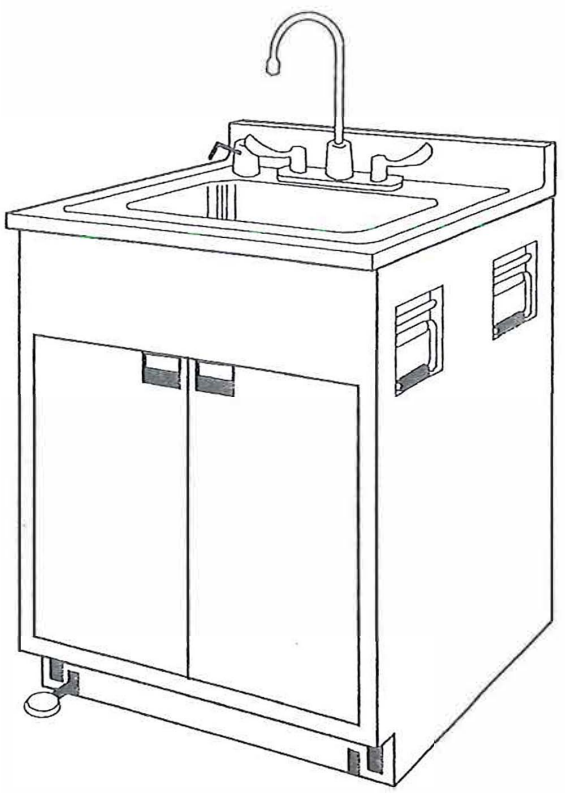
Sink, Surgical Scrub, Field

NSN: 6545-01-418-1920



Installation, Operation and Maintenance Instructions

Hamilton
LABORATORY SOLUTIONS

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Scrub sink unit for a field hospital consists of a cabinet with removable casters, a stainless steel sink, soap dispenser, pump to supply water pressure, pressure tank to provide uniform flow rate and a water heater to provide adjustable water temperature. Unattached items furnished are mixing faucet with gooseneck for hot and cold water, hot and cold faucet handles, waste hose assembly, water supply hose and filler assembly, and electrical inlet cord. Additional items required but not supplied are external water supply, electrical supply and surgical soap.

Sink unit provides pressurized cold and heated water for use in field medical facilities. Provides sanitary waste facilities within the medical facility. Provides tempered water for cleansing of equipment and assistance in development of x-rays. The unit also provides surgical scrub facilities with necessary sterile controls, such as wrist control handles on water mixing faucet and foot operated soap dispenser.

The cabinet provides an overall unit size of 30-1/8" wide x 24" deep x 40" high, excluding the faucet gooseneck, which extends 20" above the sink top backsplash. Cabinet average weight is 260 pounds with a maximum of 265 pounds. Four carrying handles, two recessed in each side, and four support bars, one recessed above each handle are used to secure work counters 950S927 or 950S928 to the unit.

The actuator for the soap dispenser is foot operated; the dispensing nozzle is on the unit's top.

Water supply pump is powered by a 1/2 h.p. 115/230V. 50/60 Hz. motor, and pressurizes the pressure tank to a preset upper limit, approximately 60 psi maximum. When the tank pressure is reduced to a preset lower limit, approximately 30 psi minimum, the pump will automatically repressurize the tank. The upper and lower pressure limits are adjustable.

The water heater is an in-line heater which functions only when water is flowing through the heater. It is rated at 4 KW at 230V 50/60 Hz. and will operate at 208V, 50/60 Hz, with wattage reduced accordingly. Water temperature is adjustable using a rheostat in a solid state circuit. Maximum water temperature is 150° F.

The water heater will operate on the following power supply:

115/208V., 1-Phase, 50/60 Hz.
240V., 1-Phase, 50 Hz.
115/230V., 3-Phase, 50/60 Hz.

Recommended test equipment is as follows: Volt Ohm Meter, Continuity Tester and Immersible Thermometer (capable of measuring 150 degree F).

Shipping, Handling and Storage:

All furniture products have directional arrows which indicate how the product is to be loaded. All loading personnel are instructed to follow the directional arrows when loading truck loads, containers or assisting "LTL" common carriers. The exception to the directional arrows is allowed when "Topping" freight with lighter cartons for better utilization of the truckload space.

Heavier items are floor loaded with lighter items loaded on top. Heavy items can be double decked on the same product. Our loaders are instructed not to load heavy items on lighter weight items.

All truckloads must be secured at the rear and pictures are taken as a permanent record.

The above instructions should also apply to storage. Never place heavier items on lighter ones.

Recommended Storage Climate Limits Are:	Temperature:	0 Degree Fahrenheit — +130 Degree Fahrenheit
	Humidity:	5% Min. Humidity — 95% Max. Humidity

Warranty:

All product purchased on this contract are warranted to be free of defect in material and workmanship for a period of one (1) year from date of acceptance by the government. During the warranty period, Hamilton Laboratory Solutions will repair or replace, at its expense, including transportation and labor, any part or product found to be defective. This warranty excludes any damage or malfunction due to accident, alteration, abuse, negligence, misuse, or repairs made by others.

Nomenclature: System Familiarization/Features and Controls

See Page 8

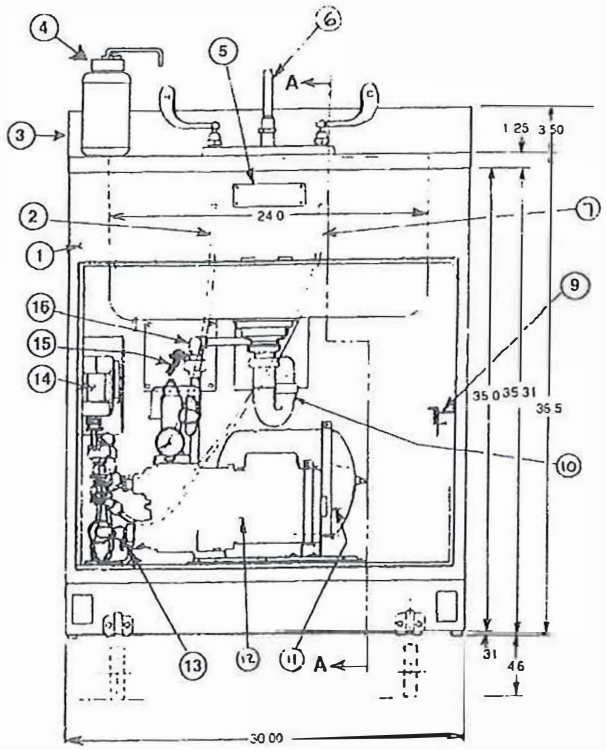
Item No.	Description	Function
1.	Cabinet body assembly with double hinged doors.	To house plumbing and electrical components and to support sink/top assembly.
2.	3/8" O.D. plastic tubing "riser", hot water.	To provide hot water from water heater to faucet.
3.	Stainless steel sink/top assembly.	To create a receptacle to collect water for the cleaning of hands and/or various washable items.
4.	Soap dispenser, foot operated.	To contain and dispense liquid soap for cleansing hands.
4A	Soap dispenser, foot pump.	Provides pressure to soap dispenser, when stepped on.
5.	Warning label, flammable or explosive atmosphere.	Advises operator's caution; to prevent fire or explosion.
6.	Hot and cold water mixing faucet with gooseneck, 6" wrist control handles and aerator.	To provide controlled flow of hot, cold or mixed temperature water to sink.
7.	3/8" O.D. plastic tubing "riser", cold water.	To provide cold water to faucet.
8.	Wrench, water heater, internal hex fittings.	Use to prevent rotation of tank connected inlet & outlet water tubes when servicing external connections.
9.	Bracket, caster storage.	Provides for storage of casters when they are not utilized for moving cabinet.
10.	1-1/2" O.D. plastic tubing waste water trap and sink outlet "basket".	To collect waste water from sink and direct to outside of cabinet.
11.	Water tank, captive air.	Provides small reservoir of water at a fixed pressure.
12.	Shallow well pump and motor assembly.	Provides the means by which water is moved from the source to the faucet.
13.	Petcock with vinyl tubing on outlet.	Provides a means of draining pump assembly of water prior to storing unit in freezing climate.
14.	Plate, switch functions information.	Identifies and describes the functions of the motor control switches.
15.	Electric wire assembly to power source.	Provides electric power from outside source to water heater.
16.	Plastic tubing assembly, cemented together and with two unions.	Provides cold water from outside source to pump inlet.
17.	Combination strainer and stopper in drain opening, removeable.	To prevent large objects from going down the drain or to "plug" opening for filling sink.
18.	Valve, one-way check.	Prevents back flow of incoming water when pump is not running.
19.	Indicator light, water heater.	When light is illuminated, this indicates heater is functioning (is "on").
20.	Pressure operated switch, pump system.	Controls running of pump motor relative to increase or drop in system pressure within certain limits.

Item No.	Description	Function
21.	Valve, cold water flow control.	Controls cold water flow to water heater (alternate "temperature rise" control).
22.	Rheostat, heater temperature control.	Provides adjustment to control heater output temperature.
23.	Cord set, 3-wire electric.	To provide electric power to pressure switch from outside source.
24.	3/8" O.D. plastic tubing.	To provide cold water from flow control valve to water heater.
25.	Cord set, 8-wire electric.	Provides for remote switching of motor windings to match power source.
26.	Plastic valve with 3/8" O.D. plastic outlet tube.	Provides means of draining hot water system of water prior to storing unit in freezing climate.
27.	Pressure gauge, 0 to 100 lbs.	Indicates water system pressure.
28.	Cord set, 3-wire electric.	Provides electric power from pressure switch to pump motor on/off switch.
29.	Plastic valve, 3/4" ball type.	Provides convenient means for priming pump with water.
30.	Switch, DPST on/on electrical.	Provides means of matching pump motor windings to outside electrical source.
31.	Switch, DPST on/off electrical.	Provides on/off control of pump motor only.
32.	Water heater, flow-thru instantaneous.	Provides heated water to mixing faucet.
33.	Manual, in pocket on door.	Provides installation/operating instructions, parts lists, etc.
34.	Skid (2) plastic.	Allows ease in sliding unit on floor and isolates cabinet bottom from floor.
35.	Caster, swivel (4) with 4" diameter wheel.	Provides ease of movement when high mobility is required.
36.	Socket, caster.	Locates and retains caster. (Casters are removeable).
37.	Handle, drop type lift (90° upswing).	Provides means by which cabinet can be lifted and carried.
38.	Bar, fixed support.	To be used for hanging desk shelf or shelf hanging brack ets. (950S927, 950S928 or 950S929)
39.	Label, electrical supply requirements.	Lists the electric power source systems that may be connected to the cabinet.
40.	Fitting, quick-connect water inlet.	Provides convenient method for connecting water supply source to cabinet.
41.	Electric inlet, 4-wire twist-lock grounding.	Provides convenient method for connecting electric supply source to cabinet.

