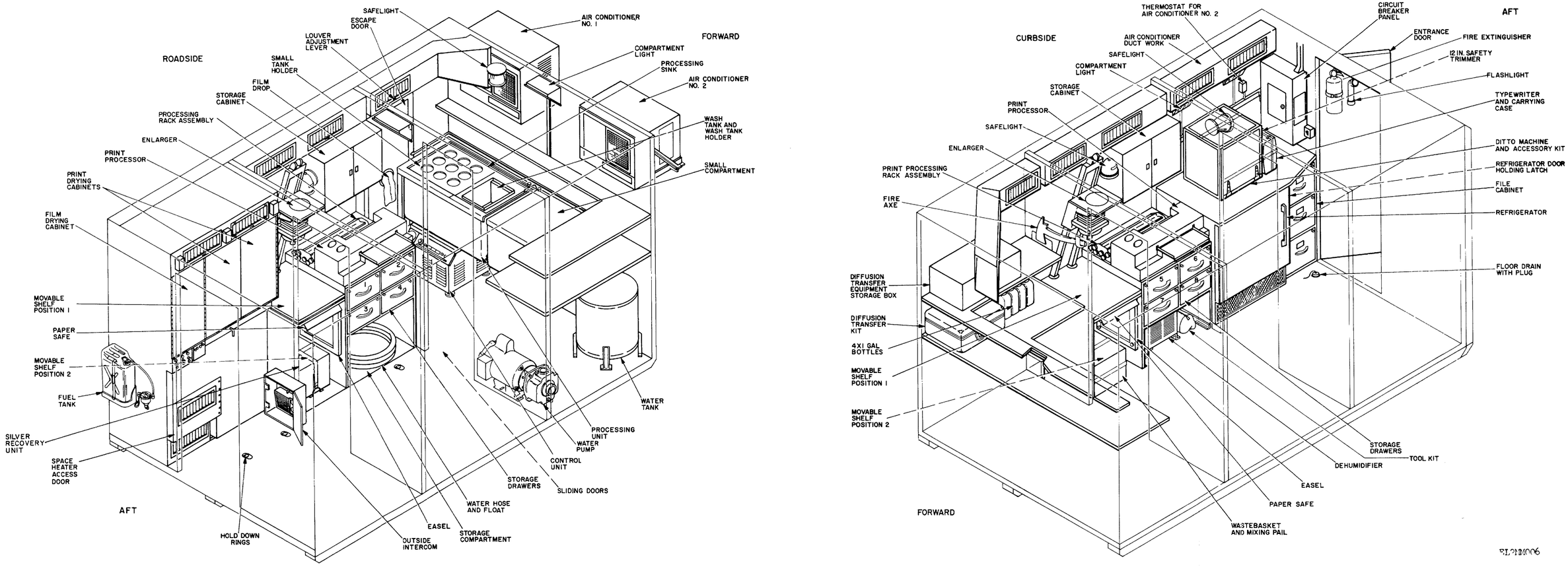
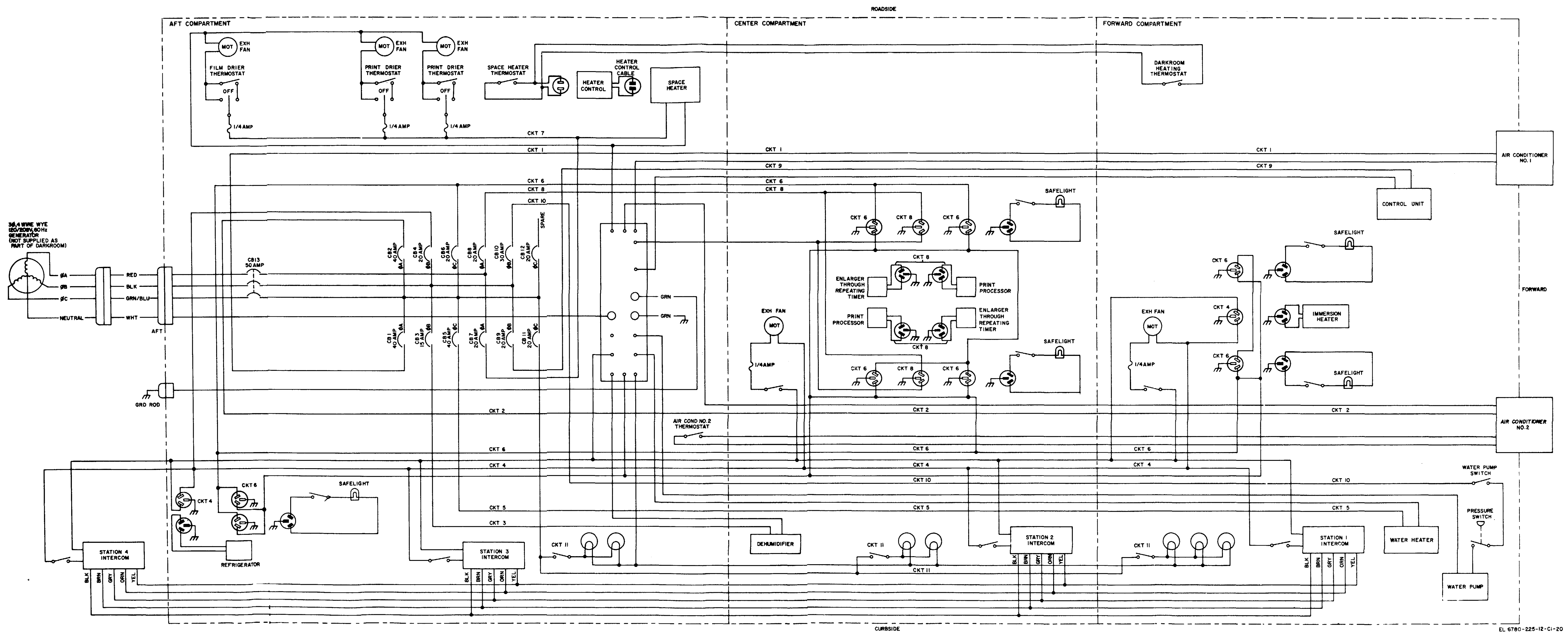


Figure 5-2. Darkroom component location.


ROADSIDE
AFT COMPARTMENT
CENTER COMPARTMENT
FORWARD COMPARTMENT
FILM DRIER THERMOSTAT
PRINT DRIER THERMOSTAT
SPACE HEATER THERMOSTAT
HEATER CONTROL
HEATER CONTROL CABLE
SPACE HEATER
DARKROOM HEATING THERMOSTAT
AIR CONDITIONER NO. 1
AIR CONDITIONER NO. 2
CONTROL UNIT
SAFELIGHT
ENLARGER THROUGH REPEATING TIMER
PRINT PROCESSOR
EXH FAN
IMMERSION HEATER
FORWARD
GRD ROD
AIR COND NO. 2 THERMOSTAT
REFRIGERATOR
STATION 4 INTERCOM
STATION 3 INTERCOM
DEHUMIDIFIER
STATION 2 INTERCOM
STATION 1 INTERCOM
WATER HEATER
WATER PUMP SWITCH
PRESSURE SWITCH
WATER PUMP
CURBSIDE
EL 6780-225-12-C1-20

APPENDIX A

REFERENCES

The following publications contain information applicable to the operation and maintenance of the darkroom.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	US Army Equipment Index of Modification Work Orders.
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB 43-0118	Field Instructions for Painting and Preserving Electronics Command Equipment Including Camouflage Pattern Painting of Electrical Equipment Shelters.
TB SIC 189	Cold Weather Photography.
TM 11-401-1	Army Pictorial Techniques, Equipments, and Systems: Pictorial Fundamentals.
TM 11-6740-265-12	Operator's and Organizational Maintenance Manual: Printers, Projection, Photographic EN-91A and EN-18B.
TM 11-6740-285-12	Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tool Lists Processing Kit, Photographic Film EH-92A.
TM 11-6740-286-12	Operator's and Organizational Maintenance Manual: Temperature Control Unit, Photographic Processing FH-19A.
TM 11-6740-287-12	Operator's and Organizational Maintenance Manual Including Repair Parts and Special Tools List: Processing Machine, Photographic Paper EH-91A.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.

APPENDIX B

BASIC ISSUE ITEMS

Section I. INTRODUCTION

B-1. Scope

This appendix lists items which accompany the Darkroom, Photographic, Transportable ES-82A or are required for installation, operation, or operator's maintenance.

B-2. General

This basic issue items list is divided into the following sections:

a. Basic Issue Items-Section II. A list of items which accompany the ES-82A and are required by the operator/crew for installation, operation, or maintenance.

b. Maintenance and Operating Supplies-Section III. Not applicable.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of basic issue items, section 11.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

(1) Source code, indicates the selection status and source for the listed item. Source codes are-

Code — Explanation

P-Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system and authorized for use at indicated mainte nance categories.

P2-Repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.

P9-Assigned to items which are NSA design controlled: unique repair parts, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC logistic system, and which are subject to the provisions of AR 38041.

P10-Assigned to items which are NSA design controlled: special tools, test, measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 380-41.

Code — Explanation

M-Repair parts which are not procured or stocked, but are to be manufactured in indicated maintenance levels.

A-Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.

X-Parts and assemblies which are not procured or stocked and the mortality of which normally is below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.

X1-Repair parts which are not procured or stocked. The requirement for such items will he filled by use of the next higher assembly or component.

X2-Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain same through cannibalization. Where such repair parts are not obtainable through cannibalization, requirements will be requisitioned with accompanying justification, through normal supply channels.

C-Repair parts authorized for local procurement. Where such repair parts are not obtainable from local procurement, requirements will be requisitioned through normal supply channels accompanied by a supporting statement of nonavailability from local procurement.

G-Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above DS and GS level or returned to depot supply level.

(2) Maintenance code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is

Code	Explanation
C	Operator/crew
O	Organizational maintenance

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are-

Code	Explanation
R	Repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
S	Repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T	High-dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high-dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A 2-character alphabetic abbreviation indicating the amount or quantity of the item upon which the 'allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the ES-82A. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc.).

f. Quantity Furnished With Equipment, Column 6. This column indicates the quantity of an item furnished with the equipment.

g. Illustration, Column 7. This column is divided as follows:

(1) *Figure Number, Column 7a.* This column indicates the figure number of the illustration in which the item is shown.

(2) *Item Number, Column 7b.* Not applicable.

B-4. Explanation of Columns in the Tabular List of Maintenance and Operating Supplies - Section III

Not applicable.

B-5. Federal Supply Codes for Manufacturers

Code	Manufacturers name
06650	Bell and Howell Co.
08215	Arkay Corp.
08929	Allen Tool Corp.
09861	Burke and James, Inc.
10018	Airflow Co.
12128	Chisholm Moore Hoist Div. of Columbus McKinnon Chain Corporation
13693	Columbian Enameling and Stamping Co., Inc.
18464	Crane Co., Plumbing Heating and Air Conditioning I)iv.
19099	Army Mobility Equipment Center
19139	Eastman Kodak Co.
55586	S.C.M. Corp.
65092	Weston Instruments, Inc. Weston Instruments Div.
71092	Bright Star Industries, Inc.
74114	Neva Clog Products, Inc.
77335	Plews Oiler Co.
80063	Army Electronics Command
85061	National Brush Co.
87619	Superior Light Co.
89378	Du Pont E. I. DeNemours and Co., Inc. Fabrics Div.
91313	Leedal Stainless Steel Products, Inc.
95068	Burgess Anderson and Tate, Inc.
97619	Kellett Aircraft Corp.

SECTION II. BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3 DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS UNIT	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
P-O-R	6780-400-2641	DARKROOM, PHOTOGRAPHIC, TRANSPORTABLE ES-82A: (This item is nonexpendable)	EA	1	1		
		TECHNICAL MANUAL TM 11-6780-225-12 Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility. For technical manuals the quantity indicates the maximum number of copies authorized for packing or issue with the equipment. Where a number of these equipments are concentrated in a small area, the quantity on hand may be reduced to the minimum actual requirements as determined by the commanding officer of the unit.	EA	2	2		
P-O--		ADAPTER AND LOADING STAND: 682-21-2; (97619)	EA	1	1		
P-O--		ADAPTER REDUCING: 1 inch to 3/4; (18464)	EA	2	3	1-11	
P-O--		AIR CONDITIONER: NIL-A-14372; (19099)	EA	2	2	1-16	
P-O--	8405-255-8393	APRON: Type No. 2; (19139)	EA	3	4	1-2	
P-O--	.5140-498-8721	BAG 5O-44: SC-D-7449; (80063)	EA	1	1	1-14	
P-O--	7520-264-3655	BASKET WASTE: Cat No. 27; (95068)	EA	1	1	1-9	
P-O--	8125-174-0852	BOTTLE: Plastic; Elmer Mills No. 5-7700-A-521	EA	8	8	1-12	
P-O--	7920-392-8411	BRUCH: No. HD-517A; (85061)	EA	1	1	1-14	
P-O--		CABLE ASSEMBLY POWER ELECTRICAL: 682134; (97619)	EA	1	2		
P-O--		CABLE ASSEMBLY POWER ELECTRICAL: 682135; (97619)	EA	1	1	1-11	
P-O--		COVER AIR CONDITIONER: 321-36001; (87619)	EA	2	2		
P-O-R		DEHUMIDIFIER: DEN-34-160; (10018)	EA	1	1		
P-O--	7240-222-3088	DRUM: MIL-C-1283; (19099)	EA	1	1	1-13	
P-N-R	3610-585-0944	DUPLICATING MACHINE: Model 9L20; (06650)	EA	1	1		
P-O--	6740-823-9815	EASEL, PROJECTION PRINTING FN-10(1)	EA	2	2	1-9	
P-O--	6760-322-0123	FILTER, SAFELIGHT: Model S-55X; (89378)	EA	4	4		
P-O--	6230-264-8261	FLASHLIGHT MX-991/U	EA	1	1	1-2	
P-O--	4730-540-2556	FLOAT ASSEMBLY: SC-D-92967; (80063)	E A	1	1	1-15	
P-O--	6640-223-9008	FUNNEL PH-175	EA	2	2	3-12	
P-O--	7240-408-5187	GRADUATE: MX-35954-1	EA	3	3	1-12	
P-O--	6740-224-9907	HANGER, PHOTOGRAPHIC FILM: No. 4A; (19139)	EA	36	36	1-5	
P-O--	6740-598-6467	HANGER, PHOTOGRAPHIC FILM: 4XS; (19139)	EA	36	36	1-8	
P-O-R		HEATER, HOT WATER: 368098 (97619)	EA	1	1		
P-O--	4520-242-3049	HEATER IMMERSION ELECTRICAL FM-13(1)	EA	1	1	1-12	
P-O-R	4520-202-6791	HEATER SPACE GASOLINE: MIL-H-11511; (12128)	EA	1	1		
P-O--	4720-569-0218	HOSE: 368121; (80063)	EA	2	2	1-15	
P-O--	4720-143-9384	HOSE ASSEMBLY: RXF04X04-PSX04RS; (97619)	EA	1	1	2-3	
P-O--		HOSE SUPPORT: 90132; (97619)	EA	1	1	2-4	
P-O--	5440-132-6675	LADDER, VEHICLE BOARDING MX-3391/G: 108736; (80063)	EA	1	1	1-11	
P-O--		LOADER FILM AUTO 120: 682521-5; (97619)	EA	1	1		
P-O--		LOADER FILM AUTO 35MM: 682521-6; (97619)	EA	1	1		
P-O--		LOADER FILM AUTO 220: 682521-17; (97619)	E A	1	1		
P-O--		METER ENLARGING PHOTOELECTRIC: MDL CDS Master; (08215)	EA	2	2	1-6	
P-O--	4930-204-3737	OILER HAND: No. 600TX-SM-SIGCOR; (77335)	EA	1	1		
P-O--	6760-498-9918	PADDLE PHOTOGRAPHIC: Print 12" Ig; (19139)	EA	2	2	1-5	
P-O--	7240-223-6041	PAIL PHOTOGRAPHIC: Cat No. P-3; (91313)	EA	1	1	1-9	

SECTION II. BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS UNIT	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS (a) FIG NO.	(7) ILLUSTRATIONS (b) ITEM NO. OR REF. DESIGNATION
P-O-R	6740-420-5140	PRINTER, PROJECTION, PHOTOGRAPHIC EN-105A	EA	2	2		
P-O-R	6740-420-5046	PROCESSING MACHINE, PHOTOGRAPHIC PAPER EH-91A	EA	2	2		
P-O-R	6740-400-2634	PROCESSING MACHINE, PHOTOGRAPHIC FILM: EH-92A	EA	1	1		
P-O--	6740-404-5325	PROCESSING UNIT, PHOTOGRAPHIC FILM EJ-12A	EA	1	1		
P-O--	6740-420-5145	PROCESSING UNIT, PHOTOGRAPHIC FILM EJ-13A	EA	1			
P-O--		REEL PROCESSING FILM 220: 682521-7; (97619)	EA	4	4		
P-O--		REEL PROCESSING FILM 35MM: 682521-8; (97619)	EA	7	7		
P-O--		REEL PROCESSING FILM 120: 682521-11; (97619)	EA	4	4		
P-O--		REEL PROCESSING FILM 70MM: 682521-16; (97609)	EA	3	3		
P-O-R		REFRIGERATOR: 321-36007; (97619)	EA	1	1		
P-O--		RIBBON TYPEWRITER: 2714-4; (55586)	EA	2	2		
P-O--	5975-224-5260	ROD GROUND MX-148/U	EA	1	1	1-11	
P-O--		ROD LIFT: 682521-15; (97619)	EA	3	3		
P-O-R	6740-420-5139	SAFELIGHT, DARKROOM PHOTOGRAPHIC FM-188A	EA	4	4	2-5	
P-O--		SAFELIGHT PHOTOGRAPHIC: Model 290; (71092)	EA	3	3	1-6	
P-O--	5110-244-6512	SHEARS PR-287	EA	2	2	1-3	
P-O--	5410-999-6022	SHELTER, ELECTRICAL EQUIPMENT S-280/G	EA	1	1		
P-O--	7920-241-3336	SPONGE CELLULOSE: Fed spec No. L-S-o26	EA	1	2	1-2	
P-C--	7920-205-2002	SQUEEGEE: 10"; (19139)	EA	1	1	1-8	
P-O--	7520-531-7918	STAPLE (Plier type): A-100; (74114)	EA	1	2	1-8	
P-O--	7510-543-4135	STAPLES: A-100; (74114)	BOX	1	1		
P-O--		STRAP GROUND: 187774; (97619)	EA	1	1	1-11	
P-O--		TANK PROCESSING FILM 4-1/2": 682438; (97619)	EA	9	9		
P-O--		TANK DEVELOPING FILM: 682521-10; 97619	EA	3	3		
P-O--		TANK PROCESSING: 682521-20; (97619)	EA	3	3	1-12	
P-O--		TANK PROCESSING FILM: 682521-1; (97619)	EA	3	3		
P-O-R	6740-420-5148	TEMPERATURE CONTROL UNIT, PHOTOGRAPHIC PROCESSING FH-19A	EA	1	1		
P-O--	6760-521-0656	THERMOMETER: 2265; (65092)	EA	3	4	1-3	
P-O--	5645-089-1556	TIMER INTERVAL FN-5(3)	EA	2	2	1-6	
P-O--	6645-243-9470	TIMER FM-103(1)	EA	1	1	1-6	
P-O--	6645-663-7941	TIMER INTERVAL FP.-17(2)	EA	2	2	2-5	
P-O--	6740-963-4880	TONGS PHOTOGRAPHIC PRINT: 31655; (13693)	EA	1	1	1-8	
P-O--	6740-243-2941	TRAY PROCESSING PHOTOGRAPHIC: Fed M-T646; Type 1, Size 1	EA	3	3	1-12	
P-O--	5740-926-5221	TRAY PROCESSING PHOTOGRAPHIC: Fed RR-T446; Type 1, Size 2	EA	1	1	1-12	
P-O--		TRIMMER: No. 9403-EV; (09561)	EA	1	1	1-10	
P-O--		TYPEWRITER: 2714-4; (55586)	EA	1	1		
		ACCESSORIES, TOOLS OR TEST EQUIPMENT TO BE ISSUED WITH THIS EQUIPMENT					
P-O--	5120-223-7396	KEY SET: No. 604; (08929)	EA	1	1	1-14	
P-O--	5120-223-7396	PLIERS: Fed Spe GGG-P-471-Type II, Class 2, Style A	EA	1	1	1-14	
P-O--	5120-227-7334	SCREWDRIVER: Fed Spec GGG-5-121, Type 1, Class 1, Design A, Style 2	EA	1	1	1-14	
P-O--	5120-227-9491	SCREWDRIVER: Fed Spec GGG-S-121, Type 1, Class 5, Style 1, Design B	EA	1	1	1-14	
P-O--	5120-234-8913	SCREWDRIVER: Fed Spec GGG-5-121, Type VI, Class 1, Style 1	EA	1	1	1-14	
P-O--	5120-537-8695	SCREWDRIVER: Fed Spec GGG-S-121, Type 1, Class 1, Design A, Style 2	EA	1	1	1-14	

