

# AMSCO Maintenance Manual



**GAS AERATOR  
Floor Loading V-II**

(7/85)

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## SAFETY PRECAUTIONS

The following are personnel (WARNING) and equipment (CAUTIONS) **safety precautions** to be observed when operating or servicing this Aerator. The page or pages on which they appear in the text of this manual is indicated by the number in the lower right-hand corner of the **precaution**.

**WARNING: PRESS CONTROL SWITCH "OFF" AND ALLOW CHAMBER AND LOADING EQUIPMENT TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING THE FOLLOWING.**

4-1

**WARNING: IF CIRCUIT BREAKER, ON CONTROL CHASSIS IS ON, CIRCUITS ARE ENERGIZED EVEN IF POWER SWITCH IS OFF. REMOVE UPPER FACIA PANEL AND FILTER TO GAIN ACCESS TO CIRCUIT BREAKER.**

4-1, 5-1, 6-1

**CAUTION: Never use abrasive cleaning compounds, wire brush or steel wool.**

4-1

**CAUTION: When using AMSCO Stainless Steel Cleaner & Polish or AMSCO Pry Cleaner, rub in a back-and-forth motion (in the same direction as the surface grain). Do not rub with a rotary or circular motion. Do not use these cleaners on painted surfaces. Follow directions on containers.**

4-1

**WARNING: PRESS CONTROL SWITCH "OFF" AND ALLOW CHAMBER TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING THE FOLLOWING.**

6-1

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## SECTION 1

### GENERAL INFORMATION

#### 1-1. APPLICATION AND DESIGN

The product literature included in this section contains factual data relating to the principal descriptive and identifying characteristics of particulars for Floor Loading Gas Aerators. The literature is informational rather than instructional. It provides and conveys, textually and illustratively, a general concept of the equipment, its purpose, capabilities, limitations, and technical specifications.

#### 1-2. SPECIAL TOOLS AND EQUIPMENT

1. **Potentiometer** is required for calibration of thermostats (see paragraph 5-3) — two thermocouples are also required.
2. **Multimeter** is required for electrical troubleshooting.

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**APPLICATION**

A companion to the AMSCO ethylene oxide gas floor-level-loading sterilizer, this Aerator requires 12 hours (minimum) to effectively desorb residual ethylene oxide sterilant from most goods. A time saver considering that the aeration of goods by the less-effective, ambient-air, open-shelf method requires up to 7 days.

**DESIGN AND CONSTRUCTION**

**General.** The Aerator is loaded at floor level, no special ramps are needed. The cabinet is of welded construction. The unit may be either cabinet enclosed or arranged for recessing, as required. Cabinet-enclosed models feature top and side panels of textured-epoxy-coated steel. We include a synthetic rubber gasket with each unit to ensure that the front of the Aerator fits snugly against the top and side panels, if cabinet enclosed; or to the face of the recessing wall, if recessed.

We furnish all components necessary to obtain a complete working unit ready for (but not including) installation and connection to building electric and vent lines. Electrical components conform to requirements of Underwriters Laboratories, Incorporated.

**Processing Chamber.** Inside dimensions are 29 inches (737mm) wide x 53 inches (1346mm) deep x 67 inches (1702mm) high. The chamber is stainless steel, insulated with 1/2-inch (13-mm) thick (nominal) panels of rigid, expanded, polyurethane foam.

The door is of double-wall, stainless-steel construction. The door includes a latch to seal it tightly against a heat-resistant gasket. Semi-concealed hinges are on either the left or right side, as specified.

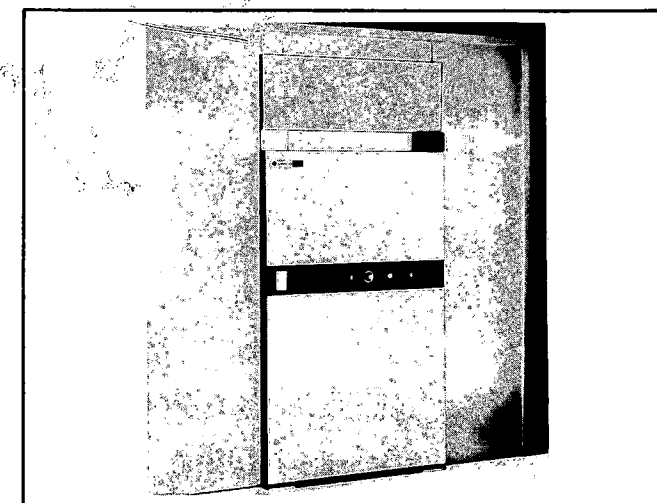
**\*NOTE:** For guidelines and recommendations on the control of occupational exposure to ETO in health industries, refer to AMSCO publication DB-3002: **Recommendations For Effective Use and Installation of Ethylene Oxide Sterilizers and Aerators.**

Because of American Sterilizer Company's continuing program of research and development, all specifications and descriptions are subject to change without notice.

Printed in U.S.A.

**FLOOR LOADING ETHYLENE OXIDE  
GAS AERATOR V-II**

- cabinet enclosed • for recessing

**TECH  
DATA**


Typical only — some details may vary.

**Controls** include power switch and 24-hour timer ... with a "HOLD" position for extended aerating time control. Cycle-status lamps ... adjacent to the controls ... indicate when the heaters are actuated and when chamber temperature is within the correct operating range.

Simply set the timer and press the power switch; the Aerator controls then take over to automatically

- heat the load to 120  $\pm$  5 F (49  $\pm$  2.8 C);

**THE SELECTIONS CHECKED BELOW  
APPLY TO THIS EQUIPMENT**
**Mounting**

- ☐ Cabinet Enclosed    ☐ For Recessing

**Door Hinge**

- ☐ Left Side    ☐ Right Side

**Options**

- ☐ Loading Cart

(See separate product literature)

Item No. \_\_\_\_\_  
Location(s) \_\_\_\_\_

- **Loading cart** — refer to *separate product literature* for details.

## MATERIALS HANDLING ACCESSORIES ... FOR PROCESSING CHAMBERS

Exposed mild-steel surfaces are degreased, phosphatized and then sprayed with a surface primer and a texture epoxy. Exposed stainless-steel surfaces are polished.



...CHECK LOCAL CODES...

1. Operate unit in room with 10 to 12 air changes per hour.
2. Right-hand door-swing clearances are shown; opposite-hand clearances are identical.
3. Approximate weight: 800 lbs (363 kg).
4. Heat loss: 6000 BTU/Hr vented to room; 1800 BTU/Hr vented to outside.

**This print is for guidance when planning space and utility services. Actual installation prints may be obtained from any AMSCO office or representative.**

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## OPERATING INSTRUCTIONS

**Figure 2-1. CONTROL LOCATIONS.**

Following gas sterilization, most materials retain some ethylene oxide which may be hazardous to humans, and, therefore, must be desorbed.

A properly designed mechanical aerating chamber will considerably reduce the time required for open-shelf aeration. Some medical institutions aerate materials on open shelves for one to seven days; the longer times are for cases involving Pacemakers (Electrodyne, Division of Becton, Dickinson & Co.), artificial heart valves and similar devices in direct contact with body organs. These times can be substantially reduced by a mechanical aerator such as the Floor Loading Gas Aerator (see Table 2-1).

However, judgment of proper aerating technique must rest with responsible medical personnel. It is important that such personnel instruct sterilizer operators concerning adequate aeration of goods following gas sterilization.

**NOTE:** Table 2-1 illustrates the effects of elevated temperature on removal of residual gas. Whereas these studies were limited to the materials indicated (and polyethylene), observations showed that other materials would react in a similar pattern. To ensure proper aeration, materials should be processed in the Aerator **a minimum of 12 hours**. Consult the responsible staff member for exceptions.

**TABLE 2-1. SAMPLE TIME-TEMPERATURE RELATIONSHIPS FOR REMOVAL OF ETHYLENE OXIDE GAS STERILANT RESIDUALS FROM GUM RUBBER AND VINYL\***

Ethylene Oxide Mixture (12% Ethylene Oxide and 88% Dichlorodifluoro- methane)	Complete Removal of Total Mixture (In Hours)		Complete Removal of the Ethylene Oxide Fraction (In Hours)	
	Material		Material	
	Gum Rubber	Vinyl**	Gum Rubber	Vinyl**
Ambient Temperature	168	168	25	100
120 F	12	18	4	6

\*Time factors are approximate as derived from dissipation curves

**\*\*Tygon® (Chamberlain Engineering Corporation) tubing.**

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**2-3. OPERATION — CHECK POINTS**

1. Open upper facia panel and remove prefilter.
2. Pull out "slide-out" control panel.
3. Set Main Circuit Breaker on bottom of "slide-out" control panel to ON.
4. Push "slide-out" control panel back into Aerator, replace prefilter and close upper facia panel.

**2-4. OPERATION — AERATING PERIOD 24 HOURS OR LESS**

1. Follow instructions in Paragraphs 2-2 and 2-3.
2. Load Aerator. Use the cart especially designed for the Aerator and Floor Loading Sterilizers. To ensure adequate circulation, be sure goods do not overhang cart.

**NOTE:** It is not necessary to remove goods from cart following its removal from sterilizer. The cart, with contents intact, may be transferred directly from sterilizer to Aerator.