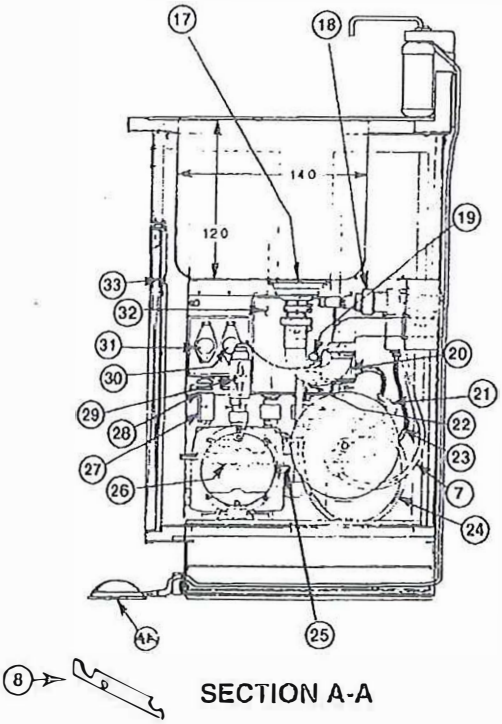
Accessories: Umbilical (Not Illustrated)

47.	Cord set, 4-wire with plug and twist-lock connector. See Page 31.	Use to provide electric power from source to cabinet.
48.	Hose, waste outlet. See Page 31.	Connects cabinet waste outlet to external waste dispersal facility.
49.	Hose and filter assembly, quick-connect water supply. See Page 31.	Use to connect outside water source to cabinet piping.

Illustration No. 1
System Familiarization/Features and Controls

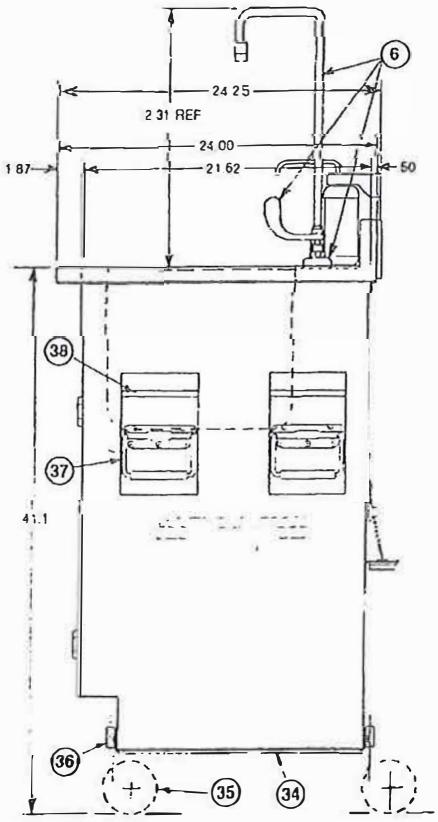


FRONT VIEW
(Doors Not Shown)

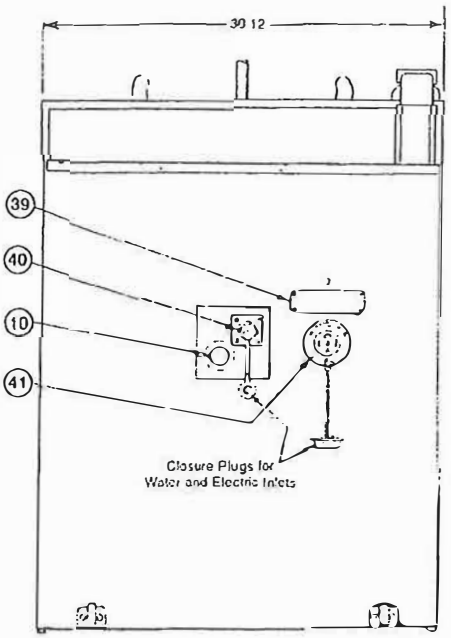


SECTION A-A

NOTE: Routing of Electrical Wiring is not shown on this drawing in order to avoid more confusion.
Electrical Wiring Schematics: (See Page 16 - 21)
115/208V 3PH 50/60Hz.
115/230V 1PH 50/60Hz.
240V 1PH 50Hz.



END VIEW



REAR VIEW

Illustration No. 2
Water Flow "Block" Diagram

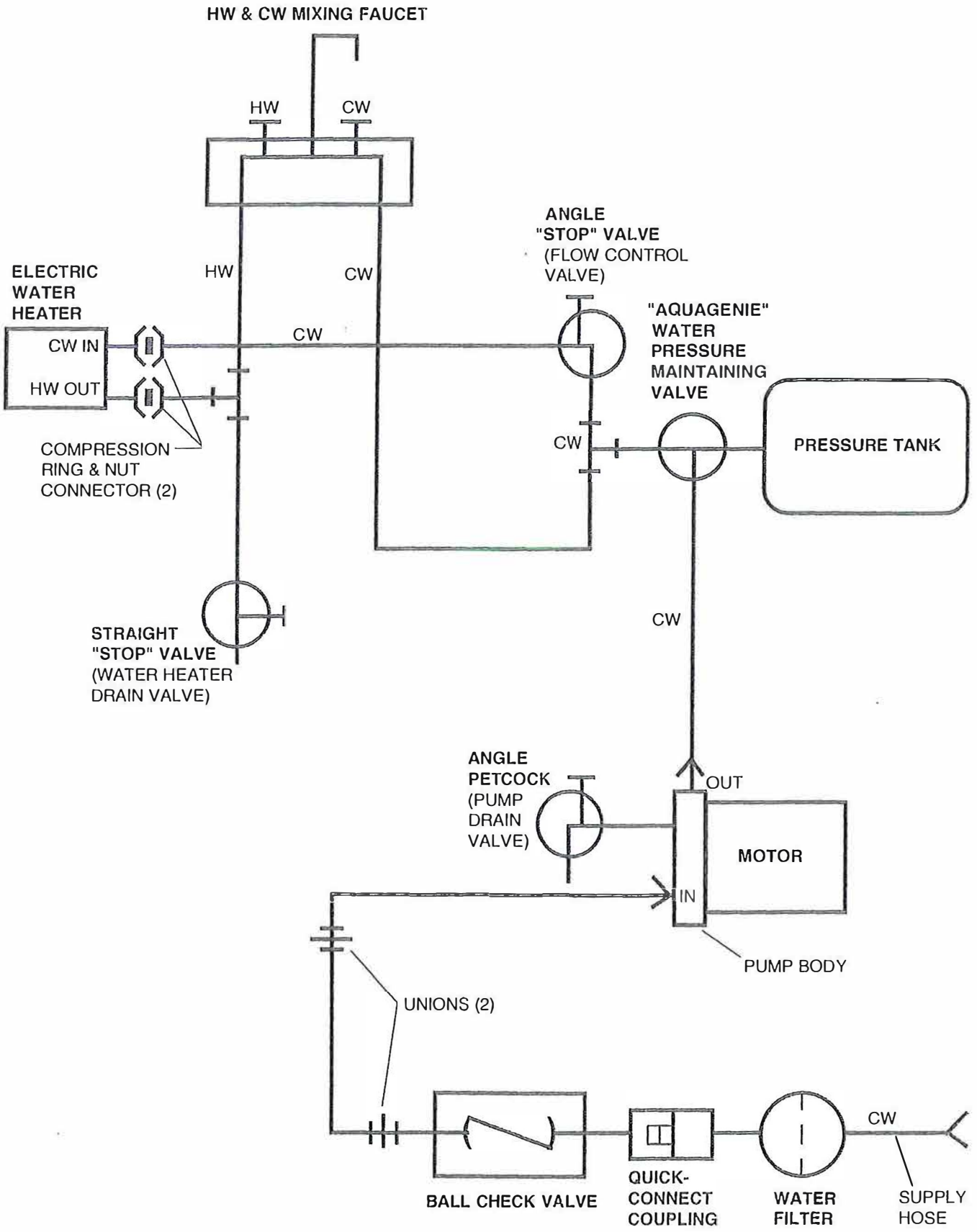
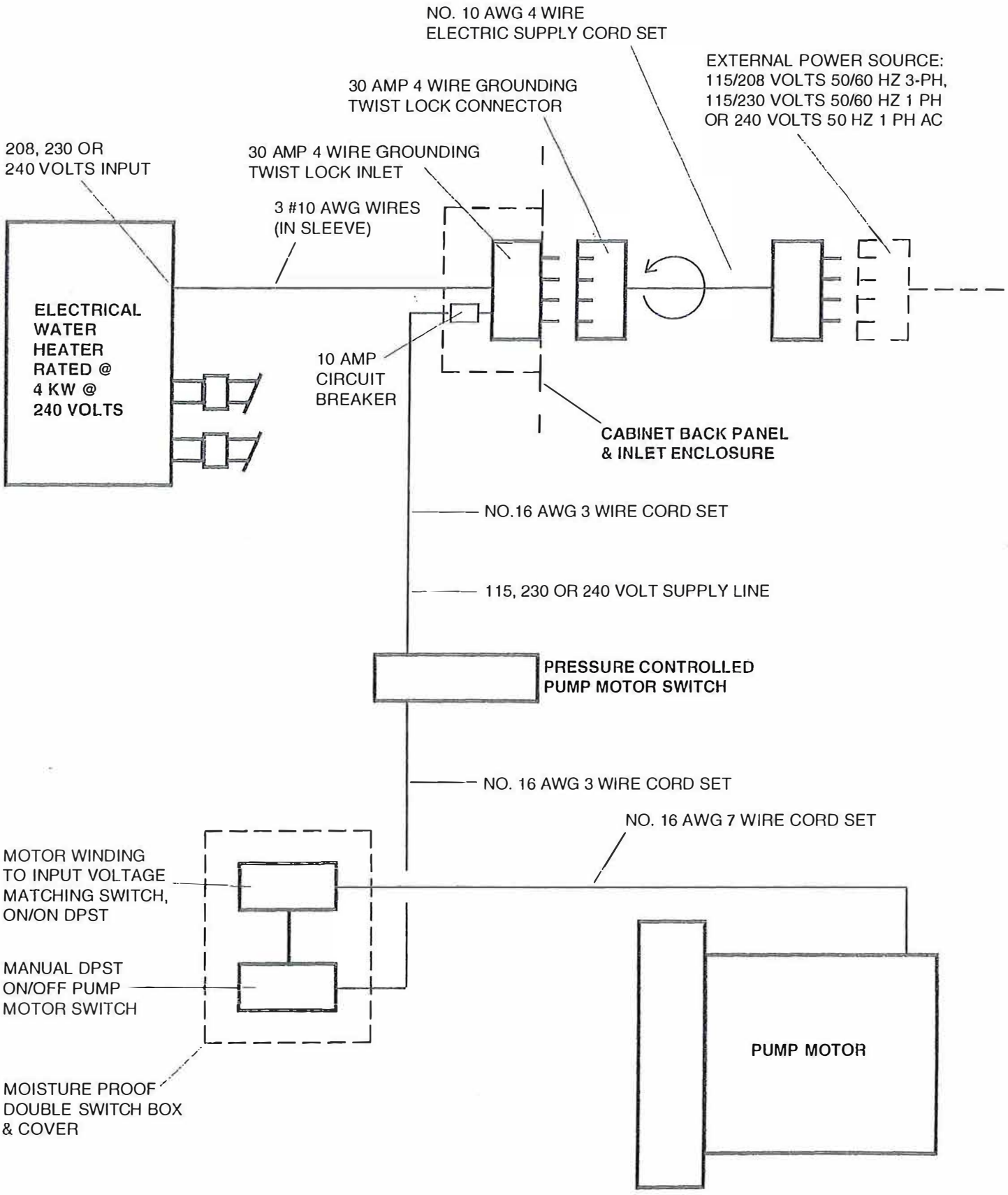


Illustration No. 3
Electrical Flow "Block" Diagram



PATIENT SAFETY AND OTHER PRECAUTIONS

1. Wiring within cabinet is designed to use an independent ground lead which is not directly connected to any of the current carrying wires. The extension cord and connectors are rated at 130 Amps. A 30 Amp circuit breaker or fuse is required at the control panel.

