

AMSCO Maintenance Manual



MODULAV

(3/86)

P-757401-001

Modulav

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Printed in U.S.A.

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SECTION 1

GENERAL INFORMATION

The product literature included in this section contains factual data relating to the principal descriptive and identifying characteristics of Modulav Personalized Lavatories. It describes and illustrates general concepts of the equipment, its purpose, capabilities, limitations, and technical specifications.



APPLICATION

This space-saving fixture ... with combination lavatory and retractable toilet bowl ... provides personalized bathroom facilities right at the patient's bedside. The unit is properly trapped and ready for permanent plumbing to building supply and waste lines.

DESIGN AND CONSTRUCTION

General. The unit is enclosed in a freestanding cabinet. 27 1/4 inches wide by 36 inches high by 12 1/4 inches deep (692x914x311mm). The cabinet may be either stainless steel or steel, clad with Mar-lin Tan, linen-textured vinyl, whichever you desire. The toilet bowl placement is optional ... either to the right or left of center as you face the unit. (The two models are mirror images of each other.) The front of the cabinet also includes two easily removable, service-access panels. One panel includes a built-in, roll-type toilet tissue dispenser. A common grounding terminal is provided to connect unit to patient reference ground (by others). The unit is listed by International Association of Plumbing and Mechanical Officials (UPC).

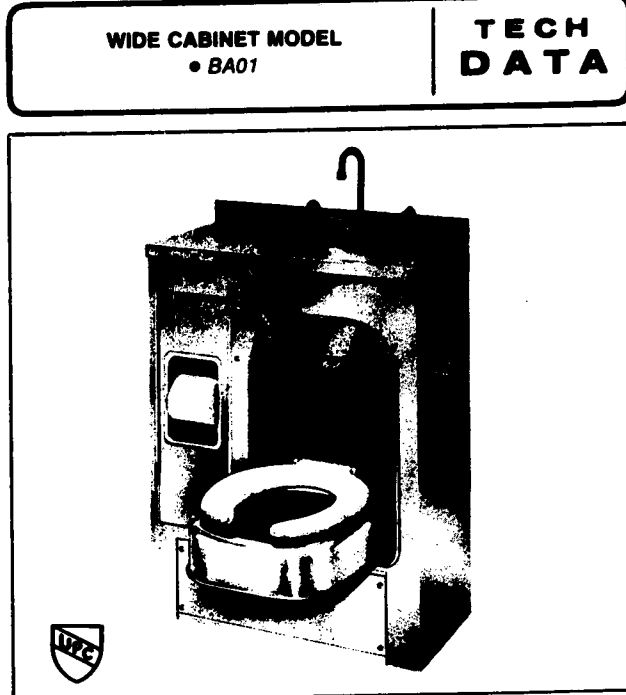
Lavatory includes polished, stainless-steel countertop and washbasin. The oblong basin is 8 inches wide by 13 1/4 inches long by 4 1/4 inches deep (203x337x108mm). Corners are covered for easy cleaning and quick drainage through a cup strainer. The top of the basin has a formed rim to prevent spillage onto the countertop. Underside of the basin is sound deadened.

The faucet is deck mounted. It includes gooseneck spout with aerator and is controlled by either wrist-action handles or foot pedals

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

Toilet bowl is die-formed, mirror-finished stainless steel ... seat is white molded plastic. The bowl retracts neatly into the cabinet. When bowl is lowered, water is automatically released into it to form a pool and thus prevents adhesion of waste to the bowl. Pulling a handle releases approximately 4 gallons (15 liters) of water to effectively flush the bowl.

Two types of cast-iron waste traps ("S" and "P") are available. The "S" trap, for connection to floor-waste piping, operates via natural syphon-ing; the "P" type connects to wall-waste piping. Both types feature built-



Typical only — some details may vary.

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Cabinet Material

- ☐ Stainless Steel
☐ Vinyl-clad steel (Mar-lin Tan Finish)

Type of Lavatory Faucet Control

- ☐ Foot Pedals
☐ Wrist-action Handles

Type of Trap

- ☐ P ☐ S

Toilet Location (when facing unit)

- ☐ Left Side ☐ Right Side

Item No.

Location(s)

OTHER IMPORTANT FEATURES

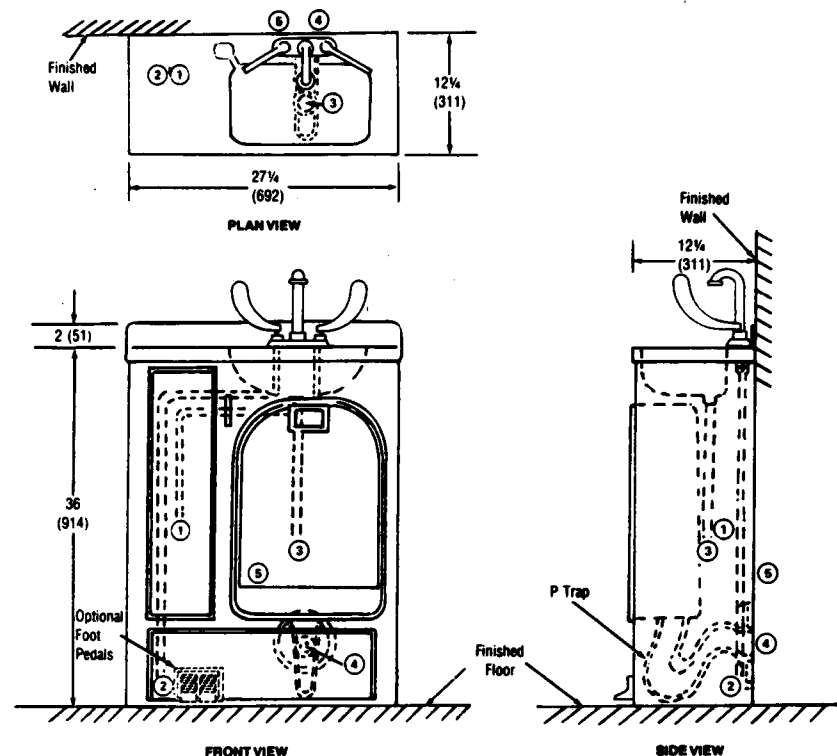
• Flush valves are brass with renewable parts ... vacuum breaker is furnished.

• Toilet bowl pivots on a long-lasting, nickel-bronze cylinder sealed with neoprene "O" rings.

INSTALLATION

We furnish all components necessary to obtain a complete working unit, ready for (but not including) installation and connection to building utility service lines. A wall hanger is provided for securing the upper portion of the cabinet to the building structure. The base has pre-punched holes for bolting the cabinet to the floor.

Modular



MODEL WITH P TRAP

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

OPERATING REQUIREMENTS

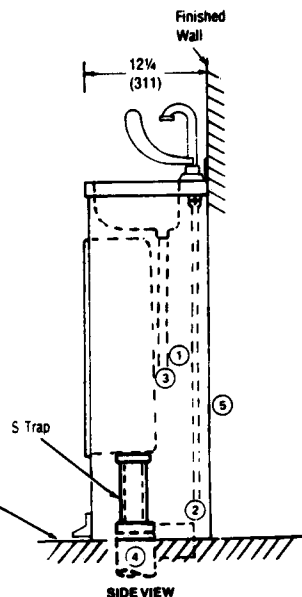
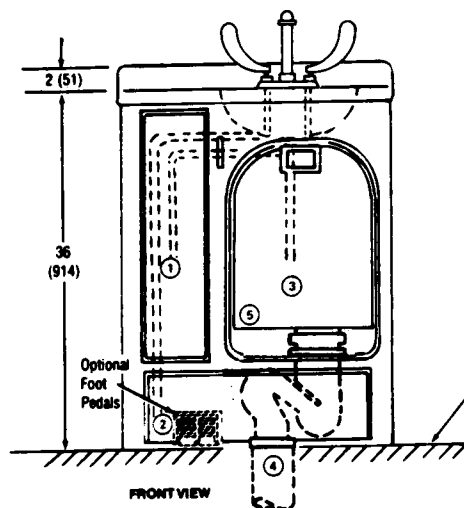
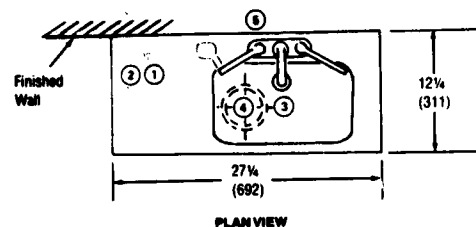
- ① **COLD WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② **HOT WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ **DRAIN** — 1 1/4 ODT
- ④ **TRAP** — CAST IRON (MALE); Connecting adapters, gaskets, packing, nipples and other related hardware to be furnished by others so as to comply with local plumbing codes.
- ⑤ **COMMON GROUNDING TERMINAL** — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

... CHECK LOCAL CODES ...

NOTES

1. Pipe sizes shown are service terminal outlets. Utility service lines to and from the equipment should be increased one pipe size to ensure optimum equipment performance.
2. Wall must be adequately reinforced to support horizontal force of 500 lbs (227 kg) applied 36 inches (914mm) above the floor.
3. Model shown includes toilet on right side of unit. A model with left-hand configuration would have applicable service terminals at opposite locations.
4. Maintain a 6-inch (152-mm) clearance between Modularav and any adjacent structures. Clearance is necessary only on side in which toilet bowl is mounted.

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



MODEL WITH S TRAP

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

OPERATING REQUIREMENTS

- ① **COLD WATER** — 3/4 ODT: 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② **HOT WATER** — 3/4 ODT: 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ **DRAIN** — 1 1/4 ODT
- ④ **TRAP** — 2 1/2 NPT CAST IRON (MALE), approximately 1 1/2 inches (38 mm) long with 2 1/2 NPT steel collar (female) for connection to a four-inch (102 mm) vented soil pipe (by others).
- ⑤ **COMMON GROUNDING TERMINAL** — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

NOTES

1. Pipe sizes shown are service terminal outlets. Utility service lines to and from the equipment should be increased one pipe size to ensure optimum equipment performance.
2. Wall must be adequately reinforced to support horizontal force of 500 lbs (227 kg) applied 36 inches (914 mm) above the floor.
3. Model shown includes toilet on right side of unit. A model with left-hand configuration would have applicable service terminals at opposite locations.
4. Maintain a 6-inch (152 mm) clearance between ModuLAV and any adjacent structures. Clearance is necessary only on side in which toilet bowl is mounted.

CHECK LOCAL CODES

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



AMSCO

APPLICATION

This space-saving fixture ... with combination lavatory, retractable toilet bowl and utility cabinet ... provides complete personalized bathroom facilities within the privacy of the patient's living area. The unit is properly trapped and ready for permanent plumbing to building supply and waste lines.

DESIGN AND CONSTRUCTION

General. The unit is self-contained in a freestanding cabinet, 39 1/2 inches wide by 39 1/4 inches high by 18 1/2 inches deep (1003x1010x470 mm). The cabinet is steel, clad with Mar-lin Tan, linen-textured vinyl ... the counter top is antique white laminated plastic. The toilet bowl placement is optional ... either to the right or left of center as you face the cabinet. The cabinet also includes two easily removable, service-access panels. A roll-type toilet tissue dispenser is attached to the rear of the cabinet door. A common grounding terminal is provided to connect unit to patient reference ground. When required, connection is by others. The unit is listed by International Association of Plumbing and Mechanical Officials.

Lavatory includes a polished stainless-steel washbasin mounted in the countertop. The oval basin is 10 1/2 inches wide by 13 1/4 inches long by 4 1/4 inches deep (267x337x105 mm); a stainless-steel sink strainer is included. The top of the basin has a formed rim to prevent spillage onto the countertop. Underside of the basin is sound deadened.

The faucet is deck mounted. It includes wrist-action handles and gooseneck spout with aerator.

"Wrist-action" type deck-mounted faucets with gooseneck spout and aerator are included.

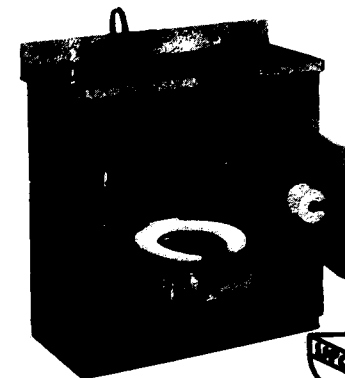
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MODULAV
Wall Vanity Unit
• BA07

TECH
DATA

SD-126R4
(479)



Typical only — some details may vary.

Toilet bowl is die-formed, mirror-finished steel ... seat is white molded plastic. The bowl retracts neatly into the cabinet. When bowl is lowered, water is automatically released into it to form a pool and thus prevents adhesion of waste to the bowl. Pulling a handle releases approximately 4 gallons (15 liters) of water to effectively flush the bowl.

Two types of cast-iron waste traps ("S" and "P") are available. The "S" trap, for connection to floor-waste piping, operates via natural syphoning; the "P" type connects to wall-waste piping. Both types feature a built-in water jet, to ensure complete flushing. An accumulator system ensures a positive water seal to prevent the escape of sewer gases.

Cabinet includes a storage compartment and utility drawer for convenient bedside storage of personal belongings. The compartment also has three shelves (two removable) enclosed by a hinged door.

OTHER IMPORTANT FEATURES

• Flush valves are brass with renewable parts ... vacuum breaker is furnished.

• Toilet bowl pivots on a long-lasting, nickel-bronze cylinder sealed with neoprene "O" rings.

INSTALLATION

We furnish all components necessary to obtain a complete working unit, ready for (but not including) installation and connection to building utility service lines. A wall hanger is provided for securing the upper portion of the cabinet to the building structure. The base has prepunched holes for bolting the cabinet to the floor.