SECTION II BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3 DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS UNIT	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
P-O--	5120-264-3795	WRENCH ADJUSTABLE: Fed Spec GGG-W-631, Type 1, Class 1		EA	1	1	1-14	
P-O--	5120-293-2278	WRENCH SPANNER: ECOM Dwg SC-C-60321		EA	1	1	1-14	
P-O--	5110-510-4793	WRENCH TAPPET: F--d Spec GGG-W-636, Type X, Class 1		EA	1	1	1-14	
		NO BASIC ISSUE ITEMS ARE MOUNTED IN OR ON THE EQUIPMENT						

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Darkroom, Photographic, Transportable ES-82A. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Maintenance Functions

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

b. Test. To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc. This is accomplished with external test equipment and does not include operation of the equipment and operator type tests using internal meters or indicating devices.

c. Service. To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents, and air. If it is desired that elements, such as painting and lubricating, be defined separately, they may be so listed.

d. Adjust. To rectify to the extent necessary to bring into proper operating range.

e. Align. To adjust two or more components or assemblies of an electrical or mechanical system so that their functions are properly synchronized. This does not include setting the frequency control knob of radio receivers or transmitters to the desired frequency.

f. Calibrate. To determine the corrections to be made in the reading of instruments or test equipment used in precise measurement. Consists of the comparison 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 with the certified standard.

g. Install. To set up for use in an operational environment such as an encampment, site, or vehicle.

h. Replace. To replace unserviceable items with serviceable like items.

i. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes, but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

j. Overhaul. Normally, the highest degree of maintenance performed by the Army in order to minimize time work in process is consistent with quality and economy of operation. It consists of that maintenance necessary to restore an item to completely serviceable condition as prescribed by maintenance standards in technical publications for each item of equipment. Overhaul normally does not return an item to like new, zero mileage, or zero hour condition.

k. Rebuild. The highest degree of materiel maintenance. It consists of restoring equipment as nearly as possible to new condition in accordance with original manufacturing standards. Rebuild is performed only when required by operational considerations or other paramount factors and then only at the depot maintenance category. Rebuild reduces to zero the hours or miles the equipment, or component thereof, has been in use.

l. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

C-3. Explanation of Format

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Functional Group. Column 2 lists the noun names of components, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	*Maintenance Category*
C	Operator/Crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

d. Column 4, Tools and Test Equipment. Column 4 specifies, by code, those tools and test equipment required to perform the designated function. The numbers appearing in this column refer to specific tools and test equipment which are identified in Table I.

e. Column 5, Remarks. Self-explanatory.

C-4. Explanation of Format of Table 1, Tool and Test Equipment Requirements

The columns in table 1 are as follows

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the maintenance allocation chart. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number of the specific tool or test equipment.

e. Tool Number. Not used.

SECTION II

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
A1	Darkroom, Photographic, Transportable ES-82A		C	C										Operational tests, preventive maintenance
		O						O					3,5,6,9, 12, 14,15	
					F	F			F	F			1,3,5,6,8 thru 15	Replace accessories
											H		1 thru 15	Accessories
												D	1 thru 15	Plus shop support
	Printer, Projection, Photographic EN-91A													See TM 11-674G-265-12 for maintenance allocation
	Printer, Projection, Photographic EN-91B and EN-105A													See TM 11-6740-265-12-l for maintenance allocation
	Processing Kit, Photographic Film EH-92A													See TM 11-6740-285-12 for maintenance allocation
	Processing Machine, Photographic Paper EH-91A													See TM 11-6740-287-12 for maintenance allocation
	Temperature Control Unit, Photographic Processing EH-19A													See TM 11-6740-286-12 for maintenance allocation
A2MP2	Safelight	C	C											
				O									9	Replace bulb
										F			5,9,10	
A3MP1	Intercommunication Station LS-586U		C						F	F			5,9,10	
											H		4,5,9,10	
A4	Power Cable, Shelter Assembly	O	O						O				5	Continuity test
										F			5,9,10	
A5	Power Cable, Generator Assembly	O	O						O				5	Continuity test
										F			5,9,10	

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS										TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	
A7	Plumbing Installation			C									Clean sinks
		O							O				9 Clean filters, replace elements
A7MP63	Regulator, Pressure				F				F				6,9,10
A7MP64	Filter			O									9 Clean, replace element and O-ring
A7MP65	Gage 0-160 PSI								O				6,9
											D		6,9,10 Shop support
A7MP66	Gage 0-150 PSI								O				9
											D		6,9,10 Shop support
A7MP67	Faucet, Sink									O			9 Replace seal
A7MP71	Pump	O		O									9 Lubricate shaft seal
A9	Air Conditioner Installation												See TM 5-4120-282-15 for maintenance allocation
A10MP1	Refrigerator			O									Clean, maintained byMOCOM
A14A1	Door Assembly, Escape		O										Test for light leaks
A16	Heater and Drier												See TM 5-9163 for maintenance allocation
A16A1	Fuel Tank Assembly			O									9 Clean strainer
A16A6MP3	Filter, Foam			O									9 Clean
A16A6MP4	Filter, Foam			O									9 Clean
A16A10 to A12	Fan Assembly			O									9 Clean
									F				9,10

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
A16A13	Fan Exhaust, Assembly			O									9	Clean
									F				9,10	
A16A24A1	Heater-Drier Box Assembly			O						O			9	Replace fuses and lamps
A17A1A1	Dehumidifier			O									9	Preventive maintenance. Maintained by MOCOM
A17A1A10S1	Light, Trouble			C										Replace batteries and lamp
									O				9	
A17A1A10S2	Light, Trouble Same as A17A1A10S1													
A17A1M1	Timer, Interval		O										13	
									F				9,10	
										H			9,10	Plus shop facilities
											D	D	9,10	Shop support
A17A1M2	Timer, Stop		O										9	
									F				9,10	
										H			9,10	
											D	D	9,10	
A17A1M3	Meter, Enlarging								O					Factory repair
A17A1M4	Meter, Enlarging Same as A17A1M3													
A17A3A4M1	Trimmer, Safety			C										
									F					
A18A2A10S1	Light, Trouble Same as A17A10S1													
A18A2A1M1	Timer, Interval Same as A17ALM1													

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
A18A3	Float Assembly	O		O									9	Clean strainer
									F	F			9,10	
A21M1	Timer, Interval		O										13	
									F				9,10	
										H			9,10	Plus. shop facilities
											D	D	9,10	Shop support
A21M2	Timer, Interval Same as A21M1													
A21MP8	Cover, Enlarger								O					
										F			10	
A21MP9	Cover, Processor								O					
										F			10	
A26	Water Heater Assembly				O									Thermostat
										F			6,9,10	
A26MP1	Immersion Heater								O					
A27A2A2	D20 Duplicating Machine Assembly		C	C										Preventive maintenance
										F			8,9,10	
											H		8,9,10	Plus shop facilities
												D	8,9,10	Shop support
A27A2A2A1A3	Crank Shaft and Gear Assembly								F	F			8,9,10	
A27A2A2A2	Lever and Can Assembly								F	F			8,9,10	
A27A2A2A3A2	Master Handle Assembly								F	F			8,9,10	
A27A7A7A3	Pump Assembly								F				8,9,10	

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS										TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	
A27A2A2A4	Feed Roll Assembly, Lover								O				9	
A27A2A2A5	Upper Feed Roll and Clutch Assembly								O				9	
A27A2A2A5A2	Clutch Assembly								F				8,9,10	
A27A2A2A6	Wick Assembly, Holder			O					O				9	Clean wick
A27A2A2A8A9	Body Assembly, Check Valve								F				8,9,10	
A27A2A2A10	LH Feeder Army and Clutch Assembly								F				8,9,10	
										H			8,9,10	Shop facilities
A27A2A2A11	Tube Assembly, Spray								F				8,9,10	
A27A2A2A14	Feeder Arm Assembly									F			8,9,10	Obtain parts through cannibalization
A27A2A2A18 MP2	Foot, Rubber								O				9	
A27A2A2A26	Roll Assembly, Impression								O				9	
A27A2A2A27	Tank Assembly								O				9	
A27A2A2MP9	Wheel, Feeder								O				9	
A27A2A4MP2	Wheel, Feed Same as A27A2A2MP9													
A27A2A7	Holder, Wick Assembly Same as A27A2A2A6													
A27A3	Typewriter, 66	O	O	O									9	Functional test; clean type
										F			9	
- -	-											D	9	Shop support

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
A27A4	Paper Cutter			O					O					Preventive maintenance
A29W1	Cable, Power Same as A4													
A29W2	Cable, Power Same as A4													
A30MP1	Tank, Nikor	O							O					Preventive maintenance
A30MP2	Tank, Nikor	O							O					Preventive maintenance
A30MP7	Loader, Automatic, Film		O						O					Functional test
A30MP8	Loader, Automatic, Film		O						O					Functional test
A30MP11	Heater, Immersion		O											Functional test
									F				5,9,10	Replace Cord
A30MP12	Tank, Developing			C										Preventive maintenance visual
		O							O					
A30MP19	Loader, Automatic Film			C										Functional test, preventive maintenance
		O	O						O					
											H		9,10	Shop facilities
MP3	Cover, Air Conditioner	O						O	O					
										H			9,10	Shop facilities
MP8	Processing Unit, Photographic Film W -13A N Tank			C										Preventive maintenance
MP9	Processing Unit, Photographic Film W -12A T Tank			C										Preventive maintenance
MP18	Flashlight		C	C										Functional test replace batteries and lamp

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
MP21	Can, Gasoline			O					O				9	Preventive maintenance
A31	Pass through Door Assembly	O												Signs of deterioration
									F				9,10	
										H			9,10	Shop facilities

TABLE I

TOOL AND TEST EQUIPMENT REQUIREMENTS				
TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
1	F, H, D	Multimeter, AN/USM-33	6625-648-9172	
3	O, F, H, D	Gauge 0-160 PSI	6685-850-1833	
4	H, D	Insulation Tester, AN/PSM-1	6625-284-0263	
5	O, F, H, D	Multimeter, TS-352B/U	6625-553-0142	
6	O, F, H, D	Pipewrench, Straight 18"	5120-277-1461	
7	H, D	Sling Psychrometer	6660-223-5084	
8	F, H, D	Snap Ring Plier Set, Utica Tool Co. Div. Triangle Corp.	5120-789-0492	
9	O, F, H. D	Tool Kit, TK-77/GF	5180-752-9086	
10	F, H, D	Tool Kit, TK-109/GF	5180-856-9653	
12	O, F, D	Scale, Weighing, 0-12 lbs.	6670-291-8720	
13	O, F, H, D	Stop Watch	5120-293-2278	
14	O, F, H, D	Wrench, Spanner	5120-293-2278	
15	O, F, H, D	Wrench, Spanner	5120-510-4793	

APPENDIX D

ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

D-1. Scope

This appendix lists repair parts and special tools required for the performance of organizational maintenance of the ES-82A.

D-2. General

This Repair Parts and Special Tools List is divided into the following sections:

a. Prescribed Load Allowance (PLA)-Section II. A composite listing of repair parts, special tools, test and support equipment having quantitative allowances for initial stockage at the organizational level.

b. Repair Parts-Section III. A list of repair parts authorized for the performance of maintenance at the organizational level.

c. Special Tools, Test and Support Equipment-Section IV. Not applicable.

d. Index-Federal Stock Number Cross Reference to Figure and Item Number or Reference Designation-Section V. A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers in ascending alpha-numeric sequence, cross-referenced- to the illustration figure number and reference designation.

e. Index-Reference Designation Cross Reference to Page Numbers-Section VI. Not applicable.

D-3. Explanation of Columns

The following provides an explanation of columns in the tabular lists.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

(1) Source code indicates the selection status and source for the listed item. Source codes are:

Code *Explanation*

P-Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system and authorized for use at indicated maintenance categories.

P2-Repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.

P9-Assigned to items which are NSA design controlled: unique repair parts, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC logistic system and which are not subject to the provisions of AR 380-41.

P10-Assigned to items which are NSA design controlled: special tools, test, measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 380-41, and which are stocked and supplied by the Army COMSEC logistic system.

M-Repair parts which are not procured or stocked, but are to be manufactured in indicated maintenance levels.

A-Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.

X-Parts and assemblies which are not procured or stocked and the mortality of which normally is below that of the applicable end item or component. The failure of such part or assembly should

Code *Explanation*

result in retirement of the end item from the supply system.

X1-Repair parts which are not procured or stocked. The requirement for such items will be filled by use of the next higher assembly or component.

X2-Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain same through cannibalization. Where such repair parts are not obtainable through cannibalization, requirements will be requisitioned, with accompanying justification, through normal supply channels.

G-Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above DS and GS level or returned to depot supply level.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code *Explanation*

C-Operator/Crew

O-Organizational Maintenance

(3) Recoverability code indicates whether unserviceable items should be returned for recovery o0-salvage. Items not coded are expendable. Recoverability codes are:

Code *Explanation*

R-Repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.

S-Repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.

T-High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.

Code *Explanation*

U-Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. The index number has been included as part of the description to aid in the location of "same as" items. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure, Column 4. A two character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the ES-82A. Subsequent appearances of the same item in the same assembly are indicated by the letters "REF."

f. 15-Day Organizational Maintenance Allowance, Column 3 of Section II and Column 6 of Section III.

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the density column applicable to the number of items supported to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance

for more than 100 of these equipments shall determine the total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example, authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N.J. 07703, for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the USA ECOM National Maintenance Point based upon engineering experience, demand data, or TAERS information.

g. Illustrations, Column 7. This column is divided as follows:

(1) *Figure number, column 7a.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number or reference designation, column 7b*. Indicates the reference designation used to identify the item in the illustration.

D-4. Special Information

Repair parts mortality is computed from failure rates derived from experience factors with the individual parts in a variety of equipments. Variations in the specific application and periods of use of electronics equipment, the fragility of electronic piece parts, plus intangible material and quality factors intrinsic to the manufacture of electronic parts, do not permit mortality to be based on hours of end item use. However, long periods of continuous use under adverse conditions are likely to increase repair parts mortality.

D-5. Location of Repair Parts

a. This appendix contains one cross reference index (sec. V) to be used to locate a repair part when either the Federal stock number, reference number (manufacturer's part number), or reference designation is known. The first column in the index is prepared in numerical and/or alpha-numeric sequence is ascending order. Where a Federal stock number is not listed, refer to the reference number (manufacturer's part numbers) immediately following the Federal stock number.

b. When the Federal stock number is known, follow the procedures given in (1) and (2) below.

(1) Refer to the index of Federal stock numbers (sec. V) and locate the Federal stock number. The FSN is cross-referenced to the applicable figure and reference designation.

(2) When the reference designation is determined, scrutinize column 7b of the repair parts list (sec. III).

c. When neither the FSN nor reference designation is known, identify the part in the illustration then scrutinize column 3 of the repair parts lists (sec. III).

D-6. Federal Supply Code for Manufacturers

Code	*Manufacturer*
02660	Amphenol Corp.
02697	Parker Seal Co.
03028	General Electric Co.
08108	Lamp Industry
08215	Arkay Corp.
09861	Burke and James Inc.
11649	Cajon Co.
13680	Columbia Ribbon and Carbon Mfg. Co. Inc.
18464	Crane Co.
19139	Eastman Kodak Co.
19804	Square D Co.
24455	General Electric Co.
25472	Goodrich B. F. Co.
26681	Technal Corp.
27321	Honeywell Inc.
30057	Stonite Products Co.
30327	Imperial Division Imperial-Eastman Group I-T-E Imperial Corporation
39428	McMaster-Carr Supply Co.
53800	Sears Roebuck and Co.
54880	Berkey Technical Corp.
55586	S C M Corp.
56080	Sparkler Mfg. Co. Inc.
61349	Ametek Inc.
65092	Weston Instruments Inc.
70040	Ac Spark Plug Div. of General Motors Corp.
70276	Allen Mfg. Co.
70892	Bead Chain Mfg. Co.
71092	Bright Star Industries Inc.

Code	*Manufacturer*
71400	Bussmann Mfg Division of McGraw & Edison Co.
71468	ITT Cannon Electric Inc.
72423	Flagg Stanley G and Co. Inc.
72619	Dialight Corp.
72962	Elastic Stop Nut Division of Amerace Esna Corp.
73698	Fenwal Inc.
74114	Neva Clog Products Inc.
74545	Hubbell Harvey Inc.
77335	Plews Products Division Parker-Hannifin Corp.
77820	Bendix Corp.
77881	Rodale Mfg Co.
77893	Sessions J. H. and Son
78112	Scott Paper Co.
78357	Snap-Tite Inc.
79136	Waldes Kohinoor Inc.
79428	Woodwell Joseph Co.
79725	Wiremold Co.
80149	Calumet Photographic Inc.
81860	Barry Controls
82348	Du Pont & I De Nemours and Co. Inc.
82877	Rotron Inc.
88044	Aeronautical Standards
89644	Nikor Products Co. Inc.
94222	Southco Inc.
96390	Zimmerman Brush Works
96906	Military Standards
97619	Kellett Aircraft Corp.