   NOTE: During installation of unit, the circuit breaker (power) should be OFF at this time. To prevent pump motor burnout, prepare pump motor for running either one of the three electric supply systems as noted in the installation manual.

2. When priming water system, check for water supply hookup. Do not run pump without water. Follow priming procedures in manual. The pump requires only water for lubrication and must not be run dry. If it is necessary to re-prime pump, repeat procedure until a continuous flow of water comes out of faucet.

3. Set temperature for hot as per instructions in manual. Make sure circuit breaker is ON and electrical supply cord is plugged into cabinet outlet. Make sure faucet hot water valve is fully open.

   NOTE: If temperature is too great, either increase the flow rate or rotate rheostat counterclockwise to desired temperature.

4. Should a pressurized water supply of 40 to 60 PSI be available, this unit may be connected directly to this water supply by means of water supply hose. this will preclude the necessity of having the pump motor run. The motor control switch must be OFF.

5. Before servicing water heater, be sure electric power is disconnected or turn off at entrance box, water system pressure is relieved and water system is drained. When disconnecting water lines from heater, do not lose union gaskets. If a replacement heater assembly is installed, it may be necessary to use union fittings from the old heater.

6. When servicing pressure tank, take notice that a new tank, in case of replacement, is normally pre-charged to 20 PSI by tank manufacturer. (See Page 31).

   When servicing pressure switch, do not touch wire terminals of current carrying components of switch, as these parts are LIVE unless twist-lock connector at back of cabinet has been disconnected.

7. Pump must be drained, for storage or shipping, when not in use. If an alternate to draining is desired by use of antifreeze, use a non-toxic type antifreeze as per instruction in the manual.

   CAUTION: It is recommended after storage or shipment, that the unit be sanitized by filling the internal storage tank and system with a 10-to-1 water bleach solution, and then flush with potable water. Also, it would be advisable that the supporting Preventive Medicine Service test the water for harmful bacteria prior to placing the tank in regular service.

EQUIPMENT CARE

1. Wipe down cabinet exterior with mild type disinfectant soap.
2. Scour stainless steel counter top and sink assembly with mild type disinfectant bathroom cleaners.

Installation and Operation

Electric Supply Requirements

208 Volt, 50/60 Hz, 3-Phase "Y" with both 115 Volt and 208 Volt outputs: this shall be 4-wire plus an independent (equipment) ground wire.

115/230 Volt, 50/60 Hz, 1-Phase "Y" with both 115 Volt and 230 Volt outputs: this shall be 3-wire plus an independent (equipment) ground wire.

240 Volt, 50 Hz, 1-Phase output: this shall be 2-wire plus an independent (equipment) ground wire.

NOTE: The wiring within the cabinet is designed to use an independent ground lead which is not directly connected to any of the current carrying wires.

The extension cord and connector are rated at 30 Amps. A 30 Amp circuit breaker or fuse is required at the control panel.

Installation

1. **Remove hardware and umbilical accessories from respective cartons.**
2. **External connections to unit:**

   CAUTION: It is recommended after storage or shipment, that the unit be sanitized by filling the internal storage tank and system with a 10-to-1 water bleach solution, and then flush with potable water. Also, it would be advisable that the supporting Preventive Medicine Service test the water for harmful bacteria prior to placing the tank in regular service.

   NOTE: Indicates items from carton assemblies.

   A. Faucet handles
   Install handle "H" on left-hand faucet stem and handle "C" on right-hand stem in the desired positions. Secure with flat head screws found in top of valve stems.

   B. Gooseneck
   Moisten "O" ring on base of gooseneck with water and insert into opening in faucet body. Turn base down clockwise until tight. Gooseneck can be swiveled by hand.

   C. Basket Strainer
   "Drop" in sink outlet opening.

   D. Filter/Hose Assembly
   Engage male connector in female connector located in back panel of cabinet. Route hose to nearby portable water supply. Connect or submerge free end of hose at water supply.

   E. Drain Hose Assembly
   Slide one end of corrugated hose on trap outlet located in back panel of cabinet. Route free end of hose to suitable waste receptacle or area.

   F. Electric Supply Extension Cord Set

   Important!!! Circuit Breaker (Power) should be OFF at this time.

   Engage female connector of electric supply cord into male electrical inlet located in back panel of cabinet and twist clockwise to lock in place. Insert plug on free end of cord into matching receptacle connected to the available power source.

   Should plug and receptacle be incompatible, then the existing plug shall be removed and a suitable plug installed or the supply cord can be connected directly to a convenient power control panel.

   Connections below apply to NEMA 14-30P style plug. Other styles shall be wired in accordance with electric schematics on page 16, 17, or 18.

   Connections to combinations 120 and 208 Volt supply:

   "GR", "Round", blade (green wire) to independent (equipment) ground: The "Y" adjacent straight brass blade (black wire) to a 208 Volt supply line: The "W" silver angle blade (white wire) to the "Common" supply line: and the "X" parallel straight brass blade (red wire) to a 208 Volt supply line, i.e.: Voltage across "W" and "Y" = 115 Volts and voltage across "X" and "Y" = 208 Volts.

   Connections to domestic combination 120 and 240 Volt supply:

   "GR", "Round", blade (green wire) to independent (equipment) ground: The "Y" adjacent straight brass blade (black wire) to one side of 220/240 Volt supply line: The "W" silver angle blade (white wire) to the "Common" supply line: and the "X" parallel opposite side of 220/240 Volt supply line, i.e. 115 Volts across "W" and "Y" and 220/240 Volts across "X" and "Y".

   Connections to foreign 2-wire 240 Volt supply:

   "GR", "Round", blade (green wire) to independent (equipment) ground: The "Y" adjacent straight brass blade (black wire) to "hot" side of 240 Volt supply line and the "W" silver angle blade (white wire) along with the the "X" parallel straight brass blade (red wire) to "common" side of 240 Volt supply line, i.e.: Voltage across "W" and "Y" and "X" and "Y" = 230/250 Volts.

   G. Casters, if needed, insert stems of casters in socket plates attached to bottom of cabinet, two at the front and two at the rear. Casters can be removed without tools and can be stored inside cabinet, in rack provided, when not in use.

   H. Soap Dispenser
   Slide mounting strap into holder bracket on back of curb on left end. Attach pump hose to dispenser.

3. **Important!!! To Prevent Pump Motor Burnout. Prepare pump motor for running on either one of the three electric supply systems as noted below.**

   A. Open door (doors) of cabinet and find switch box located at inside front of L.H. end.

   B. Take notice of "switch function" plate on "front" side of switch box.

   C. Lift cover on front (L.H.) "motor control" switch and snap toggle down to "Off" (if not already "Off")-

   D. Lift cover on rear (R.H.) "motor winding" switch and snap toggle either up or down toward "line voltage" listing on the "switch function" plate that matches the external power source characteristics, i.e.: toggle "up" (115V motor winding) For 115/208 V. or 115/230 V. input "line voltage" and toggle "Down" (230 V. motor winding) For 230/250 V. 2 wire input "line voltage".

   E. Close cover and do not disturb this switch unless in put "line voltage" is changed.

   F. Use "motor control" switch for turning pump motor "On" or "Off" when necessary.

4. **Priming of Water System. Important: Do not run pump without water.**

   Note: All of the above external connections and assembly must be made before priming.

   A. Open door (doors) of cabinet and turn motor control switch "Off".

   B. Close drain valve on water heater petcock on pump body and flow control at pressure tank outlet.

   C. Open "COLD" water valve of deck mounted faucet to relieve any pressure that may be in the system and leave open.

   D. Open ball valve located vertically on pump body and pour 1 quart of water through valve into pump body.

   E. Close ball priming valve.

   F. Be sure water supply hose is routed to a good supply of portable water.

   G. Turn "On" circuit breaker and "motor control" switch and let pump run until a continuous flow of water comes out of the faucet.

   H. Close cold water faucet valve. Pump should now run until pressure is built-up enough to shut itself "Off".

      Note: If it is necessary to re-prime pump, repeat operations "A" through "G" above until a continuous flow of water comes out of faucet.

   J. Turn circuit breaker "Off" or disconnect power cord from cabinet.

   K. Open faucet "HOT" water valve.

   L. Open Flow Control Valve on pressure tank outlet enough to allow water to flow through the water heater. When a steady flow of water comes out of the faucet spout, close faucet "HOT" water valve.

      Note: Leave Flow Control Valve "OPEN".

   M. Turn circuit breaker "On" or reconnect power cord to cabinet electric inlet.

      Do Not Run Pump Dry.

5. **Hot Water Temperature Adjustment**

   Water temperature can be controlled by a Rheostat in the water heater housing, varying the rate of water flow-ing throuqh the heater, or both. A minimum flow rate of approximately 1/2 gallon of water per minute through the heater is required to make the heater function. It is desirable to adjust the water heater for optimum performance when setting up the sink unit.

   A. Check and be sure circuit breaker is "On" and electric supply cord is plugged into cabinet inlet. Pump switch should be "On" and water pressure built-up to approximately 60 P.S.I. on gauge (Approximately 45 P.S.I. @ 50 Hz.).

   B. Insert tip of small flat blade screwdriver carefully into hole in water heater cover and engage blade in slot in Rheostat shaft: turn clockwise to the limit of the Rheostat.

   C. Open faucet "HOT" water valve fully.

   D. Close flow control valve on pressure tank outlet and then slowly open valve until light appears in the "window" in the face of the water heater cover. This is now the lowest rate of water flow needed to operate the heater, and this will give you the max-imum water temperature rise.

E. To adjust the heater for optimum performance, insert screwdriver in Rheostat slot and rotate counterclockwise until light in heater just starts to "pulse". The temperature should now stabilize at this setting.

NOTE: Should the temperature of the **HOT** water be too great, either increase the flow rate by means of the flow control valve, or rotate Rheostat counterclockwise until desired water temperature is reached.

Conversely, the temperature can be increased, within limits, by reversal of the above operations. Remember, though, a water flow rate of approximately 1/2 gallon per minute must be maintained if heater is to function.

F. Shut off faucet **HOT** water valve. Unit is now operational.

6. Soap Dispenser, Filling and Connecting Foot Control.

A. Feed clear plastic tubing from soap dispenser located above the cabinet, behind the cabinet, and along side or under the cabinet to the front.

B. Attach loose end of clear plastic soap dispenser tubing to "rubber foot pump" from carton assembly.

C. To fill soap dispenser, lift assembly up disengaging from support bracket. Unscrew and fill the bottle. Reattach bottle and reposition back on the support bracket.