3. Set Timer for desired aerating time ... as established by the responsible staff member ... **12 hours minimum.**

4. Press Power Switch to ON. Aerator will then start and continue automatically to completion. Refer to Paragraph 3-2 for the operational sequence; refer to Section 5. TROUBLE-SHOOTING if sequence is faulty.

5. Upon completion of desired aerating time (HEAT lamp goes off and when chamber temperature drops below approximately 110 F, OPERATING lamp will go off), open chamber door and remove cart.

**IMPORTANT:** Stoppage of air flow within chamber will automatically de-energize the heaters (HEAT lamp goes off and OPERATING lamp will go off when chamber temperature

drops below approximately 110 F). Should this happen, press Power Switch to OFF and remove obstruction. Then press Power Switch to ON; automatic operation should resume. Should power fail while Aerator is operating, press Power Switch to OFF ... reinitiate operation when power is restored

**2-5. OPERATION — AERATING PERIOD GREATER THAN 24 HOURS**

1. Follow instructions in Paragraphs 2-2 and 2-3.
2. Load Aerator. Use the cart especially designed for the Aerator and Floor Loading Sterilizers. To ensure adequate circulation, be sure goods do not overhang cart.

**NOTE:** It is not necessary to remove goods from cart following its removal from sterilizer. The cart, with contents intact, may be transferred directly from sterilizer to Aerator.

3. Set Timer on HOLD.
4. Press Power Switch to ON.
5. Wait until OPERATING lamp comes on.
6. Then, using clock or watch, time the desired aerating period (**over 24 hours**, as established by the responsible staff member).
7. At end of aerating time, turn Timer OFF (HEAT lamp goes off and when chamber temperature drops below approximately 110 F, OPERATING lamp will go off).
8. Open chamber door and remove cart.

**IMPORTANT:** Stoppage of air flow within chamber will automatically de-energize the heaters (HEAT lamp goes off and when chamber temperature drops below approximately 110 F, OPERATING lamp will go off). Should this happen, press Power Switch OFF and remove obstruction. Then press Power Switch ON; operation should resume. Should power fail while Aerator is operating, press Power Switch OFF ... reinitiate operation when power is restored.

**SECTION 3  
CONTROL SYSTEM****3-1. GENERAL**

The various temperature and air flow sensors and timer regulate the Aerator throughout its operation. Panel-mounted lights indicate the status of the heaters and blower motors.

A fuse in the 120-volt side of the transformer and a circuit breaker prevent circuits from becoming overloaded. Before checking a faulty or malfunctioning circuit, make certain that: (1) fuse is in place and operable; (2) circuit breaker and electric supply line switches are in correct operating position; and (3) prescribed electric power is available.

**3-2. OPERATIONAL SEQUENCE****Aerating Period 24 Hours or Less**

Aeration starts when the chamber door is closed. Timer is set for desired time (see Par. 2-2) and Power Switch is ON.

1. POWER lamp comes on. Filtered air is passed through and around load, and through chamber vent stack to provide multiple air changes every minute.

2. HEAT lamp comes on indicating that heaters are functioning. Should air flow stop or chamber temperature exceed approximately 135 F, HEAT lamp will go off indicating that the heaters are off.

3. When chamber temperature reaches approximately 112 F, OPERATING lamp comes on and timing begins. Should chamber temperature drop below approximately 110 F, the Timer motor will stop.

4. When chamber temperature reaches approximately 123 F, HEAT lamp goes off (temperature is thermostatically maintained between 116 F and 123 F).

5. At the completion of the desired aerating time, HEAT lamp goes off. After 5 to 10 minutes, chamber temperature drops to approximately 110 F and OPERATING lamp goes off.

**Aerating Period Greater Than 24 Hours**

Aeration starts when the chamber door is closed, Timer is set at HOLD and Power Switch is ON.

1. POWER lamp comes on. Filtered air is passed through and around load, and through chamber vent stack to provide multiple air changes every minute.

2. HEAT lamp comes on indicating that heaters are functioning. Should air flow stop or chamber temperature exceed approximately 135 F, HEAT lamp will go off, indicating that the heaters are off.

3. When chamber temperature reaches approximately 112 F, OPERATING lamp comes on. Time the desired exposure period (see Par. 2-2) by clock or watch; allow an additional 1/2 hour to compensate for heat-up time.

4. When chamber temperature reaches approximately 123 F, HEAT lamp goes off (temperature is thermostatically maintained between 116 F and 123 F).

5. At the completion of the desired aerating time, turn Timer OFF. HEAT lamp goes off. After 5 to 10 minutes, chamber temperature drops to approximately 110 F and OPERATING lamp goes off.

**3-3. CIRCUIT DESCRIPTIONS GENERAL CONDITIONS**

Before using the following circuit descriptions (Par. 3-4), several things should be understood about the electric schematic (Figure 3-1), namely, the general conditions applicable to the operational sequence.

**3-4. OPERATIONAL SEQUENCE CIRCUIT DESCRIPTIONS****Aerating Period 24 Hours or Less**

1. When Power Switch is pressed ON (with the chamber door closed and Timer set to desired aerating time [see Par. 2-2]), the 24-volt side of Transformer (line 9) will energize POWER lamp (line 9) and 3CR (line 11) through Door Interlock NO contacts (line 8) which were closed when chamber door was closed) and the closed Control Switch (line 9). The 1CR (line 10) is energized through 1TH NC contacts (line 10) which are closed because chamber temperature is 116 F or below.

2. The Blower Motor 1M (line 3) and 2M (line 4) are energized through 3CR NO contacts (line 3) which were closed when 3CR was energized.

3. The 4CR (line 13) is energized through the closed Timer switch (line 13); the 1AF NO, 2AF NO, and 3AF NO contacts (line 13) which were closed when air started flowing) and the OT NC contacts (line 13).

4. The Heater (line 6) and 2CR (line 5) are energized through the two 4CR NO contacts (lines 4 and 4A) which were

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closed when 4CR was energized) and the 1CR NO contacts (line 6) which were closed when 1CR was energized). The Heater (line 7) is energized through the two 4CR NO contacts (lines 4 and 4A) and the 1CR NO contacts (line 7).

5. HEAT lamp (line 14) is energized through the 2CR NO contacts (line 14) which were closed when 2CR was energized.

6. When chamber temperature reaches approximately 112 F, the 2TH contacts (line 12) close and energize (one) Timer Motor TM (line 12) through closed Timer switch (line 12) and (two) OPERATING lamp (line 12A).

7. At approximately 123 F, the 1TH NC contacts (line 10) open and de-energize 1CR (line 10). The 1CR NO contacts (line 6) and 1CR NO contacts (line 7) open and de-energize 2CR (line 5), Heater (line 6) and Heater (line 7). The 2CR NO contacts (line 14) open and de-energize HEAT lamp (line 14). When chamber temperature falls to approximately 116 F, the 1TH NO contacts close and energize 1CR thereby energizing the Heaters. Thereafter, the 1TH contacts continuously open and close as chamber temperature fluctuates between 116 F and 123 F.

8. When TM (line 12) times out, Timer switch (line 12) opens and de-energizes Timer Motor TM. Timer switch (line 13) opens and de-energizes 4CR (line 13) and HEAT lamp (line 14).

9. The two 4CR NO contacts (lines 4 and 4A) open and de-energize 2CR (line 5), Heater (line 6) and Heater (line 7).

10. When chamber temperature falls to approximately 110 F (in about 5 to 10 minutes), the 2TH NO contacts (line 12) open and de-energize OPERATING lamp (line 12A).

11. Blower Motors 1M (line 3) and 2M (line 4) are de-energized when the 3CR NO contacts (line 3) are opened. The 3CR NO contacts open when 3CR (line 11) is de-energized by opening the chamber door or pressing the Power Switch OFF.

#### Aerating Period Greater Than 24 Hours

1. When Power Switch is pressed ON, (with chamber door closed and Timer set to HOLD), the 24-volt side of Transformer (line 9) will energize POWER lamp (line 9) and 3CR (line 11) through Door Interlock NO contacts (line 8) which were closed when chamber door was closed) and the closed Power Switch (line 9). The 1CR (line 10) is energized through the 1TH NC contacts (line 10) which are closed because chamber temperature is 116 F or below.

2. The Blower Motor 1M (line 3) and 2M (below line 4) are energized through the 3CR NO contacts (line 3) which were closed when 3CR was energized.

3. The 4CR (line 13) is energized through the closed Timer switch (line 13), the 1AF NO, 2AF NO and 3AF NO contacts (line 13) which were closed when air started flowing) and the OT NC contacts (line 13).

4. The Heater (line 6) and 2CR (line 5) are energized through two 4CR NO contacts (lines 4 and 4A) which were closed when 4CR was energized) and the 1CR NO contacts (line 6) which were closed when 1CR was energized). The Heater (line 7) is energized through the two 4CR NO contacts (lines 4, and 4A) and 1CR NO contacts (line 7).

5. HEAT lamp (line 14) is energized through the 2CR NO contacts (line 14) which were closed when 2CR was energized.

6. When chamber temperature reaches approximately 112 F, the 2TH contacts (line 12) close and energize OPERATING lamp (line 12A).

