

AMSCO Maintenance Manual



ETHYLENE OXIDE GAS AERATOR
 Small Medium
 • With Indicator-Recorder
 • Without Indicator-Recorder
 120 V, 60 Hz — 230 V, 50 Hz

(2/89)

P-754262-091

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SAFETY PRECAUTIONS

The following are personnel (WARNINGS) and equipment (CAUTIONS) safety precautions to be observed when operating or servicing the aerator.

WARNING: REPAIRS AND ADJUSTMENTS, OTHER THAN THOSE DESCRIBED IN THESE INSTRUCTIONS, SHOULD BE ATTEMPTED ONLY BY EXPERIENCED PERSONS FULLY ACQUAINTED WITH THIS EQUIPMENT. USE OF INEXPERIENCED, UNQUALIFIED PERSONS TO WORK ON THE EQUIPMENT OR THE INSTALLATION OF UNAUTHORIZED PARTS COULD CAUSE PERSONAL INJURY OR RESULT IN COSTLY DAMAGE.

WARNING: THE ETHYLENE OXIDE MIXTURE USED IN THE STERILIZATION PROCESS HAS TOXIC PROPERTIES. USE CARE IN HANDLING.

WARNING: THIS AERATOR HAS BEEN DESIGNED AND TESTED FOR AERATING GOODS STERILIZED WITH A MIXTURE OF 12% ETHYLENE OXIDE AND 88% DICHLORODIFLUOROMETHANE (BY WEIGHT). USE OF THIS UNIT FOR AERATION OF GOODS TREATED WITH OTHER SUBSTANCES OR MIXTURES IS NOT RECOMMENDED.

WARNING: TURN AERATOR POWER SWITCH AND MAIN POWER SWITCH TO OFF BEFORE STARTING ANY MAINTENANCE FUNCTIONS.

WARNING: ALLOW THE AERATOR AND LOADING EQUIPMENT TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING MAINTENANCE OR CLEANING PROCEDURES.

WARNING: DO NOT ATTEMPT TO OPEN THE DOOR BEFORE COMPLETION OF THE RECOMMENDED AERATION CYCLE AS GOODS MAY BE INADEQUATELY AERATED FOR SAFE HANDLING.

CAUTION: Never use a wire brush or steel wool on door or chamber assembly.

SECTION 1
GENERAL INFORMATION

1.1 APPLICATION AND DESIGN

The product literature included in this section contains factual data relating to principal descriptive and identifying characteristics of AMSCO Small and Medium Gas Aerators. It describes and illustrates general concepts of the equipment, its purposes, capabilities, limitations, and technical specifications.

(NOT USED)

APPLICATION

A companion to the AMSCO ethylene oxide gas 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 a welded cabinet structure supported by a painted, channel-steel base. Leveling screws are furnished for the front shims for the rear. The cabinet includes an upper processing chamber, lower storage chamber, operating controls, and aerating system.

All components necessary to obtain a complete working unit, ready for (but not including) installation and connection to building electric lines and exhaust system are furnished. The Aerator is listed by either Underwriters Laboratories, Incorporated or Canadian Standards Association, as applicable.

Processing Chamber. Inside dimensions are 24-inches wide x 38-inches deep x 28½-inches high (610 x 965 x 724 mm). The chamber is of welded, stainless-steel construction, insulated with a 2-inch (51 mm) thick (nominal) glass-fiber blanket. The bottom of the chamber has a removable perforated panel (to aid air distribution) and tracks for a loading car. There are provisions for securing a loading car carriage while the car is moved in and out of the chamber. Four sets of shelf supports (with stops) are provided. Stainless-steel shelves are optional.

Storage Chamber is of welded, stainless-steel construction. Inside dimensions are 28-inches wide x 15½-inches deep x 22½-inches high (711 x 403 x 581 mm). A perforated stainless-steel shelf, height adjustable in 1-inch (25 mm) increments, is included.

Doors. The processing chamber and storage chamber doors are of double-wall, welded construction, sound deadened with an expanded honeycomb core between the walls. The processing chamber door, with handle-actuated latch, is stainless steel and seals tightly against a heat-resistant gasket. The storage chamber door is painted steel; it has a touch-type opening mechanism.

Each door has semi-concealed, chromium-plated hinges on the left or right side (as specified); door is reversible in the field.

Controls. The hinged, textured-epoxy-steel control panel (with retractable cover) above the processing chamber, contains a power switch; fuse-indicating light; 16-hour timer with a "HOLD" position for extended non-automatic timing; operating directions; and a card holder for load records. Cycle-status lights, adjacent to the controls, indicate when the heaters are actuated and when chamber temperature is within operating range. The heaters are protected by an overtemperature thermostat (with manual reset).

After setting the timer and pressing the power switch, the Aerator automatically:

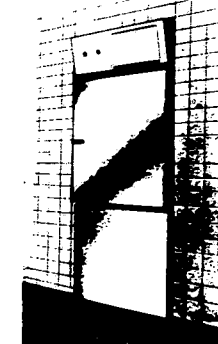
- heats the load to 120 ± 5 F (49 ± 3 C);
- aerates the load with heated, filtered air; and
- times the cycle.

Dependability. Controls are designed for dependable performance. The timer stops if chamber temperature should drop below the set point. And, the heater and timer automatically shut off if specified air flow rate is not maintained, ensuring effective processing.

Aerating System ... concealed behind a removable panel at the rear of the storage chamber, includes two thermostatically controlled (500-watt) electric heaters, a bacteria-retentive filter for incoming air, and a dual-blower fan which produces



Cabinet Enclosed



For Recessing

Typical only — some details may vary.

THE SELECTIONS CHECKED BELOW
APPLY TO THIS EQUIPMENT

Mounting

- ☐ Cabinet Enclosed
☐ For Recessing

Door Hinge

- ☐ Left Side
☐ Right Side

Options

- ☐ Shelves Qty. _____
☐ Loading Car and Carriage (See separate product literature)

Item No. _____

Location(s) _____

(NOT USED)

multiple air changes in the processing chamber every 60 seconds. The blower motor has fused overload protection.

Effluent air is conducted through a vent stack at the top of the Aerator. The stack is designed for connection to a building exhaust system that is vented to the outside.

MOUNTING ARRANGEMENT

The Aerator may be either cabinet enclosed or for recessing, as speci-

fied. The top and side panels of a cabinet-enclosed unit are textured-epoxy steel. A synthetic rubber gasket is included to fit front of Aerator close to the top and side panels, or to the face of a wall if recessed.

MATERIALS HANDLING ACCESSORIES

Options for Processing Chamber.

- One to four shelves, each 23 $\frac{1}{2}$ -inches wide x 37 $\frac{1}{2}$ -inches deep

(600 x 943 mm); shelves are stainless-steel wire rod.

- Loading car and carriage — refer to separate product literature.

FINISH

Exposed, carbon-steel surfaces are degreased, phosphatized and then sprayed with a surface primer and a textured-epoxy coating. Exposed stainless-steel surfaces are polished.

ETHYLENE OXIDE GAS AERATOR

- small
- medium
- cabinet enclosed
- for recessing

TECH DATA

DESCRIPTION

Application. A companion to the AMSCO ethylene oxide sterilizer, this aerator desorbs residual ethylene oxide sterilant mixture (12% ethylene oxide, 88% dichlorodifluoromethane) from gas-sterilized goods, rendering them suitable for patient use. Aeration occurs in a time-efficient manner... as little as 8 hours (at 140 F) versus 7 days for the less effective, ambient-air, open-shelf method.

CHAMBER SIZES

Two chamber sizes are available: 24x28-1/2x38" (610x724x965 mm) and 24x36x60" (610x914x1524 mm).

Standards. Every aerator meets standards and is listed by Underwriters Laboratories, Inc.

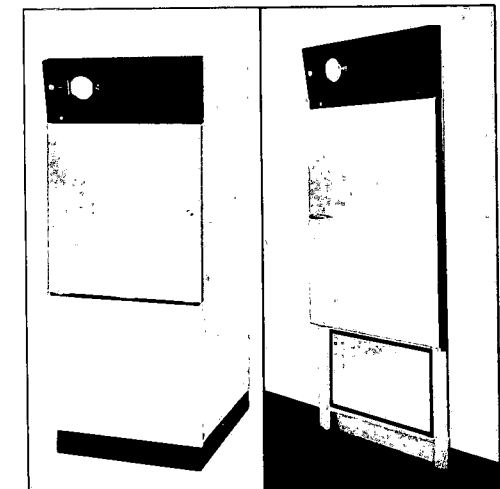
DESIGN FEATURES

Controls

A power switch, fuse-indicating light, 24-hour timer, operating instructions, and temperature selector are located behind a hinged, retractable, textured-epoxy-steel access panel above the processing chamber door.

A Recorder indicates and records the chamber temperature throughout the cycle. The recorder has a 4-inch (102 mm) diameter chart driven by a synchronous (24 hour) timing motor. The recording pen consists of a porous fiber tip and self-contained ink supply housed together in a replaceable cartridge. One hundred charts are furnished.

Status-indicating lights are beside the recorder. The HEAT light comes on to indicate that the heaters (two) are functioning. The OPERATING light indicates that the chamber temperature is within the proper operating range and the timer is timing. Timer is capable of being set on HOLD. A limit thermostat, with manual reset, protects temperature range from exceeding pre-set limits. Both HEAT and OPERATING lights go out when cycle is complete.



Small, Cabinet Enclosed

Medium, Recessed

Typical only — some details may vary
Other Models Available

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Chamber Size

- ☐ Small - 24x28-1/2x38" (610x724x965 mm)
☐ Medium - 24x36x60" (610x914x1524 mm)

Mounting

- ☐ Cabinet Enclosed
☐ For Recessing

Door Hinge

- ☐ Left side
☐ Right side

Materials Handling Accessories

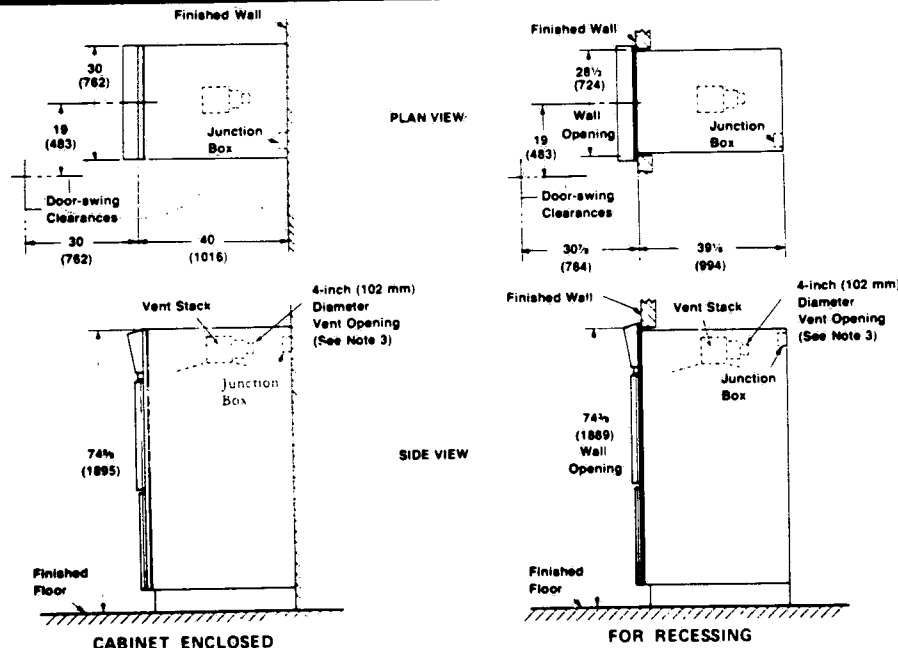
- (See separate product literature)
☐ Shelves for Small Aerator
☐ Loading Car and Carriage for Small Sterilizer and Aerator
☐ Loading Car and Carriage for Medium Sterilizer and Aerator

Item No. _____
Location(s) _____

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DIMENSIONS ARE INCHES (MILLIMETERS) — DRAWING IS NOT TO SCALE

- Connect 120-volt, 60-Hz, 10-amp line to junction box.
- Right-hand door-swing clearances are shown, opposite-hand clearances are identical.
- Connect vent stack on Aerator to building exhaust system that is vented to the outside.
- Approximate weight: 575 lbs (261 kg)
- It is recommended that the Aerator be installed in an area with at least 10 air changes per hour.
- Heat Loss: 1500 BTU/Hr.

CHECK LOCAL CODES

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*.

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

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AMSCO — 1981-1982

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TECHNICAL DATA

Cycle

After selection of the desired temperature and time, and actuation of the power switch to ON, the aerator automatically progresses through the cycle:

- heats the load to selected temperature, 90-140 ±5 F (32-60 C), and records the temperature on the chart.
- aerates the load with heated, filtered, constantly changing air, and continues to record the temperature.
- times the cycle, 0-24 hours (or longer if HOLD position in set) so long as specified temperature range and air-flow rate are maintained. If these requirements are interrupted, timer will also temporarily stop, assuring complete processing

Power Supply Requirement is 120 volts, 60 Hz, single phase. A **junction box** is located behind a cover plate at the rear of the unit. Electrical connections are made behind the lift-up control panel, which is hinged across the entire top edge of the unit.

Processing Chamber. Double-wall, welded, stainless-steel chamber is insulated with 2-inch (51-mm) thick (nominal) **glass-fiber blanket**. On the bottom of the chamber a removable, **perforated panel** aids air distribution. There is a "hook"-slot mechanism for securing a loading car carriage while the car is moved in and out of the chamber, and **tracks**, on the chamber floor guide the loading car. Two chamber sizes of these aerators are available:

- **Small aerator** has chamber measuring 24x28-1/2x38" (610x724x965 mm), and a loading height of 33-3/8" (848 mm). Four sets of **shelf supports** on the chamber walls are provided, with "stops" so shelves can be partially withdrawn and loaded. Stainless-steel **shelves** are optional.
- **Medium aerator** measures 24x36x60" (610x914x1524 mm) inside; loading height is 25" (635 mm).

Chamber Door. Double-wall, welded, stainless-steel door is sound-deadened with an expanded honeycomb core between the walls. A handle-actuated **latch** seals the door tightly against a heat-resistant **gasket**. **Handle** is key-locked for security. Semi-concealed, chromium-plated **hinges** are on the left or right side, as specified; **hinge arrangement** is reversible on site after installation.

Aerating System. Two thermostatically controlled **heaters**, bacteria-retentive permanent **filter(s)** for incoming air, and a dual-blower **fan** which produces multiple air changes each minute are concealed behind a lower access panel. The blower motor has fused **overload protection**.

Effluent air is conducted through a **vent stack** at the top of the aerator. The stack, which includes an **air-flow switch**, is designed for connection (by others) to a nonrecirculating building exhaust system that is vented directly to the outside. Access to the vent stack is through the **removable panel** on the top surface of the unit.

Storage Compartment. (Small aerator only) Welded, stainless-steel compartment with inside dimensions 28x22-7/8x15-7/8" (711x581x403 mm) is located beneath the processing chamber. A perforated, stainless-steel, height-adjustable (in 1" increments) shelf is included. Storage compartment back panel is removable for access to the aerating system. Painted-steel door has touch-type opening mechanism.

Finish. Exposed, carbon-steel surfaces have been degreased, phosphatized, and then sprayed with a surface primer and a textured-epoxy coating. Exposed stainless-steel surfaces are polished.

MOUNTING ARRANGEMENT

The Aerator may be either **cabinet enclosed** or for **recessing**, as specified. The top and side panels of a cabinet-enclosed unit are textured-epoxy steel. A synthetic-rubber gasket is included to fit front of aerator, close to the top and side panels, or to the face of a wall if recessed.