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

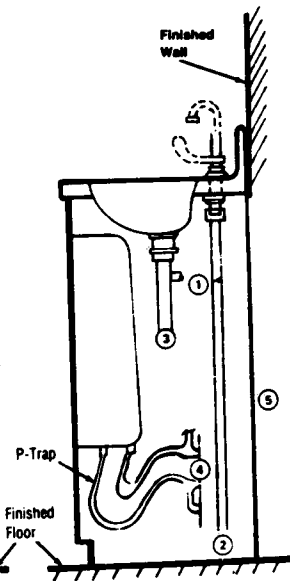
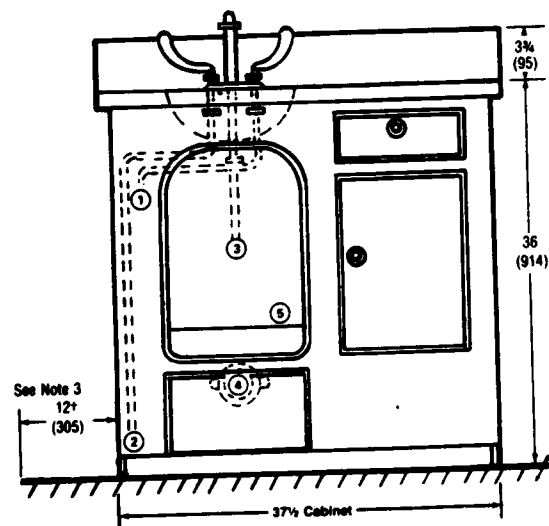
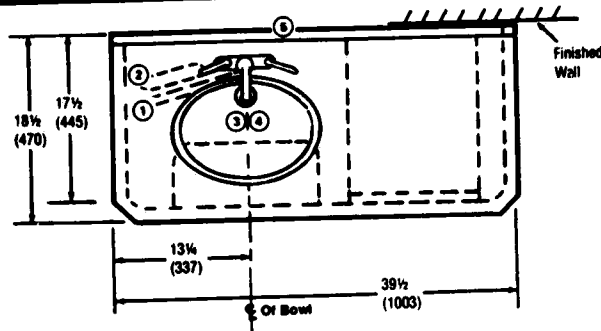
Type of Trap

- ☐ P
☐ S

Toilet Location (when facing unit)

- ☐ Left Side
☐ Right Side

Item No. _____
Location(s) _____



FRONT VIEW

MODEL WITH P TRAP

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

Service Clearance

NOTES

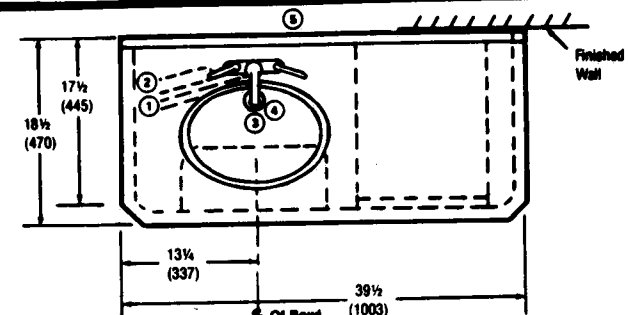
OPERATING REQUIREMENTS

- ① COLD WATER — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② HOT WATER — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ DRAIN — 1 1/4 ODT
- ④ TRAP — CAST IRON (MALE): Connecting adaptors, gaskets, packing, nipples and other related hardware to be furnished by others so as to comply with local plumbing codes.
- ⑤ COMMON GROUNDING TERMINAL — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

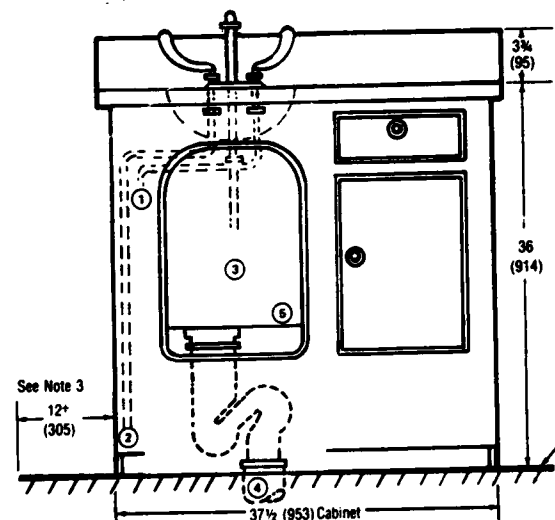
... CHECK LOCAL CODES ...

1. Pipe sizes shown are service terminal outlets. Building lines to and from the equipment should be increased one pipe size to ensure optimum equipment performance.
2. Model shown includes toilet on left side of unit. A model with right-hand configuration would have opposite locations of applicable service terminals.
3. Clearance shown is minimal for installing and servicing the equipment.
4. Wall must be adequately reinforced to support horizontal force of 500 lbs (227 kg) applied 36 inches (914 mm) above the floor.

This print is for guidance when planning space and utility service.



PLAN VIEW



FRONT VIEW

MODEL WITH S TRAP

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

Service Clearance

NOTES

OPERATING REQUIREMENTS

- ① COLD WATER — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② HOT WATER — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ DRAIN — 1 1/4 ODT
- ④ TRAP — 2 1/2 NPT CAST IRON (MALE), approximately 1 1/2 inches (38 mm) long with 2 1/2 inch NPT steel collar (female) for connection to a four-inch (102-mm) vented soil pipe (by others).
- ⑤ COMMON GROUNDING TERMINAL — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

... CHECK LOCAL CODES ...

1. Pipe sizes shown are service terminal outlets. Building lines to and from the equipment should be increased one size to ensure optimum equipment performance.
2. Model shown includes toilet on left side of unit. A model with right-hand configuration would have opposite locations of applicable service terminals.
3. Clearance shown is minimal for installing and servicing the equipment.
4. Wall must be adequately reinforced to support horizontal force of 500 lbs (227 kg) applied 36 inches (914 mm) above the floor.

S-TRAP

Finished Floor

SIDE VIEW

... prints may be obtained from any AMSCO office or representative.

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MODULAV
Narrow Cabinet Model
• BA08

TECH
DATA

SD-127R5
(478)

APPLICATION

This space-saving fixture ... with combination lavatory and retractable toilet bowl ... provides personalized bathroom facilities right at the patient's bedside. The unit is properly trapped and ready for permanent plumbing to building supply and waste lines.

DESIGN AND CONSTRUCTION

General. The unit is enclosed in a freestanding stainless-steel cabinet, 22 $\frac{1}{4}$ inches wide by 36 inches high by 12 $\frac{1}{4}$ inches deep (565 x 914 x 311 mm). The toilet bowl placement is optional ... either to the right or left of center as you face the cabinet. The front and side of the cabinet each include a removable, service-access panel. A common grounding terminal is provided to connect unit to patient reference ground. When required, connection is by others. The unit is listed by International Association of Plumbing and Mechanical Officials.

Lavatory includes polished counter-top and washbasin. The oblong basin is 7 $\frac{1}{4}$ inches wide by 13 $\frac{1}{4}$ inches long by 4 $\frac{1}{4}$ inches deep (200 x 337 x 108 mm). Corners are covered for easy cleaning and quick drainage through a stainless-steel strainer. The top of the basin has a formed rim to prevent spillage onto the countertop. Underside of the basin is sound deadened.

The faucet is deck mounted. It includes wrist-action handles and gooseneck spout with aerator.

Toilet bowl is die-formed, mirror-finished stainless steel ... seat is white molded plastic. The bowl retracts neatly into the cabinet. When bowl is lowered, water is automatically released into it to form a pool and thus prevents adhesion of waste to the bowl. Pulling a handle releases approximately 4 gallons (15 liters) of water to effectively flush the bowl.

Two types of cast-iron waste traps ("S" and "P") are available. The "S" trap, for connection to floor-waste piping, operates via natural syphon-

ing; the "P" type connects to wall waste piping. Both types feature a built-in water jet, to ensure complete flushing. An accumulator system ensures a positive water seal to prevent the escape of sewer gases.

OTHER IMPORTANT FEATURES

- Flush valves are brass with renewable parts ... vacuum breaker is furnished.

- Toilet bowl pivots on a long-lasting, nickel-bronze cylinder sealed with neoprene "O" rings.

INSTALLATION

We furnish all components necessary to obtain a complete working unit, ready for (but not including) installation and connection to building utility service lines. A wall hanger is provided for securing the upper portion of the cabinet to the building structure. The base has prepunched holes for bolting the cabinet to the floor.



Typical only — some details may vary.

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Type of Trap

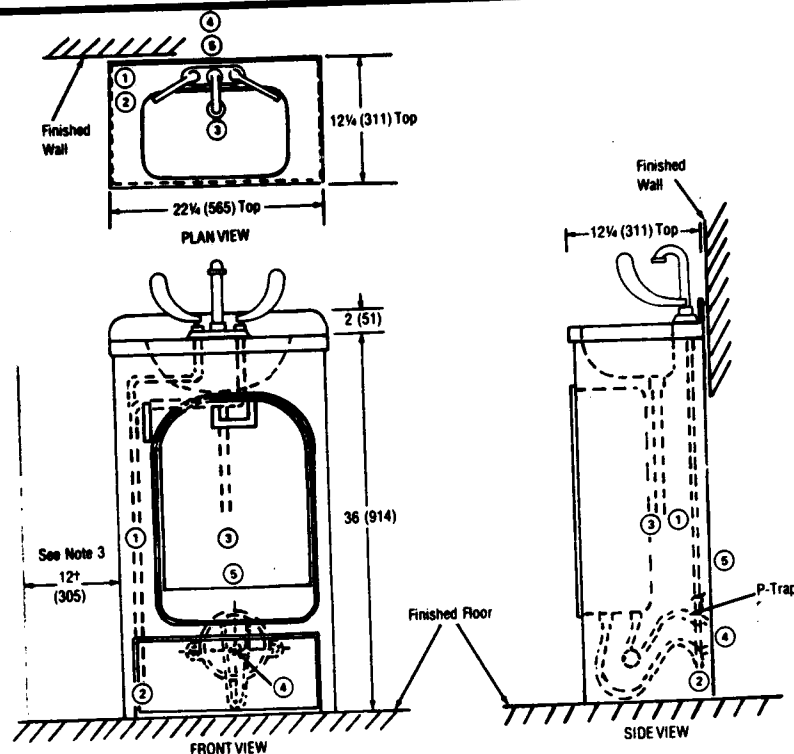
- ☐ P
☐ S

Toilet Location (when facing unit)

- ☐ Left Side
☐ Right Side

Item No. _____
Location(s) _____

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

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

+Service Clearance

OPERATING REQUIREMENTS

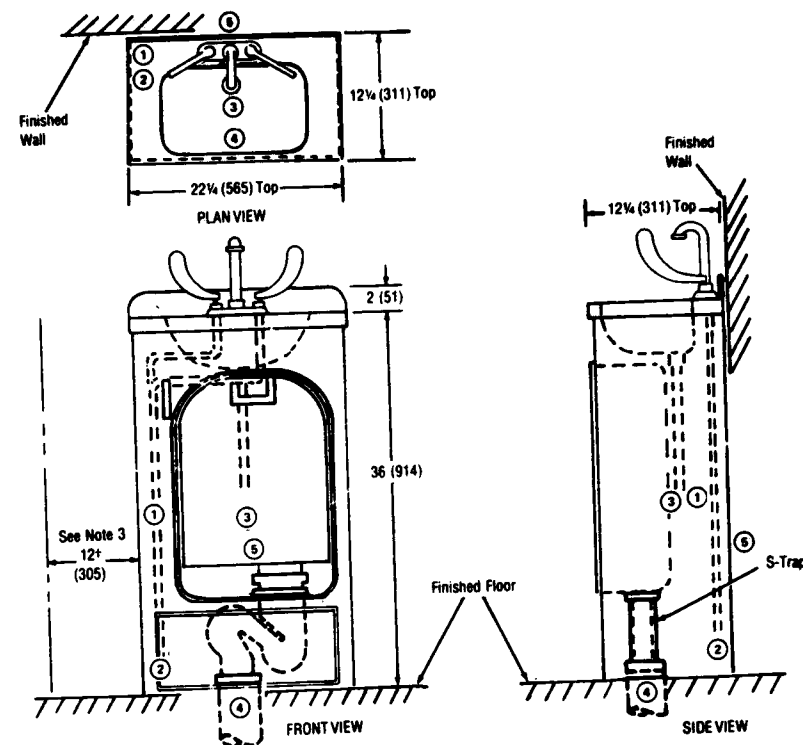
- ① **COLD WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② **HOT WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ **DRAIN** — 1 1/4 ODT
- ④ **TRAP** — GASKET IRON (MALE); Connecting adaptors, gaskets, packing, nipples and other related hardware to be furnished by others so as to comply with local plumbing codes.
- ⑤ **COMMON GROUNDING TERMINAL** — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

CHECK LOCAL CODES

NOTES

1. Pipe sizes shown are service terminal outlets. Building lines to and from the equipment should be increased one pipe size to ensure optimum equipment performance.
2. Model shown includes toilet on right side of unit. A model with left-hand configuration would have opposite locations of applicable service terminals.
3. Clearance shown is minimal for installing and servicing the equipment.
4. Wall must be adequately reinforced to support horizontal force of 500 lbs (227 kg) applied 36 inches (914 mm) above the floor.
5. Maintain a 6-inch (152-mm) clearance on side opposite service panel. Clearance is recommended for convenience of user.

This print is for guidance when planning space and utility services.



MODEL WITH S TRAP

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

+Service Clearance

OPERATING REQUIREMENTS

- ① **COLD WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② **HOT WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ③ **DRAIN** — 1 1/4 ODT
- ④ **TRAP** — 2 1/2 NPT CAST IRON (MALE), approximately 1 1/2 inches (38 mm) long with 2 1/2-inch NPT steel collar (female) for connection to a four-inch (102-mm) vented soil pipe (by others).
- ⑤ **COMMON GROUNDING TERMINAL** — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

CHECK LOCAL CODES

NOTES

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Information prints may be obtained from any AMSCO office or representative.


AMSCO

Modular

APPLICATION

The space-saving fixture ... with retractable toilet bowl ... provides personalized bathroom facilities right at the patient's bedside. The unit is properly trapped and ready for permanent plumbing to building supply and waste lines.

DESIGN AND CONSTRUCTION

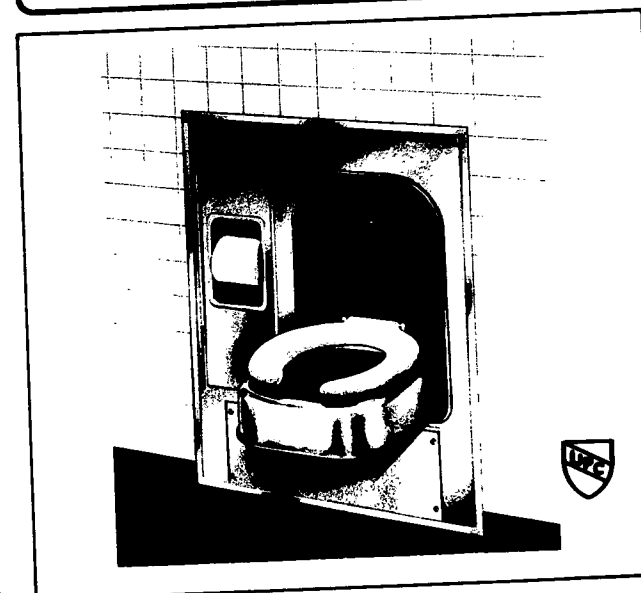
General. The unit is for recessing ... space requirements are 27 1/4 inches wide by 36 1/2 inches high by 11 1/4 inches deep (692x918x286mm). The front panel is stainless steel and includes trim strips to conceal the wall opening. The toilet bowl placement is optional ... either to the right or left of center as you face the unit. (The two models are mirror images of each other.) Two easily removable, service-access panels are provided. One panel includes a built-in, roll-type toilet tissue dispenser. A common grounding terminal is provided to connect unit to patient reference ground (by others). The unit is listed by International Association of Plumbing and Mechanical Officials (UPC).

Toilet bowl is die-formed, mirror-finished stainless steel ... seat is white molded plastic. The bowl retracts neatly into the cabinet. When bowl is lowered, water is automatically released into it to form a pool and thus prevents adhesion of waste to the bowl. Pulling a handle releases approximately 4 gallons (15 liters) of water to effectively flush the bowl.

Two types of cast-iron waste traps ("S" and "P") are available. The "S" trap, for connection to floor-waste piping, operates by natural syphon-ing; the "P" type connects to wall-waste piping. Both feature a built-in

RETRACTABLE TOILET MODEL
For Recessing
• BA10

TECH
DATA



Typical only — some details may vary.

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Type of Trap

☐ P ☐ S

Toilet Location (when facing unit)

☐ Left Side ☐ Right Side

Item No. _____

Location(s) _____

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

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water jet to ensure complete flushing. An accumulator system ensures a positive water seal to prevent the escape of sewer gases.