7. At approximately 123 F, the 1TH NC contacts (line 10) open and de-energize 1CR (line 10). The 1CR NO contacts (line 6) and 1CR NO contacts (line 7) open and de-energize 2CR (line 5), Heater (line 6) and Heater (line 7). The 2CR NO contacts (line 14) open and de-energize HEAT lamp (line 14). When chamber temperature falls to approximately 116 F, the 1TH NO contacts close and energize 1CR thereby energizing the Heaters. Thereafter, the 1TH contacts continuously open and close as chamber temperature fluctuates between 116 F and 123 F.

8. At the completion of the desired aerating time (see Par. 2-2), turn Timer OFF. This opens timer switch (line 13) and de-energizes 4CR (line 13) and HEAT lamp (line 14).

9. The two 4CR NO contacts (lines 4 and 4A) open and de-energize 2CR (line 5), Heater (line 6) and Heater (line 7).

10. When chamber temperature falls to approximately 110 F (in about 5 to 10 minutes), the 2TH NO contacts (line 12) open and de-energize OPERATING lamp (line 12A).

11. Blower Motors 1M (line 3) and 2M (line 4) are de-energized when the 3CR NO contacts (line 3) are opened. The 3CR NO contacts open when 3CR (line 11) is de-energized by opening the chamber door or pressing the Power Switch OFF.

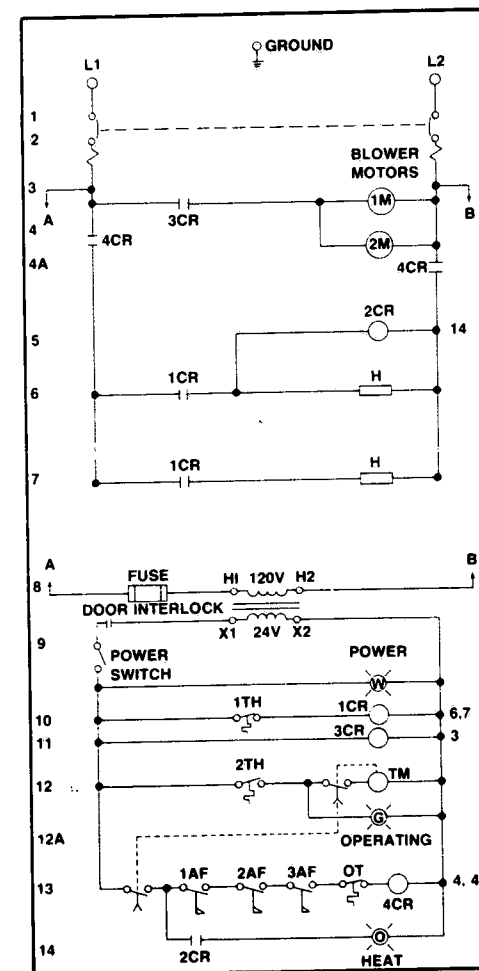


Figure 3-1. AERATOR ELECTRICAL CONTROL SCHEMATIC.

#### NOTES:

1. The number (or numbers) at the right of each relay coil refers to the line number on the left-hand side of the schematic where the contacts for the particular relay may be found. The line numbers are also referred to in the circuit descriptions (see Paragraph 3-4) for locations of components.

2. The schematic is shown with circuit breaker open, Power Switch OFF, Timer OFF, chamber door open, Air Flow Switches opened and chamber temperature below 116 F.

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## SECTION 4 PREVENTIVE MAINTENANCE

### 4-1. GENERAL

The following operations (Paragraphs 4-2 through 4-4) should be performed periodically to properly maintain the Aerator. The times given are recommended intervals. The exact frequency, however, should be determined by Aerator usage. Should a problem occur, refer to Section 5, **TROUBLESHOOTING**.

**WARNING: PRESS CONTROL SWITCH "OFF" AND ALLOW CHAMBER AND LOADING EQUIPMENT TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING THE FOLLOWING.**

**WARNING: IF CIRCUIT BREAKER ON CONTROL CHASSIS IS ON, CIRCUITS ARE ENERGIZED EVEN IF POWER SWITCH IS OFF. REMOVE UPPER FACIA PANEL AND FILTER TO GAIN ACCESS TO CIRCUIT BREAKER.**

### 4-2. CLEANING

#### Daily

1. Wash cabinet surfaces, chamber interior and loading cart with a mild detergent solution such as Calgonite<sup>®</sup> (Calgon Corp.).

**CAUTION: Never use abrasive cleaning compounds, wire brush or steel wool.**

2. Rinse surfaces with tap water and dry with lint-free cloth.

#### Monthly

1. Clean gasket sealing surface on chamber door frame with **AMSCO Pry Cream** (included in Door Frame Cleaning kit, AMSCO P-753377-091). Wipe off **Pry Cream** with damp cloth.

2. Clean the door gasket with alcohol or mild detergent. Do not clean gasket with carbon tetrachloride, kerosene, gasoline or other hydrocarbons.

3. Spray sealing surface on door frame with **AMSCO Fluorocarbon Spray** (also included in Door Frame Cleaning kit, see above) to prevent gasket from sticking.

#### As Necessary

1. Use **AMSCO Stainless Steel Cleaner & Polish** (AMSCO P-78602-091) on all Aerator and loading cart stainless-steel exterior surfaces. Apply the cleaner with a damp cloth or sponge, thoroughly wipe off and then polish with clean, dry cloth. Use **AMSCO Pry Cleaner** (also included in Door Frame Cleaning kit, see above) to remove stubborn stains.

**CAUTION: When using AMSCO Stainless Steel Cleaner & Polish or AMSCO Pry Cleaner, rub in a back-and-forth motion (in the same direction as the surface grain). Do not rub with a rotary or circular motion. Do not use these cleaners on painted surfaces. Follow directions on containers.**

### 4-3. INSPECTION

#### Daily

1. Inspect cabinetry for any sign of damage or misaligned parts.

2. Inspect operating controls for loose or missing parts; cracked or broken lenses; and other obvious defects.

3. Open and close chamber door; be sure that hinge pins do not bind. Check door gasket; replace gasket if it has become deformed, brittle or cracked (Par. 6-2).

#### Weekly

Watch Aerator while it goes through a complete operation to be sure that all of the indicating lights are working properly.

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**Monthly**

1. Open chamber door. Inspect air grilles at bottom of chamber (two each side). Be sure they are clean and free of obstructions.

2. Inspect exhaust stack at top of chamber. Remove any obstructions.

3. Remove blower and filter access panel at top-center of chamber. Inspect the High Efficiency Particulate Air filters.

4. Clean or replace filters if they are clogged with dirt.

a. Remove filter hold-downs (two each filter) and filters from Aerator.

b. Clean filters with vacuum cleaner or replace.

**NOTE:** Aerator placed in an area having a high dust or lint level will require more frequent changing of filters. Filters should be replaced if there is any doubt about their operating efficiency.

c. Reinstall the filters and secure filter hold-downs.

5. Remove the two bolts from underside of fascia plate. Lift plate up and remove it from Aerator. Inspect and, if necessary, replace prefilter. (See note following step 4b.) To remove prefilter, lift it up, tilt bottom out and remove it from Aerator. Install new prefilter, fascia plate and bolts in reverse order of above.

**4-4. LUBRICATION****Monthly**

Place a few drops of heavy machine oil (SAE 20 or 30) on hinge pin. Work oil into hinge by opening and closing the door several times. Wipe away excess oil.

## SECTION 5

### TROUBLESHOOTING

This section contains detailed information for locating and correcting possible causes of Aerator malfunction.

**WARNING: IF CIRCUIT BREAKER ON CONTROL CHASSIS IS ON, CIRCUITS ARE ENERGIZED EVEN IF POWER SWITCH IS OFF. REMOVE UPPER FASCIA PANEL AND FILTER TO GAIN ACCESS TO CIRCUIT BREAKER.**

**5-1. HELPFUL HINTS**

1. Use the operating procedures presented in Section 2 to verify the trouble symptom. If necessary, operate Aerator more than once when investigating intermittent component malfunction.

2. Refer to paragraph 5-2 and the TROUBLESHOOTING CHART (Table 5-1) after symptom has been verified.

3. Use the control system descriptions (Section 3) and electric schematic (Fig. 3-1) as aids in understanding system operation and how the malfunction of a specific component would affect it. Use the operational test (Par. 5-3) to confirm and correct suspected temperature sensing malfunctions.

4. Refer to the following guide for examples of what to look for and what to do when you are doing the actual troubleshooting.

- **Electric System**

a. Using the electric schematic and circuit descriptions, determine the circuit and component function. Correct all loose wires or improper connections.

b. Inspect the individual components and adjust, repair or replace as necessary.

- **Exhaust System**

a. Check air filters: replace if necessary.

b. Check air grilles and exhaust stack: remove any obstructions.

**5-2. THE TROUBLESHOOTING CHART — EXPLANATION OF ITS CONTENTS**

COLUMN HEADING	EXPLANATION
AERATOR OPERATIONAL STATUS	Select a symptom from this column that most nearly corresponds with the position to which the Aerator sequence progressed before the trouble occurred.
TROUBLE	Select the problem you think is most appropriate to the particular trouble symptom. The examples are presented in sequence.
ARE CONDITIONS AS FOLLOWS?	This column lists the specific conditions that should be checked to isolate and correct the one causing the malfunction. The conditions are presented in the order in which they would most likely have caused the malfunction. Check them in order given. Refer to Paragraph 5-1 for instruction if the conditions are not as described. <b>NOTE:</b> If the symptom for a malfunction is established as mechanical, the electrical components may be omitted and vice versa.
WHERE TO FIND ITEMS IN MANUAL	Where applicable, the particular illustration on which a given component may be found is provided in this area. The illustrations are included in Section 7. The index number after the figure number denotes the specific component.