MATERIALS HANDLING ACCESSORIES

Options for Processing Chamber

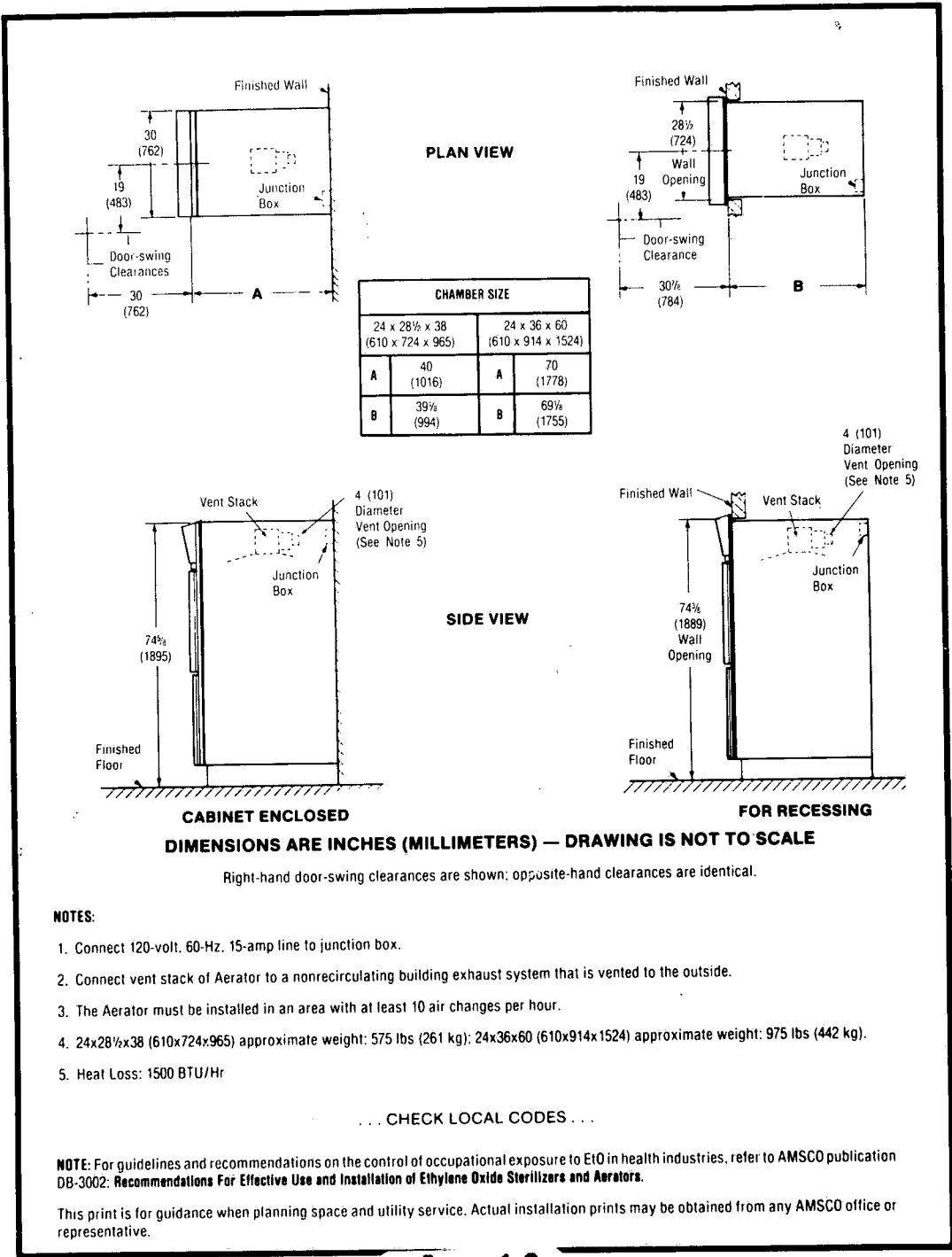
- Shelves (for small aerators only), each 23-5/8x37-1/8" (600x943 mm), constructed of stainless-steel wire rod. Aerator accommodates one to four shelves.
- Loading cars and carriages, in either size. (See separate product literature.)

**Recommendations regarding the construction and placement of vent systems are included in AMSCO publication DB-3002: Recommendations for Effective Use and Installation of Ethylene Oxide Sterilizers and Aerators.*

Engineering Data

Chamber Size in (mm)	Electricity Amps	Heat Loss BTU/hr at 70 F (21 C)	Air Flow* (at stack) CFM (cmm)	Static Pressure* (in chamber) inches H ₂ O gauge
	120 V, 60 HZ, 1 Ph			
24x28-1/2x38 (610x724x965)	15	1500	40 (1.2)	.01
24x36x60 (610x914x1524)	15	1500	30 (.9)	.01

*Empty chamber condition



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SECTION 2

OPERATING INSTRUCTIONS (AERATOR WITHOUT INDICATOR-RECORDER)

2.1 GENERAL

The Aerator without indicator-recorder includes heated processing chamber; operating controls; and aerating system. The small (38") Aerator also includes a lower (unheated) storage chamber. When in operation, air passes through or around the load in the heated chamber and is vented to the outside atmosphere, according to local building codes.

The aerating system provides the upper chamber with at least one change of filtered air per minute. The temperature in the upper chamber is simultaneously and thermostatically maintained within a range of 114 to 130 F.

The operating controls include an indicating fuse, an OFF-ON switch, and an adjustable timer. The timer has a range of one to sixteen hours and a hold position for non-timed continuous operation. The timer will function only when the temperature in the upper chamber is within the operating range of 114 to 130 F. Cycle-status lights on the main control panel indicate when the timer is operating and when the heaters are functioning.

2.2 OPERATION

WARNING: THE ETHYLENE OXIDE MIXTURE USED IN THE STERILIZATION PROCESS HAS TOXIC PROPERTIES. USE CARE IN HANDLING.

WARNING: THIS AERATOR HAS BEEN DESIGNED AND TESTED FOR AERATING GOODS STERILIZED WITH A MIXTURE OF 12% ETHYLENE OXIDE AND 88% DICHLORODIFLUOROMETHANE (BY WEIGHT). USE OF THIS UNIT FOR AERATION OF GOODS TREATED WITH OTHER SUBSTANCES OR MIXTURES IS NOT RECOMMENDED.

1. Place the load to be aerated in the processing chamber. Allow 3" clearance between the goods and the chamber walls.

a. If loading car is used, guide the carriage "hook" into the slot below the chamber bottom panel. Release the loading car from the carriage and push car to the rear of the chamber.

b. If shelves are used (38" Aerator), pull the shelves out against the "stops." Load the goods in the center of the shelves and return the shelves to the rear of the chamber.

2. Set the TIMER to the desired cycle length, as established by your hospital medical staff. The timer must be set (or placed in the HOLD position) before the heaters will operate.

NOTE: If the recommended aeration period is greater than 16 hours, set the TIMER on HOLD. Then proceed with the instructions in step 3 below. (When using the TIMER in this manner, add 1/2 hour to the recommended aeration time to compensate for heat-up time.) Upon expiration of the desired aerating time, the TIMER must be manually turned to OFF.

3. Press POWER SWITCH to ON; the HEAT indicator light will glow. The OPERATING indicator light will glow when the temperature in the processing chamber reaches 114 to 130 F, and the TIMER will start.

4. When the cycle is complete (or the TIMER is turned to OFF ... see note above) the HEAT indicator light will go out and the load may be removed from the chamber.

WARNING: DO NOT ATTEMPT TO OPEN THE DOOR BEFORE COMPLETION OF THE RECOMMENDED AERATION CYCLE AS GOODS MAY BE INADEQUATELY AERATED FOR SAFE HANDLING.

NOTE: If electric service fails WHILE A CYCLE IS IN PROGRESS, turn the POWER SWITCH to OFF and keep door closed ... reinitiate cycle when service is restored.

OPERATING INSTRUCTIONS (AERATOR WITH INDICATOR-RECORDER)

The information in this section, if followed carefully, will provide optimum equipment performance. It will not compensate for failure to understand and observe the parameters of the aeration process.

2.3 BEFORE OPERATING THE EQUIPMENT

AERATION OF MATERIALS FOLLOWING STERILIZATION WITH ETHYLENE OXIDE

Following gas sterilization, most materials retain some ethylene oxide which is hazardous to humans, and, therefore, **must** be aerated.

However, determination of proper aerating parameters (time/temperature) must rest with manufacturer of the individual products being processed and the responsible medical personnel. It is important that such personnel instruct sterilizer operators concerning adequate aeration of goods following gas sterilization.

WARNING: THE ETHYLENE OXIDE MIXTURE USED IN THE STERILIZATION PROCESS HAS TOXIC PROPERTIES. USE CARE IN HANDLING.

WARNING: THIS AERATOR HAS BEEN DESIGNED AND TESTED FOR AERATING GOODS STERILIZED WITH A MIXTURE OF 12% ETHYLENE OXIDE AND 88% DICHLORODIFLUOROMETHANE (BY WEIGHT). USE OF THIS UNIT FOR AERATION OF GOODS TREATED WITH OTHER SUBSTANCES OR MIXTURES IS NOT RECOMMENDED.

2.4 PRIOR TO AERATION

1. Prior to aeration, sterilize goods according to manufacturers' recommendations, and in compliance with AMSCO's guidelines (publication DB-3002). Should you need information regarding sterilization equipment, call your AMSCO representative.

2. At conclusion of sterilization cycle, open sterilizer door 2 inches, wait 15 minutes before removing load. During this 15-minute period personnel should leave area.

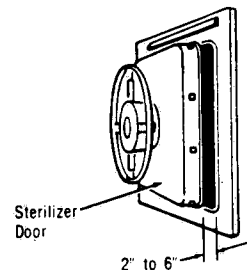


Figure 2-1. WAIT AT LEAST 15 MINUTES BEFORE REMOVING LOAD FROM STERILIZER.

3. After 15 minutes, remove load from sterilizer, then **immediately** move it, preferably by loading car, directly to the aerator by **pulling** the sterilized load from the sterilizer to the aerator so that the flow of air over the load is away from the operator. If processed items must be handled, use protective gloves. Do not allow the sterilized load to remain idle in the room before aeration, as outgassing will occur.

2.5 LOADING THE AERATOR

1. Load the aerator, being sure that all packages are placed on edge and arranged so that air can circulate freely. Do not allow packages to touch chamber walls. Provide at least 3 inches of space between the chamber ceiling and the topmost packages of the load.

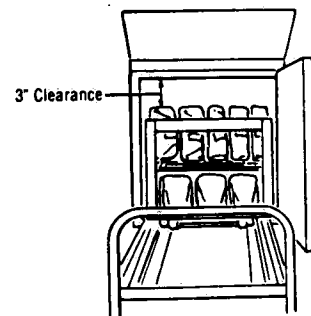


Figure 2-2. PLACE PACKAGES ON EDGE.

2-2
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B- 1

- If loading car and carriage are used, guide the carriage "hook" into the slot below the chamber bottom panel. Release the loading car from the carriage and push car to the rear of the chamber.

- If aerator is equipped with shelves, pull shelves out against the "stops." Load the goods as described above and return shelves to the inside of the chamber.

2. As soon as aerator is loaded, close door and lock with key provided. Do not open door until aeration cycle is completed.

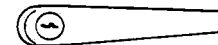


Figure 2-3. KEYLOCK HANDLE.

2.6 SETTING THE CONTROLS

1. Be sure that a new recorder chart is in place. To install a new chart, take the following steps:

- Open door by turning locking screw counter-clockwise.
- Lift pen, using pen lifter.
- Slip chart under raised pen arm and place chart hole over hub.
- Arrange edge of chart under chart guides and time-index clip.
- Push chart flat against dial plate.
- With coin or screwdriver, rotate chart hub until correct time-scale line on chart coincides with time-index clip.

To replace a chart:

- Open door by turning locking screw counter-clockwise.
- Lift pen, using pen lifter.
- Slip edge of chart out from under chart clips and lift chart off hub.
- Slip new chart under raised pen arm and place chart hole over hub.
- Arrange edge of chart under chart guides and time-index clip.
- With coin or screwdriver, rotate chart hub until correct time-scale line on chart coincides with time-index clip.

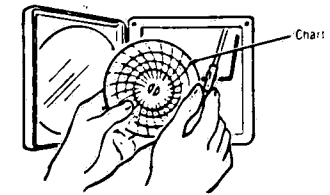


Figure 2-4. CHANGING THE CHART.

2. Set the TEMPERATURE CONTROL dial to the setting established by the responsible hospital staff member. Range is 90-140 F (32-60 C).

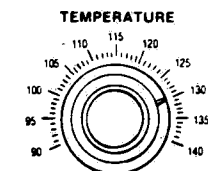


Figure 2-5. TEMPERATURE CONTROL DIAL.

The following tabulation illustrates the effects of elevated temperature and operation on reduction of residual ethylene oxide. The aeration times shown are based on time required for aeration of polyvinylchloride (PVC), the most common material requiring the longest time to aerate. Aeration recommendations for specific devices should be obtained from the device manufacturer.

TABLE 2-1. SAMPLE TIME-TEMPERATURE RELATIONSHIPS FOR REDUCTION TO SAFE LEVELS OF ETHYLENE OXIDE GAS STERILANT RESIDUALS FROM POLYVINYLCHLORIDE

Ethylene Oxide Mixture (12% Ethylene Oxide and 88% dichlorodifluoromethane)	Time (hours) required for reduction of residual ethylene oxide to levels safe for patient use.
Ambient Temperature	168
100 F	20
120 F	12
140 F	8

2-3
754262-091

B- 2

3. Set the **TIMER** to desired cycle length, as established by the responsible hospital staff member:

- 24 hours or less: timer is automatic.
- More than 24 hours: set timer to **HOLD**, calculate 1/2 hour additional (heat-up) time to prescribed time. (Timer must be manually turned to **OFF** at end of cycle.)

4. Press **POWER** switch to **ON**. **HEAT** light will come on, indicating that heaters (2) are functioning. After a short time, **OPERATING** light will come on, indicating that the chamber is within the proper temperature range and the **TIMER** is cycling.

NOTE: In case of a power failure, timer will stop timing, so that when power is restored, cycle will continue and fulfill total time selected.

2.7 UNLOADING THE AERATOR

WARNING: DO NOT ATTEMPT TO OPEN THE DOOR BEFORE COMPLETION OF THE RECOMMENDED AERATION CYCLE AS GOODS MAY BE INADEQUATELY AERATED FOR SAFE HANDLING.

1. When cycle times out, **HEAT** and **OPERATING** lights will go out. If extended cycle was selected, manually turn timer to **OFF** at end of prescribed time.
2. Unlock door.
3. Remove goods from chamber.
4. Remove chart. Sign, date, and store it with records.

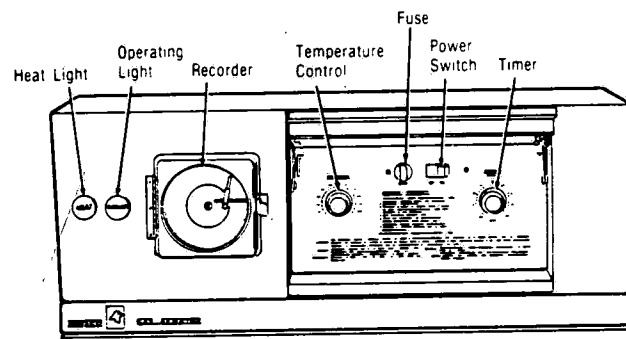


Figure 2-6. AERATOR OPERATING CONTROLS.