SECTION II. PRESCRIBED LOAD ALLOWANCE

(1) Federal stock number	(2) Description usable on code	(3) 15-Day org maint. alw (A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100
5920-556-9003	FUSE, CARTRIDGE: AGC1-4 (71400)				2
5920-725-1457	FUSEHOLDER: HKB (71400)				2
5930-728-4154	SWITCH, TOGGLE: 1181 (04009)			2	2
6240-223-9100	LAMP: NE51 (24455)				2
6240-995-9891	LAMP, INCANDESCENT: 60A (03028)				2
3610	TUBE: 33589 (17980)			2	2

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SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER & MFR. CODE	DESCRIPTION / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
	6780-400-2641	A001	DARKROOM, PHOTOGRAPHIC, TRANSPORTABLE ES-82A: (This item is nonexpendable)								
G-O-R	5410-999-6022	A002	SHELTER: S280G (81349)	EA	1						A1
X2-O	5935	A009	CONNECTOR, PLUG, ELECTRICAL: MS3106E18-6P (96906)	EA	1						A1P1
X2-O	5935	A010	CONNECTOR, RECEP, TABLE, ELEC: M91102E18-6S (96906)	EA	1						A1J1
P-O	5935-986-2922	A011	DUST, CAP: CA2209-6 (71468)	EA	1	*	*	*	*		A1MP1
P-O	5935-298-0190	A012	GASKET: 10-36675-18 (77820)	EA	1	*	*	*	*		A1MP2
P-O	5330-578-5061	A013	SEAL: 800-001-4 (02697)	EA	1	*	*	*	*		A1MP3
X2-O	5305	A014	SCREW, MACHINE: AN 530D4-12 (88044)	EA	4						A1H1
X2-O	5310-550-5009	A015	WASHER, FLAT: MS15795-704 (88044)	EA	8						A1H2
X2-O	5310	A016	NUT: MS21042-440 (96906)	EA	4						A1H3
X2-O	5935-193-I843	A017	SOCKET, PLUG: 77M1P9 (02660)	EA	1						A1MP4
X1-O		A018	WIRE RACEWAY ASSY, PWR AND LGT: 682121 (97619)	EA	1						A2
X2-O	6780	A019	PANEL BOARD: NQ012-4ABAL (19804)	EA	1						A2MP1
X2-O	6780	A020	FIXTURE, LIGHTING: 682119 (97619)	EA	6					5-3	A2A1
X2-O	5$10-208-4043	A021	NUT, SELF-LOCKING, HEXAGON: 79NTM02 (72962)	EA	1					5-3	A2A1H1
X2-O	5250	A022	LAMPHOLDER: 1410L (73586)	EA	1						A2A1XDS1
P-O	5240-995-9891	A023	LAMP, INCANDESCENT: 60A (03028)	EA	1	*	*	*	2		A2A1DS1
X2-O	5340-319-4100	A024	BALL, MOUNT: 275-5 (81860)	EA	1						A2A1MP1
X2-O	5305-059-3661	A025	SCREW, MACHINE: M851958-65 (96906)	EA	1						A2A1H2
P-O	5930-728-4154	A043	SWITCH, TOGGLE: 1181 (04009)	EA	5	*	*	2	2		A2S1
P-O	5930-728-4154	A044	SWITCH, TOGGLE: SAME AS A043	EA	REF	REF	REF	REF	REF		A2S2
P-O	5930-728-4154	A045	SWITCH, TOGGLE: SAME AS A043	EA	REF	REF	REF	REF	REF		A2S3
P-O	5930-728-4154	A046	SWITCH, TOGGLE: SAME AS A043	EA	REF	REF	REF	REF	REF		A2S4
P-O	5930-728-4154	A047	SWITCH, TOGGLE: SAME AS A043	EA	REF	REF	REF	REF	REF		A2S5
X2-O	5935-660-3825,	A049	CONNECTOR, RECEPTACLE, ELEC: 5252 (74545)	EA	13						A2J1

SECTION III REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5935-660-3825	A050 CONNECTOR. RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J2
X2-O	5935-680-3825	A051 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J3
X2-O	5935-660-3825	A052 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J4
X2-O	5935-660-3825	A053 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J5
X2-O	5935-660-3825	A054 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J6
X2-O	5935-660-3825	A055 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J7
X2-O	5935-660-3825	A056 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J8
X2-O	4935-660-3825	A057 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J9
X2-O	5935-660-382w	A058 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J10
X2-O	5935-660-3825	A059 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J11
X2-O	5935-660-3825	A060 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J12
X2-O	8935-660-3825	A061 CONNECTOR, RECEPTACLE, ELEC: SAME AS A049	EA	REF						A2J13
X2-O	5935	A079 CONNECTOR, RECEPTACLE, ELEC: AN3102E16-10S (71468)	EA	2						A2J14
X2-O		A080 CONNECTOR, RECEPTACLE, ELEC: SAME AS A079	EA	REF						A2J15
X2-O	5935-643-63e3	A081 CONNECTOR, PLUG, ELECTRICAL: MS3106E16-10P (96906)	EA	2						A2P1
X2-O	5935-643-6362	A082 CONNECTOR, PLUG, ELECTRICAL: SAME AS A081	EA	REF						A2P2
X2-0	5975	A083 CAP AND CHAIN: CA2209-5 (71468)	EA	2						A2MP36
X2-O	5310-275-1404	A084 NUT, SELF-LOCKING, HEXAGON: 79NM40 (72962)	EA	8						A2H3
X2-O	5975	A085 SEAL: 60CM21 (74545)	EA	2						A2MP37
X2-O	5305-941-3570	A086 SCREW, MACHINE: MS35275-219 (96906)	EA	8						A2H4
X2-O	5310-632-6721	A087 WASHER, FLAT: AN960C4 (96906)	EA	16						A2H5
P-O	5340-572-6053	A214C RING, RETAINING: 1550A (56080)	EA	1	*	*	*	*		A7A4MP2
P-O	6685	A218 GAUGE, 30-0-150: 49609-0C500 (61349)	EA	1	*	*	*	*		A7MP66
X2-O	4210	A343 FIRE AXE INSTALLATION: 682269 (97619)	EA	1						A11
X2-O	4210	A344 STRAP: 682270 (97619)	EA	1						A11MP1

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(1) SMR CODE / INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER & MFR. CODE	DESCRIPTION / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
G-O	4210	A345	AXE: 682269-1 (97619)	EA	1						A11MP2
X2-O	5305-702-4523	A346	SCREW, CAP, HEXAGON, HEAD: MS35307-306 (96906)	EA	4						A11H1
X2-O	5310-208-9251	A351	NUT, SELF-LOCKING, HEXAGON: 79NM02 (72962)	EA	2						A11H6
X2-O	5305-702-4523	A404	BOLT, HEXAGON, HEAD: SAME AS A346	EA	S						A15H5
X2-O	5310-208-9255	A407	NUT, SELF-LOCKING, HEXAGON: SAME AS A351	EA	17						A15H8
P-O	4520	A462	LINE ASSEMBLY: R1KF04X02PSX04PS (30327)	EA	1	*	*	*	*		A16A7
P-O	4520	A463	LINE ASSEMBLY: R1K04X04PSX04PS (30327)	EA	1	*	*	*	*		A16A8
X2-O	4730	A464	ELBOW: 2E (11649)	EA	1						A16MP14
X2-O	4730	A465	ELBOW, STREET: 4SE (11649)	EA	3						A16MP15
x2-O	4730	A466	ELBOW: 770FB1-4X1-8 (30327)	EA	1						A16MP16
X2-O	4730-962-2171	A467	CONNECTOR: 766FB1-4X1-8 (30327)	EA	1						A16MP17
X2-O	4730-289-0085	A468	NUT: 111B1-8 (30327)	EA	4						A16H3
x2-O	4820-273-3345	A469	COCK, DRAIN: 42E (30327)	EA	1						A16MP18
P-O	4730	A470	CAP: 2CP (11649)	EA	2	*	*	*	*		A16MP19
P-O	4730	A471	COUPLER: BVHC4-4F (78357)	EA	2	*	*	*	*		A16MP20
P-O	4730	A472	COUPLER: BVHN4-4M (78357)	EA	2	*	*	*	*		A16MP21
P-O	5340-843-0744	A473	CAP: ADCH4 (78357)	EA	2	*	*	*	*		A16MP22
X2-O	4730	A474	ADAPTER, FITTING TO FEMALE: 3275-400 (72423)	EA	1						A16MP23
X2-O	4730	A475	ELBOW, FITTING TO COPPER: 3015-400 (72423)	EA	1						A16MP24
X2-O	4140	A495	FAN ASSEMBLY: 682464 (97619)	EA	3						A16A10,A16A11 A16A12
P-O	4130-909-8130	A496	FILTER ASSEMBLY: 15449 (82877)	EA	1	*	*	*	*		A16A10A1
X2-O	4140-762-9384	A497	GRILL: 16238 (82877)	EA	1						A16A10MP1
P-O	4140-443-5483	A498	FAN: 13996-K (82877)	EA	1	*	*	*	*		A16A10MP2
P-O	4140-953-2B66	A499	CLIP: 13996 (82877)	EA	2	*	*	*	*		A16A10MP3
X2-O	5310-194-8023	A500	NUT, BLIND RIVET: A10B130 (25472)	EA	2						A16A10H1

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X2-O	5305-059- 366a	A501	SCREW, MACHINE: M851958-64 (96906)		EA	4						A16A10H2
X2-O	5305-059-3662	A503	SCREW, MACHINE: MS51958-66 (96906)		EA	2						A16A10H3
P-O	6330-772-7451	A507	FUEL STRAINER: T2 (70040)		EA	1	*	* -	*	*		A16MP32
X2-O	4010	A510	CHAIN, BEAD: 10X6-00LONG (70892)		EA	1						A16MP33
X2-O	5310-167-0704	A513	WASHER, FLAT: AN960B616 (88044)		EA	4						A16H16
G-O	4520	A522	SHELF, PRINT DRYING: 682368 (97619)		EA	50						A16MP41
X2-O	6780	A565	BASKET, FILM: 682377 (97619)		EA	2						A16MP42
X2-O	6780	A566	CARRIER, FILM: 68238s (97619)		EA	1						A16MP43
P-O	5930-905-9708	A577	SWITCH, TOGGLE: 91-0001 (39317)		EA	4	*	*	*	*		A16A24A1S1
P-O	5930-905-9708	A578	SWITCH, TOGGLE: SAME AS A577		EA	REF	REF	REF	REF	REF		A16A24A1S2
P-O	5930-905-9708	A579	SWITCH, TOGGLE: SAME AS A577		EA	REF	REF	REF	REF	REF		A16A24A1S3
P-O	5930-905-9708	A580	SWITCH, TOGGLE: SAME AS A577		EA	REF	REF	REF	REF	REF		A16A24A1S4
P-O	5240-223-9100	A581	LAMP: NE51 (24455)		EA	3	*	*	*	2		A16A24A1L1
P-O	5240-223-9100	A582	LAMP: SAME AS A581		EA	REF	REF	REF	REF	REF		A16A24A1L2
P-O	5240-223-9100	A583	LAMP: SAME AS A581		EA	REF	REF	REF	REF	REF		A16A24A1L3
P-O	8210-553-1169	A584	LIGHT, INDICATOR: 95-0408-0931-341 (72619)		EA	3	*	*	*	*		A16A24A1
P-O	8210-553-1169	A585	LIGHT, PILOT: SAME AS A584		EA	REF	REF	REF	REF	REF		A18A24A1DS2
P-O	6210-553-1169	A586	LIGHT, INDICATOR: SAME AS A584		EA	REF	REF	REF	REF	REF		A16A24A1DW3
P-O	5920-556-9003	A587	FUSE, CARTRIDGE: AGCI-4 (71400)		EA	3	*	*	*	2		A16A24A1F1
P-O	5920-556-9003	A588	FUSE, CARTRIDGE: SAME AS A587		EA	REF	REF	REF	REF	REF		A1A24A1F2
P-O	5920-556-9003	A589	FUSE, CARTRIDGE: SAME AS A587		EA	REF	REF	REF	REF	REF		A16A24A41F3
P-O	5920-725-1457	A590	FUSEHOLDER: HKB (71400)		EA	1	*	*	*	2		A16A24A1XF1
P-O	5920-725-1457	A591	FUSEHOLDER: SAME AS A590		EA	REF	REF	REF	REF	REF		A16A24A1XF2
P-O	5920-725-1457	A592	FUSEHOLDER: SAME AS A590		EA	REF	REF	REF	REF	REF		A16A24A1XF3
G-O	5780	A622	EASEL: 682512 (97619)		EA	1						A17MP8A

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X2-O	5305-207-8253	A720	SCREW, CAP, HEXAGON HEAD: M835307-308 (96906)		EA	2						A17H9
G-O	7520	A723	BASKET, WASTE: P3 (91313)		EA	1						A17MP10
G-O	B780	A724	PAIL, PHOTOGRAPHIC MIXING: 682400-12 (97619)		EA	1						A17MP11
X2-O	6780	A725	FOAM ASSEMBLY: 682430 (97619)		EA	1						A17A3
X2-O	B780	A726	FOAM ASSEMBLY, DRAWER: 682430-5 (97619)		EA	1						A17A3A1
X2-O	6780	A727	FOAM, SIDE: SIDE1-00x6-75X12-37 (78112)		EA	2						A17A3A1MP1
X2-O	6780	A728	FOAM, END: END1-00x8-75X22-12 (78112)		EA	2						A17A3A1MP2
X2-O	6780	A729	FOAM, BOTTOM: BOTTOM1-00X10-37X22-12 (78112)		EA	1						A17A3A1MP3
X2-O	8780	A730	FOAM, TOP: TOP1-00x10-37X22-12 (78112)		EA	1						A17A3A1MP4
X2-O	6740	A731	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X10-37 (78112)		EA	1						A17A3A1MP5
X2-O		A732	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X8-75 (78112)		EA	1						A17A1MP6
X2-O		A733	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X7-25 (78112)		EA	1						A17A1MP7
X2-O		A734	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X5-62 (78112)		EA	2						A17A1MP8
X2-O		A735	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X3-50 (78112)		EA	1						A17A1MP9
P-O	6240-904-2121	A736	LAMP, PHOTOGRAPH, ENLARGER: GE211 (08108)		EA	1	*	*	*	*		A17A1L1
G-O	6230	A737	LIGHT, TROUBLE: MODEL 590 (71092)		EA	2						A17A1DS1
G-O	6230	A738	LIGHT, TROUBLE: SAME AS A737		EA	REF						A17A1DS2
G-O	6645	A739	TIMER, INTERVAL FN 17-2: 118-011HW3Y (098S1)		EA	1						A17A1M1
G-O	6645	A740	TIMER, STOP: FM10SKODAK (19139)		EA	1						A17A1M2
G-O	6780	A741	METER, ENLARGING: MODELCDSMASTER (08215)		EA	2					3-2	A17A1M3
G-O	6780	A742	METER, ENLARGING: SAME AS A741		EA	REF						A17A1M4
X2-O	5780	A743	FOAM, ASSEMBLY, DRAWER: 682430-6 (97619)		EA	1						A17A3A2
X2-O	5780	A744	FOAM, SIDE: SAME AS A727		EA	2						A17A3A2MP1
X2-O	6780	A745	FOAM, END: SAME AS A728		EA	2						A17A3A2MP2
X2-O	6780	A746	FOAM, BOTTOM: SAME AS A729		EA	1						A17A3A2MP3

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X2-O	6780	A747	FOAM, TOP: EA SAME AS A730		1						A17A3A2MP4	
X2-O	6740	A748	DIVIDER, VERTICAL FOAM: SAME AS A731		EA	1						A17A3A2MP5
X2-O		A749	DIVIDER, VERTICAL FOAM: DIVIDER 1-00X4-75X7-50 (78112)		EA	2						A17A3A2MP6
X2-O	6780	A750	DIVIDER, HORIZONTAL FOAM: DIVIDER 0-25X10-37X13-62 (78112)		EA	2						A17A3A2MP7
G-O	6685	A755	THERMOMETER: EA MODEL2265 (65092)		2						A17A3A2M1	
G-O	6685	A756	THERMOMETER: EA SAME AS A755		REF						A17A3A2M2	
G-O	6780	A757	SHEARS: EA 25K2015 (53800)		1						A17A3A2MP12	
G-O	6740	A758	DRAWER, FILTER: EA MILP55419AEL (81349)		1						A17A3A2MP13	
X2-O	6780	A759	FOAM ASSEMBLY, DRAWER: 682430-7 (97619)		EA	1						A17A3A3
X2-O	6780	A760	FOAM, SIDE: EA SAME AS A727		2						A17A3A3MP1	
X2-O	6780	A761	FOAM, END: EA SAME AS A728		2						A17A3A3MP2	
X2-O	6780	A762	FOAM, BOTTOM: EA SAME AS A729		1						A17A3A3MP3	
X2-O	6780	A763	FOAM, TOP: EA SAME AS A730		1						A17A3A3MP4	
X2-O	6740	A764	DIVIDER, VERTICAL FOAM: SAME AS A731		EA	1						A17A3A3MP5
X2-O		A765	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X6-50 (78112)		EA	2						A17A3A3MP5
X2-O	6780	A766	DIVIDER, HORIZONTAL FOAM: DIVIDER0-25X00-37X14-62 (78112)		EA	3						A17A3A3MP7
X2-O	6780	A767	DIVIDER, HORIZONTAL FOAM: DIVDER0-25X6-50X7-50 (78112)		EA	2						A17A3A3MP8
X2-O		A768	DIVIDER, HORIZONTAL FOAM: DIVIDER0-25X6-50X6-50 (78112)		EA	2						A17A3A3MP9
G-O	6780	A769	EASEL, PRINTER: EA MILH13216 (81349)		1						A17A3A3MP10	
X2-O	6780	A774	FOAM ASSEMBLY, DRAWER: 682430-8 (97619)		EA	1						A17A3A4
X2-O	6780	A775	FOAM, SIDE: EA SAME AS A727		2						A17A3A4MP1	
X2-O	6780	A776	FOAM, END: EA SAME AS A728		2						A17A3A4MP2	
X2-O	6780	A777	FOAM, BOTTOM: EA SAME AS A729		1						A17A3A4MP3	

X2-O	6780	A778	FOAM, TOP: E-A SAME AS A730		1		A17A3A4MP4
X2-O		A779	DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X22-12 (78112)		EA	1	A17A3A4MP5

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X2-O		A780 DIVIDER, VERTICAL FOAM: DIVIDER1-00X4-75X7-75 (78112)		EA	2						A17A3A4MP6
G-O		A782 SQUEEGEE, PHOTOGRAPHIC PRINT: SQUEEGEE10INLG (19139)		EA	2						A17A3A4MP8
G-O	6780	A783 HANGER, FILM PACK DEVELOPING: 92972 (97619)		EA	36						A17A3A4MP9
G-O	7520	A784 STAPLER: MODELS100 (74114)	EA	1						A17A3A4MP10	
G-O	7510	A785 STAPLE, PAPER FASTENING, BOXED: A100 (74114)		EA	4						A17A3A4MP11
G-O	7520-408-2631	A786 TRIMMER: 9403EV (09861)	EA	1						A17A3A4M1	
G-O	6740	A787 TONGS, PHOTOGRAPHIC PRINT: A80 (65738)		EA	1						A17A3A4MP12
X2-O	5365	A788 SPACER 882505 (97619)	EA	2						A17MP12	
G-O	6780	A789 BAG, ASSEMBLY: 682555 (97619)	EA	1						A17A4	
G-O	5120	A790 PLIERS, SLIP JOINT: GGGP471TYPE2CLA52STYLEA (81348)	EA	1						A17A4MP1	
G-O	5120-180-0708	A791 SCREWDRIVER, FLAT TIP (41N BLADE): GGGS121TYPE1CLASS1DESIGNASTYLE (81348)		EA	2						A17A4MP2
X2-O	5120-180-0708	A792 SCREWDRIVER, FLAT TIP (10IN BLADE): SAME AS A791		EA	REF						A17A4MP3
G-O	5120	A793 SCREWDRIVER, CROSS TIP (4IN BLADE):: GGGS121TYPE6CLASS1STYLE1 (81348)		EA	1						A17A4MP4
G-O	5120	A794 SCREWDRIVER, FLAT TIP (GEN PURP): GGGS121TYPE1CLASS5DESIGNBSTYLE2 (81346)		EA	1						A17A4MP5
G-O	5120	A795 WRENCH, ADJUSTABLE, OPEN END: GGGW631 TYPE1CLASS1 (81348)		EA	1						A17A4MP6
G-O	5120	A796 WRENCH, TAPPET: GGGW636TYPEXCLASS1 (81348)	EA	1						A17A4MP7	
G-O	5120	A797 WRENCH, SPANNER: SCC60321 (73698)		EA	1						A17A4MP8
G-O	4930	A798 OILER, HAND: TYPE100TSSMSIGCOR (77335)	EA	1						A17A4MP9	
G-O	7920	A799 BRUSH, CLEANING: 2-1-2WX9LGIN (96390)	EA	1						A17A4MP10	
G-O	6780	A800 KEY SET: 604 (70276)	EA	1						A17A4MP11	
X2-O	6780	A801 ANGLE, PANEL, FLOOR: 682526 (97619)		EA	1						A17MP13