7. Draining Water System. For Storage or Shipping.

A. Slip one of one 18* inch long clear plastic tubing over the tube projecting out of the brass petcock on pump body. Apply second length of clear plastic tubing to drainage valve located on the water heater outlet piping in the same manner as above.

A1. Disengage filter/hose assembly form female connector in back panel of cabinet and empty water out of filter and hose.

B. Route clear plastic tubes to suitable waste container of at least 1 gallon capacity.

C. Shut "motor control" switch **OFF** and disconnect electric supply extension cord (or, turn circuit breaker **OFF**).

D. **Open** faucet **cold water valve** to discharge the water and pressure in the water system.

E. **Leave faucet cold water valve OPEN.**

F. After the pressure has dropped to zero on the gauge, open petcock on pump and valve on water heater outlet and drain remainder of water out of system and pump.

G. **Close petcock** on pump and faucet **COLD** water valve.

H. **Open** faucet **HOT** water valve which now allows water in faucet hot water riser to drain out through heater drain valve.

I. Close faucet hot water and heater drain valves.

J. Water system should now be drained of water and can now be prepared for storage or shipping.

NOTE: To prepare unit for storage. Purge the system with non-toxic antifreeze* through the water supply hose, pump, and the hot and cold water faucet valves. After clear water has been replaced by antifreeze, de-pressurize system, close faucet valves, and disconnect water supply hose at cabinet back. This will **seal** the antifreeze in the system. **With the system filled with antifreeze, the unit can now be setup for use at any time without priming.** (Operation No. 3).

*Non-toxic antifreeze:
Chemical family - Glycol;
Product description - Aqueous solution of Propylene Glycol;

Hazardous ingredients -	CAS No.	By Weight %
Propylene Glycol	57-55-6	<30
Silica, Amorphous	007631869	<1

8. Preparing Unit for Storage or Shipping.

Reverse of Operation No. 2, Steps A thru G.

General Note:

Should a pressurized water supply of 40 to 60 PSI be available, this unit may be connected directly to this water supply by means of the water supply hose. This will preclude the necessity of having the pump motor run. **The Motor Control Switch must be OFF.** This will save approximately 8 Amps in current consumption and the system will still operate.

Storage Requirements

Recommended Storage Climate Limits

Temperature Limits: **0 Degree Fahrenheit — +130 Degree Fahrenheit**

Humidity Limits: **Minimum Humidity-5%**
Maximum Humidity-95%

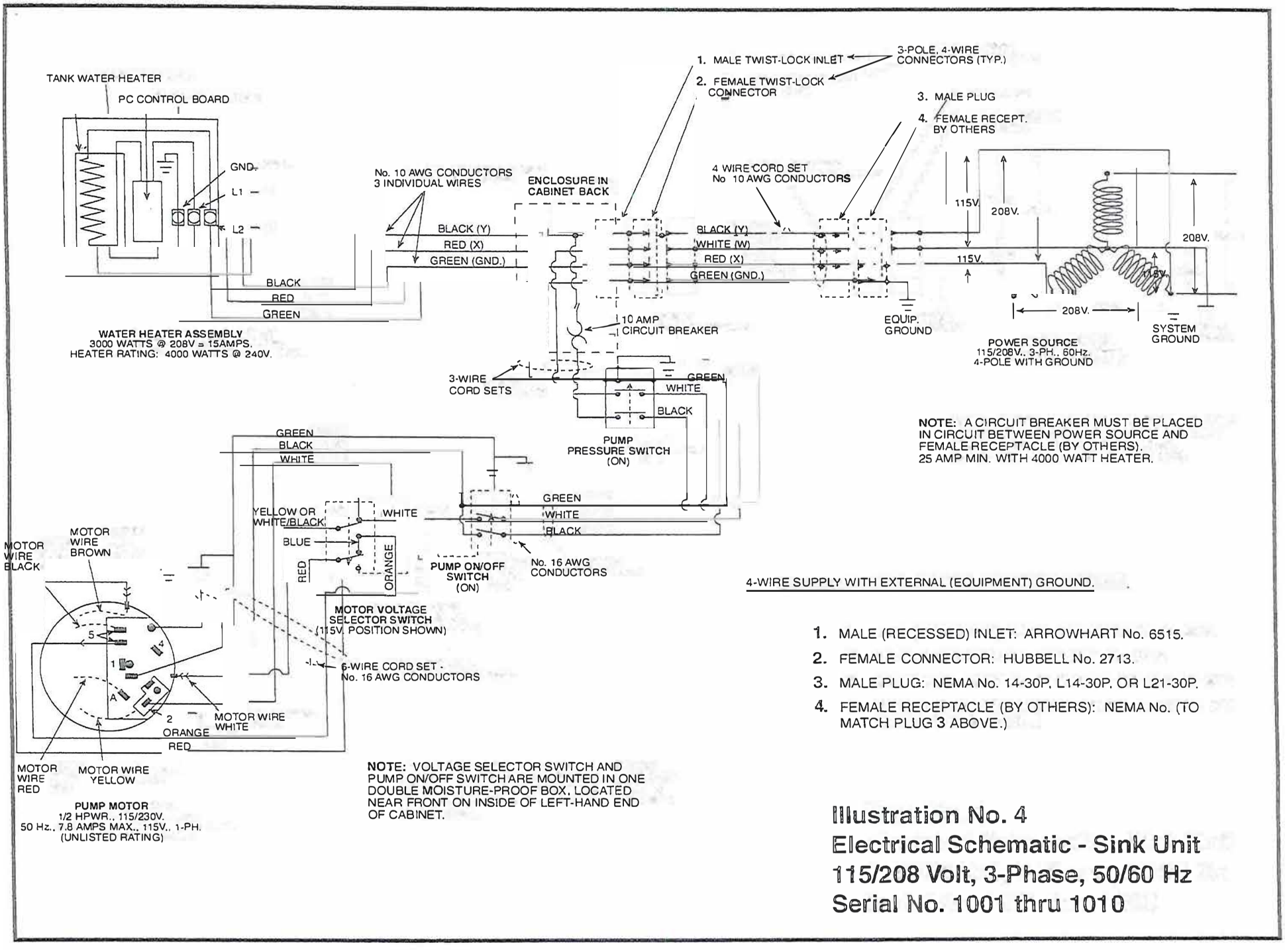
Periodic Maintenance Schedule: (While unit is in use)

1. WATER FILTER	Inspect and clean monthly or sooner, should water flow be restricted.
2. WATER SUPPLY HOSE	Deterioration and/or damage. Monthly inspection - replace or repair as necessary.
3. WASTE OUTLET HOSE	Deterioration and/or damage. Monthly inspection - replace or repair as necessary.
4. SOFT-FLO NOZZLE ON FAUCET AND GOOSENECK	Remove and clean monthly or sooner should water flow be restricted.
5. WATER LEAKS	Check daily: tighten joint fittings and/or replace defective components as received.
6. INTERIOR OF CABINET	Clean weekly.
7. SINK BOWL/TOP	Clean as deemed necessary to maintain sanitary conditions.

Long Term Storage and Maintenance Schedule:

(Store within a sheltered area at moderate humidity and temperature levels)

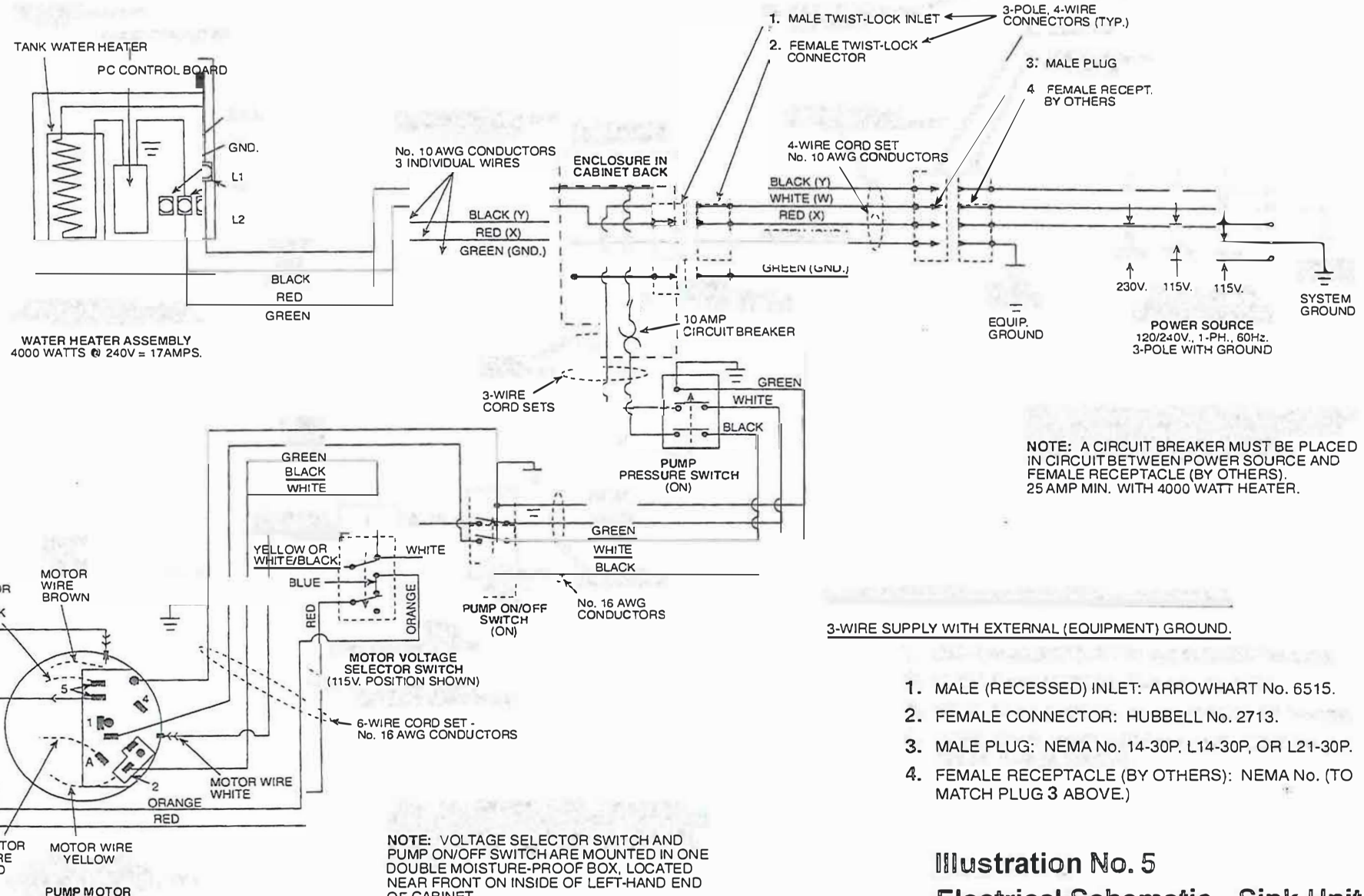
1. WATER SUPPLY HOSE ASSEMBLY	Deterioration and/or damage. Yearly inspection - replace or repair as required.
2. WASTE OUTLET HOSE	Deterioration and/or damage. Yearly inspection - replace or repair as required.
3. ELECTRICAL UMBILICAL (EXTENSION	Deterioration and/or damage. Yearly inspection - replace or repair CORD) as required.
4. CASTER WHEELS	Free wheeling. Yearly inspection. Lightly oil or grease bearings.
5. ELECTRICAL INLET AND WATER QUICK CONNECTOR	Corrosion and/or obstructions. Yearly inspection. Replace or repair as required.
6. INTERNAL ELECTRICAL CORDS AND WATER PIPING	Deterioration and/or damage. Yearly inspection. Replace defective components.
7. MISSING PARTS AND/OR ACCESSORIES	Resupply as necessary, or (see Parts List page 30-38 and Repair/Maintenance Kits. Yearly inspection.
8. PUMP MOTOR SHAFT	Rotate manually to prevent seizure at bearings or pump seal. Yearly inspection.
9. MOTOR BEARINGS	Permanently lubricated - inspect for "DRY" bearings, after 5 years of storage. Replace bearings or motor.
10. CABINET - DAMAGE OR RUSTING	Yearly inspection - Repair minor damage and/or remove rust and "Touch Up Paint".