SECTION 3

INSPECTION AND MAINTENANCE (AERATOR WITHOUT INDICATOR-RECORDER)

3.1 GENERAL

Maintenance procedures described in paragraphs 3.2 through 3.5 should be performed at regular intervals, as indicated. The frequency indicated is the minimum, and should be increased if usage demands. Should a problem occur, refer to Section 5, TROUBLESHOOTING, TABLE 5-1 for the Aerator without indicator-recorder.

WARNING: REPAIRS AND ADJUSTMENTS, OTHER THAN THOSE DESCRIBED IN THESE INSTRUCTIONS, SHOULD BE ATTEMPTED ONLY BY EXPERIENCED PERSONS FULLY ACQUAINTED WITH THIS EQUIPMENT. USE OF INEXPERIENCED, UNQUALIFIED PERSONS TO WORK ON THE EQUIPMENT OR THE INSTALLATION OF UNAUTHORIZED PARTS COULD CAUSE PERSONAL INJURY OR RESULT IN COSTLY DAMAGE.

WARNING: TURN AERATOR POWER SWITCH AND MAIN POWER SWITCH TO **OFF** BEFORE STARTING ANY MAINTENANCE FUNCTIONS.

3.2 ROUTINE INSPECTION

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

2. Remove lower panel for access to aerating system:

Small (38") Aerator — Open storage chamber door and remove shelf. Then, using a screwdriver, rotate each of the four latches 90 degrees to remove the back panel.

Medium (60") Aerator — Remove screws that secure panel to chassis.

- a. Inspect the limit thermostat located on the heater cover (Fig. 3-1). The reset button should be in the depressed position.
 - b. Remove the heater and blower covers.
 - c. Check heaters, blower, and thermostat for loose wires or improper connections (Fig. 3-1).
 - d. Check for tight seals around the heater and fan shells. Operate fan to check for vibrations (Fig. 3-1).
 - e. Replace covers, panel, and shelf as applicable (Fig. 3-1).
3. Open the control panel.
 - a. Remove screws from bottom of panel, grasp panel at bottom edge, pull forward and up.

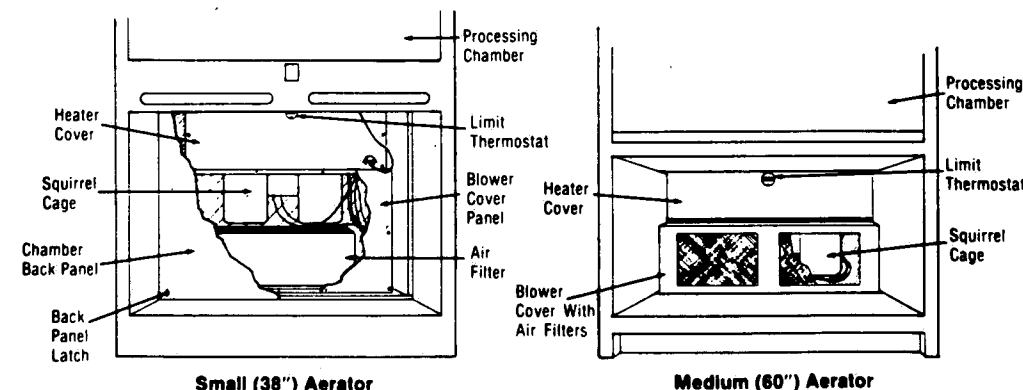


Figure 3-1. AERATING SYSTEMS.

b. Check controls for loose wires or improper connections.

c. Lower panel and replace screws.

4. Inspect gasket on processing chamber door. Replace it if it is brittle, has cracks, or leaks have been detected (see Paragraph 6.1 COMPONENT REPLACEMENT AND REPAIR, step 4). Check operation of the door latch mechanism.

5. Operate the Aerator for a complete cycle. During cycle, observe the HEAT and OPERATING indicating lights. Be sure both are working. Replace lights if necessary (see Paragraph 6.5, COMPONENT REPLACEMENT AND REPAIR, step 3).

3.3 PREVENTIVE MAINTENANCE

DAILY

1. Wash cabinet surfaces and chamber interiors with a mild detergent solution such as Calgonite® (Calgon Corporation).

CAUTION: Never use a wire brush or steel wool on door or chamber assembly.

2. Rinse with tap water using a sponge or damp cloth.

3. Dry with a lint-free cloth.

NOTE: To keep your aerator and loading equipment looking like new, AMSCO recommends an occasional application of Pry Cream™ to the non-painted surfaces. Pry Cream is available from your AMSCO representative.

MONTHLY

Inspect air filter(s) (To gain access, see Paragraph 3.2, ROUTINE INSPECTION, step 2). If filter is clogged with dirt, remove as follows:

1. Loosen the screws on the slide clamps which hold filter to shell (Fig. 3-2).

2. Slide clamps back and remove filter.

3. Clean the filter with a vacuum cleaner or replace it (if necessary). The filter should be replaced if there is any doubt about its operating efficiency.

NOTE: If aerator is located in a high-dust or -lint area, more frequent changing of filters may be required.

4. Reposition the filter and secure slide clamps.

5. Replace blower cover and panel.

QUARTERLY

Check air outlet on top of aerator, to be sure it is tightly connected to the atmospheric, dedicated exhaust system, and there are no leaks.

Oil door hinges as follows:

1. Place a few drops of motor oil (SAE 20 or 30) on hinge pin.

2. Work oil into hinge by opening and closing door several times.

3. Remove excess oil.

NOTE: It may be necessary to service hinges more often if unit is installed in an area with high dust level.

WARNING: ALLOW THE AERATOR AND LOADING EQUIPMENT TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING MAINTENANCE OR CLEANING PROCEDURES.

3.4 LUBRICATION

The motor should be lubricated every six months with 10 to 20 drops of SAE 10W or 20W non-detergent oil (ML-Type) or with electric motor oil.

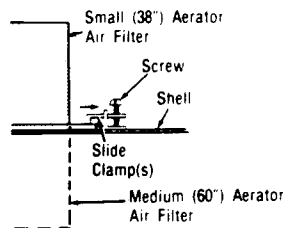


Figure 3-2. CLAMP ASSEMBLY.

INSPECTION AND MAINTENANCE (AERATOR WITH INDICATOR/RECORDER)

WARNING: REPAIRS AND ADJUSTMENTS, OTHER THAN THOSE DESCRIBED IN THESE INSTRUCTIONS, SHOULD BE ATTEMPTED ONLY BY EXPERIENCED PERSONS FULLY ACQUAINTED WITH THIS EQUIPMENT. USE OF INEXPERIENCED, UNQUALIFIED PERSONS TO WORK ON THE EQUIPMENT OR THE INSTALLATION OF UNAUTHORIZED PARTS COULD CAUSE PERSONAL INJURY OR RESULT IN COSTLY DAMAGE.

WARNING: TURN AERATOR POWER SWITCH AND MAIN POWER SWITCH TO OFF BEFORE STARTING ANY MAINTENANCE FUNCTIONS.

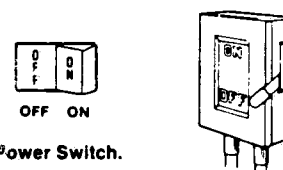


Figure 3-3. ELECTRICAL DISCONNECT.

3.5 AS NECESSARY

1. Replace burned-out pilot lights.

a. Remove screws from bottom edge of control panel so that panel can be flipped up along top hinged edge.

b. Remove pilot light assembly screws.

c. Turn light to the left one-eighth turn, then pull straight out.

d. Replace with fresh bulb.

2. Replace burned-out fuses (indicated when fuse-holder cap fails to glow when power switch is turned on).

a. Push in on fuse holder and turn one-quarter turn to the left to release.

b. Pull straight out.

c. Replace fuse.

d. Gently insert fuse-holder into place and turn a quarter-turn to the right to lock into place.

NOTE: Repeated fuse burnouts indicate a short circuit or overload, and the trouble should be located and corrected by a fully trained service technician.

3. Replace ink-depleted pen cartridges.

a. To remove the cartridge,

• Lift pen, using pen lifter (Fig. 3-4).

• Grasp cartridge near tip, between thumb and forefinger. If cartridge has a metal retaining clip, note the approximate clip position.

• Pull steadily, in a straight line, being careful not to distort the pen arm.

b. To install a cartridge with a removable metal clip,

• Lift pen, using pen lifter.

• Hold cartridge retaining clip open and slide cartridge into clip.

• Guide cartridge until the tip boss is centered in the V-cut at the end of the pen arm.

c. To install a cartridge with a one-piece, hinged plastic clip,

• Lift pen, using pen lifter.

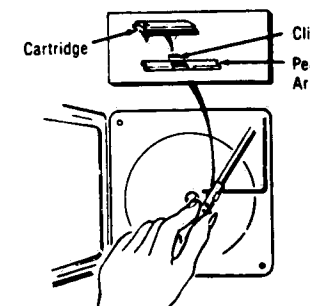


Figure 3-4. CHANGING THE CARTRIDGE.

- Lay cartridge on the pen arm with the tip boss centered in the V-cut.

- Press hinged retainer and snap it closed around the pen arm, being careful not to distort the pen arm.

3.6 DAILY

WARNING: ALLOW THE AERATOR AND LOADING EQUIPMENT TO COOL TO ROOM TEMPERATURE BEFORE PERFORMING MAINTENANCE OR CLEANING PROCEDURES.

Clean chamber and loading equipment (Fig. 3-5) as follows:

1. Wash inside of aerating chamber and loading equipment with a mild detergent solution such as Calgonite® (Calgon Corp.).

CAUTION: Never use a wire brush or steel wool on door or chamber assembly.

2. Rinse all surfaces with tap water using a sponge or wet cloth.

3. Dry all surfaces with a lint-free cloth.

NOTE: To keep your aerator and loading equipment looking like new, AMSCO recommends an occasional application of Pry Cream™ to the nonpainted surfaces. Pry Cream is available from your AMSCO representative.

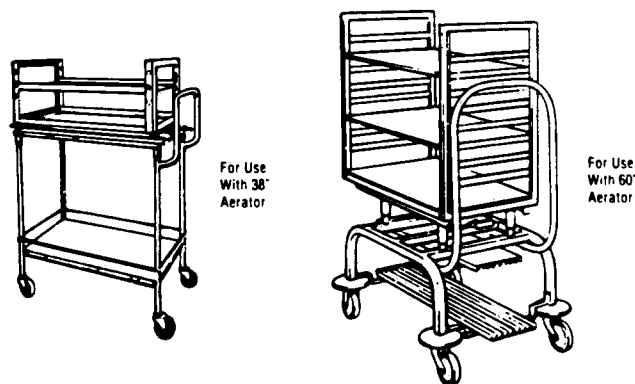


Figure 3-5. LOADING CARTS.

3.7 MONTHLY

Inspect and clean or repair air filter(s) (Fig. 3-6).

1. To gain access to the air filter:

- a. In a 38" aerator: Touch-open the lower (storage compartment) door, remove shelf, and with screwdriver, rotate each of the four latches on panel located at rear of compartment. Remove panel.

- b. In a 60" aerator: Remove the screws that secure the lower front panel to the chassis.

2. To remove and clean a dirt-clogged filter:

- a. Loosen the screws on the side clamps which hold the filter in place.

- b. Slide the clamps back and remove the filter.

- c. Clean the filter with a vacuum cleaner.

or

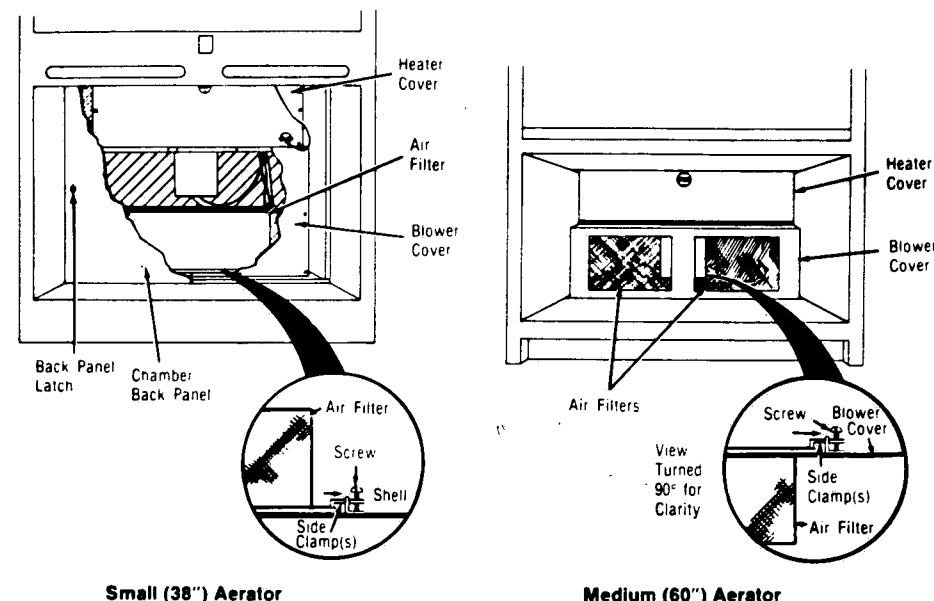
If there is any doubt about the operating efficiency of the filter, replace it.

NOTE: If aerator is located in a high-dust or -lint area, more frequent changing of filters may be required.

3. To replace filter:

- a. Reposition filter and secure side clamps.

- b. Replace the cover and panels.



Small (38") Aerator

Medium (60") Aerator

Figure 3-6. AIR FILTERS.

3.8 QUARTERLY

1. Check air outlet on top of aerator, to be sure it is tightly connected to the atmospheric, dedicated exhaust system, and there are no leaks.

2. Lubricate door hinge (Fig. 3-7) by placing a few drops of heavy machine oil (SAE 20 or 30) on hinge pins. Work oil into hinge by opening and closing door several times.

3. Inspect door gasket (Fig. 3-7). If it is brittle or cracked, or a leak has been detected around the door, replace gasket as follows:

- a. Lift gasket slightly to expose the screws securing the gasket to the inside door plate.

- b. Remove screws and gasket from plate.

- c. Clean the plate.

- d. Position new gasket in place and secure to the plate using the screws previously removed.

- e. Check to be sure that gasket forms a tight seal when door is closed.

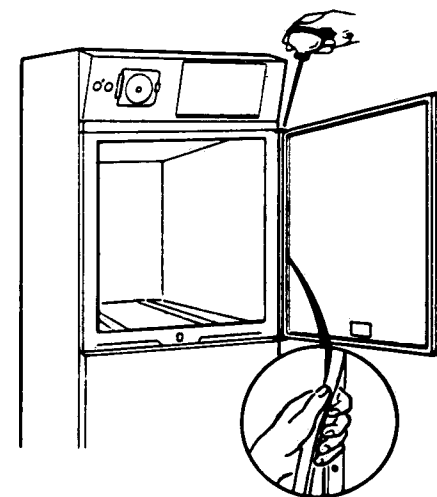


Figure 3-7. LUBRICATING DOOR HINGE AND REPLACING DOOR GASKET.

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SECTION 4

FIELD TEST PROCEDURE

Test Instrumentation Required:

1. Potentiometer.

For General Testing:

1. Inspect cabinetry for dents, scratches, or misaligned parts.
2. Remove lower panel to expose fan and heater shells. Be sure the limit thermostat is in the reset position. Check for loose wires or improper connections, loose seals around the heater and fan shells; operate the fan to check for vibrations.
3. Replace the lower panel and open the hinged main control panel exposing the wiring and controls. Check for loose wires or improper connections. Fasten the control panel in its proper position.

Calibrate the temperature controller as follows:

1. Turn power to the unit OFF.
2. Install thermocouple into center of chamber.
3. Turn power to the unit ON and rotate the potentiometer shaft until unit heats up to 130 F (monitor temperature on potentiometer.)
4. Without rotating the potentiometer shaft, put knob on the potentiometer shaft within the indicator mark exactly opposite the 130 mark on the panel. Tighten the set screw in the knob.
5. Turn the power to the unit OFF. Remove the potentiometer.