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X2-O	5305-282-8730	A802	SCREW, MACHINE: EA AN526C1032-14 (88044)		16						A17H12	
X2-O	6780	A803	FOAM: EA 682400-14 (97619)		1						A17MP14	
X2-O	6780	A804	FOAM: EA 682400-US (97619)		1						A17MP15	
X2-O	6720	A805	FOAM: EA 682400-1 (97619)		2						A17MP16	
X2-O	9965	A806	LABEL: EA 682480 (97619)		4						A17MP17	
G-O	6780	A821	EASEL: EA SAME AS A622		1						A18MP11	
X2-O	6780	A825	FOAM ASSEMBLY: EA SAME AS A725		1						A18A2	
K2-O	6780	A826	FOAM ASSEMBLY, DRAWER: 682430-1 (97619)		EA	1						A18A2A1
K2-O	6780	A827	FOAM, SIDE: EA SAME AS A727		2						A18A2A1MP1	
K2-O	6780	A828	FOAM, END: EA SAME AS A728		2						A18A2A1MP2	
K2-O	6780	A829	FOAM, BOTTOM: EA SAME AS A729		1						A18A2A1MP3	
K2-O	6780	A830	FOAM, TOP: EA SAME AS A730		1						A18A2A1MP4	
K2-O	6740	A831	DIVIDER, VERTICAL FOAM: SAME AS A731		EA	1						A18A2A1MP5
C2-O		A832	DIVIDER, VERTICAL FOAM: SAME AS A732		EA	1						A18A2A1MP6
X2-O		A833	DIVIDER, VERTICAL FOAM: SAME AS A733		EA	1						A18A2A1MP7
X2-O		A834	DIVIDER, VERTICAL FOAM: SAME AS A734		EA	1						A18A2A1MP8
X2-O		A835	DIVIDER, VERTICAL FOAM: SAME AS A735		EA	1						A18A2A1MP9
P-O	6240-904-2122	A836	LAMP, PHOTOGRAPH, ENLARGER: SAME AS A736		EA	1	REF	REF	REF	REF		A18A2A1L1
G-O	6230	A837	LIGHT, TROUBLE: EA SAME AS A737		1						A18A2A1DS1	
P-O	8405-255-8393	A838	APRON, DARKROOM: APRON30X35IN (19139)		EA	4	*	*	*	*		A18A2A1MP10
P-O	7920	A839	SPONGE, CELLULOSE: COMMERCIAL (97619)		EA	2	*	*				A18A2A1MP11
P-O	7920	A840	SPONGE, CELLULOSE: LS626TYPE2POROS1TYBCLASS 2 (81348)		EA	2	*	*				A18A2A1MP12
G-O	6645	A841	TIMER, INTERVAL FN17-2:		EA	1						A18A2A1M1

			SAME AS A739				
X2-O	6780	A842	FOAM ASSEMBLY, DRAWER: 682430-2 (97019)	EA	1		A18A2A2
X2-O	6780	A843	FOAM, SIDE: SAME AS A727	EA	2		A18A2A2MP1

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	6780	A844	FOAM, END: EA SAME AS A728		2						A18A2A2MP2	
X2-O	6780	A845	FOAM, BOTTOM: EA SAME AS A729		1						A18A2A2MP3	
X2-O	6780	A846	FOAM, TOP: EA SAME AS A730		1						A18A2A2MP4	
X2-O	8740	A847	DIVIDER, VERTICAL FOAM: SAME AS A731		EA	1						A18A2A2MP5
X2-O		A848	DIVIDER, VERTICAL FOAM: SAME AS A749		EA	2						A18A2A2MP6
X2-O	6780	A849	DIVIDER, HORIZONTAL FOAM: SAME AS A750		EA	2						A18A2A2MP7
G-O	6685	A855	THERMOMETER: EA SAME AS A755		2						A18A2A2M1	
G-O	6685	A858	THERMOMETER: EA SAME AS A755		REF						A18A2A2M2	
G-O	6780	A857	SHEARS: EA SAME AS A757		1						A18A2A2MP13	
G-O	6740	A858	DRAWER, FILTER: EA SAME AS A758		1						A18A2A2MP14	
X2-O	6780	A859	FOAM ASSEMBLY, DRAWER: 882430-3 (97619)		EA	1						A18A2A3
X2-O	6780	A860	FOAM, SIDE: EA SAME AS A727		2						A18A2A3MP1	
X2-O	6780	A861	FOAM, END: EA SAME AS A728		2						A18A2A3MP2	
X2-O	6780	A862	FOAM, BOTTOM: EA SAME AS A729		1						A18A2A3MP3	
X2-O	6780	A863	FOAM, TOP: EA SAME AS A730		1						A18A2A3MP4	
X2-O	6740	A864	DIVIDER, VERTICAL FOAM: SAME AS A731		EA	1						A18A2A3MP5
X2-O		A865	DIVIDER, VERTICAL FOAM: SAME AS A765		EA	2						A18A2A3MP6
X2-O		A866	DIVIDER, HORIZONTAL FOAM: DIVIDER0-25X10-37X14-62 (78112)		EA	3						A18A2A3MP7
X2-O		A887	DIVIDER, VERTICAL FOAM: SAME AS A768		EA	2						A18A2A3MP8
G-O		A868	EASEL, PRINTER: EA SAME AS A769		1						A18A2A3MP9	
X2-O	6780	A873	FOAM ASSEMBLY, DRAWER: 682430-4 (97619)		EA	1						A18A2A4

X2-O	6780	A874	FOAM, SIDE: SAME AS A727	EA	2		A18A2A4MP1
X2-O	6780	A875	FOAM. END: SAME AS A728	EA	2		A18A2A4MP2
X2-O	6780	A878	FOAM BOTTOM: SAME AS A729	EA	1		A18A2A4MP3
X2-0	6780	A877	FOAM, TOP: SAME AS A730	EA	1		A18A2A4MP4
X2-O	6740	A878	DIVIDER, VERTICAL FOAM: SAVE AS A731	EA	3		A18A2A4MP5

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O		A879	DIVIDER, HORIZONTAL FOAM: DIVIDER0-25X6-00X10-37 (78112)		EA	3						A18A2A4MP6
G-O	6740-224-9906	A880	HANGER, FILM: EA 4A (19139)		36						A18A2A4MP7	
G-O	6780	A881	PADDLE: EA KODAKSTIRRINGPADDLE10INLG (19139)		4						A18A2A4MP8	
X2-O	5365	A883	SPACER: EA SAME AS A788		2						A18MP12	
X2-O	5307	A884	STUD, RING: EA 682296 (97619)		2						A18MP13	
G-O	6740-409-0914	A885	FLOAT ASSEMBLY: EA 92967 (97619)		1						A18A3	
X2-O	4730	A886	ELBOW, STREET: EA 92968-5 (97619)		1						A18A3MP1	
X2-O	4820	A887	VALVE, FOOT: EA 92968-6 (97619)		1						A18A3MP2	
X2-O	5340	A888	BUSHING: EA 16RB12-316 (11649)		1						A13A3MP3	
X2-O	6780	A889	DISCONNECT, MALE: SAME AS A206		EA	1						A18A3MP4
G-O	6780-758-2769	A891	HOSE ASSEMBLY: EA 368121 (97619)		2						A18A4	
X2-O	6780	A893	FOAM: EA SAME AS A805		2						A18MP15	
X2-O	9965	A894	LABEL: EA SAME AS A806		4						A18MP16	
P-O	6740	B276	COVER, ENLARGER: EA 682524 (97619)		2						A21MP8	
P-O	6740	B277	COVER, PROCESSOR: 682523 (97619)		EA	2						A21MP9
X2-O		B278	STRAP ASSEMBLY: EA SAME AS A824		2						A21A4,A21A5	
X2-O	5305-702-4523-	B279	SCREW, CAP, HEXAGON HEAD: SAME AS A346		EA	2						A21A4H13
X2-O	5365	B280	WASHER, SPACER: EA SAME AS A788		4						A21A4H14	
X2-O	5310-685-2973	B281	NUT, SELF-LOCKING, HEXAGON: SAME AS A330		EA	4						A21A4H15
X2-O	6780	B282	ANGLE: EA 692504 (97619)		2						A21MP10	

X2-O	4010	B291	CHAIN, BEAD, 6IN: EA 10-3606819 (39428)	*					A22MP8	
X2-O	9965	B303	LABEL: EA SAME AS A806	1					A24MP5	
G-O	6780	B314	WATER HEATER ASSEMBLY: 368099 (97619)	EA	1					A26
P-O	6210-553-1169	B318	LIGHT, INDICATOR: EA SAME AS A584	1	REF	REF	REF	REF	A26DS1	
X2-O	5306-021-3623	B343	SCREW, CAP, HEXAGON HEAD: MS35307-331 (96906)	EA	2					A27H4

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5310-727-2619	B344	WASHER, FLAT: EA AN960-5 (88044)		1						A27H5	
G-O	6780	B345	D20-MIL FIELD KIT: EA 31152 (17980)		1						A27A2	
X1-O		B346	CHEST, D20 MILITARY FIELD KIT: 18994 (17980)		EA	1						A27A2A1
X1-O		B347	ANGLE, DOOR: EA 18994-1 (17980)		1						A27A2A1MP1	
X1-O		B348	ANGLE, TOP: EA 18994-2 (17980)		1						A27A2A1MP2	
X1-O		B349	ANGLE, REAR: EA 18994-3 (17980)		1						A27A2A1MP3	
X1-O		B350	ANGLE, BOTTOM: EA 18994-4 (17980)		1						A27A2A1MP4	
X1-O		B351	HINGE, STRAP: EA 18998 (17980)		2						A27A2A1MP5	
X1-O		B352	HANDLE, CHEST: EA 1205SIZE4 (79428)		2						A27A2A1MP6	
X1-O		B353	HASP: EA 8179 (77893)		2						A27A2A1MP7	
X1-O		B354	PLATE, STRAP: EA 19000 (17980)		2						A27A2A1MP8	
X2-O	5340	B355	STRAP WITH BELT: EA 18994-9 (17980)		1						A27A2A1MP9	
X1-O		B356	STRAP WITH TIP: EA 18994-10 (17980)		1						A27A2A1MP10	
X1-O		B357	GUIDE ,WIRE: EA 18994-11 (17980)		2						A27A2A1MP11	
X2-O	5340	B358	PAD, FELT: EA 18994-12 (17980)		2						A27A2A1MP12	
X2-O	5340	B359	NUT, SLEEVE: EA 5683 (17980)		8						A27A2A1H1	
X2-O	5310	B360	NUT, SLEEVE: EA 5682 (17980)		22						A27A2A1H2	
X2-O	5305	B361	SCREW, WOOD: EA 5416 (17980)		8						A27A2A1H3	
X2-O	5305	B362	SCREW, WOOD: EA 5417 (17980)		4						A27A2A1H4	
X2-O	5305	B363	SCREW, WOOD: EA 5420 (17980)		34						A27A2A1H5	
X2-O	5305	B564	SCREW, WOOD: EA		20						A27A2A1H6	

			5418 (17980)				
X2-O	5305	B365	SCREW, WOOD: 5419 (17980)	EA		8	A27A2A1H7
X2-O	5305	B366	SCREW, WOOD: 5421 (17980)	EA		105	A27A2A1H8
X2-O	5305	B367	SCREW, WOOD: 5459 (17980)	EA		4	A27A2A1H9
X2-O	5305	B368	SCREW, MACHINE: 5461 (17980)	EA		22	A27A2A1H10

SECTION REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5305	B369	SCREW, MACHINE: EA 5467 (17980)		8						A27A2A1	H11
X2-O	6780	B370	D20 MACHINE ASSEMBLY: 31153 (17980)		EA	1						A27A2A2
X1-O		B371	FRAME ASSEMBLY, RIGHT HAND SIDE: 31154 (17980)		EA	1						A27A2A2A1
X1-O		B372	FRAME SUBASSEMBLY, RH SIDE: 30349 (17980)		EA	1						A27A2A2A1A1
P-O	5315	B373	PIN, ROLL: EA 5912 (17980)		1	*	*	*	*		A27A2A2	A1A1MP1
X2-O	3310	B374	BEARING, SHAFT, DRUM: 18807 (17980)		EA	1						A27A2A2A1A1MP2
X2-O	5307	B375	ROLL STUD, IMPRESSION: 18839 (17980)		EA	1						A27A2A2A1A1MP3
X2-O	3040	B376	SHAFT, CRANK, BEARING: 18817 (17980)		EA	1						A27A2A2A1A1MP4
X2-O	5307	B377	ROLL STUD, LOWER FEED: 18840 (17980)		EA	1						A27A2A2A1A1MP5
X1-O	5307	B378	FEEDER STUD, PIVOT, RIGHT HAND: 18842 (17980)		EA	1						A27A2A2A1A1MP6
X2-O	5307	B379	STUD, DETENT: EA 18848 (17980)		1						A27A2A2	A1A1MP7
X2-O	6780	B380	SIDE FRAME, RIGHT HAND, CAD PL: 30922 (17980)		EA	1						A27A2A2A1A1MP8
X2-O	6780	B381	SIDE FRAME, RIGHT HAND: 30337 (17980)		EA	1						A27A2A2A1A1MP9
X2-O	6780	B382	FEED ROLL, LOWER ,YOKE: 18779 (17980)		EA	1						A27A2A2A1MP1
X2-O	5340-203-5869	B383	RING, RETAINING: EA 5100-37 (79136)		2						A27A2A2	A1MP2
P-O	6780	B384	YOKE, IMPRESSION ROLL 18778 (17980)		EA	1						A27A2A2A1MP3
P-O	1740-798-0906	B385	BRACKET ASSEMBLY: 18744 (17980)		EA	1	*	*	*	*		A27A2A2A1A2
X2-O	5340	B386	BRACKET: EA 18791 (17980)		1						A.A7A2A2	1A2MP1
X2-O	3040	B387	SHAFT, CRANK, BEARING: SAME AS B376		EA	1						A27A2A2A1AMP2
X2-O	3020	B388	CRANK SHAFT AND GEAR ASSEMBLY: 18674 (17980)		EA	1						A2A2A2A1A3
P-O	5315	B389	PIN, ROLL: EA		2	*	*	*	*		A27A2A2	A1A3MP1

			5643 (17980)								
P-O	3040	B390	SHAFT, CRANK: 18675 (17980)	EA	1					A27A2A2A1A3MP2
P-O	3020-179-6756	B391	GEAR, CRANK: 18801 (17980)	EA	2	*	*	*	*	A27A2A2A1A3MP3
P-O		B392	WASHER: 5126 (17980)	EA	1	*	*	*	*	A27A2A2A1A3H1
P-O	5305-189-6829	B393	WASHER: 5130 (17980)	EA	1	*	*	*	*	A27A2A2A1A31H2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER & MFR. CODE	DESCRIPTION	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
P-O		B394	SCREW, MACHINE: EA 5523 (17980)		4	*	*	*	*		A27A2A2A1A3H3	
P-O	5365	B395	SPRING: EA 18886 (17980)		1	*	*	*	*		A27A2A2A1MP4	
P-O	5340	B396	CLIP, TRAY, FEED: EA 18784 (17980)		1	*	*	*	*		A27A2A2A1MP5	
X2-O	5305	B397	SCREW, MACHINE: EA 5537 (17980)		2						A27A2A2A1H4	
X2-O	7490-609 -0254	B398	WASHER, LOCK: EA 3423 (17980)		2						A27A2A2A1H5	
X2-O		B399	NUT, HEXAGON: EA 3034 (17980)		4						A27A2A2A1H6	
X2-O	5340	B400	BRACKET, TRAY, RECEIVING: 18770 (17980)		EA	1						A27A2A2A1MP6
X2-O	5305	B401	SCREW, MACHINE: EA 5398 (17980)		2						A27A2A2A1H7	
X2-O	5340	B402	WASHER, LOCK; EA 3424 (17980)		2						A27A2A2A1H8	
X2-O	5780	B403	LEVER AND CAM ASSEMBLY: 18639 (17980)		EA	1						A27A2A2A2
X2-O	5340	B404	BUSHING, CAM: EA 18642 (17980)		1						A27A2A2A2MP1	
X2-O	5340	B405	LEVER: EA 18775 (17980)		1						A27A2A2A2MP2	
X2-O	5780	B406	FRAME ASSEMBLY, LEFT HAND: 31159 (17980)		EA	1						A27A2A2A3
X2-O	5780	B407	FRAME ASSEMBLY, SIDE, LEFT HAND: 18704 (17980)		EA	1						A27A2A2A3A1
X2-O	5315	B408	PIN, ROLL: EA SAME AS B373		1						A27A2A2A3A1MP1	
X2-O	3110	B409	BEARING, SHAFT, DRUM: SAME AS B374		EA	1						A27A2A2A3A1MP2
X2-O	5307	B410	PIVOT STUD, STEP GEAR, LEFT HAND: 18838 (17980)		EA	1						A27A2A2A3A1MP3
X2-O	5307	B411	ROLL STUD, IMPRESSION: SAME AS B375		EA	1						A27A2A2A3A1MP4
X2-O	5307	B412	STUD, FEED ROLL, LOWER: SAME AS B377		EA	1						A27A2A2A3A1MP5
X2-O	5307	B413	PIVOT STUD, CAM: EA 18841 (17980)		1						A27A2A2A3A1MP6	

X2-O	5307	B414	PIVOT STUD, MASTER HANDLE: 18845 (17980)	EA	1	A27A2A2A3A1MP7
X2-O	6780	B415	SIDE FRAME, LEFT HAND: 33511 (17980)	EA	1	A27A2A2A3A1MP8
X2-O	5305	B416	SCREW, MACHINE: EA SAME AS B401	1		A27A2A2A3A1H1
X2-O	5340	B417	MASTER HANDLE ASSEMBLY: 18735 (17980)	EA	1	A27A2A2A3A2
X2-O	5340	B418	LINK, HANDLE, MASTER: 18780 (17980)	EA	1	A27A2A2A3A2MP1