4-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

Illustration No. 4
Electrical Schematic - Sink Unit
115/208 Volt, 3-Phase, 50/60 Hz
Serial No. 1001 thru 1010



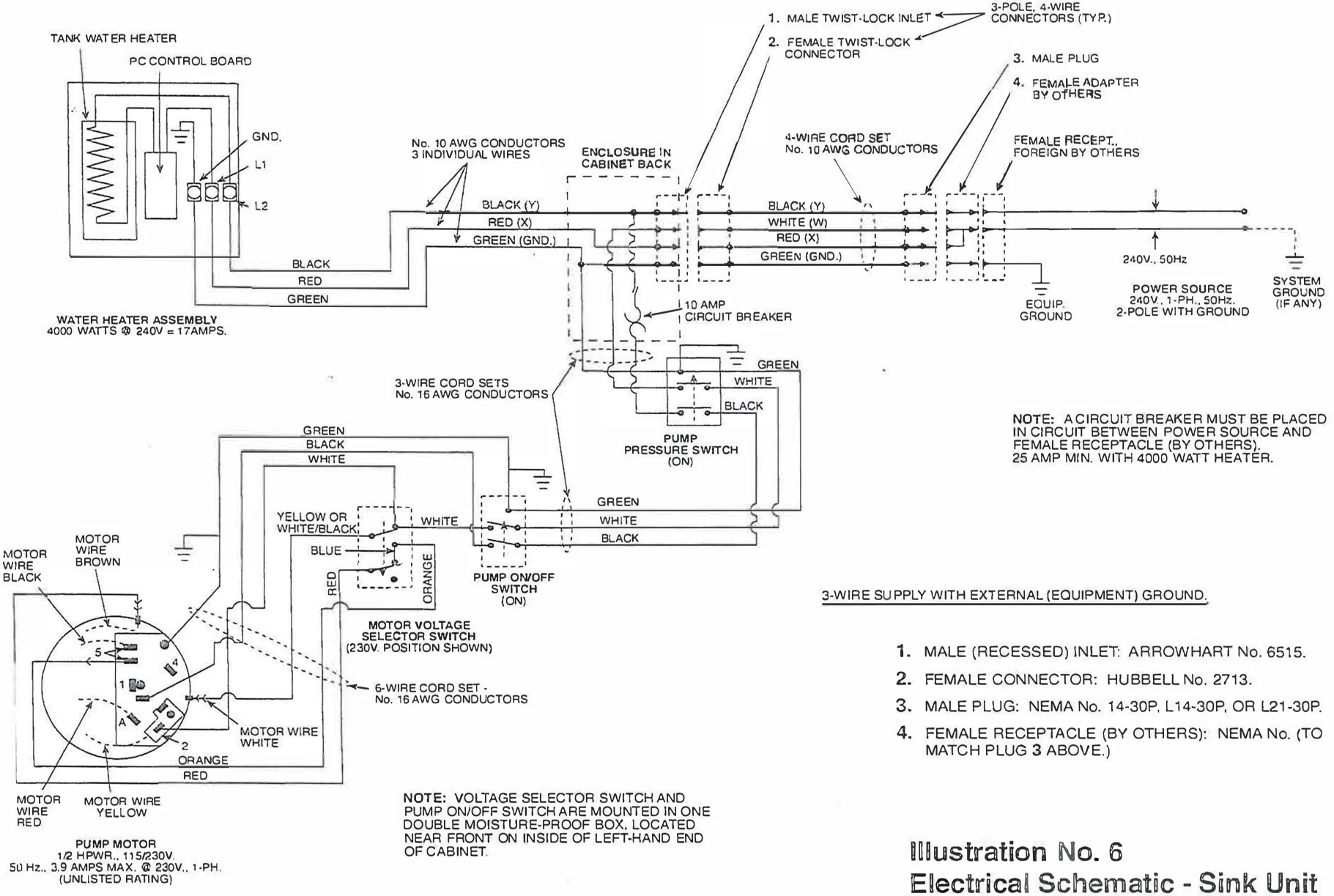
NOTE: A CIRCUIT BREAKER MUST BE PLACED IN CIRCUIT BETWEEN POWER SOURCE AND FEMALE RECEPTACLE (BY OTHERS). 25 AMP MIN. WITH 4000 WATT HEATER.

NOTE: VOLTAGE SELECTOR SWITCH AND PUMP ON/OFF SWITCH ARE MOUNTED IN ONE DOUBLE MOISTURE-PROOF BOX, LOCATED NEAR FRONT ON INSIDE OF LEFT-HAND END OF CABINET.

3-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

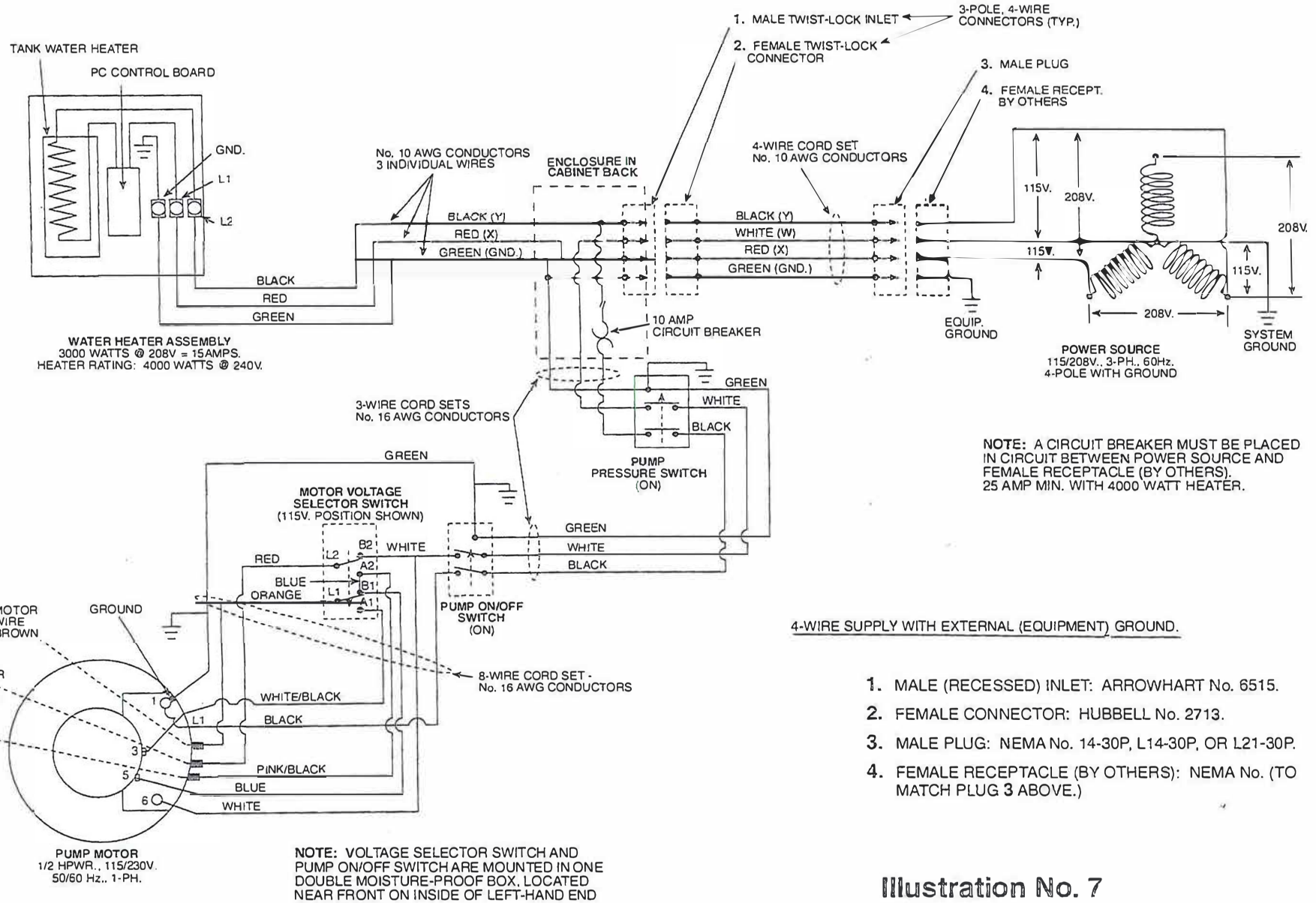
Illustration No. 5
Electrical Schematic - Sink Unit
115/230 Volt, 1-Phase, 50/60 Hz
Serial No. 1001 thru 1010