POSITION ONE POTENTIOMETER LEAD AT THE CENTER OF THE CHAMBER APPROXIMATELY 12" TO 14" BELOW THE EXHAUST OPENING.

Make the necessary electrical connections.

1. Move air flow switch paddle to ON position by using wire or hook to manually engage paddle.
2. Small (38") units: Block the exhaust opening.

3. Medium (60") units: Block the exhaust opening and cover filters in bottom of compartment.

4. Actuate the main power switch.

5. Set the timer for two (2) hours.

6. The limit thermostat must kick out within 35 minutes.

7. Small (38") Units: After the limit thermostat has kicked out, open the exhaust blockage and reset the thermostat. Remove air flow switch blocking device.

8. Medium (60") Units: After the limit thermostat has kicked out, open the exhaust blockage, remove the covers over the filters and reset the thermostat. Remove air flow switch blocking device.

SET THE TEMPERATURE DIAL AT 130 F, THE TIMER AT TWO (2) HOURS AND START A CYCLE. THE HEAT LIGHT SHOULD COME ON IMMEDIATELY

1. Note and record when the operating light comes on. The cycle timer must start at this point.

2. When the chamber temperature stabilizes, compare the center of chamber thermocouple read to the dial setting on the adjustable temperature control dial. The reading must agree within ± 5 F; if not, remove the control dial and adjust so it falls within this band.

3. With the chamber temperature stabilized, compare the center of chamber thermocouple reading to the indicator-recorder reading. Adjust the recorder if necessary so the readings agree within ± 2 F.

4. Test the air flow switch for proper operation by blocking exhaust outlet. Repeat several times. Proper operation of air flow switch causes operating light to go out and heater current to stop. Record proper operation on test record.

CHARTING CYCLES

1. Conduct a 100 F and a 140 F charting cycle.
2. When the unit has reached operating temperature, with the operating light on and the cycle timer running, the following must be checked, met and recorded.
3. The temperature control dial setting must agree with the center of chamber thermocouple reading within ± 5 F.
4. The temperature recorder must agree within ± 2 F of the center of chamber thermocouple reading.

If any adjustments are required, the charting cycles must be repeated.

SECTION 5

TROUBLESHOOTING (AERATOR WITHOUT INDICATOR-RECORDER)

This section contains detailed information for locating and correcting the cause of malfunctions.

TABLE 5-1. TROUBLESHOOTING CHART

PROBLEM	CORRECTION
1. HEAT or OPERATING indicator light is inoperative.	Check Main Control Fuse; replace if necessary. Check Pilot Lamp; replace if necessary. Check Timer operation. See step 6.
2. Blower is inoperative.	Check motor for overheating; if necessary, press POWER SWITCH to OFF and allow heat to dissipate. Check Fuse in blower circuit; replace if necessary. Check if blower motor is burned out; replace blower assembly if necessary.
3. Both heaters are inoperative.	Reset Limit Thermostat. (See 3.2 ROUTINE INSPECTION, step 2.) Clean or replace Air Filter if clogged. (See 3.3, PREVENTIVE MAINTENANCE.) Check that Timer is set for cycle time or it is in the HOLD position. Check Timer switch; replace Timer if necessary. Check Air Flow switch; replace switch if necessary.
4. Heat indicator glows but unit does not heat up.	Check heaters; replace faulty heater if necessary. Check Control Thermostat; replace if necessary.
5. Heaters and blower are inoperative.	Check Main Control Fuse; replace if necessary. Check Power Switch; replace if necessary.
6. Timer will not cycle.	Check Heaters; refer to steps 3, 4, and 5 above. Check Timer Thermostat; replace if necessary. Check Timer; replace if necessary.

TROUBLESHOOTING

(AERATOR WITH INDICATOR-RECORDER)

This section describes the types of aerator malfunctions that sometimes occur and indicates probable causes.

The wiring schematics that follow the chart show items that commonly require minor maintenance from time to time. The Troubleshooting Chart describes common malfunctions, possible causes and corrections.

If you are unable to correct the problem with the use of the Troubleshooting Chart, or if a problem occurs not described on the chart, please call your AMSCO representative who will arrange to have your equipment promptly put into working order by a factory-trained representative. *Never permit unqualified persons to work on the aerator.*

TABLE 5-2. TROUBLESHOOTING CHART

PROBLEM	CORRECTION
1. No power.	Check main power source — turn on. Check POWER switch on top panel — turn on.
2. HEAT and OPERATING lights do not come on.	Bulb burned out — replace.
3. Blower doesn't run.	Power switch is OFF — turn switch to ON. Fuse on control panel is blown — replace. Motor is overloaded — turn POWER switch to OFF and allow motor to cool.
4. Blower is noisy.	Blower mount is loose — tighten.
5. Heaters don't operate.	Timer improperly set — set timer to proper cycle time or to HOLD position. Limit thermostat on heater cover has been actuated — press thermostat button to reset. Filter is clogged — clean or replace filter. Timer switch is faulty — replace timer. Air flow is impeded — clean vent and exhaust outlets. Air flow switch is bad — replace. Temperature control is bad — replace. Temperature sensor is bad — replace.

PROBLEM	CORRECTION
6. HEAT light comes on but unit does not heat up.	TEMPERATURE dial is not properly set — reset if necessary. One of the heaters is bad — replace. Control thermostat at top of processing chamber is bad — replace.
7. Heaters and blowers do not operate.	Fuse is blown — replace. Main power switch is bad — replace.
8. Timer doesn't run.	Heaters are not working (see 5 and 7). Limit thermostat at top of processing chamber is bad — replace. Timer is bad — replace.
9. Limit thermostat trips frequently.	Filter is clogged -- clean or replace. Obstruction in exhaust system -- remove obstruction. Blower is bad -- replace.
10. EtO is detected in area (and emergency plan has been called).	Door gasket is not snug — replace. Add extra thickness at bottom corners of door if necessary. Air outlet at top of aerator is not properly fitted to atmospheric exhaust — adjust or replace connections.

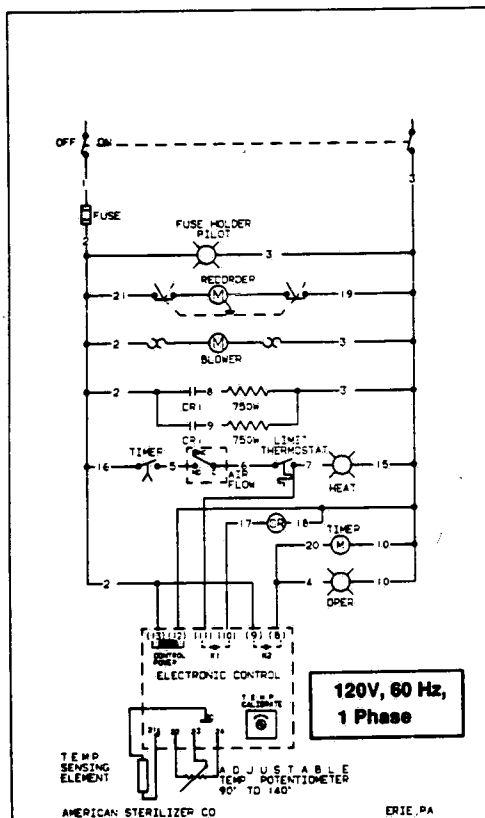
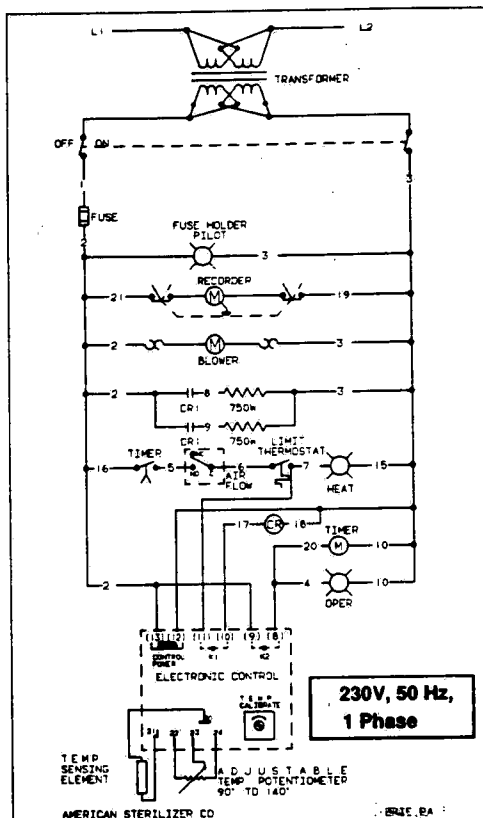


Figure 5-2. WIRING SCHEMATICS
(AERATOR WITH INDICATOR-RECORDER).



SECTION 6

COMPONENT REPAIR AND REPLACEMENT (AERATOR WITHOUT INDICATOR-RECORDER)

6.1 GENERAL

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

WARNING: TURN AERATOR POWER SWITCH AND MAIN POWER SWITCH TO OFF BEFORE STARTING ANY MAINTENANCE FUNCTIONS.

6.2 COMPONENT REPLACEMENT AND REPAIR

1. Air Filter

See Paragraph 3.3, PREVENTIVE MAINTENANCE.

2. Main Control Fuse

Refer to Figure 7-5.

a. Push in on fuse holder (24) and turn 1/4 turn to the left to release.

b. Fuse (27) is mounted in socket of fuse-holder cap and can be removed by pulling out.

c. Replace fuse; use care when replacing fuse holder — do not force into place.

3. Pilot Lamp

NOTE: The old-style pilot light can be used with the new-style mounting strap and old-style mounting strap can be used with new-style pilot light by following these procedures. Predrill new-style mounting strap. Install the mounting strap to the pilot light bracket from the rear. The screw heads should face the front of the machine.

Refer to Figure 7-5.

a. Open control panel by removing screws (3) from bottom of panel, grasping panel at bottom edge and pulling forward and up.

b. Remove pilot lamp assembly screws (33).

c. Turn lamp (32) 1/8 turn to the left and pull straight out.

d. Replace lamp and secure the assembly with screws previously removed.

e. Lower panel and replace screws.

4. Door Gasket

Refer to Figure 7-1 or 7-2.

a. Lift gasket (19) slightly to expose screws (20) which secure it to the inside of the door.

b. Remove screws and old gasket.

c. Clean area for gasket; position new gasket in place and secure it with screws previously removed.

d. Check to be sure gasket forms a tight seal when door is closed.

5. Power Switch

Refer to Figure 7-5.

a. Remove the two screws (22) on the front of the control panel, adjacent to the fuse holder and switch.

b. Open control panel by removing screws (3) from bottom of panel, grasping panel at bottom edge and pulling forward and up.

c. Remove switch (23) from switch and fuse assembly.

d. Replace switch and switch assembly.

e. Lower panel and replace screws.

6. Timer

Refer to Figure 7-5.

a. Remove knob and three screws from front of control panel.

b. Open control panel by removing screws from bottom of panel, grasping panel at bottom edge and pulling forward and up.

c. Replace timer and knob (28).

d. Lower panel and replace screws.

7. Control or Timer Thermostat

Refer to Figure 7-3 or 7-4.

a. Open the control panel (see paragraph 3.2, ROUTINE INSPECTION, step 3a).

b. Remove and replace thermostat (4 or 5, Fig. 7-3; 1 or 2, Fig. 7-4).

c. Lower panel and replace screws.

8. Limit Thermostat

Refer to Figure 7-6 or 7-7.

a. Remove lower panel (see 3.2, ROUTINE INSPECTION, step 2).

b. Remove and replace thermostat (18, Fig. 7-6; 19, 7-7) located on heater cover.

c. Replace panel.

9. Heater

Refer to Figure 7-6 or 7-7.

a. Remove lower panel (see 3.2, ROUTINE INSPECTION, step 2).

b. Remove heater cover (16, Fig. 7-6; 17, Fig. 7-7).

c. Remove faulty heater (1, Fig. 7-6; 2, Fig. 7-7) and install a new one.

d. Replace cover and back panel.

10. Blower Motor

Originally the blower assemblies installed in the small (38") and medium (60") gas aerators were the double cage type P-451449-091. Later the small and medium aerators were manufactured with the Single Cage Blowers with thermal protection P-453910-002 or with the Double Cage Blower P-451449-001.

To replace Double Cage Blower — order and install P-451449-091.

To replace Single Cage Blower — order and install P-453910-002.

NOTE: The Double Cage and Single Cage Blowers are NOT interchangeable.

Refer to Figure 7-6 or 7-7.

a. Remove lower panel (see 3.2, ROUTINE INSPECTION, step 2).

b. Remove blower and heater covers (15 and 16, Fig. 7-6; 12 and 17, Fig. 7-7).

c. Remove blower assembly (2, Fig. 7-6; 6, Fig. 7-7).

d. Install new blower assembly.

e. Replace covers and panel.

COMPONENT REPAIR AND REPLACEMENT (AERATORS WITH INDICATOR-RECORDER)

11. Air Filter Replacement.

See paragraph 3.8, also see Figures 7-6, 7-6A, 7-7 and 7-7A for part number identification.

12. Main Control Fuse Replacement.

Refer to Figure 7-8.

a. Push in on fuse holder (25), rotate 1/4 turn counterclockwise, and extract fuse holder with fuse.

b. Remove fuse from fuse holder, install new fuse (26) and reinsert same in fuse socket.

13. Pilot or Heat Indicator Lamp Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Remove the two socket mounting screws, rotate lamp (32) 1/8 turn counterclockwise and extract from socket.

d. Install new lamp and reassemble in reverse order.

14. Power Switch Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Open control door (20) and remove the two screws (22) securing switch box (23).

d. Remove switch mounting screws; disconnect switch wiring.

e. Connect wiring to new switch and reassemble in reverse order.

15. Timer Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Open control door and remove timer knob (39).

d. Remove hex nut securing timer (34) to panel.

e. Remove timer from panel, transfer wiring to new timer and install in panel. Reassemble in reverse order.

16. Temperature Potentiometer Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Open control door and remove temperature knob (39).

d. Remove hex nut and lockwasher securing potentiometer (35) to panel.

e. De-solder wires from potentiometer terminals and solder to new potentiometer. Install in panel and reassemble in reverse order.

17. Indicating Recorder Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Disconnect wire connections from rear of recorder (33), remove the four mounting nuts and remove recorder from panel.

d. Install new recorder, connect wiring and reassemble in reverse order.

18. Electronic Temperature Control Replacement.

Refer to Figure 7-8.

a. Open chamber door and remove the three screws which secure the bottom edge of control panel.

b. Control panel (1) is hinged at the top. Grasp bottom edge of control panel and swing upward.

c. Disconnect wires, remove two mounting screws. Reassemble in reverse order.

19. Limit Thermostat Replacement.

Refer to Figures 7-6A and 7-7A.

a. On medium aerators, remove lower panel. On small aerators, remove panel at rear of lower chamber.

b. Thermostat is located on heater cover, remove and replace as required. Reassemble in reverse order.

20. Heater Replacement.

Refer to Figures 7-6A and 7-7A.

a. On medium aerators, remove lower panel. On small aerators, remove panel at rear of lower chamber.

b. Remove heater cover.

c. Remove faulty heater and its gasket.

d. Install new heater and heater gasket. Reassemble in reverse order.

21. Blower Replacement.

Refer to Figures 7-6A and 7-7A.

a. On medium aerators, remove lower panel. On small aerators, remove panel at rear of lower chamber.

b. Remove the blower and heater covers.

c. Remove blower assembly.

d. Install new blower assembly and reassemble in reverse order.