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TABLE 5-1.

## AERATOR TROUBLESHOOTING CHART

AERATOR OPERATIONAL STATUS	TROUBLE	ARE CONDITIONS AS FOLLOWS?	WHERE TO FIND ITEMS IN MANUAL
1. Chamber door closed and Aerator started	<p>A. Air is not flowing thru chamber and POWER lamp is not on</p> <p>B. Air is flowing thru chamber but POWER lamp does not come (or stay) on</p> <p>C. POWER lamp is on but air is now flowing thru chamber</p>	<p>(1) Power input 120 volts (2) Fuse not burned out (3) Door Interlock contact closed (4) Power Switch closed</p> <p>(1) Bulb not burned out (2) Socket energized</p> <p>(1) Relay 3CR energized (2) Overloads are not tripped (3) Blower Motors 1M and 2M not burned out</p>	<p>7-5, 27 7-5, 2 7-2, 29 7-4, 6</p> <p>7-4, 16 7-4, 15</p> <p>7-5, 17 7-6, 1 7-6, 1</p>
2. Heating phase	<p>A. Chamber is not being heated and HEAT lamp is not on</p> <p>B. Chamber is being heated but HEAT lamp does not come (or stay) on</p> <p>C. HEAT lamp is on but chamber is not being heated</p>	<p>(1) Timer set at desired time or HOLD (2) Air flow not obstructed (3) Flow switches 1AF, 2AF and 3AF closed (4) Thermostat OT contacts closed (5) Relay 4CR energized (6) Thermostat 1TH contacts closed (7) Relay 1CR energized</p> <p>(1) Relay 2CR energized (2) Bulb not burned out (3) Socket energized</p> <p>(1) Heaters operating properly</p>	<p>7-4, 10 7-6 &amp; 7-10 7-10, 9 &amp; 7-6, 6</p> <p>7-5, 1 7-5, 20 7-5, 1 7-5, 20</p> <p>7-5, 28 7-4, 16 7-4, 15</p> <p>7-1, 7 &amp; 7-8</p>
3. Timing (operating) phase	A. OPERATING lamp does not come (or stay) on	(1) Thermostat 2TH contacts closed (2) Bulb not burned out (3) Socket energized	7-5, 1 7-4, 16 7-4, 15
4. Aerating periods 24 hours or less	A. OPERATING lamp is on but timer motor does not run	(1) Thermostat 2TH contacts closed (2) Timer switch closed (3) Timer motor operable	7-5, 1 7-4, 10 7-4, 10

Table 5-1. (Continued)

AERATOR OPERATIONAL STATUS	TROUBLE	ARE CONDITIONS AS FOLLOWS?	WHERE TO FIND ITEMS IN MANUAL
5. Completion of aerating	<p>A. HEAT lamp does not go off</p> <p>B. OPERATING lamp does not go off</p>	<p>(1) Timer switches open</p> <p>(1) Thermostat 2TH contacts open</p>	<p>7-4, 10</p> <p>7-5, 1</p>

## 5-3. CALIBRATION TEST FOR TEMPERATURE SENSORS

NOTE: This test is to ensure that the temperature sensors are properly calibrated so that the aerating sequence will conform to applicable performance requirements.

1. Open louvers in blower-motor access panel 1/8 inch.

2. Open fascia panel and remove prefilter. Position one potentiometer thermocouple lead at the center of the chamber and the other lead one foot below stack opening. Set main circuit breaker at bottom of "slide out" control panel to ON. Secure "slide out" control panel. Close chamber door and press Power Switch ON. POWER lamp should come on. Set Timer for one hour. Both blowers should operate and HEAT lamp should come on when heaters are energized. Monitor chamber temperature.

3. As chamber temperature reaches  $135 \pm 2^\circ\text{F}$ , the over-temperature Thermostat (OT) contacts should open to de-energize heaters and HEAT lamp. If necessary, adjust setting on OT (counterclockwise to decrease; clockwise to increase).

4. As chamber temperature reaches  $116 \pm 1^\circ\text{F}$ , the normally closed Control Thermostat "B" contacts (1TH) should close to energize HEAT lamp and heaters. If necessary adjust 1TH (counterclockwise to decrease; clockwise to increase).

5. Set Timer at OFF and allow chamber temperature to decrease. As chamber temperature reaches  $110 \pm 2^\circ\text{F}$ , the normally open Control Thermostat "A" contacts (2TH) should close to energize OPERATING lamp and timer motor if Timer is set to any position except OFF or HOLD. If necessary, adjust differential of Control Thermostat contacts "A."

6. Remove potentiometer thermocouple lead and replace prefilter and fascia panel.

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SECTION 6

COMPONENT REPAIR AND REPLACEMENT

6-1. GENERAL

This section includes instructions for the disassembly, repair and replacement of selected Aerator components. Exploded views and assembly drawings showing the various parts and assemblies referred to in this section are included in Section 7.

**WARNING: PRESS CONTROL SWITCH "OFF" AND ALLOW CHAMBER TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING THE FOLLOWING.**

**WARNING: IF CIRCUIT BREAKER ON CONTROL CHASSIS IS ON, CIRCUITS ARE ENERGIZED EVEN IF POWER SWITCH IS OFF. REMOVE UPPER FASCIA PANEL AND FILTER TO GAIN ACCESS TO CIRCUIT BREAKER.**

6-2. CHAMBER DOOR GASKET (Fig. 7-3)

1. Lift top and side gasket slightly to expose screws which secure gasket and rear cover to inside of door.
2. Remove screws and then slide top and side gasket out from under rear cover. Remove bottom gasket in same manner.
3. Clean door gasket contact surfaces with **AMSCO Pry Cleaner** (included in Door Frame Cleaning kit AMSCO P-753377-091). Make certain that surfaces are free of foreign matter.
4. Apply 1/16 inch bead of silicone adhesive sealant to under side of gasket.
5. Install new top and side gasket over outside edge of rear cover. Be sure gasket is centered on cover. Then, using holes in rear cover as guides, secure cover and gasket to door with screws previously removed in step 2. Do not tighten screws at this time.
6. Install bottom gasket under rear cover: be sure gasket is firmly seated. Secure gasket to door with the remainder of the previously removed screws. Do not tighten at this time.

7. Tighten all of the screws until almost snug. If gaskets appear firmly seated under rear cover and are flat on the door, turn the screws until snug. Remove excess adhesive.

8. After gasket has been installed, spray sealing surfaces on door frame with **AMSCO Fluorocarbon Lubricant** (also included in Door Frame Cleaning kit, see above) to prevent gasket from stocking.

9. Close chamber door.

6-3. POWER SWITCH, TIMER AND "POWER," "OPERATING" AND "HEAT" LAMPS (Figs. 7-3 & 7-4)

1. Remove six screws holding door cover to expose back of door control panel assembly.
2. Pull terminal connectors from either timer or power switch prior to removing it from panel.
3. Remove screw terminal from lamp socket prior to removing socket from panel.

When installing either a new-style mounting strap or new-style pilot light receptacle on units shipped before August 24, 1977, proceed as follows:

1. **New-style Mounting Strap:** Drill and tap two holes in the mounting strap for 6-32 screws so that these two holes line up with the mounting holes in the bracket of old-style pilot light receptacle. Attach mounting strap on rear of light receptacle bracket.
2. **New-style Pilot Light Receptacle:** Attach old-style mounting strap on rear of new-style pilot light receptacle bracket.

6-4. CIRCUIT BREAKER, BLOWER MOTOR CONTACTS, CONTROL RELAYS AND THERMOSTATS (Fig. 7-5)

1. Open upper fascia panel and remove prefilter.
2. Pull out "slide-out" control panel to gain access to the circuit breaker, blower motor contacts, control relays and thermostats.

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**6-5. BLOWER MOTORS, AIR FLOW SWITCHES AND HEPA FILTERS (Figs. 7-1, 7-6, 7-7 & 7-10)**

1. Remove ten screws holding panel at center of chamber cover to gain access to blower motors, air flow switches and HEPA filters.

2. See Figures 7-6 and 7-10 for location of air flow switches.

**6-6. HEATERS (Figs. 7-1, 7-2 & 7-8)**

Remove screws holding side panels to gain access to heaters.

**SECTION 7****EXPLODED VIEWS AND PARTS LISTS**

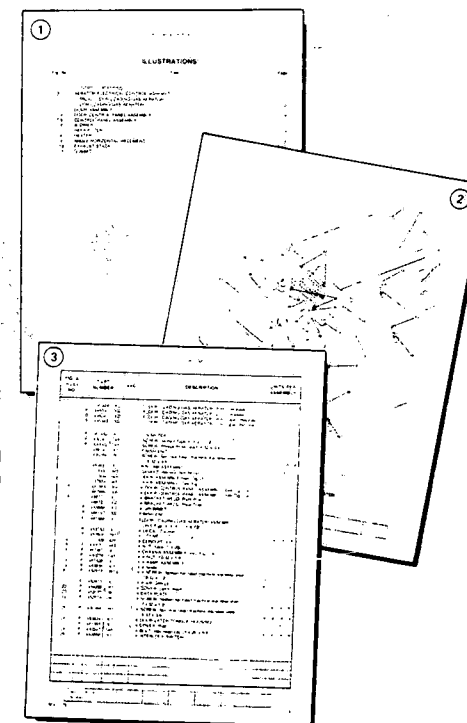
Assemblies and components of Floor Loading Gas Aerators are illustrated and identified on the following pages. The part number, the description and the quantity required for each usage is given. Each indentation in the description represents the assembly level (see following page). The UNITS PER ASSEMBLY column is specific for the given assembly or subassembly level.

**HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN**

① Determine the function and application of the part required. Turn to the List of Illustrations and select the most appropriate title. Note the illustration page number.

② Turn to the page indicated and locate the desired part on the illustration.

③ From the illustration, obtain the index number assigned to the part desired. Refer to the accompanying description for specific information regarding the part.



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TYPICAL INDENTATION EXAMPLE

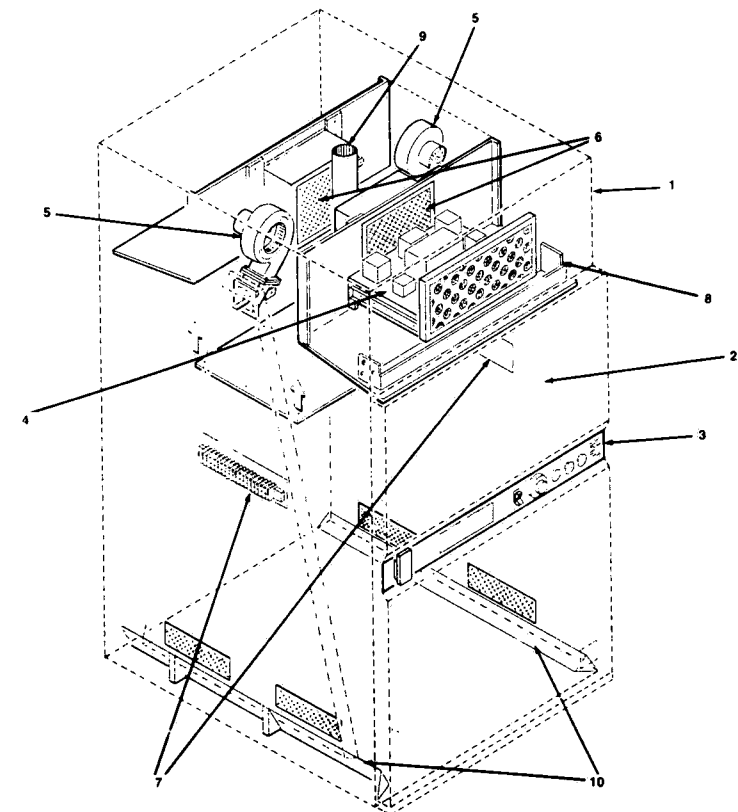
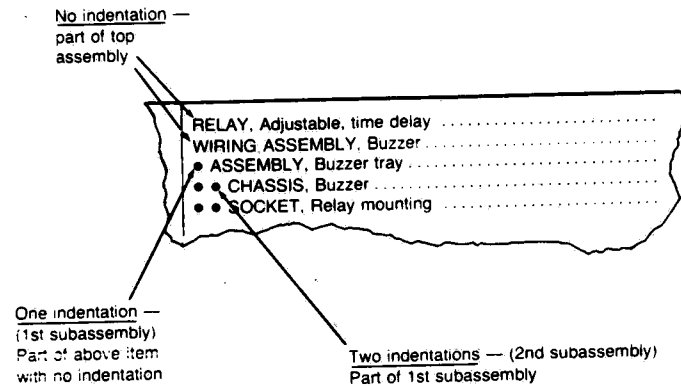


Figure 7-1. TYPICAL FLOOR LOADING GAS AERATOR.

Index No.	Description
1	Floor Loading Gas Aerator (See Figure 7-2)
2	Door Assembly (See Figure 7-3)
3	Door Control Panel (See Figure 7-4)
4	Control Panel Assembly (See Figure 7-5)
5	Blowers (See Figure 7-6)
6	HEPA Filters (See Figure 7-7)
7	Heaters (See Figure 7-8)
8	Angle Horizontal Weldment (See Figure 7-9)
9	Exhaust Stack (See Figure 7-10)
10	Gussets (See Figure 7-11)

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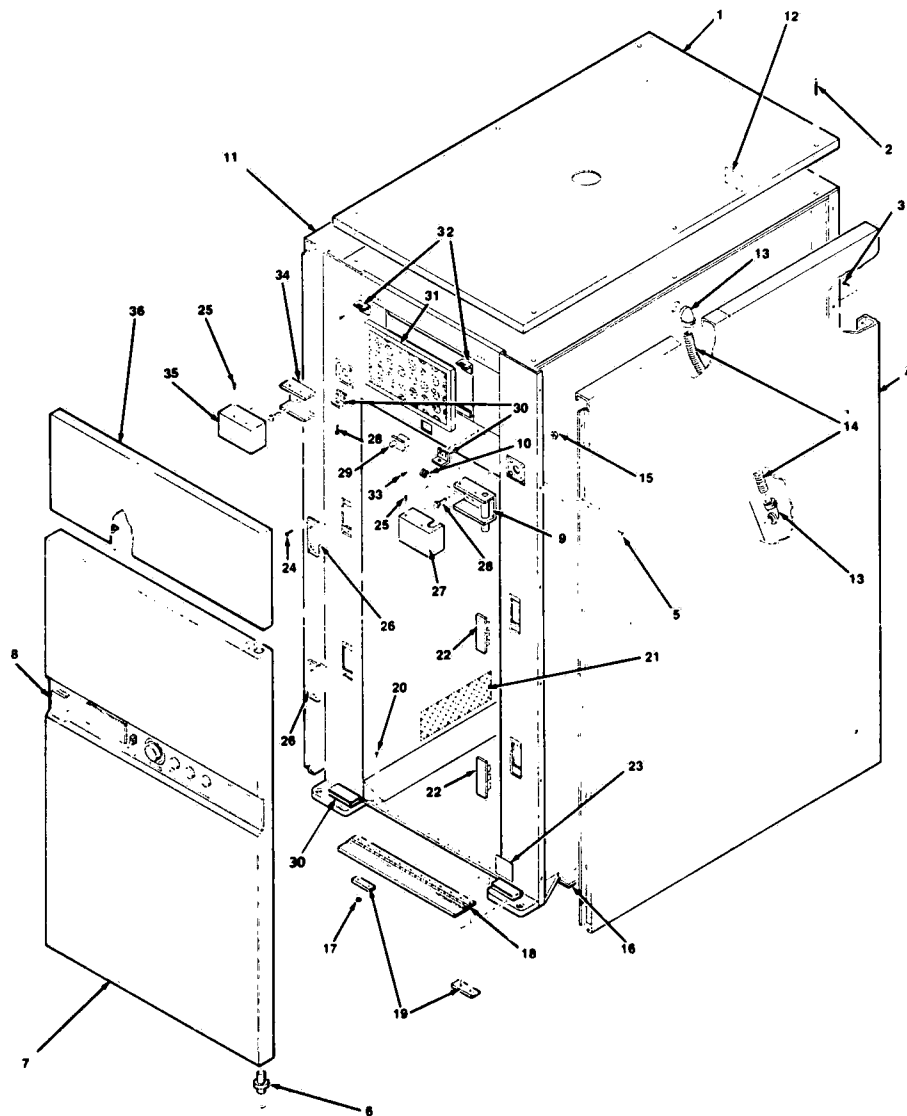


Figure 7-2. FLOOR LOADING GAS AERATOR.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY			
7-2-	B 495339	002	FLOOR LOADING GAS AERATOR (R.H.), recessed				
	B 495340	002	FLOOR LOADING GAS AERATOR (L.H.), recessed				
	B 495341	002	FLOOR LOADING GAS AERATOR (R.H.), open mounted				
	B 495342	002	FLOOR LOADING GAS AERATOR (L.H.), open mounted				
1	P 461452	001	FINISH TOP			1	1
2	P 430361	045	SCREW, Slotted Type A (6 x 1-1/2)			4	4
3	P 430002	045	SCREW, Phillips truss head (8-32 x 3/8)			10	10
4	P 466147	001	FINISH END			1	1
5	P 430364	091	SCREW, Spl. oval head machine stainless steel (6-32 x 3/8)			16	16
6	P 453921	001	PIN CAM ASSEMBLY	1	1	1	1
	R 3000	945	GASKET, Recess (Not Shown)	3	3		
7	P 467954	004	DOOR ASSEMBLY (See Fig. 2)	1	1	1	1
	P 467954	005	DOOR ASSEMBLY (See Fig. 2)				
8	P 467969	004	• DOOR CONTROL PANEL ASSEMBLY (See Fig. 7-4)	1	1	1	1
	P 467969	005	• DOOR CONTROL PANEL ASSEMBLY (See Fig. 7-4)				
9	P 466101	001	• BRACKET WELD, Pivot Post	1	1	1	1
	P 466101	002	• BRACKET WELD, Pivot Post				
10	P 453688	001	• GROMMET	1	1	1	1
11	P 466147	002	FINISH END			1	1
	P 467968	001	FLOOR LOADING GAS AERATOR ASSEMBLY (Incl. Figs. 4, 5, 6, 7, 8 & 10)				
12	P 453753	001	• DECAL, Caution	1	1	1	1
13	P 452608	091	• CONNECTOR, 3/4" — 90°	4	4	4	4
14	R 808	425	• CONDUIT, 3/4"	2	2	2	2
15	P 430017	045	• NUT, Keps (1/4-20)	12	12	12	12
16	P 467967	001	• CHASSIS ASSEMBLY (Incl. Fig. 7-9)	1	1	1	1
17	P 430278	045	• NUT (10-32 x 1/8)	13	13	13	13
18	P 461535	001	• RAMP ASSEMBLY	1	1	1	1
19	P 453635	001	• SHIM	2	2	2	2
20	P 452518	091	• SCREW, Slotted flat head machine stainless steel (10-32 x 1/2)	13	13	13	13
			• AIR GRILLE	4	4	4	4
21	P 453915	001	• COVER, Latch Weld	2	2	2	2
22	P 454298	001	• DATA PLATE	1	1	1	1
23	P 452077	091	• SCREW, Slotted flat head machine stainless steel (10-32 x 1/2)				
24	P 452518	091	• SCREW, Spl. oval head machine stainless steel (6-32 x 3/8)	8	8	8	8
25	P 430364	091	• DOOR LATCH TONGUE HOUSING	18	18	18	18
26	P 453624	001	• COVER, Post	2	2	2	2
27	P 461555	001	• BOLT, Hex head cap (1/4-20 x 5/8)	1	1	1	1
28	P 430347	045	• INTERLOCK SWITCH	14	14	14	14
29	P 453658	001	GASKET	1	1	1	1
30	P 150822	527		2	2	2	2