3-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

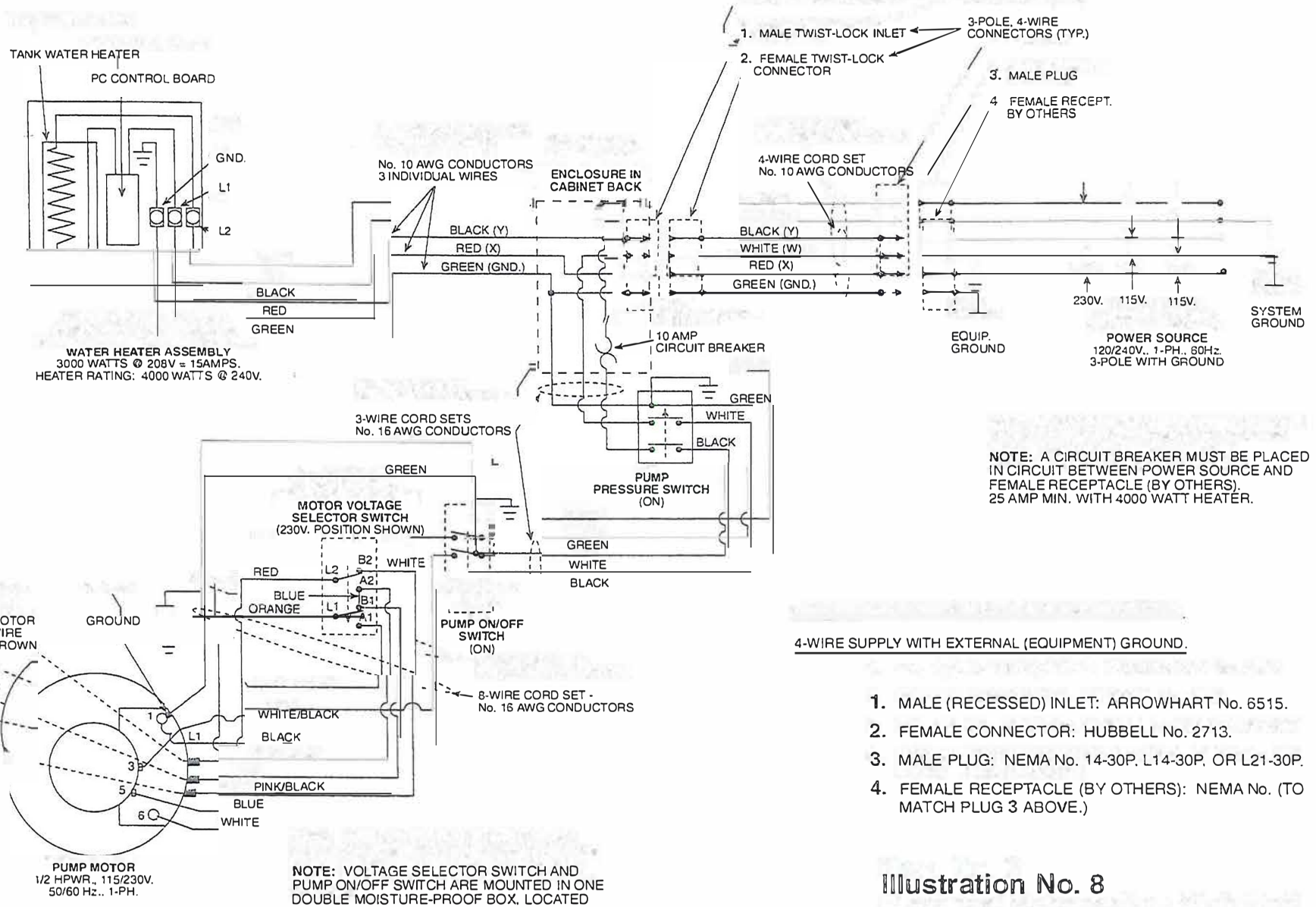
Illustration No. 6
Electrical Schematic - Sink Unit
240 Volt, 1-Phase, 50 Hz
Serial No. 1001 thru 1010



4-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

Illustration No. 7
Electrical Schematic - Sink Unit
115/208 Volt, 3-Phase, 50/60 Hz
Serial No. 1011 thru _____



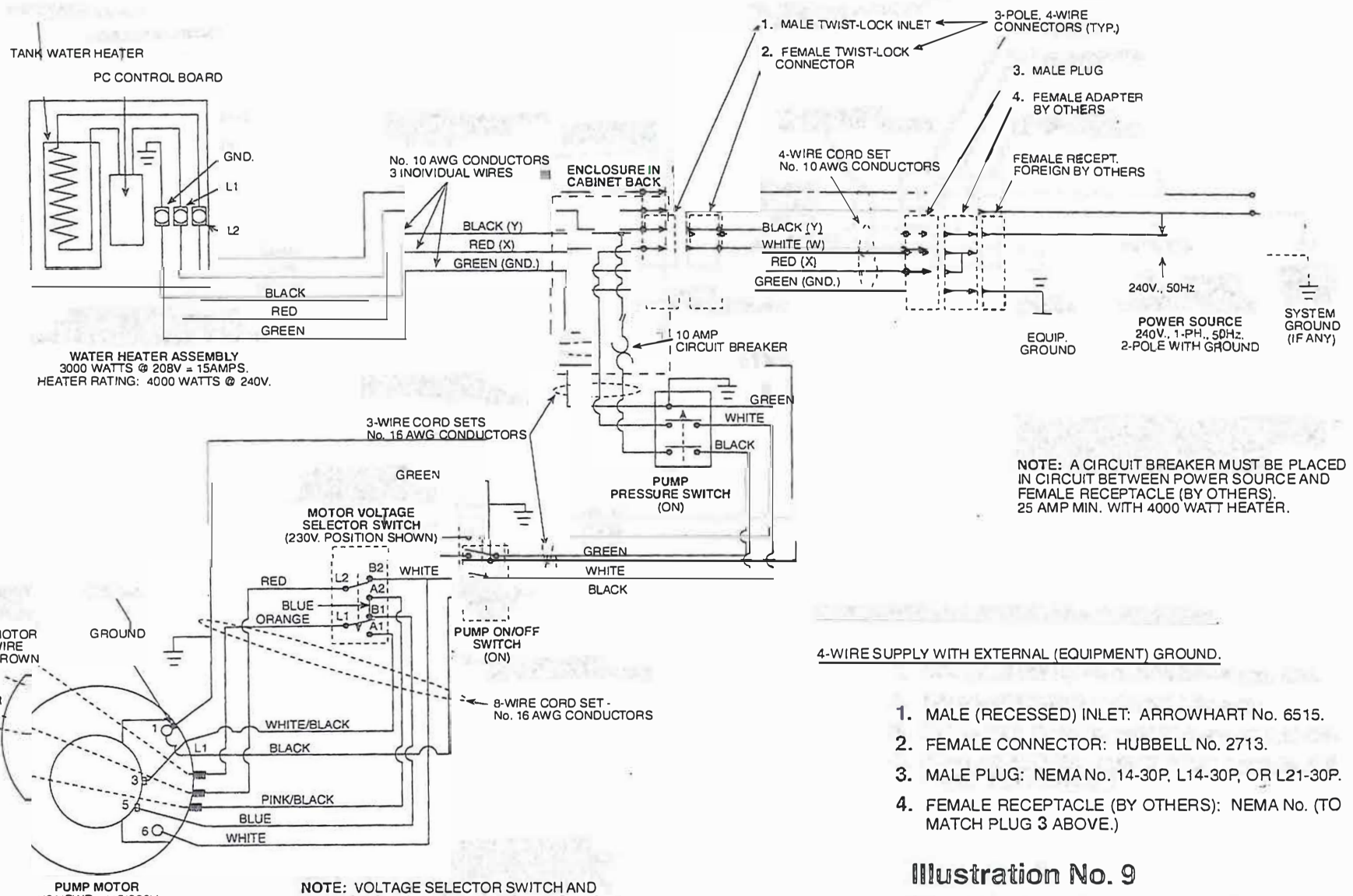
NOTE: A CIRCUIT BREAKER MUST BE PLACED IN CIRCUIT BETWEEN POWER SOURCE AND FEMALE RECEPTACLE (BY OTHERS). 25 AMP MIN. WITH 4000 WATT HEATER.

NOTE: VOLTAGE SELECTOR SWITCH AND PUMP ON/OFF SWITCH ARE MOUNTED IN ONE DOUBLE MOISTURE-PROOF BOX, LOCATED NEAR FRONT ON INSIDE OF LEFT-HAND END OF CABINET.

4-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

Illustration No. 8
Electrical Schematic - Sink Unit
115/230 Volt, 1-Phase, 50/60 Hz
Serial No. 1011 thru _____



4-WIRE SUPPLY WITH EXTERNAL (EQUIPMENT) GROUND.

1. MALE (RECESSED) INLET: ARROWHART No. 6515.
2. FEMALE CONNECTOR: HUBBELL No. 2713.
3. MALE PLUG: NEMA No. 14-30P, L14-30P, OR L21-30P.
4. FEMALE RECEPTACLE (BY OTHERS): NEMA No. (TO MATCH PLUG 3 ABOVE.)

Illustration No. 9
Electrical Schematic - Sink Unit
240 Volt, 1-Phase, 50 Hz
Serial No. 1011 thru _____

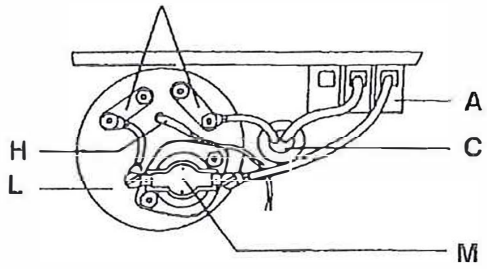
Chart No. 1
Troubleshooting - Super Power Pack

WARNING: If you do not have experience using test equipment on high voltage appliances, have a licensed electrician perform all ELECTRICAL tests below:

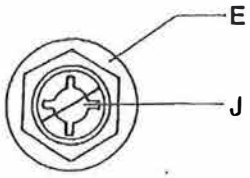
Note: Refer to Illustration No. 10 Page 23.

SYMPTOM	POSSIBLE CAUSE	*SOLUTION*
A. No Heat - Indicator Light Does Not Come On.	1. Check power supply to heater at circuit breaker. A tripped breaker indicates short circuit or undersized breaker.	*Locate short, or install correct size circuit breaker if undersized.*
	2. With power ON, check voltage at terminal block A. Reading should be 208V to 240V between L1 and L2 terminal.	*Voltage in the 110V range indicates incorrect wiring at service box.*
	3. ECO (Energy Cut-Out) M may be open circuit. Check continuity across Cut-Out terminals.	*Replace ECO if there is no continuity.*
	4. Check fuse K on PCB (Printed Circuit Board) B by inserting a slip of white paper behind fuse and looking closely for a possible break. Make sure power is OFF.	*Replace fuse if blown or broken. If fuse blows again, replace triac C located behind PCB.*
	5. Check for continuity at reed switch D with water flowing and power OFF. If there is no continuity, bring a magnet close to read switch and look for continuity again.	*If in second test you read continuity, flow switch magnet J is jammed or missing - disconnect heater and check inlet E. If there is no continuity, replace PCB B.*
B. Low Temperature	1. Flow rate too high. Check flow by timing fill of a graduated container, such as 1/2 gal. milk container, and comparing to Temperature Rise and Flow Charts.	*Reduce flow rate gradually to see if a hotter temperature can be achieved.*
	2. Temperature control F is in wrong position. Hottest position is clockwise on most heaters, but refer to installation instructions to be sure. If control is in low temp., position light will be pulsing regularly.	*Turn temperature control in opposite direction. Light should be on more of the time, or fully on.*
	3. Triac C may be allowing only 110V to element terminals G. Check voltage across terminals with power ON and water flowing.	*Replace triac assembly if voltage is in the 110 volt range. (240 heaters only).*
	4. Thermistor (temp. sensor) H may be defective. Check for very erratic pulsing.	*Replace Thermistor and leads.*
C. Light Stays On Without Flow	1. Triac C may have failed in the "on" position. Pull fuse K on PCB B, turn power on and run a small amount of water through heater.	*If heater heats up again when water flow slops, triac is stuck ON and must be replaced.*
	2. Flow switch magnet J may be stuck if in the test above heater cooled down and stayed cool.	*Disconnect heater and check water inlet E for jammed flow switch magnet.*
	3. Element may have failed. Check for continuity across element terminals G.	*If there is no continuity, replace water container assembly L.*