22. Door Gasket Replacement.

Refer to Figures 7-1 and 7-2.

a. Lift edge of gasket to gain access to mounting screws.

b. Remove mounting screws and gasket. Clean the gasket mounting surface.

c. Position new gasket in place and reinstall the mounting screws.

d. Close door and check that gasket completely seals door, without air gaps.

e. If seal is not sufficient, add a 3" strip of self-adhesive door gasket outside each lower corner of door opening.

SECTION 7

PARTS LISTS AND EXPLODED VIEWS

Aerator assemblies and components are illustrated and identified on the following pages. The part number, the description, and the quantity required for each usage are given. Subassembly components are indicated by indentation. The UNITS PER ASSEMBLY column specific to a given assembly or subassembly is indicated by an asterisk.

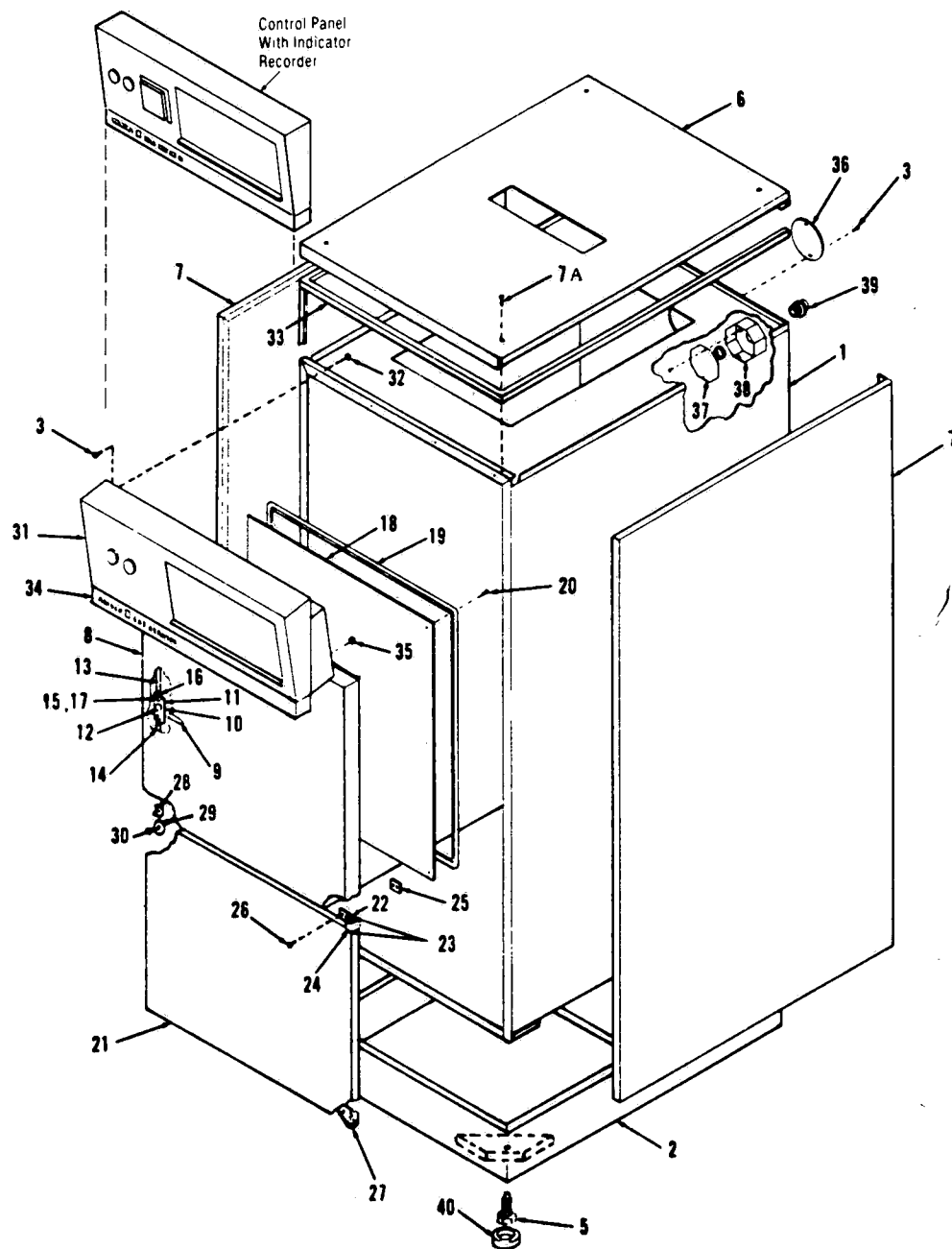


Figure 7-1. EXTERIOR HARDWARE, Small Aerator.

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY	
7-1-		EXTERIOR HARDWARE, Small Aerator (Without Recorder).....	X	
		EXTERIOR HARDWARE, Small Aerator (With Recorder).....		X
1	P 465249 010	CASE.....	1	
	P 426637 212	CASE.....		1
2	P 460426 010	SUBBASE.....	1	1
3	P 430064 045	SCREW, Phillips Head, #8-32 x 3/8.....	AR	AR
4		NOT USED		
5	P 453542 001	LEVELER, Adjustable Screw.....	2	2
6	P 460445 010	PANEL, Top (Freestanding Models).....	1	
	P 451494 010	PANEL, Top (Recessed Models).....	1	
7	P 460444 010	PANEL, Side (Freestanding Models).....	2	
7A	P 430407 045	SCREW, Phillips Head, #8 x 2 (Not Shown)...	4	4
	P 465246 001	DOOR ASSEMBLY, Upper.....	1	
	P 426637 210	DOOR ASSEMBLY, RH.....		1
	P 426637 211	DOOR ASSEMBLY, RH.....		1
8	P 451525 091	• DOOR.....	1	
9	P 451528 056	• HANDLE.....	1	
	P 418335 112	• HANDLE, RH.....		1
	P 418335 113	• HANDLE, LH.....		1
10	P 451660 091	• WASHER, Handle.....	2	
11	P 451534 091	• CAM, Latch.....	1	1
12	P 430347 045	• CAP SCREW, Hex Head, 1/4-20 x 5/8.....	1	
13	P 451543 091	• ROD, Top Latch.....	1	1
14	P 451544 091	• ROD, Bottom Latch.....	1	1
15	P 451542 045	• END, Rod.....	2	2
16	P 430278 045	• NUT, Hex, #10-32.....	2	2
17	P 12540 061	• SCREW, Round Head, #10-32 x 1/2.....	2	
	P 451547 091	• ANGLE, Stop (Not Shown).....	1	
	P 430064 045	• SCREW, Pan Head, #8-32 x 3/8 (Not Shown).....	2	
18	P 451455 091	• PLATE, Door Inside.....	1	1
19	P 451454 091	• GASKET, Door.....	1	1
	P 451456 091	• INSULATION.....	1	1
20	P 430365 091	• SCREW, Phillips Head, #6-32 x 3/8.....	16	16
21	P 465260 010	DOOR, Lower.....	1	1
22	P 452446 091	PIN, Hinge.....	4	4
23	P 430029 091	WASHER, Hinge Pin.....	6	6
24	P 450611 056	HINGE, Middle.....	1	1
25	P 451482 010	STRIP, Tapping.....	2	
	P 451482 091	STRIP, Tapping.....		2
26	P 430043 045	SCREW, Flat Head, #10-24 x 7/8.....	10	10
27	P 450615 056	HINGE, Bottom, RH.....	1	1
	P 450614 056	HINGE, Bottom, LH.....	1	1
	P 450716 091	BUMPER, Rubber (Not Shown).....	2	
28	P 450904 091	ANGLE, Latch.....	1	1
29	P 451339 045	STRIKE.....	1	1
30	P 451601 091	SPACER.....	1	1
31	P 467632 091	CONTROL PANEL ASSEMBLY (See Figure 7-5)...	1	
	P 426637 205	CONTROL PANEL ASSEMBLY (See Figure 7-8)...		1
32	P 430015 045	NUT, Keps, #8-32.....	4	4
33	P 764317 801	GASKET, Recessing.....	1	
	P 452972 091	GASKET, Recessing.....		1
34	P 465247 010	CHANNEL, Front.....	1	1
35	P 430226 045	NUT, Keps, #10-24.....	4	4
36	P 451483 091	PLATE, Cover.....	1	1
37	P 431122 045	COVER, Outlet Box (If Furnished).....	1	
	P 431122 091	COVER, Outlet.....		1
38	P 431123 045	BOX, Outlet (If Furnished).....	1	1
39	P 430039 045	CONNECTOR.....	1	1
40	P 453543 091	FOOTING.....	2	2

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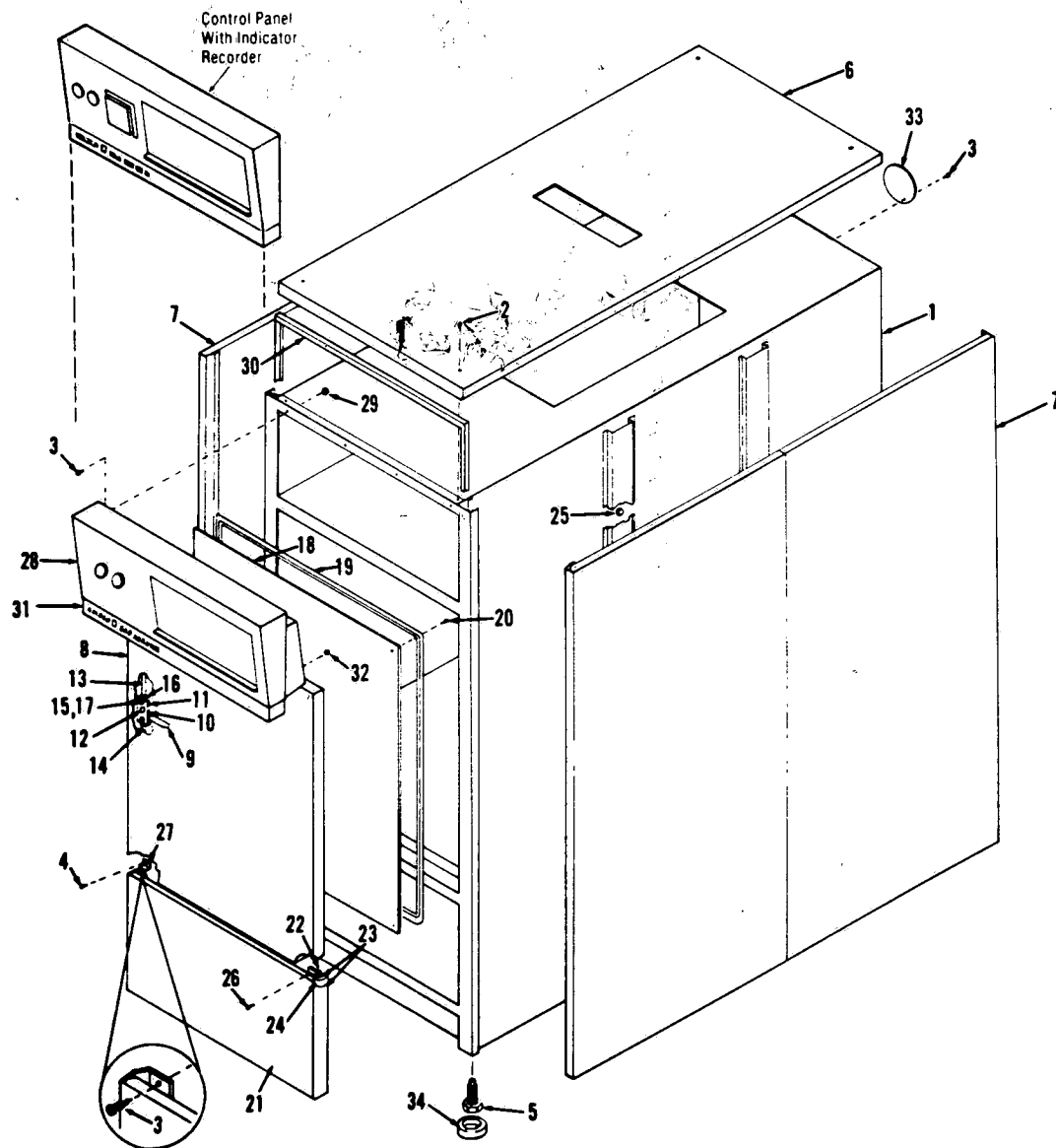


Figure 7-2. EXTERIOR HARDWARE, Medium Aerator.

FIG. & INDEX NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY			
7-2-			EXTERIOR HARDWARE, Medium Aerator (Without Recorder).....	X			
			EXTERIOR HARDWARE, Medium Aerator (With Recorder).....		X		
1	P	467720 001	CHASSIS WELDMENT.....	1			
2	P	426637 207	CHASSIS WELDMENT.....		1		
3	P	430407 045	SCREW, Phillips Head, #8 x 2.....	4			
4	P	430064 045	SCREW, Phillips Head, #8-32 x 3/8.....	AR		AR	
5	P	430383 045	SCREW, Round Head, #10-24 x 1/2.....	2		2	
6	P	453542 001	LEVELER, Adjustable Screw.....	2		2	
7	P	460919 001	PANEL, Top, Freestanding Models.....	1			
	P	451494 010	PANEL, Top, Recessed Models.....	1			
	P	465620 001	PANEL, Side, Freestanding Models.....	2			
	P	465546 001	DOOR ASSEMBLY, LH.....	1			
	P	426637 209	DOOR ASSEMBLY, LH.....		1		
	P	465546 002	DOOR ASSEMBLY, RH.....	1			
	P	426637 208	DOOR ASSEMBLY, RH.....		1		
8	P	452330 001	• DOOR.....	1			
	P	418335 116	• DOOR.....		1		
9	P	451528 056	• HANDLE.....	1			
	P	418335 112	• HANDLE, RH.....	1			
	P	418335 113	• HANDLE, LH.....	1			
10	P	451660 091	• WASHER, Handle.....	1			
11	P	451534 091	• CAM, Latch.....	1		1	
12	P	430347 045	• CAP SCREW, Hex Head, 1/4-20 x 5/8.....	1			
13	P	452332 001	• ROD, Top Latch.....	1		1	
14	P	452333 001	• ROD, Bottom Latch.....	1		1	
15	P	451542 045	• END, Rod.....	2		2	
16	P	430278 045	• NUT, Hex, #10-32.....	2		2	
17	P	12540 061	• SCREW, Round Head, #10-32 x 1/2.....	2			
	P	12540 091	• SCREW, Round Head, #10-32 x 1/2.....			2	
	P	451547 091	• ANGLE, Stop (Not Shown).....	1			
	P	430064 045	• SCREW, Pan Head, #8-32 x 3/8 (Not Shown).....	2		AR	
17	P	452335 001	PLATE, Door Inside.....	1		1	
19	P	452336 001	GASKET, Door.....	1		1	
20	P	430056 045	SCREW, Phillips Head, #6-32 x 3/8.....	AR		AR	
21	P	461109 091	PANEL, Front.....	1		1	
22	P	452446 091	PIN, Hinge.....	2		2	
23	P	430029 091	WASHER, Hinge Pin.....	2		4	
24	P	450611 056	HINGE, Middle.....	1		1	
25	P	47182 091	BUSHING, Snap.....	2		2	
26	P	430043 045	SCREW, Flat Head, #10-24 x 7/8.....	4		4	
27	P	450904 091	ANGLE, Latch.....	1		1	
28	P	467632 091	CONTROL PANEL ASSEMBLY (See Figure 7-5).....	1			
	P	426637 205	CONTROL PANEL ASSEMBLY (See Figure 7-8).....		1		
29	P	430015 045	NUT, Keps, #8-32.....	4		4	
30	P	764317 801	GASKET, Recessing.....	1			
	P	452972 001	GASKET, Recessing.....		AR		
31	P	465247 010	CHANNEL, Front.....	1		1	
32	P	430226 045	NUT, Keps, #10-24.....	4		4	
33	P	451483 091	PLATE, Cover.....	1		1	
34	P	453543 091	FOOTING.....	2		2	