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5307	B419	MASTER STUD, HANDLE: 18844 (17980)		EA	1						A27A2A2A3A2MP2
P-O	5780	B420	FINGER, MASTER: EA 18781 (17980)		1	*	*	*	*		A27A2A2A3MP1	
P-O	5310	B421	WASHER. SPRING: EA 5587 (17980)		1	*	*	*	*		A27A2A2A3H1	
P-O	5340-803-7307	B422	RING. RETAINING: EA 5100-25 (79136)		1	*	*	*	*		A27A2A2AMP2	
P-O	5310	B423	WASHER, SPRING: EA 3502-2400 (17980)		1	*	*	*	*		A27A2A2A3H2	
P-O	5340-803-5469	B424	RING. RETAINING: EA 5100-50 (79136)		1	*	*	*	*		A27A2A2A3MP3	
X2-O	6780	B425	YOKE, IMPRESSION ROLL: SAME AS B384		EA	1						A27A2A2A3MP4
X2-O	6780	B426	FEED ROLL, LOWER, YOKE: SAME AS B382		EA	1						A27A2A2A3MP5
X2-O	5340-283-5869	B427	RING, RETAINING: EA SAME AS B383		2						A27A2A2A3MP6	
X2-O	5369	B428	SPRING: EA SAME AS B395		1						A27A2A2A3MP7	
X2-O	5340	B429	CLIP, TRAY, FEED: EA SAME AS B396		1						A27A2A2A3MP8	
X2-O	5305	B430	SCREW, MACHINE: EA SAME AS B397		2						A27A2A2A3H3	
X2-O	7490-609-0254	B431	WASHER, LOCK: EA SAME AS B398		4						A27A2A2A3H4	
X2-O		B432	NUT. HEXAGON: EA SAME AS B399		4						A27A2A2A3H5	
X2-O	5340	B433	BRACKET, TRAY, RECEIVING: SAME AS B400		EA	1						A27A2A2A3MP9
X2-O	5305	B434	SCREW, MACHINE: EA SAME AS B401		2						A27A2A2A3H6	
P-O	3810-930-7898	B435	PUMP ASSEMBLY: EA 18728 (17980)		1	*	*	*	*		A27A2A2A3A3	
P-O	5310	B438	NUT, HEXAGON: EA 3032 (17980)		1	*	*	*	*		A27A2A2A3A3H1	
P-O	5340	B437	RING. RETAINING: EA 5596 (17980)		1	*	*	*	*		A27A2A2A3A3MP1	
X2-O	5780	B438	BODY ASSEMBLY: EA 18729 (17980)		1						A27A2A2A3A3A1	
X1-O		B439	RING, HOLDER: EA		1						A27A2A2A3A3MP2	

		3419 (17980)				
X1-O	B440	BODY, PUMP: 18828 (17980)	EA		1	A27A2A2A3A3MP3
X1-O	B441	BELLOWS: 18876 (17980)	EA		1	A27A2A2A3A3MP4
X1-O	B442	TUBE, INTAKE: 33592 (17980)	EA		1	A27A2A2A3A3MP5
X1-O	B443	TUBE, DISCHARGE: 33593 (17980)	EA		1	A27A2A2A3A3MP6

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X1-O		B444 BRACKET. PUMP: EA 18787 (17980)		1						A27A2A2A3A3MP7	
X1-O		B445 BUSHING, PUMP: EA 18805 (17980)		1						A27A2A2A3A3MP8	
P-O	5305	B446 SCREW, PUMP ADJUSTING: 18826 (17980)		EA	1	*	*	*	*		A27A2A2A3A3MP9
X1-O		B447 PLUG, PUMP: EA 18827 (17980)		1						A27A2A2A3A3MP10	
P-O	3610-312-8422	B448 GASKET, PUMP: EA 18883 (17980)		1	*	*	*	*		A27A2A2A3A3MP11	
X2-O	5340	B449 BAR, GUIDE: EA 18823 (17980)		1						A27A2A2A3MP10	
X2-O	5305	B450 SCREW: EA 5394 (17980)		2						A27A2A2A3H7	
X2-O	5340	B451 CLIP: EA 18877 (17980)		1						A27A2A2A3MP11	
X2-O	5310	B452 NUT, HEXAGON: EA 7189 (17980)		2						A27A2A2A3H8	
P-O	4820	B453 VALVE, SHUT OFF: EA 32629 (17980)		1	*	*	*	*		A27A2A2A3MP12	
P-O	3730	B454 ELBOW, STREET: EA 34019 (17980)		1	*	*	*	*		A27A2A2A3MP13	
P-O	1730	B455 CONNECTOR, HOSE: 32632 (17980)		EA	2	*	*	*	*		A27A2A2A3MP14
P-O	1820	B456 BRACKET ASSEMBLY, VALVE: 32630 (17980)		EA	1	*	*	*	*		A27A2A2A3A4
X1-O		B457 BRACKET, VALVE: EA 32631 (17980)		1						A27A2A2A3A4MP1	
X2-O	5306	B458 BOLT: EA 13468 (17980)		1						A27A2A2A3A4H1	
X1-O		B459 LOCK, VALVE, SHUT OFF: 1868 (17980)		EA	1						A27A2A2A3A4MP2
P-0	3610-312-8430	B460 FEED ROLL ASSEMBLY, LOWER: 18717 (17980)		EA	1						A27A2A2A4
X1-O		B461 FEED ROLL, LOWER: 18858 (17980)		EA	1						A27A2A2A4A1
X1-O		B462 IMPRESSION SHAFT, ROLL RUBBER: 18859 (17980)		EA	1						A27A2A2A4A1MP1
X1-O		B463 BEARING: EA 18274 (17980)		2						A27A2A2A4MP1	
X2-O	5340-263-5954	B464 RING, RETAINING: EA		2						A27A2A2A4MP2	

			5100-31 (79136)				
X1-O		B465	UPPER FEED ROLL AND CLUTCH ASSY: 19075 (17980)	EA	1		A27A2A2A5
P-O	5780	B466	UPPER FEED ROLL ASSEMBLY: 18719 (17980)	EA	1		A27A2A2A5A1
X1-O		B467	MOUNTING RING, FEED ROLL, UPPER: 18806 (17980)	EA	2		A27A2A2A5A1MP1
X1-O		B468	TUBE, FEED ROLL, UPPER: 18810 (17980)	EA	1		A27A2A2A5A1MP2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X1-O		B469 SHAFT, FEED ROLL UPPER: 18860 (1798C)		EA	1						A27A2A2A5A1MP3
P-O	6780	B470 CLUTCH ASSEMBLY: 18742 (17980)		EA	1	*	*	*	*		A27A2A2A5A2
X2-O	5310	B471 WASHER, PLAIN: EA 3233 (17980)		2						A27A2A2A5A2H1	
X1-O		B472 LINK, MALE: EA 18792 (17980)		2						A27A2A2A5A2MP1	
X1-O		B473 LINK, FEMALE: EA 18793 (17980)		2						A27A2A2A5A2MP2	
X1-O		B474 SPRING, EXPANDER: 18794 (17980)		EA	2						A27A2A2A5A2MP3
X1-O		B475 SPRING, WASHER: EA 18795 (17980)		2						A27A2A2A5A2MP4	
X2-O	5340-263-5954	B476 RING, RETAINING: EA SAME AS B464		2						A27A2A2A5A2MP5	
X1-O		B477 HOUSING SUBASSEMBLY, CLUTCH: 18972 (17980)		EA	2						A27A2A2A5A2A1
X1-O		B478 CLUTCH, HOUSING: EA 18973 (17980)		2						A27A2A2A5A2A1MP1	
X1-O		B479 GEAR: EA 18974 (17960)		2						A27A2A2A5A2A1MP7	
X1-O		B480 SHAFT SUBASSEMBLY CLUTCH: 18946 (17980)		EA	2						A27A2A2A5A2A2, A27A2A2A5A2A3
X1-O		B481 PIN, ROLL: EA 7167 (17980)		2						A27A2A2A5A2MP8	
X1-O		B482 SHAFT: EA 18743 (17980)		2						A27A2A2A5A2MP7	
P-O	3610-522-1545	B483 BEARING, BALL: EA 18217 (17980)		1	*	*	*	*		A27A2A2A5MP1	
X1-O		B484 WASHER, SPACER: EA 18895 (17980)		1						A27A2A2A5H1	
P-O	5305	B485 SETSCREW: EA 5079 (17980)		2	*	*	*	*		A27A2A2A5H2	
P-O	5330	B486 FELT, WASHER: EA 18990 (17980)		1	*	*	*	*		A27A2A2A5MP2	
X2-O	6780	B488 FEED ROLL ASSEMBLY, UPPER SHLD: 18725 (17980)		EA	1						A27A2A2A7
P-O	5360	B489 SPRING, LATCH, WICK: 18777 (17980)		EA	1	*	*	*	*		A27A2A2A7MP1
X2-O	5310	B490 NUT, LATCH, WICK: EA		1						A27A2A2A7H1	

			18910 (17980)									
X2-O	5305	B491	SCREW, MACHINE: EA 5580 (17980),	2							A27A2A2A7H2	
P-O	4780	B492	BODY ASSEMBLY, CHECK VALVE: 18730 (17980)	EA	2	*	*	*	*		A27A2A2A8,	
X1-O		B493	BODY: EA 18830 (17980)	2							A27A2A2A8MP1	
X1-O		B494	SEAT, CHECK VALVE: 33569 (17980)	EA	2						A27A2A2A8MP2	

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	6780	B495 BALL, VALVE: EA 8911 (17980)		2						A27A2A2A8MP3	
X2-O	6780	B496 COUNTERWEIGHT: EA 33568 (17980)		2						A27A2A2A8MP4	
X2-O	6780	B497 LH FEEDER ARM AND CLUTCH ASSY: 31141 (17980)		EA	1						A27A2A2A10
X2-O	6780	B498 FEEDER ARM ASSEMBLY: 19942 (17980)		EA	1						A27A2A2A10A1
X2-O	3110	B499 BEARING: EA 18308 (17980)		1						A27A2A2A10A1MP1	
X2-O	6780	B500 FEEDER ARM SUBASSEMBLY: 19940 (17980)		EA	1						A27A2A2A10A1A1
X2-O	6780	B501 HUB, SHOULDER: EA 18833 (17980)		1						A27A2A2A10A1MP2	
X2-O	5307	B502 STUD, SHOULDER: EA 18846 (17980)		1						A27A2A2A10A1MP3	
X2-O	6780	B503 ARM, FEEDER: EA 19933 (17980)		1						A27A2A2A10A1MP4	
X2-O	6780	B504 HUB. STIFFENER: EA 19974 (17980)		1						A27A2A2A10A1MP5	
X2-O	6780	B505 STIFFENER: EA 19935 (17980)		1						A27A2A2A10A1MP6	
X2-O	5340	B506 BUMPER: EA 33147 (17980)		2						A27A2A2A10A1MP7	
X2-O	6780	B507 CLUTCH ASSY: EA SAME AS B470		1						A27A2A2A10A2	
P-O	3020-179-6755	B508 GEAR, IDLER, FEED: 18803 (17980)		EA	1	*	*	*	*		A27A2A2A10MP1
X1-O		B509 WASHER. FLAT: EA 3479 (17980)		1						A27A2A2A10H1	
X2-O	5310-263-5954	B510 RING, RETAINING: EA SAME A9 B464		1						A27A2A2A10MP2	
X1-O		B511 COLLAR ASSEMBLY, CLUTCH: 18748 (17980)		EA	1						A27A2A2A10A3
X1-O		B512 COLLAR, CLUTCH: EA 18815 (17980)		1						A27A2A2A10A3MP1	
X1-O		B513 PIN: EA 18849 (17980)		1						A27A2A2A10A3MP2	
P-O	5305	B514 SETSCREW: EA SAME AS B485		2	REF	REF	REF	REF		A27A2A2A10A3H2	
P-O	6780	B515 TUBE, ASSEMBLY, SPRAY:		EA	1	*	*	*	*		A27A2A2A11

		18891 (17980)			
X1-O	B516	INNER TUBE ASSEMBLY, SPRAY: 18745 (17980)	EA	1	A27A2A2A11A1
X1-O	B517	RING, SOLDER, SILVER: 3444 (17980)	EA	2	A27A2A2A11A1MP1
X1-O	B518	COLLAR, BRACKET: EA 18799 (17980)	1		A27A2A2A11A1MP2
X1-O	B519	TUBE SUBASSEMBLY, SPRAY: 18901 (17980)	EA	1	A27A2A2A11A1A1

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	3610-930-6194	B520 TUBE, SPRAY, OUTER: 18809 (17980)		EA	1						A27A2A2A11MP1
P-O	3610-312-8423	B521 GASKET, RIGHT. HAND: 12982 (17980)		EA	1	*	*	*	*		A27A2A2A11MP2
P-O	5610-631-1505	B522 GASKET, LEFT, HAND: 12983 (17980)		EA	1	*	*	*	*		A27A2A2A11MP3
X2-O	3610	B523 ARM ASSEMBLY, ECCENTRIC: 18892 (17980)		EA	1						A27A2A2A12
X2-O	3610	B524 ECCENTRIC: 18832 (17980)	EA	1						A27A2A2A12MP1	
X2-O	3610	B525 ECCENTRIC ARM: 18783 (17980)	EA	1						A27A2A2A12MP2	
X2-O	5340-576-9022	B526 RING, RETAINING: 5103-81 (79136)	EA	1						A27A2A2A12MP3	
X2-O	5305	B527 SETSCREW: 5068 (17980)	EA	1						A27A2A2A12H1	
X2-O	3610	B528 DRUM ASSEMBLY: 31204 (17980)	EA	1						A27A2A2A13	
X2-O	3610	B529 DRUM SUBASSEMBLY: 31202 (17980)		EA	1						A27A2A2A13A1
X2-O	5315	B530 PIN, GROOVE: 5600 (17980)	EA	1						A27A2A2A13A1MP1	
X2-O	5315	B531 PIN: 30846 (17980)	EA	2						A27A2A2A13A1MP2	
X1-O		B532 END CAP, DRUM: 31196 (17980)	EA	1						A27A2A2A13A1MP3	
X1-O		B533 END CAP, DRUM: 31197 (17980)	EA	1						A27A2A2A13A1MP4	
X1-O		B534 TUBE, DRUM: 31198 (17980)	EA	1						A27A2A2A13A1MP5	
P-O	5305	B535 SPRING: 30587 (17980)	EA	2	*	*	*	*		A27A2A2A13MP1	
P-O	5305	B538 SCREW: 30844 (17980)	EA	2	*	*	*	*		A27A2A2A13H1	
X2-O	3040	B537 SHAFT: 18854 (17980)	EA	1						A27A2A2A13MP2	
X2-O	3610	B538 LEVER: 18223 (17980)	EA	2						A27A2A2A13MP3	
X2-O	3610	B539 LEVER ASSEMBLY: 19738 (17980)	EA	1						A27A2A2A13A2	
X2-O	5340	B540 POST, SPRING: 19737 (17980)	EA	1						A27A2A2A13A2MP1	
X2-O	5310	B541 WASHER: 3474 (17980)	EA	4						A27A2A2A13H2	
X2-O	5310	B542 WASHER, LOCK:	EA	2						A27A2A2A13H3	

			3422 (17980)								
X2-O	5310	B543	NUT: 3040 (17980)	EA	2						A27A2A2A13H4
P-O	5360	B544	SPRING: 3555 (17980)	EA	1	*	*	*	*		A27A2A2A13MP4

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	3610	B545 BRACKET, LOCKING: 31201 (17980)		EA	1						A27A2A2A13MP5
X2-O	7490-609-0254	B546 WASHER, LOCK: SAME AS B398	EA	2						A27A2A2A13H5	
X2-O	5305	B547 SCREW, MACHINE: SAME AS B1401	EA	2						A27A2A2A13H6	
P-O	3610	B548 CLAMP, MASTER: 18824 (17980)	EA	1	*	*	*	*		A27A2A2A13MP6	
X2-O	5340	B549 RING, RETAINING: 5135-25 (79138)	EA	2						A27A2A2A13MP7	
X2-O	3610	B551 FEEDER ARM SUBASSEMBLY: 19939 (17980)		EA	1						A27A2A2A14A1
X2-O	6780	B552 HUB, SHOULDER: SAME AS B501	EA	1						A27A2A2A14A1MP1	
X2-O	6780	B553 ARM, FEEDER: SAME AS B503	EA	1						A27A2A2A14A1MP2	
X2-O	3610	B554 HUB, SHOULDER: 19934 (17980)	EA	1						A27A2A2A14A1MP3	
X2-O	3110	B555 BEARING: 18818 (17980)	EA	1						A27A2A2A14MP1	
P-O	5305	B556 SETSCREW: 5575 (17980)	EA	2	*	*	*	*		A27A2A2A14H1	
P-O	3610	B557 CRANK ASSEMBLY: 18979 (17980)	EA	1	*	*	*	*		A27A2A2A15	
X1O		B558 CRANK: 18991 (17980)	EA	1						A27A2A2A15A1	
X1-O		B559 CRANK, ZINC: 18205 (17980)	EA	1						A27A2A2A15A1A1	
X1-O		B560 INSERT, CRANK: 18207 (17980)	EA	1						A27A2A2A15A1MP2	
X2-O	3610-930-4192	B561 RING, RETAINING 18209 (17980)	EA	1						A27A2A2A15MP1	
P-O	5340	B562 HANDLE: 18208 (17980)	EA	1	*	*	*	*		A27A2A2A15MP2	
X1-O		B563 STUD: 18980 (17980)	EA	1						A27A2A2A15MP3	
X1-O		B564 PIN, GROOVE: 2953 (17980)	EA	1						A27A2A2A15MP4	
X2-O	3610	B565 LEVER AND CAM ASSEMBLY: 19972 (17980)		EA	1						A27A2A2A16
X2-O	3610	B566 RECEIVING TRAY, BRET BAR ASSY: 31073 (17980)		EA	1						A27A2A2A17
X2-O	3610	B567 BRACKET, RECEIVING TRAY, BAR: 19949 (17980)		EA	1						A27A2A2A17MP1
X2-O	3610	B568 RECEIVING TRAY, BRET, LEFT HAND:		EA	1						A27A2A2A17MP2

			19947 (17980)				
X2-O	3610	B569	RECEIVING TRAY, BRKT, RIGHT HAND: 19948 (17980)	EA	1		A27A2A2A17MP3
X2-O	5360	B570	SPRING: 32637 (17980)	EA	1		A27A2A2A17MP4