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FIG. & INDEX NO.	PART NUMBER			SVC	DESCRIPTION	UNITS PER ASSEMBLY			
7-2-30	P	461457	001		• ANGLE CHASSIS, Bottom	2	2	2	2
31	P	453479	091		• PRE-FILTER	1	1	1	1
32	P	461457	003		• ANGLE CHASSIS, Top	2	2	2	2
33	P	430002	045		• SCREW, Phillips truss head (8-32 x 3/8)	60	60	60	60
34	P	461649	001		• SUPPORT, COVER	1	1	1	1
35	P	461555	002		• COVER	1	1	1	1
36	P	461458	001		• FASCIA PANEL	1	1	1	1
	P	467920	001		• CONTROL PANEL (Not Shown, See Fig. 7-5)	1	1	1	1
	P	453910	002		• BLOWER (Not Shown, See Fig. 7-6)	2	2	2	2
	P	451474	091		• FILTER, HEPA (Not Shown, See Fig. 7-7)	2	2	2	2
	P	452660	091		• HEATER, 1300 W, 120 V (Not Shown, See Fig. 7-8)	2	2	2	2
	P	453985	001		• EXHAUST STACK (Not Shown, See Fig. 7-10)	1	1	1	1
	P	461525	001		• GUSSET (Not Shown, See Fig. 7-11)	4	4	4	4

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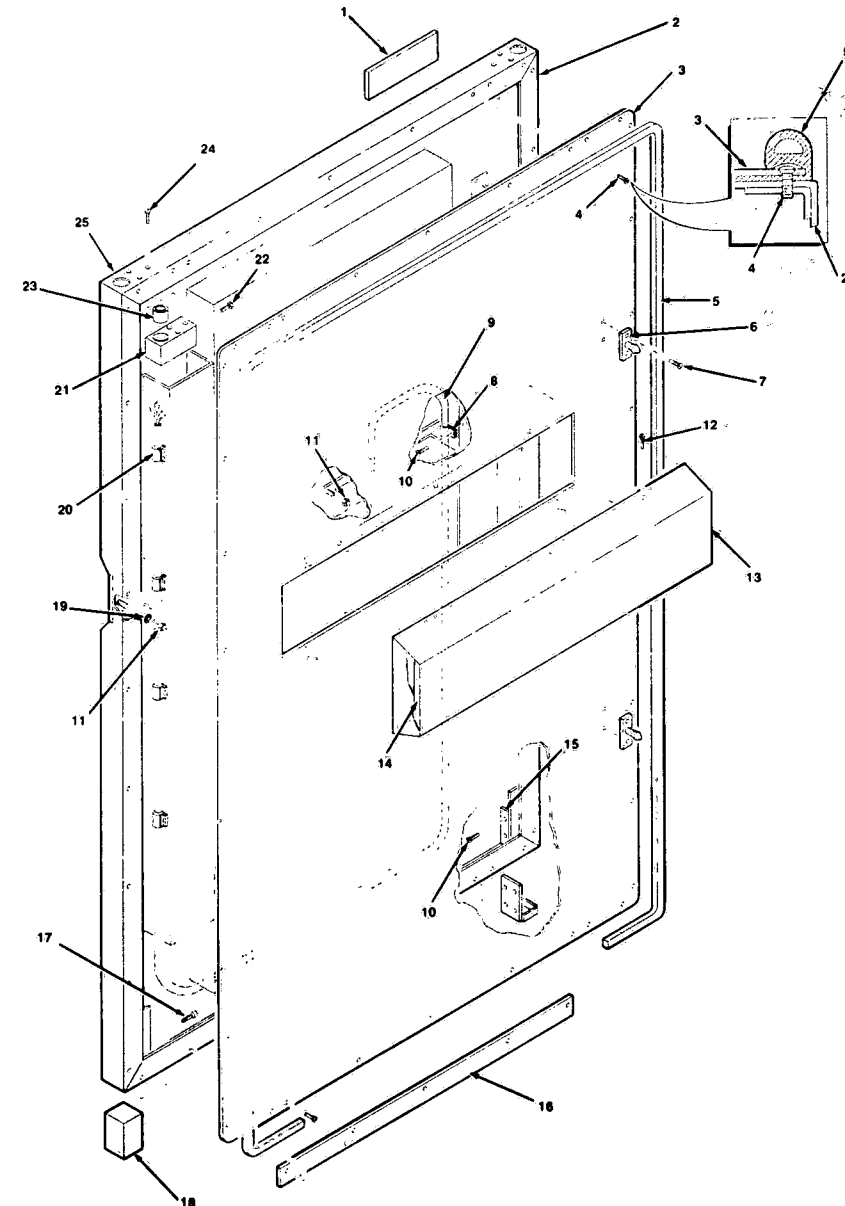


Figure 7-3. DOOR ASSEMBLY.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-3-	P 467954	001	DOOR ASSEMBLY .....	1
1	P 461475	001	• NAME PLATE .....	1
2	P 467949	001	• DOOR WELDMENT .....	1
3	P 461523	001	• COVER BACK DOOR WELDMENT .....	1
4	P 430056	045	• SCREW, Special oval head machine Phillips type 1 (6-32 x 3/8) .....	46
5	P 461521	001	• GASKET DOOR .....	1
6	P 453624	002	• LATCH, Door .....	2
7	P 452518	091	• SCREW, Finishing slotted machine (10-32 x 1/2) .....	4
8	P 26720	091	• CLAMP .....	1
9	P 461465	001	• WIRE HARNESS .....	1
10	P 430002	045	• SCREW, Truss head Phillips type 1 (8-32 x 3/8) .....	3
11	P 430278	045	• NUT (10-32) .....	12
12	P 452747	091	• SCREW, Truss head Phillips machine (6-32 x 3/8) .....	6
13	P 466102	001	• COVER, Door .....	1
14	P 453880	001	• INSULATION, Door Cover .....	1
15	P 461558	001	• BEARING, Cover .....	1
16	P 453879	001	• GASKET THRESHOLD .....	1
17	P 36925	045	• SCREW, Cap socket head (5/16-24 x 5/8) .....	4
18	P 466099	001	• BEARING SUPPORT .....	1
19	P 430482	045	• WASHER (7/32 x 1/2 x .045) .....	2
20	P 431152	091	• WIRE HOLDER .....	6
21	P 461519	001	• BEARING HINGE .....	1
22	P 3846	041	• BOLT, Hex head (1/4-20 x 1/2) .....	4
23	P 453877	001	• BEARING .....	1
24	P 27208	042	• SCREW, Slotted-pan head machine type F (1/4-20 x 3/8) .....	3
25	P 453706	001	• COVER, Top .....	1
26	P 453688	001	• GROMMET (Not Shown) .....	1
27	P 451283	091	• HOLDER, Wire (Not Shown) .....	4