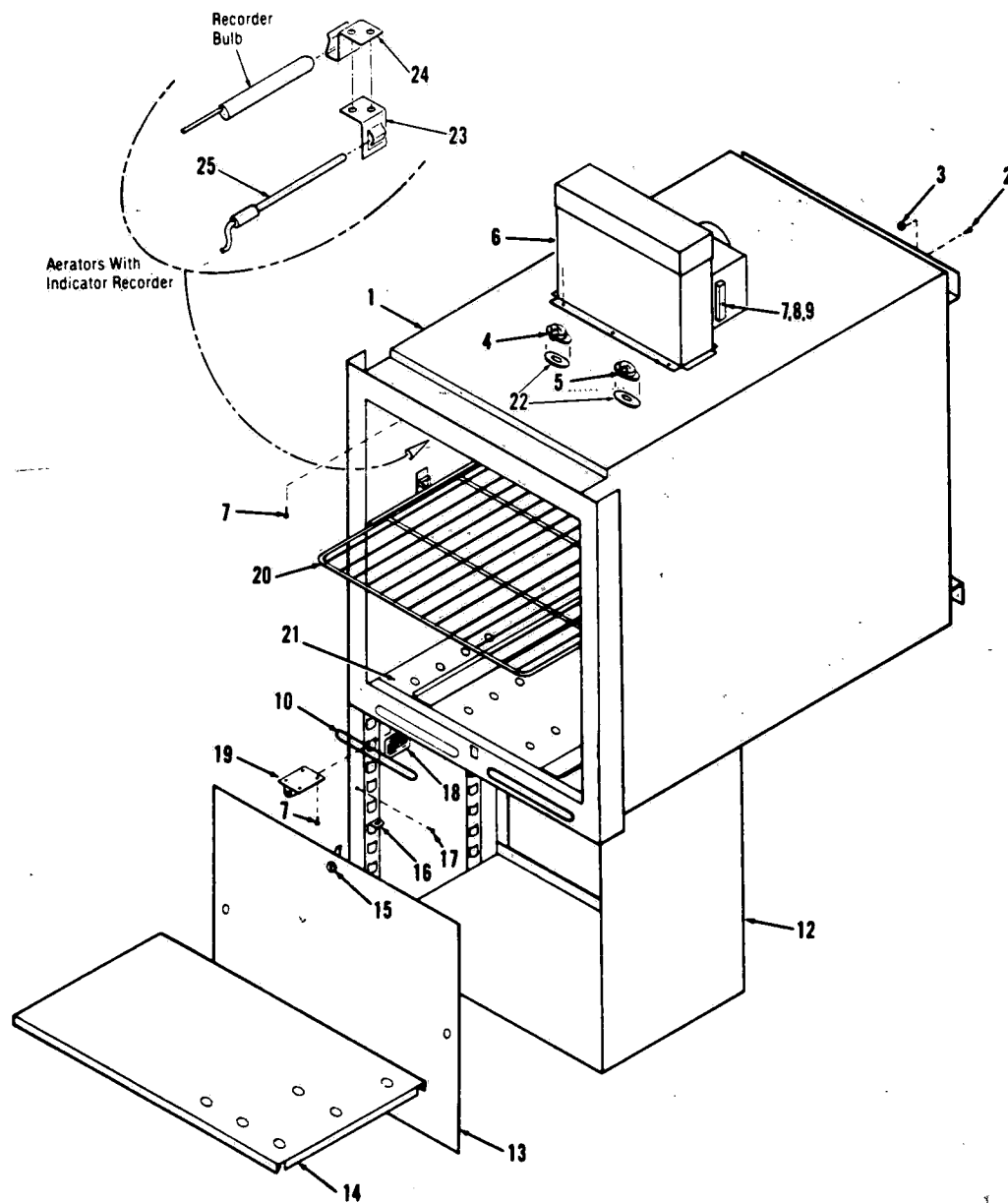


Figure 7-3. CHAMBER ASSEMBLIES, Small Aerator.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
7-3-		CHAMBER ASSEMBLY, Small Aerator, (Without Recorder).....	X			
		CHAMBER ASSEMBLY, Small Aerator, (With Recorder).....		X		
1	P 467633 091	CHAMBER, Upper.....	1			
	P 426637 212	CHAMBER, Upper.....				
2	P 430007 045	SCREW, Round Head, #8-32 x 3/8.....	6	1	6	
3	P 430015 045	NUT, Keps, #8-32.....	6	6	6	
4	P 451485 091	THERMOSTAT, Control.....	1			
5	P 451484 091	THERMOSTAT, Timer.....	1			
6	P 465846 001	STACK, Exhaust.....	1	1		
7	P 430064 045	SCREW, Phillips Head, #8-32 x 3/8.....	AR	AR		
8	P 453241 001	SWITCH, Air Flow.....	1	1		
9	P 47182 091	BUSHING, Snap.....	1	1		
10	P 3000 940	GASKET.....	4			
	R	GASKET, Rubber (X-155; #27068SBR), 4 Ft. x 4 Ft. (Not Used).....	1			
11		CHAMBER, Lower.....	1	1		
12	P 465248 091	PANEL, Back.....	1	1		
13	P 451469 091	PANEL, Back.....	1	1		
14	P 451467 091	SHELF.....	1	1		
15	P 451468 091	LATCH, Panel.....	4	4		
16	P 430031 091	CLIP, Shelf.....	4			
	P 431121 091	CLIP, Shelf.....		4		
17	P 430041 045	SCREW, Phillips Head, #8-32 x 1/4.....	10	10		
18	P 452077 091	IDENTIFICATION PLATE.....	1			
	P 413720 164	IDENTIFICATION PLATE.....		1		
19	P 451465 045	CATCH, Door Latch.....	1	1		
20	P 460446 001	SHELF, Wire (Optional).....	AR	AR		
21	P 460427 091	BOTTOM, Chamber.....	1	1		
	P 54448 091	CAR, Loading (Optional) (Not Shown).....	AR	AR		
22	P 413716 571	GASKET, Thermostat.....	2			
23	P 413720 161	CLIP, Probe.....		1		
24	P 413720 153	SUPPORT, Bulb.....		1		
25	P 413720 157	SENSOR, Temp.....		1		
26	P 32737 091	GROMMET.....		1		

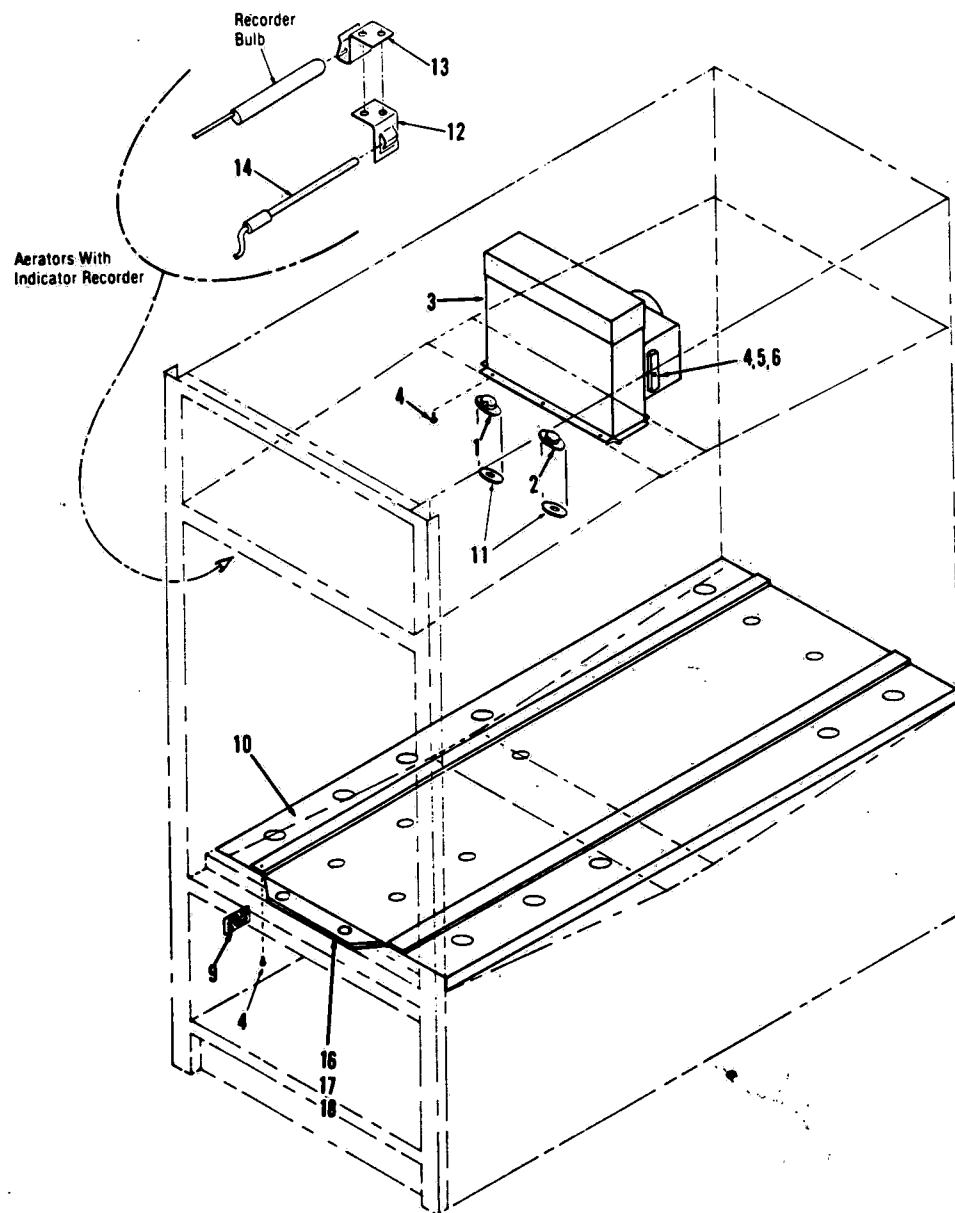


Figure 7-4. CHAMBER ASSEMBLIES, Medium Aerator.

FIG. & INDEX NO.	PART NUMBER			DESCRIPTION	UNITS PER ASSEMBLY			
7-4-				CHAMBER ASSEMBLY, Medium Aerator (Without Recorder).....	X			
				CHAMBER ASSEMBLY, Medium Aerator (With Recorder).....		X		
1	P	451485	091	THERMOSTAT, Control.....	1			
2	P	451484	091	THERMOSTAT, Timer.....	1			
3	P	465846	001	STACK, Exhaust.....	1		1	
4	P	430064	045	SCREW, Phillips Head, #8-32 x 3/8.....	AR		AR	
5	P	453241	001	SWITCH, Air Flow.....	1		1	
6	P	47182	091	BUSHING, Snap.....	1		1	
7				NOT USED				
8				NOT USED				
9	P	452077	091	IDENTIFICATION PLATE.....	1			
	P	413720	166	IDENTIFICATION PLATE.....			1	
10	P	460863	001	BOTTOM, Chamber.....	1		1	
11	P	413716	571	GASKET, Thermostat.....	2			
12	P	413720	161	CLIP, Probe.....			1	
13	P	413720	153	SUPPORT, Bulb.....			1	
14	P	413720	157	SENSOR, Temperature.....			1	
15	P	32737	091	GROMMET.....			1	
16	P	453093	091	TRACK GUIDE.....	1		1	
17	P	74306	061	SCREW.....	2		2	
18	P	150475	630	NUT.....	2		2	