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER & MFR. CODE	DESCRIPTION	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	3610	B571	BRACE, ASSEMBLY, CROSS REAR: 31116 (17980)		EA	1						A27A2A2A1A8
X2-O	3610	B572	BRACE, CROSS: EA 31083 (17980)		1						A27A2A2A18MP1	
P-O	3610-703-4799	B573	FOOT, RUBBER: EA 11136 (17980)		2	*	*	*	*		A27A2A2A18MP2	
P-O	5310	B574	NUT: EA 7188 (17980)		2	*	*	*	*		A27A2A2A18H1	
X2-O	3610	B575	BRACE ASSEMBLY, CROSS REAR: 31121 (17980)		EA	1						A27A2A2A19
X2-O	3610	B576	BRACE, CROSS: EA SAME AS B572		1						A27A2A2A19MP1	
P-O	3610-703-4799	B577	RUBBER, FOOT: EA SAME AS B573		2	REF	REF	REF	REF		A27A2A2A19MP2	
P-O	5310	B578	NUT EA SAME AS B574		2	REF	REF	REF	REF		A27A2A2A19H1	
X2-O	3610	B579	COVER ASSEMBLY, SIDE. RIGHT HAND: 31157 (17980)		EA	1						A27A2A2A20
P-O	3610-887-9008	B580	STOP, PAPER SUBASSEMBLY: 31289 (17980)		EA	1						A27A2A2A21
X1-O		B581	STOP, PAPER: EA 31287 (17980)		1						A27A2A2A21MP1	
X1-O		B582	STRIP: EA 32536 (17980)		2						A27A2A2A21MP2	
P-O	3610-887-9053	B583	STRIP, PAPER GUIDE SUBASSEMBLY: 31322 (17980)		EA	1	*	*	*	*		A27A2A2A22
X1-O		B584	STRIP, GUIDE, PAPER: 31290 (17980)		EA	1						A27A2A2A22MP1
X1-O		B585	PAD: EA 33007 (17980)		2						A27A2A2A22MP2	
X2-O	3610	B586	LIP ASSEMBLY, LOWER FEED: 32507 (17980)		EA	1						A27A2A2A23
X2-O	3610	B587	LIP, LOWER FEED: EA 18762 (17980)		1						A27A2A2A23MP1	
X2-O	5307	B588	STUD: EA 32505 (17980)		1						A27A2A2A23MP2	
X2-O	3610	B589	SHAFT ASSEMBLY DRUM: 33265 (17980)		EA	1						A27A2A2A24
X2-O	3610	B590	SHAFT, DRUM: EA 33264 (17980)		1						A27A2A2A24MP1	
X2-O	3610	B591	CAM, MOUNTING PLATE: 30453 (17980)		EA	1						A27A2A2A24MP2
P-O	3610	B592	GEAR SEGMENT ASSEMBLY, COMPLETE: 33453 (17980)		EA	1	*	*	*	*		,A27A2A2A25
X1-O		B593	GEAR SEGMENT ASSEMBLY:		EA	1						A27A2A2A25A1

		33454 (17980)				
X1-O	B594	STUB, BALL BEARING: 18836 (17980)	EA	1		A27A2A2A25A1MP1
X1-O	B595	HUB, SHOULDER: 18837 (17980)	EA	1		A27A2A2A25A1MP2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X1-O		B596 GEAR SEGMENT: EA 33477 (17980)		1						A27A2A2A25A1MP3	
X1-O		B597 BEARING: EA 18902 (17980)		1						A27A2A2A25MP1	
P-O	3610-522-1618	B598 BEARING, BALL: EA 18896 (1Q80)		1	*	*	*	*		A27A2A2A25MP2	
P-O	5340-102-9621	B599 RING, RETAINING: EA 5100-18 (79136)		1	*	*	*	*		A27A2A2A25MP3	
P-O	3610	B600 ROLL ASSEMBLY, IMPRESSION: 18718 (17980)		EA	1	*	*	*	*		A27A2A2A26
P-O	3810-522-1545	B601 BEARING, BALL: EA SAME AS B483		2	REF	REF	REF	REF		A27A2A2A28MP1	
X1-O		B602 ROLL SUBASSEMBLY, IMPRESSION: 18856 (17980)		EA	1						A27A2A2A26A1
X1-O		B603 SHAFT, IMPRESSION, ROLL RUBBER: 18857 (17980)		EA	1						A27A2A2A26A1MP1
P-O	3610	B604 TANK ASSEMBLY: EA 31481 (17980)		1	*	*	*	*		A27A2A2A27	
X2-O	3610-652-7170	B605 END, RIGHT HAND, TANK ASSEMBLY: 18871 (17980)		EA	1						A27A2A2A27A1
X1-O		B806 END, RIGHT HAND, TANK: 18764 (17980)		EA	1						A27A2A2A27A1MP1
X1-O		B607 BUSHING: EA 18843 (17980)		2						A27A2A2A27A1MP2	
X1-O		B608 END, LEFT HAND, TANK ASSEMBLY: 18872 (17980)		EA	1						A27A2A2A27A2
X1-O		B609 END, LEFT HAND, TANK: 18765 (17980)		EA	1						A27A2A2A27A2MP1
X2-O		B610 BUSHING: EA SAME AS B607		2						A27A2A2A27A2MP2	
X1-O		B611 FITTING: EA 33801 (17980)		1						A27A2A2A27A2MP3	
X1-O		B612 BODY, TANK: EA 31479 (17980)		1						A27A2A2A27MP1	
X1-O		B614 PLATE, IDENTIFICATION: 18567 (17980)		EA	1						A27A2A2MP2
P-O	3610	B615 BRACKET, CLIP-VALVE: 18673 (17980)		EA	1	*	*	*	*		A27A2A2A28
P-O	3610	B616 CLIP, COVER: EA 18924 (17980)		4	*	*	*	*		A27A2A2A28MP1	
X2-O	3610	B617 BAR, PRESSURE: EA 18771 (17980)		1						A27A2A2MP3	
P-O	5340	B618 CLIP: EA 18785 (17980)		4	*	*	*	*		A27A2A2MP4	
P-O	5355	B619 KNOB, CONTROL: EA		2	*	*	*	*		A27A2A2MP5	

			18798 (17980)								
P-O	3020-179-6772	B620	GEAR, STEP: 18802 (17980)	EA	1	*	*	*	*	A27A2A2MP6	
P-O	5365	B621	SPACER: 18850 (17980)	EA	1	*	*	*	*	A27A2A2MP7	

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
P-O	5340	B622 CLIP: 18889 (17980)	EA	2	*	*	*	*		A27A2A2	MP8
P-O	3610-761-9944	B623 WHEEL, FEEDER: 19901 (17980)	EA	2	*	*	*	*		A27A2A2	MP9
X2-O	3610	B624 SHAFT, CONTROL, PRESSURE: 19936 (17980)		EA	1						A27A2A2MP10
X2-O	5365	B625 SPACER: 19938 (17980)	EA	1						A27A2A2	MP11
P-O	3610	B626 HUB: 30425 (17980)	EA	2	*	*	*	*		A27A2A2	MP12
P-O	3610	B627 FEED, PAPER, CAM: 30436 (17980)	EA	1	*	*	*	*		A27A2A2	MP13
X2-O	3610	B628 SIDE COVER, RIGHT HAND: 31114 (17980)		EA	1						A27A2A2A29
X2-O	3610	B629 SIDE COVER: 31109 (17980)	EA	1						A27A2A2A29	MP1
X2-O	3810	B630 SIDE COVER, LEFT HAND: 33278 (17980)		EA	1						A27A2A2A30
X2-O	3610	B631 SIDE COVER: SAME AS B629	EA	1						A27A2A2A30	MP1
P-O	3610-852-5774	B632 RECEIVING TRAY: 32556 (17980)	EA	1	*	*	*	*		A27A2A2	MP14
P-O	5360	B633 SPRING: 32557 (17980)	EA	1	*	*	*	*		A27A2A2	MP15
P-O	3040	B634 SHAFT: 32558 (17980)	EA	1	*	*	*	*		A27A2A2	MP16
P-O	5360	B635 SPRING, LEAF: 32560 (17980)	EA	2	*	*	*	*		A27A2A2	MP17
X2-O	3610	B636 CLIP, GUIDE, PAPER: 32657 (17980)		EA	2						A27A2A2MP18
P-O	5365	B637 SPACER: 32676 (17980)	EA	1	*	*	*	*		A27A2A2	MP19
P-O	3610	B639 TUBE: 33589 (17980)	EA	5	*	*	2	2		A27A2A2	MP21
P-O	3610	B643 BRACKET: 33839 (17980)	EA	1	*	*	*	*		A27A2A2	MP25
X2-O	5305	B644 SCREW, MACHINE: 3280 (17980)	EA	4						A27A2A2	H1
X2-O	5975	B645 CLAMP, CABLE: 3644 (17980)	EA	2						A27A2A2	MP26
X2-O	5305	B646 SCREW, MACHINE: 4994 (17980)	EA	14						A27A2A2	H2
X2-O	5310	B647 WASHER, PLAIN: 5470 (17980)	EA	2						A27A2A2	H3
X2-O	5310	B648 WASHER:	EA	*						A27A2A2	H4

			5486 (17980)			
X2-O	5305	B649	SETSCREW: 5492 (17980)	EA	2	A27A2A2H5
X2-O	5305	B650	SCREW: 5500 (17980)	EA	3	A27A2A2H6

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5310	B651	WASHER, SPRING: 5538 (17980)	EA	2						A27A2A2H7	
X2-O	5305	B652	SCREW: 5539 (17980)	EA	2						A27A2A1H8	
X2-O	5305	B653	SCREW, LOCK: 5559 (17980)	EA	1						A27A2A2H9	
X2-O	5340	B654	RING, E: 5577 (17980)	EA	1						A27A2A2MP27	
X2-O	5340	B655	WASHER: 5584 (17980)	EA	7						A27A21AH10	
X2-O	5310	B656	WASHER: 5588 (17980)	EA	*						A27A1A2H11	
X2-O	5310	B657	SCREW: 5592 (17980)	EA	1						A27A2A2H12	
X2-O	5340	B658	RING, RETAINING: 5594 (17980)	EA	1						A27A2A2MP28	
X2-O	5310	B659	NUT: 5617 (17980)	EA	2						A27A2A2H13	
X2-O	5310	B660	WASHER: 6002 (17980)	EA	7						A27A2A2H14	
X2-O	5340	B661	CLAMP: 9256 (17980)	EA	1						A27A2A2MP29	
X2-O	5305	B662	SCREW, MACHINE: 5557 (17980)	EA	2						A27A2A2H15	
X2-O	5310	B663	WASHER: 13763 (17980)	EA	1						A27A2A2H16	
X2-O	3610	B664	FEED TRAY ASSEMBLY: 32501 (17980)		EA	1						A27A2A2A31
X2-O	3610	B665	SIDE GUIDE ASSEMBLY, LEFT HAND: 32534 (17980)		EA	1						A27A2A2A31A1
X1-O		B666	STRIP: SAME AS B582	EA	1						A27A2A2A31A1MP1	
X2-O		B667	RING, RETAINING; 5133-18 (79136)	EA	1						A27A2A2A31A1MP2	
X2-O	5305	B668	SCREW, LOCK: 32545 (17980)	EA	1						A27A2A2A31A1MP3	
X2-O	3610	B669	PAPER GUIDE SUBASSY, LEFT HAND: 32532 (17980)		EA	1						A27A2A2A31A1A1
X2-O	3610	B670	BRACKET: 32524 (17980)	EA	1						A27A2A2A31A1MP4	
X2-O	3610	B671	PAPER GUIDE, LEFT HAND: 32529 (17980)		EA	1						A27A2A2A31A1MP5
X1-O		B672	PAD: SAME AS B585	EA	2						A27A2A2A31A1MP6	
X2-O	3610	B673	SIDE (GUIDE ASSEMBLY, RIGHT HAND:		EA	1						A27A2A2A31A2

		32533 (17980)			
X1-O	B674	STRIP: SAME AS B582	EA	1	A27A2A2A31A2MP1
X2-O	B675	RING, RETAINING: SAME AS B667	EA	1	A27A2A2A31A2MP2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5305	B676 SCREW, LOCK: EA SAME A B666		1						A27A2A2A31A2H1	
X2-O	3610	B677 PAPER GUIDE SUBASSY, RIGHT HAND: 32531 (17980)		EA	1						A27A2A2A31A2A1
X2-O	3610	B678 BRACKET: EA SAME AS B1670		1						A27A1A2A31A2MP3	
X2-O	3610	B679 PAPER GUIDE, RIGHT HAND: 32528 (17980)		EA	1						A27A2A2A31A2MP4
X1-O		B680 PAD: EA SAME AS B585		2						A27A2A21A1A2MP5	
X2-O	3610	B681 FEED TRAY ASSEMBLY: 33144 (17980)		EA	1						A27A1A2A31A3
X2-O	3610	B682 BRACE: EA 19995 (17980)		1						A27A2A2A31A3MP1	
X2-O	3610	B683 FEED TRAY SUBASSEMBLY: 32503 (17980)		EA	1						A27A2A1A31A3A1
X2-O	3610	B684 BRACKET, LIFT ARM: 32509 (17980)		EA	2						A27A2A2A31A3MP2
X2-O	3610	B685 MOUNTING BRACKET: 32552 (17980)		EA	1						A27A2A2A31A3MP3
X2-O	3610	B686 BRACKET: EA 35396 (17980)		2						A27A2A2A31A3MP4	
X2-O	3610	B687 CAM, FINGER, RETAINING: 32512 (17980)		EA	1						A27A2A2A31A4
X2-O	3610	B688 CAM, LIFT, FINGER: EA 32510 (17980)		1						A27A2A2A31A4MP1	
X2-O	5307	B689 STUD: EA 32511 (17980)		1						A27A2A2A31A4MP2	
X2-O	3610	B690 COVER, HANDLE: EA 33720 (17980)		1						A27A2A2A31A4MP3	
X2-O	3610	B691 LIFT ARM SUBASSEMBLY: 32519 (17980)		EA	1						A27A1A2A31A5
X2-O	3610	B692 BRACKET, LIFT: EA 32517 (17980)		1						A27A2A2A31A5MP1	
X2-O	3610	B693 ARM, LIFT: EA 32518 (17980)		1						A27A2A2A31A5MP2	
X2-O	3610	B694 ARM SUBASSEMBLY, FEED PRESSURE: 32522 (17980)		EA	1						A27A2A2A31A6
X2-O	5307	B695 STUD: EA 32520 (17980)		1						A27A2A2A31A6MP1	
X2-O	3610	B696 ARM, FEED PRESSURE: 32521		EA	1						A27A2A2A31A6A1
X2-O	3610	B697 HUB: EA 32541 (17980)		1						A27A2A2A31A6MP2	
X2-O	3610	B698 FINGER SUBASSEMBLY, RIGHT SIDE:		EA	1						A27A2A2A31A7

			32525 (17980)			
X2-O	3610	B699	FINGER, RIGHT SIDE: 32550 (17980)	EA	1	A27A2A2A31A7MP1
X2-O	3610	B700	ARM, RIGHT SIDE: EA 32523 (17980)	1		A27A2A2A31A7MP2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE		USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	3610	B701	BRACKET: EA 32530 (17980)		1						A27A2A2A31A7MP3	
X2-O	3610	B702	FINGER SUBASSEMBLY, LEFT SAME: 32526 (17980)		EA	1						A27A2A2A31A8
X2-O	3610	B703	FINGER, LEFT SIDE: EA 33551 (17980)		1						A27A2A2A31A8MP1	
X2-O	3810	B704	ARM, LEFT SIDE: EA 32527 (17980)		1						A27A2A2A31A8MP2	
X2-O	3610	B705	BRACKET: EA SAME AS B701		1						A27A2A2A31A8MP3	
X2-O	3610	B706	LINK AND SCREW ASSEMBLY: 32565 (17980)		EA	1						A27A2A2A31A9
X2-O	3610	B707	LINK: EA 32538 (17980)		1						A27A2A2A31A9MP1	
X2-O	5305	B708	SCREW: EA 32564 (17980)		1						A27A2A2A31A9H1	
X2-O	5305	B709	WASHER, PLAIN: EA 3498 (17980)		1						A27A2A2A31H1	
X2-O	5305	B710	SCREW, MACHINE: EA SAME AS B401		1						A27A2A2A31H2	
X2-O	5340	B711	RING, RETAINING: EA SAME AS B549		3						A27A2A2A31MP1	
X2-O	5305	B712	SCREW, MACHINE: EA 5533 (17980)		2						A27A2A2A31H3	
P-O	5310	B713	WASHER, SPRING: EA SAME AS B421		3	REF	REF	REF	REF		A27A2A2A31H4	
X2-0		B714	RING, RETAINING: EA SAME AS B567		1						A27A2A2A31MP2	
X2-O	5310	B715	WASHER, LOCK: EA 7463 (17980)		1						A27A2A2A31H5	
X2-O	3610	B716	GUIDE, SHAFT: EA 19988 (17980)		1						A27A2A2A31MP3	
X2-O	3610	B717	DISC, RUBBER: EA 19994 (17980)		2						A27A2A2A31MP4	
X2-O	5307	B719	STUD, PIVOT: EA 32508 (17980)		1						A27A2A2A31MP5	
X2-O	5355	B720	KNOB, CONTROL: EA 32514 (17980)		1						A27A2A2A31MP6	
X2-O	5307	B721	STUD, LIFT ARM: EA 32537 (17980)		2						A27A2A2A31MP7	
P-O	5360	B722	SPRING, PRESSURE: 32540 (17980)		EA	1	*	*	*	*		A27A2A2A31MP8
X2-O	3610	B723	FINGER, FEEDER PRESSURE: 32542 (17980)		EA	1						A27A2A2A31MP9
P-O	5360	B724	SPRING, TORSION: EA		1	*	*	*	*		A27A2A2A31MP10	

			32543 (17980)				
X2-O	5330	B725	WASHER, FELT: 32553 (17980)	EA	1		A27A2A2A31H7

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
P-O	5360	B726 SPRING, EXTENSION: 32554 (17980)		EA	1	*	*	*	*		A27A2A2A3MP11
P-O	3610-887-9053	B727 PAPER GUIDE SUBASSEMBLY, STRIP: SAME AS B583		EA	1	REF	REF	REF	REF		A27A2A3
X1-O		B728 STRIP, GUIDE, PAPER: SAME AS B584		EA	1						A27A2A3MP1
X1-O		B729 PAD: SAME AS B585	EA	2						A27A2A3MP2	
P-O	6780	B730 WICK ASSEMBLY, HOLDER: 18720 (17980)		EA	1	*	*	*	*		A27A2A2A6
P-O	3610-631-1531	B731 WICK NDY PACK: 18298 (17980)	EA	1	*	*	*	*		A27A2A2A6MP1	
X2-O	3610	B732 FEEDER ARM ASSEMBLY: 19941 (17980)		EA	1						A27A2A2A14
X2-O	5340	B733 CLIP: 18894 (17980)	EA	1						A27A2A2A14MP1	
X2-O	5320	B734 RIVET: 5080 (17980)	EA	1						A27A2A2A14H1	
G-O-S	6780	B734E PRINTER, PROJ, PN: EN 105 (54880)	EA	2						A21A1, A21A2	
G-O	7430	B822 TYPEWRITER, 66: 2714-4 (55586)	EA	1						A27A3	
G-O	3610	B823 PAPER CUTTER: 3200 (99644)	EA	1						A27A4	
X2-O	5307	B883 STUD RING: SAME AS A884	EA	3						A29MP1	
X3-O	5310-052-3802	B884 NUT, BLIND RIVET: SAME AS A334	EA	3						A29H1	
G-O	5975-224-5260	B885 GROUND ROD: MX148-U (81349)	EA	1						A29MP2	
G-O	2540-892-6243	B886 LADDER: SCDL108736 (80063)	EA	1						A29MP3	
X2-O	6780	B887 POWER CABLE ASSEMBLY: SAME AS A106		EA	1						A29W1
X2-O		B888 CABLE, POWER: 682135 (97619)	EA	1						A29W2	
X2-O	6790	B889 LABEL: SAME AS B308	EA	1						MP1	
X2-O	6790	B890 LABEL: SAME AS B307	EA	1						MP2	
G-O	6740-243-2859	B892 TANK, NIKOR: 3054 (27321)	EA	3						A30MP1	
G-O	5740-926-5214	B893 TANK, NIKOR: 321-36105-1 (27321)	EA	9						A30MP2	
G-O	5780	B894 STAND, LOADING:	EA	1						A30MP3	