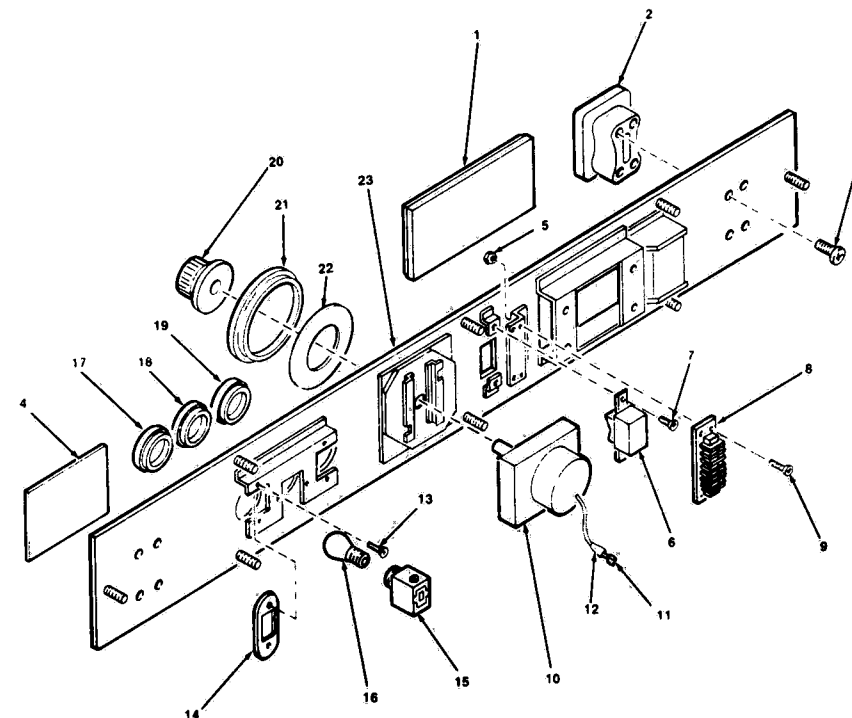


Figure 7-4. DOOR CONTROL PANEL ASSEMBLY.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-4-	P 467969	004	DOOR CONTROL PANEL (R.H.) ASSEMBLY .....	1
	P 467969	005	DOOR CONTROL PANEL (L.H.) ASSEMBLY .....	1
1	P 454101	002	COVER RECORDER .....	1
2	P 466031	001	PULL HANDLE .....	1
3	P 430002	045	SCREW, Phillips truss head (8-32 x 3/8) .....	4
4	P 453972	001	OPERATING INSTRUCTIONS .....	1
	P 467969	001	DOOR CONTROL PANEL ASSEMBLY (Not Shown) .....	1
5	P 430016	045	• NUT, Keps (6-32) .....	4
6	P 82076	001	• POWER SWITCH .....	1
7	P 430397	045	• SCREW, Phillips truss type A (6-32 x 3/8) .....	2
8	P 461559	003	• TERMINAL BLOCK ASSEMBLY .....	1
9	P 450751	091	• SCREW, Truss head Phillips machine (6-32 x 5/8) .....	4
10	P 453993	001	• TIMER .....	1
11	P 430457	091	• TERMINAL CONNECTOR .....	1
12	P 461118	001	• HEAT SHRINK TUBING .....	1
	P 452612	001	• WIRE NUT (Not Shown) .....	1
13	P 12800	042	• SCREW, Phillips truss head (6-32 x 3/16) .....	6
14	P 455016	001	• MOUNTING STRAP (See Note) .....	3
15	P 455015	001	• RECEPTACLE (See Note) .....	3
16	P 453646	091	• BULB .....	1
17	P 90533	010	• LENS, HEAT .....	1
18	P 451416	010	• LENS, OPERATING .....	1
19	P 453656	001	• LENS, POWER .....	1
20	P 453282	001	• INSTRUMENT KNOB .....	1
21	P 90062	034	• BEZEL .....	1
22	P 454004	001	• DECAL, Timer .....	1
23	P 466153	001	• CONTROL PANEL WELDMENT .....	1
24	P 466154	002	• WIRING BUNDLE .....	1
NOTE: See paragraph 6-3 when replacing either or both of these parts.				

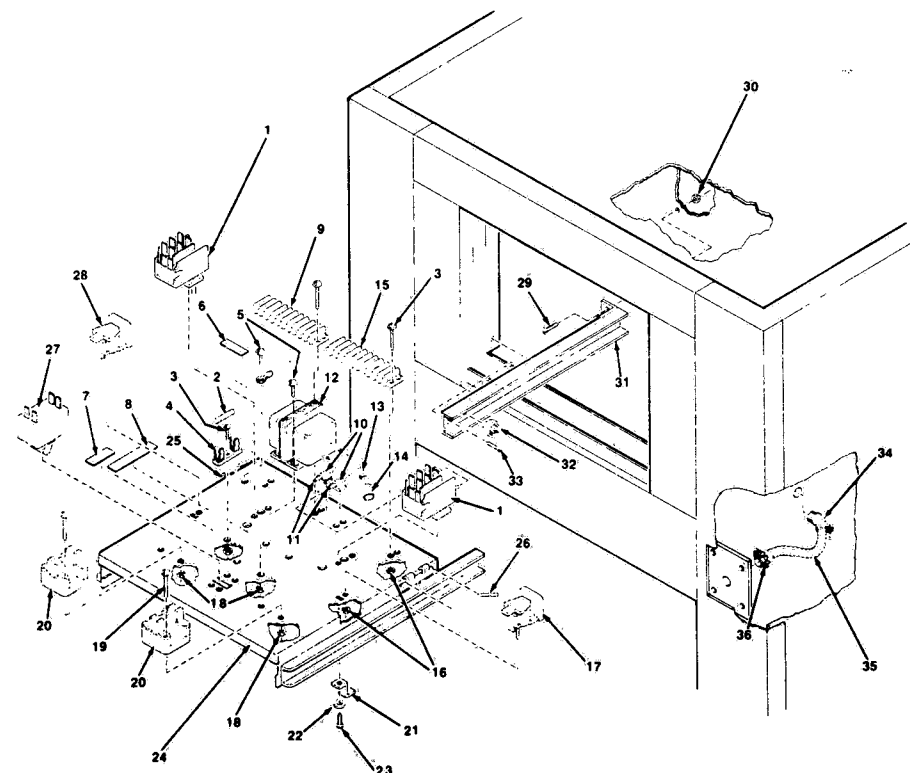


Figure 7-5. CONTROL PANEL ASSEMBLY.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-5-	P 467920	001	CONTROL PANEL ASSEMBLY .....	2
1	P 452088	091	• THERMOSTAT .....	1
2	P 20341	091	• FUSE (1/2 Amp — 3AG) .....	9
3	P 450751	091	• SCREW, Truss machine stainless steel (6-32 x 5/8) .....	1
4	P 453655	001	• FUSE BLOCK .....	7
5	P 452754	091	• SCREW, Truss machine stainless steel (8-32 x 3/8) .....	1
6	P 454201	001	• DECAL, GROUND .....	1
7	P 92615	001	• DECAL, AMP (1/2 AMP) .....	1
8	P 82646	001	• DECAL, WARNING .....	1
9	P 461559	001	• TERMINAL BLOCK .....	2
10	P 451283	091	• CLIP LOCKING .....	2
11	P 453715	001	• TUBING SLEEVE (1/4 OD x 1/8 ID x 12" long) .....	1
12	P 461693	001	• TRANSFORMER .....	5
13	P 461118	001	• TUBING, Heat Shrink (1" x 3/16") .....	3
14	P 430457	091	• CONNECTOR, Terminal .....	1
15	P 461559	002	• TERMINAL BLOCK .....	10
16	P 430016	045	• NUT, Keps lock (6-32) .....	1
17	P 453468	002	• RELAY, Power .....	8
18	P 430015	045	• NUT, Keps lock (8-32) .....	1
19	P 11241	042	• SCREW, Slotted round headed machine (6-32 x 5/8) .....	4
20	P 453466	001	• RELAY, Control .....	2
21	P 453960	001	• SHAFT COVER .....	2
22	P 10863	091	• WASHER, Shakeproof (10-3/16 x 3/8) .....	2
23	P 452747	091	• SCREW, Phillips truss head machine (6-32 x 3/8) .....	4
24	P 466036	001	• CONTROL PAN WELDMENT .....	1
25	P 451255	045	• • DRAWER STOP, L.H. .....	1
26	P 451256	045	• • DRAWER STOP, R.H. .....	1
27	P 452784	002	• CIRCUIT BREAKER .....	1
28	P 453468	001	• RELAY, Power .....	1
	P 431172	091	• TIE, Wire (Not Shown) .....	5
			P-467920-001 and items 29-31 & 33-36 are part of P-467968.	
29	P 430002	045	SCREW, Phillips truss head (8-32 x 3/8) .....	2
30	P 430015	045	NUT, Keps (8-32) .....	2
31	P 461436	001	CASE CHANNEL ASSEMBLY, Left Side .....	1
32	P 430084	091	• BEARING .....	1
	P 461436	001	CASE CHANNEL ASSEMBLY, Right side (Not Shown) .....	1
	P 430084	091	• BEARING (Not Shown) .....	1
33	P 430364	091	SCREW, Spl. oval head machine stainless steel (6-32 x 3/8) .....	2
34	P 453689	001	CONNECTOR (3/4" — 45°) .....	1
35	R 808	425	CONDUIT (3/4") .....	1
36	P 453690	001	CONNECTOR (3/4" — Straight) .....	1

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-6-1	P 453910	002	BLOWER .....	2
	P 466133	001	CHUTE WELDMENT, Left side (Not Shown) .....	1
	P 466133	002	CHUTE WELDMENT, Right side .....	1
2	P 430375	091	SCREW, Slotted pan head machine (1/4-20 x 1/2) .....	16
3	P 451234	045	NUT (4-40) .....	4
4	P 453959	001	PADDLE SWITCH .....	4
5	P 453909	001	FLOW SWITCH .....	2
6	P 451908	045	SCREW, Slotted truss head machine (4-40 x 5/8) .....	4
7	P 430017	045	NUT, Keps (1/4-20) .....	8
8			All items are part of P-467968-001	