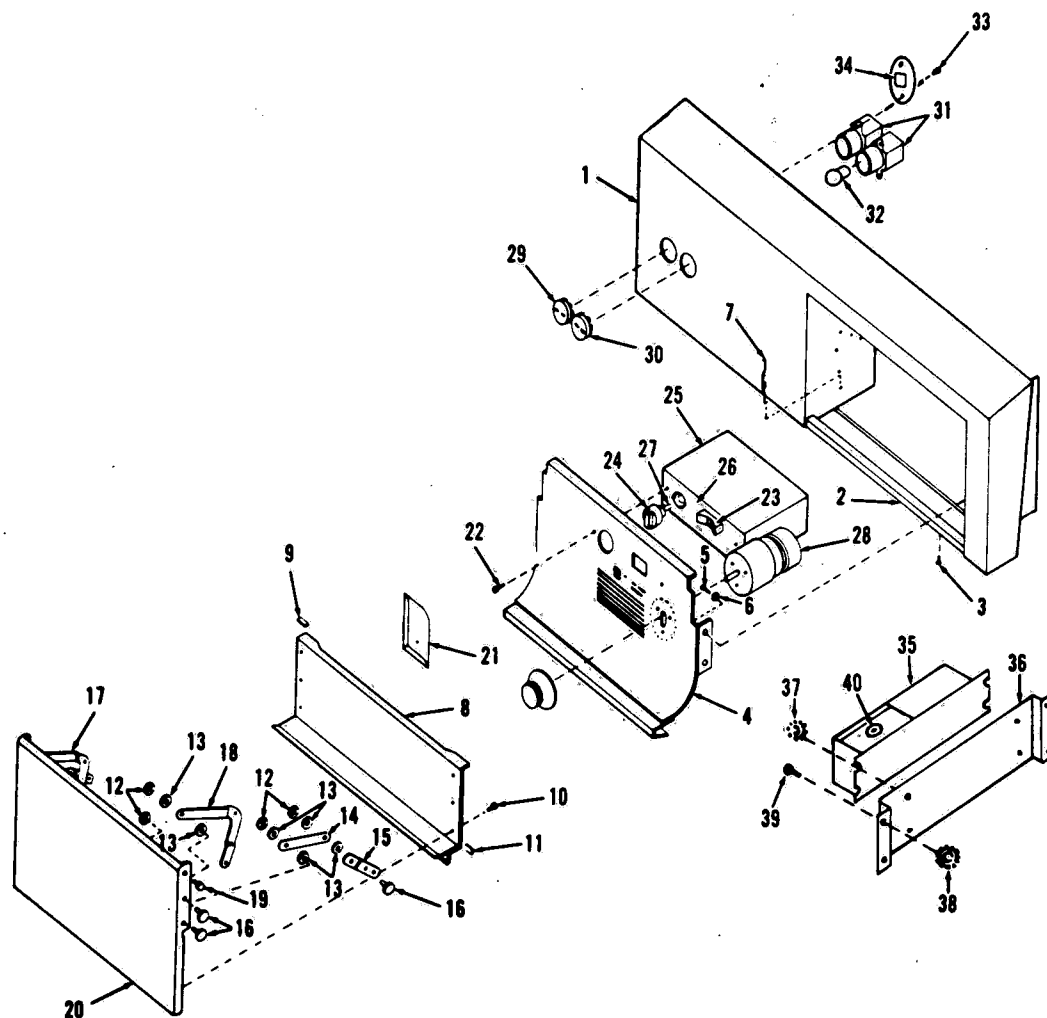


Figure 7-5. CONTROL ASSEMBLY, Small and Medium Aerators.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY	
7-5-		CONTROL ASSEMBLY, Small Aerator.....	X	
		CONTROL ASSEMBLY, Medium Aerator.....		X
		CONTROL PANEL ASSEMBLY.....	X	X
1	P 467632 091	• CONTROL PANEL.....	1	1
2	P 450640 091	• TRIM, Panel.....	1	1
3	P 430051 045	• SCREW, Phillips Head, #6-32 x 1/4.....	2	2
4	P 460533 010	• PANEL, Switch.....	1	1
5	P 430008 045	• SCREW, Round Head, #6 x 1/2.....	10	10
6	P 91026 091	• WASHER.....	2	2
7	P 91027 091	• SPRING, Door Hinge.....	2	2
8	P 96387 091	• DOOR ASSEMBLY, Control Panel.....	1	1
9	P 90988 033	• • PANEL HANDLE WELDMENT.....	1	1
10	P 90168 045	• • BUMPER, Valve Door.....	2	2
11	P 90990 091	• • SCREW, Self-tapping.....	6	6
12	P 91042 045	• • SEALER, Door.....	1	1
13	P 91026 091	• • RETAINER, Push-on.....	8	8
14	P 91032 091	• • WASHER, Plain.....	12	12
15	P 91028 091	• • HINGE ARM.....	2	2
16	P 91024 091	• • PIVOT MOUNT.....	2	2
17	P 91029 091	• • PIVOT.....	6	6
18	P 91030 091	• • HINGE GUIDE ARM, RH.....	1	1
19	P 91025 091	• • HINGE GUIDE ARM, LH.....	1	1
20	P 139654 010	• • GLIDER.....	2	2
21	P 451479 091	• • DOOR, Valve Panel.....	1	1
22	P 430041 045	HOLDER, Card.....	1	1
		SCREW, Phillips Head, #8-32 x 1/4.....	2	2
		SWITCH AND FUSEHOLDER ASSEMBLY.....	1	
23	P 460917 091	SWITCH AND FUSEHOLDER ASSEMBLY(120/230 V).....		1
24	P 90624 091	• SWITCH.....	1	1
25	P 450656 091	• FUSEHOLDER.....	1	1
26	P 460225 091	• BOX, Switch.....	1	1
	P 460226 091	• CHANNEL, Switch.....	1	1
27	P 430006 091	• WIRE NUT (Not Shown).....		AR
28	P 764317 448	FUSE, 120 Volt, 15 Amp (Box of 5).....	AR	AR
	P 413716 597	TIMER (60 Hz), 16 Hour.....	1	1
	P 413716 598	TIMER (50 Hz), 16 Hour.....	1	1
29	P 90533 010	INDICATOR LENS (HEAT).....	1	1
30	P 451416 010	INDICATOR LENS (OPERATING).....	1	1
31	P 455015 001	PILOT LIGHT, New Style (See Paragraph 5-5).....	2	2
32	P 764317 707	LAMP (Box of 10).....	AR	AR
33	P 430379 045	SCREW, Round Head, #6 x 3/8.....	4	
	P 35544 045	SCREW, Phillips Head, #6-32 x 1/2.....		4
34	P 455016 001	STRAP, Mounting, New Style (See Paragraph 5-5).....	2	2
35	P 452540 091	TRANSFORMER, Stepdown, 130 Volt Units Only.....	1	
	P 452591 091	TRANSFORMER, Stepdown, 130 Volt Units Only.....		1
36	P 461009 091	BRACKET, Transformer Attachment.....	1	
	P 452593 001	PLATE, Transformer Attachment.....		1
37	P 430226 045	NUT, Keps, #10-24.....	4	4
38	P 430017 045	NUT, Keps.....	4	
39	P 430388 045	SCREW.....	4	
40	P 47182 091	BUSHING, Snap.....	2	
	P 430526 091	WIRE NUT (Not Shown).....	3	

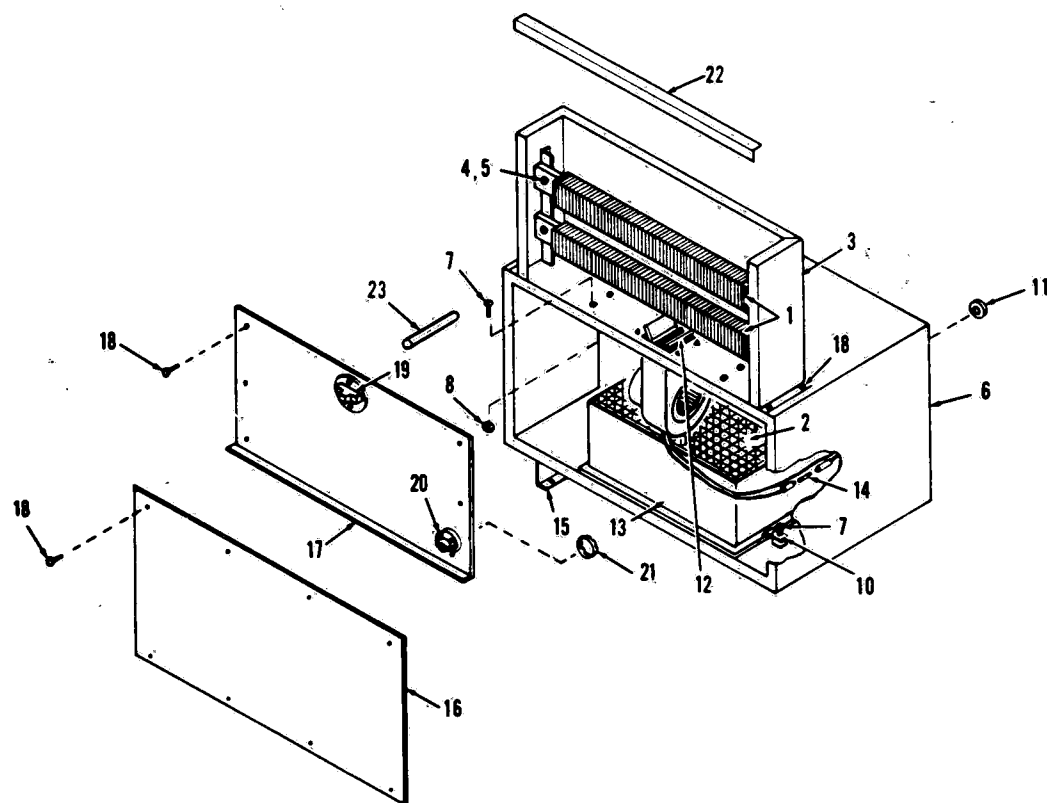


Figure 7-6. HEATER, FAN AND FILTER ASSEMBLY, Small Aerator
(Units Shipped Before 3/77).

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FIG. & INDEX NO.	PART NUMBER			DESCRIPTION	UNITS PER ASSEMBLY		
7-6-				HEATER, FAN AND FILTER ASSEMBLY, Small Aerator (Units Shipped Before 3/77).....	X		
	P	466301	091	HEATER AND FAN ASSEMBLY.....	X		
1	P	451811	091	• HEATING ELEMENT, 500 Watt.....	2		
2	P	453910	002	• BLOWER ASSEMBLY, With Thermal Protection.....	1		
3	P	461658	001	• SHELL, Heater.....	1		
4	P	430388	045	• SCREW, Round Head, 1/4-20 x 1/2.....	4		
5	P	430017	045	• NUT, Keps, 1/4-20.....	4		
6	P	461653	001	• SHELL, Blower.....	1		
7	P	3930	045	• SCREW, Round Head, #10-24 x 5/8.....	13		
8	P	430226	045	• NUT, Keps, #10-24.....	8		
9				• NOT USED			
10	P	451453	091	• CLAMP, Filter Hold-down.....	5		
	P	430445	091	• TAPE, Foam (Not Shown).....	AR		
11	P	47182	091	• BUSHING, Snap.....	2		
12	P	454124	001	• DEFLECTOR, Fan.....	1		
13	P	451474	091	FILTER.....	1		
14	P	764317	837	FUSE, 120 Volt, 1-1/4 Amp (Box of 5).....	AR		
15	P	451475	091	ANGLE, Support.....	2		
16	P	461655	091	COVER, Blower.....	1		
17	P	461656	001	COVER, Heater.....	1		
18	P	430064	045	SCREW, Phillips Head, #8-32 x 3/8.....	AR		
19	P	451486	091	THERMOSTAT, Limit.....	1		
20	P	430160	091	NIPPLE, Conduit (1/2).....	1		
21	P	430035	091	LOCKNUT, Conduit (1/2).....	1		
22	P	451473	091	ANGLE, Attachment.....	1		
23	P	461118	001	INSULATION, Heat-Shrinkable Tubing.....	2		

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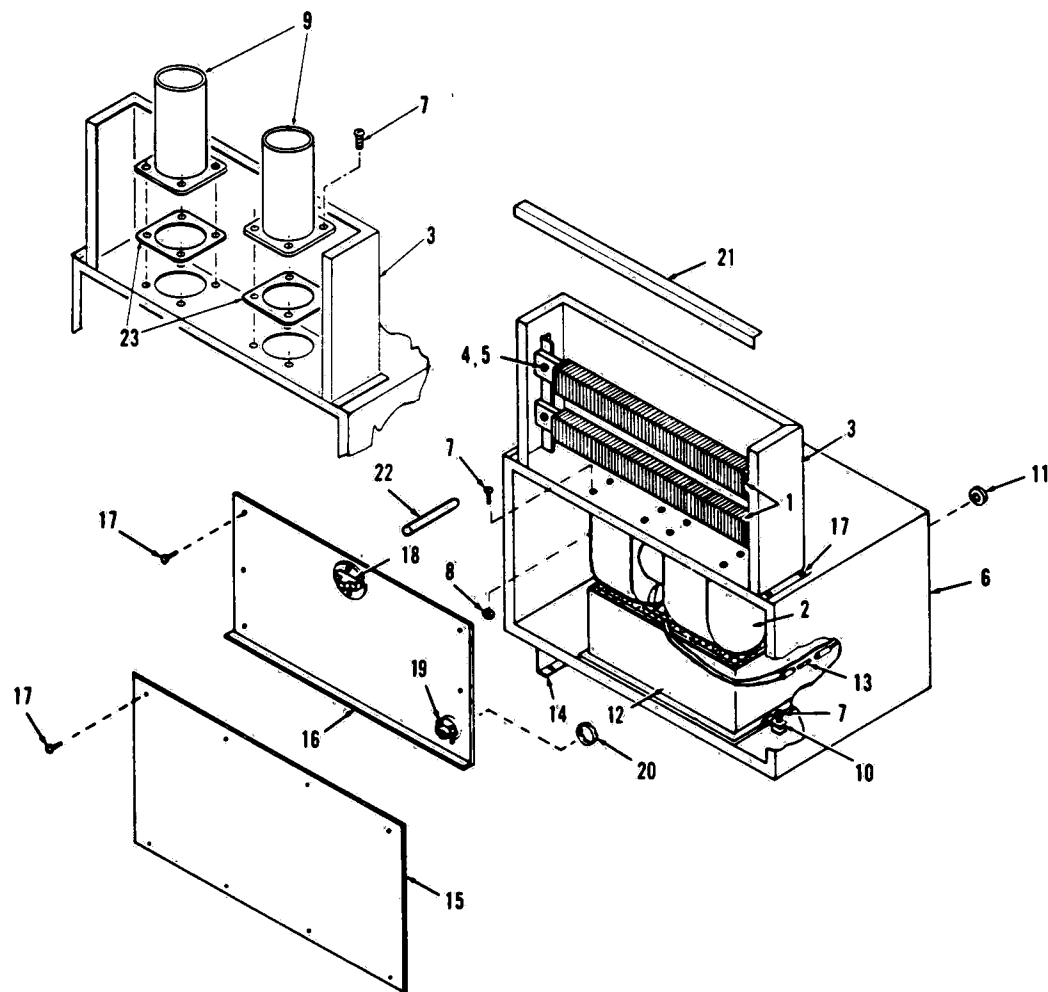


Figure 7-6A. HEATER, FAN AND FILTER ASSEMBLY, Small Aerator
(Units Shipped After 3/77).

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FIG. & INDEX NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY			
7-6A-			HEATER, FAN AND FILTER ASSEMBLY, Small Aerator (Units Shipped After 3/77; Without Recorder).....	X			
			HEATER, FAN AND FILTER ASSEMBLY, Small Aerator (Units Shipped After 3/77; With Recorder).....		X		
	P	465250 091	HEATER AND FAN ASSEMBLY.....	1			
	P	422922 078	HEATER AND FAN ASSEMBLY.....		1		
1	P	451811 091	• HEATING ELEMENT, 500 Watt.....	1			
2	P	451449 091	• BLOWER ASSEMBLY.....	1	1		
3	P	460436 091	• SHELL, Heater.....	1			
	P	465257 091	• SHELL, Heater.....		1		
4	P	430388 045	• SCREW, Round Head, 1/4-20 x 1/2.....	4			
5	P	430017 045	• NUT, Keps, 1/4-20.....	4			
6	P	460437 091	• SHELL, Blower.....	1	1		
7	P	3930 045	• SCREW, Round Head, #10-24 x 5/8.....	13	13		
8	P	430226 045	• NUT, Keps, #10-24.....	8	8		
9	P	418335 138	• HEATER/FLANGE.....	2			
10	P	451453 091	• CLAMP, Filter Hold-down.....	5	5		
	P	430445 091	• TAPE, Foam (Not Shown).....	AR	AR		
11	P	47182 091	• BUSHING, Snap.....	2	2		
12	P	451474 091	FILTER.....	1	1		
13	P	764317 837	FUSE, 120 Volt, 1-1/4 Amp (Box of 5).....	AR	AR		
14	P	451475 091	ANGLE, Support.....	2	2		
15	P	460430 091	COVER, Blower.....	1	1		
16	P	460429 091	COVER, Heater.....	1	1		
17	P	430064 045	SCREW, Phillips Head, #8-32 x 3/8.....	AR	AR		
18	P	451486 091	THERMOSTAT, Limit.....	1	1		
19	P	430160 091	NIPPLE, Conduit (1/2).....	1	1		
20	P	430035 091	LOCKNUT, Conduit (1/2).....	1	1		
21	P	451473 091	ANGLE, Attachment.....	1	1		
22	P	461118 001	INSULATION, Heat-Shrinkable Tubing.....	2	2		
23	P	413720 158	GASKET.....		2		

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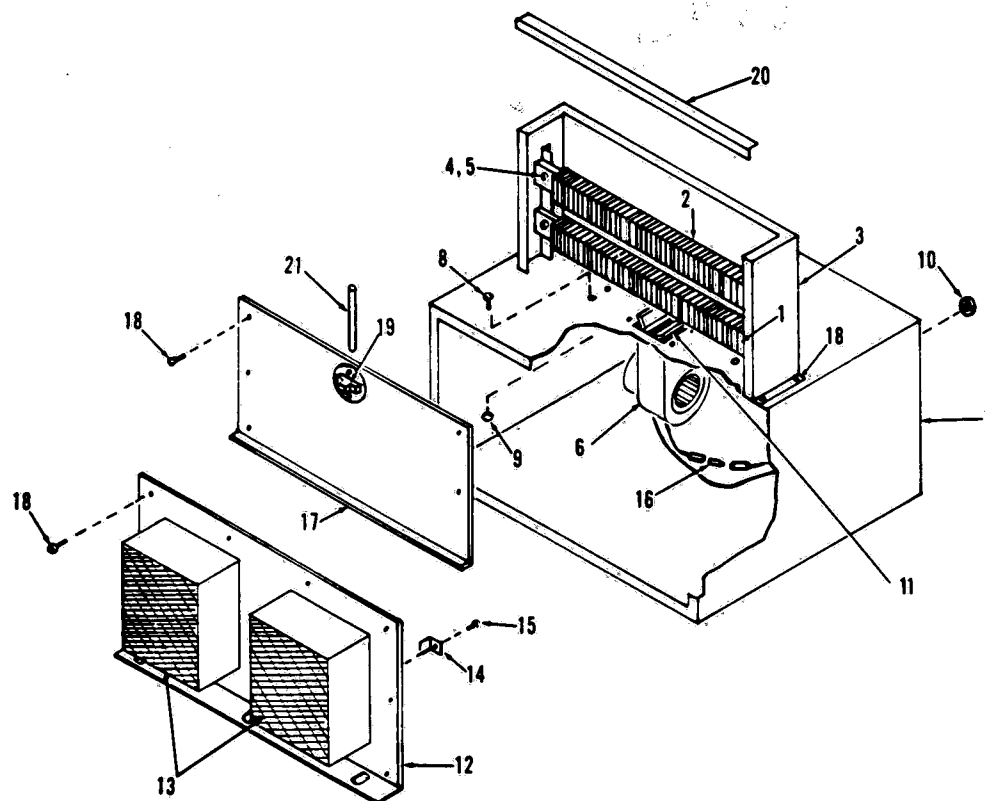


Figure 7-7. HEATER, FAN AND FILTER ASSEMBLY, Medium Aerator
(Units Shipped Before 3/77).