			3231 (27321)				
G-O	5640-223-9008	B895	FUNNEL: 682521-3	EA		2	A30MP4
G-O	5640-514-3374	B896	GRADUATE: 682521-4 (97619)	EA		2	A30MP5

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
G-O	6780	B897 TANK. RINSE: 321-36005-1 (97619)	EA	1						A30MP6	
G-O	6780	B898 LOADER, AUTOMATIC FILM: 3121 (27321)		EA	1						A30MP7
G-O	5740-573-8451	B899 LOADER, AUTOMATIC FILM: 3120 (27321)		EA	1						A30MP8
G-O	6780	B900 REEL: 3081 (27321)	EA	4						A30MP9	
G-O	3760-291-3717	B901 REEL: 3073 (27321)	EA	7						A30MP10	
G-O	4540-722-3892	B902 HEATER, IMMERSION: THLXX (65586)		EA	1						A30MP11
G-O		B903 TANK, DEVELOPING: 682521-6 (97619)	EA	3						A30MP12	
G-O	6760	B904 REEL: 3077 (27321)	EA	4						A30MP13	
G-O	6640	B905 BOTTLE, PLASTIC: 682521-7 (97619)	EA	8						A30MP14	
G-O	6740-243-2941	B906 TRAY: 682521-8 (97816)	EA	3						A30MP15	
G-O	3740-926-5221	B907 TRAY: 682521-9 (97619)	EA	1						A30MP16	
G-O	6780	B908 ROD, LIFT: 3125 (27321)	EA	3						A30MP17	
G-O	6780	B909 REEL: 3087 (27321)	EA	3						A30MP18	
G-O	6780	B910 LOADER, AUTOMATIC FILM: 321-36101-11 (97619)		EA	1						A30MP19
X2-O	6780	B911 FOAM: 682521-10 (97619)	EA	1						A30MP20	
X2-O	6780	B912 FOAM: 682521-11 (97619)	EA	1						A30MP21	
X2-O	6780	B913 FOAM: 682521-12 (97619)	EA	1						A30MP22	
G-O	4510	B914 ROD, LIFT: 3376 (27321)	EA	1						A30MP29	
G-O	6740	B915 TRAY, RINSE: 321-36015-1 (97819)	EA	1						A30MP23	
G-O	6740	B915A TRAY, CHEMICAL: 321-36016-1 (97619)	EA	1						A30MP24	
G-O	5307	B915B STUD: 5RA120 (94222)	EA	4						A30H1	
X2-O	4030-171-3783	B915C COUPLING: 6A (70892)	EA	8						A30MP25	
X2-O	4010	B915D CHAIN, BEAD:	EA	4						A30MP26	

			SAME AS A456				
G-O	5935-539-2854	B915E	PLUG: 579 (77881)	EA		1	A30MP27
G-O	6780	B915F	ADAPTER, REEL: 321-36102-11 (97619)	EA		1	A30MP28

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
G-O	4120	B916 COVER, AIR CONDITIONER: 321-36001 (97619)		EA	2						MP3
G-O	6790	B917 ADAPTER, REDUCING: ADAPTER3-4TO1IN (18444)		EA	2						MP4
G-O	5740-420-5145	B920 PRO UNIT, PRO FILM EJ13A: 331-36011 (97619)		EA	1						MP8
G-O	5740-464-5352	B921 PRO UNIT. PO FILM EJ12A: 331-36012 (97619)		EA	1						MP9
G-O	6780	B922 TANK, RINSE: EA 321-36005 (97619)		1						MP10	
G-O	6740-408-4996	B923 TANK, DEVELOPING: EA MODEL 11 (80149)		3						MP11	
G-O	6780	B924 TRAY, PHOTOGRAPHIC: RRTM46TYPE1SIZE1 (81348)		EA	3						MP12
G-O	6740	B925 TRAY, PHOTOGRAPHIC: RRT646TYPE1SIZE2 (81348)		EA	1						MP13
G-O	6640	B926 GRADUATE, LIQUID: EA MS35954-1 (96906)		3						MP14	
G-O	8125-409-0910	B927 BOTTLE, SCREW CAP, ROUND: 130-007HW3Y (09861)		EA	8						MP15
G-O	5230-264-8261	B930 FLASHLIGHT: EA MX991U (81349)		1						MP18	
G-O	5975-224-5260	B931 ROD, GROUND: EA SAME AS B885		1						MP19	
G-O	5975	B932 STRAP, GROUND: EA ESB187774 (73898)		1						MP20	
G-O	7240-025-3377	B933 CAN, GASOLINE: EA MILC1283 (81349)		1						MP21	
G-O	9905	B934 LABEL, BEAM, PRESSURE SENSITIVE : LABEL8-1-2X11IN (97819)		EA	1						MP13A
G-O	5780	B936 FRAME, PRINTING: EA 600 (26681)		2						MP15A	
P-O	6210-553-1169	B965 INDICATOR LIGHT ASSEMBLY: SAME AS A584		EA	3	REF	REF	REF	REF		A7A1ASA1, A7A1A3A2,A7A1 A3A3
X2-O	5210-548-0157	B966 JEWEL: EA 95-0931 (72819)		3						A7A1A3A1MP1	
P-O	5240-223-9100	B967 LAMP: EA SAME AS A51		3	REF	REF	REF	REF		A7A1A3A1L1, A7A1A3A1L2, A7A1A3A1L3	
X2-O	6740-420-5139	C029 SAFELIGHT DARKROOM PHOTOGRAPHIC FM-SIC: 1450 (19139)		EA	4					3-2	A2A2
X2-O	6740	C030 SAFELIGHT: EA 321-38013-11 (97619)		1						A2A2MP1	
X2-O	5760-322-0123	C031 FILTER: EA S-55X (82348)		1						A2A2FL1	

P-O	6240-797-8730	C032	LAMP INCANDESCENT: 15W (24455)	EA	EA	1	*	*	*	*		A2A2MP1
P-O	6644	C042	BOTTLE, PLASTIC: 682862-1 (97619)	EA	4	*	*	*	*		A33MP1	
X2-O	5340	C043	STRAP: 682862-2 (97619)	EA	1						A33MP2	

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REF. DESIGNATION
X2-O	5340	C044 STRAP: 682506-5 (97619)	EA	1							A33MP3

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
2540-892-6243		A29MP3
3020-179-6755		A27A2A2A10MP1
3020-179-6756		A27A2A2A1A3MP3
3020-179-6772		A27A2A2MP6
3610-312-8422		A27A2A2A3A3MP11
3610-312-8423		A27A2A2A11MP2
3610-312-8430		A27A2A2A4
3610-522-1545		A27A2A2A5MP1
3610-522-1545		A27A2A2A26MP1
3610-522-1618		A27A2A2A25MP2
3610-631-1531		A27A2A2A6MP1
3610-652-7170		A27A2A2A27A1
3610-703-4799		A27A2A2A18MP2
3610-703-4799		A27A2A19MP2
3610-761-9944		A27A2A2MP9
3610-852-5775		A27A2A2MP14
3610-887-9006		A27A2A2A21
3610-887-9053		A27A2A2A22
3610-887-9053		A27A2A3
3610-930-6192		A27A2A2A15MP1
3610-930-6194		A27A2A2A11MP1
3610-930-7898		A27A2A2A3A3
4030-171-3783		A30MP25
4130-909-8130		A16A1
4140-443-5483		A16A10MP2
4140-762-9384		A16A10MP1
4140-953-2866		A16A10MP3
4330-772-7451		A16MP32
4540-722-3892		A30MP11
4730-289-0085		A16H3
4730-962-2171		A16MP17
4820-273-3345		A16MP18
5120-180-0708		A17A4MP2
5120-180-0708		A17A4MP3
5305-059-3660		A16A10H2
5305-059-3:661		A2A1H2
5305-059-3662		A16A10H3
5305-189-6829		A27AA2A1A3H2
5305-207-8253		A17H9
5305-282-8730		A17H12
5305-702-4523		A11H1
5305-702-4523		A15H5
5305-702-4523		A21A4H13
5305-941-3570		A2H4
5306-021-3623		A27H4
5310-167-0704		A16H16
5310-194-8023		A16A10H1
5310-208-4043	5-3	A2A1H1
5310-208-9255		A11H6
5310-208-9255		A15H8
5310-275-1404		A2H3
5310-550-5009		A1H2
5310-632-6721		A2H5
5310-685-2973		A21A4H15
5310-727-2619		A27H5
5310-952-3602		A29H1
5330-576-5061		A1MP3
5340-102-9621		A27A2A2A25MP3
5340-263-5869		A27A2A2A1MP2
5340-263-5869		A27A2A2A3MP6
5340-263-5954		A27A2A2A4MP2
5340-263-5954		A27A2A2A5A2MP5
5340-263-5954		A27A2A2A10MP2
5340-319-4100		A2A1MP1
5340-572-8053		A7A4MP2
5340-576-9022		A27A2A2A12MP3
5340-803-5469		A27A2A2A3MP3
5340-803-7307		A27A2A2A3MP2
5340-843-0744		A16MP22
5410-999-6022		A1
5610-631-1505		A27A2A2A11MP3
5920-556-9003		A16A24A1F1
5920-556-9003		A16A24A1F2
5920-556-9003		A16A24A1F3
5920-725-1457		A16A24A1XF1
5920-725-1457		A16A24A1XF2
5920-725-1457		A16A24A1XF3
5930-728-4154		A2S1
5930-728-4154		A2S2
5930-728-4154		A2S3
5930-728-4154		A2S4
5930-728-4154		A2S5
5930-905-9708		A16A24A1S1
5930-905-9708		A16A24A1S2
5930-905-9708		A16A24A1S3
5930-905-9708		A16A24A1S4
5935-193-7843		A1MP4
5935-298-0190		A1MP2
5935-539-2854		A30MP27
5935-643-6363		A2P1
5935-643-6363		A2P2
5935-660-3825		A2J1
5935-660-3825		A2J2
5935-660-3825		A2J3
5935-660-3825		A2J4
5935-660-3825		A2J5
5935-660-3825		A2J6
5935-660-3825		A2J7
5935-660-3825		A2J8
5935-660-3825		A2J9
5935-660-3825		A2J10
5935-660-3825		A2J11
5935-660-3925		A2J12
5935-660-3825		A2J13
5935-986-2922		A1MP1
5975-224-5260		MP19
5975-224-5260		A29MP2
6210-548-0157		A7A1A3A1MP1
6210-553-1169		A7A1A3A1
6210-553-1169		A7A1A3A2
6210-553-1169		A7A1A3A3
6210-553-1169		A16A24A1DS1
6210-553-1169		A16A24A1DS2
6210-553-1169		A16A24A1DS3
6210-553-1169		A26DS1
6230-264-8261		MP18
6240-223-9100		A7A1A3A1L1
6240-223-9100		A7A1A3A1L2
6240-223-9100		A7A1A3A1L3
6240-223-9100		A16A24A1L1
6240-223-9100		A16A24A1L2
6240-223-9100		A16A24A1L3
6240-797-8730		A2A2MP1
6240-904-2122		A17A1L1
6240-904-2122		A18A2A1L1

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER OR REF. DESIGNATION
6240-995-9891		A2A1DS1
6640-223-9008		A30MP4
6640-514-3374		A30MP5
6740-224-9908		A18A2A4MP7
6740-243-2859		A30MP1
6740-243-2941		A30MP15
6740-408-4996		MP11
6740-409-0914		A18A3
6740-420-5139		A2A2
6740-420-5145		MP8
6740-464-5325		MP9
6740-573-8451		A30MP8
6740-798-0906		A27A2A2A1A2
6740-926-5214		A30MP2
6740-926-5221		A30MP16
6760-291-3717		A30MP10
6760-322-0123		A2A2FL1
6780-758-2769		A18A4
6780-758-2769		A18A5
7240-025-3377		MP21
7490-609-0254		A27A2A2A1H5
7490-609-0254		A27A2A2A3H4
7490-609-0254		A27A2A2A13H5
7520-408-2631		A17A3A4M1
3125-409-0910		MP15
8405-255-8393		A18A2A1MP10

Reference No.	Mfg. Code	Fig. No.	Ref. Desig.
ADAPTER3-4TO1IN	18464		MP4
AN3102E16-10S	71468		A2J14
AN3102E16-10S	71468		A2J15
AN500D4-12	88044		A1H1
A100	74114		A17A3A4MP11
A80	65738		A17A3A4MP12
BOTTOM1-00X10 37X22-12	78112		A17A3A1MP3
BOTTOM1-00X10 37X22-12	78112		A17A3A2MP3
BOTTOM1-00X10 37X22-12	78112		A17A3A3MP3
BOTTOM1-00X10 37X22-12	78112		A17A3A4MP3
BOTTOM1-00X10 37X22-12	78112		A18A2A1MP3
BOTTOM1-00X10 37X22-12	78112		A18A2A2MP3
BOTTOM1-00X10 37X22-12	78112		A18A2A3MP3
BOTTOM1-00X10 37X22-12	78112		A18A2A4MP3
BVHC4-4F	78357		A16MP20
BVHN4-4M	78357		A16MP21
CA2209-5	71468		A2MP36
COMMERCIAL	97619		A18A12A1MP11
DIVIDER0-25X100 37X14-62	78112		A17A3A3MP7
DIVIDER0-25X10 37X13-62	78112		A17A3A2MP7
DIVIDER0-25X10 37X13-62	78112		A18A2A2MP7
DIVIDER0-25X10 37x14-62	78112		A18A2A3MP7
DIVIDER0-25X6-00X10-37	78112		A18A2A4MP6
DIVIDER0-25X6-50X6-50	78112		A17A3A3MP9
DIVIDER0 25X6-50X6-50	78112		A18A2A3MP8
DIVIDER0 25X6-50X7-50	78112		A17A3A3MP8
DIVIDER1-00X4-75X10-37	78112		A17A3A1MP5
DIVIDER1-00X4-75X10-37	78112		A17A3A2MP5
DIVIDER1-00X4-75X10-37	78112		A17A3A3MP5
DIVIDER1-00X4-75X10-37	78112		A18A2A1MP5
DIVIDER1-00X4-75X10-37	78112		A18A2A2MP5
DIVIDER1-00X4-75X10-37	78112		A18A2A3MP5
DIVIDER1-00X4-75X10-37	78112		A18A2A4MP5
DIVIDER1-00X4-75 X-22-12	78112		A17A3A4MP5
DIVIDER1-00X4-75 50	78112		A171MP9
DIVIDER1-00x4-75 X3-50	78112		A18A2A1MP9
DIVIDER1-00X4-75 X5-62	78112		A17A1MP8
DIVIDER1-00X4-75 X5-62	78112		A18A2A1MP8
DIVIDER1-00X4-75 X6-50	78112		A17A3A3MP6
DIVIDER1-00X4-75 X6-50	78112		A18A2A3MP6
DIVIDER1-00X4-75 X7-25	78112		A17A1MP7
DIVIDER1-00X4-75 X7-25	78112		A18A2A1MP7
DIVIDER1-00X4-75 X7-50	78112		A17A3A2MP6
DIVIDER1-00X4-75 X7-50	78112		A18A2A2MP6
DIVIDER1-00X4-75 7X-75	78112		A17A3A4MP6
DIVIDER1-00X4-75 X8-75	78112		A17A1MP6
DIVIDER1-00X4-75 X8-75	78112		A18A2A1MP6
END1-00X6-75X 22-12	78112		A17A3A1MP2
END1-00X6-75X 22-12	78112		A17A3A2MP2
END1-00X6-75X 22-12	78112		A17A3A3MP2
END1-00X6-75X 22-12	78112		A17A3A4MP2
END1-00X6-75X 22-12	78112		A18A2A1MP2

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

Reference No.	Mfg. Code	Fig No.	Ref. Desig.
END1-00X6-75X 22-12	78112		A18A2A2MP2
END1-00X6-75X 22-12	78112		A18A2A3MP2
END1-00X6-75X 22-12	78112		A18A2A4MP2
EN 105	54880		A21A1
EN 105	54880		A21A2
ESB187774	73698		MP20
FM103KODAK	19139		A17A1M2
GGGP471TYPECLAS2STYLEA	81348		A17A4MP1
GGGS121TYPE6CLASS1STYLE1	81348		A17A4MP4
GGGS121TYPE1CLASS5DESIGNBSTYLE2	81348		A17A4MP5
GGGW631TYPE1 CLASS1	81348		A17A4MP6
GGGW636TYPEX CLASS1	81348		A17A4MP7
KODAKSTIRRING PADDLE10INLG	19139		A18A2A4MP8
LABEL8-1-2x11IN	97619		MP13A
LS626TYPE2POROS 1TYBCLASS2	81348 22-12		A18A2A1MP12
MILH13216	81349		A17A3A3MP10
MILH13216	81349		A18A2A3MP9
MILP55419AEL	81349		A17A3A2MP13
MILP55419AEL	81349		A18A2A2MP14
MODEL2265	65092		A17A3A2M1
MODEL2265	65092		A17A3A2M2
MODEL2265	65092		A18A2A2M1
MODEL2265	65092		A18A2A2M2
MODEL590	71092		A17A1DS1
MODEL590	71092		A17A1DS2
MODEL590	71092		A18A2A1DS1
MODELCDSMASTER	08215	3-2	A17A1M3
MODELCDSMASTER	08215	3-2	A17A1M4
MODELS100	74114		A17A3A4MP10
MS21042-440	96906		A1H3
MS3106E18-6P	96906		A1P1
MS3102E18-6S	96906		A1J1
M835954-1	96906		MP14
NQC12-4ABAL	19804		A2MP1
P3	91313		A17MP10
RIKF04X02PSX04PS	30327		A16A7
RIK04X04PSX04PS	30327		A16A8
RRT646TYPE1 SIZE. El'	81348		MP12
RRT646TYPE1 SIZE2	81348		MP13
SCC60321	73698		A17A4MP8
SIDE1-00X6-75X 12-37	78112		A17A3A1MP1
SIDE1-00X6-75X 12-37	78112		A17A3A2MP1
SIDE1-00X6-75X 12-37	78112		A17A3A3MP1
SIDE1-00X6-75X 12-37	78112		A17A3A4MP1
SIDE1-00X6-75X 12-37	78112		A18A2A1MP1
SIDE1-00X6-75X 12-37	78112		A18A2A2MP1
SIDE1-00X6-75X 12-37	78112		A18A2A3MP1
SIDE1-00X6-75X 12-37	78112		A18A2A4MP1
SPHN12-12M	78357		A18A3MP4
SQUEEGEE10INLG	19139		A17A3A4MP8
TOP1-00X10-37X 22-12	78112		A17A3A1MP4
TOP1-00X10-37X 22-12	78112		A17A3A2MP4
TOP1-0X10-37X 22-12	78112		A17A3A3MP4
TOP1-0X10-37X 22-12	78112		A17A3A4MP4
TOP1-00X10-37X 22-12	78112		A18A2A1MP4
TOP1-00X10-37X 22-12	78112		A18A2A2MP4
TOP1-00X10-37X 22-12	78112		A18A2A3MP4
TOP1-0X10-37X	78112		A18A2A4MP4
TYPE600TSSMSIGCOR	77335		A17A4MP9
10-3606S19	39428		A22MP8
10X6-00LONG	70892		A16MP33
118-011HW3Y	09861		A17A1M1
118-01HW3Y	09861		A18A2A1M1
1205SIZE4	79428		A27A2A1MP6
13468	17980		A27A2A2A3A4H1
13763	17980		A27A2A2H16
1410L	73586		A2A1XDS1
16RB12-316	11649		A18A3MP3
18206	17980		A27A2A2A15A1A1
18207	17980		A27A2A2A15A1MP2
18208	17980		A27A2A2A15MP2
18223	17980		A27A2A2A13MP3
18274	17980		A27A2A2A4MP1
18308	17980		A27A2A2A10A1MP1
18567	17980		A27A2A2MP2
18639	17980		A27A2A2A2
18642	17980		A27A2A2A2MP1
18668	17980		A27A2A2A3A4MP2
18673	17980		A27A2A2A28
18674	17980		A27A2A2A1A3
18675	17980		A27A2A2A1A3MP2
18704	17980		A27A2A2A3A1
18718	17980		A27A2A2A26
18719	17980		A27A2A2A5A1
18720	17980		A27A2A2A6
18725	17980		A27A2A2A7
18729	17980		A27A2A2A3A3A1
18730	17980		A27A2A2A8
18730	17980		A27A2A2A9
18735	17980		A27A2A2A3A2
18742	17980		A27A2A2A5A2
18742	17980		A27A2A2A10A2