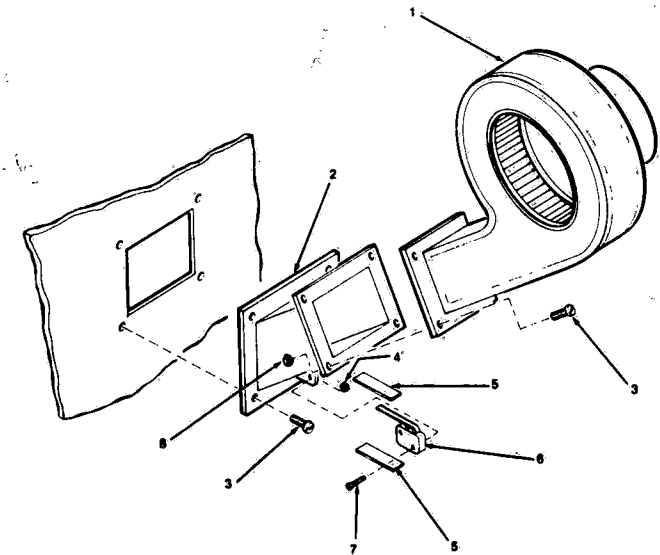
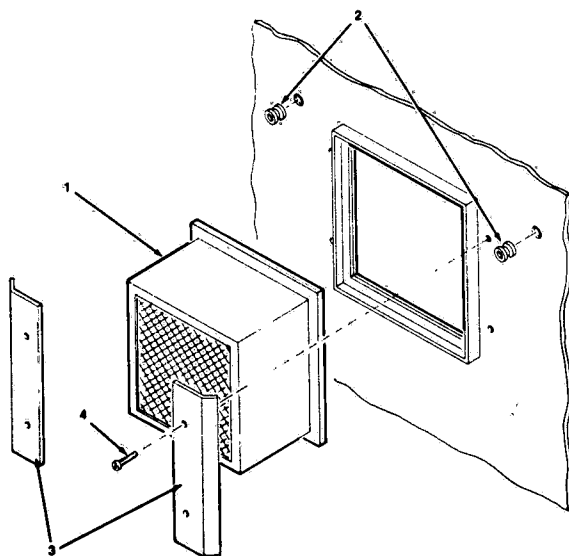


Figure 7-6. BLOWER.

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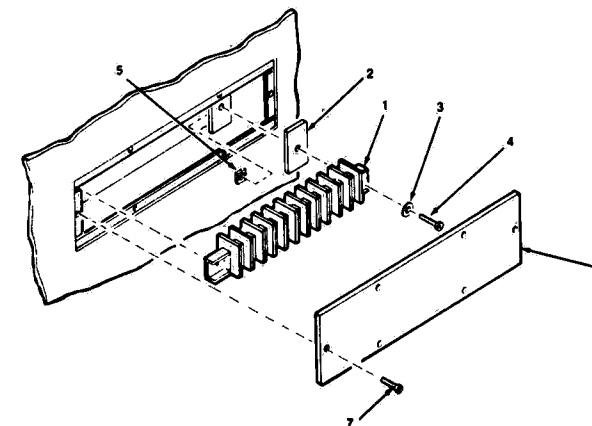
FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-7-1	P 451474	091	FILTER, HEPA .....	2
2	P 430040	091	GROMMET (3/8" ID x 5/8 OD) .....	4
3	P 461315	001	CLAMP, Filter hold down .....	4
4	P 430347	045	BOLT, Hex head cap (1/4-20 x 5/8) .....	4
			All items are part of P-467968-001	



**Figure 7-7. HEPA FILTER.**

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-8-1	P 452660	091	HEATER (1300 W, 120 V) .....	2
2	P 453746	001	SHIM, Asbestos .....	4
3	P 430482	045	WASHER (7/32 x 1/2) .....	4
4	P 3986	041	SCREW (10-32 x 1/2) .....	4
5	P 430422	045	SPEED NUT (10-32) .....	4
6	P 453950	001	COVER, Heater .....	2
7	P 430364	091	SCREW, Spl. oval head machine stainless steel (6-32 x 3/8) .....	12
			All items are part of P-467968-001	



**Figure 7-8. HEATER.**

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This exploded view diagram illustrates the assembly of a mechanical component. The main parts are labeled as follows:

- 1**: A central vertical shaft or tube.
- 2**: A base plate or housing with mounting slots.
- 3**: A bracket or support arm.
- 4**: A long horizontal plate or cover.
- 5**: Two circular flange or gasket components.
- 6**: A small rectangular component, possibly a sensor or actuator.
- 7**: A small pin or fastener.
- 8**: A small rectangular component, similar to 6.
- 9**: A small rectangular component, similar to 6.
- 10**: A small rectangular component, similar to 6.
- 11**: A circular flange or gasket component.
- 12**: A small pin or fastener.
- 13**: A bracket or support arm.
- 14**: A long horizontal plate or cover.
- 15**: Two circular flange or gasket components.

The diagram shows the relative positions and assembly sequence of these parts, with dashed lines indicating the alignment and path of assembly.

**Figure 7-10. EXHAUST STACK.**

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-10-1	P 453985	001	STACK, Exhaust .....	1
2	P 451283	091	CLIP (DK-250) .....	2
3	P 430002	045	SCREW, Phillips truss head (8-32 x 3/8) .....	12
4	P 453917	001	ANGLE ACCESS .....	2
5	P 453464	002	GASKET .....	2
6	P 453712	001	GROMMET, Stack (1/4" ID x 1/2" OD) .....	4
7	P 451234	045	NUT (4-40) .....	2
8	P 453959	002	PADDLE, Switch .....	2
9	P 453909	001	SWITCH, Flow .....	1
10	P 451908	045	SCREW, Slotted truss head machine (4-40 x 5/8) .....	2
11	P 453464	001	COLLAR, Exhaust .....	1
12	P 453603	001	NUT, Wing .....	4
13	P 466139	001	DAMPER .....	1
14	P 461553	001	ACCESS WELDMENT .....	1
15	P 452754	091	SCREW, Phillips truss head machine stainless steel (8-32 x 3/8) .....	10
All items are part of P-467968-001				

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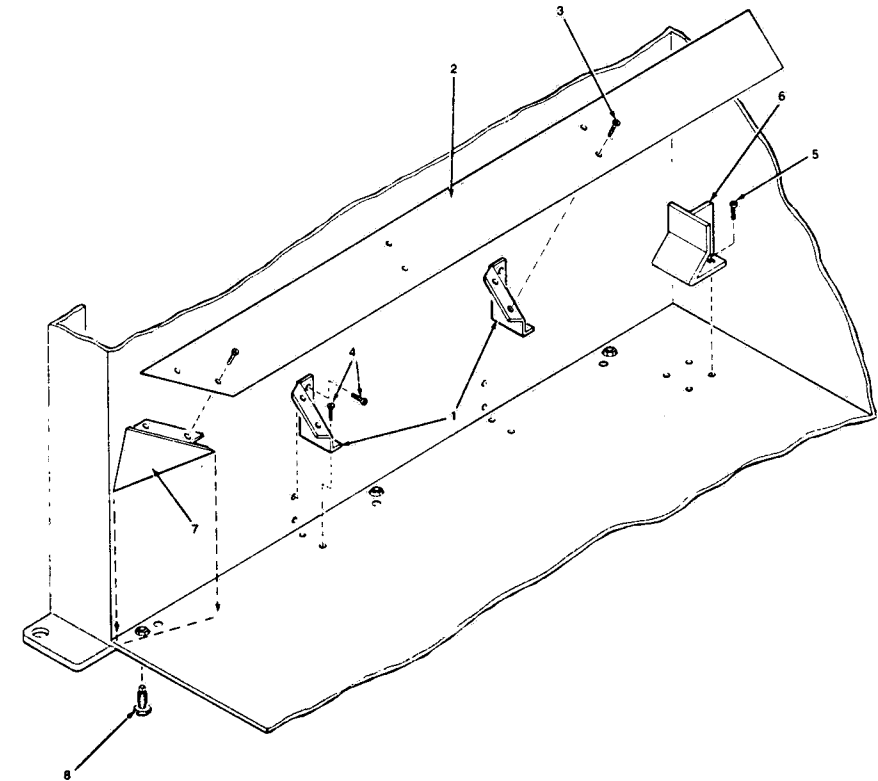


Figure 7-11. GUSSET.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
7-11-1	P 461525	001	GUSSET .....	4
2	P 461544	001	COVER, Gusset (Left side) .....	1
	P 461544	002	COVER, Gusset (Right side) .....	1
3	P 452754	091	SCREW, Phillips truss head machine stainless steel (8-32 x 3/8) .....	12
4	P 430002	045	SCREW, Phillips truss head (8-32 x 3/8) .....	16
5	P 430375	091	SCREW, Slotted pan head machine (1/4-20 x 1/2) .....	8
6	P 466117	001	WHEEL STOP WELDMENT .....	2
7	P 453931	001	END GUSSET (Right side) .....	1
	P 453931	002	END GUSSET (Left side) .....	1
8	P 453542	002	LEG LEVELER .....	6
Items 1-7 are part of P-467968-001 and item 8 is part of P-467967-001				

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**AMSCO  
SERVICE**

**GAS AERATOR  
FLOOR LOADING V - 11  
P-759632-002**

**(7/85)**

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