OTHER IMPORTANT FEATURES

- Flush valves are brass with renewable parts ... vacuum breaker is

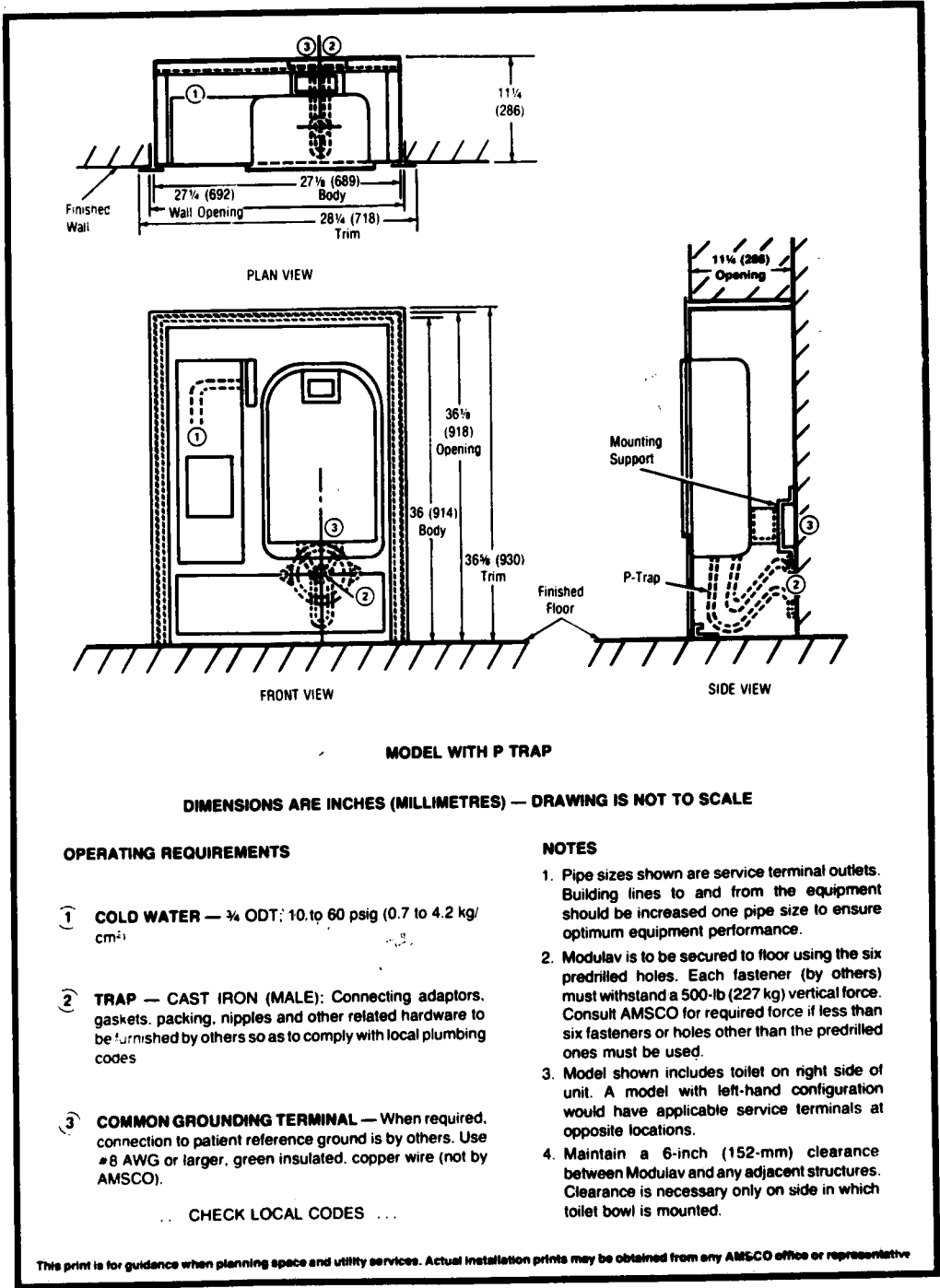
furnished.

- Toilet bowl pivots on a long-lasting, nickel-bronze cylinder sealed with neoprene "O" rings.

INSTALLATION

We furnish all components neces-

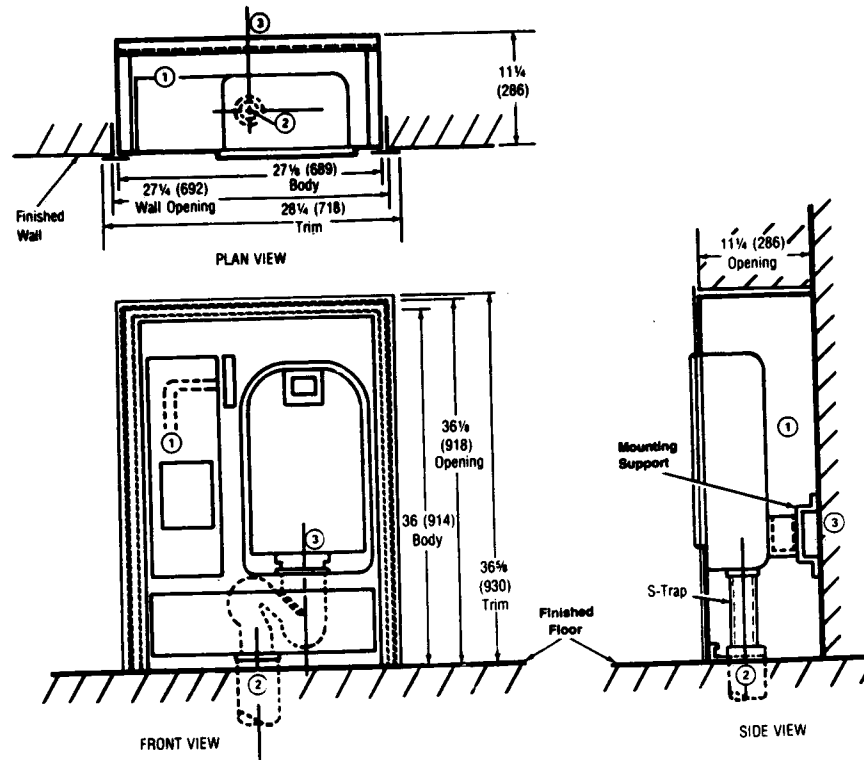
sary to obtain a complete working unit, ready for (but not including) installation and connection to building utility service lines. A steel frame is provided for securing the unit to the building structure. A "saddle" firmly supports the toilet bowl.



SECTION 2

OPERATING INSTRUCTIONS

SECTION 2



MODEL WITH S TRAP

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

OPERATING REQUIREMENTS

- ① **COLD WATER** — 3/4 ODT; 10 to 60 psig (0.7 to 4.2 kg/cm²)
- ② **TRAP** — 2 1/2" NPT CAST IRON (MALE), approximately 1 1/2 inches (38mm) long with 2 1/2" NPT steel collar (female) for connection to a four-inch (102-mm) vented soil pipe (by others).
- ③ **COMMON GROUNDING TERMINAL** — When required, connection to patient reference ground is by others. Use #8 AWG or larger, green insulated, copper wire (not by AMSCO).

... CHECK LOCAL CODES ...

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

NOTES

1. Pipe sizes shown are service terminal outlets. Building lines to and from the equipment should be increased one pipe size to ensure optimum equipment performance.
2. Modulav is to be secured to floor using the six predrilled holes. Each fastener (by others) must withstand a 500-lb (227 kg) vertical force. Consult AMSCO for required force if less than six fasteners or holes other than the predrilled ones must be used.
3. Model shown includes toilet on right side of unit. A model with left-hand configuration would have applicable service terminals at opposite locations.
4. Maintain a 6-inch (152-mm) clearance between Modulav and any adjacent structures. Clearance is necessary only on side in which toilet bowl is mounted.

2-1. GENERAL

The following instructions are intended to guide the serviceman: (1) when instructing operators in techniques designed to ensure optimum equipment performance; and (2) when verifying the validity of operator complaints. See Paragraph 3-4, TROUBLESHOOTING, if the Modulav is not operating properly. Refer to Section 1, GENERAL INFORMATION, for capabilities of the equipment.

2-2. OPERATING INSTRUCTIONS

1. Lower toilet bowl for usage . . . as it is lowered, water automatically enters to create a "wet bowl;" this prevents fusion of waste to bowl.
2. After use, leave bowl in lowered position and pull flush lever . . . this will discharge waste to soil lines. Repeat flushing, if needed.
3. When flushing is completed, slowly raise bowl upright.

2-3. CLEANING INSTRUCTIONS

Toilet

1. Lower the toilet bowl.
2. Scrub bowl with a long-handled brush and a mild detergent such as Calgonite™ (Calgon Corp.).

CAUTION: Never use harsh or abrasive bowl and drain cleaning compounds, wire brush or steel wool on stainless-steel surfaces.

3. Pull flush lever to rinse bowl. Return bowl to upright position when flushing is complete.

Cabinet Panels

1. Use **AMSCO STAINLESS STEEL CLEANER & POLISH** on stainless-steel surfaces. Apply the cleaner with a damp cloth or sponge, thoroughly wipe the soiled surfaces and then polish with a clean, dry cloth. Use **AMSCO PRY Cleaner** 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 circular motion. Do not use either cleaner on painted surfaces. Follow directions on containers.

2. Use a mild detergent such as Calgonite™ (Calgon Corp.) to wash nonstainless-steel surfaces. Rinse with tap water using a sponge or damp cloth. Wipe dry with a lint-free cloth.

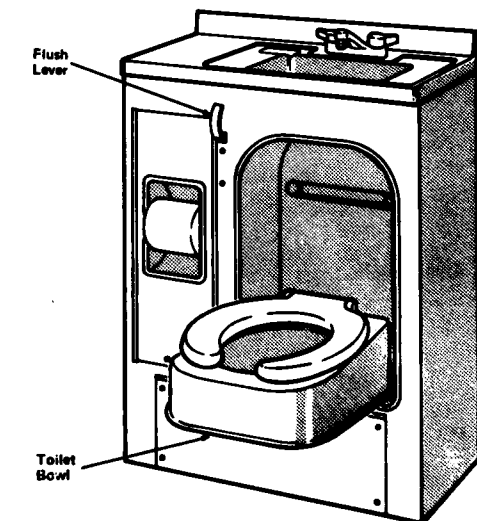


Figure 2-1. TYPICAL MODULAV.

SECTION 3

INSPECTION AND MAINTENANCE

3-1. GENERAL

The maintenance described in Paragraphs 3-2 and 3-3 should be performed at intervals best determined by usage of the equipment. Should a problem occur when operating the unit, refer to Paragraph 3-4, TROUBLESHOOTING.

5. Pull the flush handle and observe the flushing action. Refer to Paragraph 4-2, Function, if flushing time is too short or excessive, or if valve will not close.

3-2. ROUTINE INSPECTION

1. Inspect the entire installation for leaks, damage or malfunction. Replace defective items. Be sure the floor and wall fastenings are tight. Report any plumbing problems to the proper person.

2. Look for worn or damaged parts in the bowl opening and closing linkage and flushing mechanism. Check the rubber bumpers at the back of the bowl housing.

3. Lower and raise the toilet bowl several times. Be sure the air check valve is functioning properly. Adjust the setscrew at the top of the valve if the bowl slams down when lowered. Adjust yoke on end of air check valve rod if door does not fully close when bowl is raised.

4. Lower the toilet bowl. Be sure sufficient water enters bowl when it is lowered. Refer to Paragraph 4-2, Adjustment.

3-3. PREVENTIVE MAINTENANCE

Thoroughly inspect (Par. 3-2) and clean (Par. 2-3) the Modulav.

3-4. TROUBLESHOOTING

1. Use the operating procedures presented in Section 2 to verify trouble symptoms.

2. After the symptom has been verified, refer to Table 3-1. From the table, select the example that is most appropriate to your problem. Follow the recommended correction.

3. Use the Flow Diagram (Fig. 3-1) as an aid in understanding operation of the Modulav and in locating problems.

4. Refer to Section 4, COMPONENT REPAIR AND REPLACEMENT.

TABLE 3-1. TROUBLESHOOTING CHART

PROBLEM	SUGGESTED CORRECTION
1. Little or no water enters toilet bowl when it is lowered	<p>a. Be sure Cold Water Supply Valve is open</p> <p>b. Be sure Flush Handle Camming Pin is free</p> <p>c. Realign Flush Valve or adjust Flush Stem Setscrew, as necessary.</p>
2. Toilet bowl jams when lowered	<p>a. Push Bowl all the way in and pull out again slowly; be sure Toilet seat is not jamming against housing</p>

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PROBLEM	SUGGESTED CORRECTION
3. Toilet slams down when lowered	a. Adjust Setscrew at top of Air Check Valve b. Replace Air Check Valve if adjustment does not solve problem
4. Water leaks around inlet flange	a. Replace "O" rings on Pivot Cylinder
5. Toilet bowl door won't close	a. Adjust Yoke on end of Air Check Valve Rod
6. Water leaks around bottom of pivot cylinder housing	a. Tighten mounting bolts b. Check Gaskets; replace, if necessary
7. Toilet flushes with too much force	a. Close Cold Water Supply Valve slightly to decrease water pressure
8. Water pressure is insufficient to flush toilet	a. Increase supply pressure b. Realign Flush Valve or adjust Flush Stem Setscrew, as necessary
9. Flush valve leaks	a. Check Valve Cap Gasket; replace, if worn or broken
10. Water to bowl will not shut off	a. Be sure Flushing Linkage is not jammed b. Disassemble and clean Flush Valve (Par. 4-2) c. Add regulator to decrease water pressure if Neoprene Washer (on Flush Valve Piston) will not remain seated NOTE: Do not remove the valve body from its mounting bracket unless it is to be replaced; doing so will require realignment.

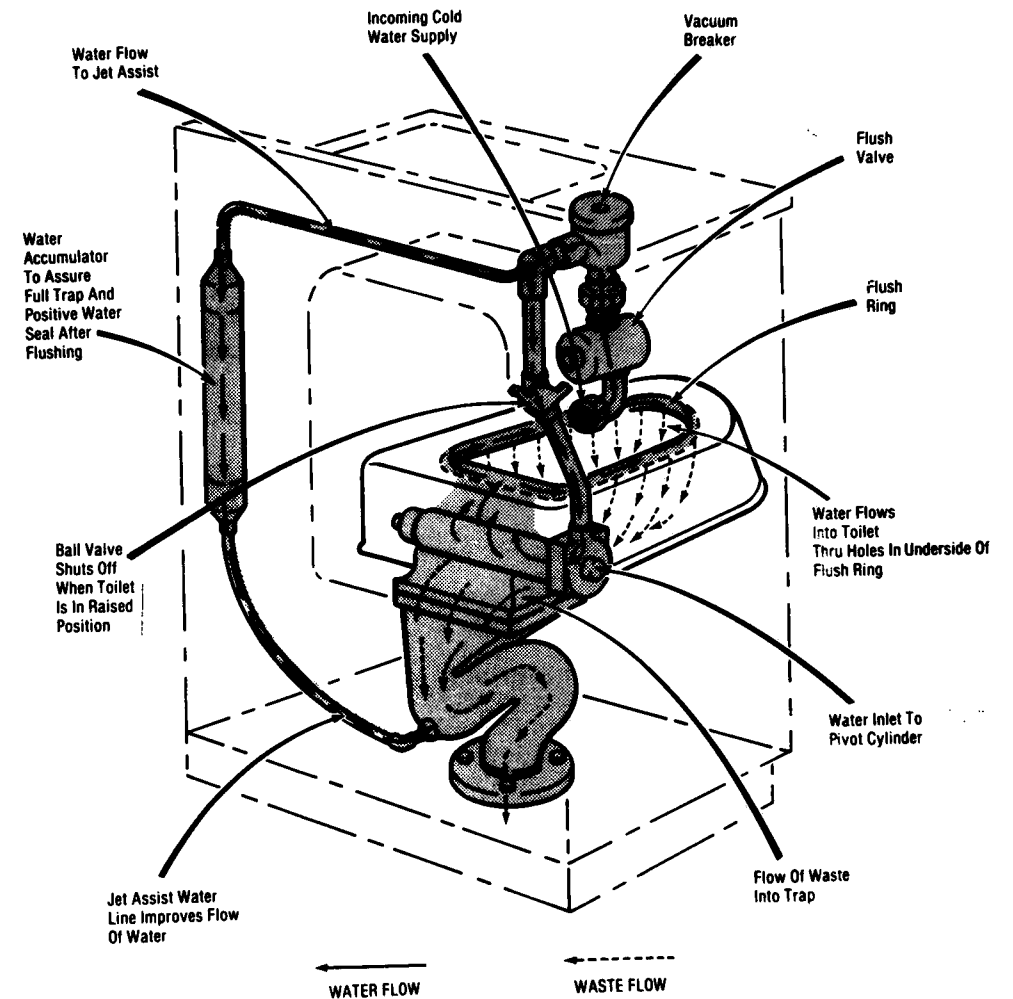


Figure 3-1. MODULAV WATER FLOW DIAGRAM.
Unit Shipped Prior To 7/79
(8-Trap Model Shown).