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FIG. & INDEX NO.	PART NUMBER			DESCRIPTION	UNITS PER ASSEMBLY			
7-7-				HEATER, FAN AND FILTER ASSEMBLY, Medium Aerator (Units Shipped Before 3/77).....	X			
	P	454257	001	HEATER ASSEMBLY.....	X			
1	P	451811	091	• HEATING ELEMENT, 500 Watt.....	1			
2	P	450902	091	• HEATING ELEMENT, 1000 Watt.....	1			
3	P	461658	001	• SHELL, Heater.....	1			
4	P	430388	045	• SCREW, Round Head, 1/4-20 x 1/2.....	4			
5	P	430017	045	• NUT, Keps, 1/4-20.....	4			
	P	452455	001	FAN ASSEMBLY.....	X			
6	P	453910	002	• BLOWER ASSEMBLY With Thermal Protection.	1			
7	P	454256	001	• SHELL, Blower.....	1			
8	P	3930	045	• SCREW, Round Head, #10-24 x 5/8.....	8			
9	P	430226	045	• NUT, Keps, #10-24.....	8			
10	P	47182	091	• BUSHING, Snap.....	2			
11	P	454124	001	• DEFLECTOR, Fan.....	1			
	P	466302	001	COVER AND FILTER ASSEMBLY, Blower.....	X			
12	P	461657	001	• COVER, Blower.....	1			
13	P	452126	091	• FILTER.....	2			
14	P	451453	091	• CLAMP, Filter Hold-down.....	12			
15	P	430385	045	• SCREW, Round Head, #10-24 x 7/8.....	12			
16	P	764317	837	FUSE, 120 Volt, 1-1/4 Amp (Box of 5).....	AR			
17	P	461656	001	COVER, Heater.....	1			
18	P	430064	045	SCREW, Phillips Head, #8-32 x 3/8.....	AR			
19	P	451486	091	THERMOSTAT, Limit.....	1			
20	P	451473	091	ANGLE, Attachment.....	3			
21	P	461118	001	INSULATION, Heat-Shrinkable Tubing.....	2			

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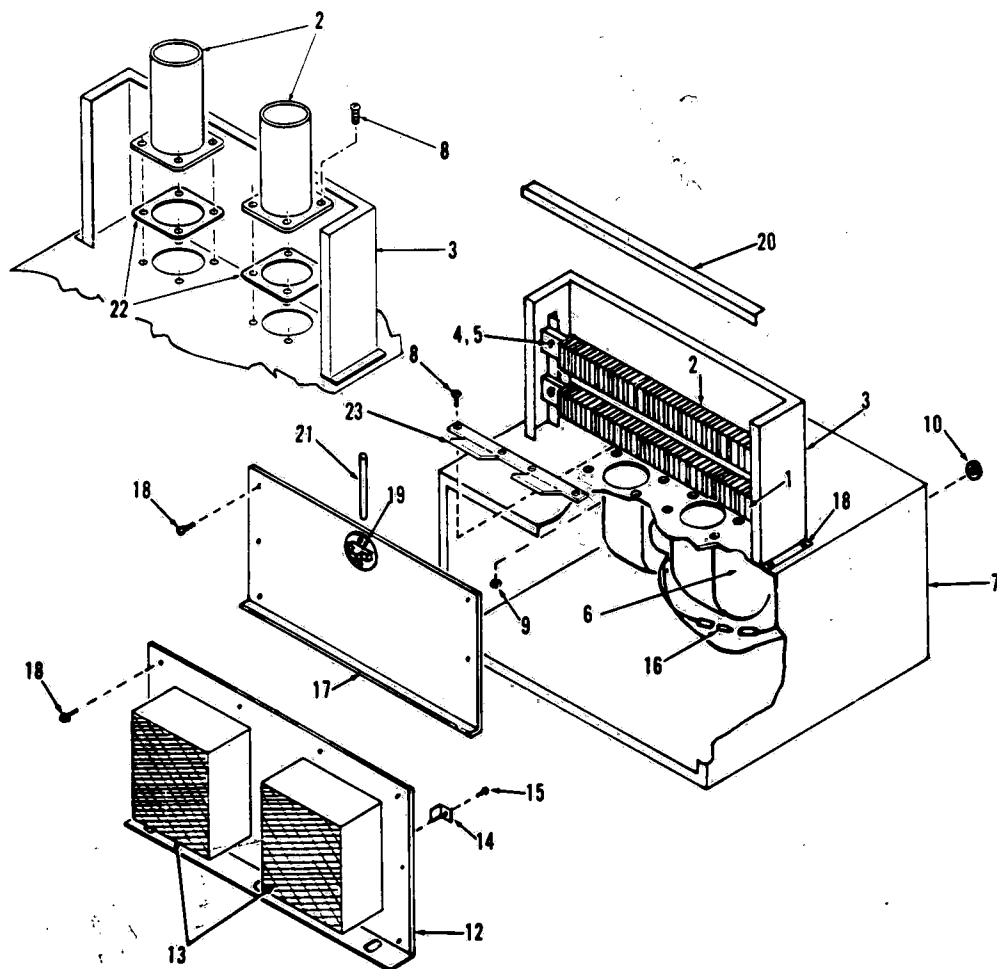


Figure 7-7A. HEATER, FAN AND FILTER ASSEMBLY, Medium Aerator
(Units Shipped After 3/77).

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
7-7A-		HEATER, FAN AND FILTER, Medium Aerator (Units Shipped After 3/77; Without Recorder).....	X			
		HEATER, FAN AND FILTER, Medium Aerator (Units Shipped After 3/77; With Recorder).....		X		
	P 452454 001	HEATER ASSEMBLY.....	1			
	P 422922 071	HEATER ASSEMBLY.....		1		
1	P 451811 091	• HEATING ELEMENT, 500 Watt.....	1			
2	P 450902 091	• HEATING ELEMENT, 1000 Watt.....	1			
	P 418335 138	HEATER/FLANGE.....		2		
3	P 460865 001	• SHELL, Heater.....	1			
	P 465548 001	• SHELL, Heater.....		1		
4	P 430388 045	• SCREW, Round Head, 1/4-20 x 1/2.....	4			
5	P 430017 045	• NUT, Keps, 1/4-20.....	4			
	P 452455 001	FAN ASSEMBLY.....	1			
6	P 451449 091	• BLOWER ASSEMBLY.....	1	1		
7	P 467721 001	• SHELL, Blower.....	1	1		
8	P 3930 045	• SCREW, Round Head, #10-24 x 5/8.....	8			
	P 36944 041	• SCREW, Round Head, Mach., #10-24 x 3/4.....		8		
9	P 430226 045	• NUT, Keps, #10-24.....	8	8		
10	P 47182 091	• BUSHING, Snap.....	2	2		
11		NOT USED				
	P 465549 001	COVER AND FILTER ASSEMBLY, Blower.....	X	X		
12	P 460867 001	• COVER, Blower.....	1	1		
13	P 452126 091	• FILTER.....	2	2		
14	P 451453 091	• CLAMP, Filter Hold-down.....	12	12		
15	P 430385 045	• SCREW, Round Head, #10-24 x 7/8.....	12	12		
16	P 764317 837	FUSE, 120 Volt, 1-1/4 Amp (Box of 5).....	AR	AR		
17	P 460866 001	COVER, Heater.....	1			
	P 418335 119	COVER, Heater.....		1		
18	P 430064 045	SCREW, Phillips Head, #8-32 x 3/8.....	AR	AR		
19	P 451486 091	THERMOSTAT, Limit.....	1	1		
20	P 451473 091	ANGLE, Attachment.....	3	2		
21	P 461118 001	INSULATION, Heat-Shrinkable Tubing.....	2	2		
22	P 413720 158	GASKET.....		2		
23	P 418332 235	BAFFLE.....	1	1		

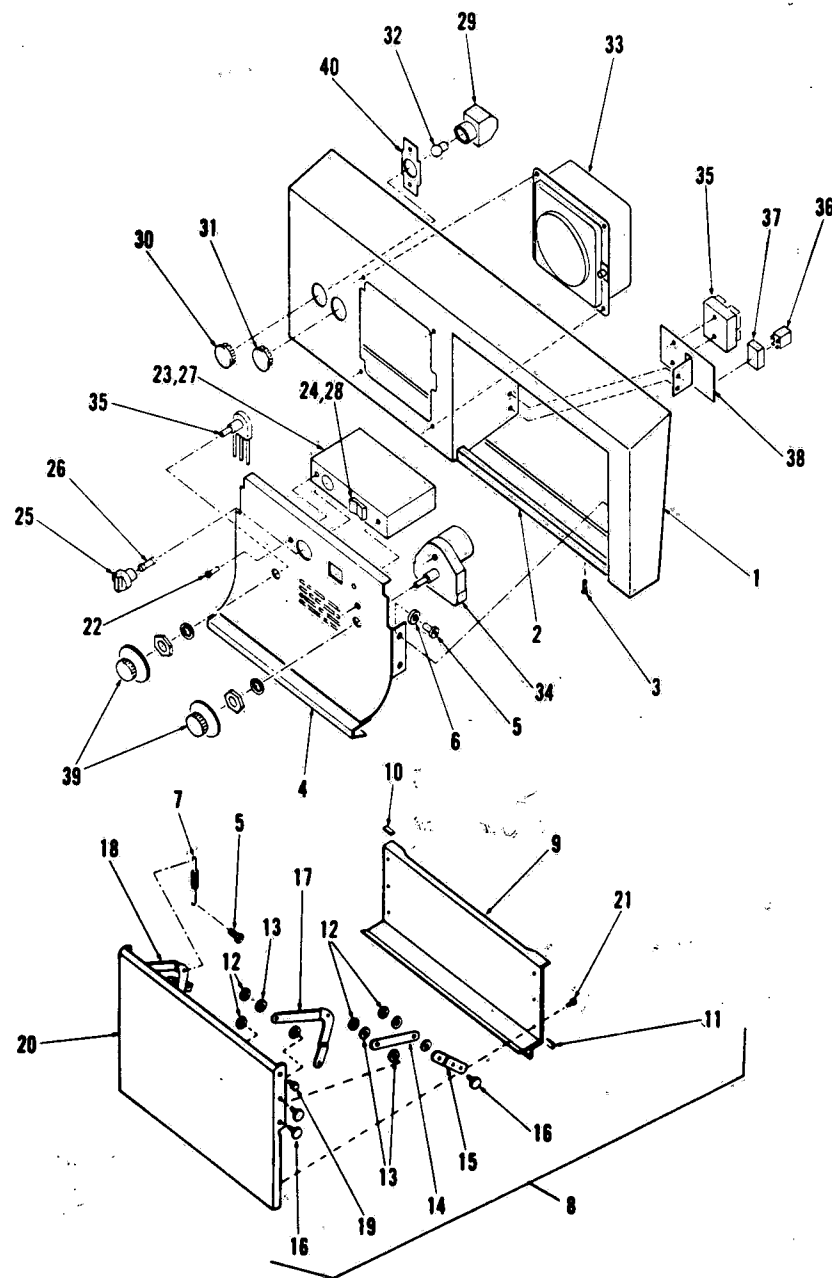


Figure 7-8. CONTROL PANEL ASSEMBLY.
(Aerators With Indicator Recorder).

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY	
7-8-	P 426637 205	CONTROL PANEL ASSEMBLY, 120 V, 60 Hz.....	X	
	P 426637 206	CONTROL PANEL ASSEMBLY, 230 V, 50 Hz.....		X
1	P 422922 064	WELDMENT, Control Panel.....	1	1
2	P 450640 091	PANEL, Trim.....	1	1
3	P 430051 045	SCREW, Oval Head, #6-32 x 1/4.....	5	1
4	P 422922 070	SWITCH PANEL ASSEMBLY.....	1	1
5	P 430008 045	SCREW, Round Head, 6 x 1/2.....	12	1
6	P 91026 091	WASHER, Nylon.....	4	3
7	P 91027 061	SPRING.....	2	2
8	P 422922 074	DOOR ASSEMBLY.....	1	1
9	P 422922 067	• HANDLE, Panel.....	1	1
10	P 90988 091	• BUMPER.....	2	2
11	P 90990 091	• SEALER, Door.....	1	1
12	P 91042 045	• RETAINER, Push-on.....	8	8
13	P 91026 091	• WASHER, Flat.....	12	12
14	P 91032 091	• ARM, Hinge.....	2	2
15	P 91028 091	• MOUNT, Door.....	2	2
16	P 91024 091	• PIVOT.....	6	6
17	P 91029 091	• GUIDE, Arm, RH.....	1	1
18	P 91030 091	• GUIDE, Arm, LH.....	1	1
19	P 91025 091	• GLIDER.....	2	2
20	P 139654 001	• PANEL, Door.....	1	1
21	P 90168 045	• SCREW, Self Tapping.....	6	6
22	P 430041 045	SCREW, Phillips, #8-32 x 1/4.....	2	1
23	P 422922 075	SWITCH BOX ASSEMBLY.....	1	1
24	P 90624 091	• SWITCH.....	1	1
25	P 450656 091	• FUSEHOLDER.....	1	1
26	P 764317 448	• FUSE, 3AB-250 V, 15 A, Pkg. of 5.....	1	1
27	P 460225 091	• BOX, Switch.....	1	1
28	P 460226 091	• CHANNEL, Switch.....	1	1
29	P 455015 001	RECEPTACLE, Light.....	2	2
30	P 451416 010	LENS, Operating.....	1	1
31	P 90533 010	LENS, Heat.....	1	1
32	P 764317 707	LAMP (Box of 10).....	AR	AR
33	P 418335 110	RECORDER, 120 V, 60 Hz.....	1	
	P 418335 111	RECORDER, 230 V, 50 Hz.....		1
	P 454825 001	• RECORDER CHART, Box of 100.....	AR	AR
	P 764316 564	• CHART DRIVE MOTOR, 120 V, 60 Hz.....	1	1
	P 764320 347	• RECORDER PENS, Pkg. of 6.....	AR	AR
34	P 462163 001	TIMER, 24 Hr., 60 Hz.....	1	
	P 462163 002	TIMER, 24 Hr., 50 Hz.....		1
35	P 418335 136	TEMPERATURE CONTROL.....	1	1
36	P 84413 001	RELAY.....	1	1
37	P 84412 001	SOCKET, Relay.....	1	1
38	P 418335 109	BRACKET ASSEMBLY.....	1	1
39	P 413720 156	KNOB.....	2	2
40	P 455016 001	STRAP, Mounting, Receptacle.....	2	2

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**AMSCO
SERVICE**

**GAS AERATOR
SMALL MEDIUM 120V.60HZ - 230V.50HZ
P-754262-002**

2/89

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