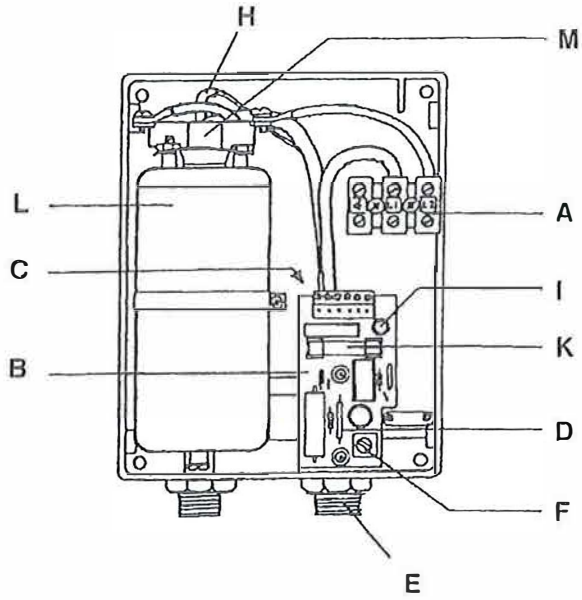
Illustration No. 10
Component Identification - Water Heater



TOP VIEW

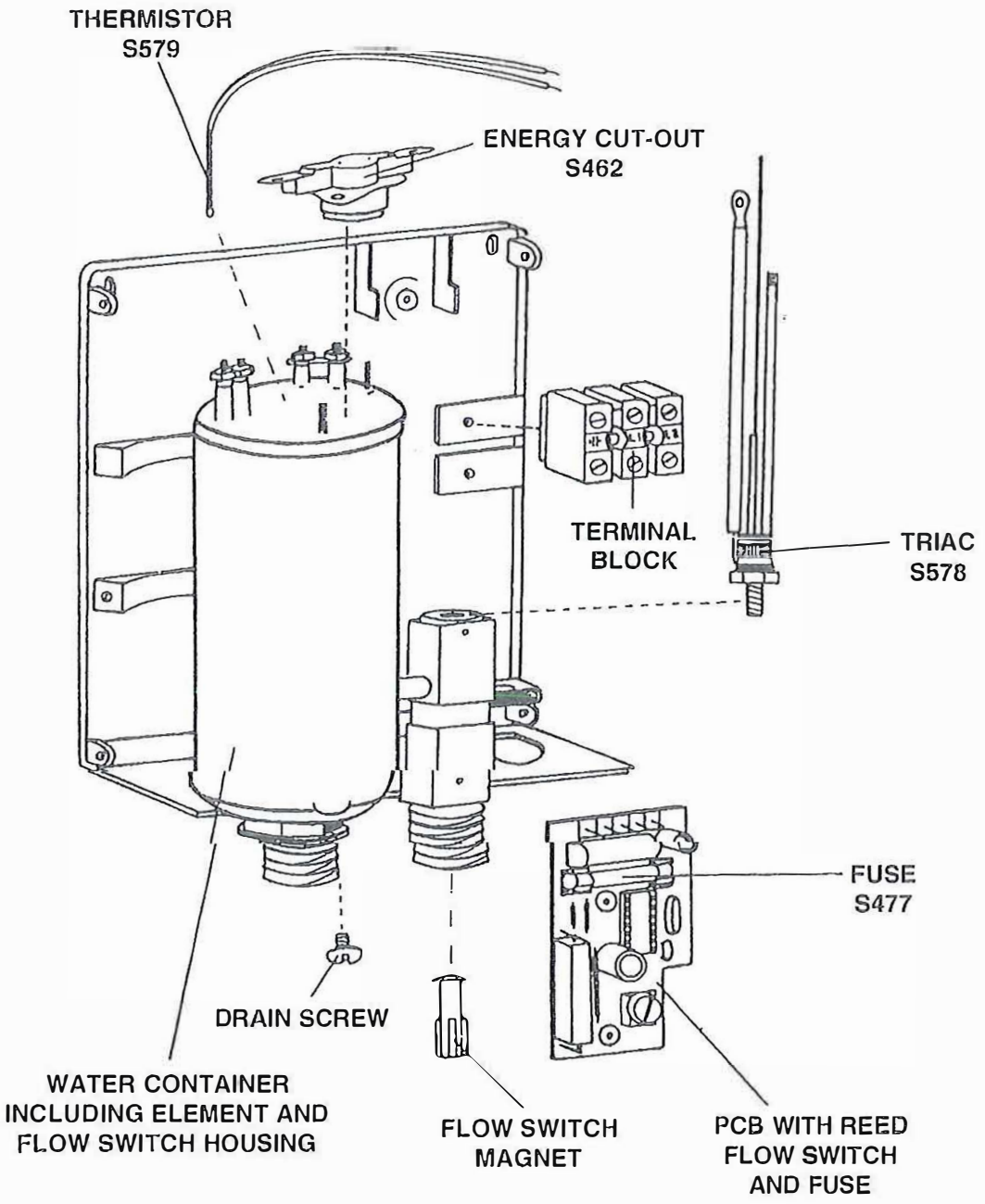


WATER INLET AND
FLOW MAGNET



FRONT VIEW

Illustration No. 11
Replacement Parts List - Water Heater



Hamilton Part Number 618669 - Tankless Electric Water Heater Assembly

Servicing and Disassembly - Water Heater and/or Switches

Caution: Before servicing water heater be sure electric power is disconnected or turned off at entrance box, water system pressure is relieved and water system is drained. See instructions elsewhere for proper draining procedure. Before servicing switches only, be sure electric power is disconnected or turned off at entrance box.

Note: Switches may be serviced within the cabinet if so desired. Should switches require replacement, see "Pictorial Wiring Diagram" elsewhere in these instructions, for proper connections and placement.

To remove water heater for servicing: Loosen pan head screws (4) holding heater and switch box mounting plate to side of cabinet. Slide assembly to the left (toward cabinet front) until screw heads line up with large portion of keyhole slots in plate and disengage plate from screws. Disconnect water lines from heater at compression ring and nut connections. Bring complete heater, switch and pan assembly out of cabinet to limit of electrical cords. Remove plastic heater cover by removing flat head screws (2 on each side) and pulling cover outward from heater. If it is necessary to remove heater from the mounting panel, loosen set screws in terminal block, remove strain relief bar, pull power supply wires out of terminal block and remove the 4 sheet metal screws that secure back of heater to the mounting pan. Heater can now be serviced on a work bench or be replaced. Re-assemble in reverse order being sure all electrical and water connections are securely tightened. See Illustration No. 10 below for proper connections.

Note: If a replacement heater assembly is installed, it may be necessary to use fittings from "old" heater. Use pipe joint compound on threaded fittings.

Illustration No. 12
Electric Schematic - Water Heater Only

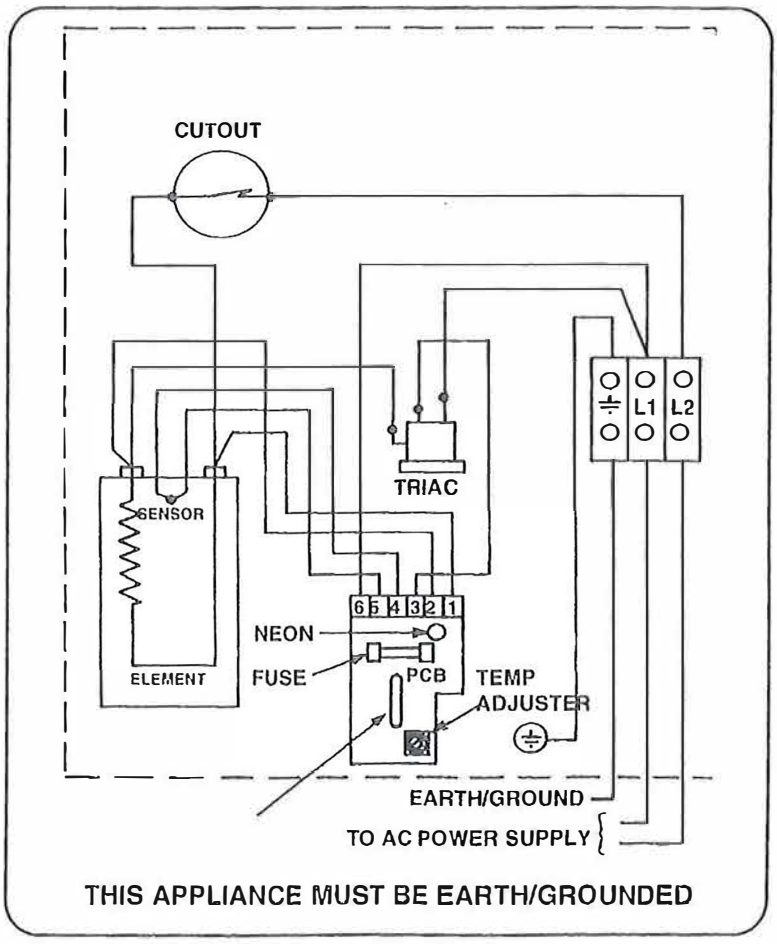


Chart No. 2
Temperature/Flow Chart

Temperature Rise (F)

	Flow Rate (GPM)																	
	.5	.6	.7	.8	.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.5	4.0**
1.0 KW	14	12	10	8.5	7.6	6.8	5.7	4.9	4.3	3.8	3.4	3.0	2.8	2.6	2.4	2.3	1.9	1.7
1.7 KW	23	19	17	15	13	12	10	8.3	7.2	6.4	5.8	5.2	4.8	4.4	4.1	3.8	3.2	2.9
2.2 KW	30	25	21	19	17	15	13	11	9.4	8.3,	7.6	6.8	6.2	5.7	5.3	5.0	4.2	3.8
3.0 KW	41	34	29	26	23	20	17	15	13	11	10	9.3	.5	7.9	7.3	6.8	5.8	5.1
4.0 KW	55	46	39	34	30	27	23	19	17	15	14	12	11	10	9.7	9.1	7.6	6.4
5.2 KW	71	59	51	44	39	36	30	25	22	20	18	16	15	14	13	12	10	8.9
7.0 KW	95	80	68	60	53	48	40	34	30	26	24	22	20	18	17	16	14	12
9.0 KW	124	102	88	77	68	62	51	44	39	34	31	28	26	24	22	21	18	16
Combinations																		
11 KW (7+4)	130*	125	107	94	83	76	62	54	48	42	38	34	32	29	27	26	22	19
14 KW (7+7)	130	130	130	120	106	96	79	68	61	53	48	44	40	37	34	33	28	24
18 KW (9+9)	130	130	130	130	130	124	102	88	78	68	62	56	52	48	44	42	36	31
21 KW (3x7)	130	130	130	130	130	130	120	102	90	78	72	66	60	54	51	48	41	36
27 KW (3x9)	130	130	130	130	130	130	130	130	117	102	93	84	78	72	66	63	54	47

Notes: * Maximum temperature is thermostatically limited to 140 degrees F on S series (Super Power Packs) and approximately 160 degrees F on Standard Power Packs.

** For flow rates greater than 4 GPM, find temperature rise for 1/2 the rate desired from the chart, and multiply rise shown by 1/2.