SECTION 4

COMPONENT REPAIR AND REPLACEMENT

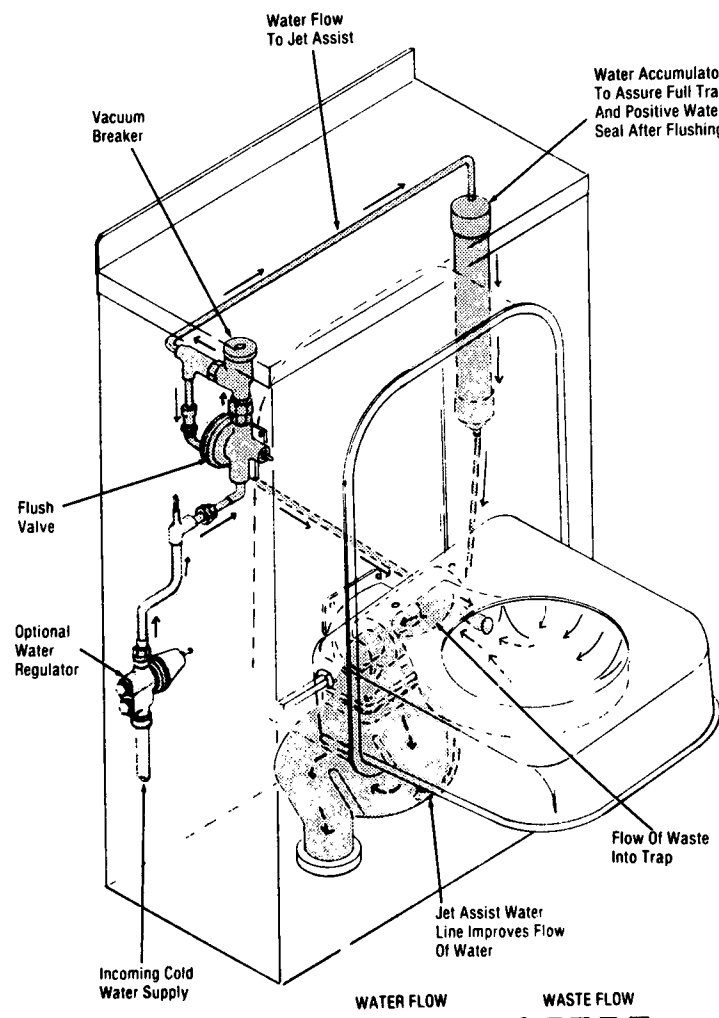


Figure 3-2. FAST TRACK MODULAV WATER FLOW DIAGRAM.

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4-1. GENERAL

This section includes instructions for the adjustment, disassembly, repair and replacement of selected components. Illustrations showing the various parts and assemblies referred to in this Section are in Section 5.

4-2. FLUSH VALVE (Fig. 5-2 or 5-2A)

Function

The flush valve is factory set to release approximately 4 gallons of cold water to effectively flush the toilet bowl each time the flush handle is pulled. A piston and "O" ring assembly divides the valve body into two chambers, with equal pressure in each when the valve is closed. The valve is held closed by a spring which forces the neoprene washer on the end of the piston against the valve seat. Pulling the flush handle pushes the piston towards the valve cap and forces the water out through a 0.020" diameter hole in the piston face. It also lifts the piston off the valve seat allowing water to escape through the outlet port. Releasing the flush handle allows water to re-enter the chamber (between the piston and the valve cap) through the same hole in the piston face. As water pressure equalizes on both sides of the piston, the spring forces the valve closed.

An additional function of the flush valve is to provide a "wet bowl." As the toilet bowl is lowered, the linkage forces the piston off of the valve seat far enough to release water and create the "wet bowl," but not far enough to flush the valve.

If the flushing time becomes excessive, it may be due to plugging of the 0.020" diameter hole in the piston face. Insufficient flushing time can be caused by a worn piston "O" ring. Failure of the valve to shut off is usually caused by faulty seating of the piston washer. In either case it will be necessary to disassemble, clean and inspect the valve components. If piston washer fails to remain seated, check water pressure (it should be 10 to 60 psig).

Repair or Replacement

Identify the valve and order the necessary parts or valve as follows:

1. **Flush valve 465902-001** has "A COLONNA" cast into its body.

Order "new-style" valve 466172-001 (Fig. 5-2), parts are no longer available.

2. **Flush valve 466160-001** is painted **Orange** and has "AMSCO" cast into its body.

Use Figure 5-2A when ordering parts; order "new-style" valve 466172-001 if replacement is required.

3. **Flush valve 466172-001** (current design) is painted **White**, has "AMSCO" cast into its body, and has serial number prefixed with the letter "A."

Use Figure 5-2 when ordering parts.

When flush valve with a black dot on cap does not operate properly, order and install U-cup Pedestal 759769-001 (found on valves with a red or green dot on cap).

Disassembly

1. Remove or open the plumbing access panel as applicable.

2. Shut off water to the flush valve, and then remove the valve cap, gasket and piston spring.

3. Pull flush handle to force piston head out of valve body. Carefully remove entire piston assembly from valve.

4. To replace neoprene washer, disassemble stem from piston and remove washer. Remove "O" rings from piston and stem if they are to be replaced.

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Cleaning and Inspection

1. Wash the parts thoroughly and clean the valve seat.
2. Clean out the 0.020" diameter hole in the piston face. (If this hole is plugged, water cannot enter the chamber and the valve will not shut off properly.)
3. Replace worn parts.

Reassembly

1. Be sure "O" rings are in place on piston and stem and reassemble stem and piston. Apply silicone lubricant to the "O" ring.
2. Replace piston assembly in valve body and reattach valve cap, gasket and piston spring.
3. Turn on water to flush valve and replace plumbing access panel.

Adjustment

1. Check alignment between flushing linkage and valve adjusting screw. Be sure they are making full contact with each other. If necessary, loosen the valve mounting screws and reposition the valve body.
2. Loosen hex nut and turn valve adjusting screw counterclockwise to increase flushing time; turn screw clockwise to decrease it. Tighten hex nut against stem to lock screw in place.

4-3. PIVOT CYLINDER "O" RINGS (FIG. 5-1)**Replacement**

1. Remove or open the plumbing access panel as applicable.
2. Shut off water to the Modulav.
3. Remove cotter pin and slide lifting arm (22) off of pivot cylinder (10).
4. Lower the toilet bowl (10) and remove the screws (on the inside of the bowl enclosure), which secure the water inlet flange (4) to the enclosure.

5. Carefully slide the water inlet flange off of the pivot cylinder. Do not apply undue force on the water inlet tubing.

6. Remove bolts which secure pivot cylinder housing (15) to waste trap (4 bolts) and to the toilet bowl enclosure (2 bolts).

7. Lift the toilet bowl and pivot cylinder assembly from the Modulav.

8. Remove and replace the "O" rings (12 and 13). Be sure the grooves in the pivot cylinder are clean. Apply silicone lubricant to the "O" rings before installing them.

9. Be sure gasket (14) between pivot cylinder housing and toilet bowl enclosure is in place and not damaged.

10. Replace the toilet bowl and pivot cylinder assembly on the Modulav.

11. Secure the pivot cylinder housing to the waste trap and to the toilet bowl enclosure.

12. Carefully replace the water inlet flange on the pivot cylinder. Do not apply undue force on the water inlet tubing.

13. Secure the water inlet flange to the enclosure by replacing the screws on the inside of the bowl enclosure.

14. Raise the toilet bowl and slide lifting arm back onto pivot cylinder.

15. Replace cotter pin.

16. Turn on water to Modulav and replace plumbing access panel.

Wiper Kit

If water leaks from between the pivot cylinder (10) and pivot cylinder housing (15) when toilet bowl is lifted too quickly, install cylinder wiper kit Q-759542-001.

4-4. TOILET BOWL KIT

The toilet bowl and pivot cylinder form a welded assembly. If this assembly does not include two support brackets, order and install kit P-454712-001.

4-5. COLD WATER VALVE KIT

Cold water valve (item 27, Figure 5-1) is no longer available.

When replacing cold water valve, order and install cold water valve kit P-763883-001. The kit includes one cold water valve P-453747-001 and two adapters P-91158-091.

4-6. FAST TRACK SWIVEL FITTINGS (BOWL)**Repair For Leaks Around Bowl And Pivot Assembly**

If nipple or fittings are leaking, use procedures in following paragraphs to attempt to stop leak. If fittings must be replaced, order the following parts and repair procedure:

Part No.	Description	Qty.
P-413716-265	Repair Procedure	1
P-837-091	Reducer	1
P-1622-091	Elbow	1
P-29018-091	Nipple	1
P-33043-091	Clamp, Hose	1
P-413720-154	Adapter, Plastic	1
P-430472-091	Tygon Tubing (4 Ft.)	1

4-7. TUBING AND MANUAL RELEASE BUTTON**Connecting Tubing**

1. To insure a proper fit, tubing must be pushed into fitting 1-1/16".
2. Tubing must be cut square. Any tubing cut more than 13/64 from square will not seal.
3. Both ends of tubing must be chamfered (1/16" x 45 degrees). Also, all burrs must be removed.

Disconnecting Tubing

To disengage the tubing, push in the collet with a screwdriver. If the fitting has a green or white plastic cap, push in on the cap. This will disengage the tube from the locking slope and allow the tubing to be drawn past the gripping ridge.

SECTION 5

SECTION 5

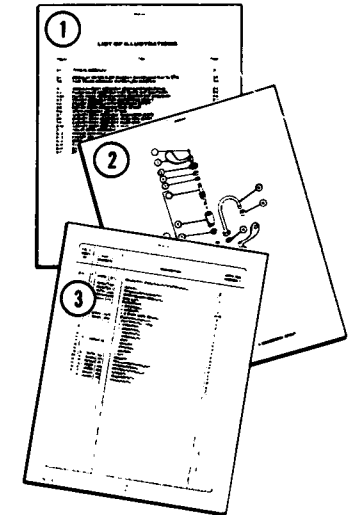
ILLUSTRATIONS AND PARTS LISTS

The following pages contain an illustrated breakdown of selected Modulav parts. To order replacement parts, use the part numbers (where shown) and descriptions provided on the subsequent parts lists. The numbers, descriptions and quantities of the parts listed are those required for a single Modulav. Each indentation in the description represents the assembly level (see example below). The UNITS PER ASSEMBLY is specific for the given top assembly. Include on your order the model, unit and serial numbers of the equipment. Also, where applicable, include component manufacturer and nameplate data. Additional component part numbers, as they are assigned, will be added to the manual in future revisions.

The illustrations do not carry index numbers to components which have little or no replacement frequency, nor to commercial hardware. Such are illustrated, however, merely to aid in various assembly and disassembly procedures covered in this manual. Such parts should either be ordered from AMSCO (by description) or procured locally as the situation dictates. When ordering by description include the figure and index number of the assembly on which the part is located.

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

No Indentation—
part of top
assembly

One Indentation —
(1st subassembly)
Part of above item
with no indentation

GASKET, Valve Cap	
SPRING	
PISTON ASSEMBLY	
• PISTON	
• NUT, Hex	
• WASHER, Neoprene	
• STEM, Piston	
"O" RING, Piston Stem (0.364" I.D.)	

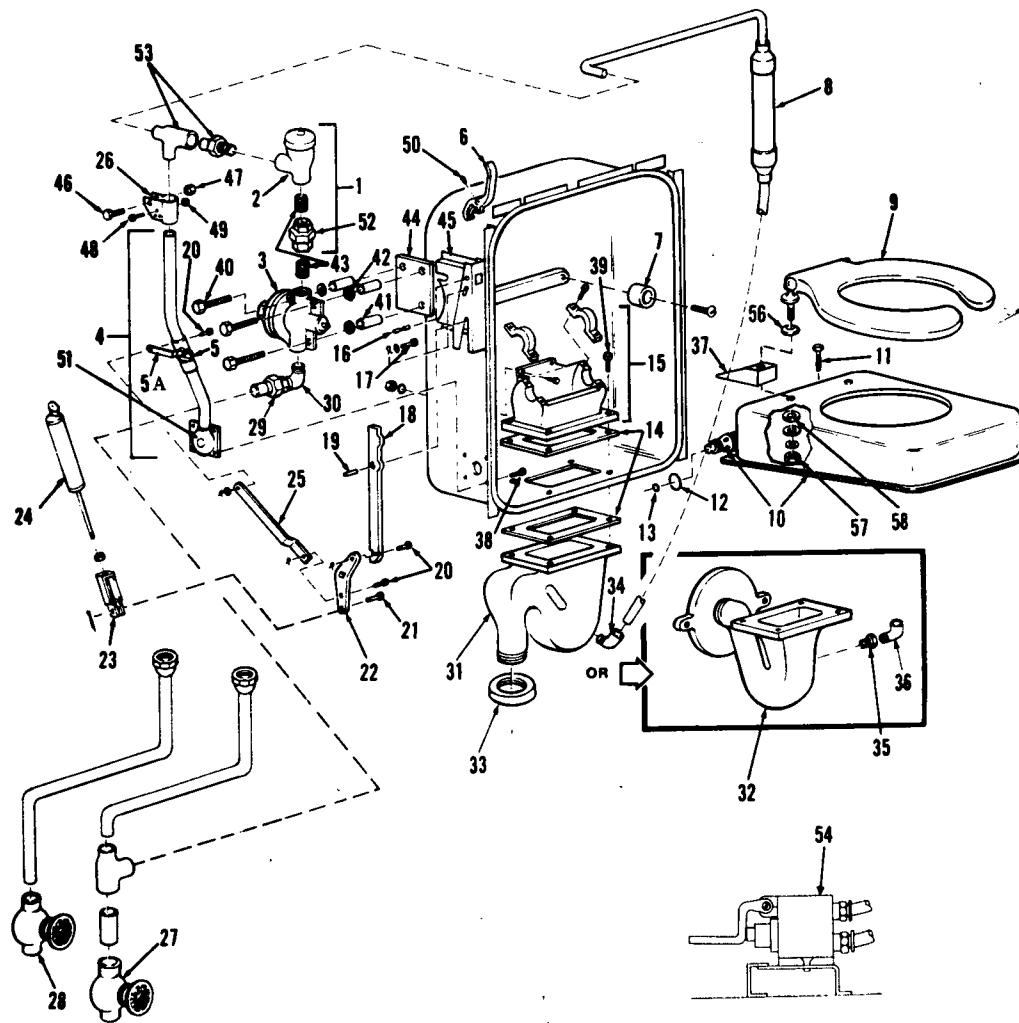


Figure 5-1: MODULAV BODY ASSEMBLY (Right-hand Model Shown).