SECTION V INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

Reference No.	Mfg. Code	Fig No.	Ref. Desig.	Reference No.	Mfg. Code	Fig No.	Ref. Desig.
18743	17980		A27A2A2A5A2MP7	18848	17980		A27A2A2A1A1MP7
18745	17980		A27A2A2A11A1	18849	17980		A27A2A2A10A3MP2
18746	17980		A27A2A2A10A3	18850	17980		A27A2A2MP7
18762	17980		A27A2A2A23MP1	18854	17980		A27A2A2A13MP2
18764	17980		A27A2A2A27A1MP1	18856	17980		A27A2AA26A1
18765	17980		A27A2A2A27A1MP1	18857	17980		A27A2A2A26A1MP1
18770	17980		A27A2A2A1MP6	18858	17980		A27A2A2A4A1
18770	17980		A27A2A2A3MP9	18859	17980		A27A2A2A4A1MP1
18771	17980		A27A2A2MP3	18860	17980		A27A2A2A5A1MP3
18775	17980		A27A2A2A2MP2	18872	17980		A27A2A2A27A2
18777	17980		A27A2A2A7MP1	18876	17980		A27A2A2A3A3MP4
18778	17980		A27A2A2A1MP3	18877	17980		A27A2A2A3MP11
18778	17980		A27A2A2A3MP4	18886	17980		A27A2A2A1MP4
18779	17980		A27A2A2A1MP1	18886	17980		A27A2A2A3MP7
18779	17980		A27A2A2A3MP5	18889	17980		A27A2A2MP8
18780	17980		A27A2A2A3A2MP1	18891	17980		A27A2A2A11
18781	17980		A27A2A2A3MP1	18892	17980		A27A2A2A12
18783	17980		A27A2A2A12MP2	18894	17980		A27A2A2A14MP1
18784	17980		A27A2A2A1MP5	18895	17980		A27A2A2A5H1
18784	17980		A27A2A2A3MP8	18901	17980		A27A2A2A11A1A1
18785	17980		A27A2A2MP4	18902	17980		A27A2A2A25MP1
18787	17980		A27A2A2A3A3MP7	18910	17980		A27A2A2A7H1
18791	17980		A27A2A2A1A2MP1	18924	17980		A27A2A2A28MP1
18792	17980		A27A2A2A5A2MP1	18946	17980		A27A2A2A5A2A2
18793	17980		A27A2A2A5A2MP2	18946	17980		A27A2A2A5A2A3
18794	17980		A27A2A2A5A2MP3	18972	17980		A27A2A2A5A1
18795	17980		A27A2A2A5A2MP4	18973	17980		A27A2A2A5A2A1MP6
18798	17980		A27A2A2MP5	189T4	17980		A27A2A2A5A2A1MP7
18799	17980		A27A2A2A11A1MP2	18979	17980		A27A2A2A15
18805	17980		A27A2A2A3A3MP8	18980	17980		A27A2A2A15MP3
18806	17980		A27A2A2A5A1MP1	18990	17980		A27A2A2A5MP2
18807	17980		A27A2A2A1A1MP2	18991	17980		A27A2A2A15A1
18807	17980		A27A2A2A3A1MP2	18994	17980		A27A2A1
18810	17980		A27A2A2A5A1MP2	18994-1	17980		A27A2A1MP1
18815	17980		A27A2A2A10A3MP1	18994-2	17980		A27A2A1MP2
18817	17980		A27A2A2A1A1MP4	18994-3	17980		A27A2A1MP3
18817	17980		A27A2A2A1A2MP2	18994-4	17980		A27A2A1MP4
18818	17980		A27A2A2A14MP1	18994-9	17980		A27A2A1MP9
18823	17980		A27A2A2A3MP10	18994-10	17980		A27A2A1MP10
18824	17980		A27A2A2A13MP8	18994-11	17980		A27A2A1MP11
18826	17980		A27A2A2A3A3MP9	18994-12	17980		A27A2A1MP12
18827	17980		A27A2A2A3A3MP10	18998	17980		A27A2A1MP5
18828	17980		A27A2A2A3A3MP3	19000	17980		A27A2A1MP8
18830	17980		A27A2A2A8MP1	19075	17980		A27A2A2A5
18832	17980		A27A2A2A12MP1	19737	17980		A27A2A2A13A2MP1
18833	17980		A27A2A2A10A1MP2	19738	17980		A27A2A2A13A2
18833	17980		A27A2A2A14A1MP1	19933	17980		A27A2A2A10A1MP4
18836	17980		A27A2A2A25A1MP1	19933	17980		A27A2A2A14A1MP2
18837	17980		A27A2A2A25A1MP2	19934	17980		A27A2A2A14A1MP3
18838	17980		A27A2A2A3A1MP3	19935	17980		A27A2A2A10A1MP5
18839	17980		A27A2A2A1A1MP3	19936	17980		A27A2A2MP10
18839	17980		A27A2A2A3A1MP4	19938	17980		A27A2A2MP11
18840	17980		A27A2A2A1A1MP5	19939	17980		A27A2A2A14A1
18840	17980		A27A2A2A3A1MP5	19940	17980		A27A2A2A10A1A1
18841	17980		A27A2A2A3A1MP8	19941	17980		A27A2A2A14
18842	17980		A27A2A2A1A1MP6	19942	17980		A27A2A2A10A1
18843	17980		A27A2A2A27A1MP2	19947	17980		A27A2A2A17MP2
18843	17980		A27A2A2A27A2MP2	19948	17980		A27A2A2A17MP3
18844	17980		A27A2A2A3A2MP2	19949	17980		A27A2A2A17MP1
18845	17980		A27A2A2A3A1MP7	19972	17980		A27A2A2A16
18846	17980		A27A2A2A10A1MP3	19974	17980		A27A2A2A10A1MP5

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

Reference No.	Mfg. Code	Fig No.	Ref. Desig.
19988	17980		A27A2A2A31MP3
19994	17980		A27A2A2A31MP-
19995	17980		A27A2A2A31A3MP1
2-1-2WX9LGIN	96390		A17A4MP10
25K2015	53800		A17A3A2MP12
25K2015	53800		A18A2A2MP13
2714-4	55586		A27A3
2953	17980		A27A2A2A15MP4
2CP	11649		A16MP19
2E	11649		A16MP14
3015-400	72423		A16MP24
3032	17980		A27A2A2A3A3H1
3034	17980		A27A2A2A3H5
30337	17980		A27A2A2A1A1MP9
3034	17980		A27A2A2A1H6
30349	17980		A27A2A2A1
3040	17980		A27A2A2A13H4
30425	17980		A27A2A2MP12
30436	17980		A27A2A2MP13
30453	17980		A27A2A2A24MP2
3077	27321		A30MP13
3081	27321		A30MP9
30587	17980		A27A2A2A13MP1
30844	17980		A27A2A2A13H1
30846	17980		A27A2A2A13AlMP2
3087	27321		A30MP18
30922	17980		A27A2A2A1A1MP8
31073	17980		A27A2A2A17
31083	17980		A27A2A2A18MP1
31083	17980		A27A2A2A19MP1
31109	17980		A27A2A2A29MP1
31109	17980		A27A2A2A30MP1
31114	17980		A27A2A2A29
31116	17980		A27A2A2A18
31121	17980		A27A2A2A19
31141	17980		A27A2A2A10
31152	17980		A27A2
31153	17980		A27A2A2
31154	17980		A27A2A2A1
31157	17980		A27A2A2A20
31159	17980		A27A2A2A3
31196	17980		A27A2A2A13A1MP3
31197	17980		A27A2A2A13A1MP4
31198	17980		A27A2A2A13A1MP5
31201	17980		A27A2A2A13MP5
31202	17980		A27A2A2A13A1
31204	17980		A27A2A2A13
3121	27321		A30MP7
3125	27321		A30MP17
31287	17980		A27A2A2A21MP1
31290	17980		A27A2A2A22MP1
31290	17980		A27A2A3MP1
31479	17980		A27A2A2A27MP1
31481	17980		A27A2A2A27
3200	89644		A27A4
321-36001	97619		MP3
321-36005	97619		MP10
321-36005-1	97619		A30MP8
321-36013-11	97619		A2A2MP1
321-30015-1	97619		A30MP23
321-36016-1	97619		A30MP24
321-36102-11	97619		A30MP28
3231	27321		A30MP3
3233	17980		A27A2A2A3A2H1
32501	17980		A27A2A2A31
32503	17980		A27A2A2A31A3A1
32505	17980		A27A2A2A23MP2
32507	17980		A27A2A2A23
32508	17980		A27A2A2A31MP5
32509	17980		A27A2A2A31A3MP2
32510	17980		A27A2A2A31A4MP1
32511	17980		A27A2A2A31A4MP2
32512	17980		A27A2A2A31A3A4
32514	17980		A27A2A2A31MP6
32517	17980		A27A2A2A31A5MP1
32518	17980		A27A2A2A31A5MP2
32519	17980		A27A2A2A31A5
32520	17980		A27A2A2A31A6MP1
32521	17980		A27A2A2A31A6A1
32522	17980		A27A2A2A31A6
32523	17980		A27A2A2A31A7MP2
32524	17980		A27A2A2A31A1MP4
32524	17980		A27A2A2A31A2MP3
32525	17980		A27A2A2A31A7
32526	17980		A27A2A2A31A8
32527	17980		A27A2A2A31A8MP2
32528	17980		A27A2A2A31A2MP4
32529	17980		A27A2A2A31A1MP5
32530	17980		A27A2A2A31A7MP3
32530	17980		A27A2A2A31A8MP3
32531	17980		A27A2A2A31A2A1
32532	17980		A27A2A2A31A1A1
32533	17980		A27A2A2A31A2
32534	17980		A27A2A2A31A1
32536	17980		A27A2A2A21MP2
32536	17980		A27A2A2A31A1MP1
32536	17980		A27A2A2A31A2MP1
32537	17980		A27A2A2A31MP7
32538	17980		A27A2A2A31A9MP1
32540	17980		A27A2A2A31MP8
32541	17980		A27A2A2A31A6MP2
32542	17980		A27A2A2A31MP9
32543	17980		A27A2A2A31MP10
32545	17980		A27A2A2A31A1MP3
32545	17980		A27A2A2A31A2H1
32550	17980		A27A2A2A31A7MP1
32551	17980		A27A2A2A31A8MP1
32552	17980		A27A2A2A31A3MP3
32553	17980		A27A2A2A31H7
32554	17980		A27A2A2A31MP11
32557	17980		A27A2A2MP15
32558	17980		A27A2A2MP16
32560	17980		A27A2A2MP17
32564	17980		A27A2A2A31A9H1
32585	1,980		A27A2A2A31A9
32629	17980		A27A2A2A3MP12
32630	17980		A27A2A2A3A4
32631	17980		A27A2A2A3A4MP1
32632	17980		A27A2A2A3MP14
32637	1798U		A27A2A2A17MP4
32657	17980		A27A2A2MP18
32676	17980		A27A2A2MP19

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

Reference No.	Mfg. Code	Fig No.	Ref. Desig.
3275-400	72423		A16MP23
3280	17980		A27A2A2H1
33007	17980		A27A2A2A22MP2
33007	17980		A27A2A2A31A1MP6
33007	17980		A27A2A2A31A2MP5
33007	17980		A27A2A3MP2
33144	17980		A27A2A2A31A3
33147	17980		A27A2A2A1DA1MP7
33264	17980		A27A2A2A24MP1
33265	17980		A27A2A2A24
33278	17980		A27A2A2A30
33453	17980		A27A2A2A25
33454	17980		A27A2A2A25A1
33477	17980		A27A2A2A25A1MP3
33511	1.7980		A27A2A2A3A1MP8
33568	17980		A27A2A2A8MP4
33569	17980		A27A2A2A8MP2
33592	17980		A27A2A2A3A3MP5
33593	17980		A27A2A2A3A3MP6
3376	27321		A30MP29
33801	17980		A27A2A2A27A2MP3
33589	17980		A27A2A2MP21
33720	17980		A27A2A2A31A4MP3
33839	17980		A27A2A2MP25
3419	17980		A27A2A2A3A3MP2
34019	17980		A27A2A2A3MP13
3422	17980		A27A2A2A13H3
3424	17980		A27A2A2A1H8
3444	17980		A27A2A2A11A1MP1
3474	17980		A27A2A2A13H2
3479	17980		A27A2A2A10H1
3498	17980		A27A2A2A31H1
3502-2400	17980		A27A2A2A3H2
35396	17980		A27A2A2A31A3MP4
3555	17980		A27A2A2A13MP4
3644	17980		A27A2A2MP26
368099	97619		A26
49609-0C500	61349		A7MP66
4994	17980		A27A2A2H2
4SE	11649		A16MP15
5068	17980		A27A2A2A12H1
5079	17980		A27A2A2A5H2
5079	17980		A27A2A2A10A3H2
5080	17980		A27A2A2A14H1
5126	17980		A27A2A2A1A3H1
5133-18	79136		A27A2A2A31MP2
5133-18	79136		A27A2A2A31A1MP2
5133-18	17980		A27A2A2A31A2MP2
5135-25	79136		A27A2A2A13MP7
5135-25	79136		A27A2A2A31MP7
5394	17980		A27A2A2A3H7
5398	17980		A27A2A2A1H7
5398	17980		A27A2A2A3A1H1
5398	17980		A27A2A2A3H6
5398	17980		A27A2A2A13H6
5398	17980		A27A2A2A31H2
5416	17980		A27A2A1H3
5417	17980		A27A2A1H4
5418	17980		A27A2A1H6
5419	17980		A27A2A1H7
5420	17980		A27A2A1H5
5421	17980		A27A2A1H8
5459	17980		A27A2A1H9
5461	17980		A27A2AlH10
5467	17980		A27A2A1H11
5470	17980		A27A2A2H3
5486	17980		A27A2A2H4
5492	17980		A27A2A2H5
5500	17980		A27A2A2H6
5523	17980		A27A2A2A1A3H3
5533	17980		A27A2A2A31H3
5537	17980		A27A2A2A1H4
5537	17980		A27A2A2A3H3
5538	17980		A27A2A2H7
5539	17980		A27A2A2H8
5557	17980		A27A2A2H15
5559	17980		A27A2A2H9
5575	17980		A27A2A2A14H1
5577	17980		A27A2A2MP27
5580	17980		A27A2A2A7H2
5584	17980		A27A2A2H10
5587	17980		A27A2A2A3H1
5587	17980		A27A2A2A31H4
5588	17980		A27A2A2H11
5592	17980		A27A2A2H12
5594	17980		A27A2A2MP28
5596	17980		A27A2A2A3A3MP1
5600	17980		A27A2A2A13AlMP1
5617	17980		A27A2A2H13
5643	17980		A27A2A2A1A3MP1
5682	17980		A27A2A1H2
5683	17980		A27A2A1H1
5912	17980		A27A2A2A1A1MP1
5912	17980		A27A2A2A3A1MP1
5RA120	94222		A30H1
600	26681		MP15A
6002	17980		A27A2A2H14
604	70276		A17A4MP11
60CM21	74545		A2MP37
682119	97619	5-3	A2A1
682121	97619		A2
682134	97619		A29W1
682135	97619		A29W2
682269	97619		A11
682269-1	97619		A11MP2
682270	97619		A11MP1
682290	97619		A13MP2
682296	97619		A18MP13
682296	97619		A29MP1
682338	97619		MP2
682339	97619		MP1
682368	97619		A16MP41
682400-12	97619		A17MP11
682400-14	97619		A17MP14
682400-15	97619		A17MP15
682400-16	97619		A17MP16
682400-16	97619		A18MP15
682430	97619		A17A3
682430	97619		A18A2
682430-1	97619		A18A2A1

SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE DESIGNATION (CONTINUED)

Reference No.	Mfg. Code	Fig. No.	Ref. Desig.
682430-2	97619		A18A2A2
682430-3	97619		A18A2A3
682430-4	97619		A18A2A4
682430-5	97619		A17A3A1
682430-6	97619		A17A3A2
682430-7	97619		A17A3A3
682430-8	97619		A17A3A4
682464	97619		A16A10
682464	97619		A16A11
682464	97619		A16A12
682480	97619		A17MP17
682480	97619		A18MP16
682480	97619		A24MP5
682504	97619		A21MP10
682505	97619		A17MP12
682505	97619		A18MP12
682505	97619		A21A4H14
682506	97619		A21A4
682506	97619		A21A5
682506-5	97619		A33MP3
682512	97619		A17MP8A
682521-10	97619		A30MP20
682521-6	97619		A30MP12
682521-7	97619		A30MP14
682521-11	97619		A30MP21
682521-12	97619		A30MP22
682523	97619		A21MP9
682524	97619		A21MP8
682526	97619		A17MP13
682555	97619		A17A4
682862-1	97619		A33MP1
682862-2	97619		A33MP2
6X6-00LONG	70892		A30MP26
7167	17980		A27A2A2A3A2MP8
7189	17980		A27A2A2A3H8
770FB1-4X1-8	30327		A16MP16
7188	17980		A27A2A2A18H1
7188	17980		A27A2A2A19H1
7463	17980		A27A2A2A31H5
8179	77893		A27A2A1MP7
8911	17980		A27A2A2A8MP3
9256	17980		A27A2A2MP29
92968-5	97619		A18A3MP1
92968-6	97619		A18A3MP2
92972	97619		A17A3A4MP9

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KENNETH G. WICKHAM,
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SAAD (10)
TOAD (7)
LEAD (4)
ATAD (12)
GENDEPS (2)
Sig Sec GENDEPS (5)
Sig Dep (6)
Sig FLDMS (1)
TOPOCOM (1)
USAERDAA (2)
USAERDAW (2)
USACRREL (2)
USAPA (5)

NG: None.
USAR: None.
For explanation of abbreviations used, see AR: 320-50.

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The Metric System and Equivalents

Linear Measure

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

Weights

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

Liquid Measure

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

Square Measure

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

Cubic Measure

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

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 011117-000