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY		
5-1-			MODULAV BODY ASSEMBLY, Right Hand	X		
			MODULAV BODY ASSEMBLY, Left Hand		X	
1	P 461299	001	VACUUM BREAKER ASSEMBLY	1	1	
2	P 757835	091	• VACUUM BREAKER	1	1	
7	P 758209	091	• KIT, Repair	A/R/A/R		
3	P 466172	001	FLUSH VALVE — See Figure 5-2	1	1	
4	P 461298	001	TUBING ASSEMBLY, Water Inlet	1	1	
4	P 461298	002	TUBING ASSEMBLY, Water Inlet	1	1	
5	P 764315	943	• BALL VALVE, With Handle (453398)	1	1	
5A	P 759055	002	• HANDLE	A/R/A/R		
	P 764319	114	• O-RING KIT (762029)	1	1	
	P 764319	126	• BALL AND STEM	1	1	
6	P 461292	001	HANDLE, Flushing	2	2	
7	P 33168	091	BUMPER, Rubber	1	1	
8	P 461297	001	RESERVOIR, Water Return	1	1	
9	P 454710	001	TOILET SEAT ASSEMBLY (Note: Only in white)	1	1	
10		NLA	TOILET BOWL WITH PIVOT CYLINDER, Right Hand — assembled with stainless steel cover panel	1		
		NLA	TOILET BOWL WITH PIVOT CYLINDER, Left Hand — assembled with stainless steel cover panel		1	
		NLA	TOILET BOWL WITH PIVOT CYLINDER, Right Hand — assembled with vinyl clad tan cover panel	1		
		NLA	TOILET BOWL WITH PIVOT CYLINDER, Left Hand — assembled with vinyl clad tan cover panel		1	
11	P 412841	001	BOLT, Stop Pin	2	2	
12	P 453403	003	"O" RING, Pivot Cylinder (1-3/8" I.D.)	1	1	
13	P 453403	002	"O" RING, Pivot Cylinder (3/4" I.D.)	1	1	
14	P 453406	001	GASKET, Pivot Cylinder and Trap	2	2	
15	P 422918	242	HOUSING ASSEMBLY, Pivot Cylinder	1	1	
16	P 453416	001	PIN, Hinge	1	1	
17	P 453415	001	PIN, Cam	1	1	
18	P 461279	001	LINK, Flush Valve	1	1	
19	P 453414	001	PIN, Locking	3	3	
20	P 453385	001	PIN, Connector	1	1	
21	P 453413	001	PIN, Pivot	1	1	
22	P 453334	001	ARM, Lifting	1	1	
23	P 453412	001	YOKE	1	1	
24	P 465809	001	AIR CHECK VALVE	1	1	
25	P 453319	001	LINK, Ball Valve	1	1	
26	P 453321	001	BRACKET	A/R/A/R		
27	P 763883	001	KIT, Cold-water Valve	1	1	
	P 453747	001	• VALVE (Not Shown)	2	2	
	P 91158	091	• ADAPTER (Not Shown)	A/R/A/R		
28	P 764289	001	KIT, Hot Water Valve	1	1	
	P 453748	001	• VALVE (Not Shown)	2	2	
	P 90587	091	• ADAPTER (Not Shown)	1	1	
29	P 91226	091	UNION	1	1	
30	P 44500	091	ELL			
31	P 467862	001	"S" TRAP (Floor Waste)	1	1	
32	P 467861	001	"P" TRAP (Wall Waste)	1	1	
33	P 453405	001	COLLAR (S-Trap)	1	1	

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
34	P 90240 091		ELL	1 1
35	P 453524 001		ADAPTER	1 1
36	P 89740 091		ELBOW, 90°, 1/2 NPT Female x 1/4 NPT Male	1 1
37	P 466439 001		BRACKET, Support, Right Hand	1 1
	P 466439 002		BRACKET, Support, Left Hand	1 1
38	P 453419 001		SCREW	4 4
39	P 454133 001		SCREW	4 4
40	P 453426 001		SCREW, 1/4 x 20 x 1/2 Phillips	3 3
41	P 453367 001		SPACER	3 3
42	P 36690 044		WASHER	3 3
43	P 29290 051		NIPPLE	2 2
44	P 453324 001		PLATE, Mounting	1 1
45	P 465894 001		BRACKET, Flush Valve — Right Hand	1 1
	P 465894 002		BRACKET, Flush Valve — Left Hand	1 1
46	P 430347 045		SCREW, 1/4-20 x 1/2	1 1
47	P 430017 045		LOCKNUT, 1/2-20	1 1
48	P 9288 045		SCREW, 8-32 x 1/2	3 3
49	P 430015 045		LOCKNUT, 8-32	3 3
50	P 430364 091		SCREW (For Flushing Handle — Item 6)	2 2
	P 453404 001		ROLLER, Toilet Tissue (Not Shown)	1 1
51	P 465901 001		WATER INLET FLANGE	1 1
52	P 453376 001		UNION	1 1
53	P 461295 001		ADAPTER, Tubing	1 1
	P 461289 001		HANDLE, Toilet Bowl (Not Shown)	1 1
	P 453423 001		SCREW, Handle (Not Shown)	4 4
	P 461600 001		HARNESS, Grounding (Not Shown)	1 1
54	P 453942 001		VALVE, Mixing Foot Pedal	X X
55	P 764315 542		REPAIR KIT, For Bonnet Assembly (P-453942-001)	A/R A/R
56	P 454849 001		LOCK NUT	2 2
57	P 454848 001		SPACER SUPPORT BRACKET	2 2
58	P 10412 042		WASHER	2 2

NOTE: When ordering outside panels, include the following information:

- a. Type of Modulav
- b. Panel Location
- c. Type of Finish
- d. Which Side (Left or Right)

*Optional

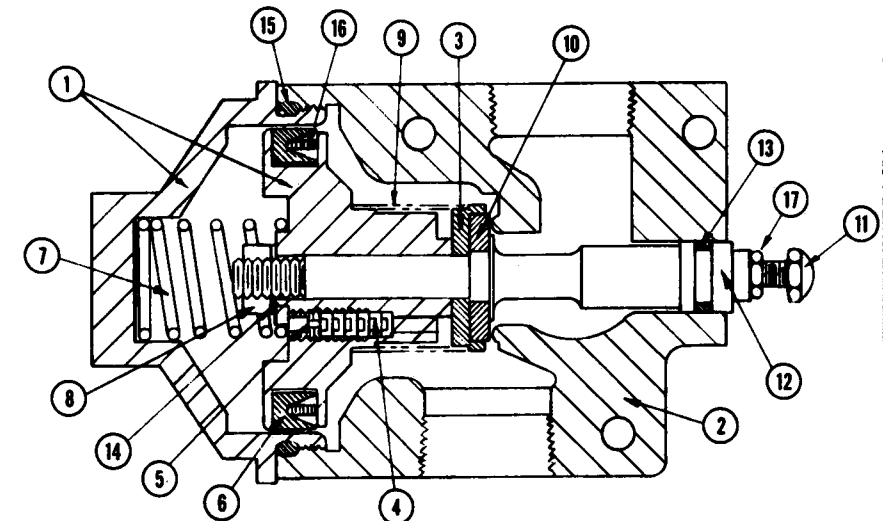


Figure 5-2. FLUSH VALVE ASSEMBLY WITH WHITE CAP (466172-001).

FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
5-2-	P 466172 001		FLUSH VALVE ASSEMBLY	X
	P 762433 001		KIT, Repair	
1	Note		CAP & PISTON (MATCHED)	1
2	Note		BODY	1
3	P 759582 001		RETAINER, Seat	1
4	P 759582 001		DISC, Orifice	6
5	P 759584 001		SCREW, Set	1
6	P 759585 001		SEAL, U-Cup	1
7	P 759586 001		SPRING, Compression	1
8	P 759587 001		NUT, Hex	1
9	P 759588 001		FILTER	1
10	P 759589 001		WASHER, Seat	1
11	P 759590 001		SCREW, Adjustment	1
12	P 759591 001		STEM, Piston	1
13	P 759592 001		"O" RING, Packing	1
14	P 759593 001		WASHER, Lock	1
15	P 759597 001		"O" RING, Packing	1
16	P 759769 001		PEDESTAL, U-Cup	1
17	P 2960 042		NUT, Hex	1

NOTE: Cap & Piston (1) and Body (2) are no longer available. Order complete Flush Valve Assembly if either part (1 or 2) has to be replaced.

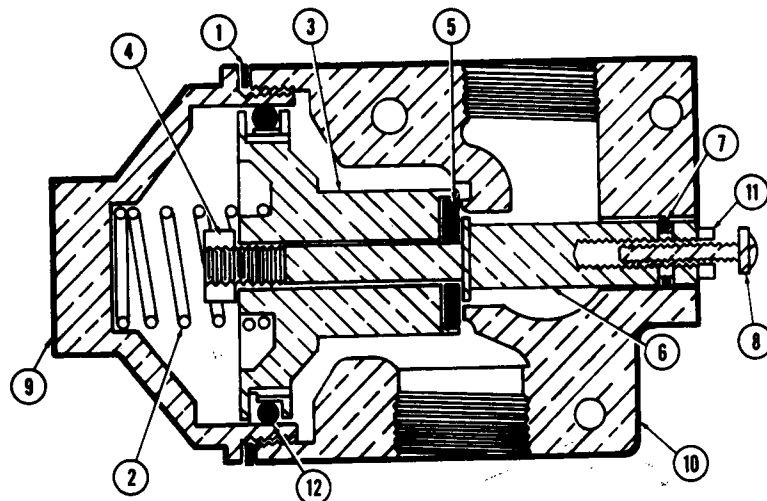


Figure 5-2A. FLUSH VALVE ASSEMBLY WITH ORANGE CAP (466160-001).

FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
5-2A-	Note 1		FLUSH VALVE ASSEMBLY	X
1	P 453399 001		GASKET, Valve Cap	1
2	P 453402 001		SPRING	1
3	Note 2		PISTON ASSEMBLY	1
4			• PISTON	1
5			• NUT, Hex	1
6			• WASHER, Neoprene	1
7	P 454008 001		• STEM, Piston	1
8	P 453526 001		"O" RING, Piston Stem (0.364" I.D.)	1
9	Note 2		SCREW, Adjustment	1
10	Note 2		CAP	1
11	P 430278 045		BODY	1
12	P 454008 002		NUT, Hex	1
			"O" RING, Piston (1.850" I.D.)	1

NOTES:

1. Original part number P-466160-001 is no longer available; order P-466172-001 if complete valve is required.
2. Piston Assembly, Piston (3), Nut (4), Washer (5), Stem (6), Cap (9) and Body (10) are no longer available. Order complete Flush Valve Assembly P-466172-001 if Piston Assembly, parts (3, 4, 5 or 6), part (9) or part (10) has to be replaced.

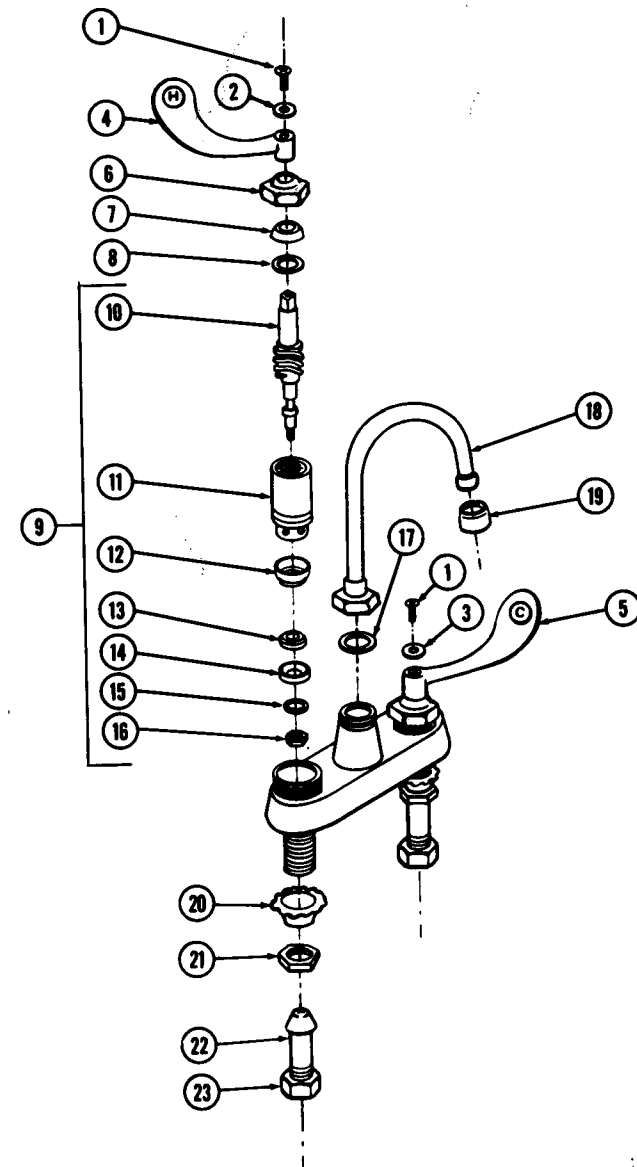


Figure 5-3. FAUCET ASSEMBLY WITH GOOSENECK SPOUT.

FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
5-3-	P 465926	001	FAUCET ASSEMBLY with Gooseneck Spout	X
1	P 761582	001	SCREW	2
2	P 764315	930	INSERT TAB, Red (Hot)	1
3	P 764315	929	INSERT TAB, Red (Cold)	1
4	P 761584	001	HANDLE, Wrist Blade (Hot)	1
5	P 761584	002	HANDLE, Wrist Blade (Cold)	1
6	P 764315	825	NUT, Cap	2
7	P 764315	922	PACKING KIT	A/R
8			• PACKING	2
9	P 759725	001	• WASHER	2
10	P 759725	002	• O-RING (Not Shown)	1
11			QUATURN UNIT (Hot)	1
12			QUATURN UNIT (Cold)	1
13			• STEM (Hot)	1
14			• STEM (Cold)	1
15			• SLEEVE (Hot)	1
16			• SLEEVE (Cold)	1
17			• SEAT	2
18	P 762449	001	• WASHER	2
19			• RETAINER	2
20			• WASHER	2
21			• NUT	2
22	P 761733	001	WASHER	1
23	P 761526	001	SPOUT, Rigid Gooseneck	1
	P 761583	001	OUTLET, Softflow	1
	P 465926	003	WASHER, Crimped Cup	2
	P 465926	004	LOCKNUT	2
	P 465926	005	ADAPTER, Spud	2
	P 465926	006	NUT, Coupling	2

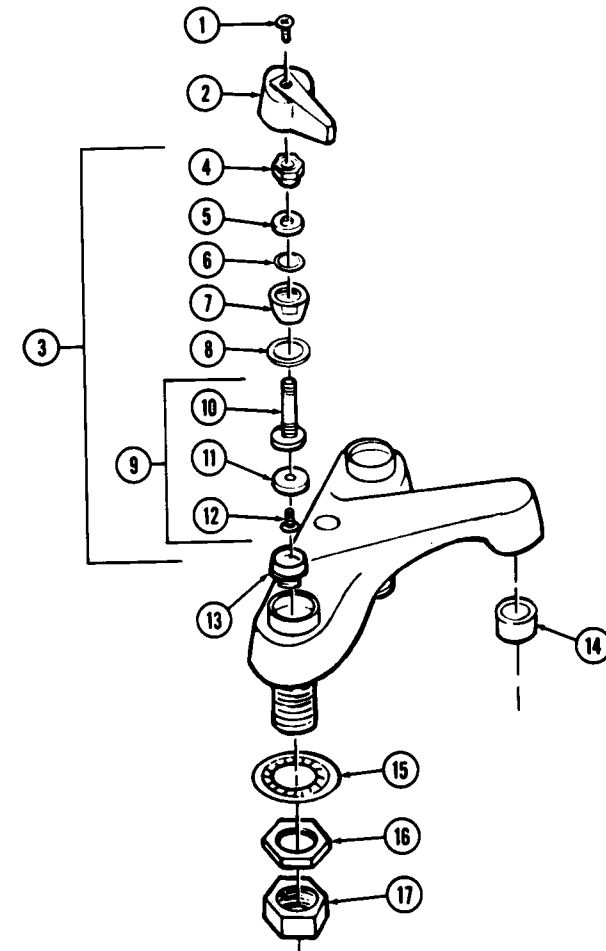


Figure 5-4. FAUCET ASSEMBLY WITH STANDARD SPOUT.

FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
5-4-	P 465927	001	FAUCET ASSEMBLY with Standard Spout	X
1			SCREW, Handle	2
2			HANDLE (H)	1
			HANDLE (C)	1
3			STEM ASSEMBLY (Hot)	1
			STEM ASSEMBLY (Cold)	1
4			• NUT, Packing	2
5			• PACKING	2
6			• WASHER, Brass	2
7			• BONNET (Hot)	1
			• BONNET (Cold)	1
8			• GASKET, Bonnet	2
9			• STEM SUB UNIT (Hot)	1
			• STEM SUB UNIT (Cold)	1
10			• • STEM (Hot)	1
			• • STEM (Cold)	1
11			• • WASHER, Seat	2
12			• • SCREW, Seat Washer	2
13			SEAT	2
14			AERATOR	2
15	P 465927	003	WASHER, Crimped Shank	2
16	P 465927	004	LOCKNUT	2
17	P 465927	006	NUT, Coupling	2

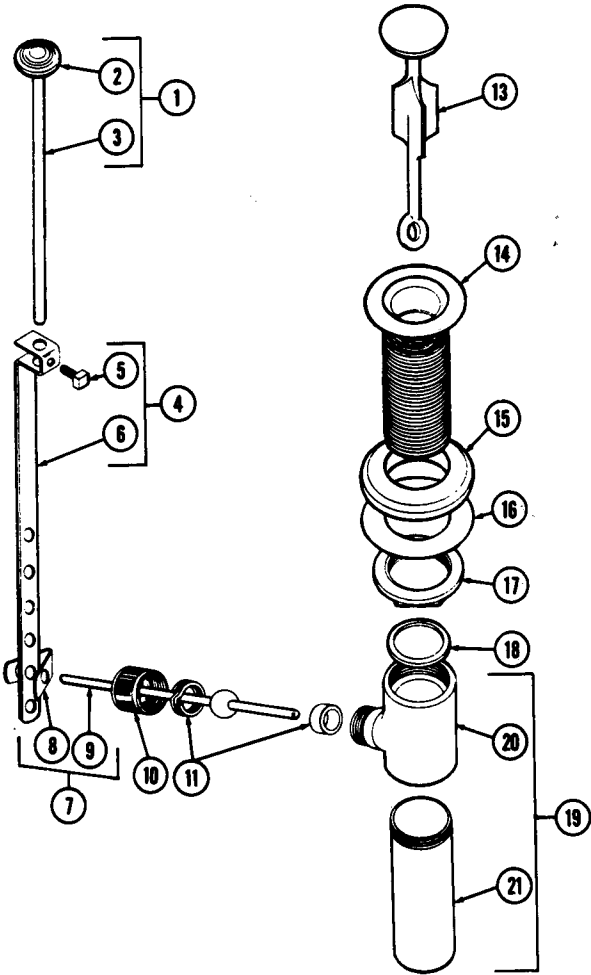


Figure 5-5. POP-UP DRAIN ASSEMBLY (OLD STYLE).

FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
5-5-	P 465929	001	DRAIN ASSEMBLY, Pop Up (Old Style)	X
1			PULL ROD ASSEMBLY, Upper	1
2			• KNOB	1
3			• ROD	1
4			BRACKET ASSEMBLY, Bottom	1
5			• SCREW	1
6			• BRACKET	1
7			ROD AND CLIP ASSEMBLY	1
8	P 761614	001	• CLIP	1
9			• ROD, Ball Lever	1
10			NUT, Knurled Packing	1
11	P 762422	001	PACKING	2
12			Not Used	
13	P 762421	001	PLUNGER	1
14	P 453409	001	DRAIN BODY	1
15			WASHER, Beveled Rubber	1
16			WASHER, Flat Steel	1
17			LOCKNUT	1
18			WASHER, Asbestos	1
19			TEE ASSEMBLY	1
20			• BODY, Tee	1
21	P 762145	001	• TUBE, Drain	1

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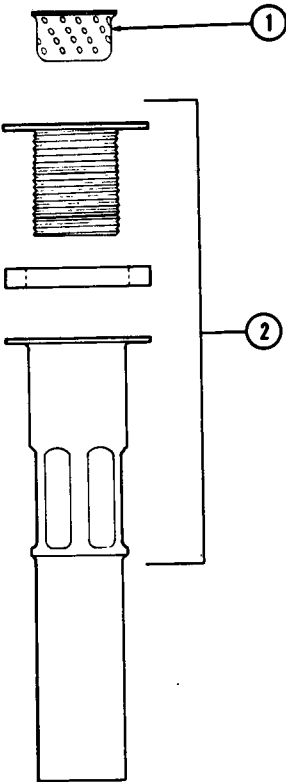


Figure 5-6. DRAIN ASSEMBLY (NEW STYLE).

FIG. & INDEX NO.	PART NUMBER			S V C	DESCRIPTION	UNITS PER ASSEMBLY			
5-6-	P	461982	001		DRAIN ASSEMBLY (New Style)	X			
1	P	431238	091		STRAINER, Crumb Cup	1			
2	P	454689	001		C. O. PLUG WITH TAILPIECE	1			

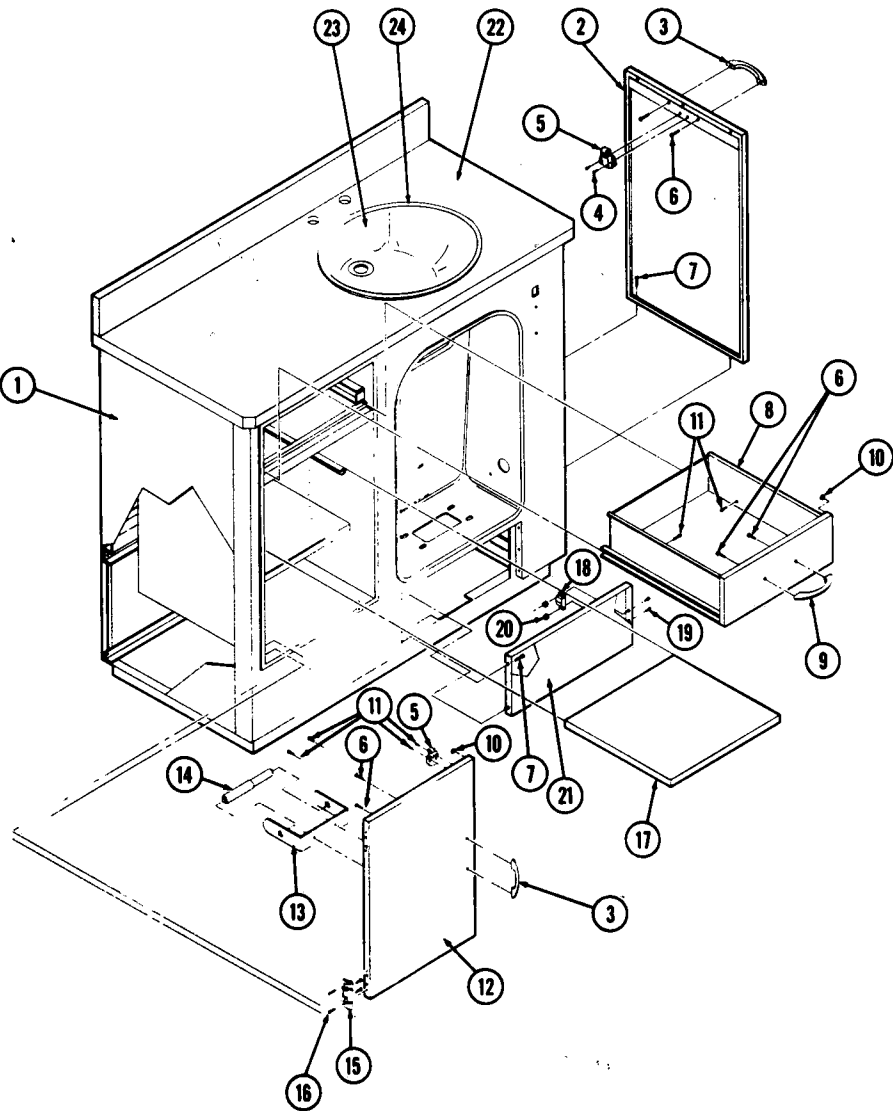


Figure 5-7. CABINET BODY ASSEMBLY: Model H2000 (BA07).

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY			
5-7-			CABINET BODY ASSEMBLY: Model H2000 (BA07)				
			Right Hand, Stainless-Steel Finish	X			
			Right Hand, Vinyl Finish		X		
			Left Hand, Stainless-Steel Finish			X	
			Left Hand, Vinyl Finish				X
1			CABINET BODY	1	1	1	1
2			SIDE PANEL	1	1	1	1
3	P 430061	056	DOOR PULL	2	2	2	2
4	P 430064	045	SCREW, Pan Head, #8-32 x 3/8	2	2	2	2
5	P 431118	045	ROLLER CATCH	2	2	2	2
6	P 430062	045	SCREW, Pan Head, #8-32 x 7/8	6	6	6	6
7	P 430002	045	SCREW, Round Head, #8-32 x 3/8	4	4	4	4
8	P 466000	001	DRAWER	1			1
	P 466000	002	DRAWER		1		1
9	P 430061	056	DRAWER PULL	1	1	1	1
10	P 430053	091	RUBBER BUMPER	3	3	3	3
11	P 430064	045	SCREW, Door Stop, Pan Head, #8-32 x 3/8	6	6	6	6
12	P 461385	001	DOOR	1			
	P 461385	002	DOOR		1		
	P 461385	003	DOOR			1	
	P 461385	004	DOOR				1
13	P 453503	001	TOILET PAPER HOLDER	1	1	1	1
14	P 453404	001	TOILET PAPER ROLLER	1	1	1	1
15		NLA	HINGE	2	2	2	2
16	P 453579	001	SCREW, Flat Head, #8-32 x 1/4	8	8	8	8
17	P 466003	001	SHELF	2	2	2	2
18	P 453417	001	CATCH, Magnetic	1	1	1	1
19	P 430056	045	SCREW, Special Oval Head, #6-32 x 3/8	2	2	2	2
20	P 3037	041	NUT, Hex, #6-32	2	2	2	2
21	P 461379	001	BOTTOM PANEL	1		1	
	P 461397	001	BOTTOM PANEL		1		1
22	P 466432	001	SINKTOP, Right Hand	1	1		
	P 466432	002	SINKTOP, Left Hand			1	1
23	P 465991	001	SINK BOWL	1	1	1	1
24	P 465993	001	HUDEE RIM	1	1	1	1

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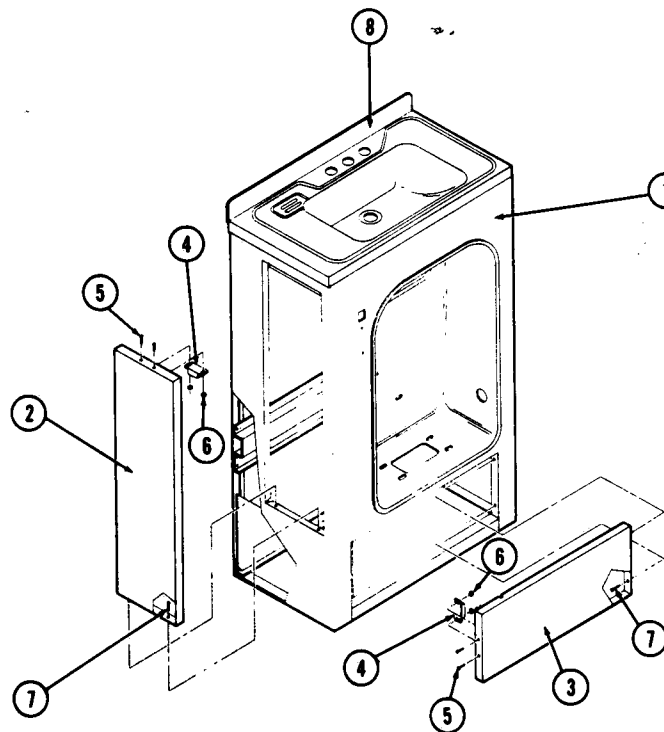


Figure 5-8. CABINET BODY ASSEMBLY: Model H224 (BA08).

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FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY			
5-8-			CABINET BODY ASSEMBLY: Model H224 (BA08)				
			STAINLESS-STEEL FINISH, Right Hand	X			
			VINYL FINISH, Right Hand		X		
			STAINLESS-STEEL FINISH, Left Hand			X	
			VINYL FINISH, Left Hand				X
1			CABINET BODY	1	1	1	1
2	P	461306 001	SIDE PANEL	1	1	1	1
3	P	461277 003	SIDE PANEL		1		1
4	P	461277 004	BOTTOM PANEL	1	1	1	1
5	P	453417 001	BOTTOM PANEL		1		1
6	P	430056 045	CATCH, Magnetic	2	2	2	2
7	P	3037 041	SCREW, Special Oval Head, 6-32 x 3/8	4	4	4	4
8	P	430002 045	NUT, Hex Head, 6-32	4	4	4	4
	P	468206 004	SCREW, Round Head, 8-32 x 3/8	4	4	4	4
			SINKTOP WELDMENT	1	1	1	1

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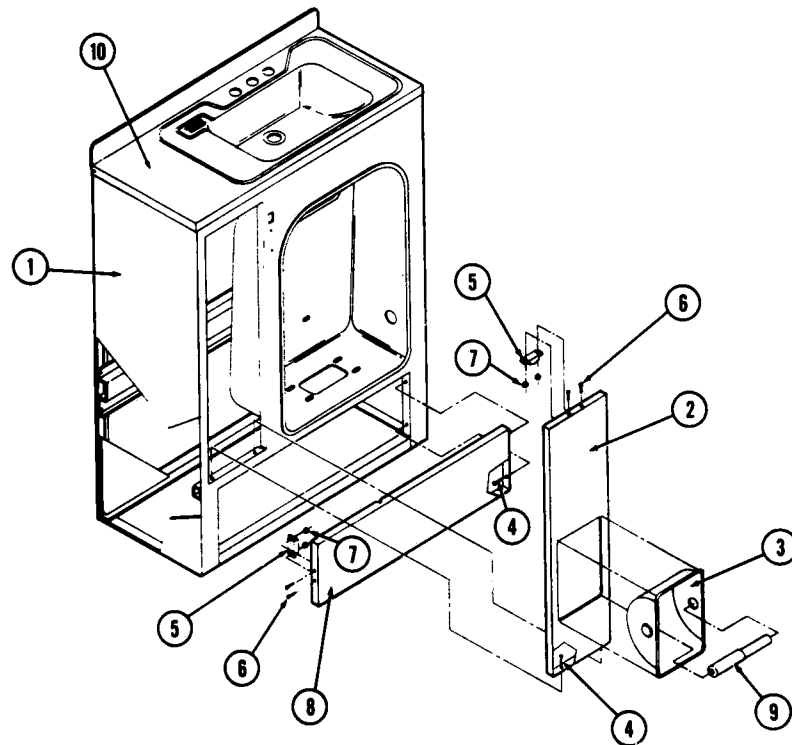


Figure 5-9. CABINET BODY ASSEMBLY: Model H220 (BA01).

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FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY			
5-9-			CABINET BODY ASSEMBLY: Model H220 (BA01)				
			STAINLESS-STEEL FINISH, Right Hand	X			
			VINYL FINISH, Right Hand		X		
			STAINLESS-STEEL FINISH, Left Hand			X	
			VINYL FINISH, Left Hand				X
	1		CABINET BODY	1	1	1	1
	2	P 465910 001	SIDE PANEL	1	1	1	1
	3	P 465908 001	TOILET PAPER HOLDER	4	4	4	4
	4	P 430002 045	SCREW, Round Head, 8-32 x 3/8	2	2	2	2
	5	P 453417 001	CATCH, Magnetic	4	4	4	4
5-10	6	P 430056 045	SCREW, Oval Head, 6-32 x 3/8	4	4	4	4
	7	P 3037 041	NUT, Hex, 6-32	1	1	1	1
	8	P 461277 001	BOTTOM PANEL	1	1	1	1
		P 461446 001	BOTTOM PANEL (Foot Control Pedals)			1	1
		P 461563 001	BOTTOM PANEL (Foot Control Pedals)				1
		P 461563 002	BOTTOM PANEL (Foot Control Pedals)	1			
		P 461562 001	BOTTOM PANEL (Foot Control Pedals)		1		
		P 461562 002	BOTTOM PANEL (Foot Control Pedals)	1	1	1	1
	9	P 453404 001	TOILET TISSUE ROLLER	1	1		
	10	P 468206 001	SINKTOP WELDMENT (Gooseneck Faucet)			1	1
5-10		P 468206 002	SINKTOP WELDMENT (Gooseneck Faucet)				1
		P 426558 001	SINKTOP WELDMENT (Foot Control Pedals)	1	1		
		P 426558 002	SINKTOP WELDMENT (Foot Control Pedals)			1	1

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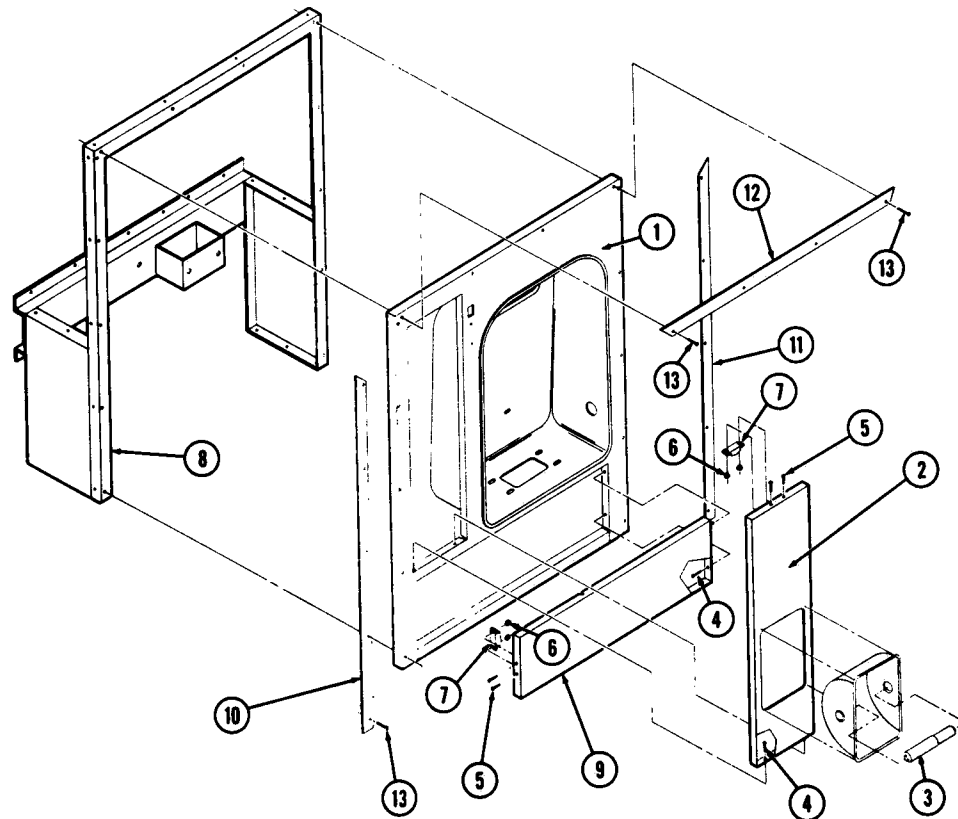


Figure 5-10. CABINET BODY ASSEMBLY: Model H230 (BA10).

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY			
5-10-			CABINET BODY ASSEMBLY: Model H230 (BA10)				
			STAINLESS-STEEL FINISH, Right Hand	X		X	
			STAINLESS-STEEL FINISH, Left Hand				
1			CABINET BODY	1	1		
2	P 465910	003	SIDE PANEL	1	1		
3	P 453404	001	TOILET TISSUE ROLLER	1	1		
4	P 430002	045	SCREW, Round Head, 8-32 x 3/8	4	4		
5	P 430056	045	SCREW, Special Oval Head, 6-32 x 3/8	4	4		
6	P 3037	041	NUT, Hex, 6-32	4	4		
7	P 453417	001	CATCH, Magnetic	2	2		
8	P 465973	001	FRAME, Mounting	1			
	P 465973	002	FRAME, Mounting		1		
9	P 461277	001	PANEL, Bottom	1	1		
10	P 453771	001	TRIM STRIP, Left Hand	1	1		
11	P 453771	002	TRIM STRIP, Right Hand	1	1		
12	P 453770	001	TRIM STRIP, Top	1	1		
13	P 453522	001	SCREW, Pan Head, 10-24 x 1-5/8	14	14		

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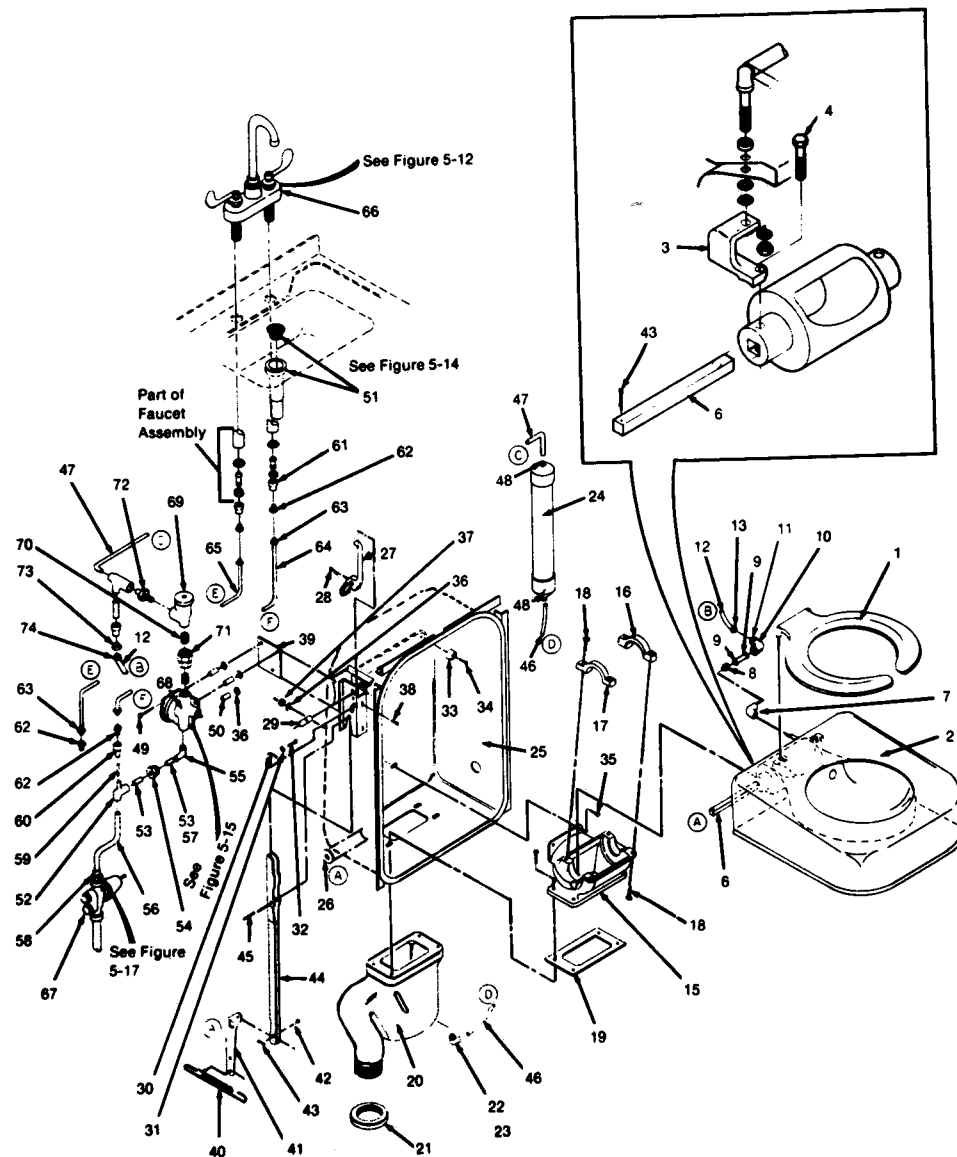


Figure 5-11. TOILET BOWL ASSEMBLY, All Models.

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FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
5-11-			TOILET BOWL ASSEMBLY, All Models	X
1	P 454710	001	TOILET SEAT ASSEMBLY, White	1
2		NLA	TOILET BOWL AND PIVOT CYLINDER ASSEMBLY, Right Hand, Stainless Steel	1
		NLA	TOILET BOWL AND PIVOT CYLINDER ASSEMBLY, Left Hand, Stainless Steel	1
		NLA	TOILET BOWL AND PIVOT CYLINDER ASSEMBLY, Right Hand, Vinyl Clad	1
		NLA	TOILET BOWL AND PIVOT CYLINDER ASSEMBLY, Left Hand, Vinyl Clad	1
3	P 422918	246	BRACKET, Right Hand	1
	P 422918	247	BRACKET, Left Hand	1
4	P 412841	001	BOLT, Stop Pin	2
5			NOT USED	
6	P 413715	305	ACTUATOR BAR	1
7	P 413715	283	ELBOW	1
	P 413716	265	KIT, Repair, Swivel	1
8	P 837	091	• REDUCER, Brass	1
9	P 29018	091	• NIPPLE	1
10	P 1622	091	• ELBOW	1
11	P 413720	154	• ADAPTER, Plastic	2
12	P 430472	091	• TUBE, Tygon, 1/2 x 4 Ft.	1
13	P 33043	091	• CLAMP, Hose	1
14	P 454849	001	LOCKNUT, 3/8-16	2
	NLA		HOUSING ASSEMBLY, Pivot Cylinder	1
15	NLA		• HOUSING, Pivot Cylinder	1
16	NLA		• CAP, Bearing, Right Hand	1
17	NLA		• CAP, Bearing, Left Hand	1
18	NLA		• CAP SCREW, Stainless-Steel Socket Head, 5/16-18 x 3/4	4
19	P 453406	001	GASKET	1
20	P 467862	001	S-TRAP (Shown)	1
	P 467861	001	P-TRAP	1
21	P 453405	001	COLLAR, S-Trap	1
22	P 90240	091	ELBOW, 90°, (S-Trap)	1
23	P 90207	091	ADAPTER (P-Trap)	1
24	P 461297	001	WATER RETAINING RESERVOIR, Weldment	1
25	P 422918	226	TOILET HOUSING WELDMENT, Left Hand	1
	P 422918	227	TOILET HOUSING WELDMENT, Right Hand (Shown)	1
26	P 413715	263	GROMMET, Rubber (Water Line And Pivot Cylinder)	1
27	P 461292	001	HANDLE, Flushing	1
28	P 36883	091	SET SCREW, Allen Head, 10-32 x 1/4	1
29	P 453416	001	PIN HINGE	1
30	P 3185	091	COTTER PIN	1
31	P 453422	001	WASHER	2
32	P 453415	001	PIN, Cam	1
33	P 33168	091	BUMPER, Rubber	2
34	P 3990	042	SCREW, 10-24 x 3/8	2
35	P 453590	001	BOLT, Hex Head, 5/16-18 x 1-1/4	2
36	P 36690	044	WASHER, Flat	5
37	P 430280	045	NUT, Hex Head, 5/16 x 18	2
38	P 430364	091	SCREW, 6-32 x 1/4	1
39	P 453324	001	PLATE, Mounting	1
40	P 413715	251	SPRING, Extension, Models H-224, H-230, H-220	1

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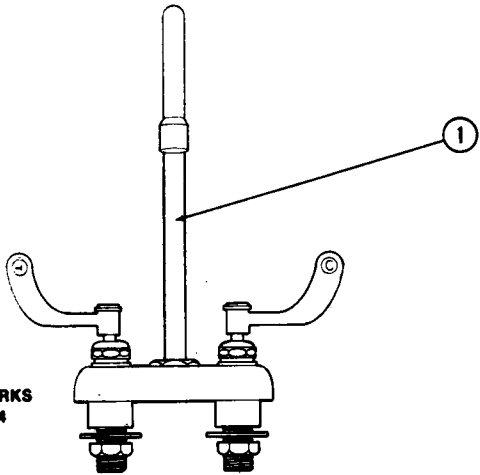
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FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
	P 413715	254	SPRING, Extension, Model H-2000	1
41	P 453334	001	LIFTING ARM	1
42	P 453385	001	PIN, Connection, 1/4 x 1/2	1
43	P 16958	091	COTTER PIN	2
44	P 461279	001	FLUSH VALVE LINK	1
45	P 453414	001	PIN, Locking, 1/4 x 1-1/4	1
46	P 461300	001	TUBING, Bottom, P-Trap, Right Hand	1
	P 461286	001	TUBING, Bottom, P-Trap, Left Hand	1
	P 461286	002	TUBING, Bottom, P-Trap, Model H-2000, Left Hand	1
	P 461285	001	TUBING, Bottom, S-Trap	1
47	P 461283	001	TUBING, Top, P & S Trap, Left Hand	1
	P 461283	002	TUBING, Top, P & S Trap, Right Hand	1
	P 461283	003	TUBING, Top, P-Trap, Model H-2000, Left Hand	1
48	P 453380	001	FLUSH BUSHING	2
49	P 453426	001	SCREW, Fillister Head, 1/4-20 x 1-1/2	3
50	P 453367	001	SPACER	3
51	P 461982	001	DRAIN ASSEMBLY, (Figure 5-14)	1
52	P 453371	001	TEE, Reducing	1
	P 44495	091	ELBOW, 90°, Model H-230	1
53	P 453337	001	TUBING, Nipple	2
54	P 91226	091	UNION	1
55	P 44500	091	ELBOW, 90°	1
56	P 461473	001	TUBING, Nipple, Model H-224	1
	P 453337	004	TUBING, Nipple, Model H-230, H-220	1
	P 453337	001	TUBING, Nipple, Model H-2000	1
57	P 453337	003	TUBING, Nipple, Model H-2000	1
58	P 91158	091	ADAPTER	1
59	P 413715	282	TUBING, 1/2 OD	1
60	P 413715	265	ADAPTER	1
61	P 413715	290	REDUCER, 1/2 NPT - 3/8 NPT	2
62	P 413715	259	CONNECTOR, Male	4
63	P 413715	261	RELEASE BUTTON, White	4
64	R 3500	816	TUBING, 3/8 OD x 18, Model H-220, H-224	1
	R 3500	816	TUBING, 3/8 OD x 13-1/8, Model H-2000	1
65	R 3500	816	TUBING, 3/8 OD x 22	1
66	P 418331	177	FAUCET ASSEMBLY, Model H-220, H-224	1
	P 466431	001	FAUCET ASSEMBLY, Model H-2000	1
67	P 453731	001	WATER REGULATOR	1
68	P 466172	001	FLUSH VALVE ASSEMBLY	1
69	P 453397	001	VACUUM BREAKER (Substitute 757835-091)	1
70	P 29290	051	NIPPLE, 3/4 NPT	2
71	P 453376	001	UNION	1
72	P 418331	178	ADAPTER	1
73	P 413715	258	CONNECTOR, Hex Head	1
74	P 413715	262	RELEASE BUTTON	1

(NOT USED)

T & S BRASS & BRONZE WORKS
NO. B-2127 FAUCET W/BWH4
For Models H-220, H-224



CHICAGO FAUCET NO. 895
W.GNZAH9
For Model H-2000

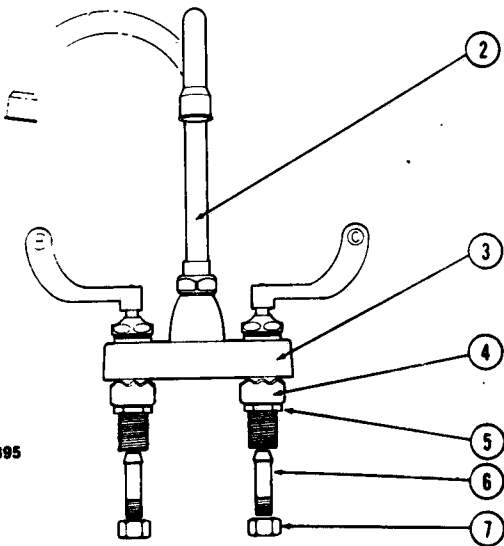


Figure 5-12. FAUCET ASSEMBLY WITH GOOSENECK SPOUT.

FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY			
5-12-			FAUCET ASSEMBLY With Gooseneck Spout				
1	P 418331	177	FAUCET ASSEMBLY, For Models H-220, H-224	X			
2	P 466431	001	FAUCET ASSEMBLY, For Model H-2000		X		
3	P 466431	002	FAUCET BODY, Gooseneck Spout, Aerator, Wrist Blades		1		
4	P 466431	003	WASHER, Crimped Cup		2		
5	P 466431	004	LOCKNUT, 1/2-14 NPT, Hex Nut		2		
6	P 466431	005	SPUD, Adapter		2		
7	P 466431	006	COUPLING NUT, 1/2-14 NPT, Hex Nut		2		

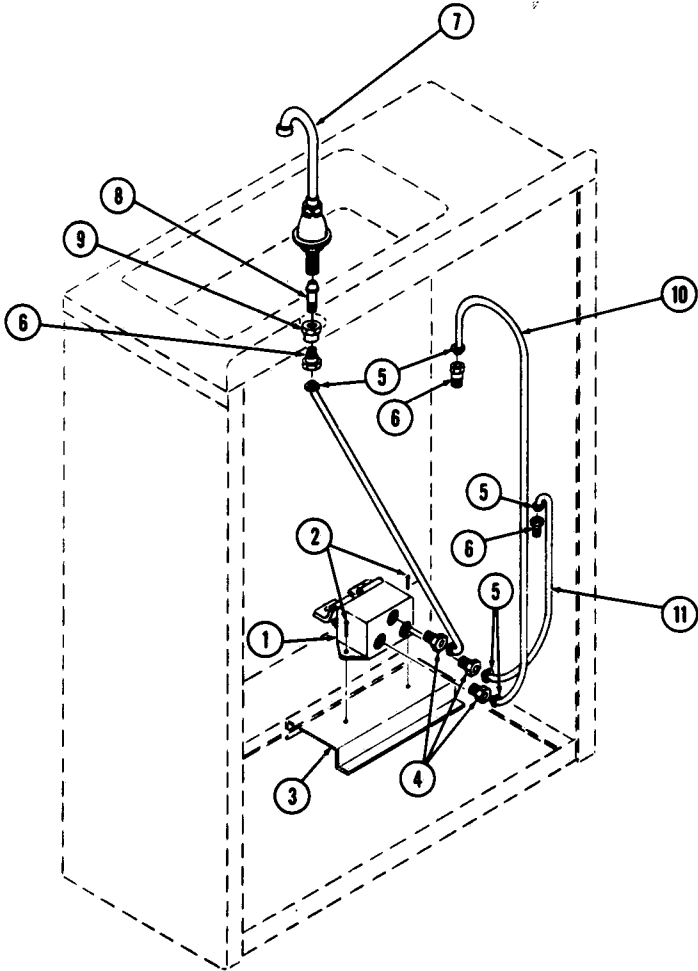


Figure 5-13. FAUCET ASSEMBLY WITH FOOT CONTROLS.

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FIG. & INDEX NO.	PART NUMBER			S V C	DESCRIPTION	UNITS PER ASSEMBLY		
5-13-					FAUCET ASSEMBLY, With Foot Controls	X		
1	P	453942	001		MIXING VALVE, Foot Pedal	1		
	P	764315	542		• REPAIR KIT, Valve	A/R		
2	P	79764	001		SCREW, Flat Head, 10-32 x 9/16	2		
3	P	453943	001		CHANNEL, Base	1		
4	P	413715	281		CONNECTOR, Male, 3/8 ODT — 1/2 NPT	3		
5	P	413715	261		RELEASE BUTTON, 3/8 ODT, White	6		
6	P	413715	259		CONNECTOR, Male, 3/8 NPT — 3/8 ODT	3		
7	P	466145	001		FAUCET ASSEMBLY	1		
8	P	466145	002		TAILPIECE	1		
9	P	413715	290		REDUCER, Female, 3/8 NPT — 1/2 NPT	1		
10	R	3500	816		TUBING, Cold Water, 3/8 ODT Nylon (4 Ft)	2		
11	R	3500	816		TUBING, Hot Water, 3/8 ODT, Nylon (3 Ft)	1		

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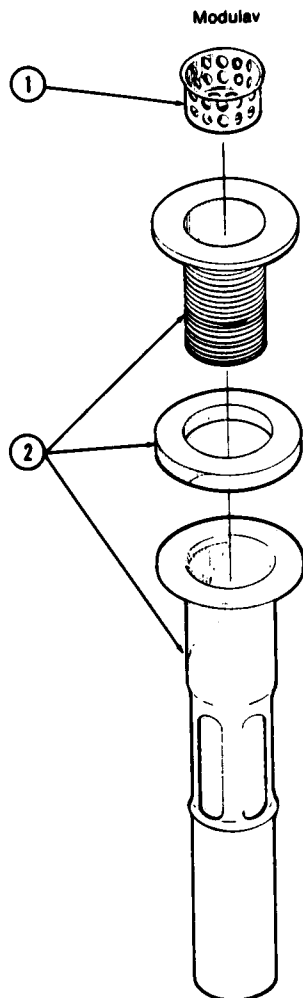


Figure 5-14. DRAIN ASSEMBLY.

FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
5-14-	P 461982	001	DRAIN ASSEMBLY	X
1	P 431238	091	STRAINER, Crumb Cup	1
2	P 454689	001	C.O. PLUG With Tailpiece	1

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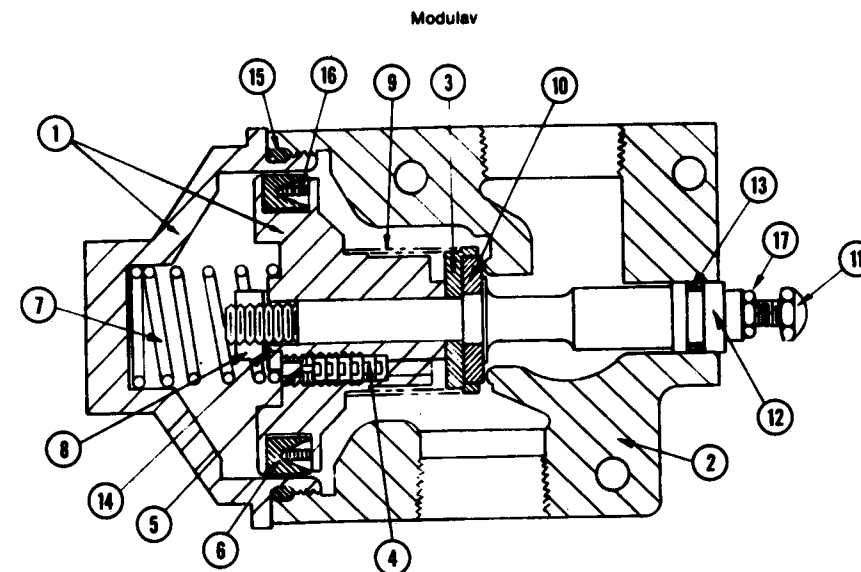


Figure 5-15. FLUSH VALVE ASSEMBLY WITH WHITE CAP (466172-001).

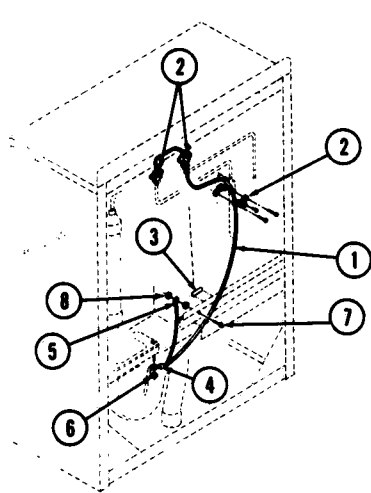
FIG. & INDEX NO.	PART NUMBER	S V C	DESCRIPTION	UNITS PER ASSEMBLY
5-15-	P 466172	001	FLUSH VALVE ASSEMBLY	X
	P 762433	001	KIT, Repair	1
1	Note		CAP & PISTON (MATCHED)	1
2	Note		BODY	1
3	P 759582	001	RETAINER, Seat	1
4	P 759583	001	DISC, Orifice	6
5	P 759584	001	SCREW, Set	1
6	P 759585	001	SEAL, U-Cup	1
7	P 759586	001	SPRING, Compression	1
8	P 759587	001	NUT, Hex	1
9	P 759588	001	FILTER	1
10	P 759589	001	WASHER, Seat	1
11	P 759590	001	SCREW, Adjustment	1
12	P 759591	001	STEM, Piston	1
13	P 759592	001	"O" RING, Packing	1
14	P 759593	001	WASHER, Lock	1
15	P 759597	001	"O" RING, Packing	1
16	P 759769	001	PEDESTAL, U-Cup	1
17	P 2960	042	NUT, Hex	1

NOTE: Cap & Piston (1) and Body (2) are no longer available. Order complete Flush Valve Assembly if either part (1 or 2) has to be replaced.

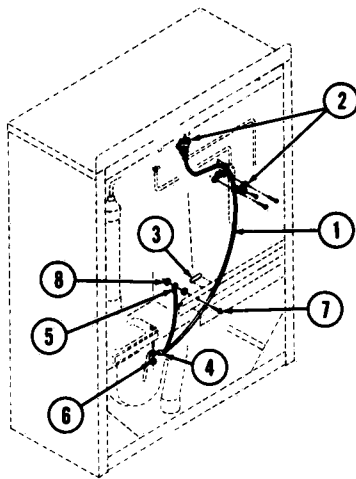
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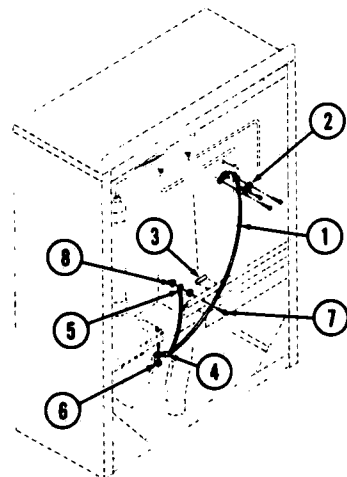
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MODEL H-220, H-224, H-2000



MODEL H-220 (FOOT PEDALS)



MODEL H-230

Figure 5-16. GROUNDING KITS.

FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY		
5-16-			GROUNDING KITS			
			MODEL H-220, H-224, H-2000	X		
			MODEL H-220 (with foot pedals)		X	
			MODEL H-230			X
	1	P 418331 175	HARNESS, Grounding	1		
		P 418331 193	HARNESS, Grounding		1	
		P 418331 191	HARNESS, Grounding			1
	2	P 454129 001	CLAMP, Grounding	3	2	1
	3	P 454201 001	DECAL	1	1	1
	4	P 462338 851	TERMINAL, Ring	1	1	1
	5	P 462338 731	TERMINAL, Ring	1	1	1
	6	P 430280 045	NUT, 5/16 x 18	1	1	1
	7	P 430347 045	CAPSCREW, 1/4-20	1	1	1
	8	P 430017 045	KEP NUT	2	2	2

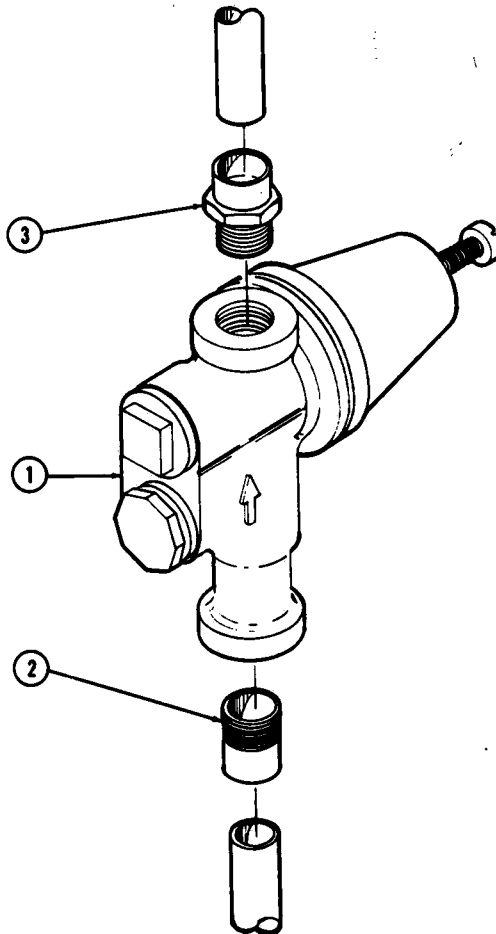


Figure 5-17. OPTIONAL WATER REGULATOR KIT.

FIG. & INDEX NO.	PART NUMBER	SVC	DESCRIPTION	UNITS PER ASSEMBLY
5-17-	P 495399	001	WATER REGULATOR KIT, Optional	X
1	P 453731	001	WATER REGULATOR	1
2	P 29290	051	NIPPLE, 3/4 NPT	1
3	P 91158	091	ADAPTER	1



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