Chart No. 3
Wire Sizing Chart

Maximum length of run for Wire Gauge and Amperage Load (Ft.)

Maximum Watts at 115V	AMPS	Wire Gauge 14 GA.	12 GA.	10 GA.	8 GA.	6 GA.
1200	10	45	70	115	180	285
1800	15	30	45	70	120	190
2400	20	—	35	55	90	145
Maximum Watts at 240V	**AMPS**	**Wire Gauge 14 GA.**	**12 GA.**	**10 GA.**	**8 GA.**	**6 GA.**
3600	15	60	95	150	240	380
4800	20	—	70	115	180	285
6000	25	—	—	90	140	230
7200	30	—	—	75	120	190
9600	40	—	—	—	90	140

Effect of Reduced Voltage on Output

Heaters designed for use on 220V-240V have an output rating in WATTS based on a full 240 Volts. If actual voltage is lower, output can be calculated as follows:

$$\text{Rated Wattage at 240V} \times \frac{\text{Actual Voltage}^2}{240\text{V}^2} = \text{Actual Wattage}$$

Chart No. 4
Pump Maintenance/Trouble Shooting

Lubrication: The pump requires only water for lubrication and Must not be run dry.

The motor should be lubricated in accordance with the instructions on motor data label.

Problem:	Cause:	*Remedy:*
A. Pump does not deliver water or pressure	1. The pump is not full of water.	*Stop the pump, fill it with water, check all line connections to make sure there are no air leaks, and try again.*
B. Low Pressure. If pump delivers water, but at low pressure.	1. The motor is not up to speed.	*See if you have proper voltage and tight wiring connections.*
	2. The impeller or injector nozzle is partially plugged.	*Check impeller and nozzle for rocks or debris. Refer to disassembly instructions for getting to impeller.*
	3. Air is leaking into suction line.	*Check suction line connections.*
C. Low capacity	1. Your water level is deeper than 20 feet.	*Pump can't pump below 20 feet.*
	2. You are using too long a supply line from the water to the pump.	*You should use a shorter supply line or use a closer water source.*
	3. You have a plugged impeller or injector nozzle.	*Check impeller and nozzle. Refer to disassembly instructions.*
	4. The line from the pump to the water is partially plugged.	*Check line.*
	5. Inlet filter clogged.	*Remove filter screen and clean.*
D. Motor overheads	1. Improper voltage or wiring connections.	*Check to see if your voltage is the same as indicated on the switch functions plate. Be sure all wiring connections are tight.*
	2. Pump is operating almost continuously or intermittently with faucet closed.	*Check for leaks in system and be sure faucet valves are closed tightly.*
	3. Motor winding selector switch toggle at 115V position when cabinet is connected to a 240V 2-wire electric supply.	*Move switch toggle to 240V position.*
	4. Improper ventilation for the motor.	*Check to see if motor is clean.*
E. Loss of pressure when no water is used	1. Leaks in piping or valves.	*Check connections.*
	1. Water level drops below the end of the supply line.	*Check and be sure of a plentiful supply of water to keep wind of supply line submerged.*
F. Motor will not start connections.	1. Open switches, blown fuses, or loose	*Check switch, fuses and connections.*
	2. Motor winding selector switch toggle at 240V position when cabinet is connected to a 208 or 230V 3 wire electric supply.	*Move switch toggle to 115V position.*
	3. Improper connections to motor.	*Make sure connections are tight & properly wired.*
G. Air logging (excessive air in line)	1. Air leaks in line.	*Check connections.*
	2. Water drops below the end of the supply line.	*Provide a plentiful supply of water or refill reservoir.*
H. Gravelty noises inside pump (cavitation)	1. End of suction line in mud or sand.	*Raise end of suction pipe or clean out reservoir.*
	2. Restriction in water supply line.	*Check and clean supply line and/or filter screen.*

Service and Disassembly - Pump

Caution: Before servicing Pump, be sure electric power is disconnected or turned off, water system pressure is relieved and water system is drained.

When servicing pump, refer to "Parts List: Pump and Motor Assembly", "Parts List: Switch, Heater and Pump Assembly" and "Parts List: Pump and Motor Assembly".

If **shallow well injector** needs servicing, it can quickly be removed from pump case without disturbing pump or piping and is readily accessible from front of cabinet.

Should the **impeller, motor or seal** need servicing, disconnect water heater inlet piping at transition union on heater and remove ten sheet metal screws that hold pump support pan to cabinet bottom. Disconnect pump inlet piping at upper union. Slide complete pump, tank and pan assembly toward cabinet front just enough to allow access to tank outlet piping and disconnect cold water riser tube at adapter fitting. Pump, tank and pan assembly may now be removed from cabinet as far as electrical cords will allow which should be far enough to service pump and motor .

To service the impeller, seal or motor; remove the bolts (6) holding the pump case to the motor mounting bracket and the motor mounting bracket to the pump support pan. Remove the motor hold-down strap. Remove bracket and motor assembly from the pump case. This will expose the impeller. Unscrew the impeller from the shaft to reach the seal. To remove the motor for repair or replacement, loosen the two set screws in shaft coupling and the bolts (4) holding the motor to the mounting bracket. To remove 6 wire cord set from motor, remove plastic end cap, and loosen cable clamp on motor. Disconnect wires from terminals/unwrap taped terminals (2). **Important: 6 wire cord set connections on motor must be as shown on "pictorial wiring diagram" when installing motor.** Re-assemble in reverse order being sure all piping joints are tight, that rubber seals are placed in unions and "O" ring in the pump case and its sealing surfaces are clean. Moisten ring with water to aid assembly. **Do Not use oil or grease.** Prime pump and water system and test for proper operation and/or water leaks. See instructions elsewhere for proper priming procedure.

Special Tools and Test Equipment

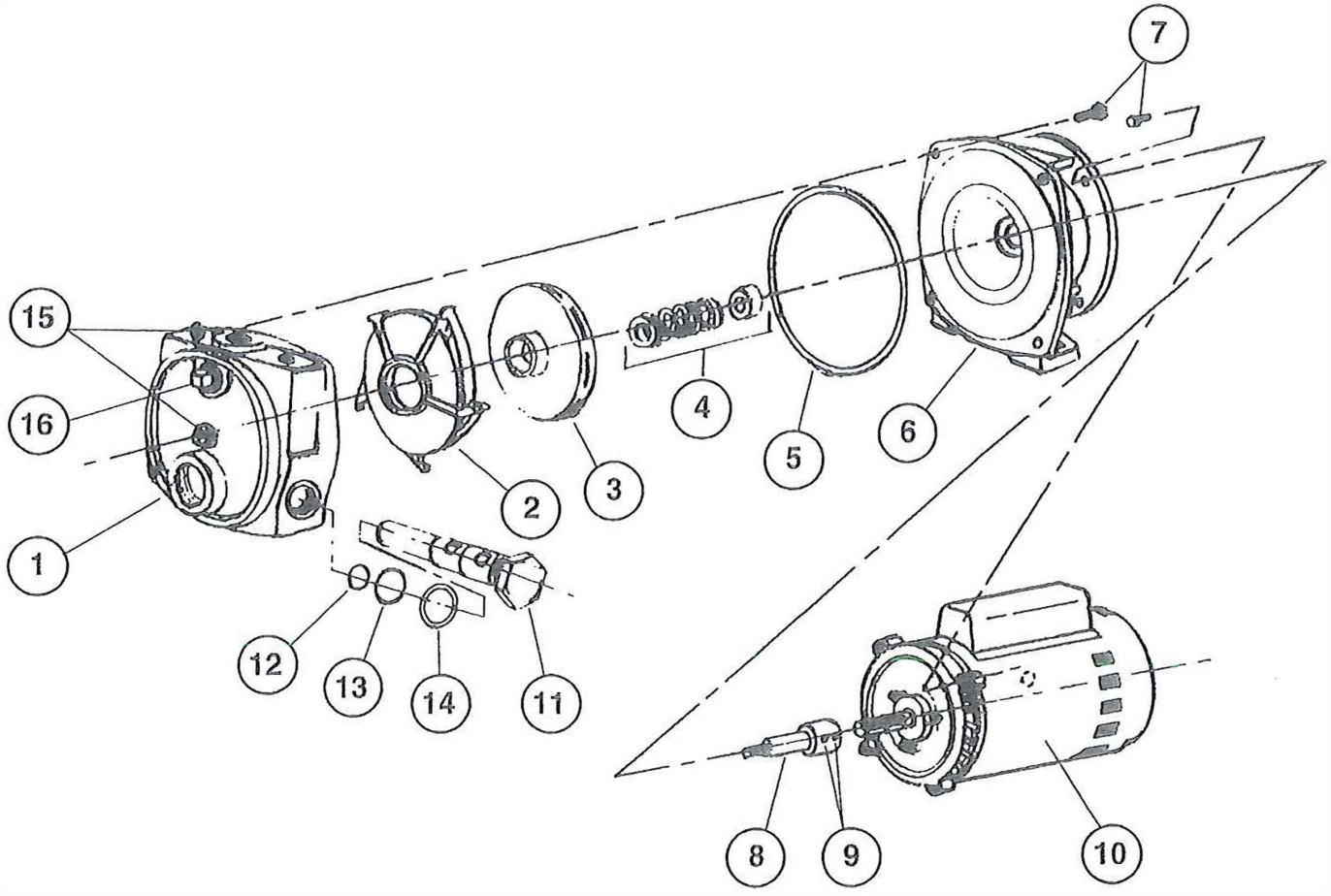
Tools:

Part Number	Description	Quantity	Function
618659	Wrench - Supplied	1	Internal water heater fittings.

Test Equipment: (Not Supplied)

1. Volt ohm meter.
2. Continuity Tester.
3. Immersible thermometer - capable of measuring 150° F.

Illustration No. 13
Parts List - Pump and Motor Assembly



Ref. No.	Part Number	Description	Serial No.	Qty.
1	03-0636-09	Pumpcase	1011 thru ____	1
2	06-0117-04	Diffuser	1011 thru ____	1
3	05-3073-01	Impeller, Lexan	1011 thru ____	1
4	10-1203-01	Seal, Mechanical, 3/4 inch	1011 thru ____	1
5	47-0258-53	Ring Assembly, Square	1011 thru ____	1
6	02-1100-0	Bracket	1011 thru ____	1
*7	14-1292-25	Cap Screw, Hex, 3/8-16, 3/4 long	1011 thru ____	8
8	07-2152-05	Coupling, Shaft	1011 thru ____	1
*9	14-0002-02	Set Screw, Socket, HD, 3/16-18, 3/8 long	1011 thru ____	2
°10	B62B	Motor, 1/2HPWR, 115/230V, 2850RPM, 1-Ph, 50/60Hz,	1011 thru ____	1
	9010-2799	Motor, 1/2HPWR, 115/230V, 2850RPM, 1-Ph, 50Hz,	1001 thru 1010	1
11	18-0617-05	SW Injector Assembly Code #1219	1011 thru ____	1
12	47-0212-09	O-Ring, Venturi	1011 thru ____	1
13	47-0213-08	O-Ring, Nozzle	1011 thru ____	1
14	13-0137-01	Jet Gasket	1011 thru ____	1
*15	31-0059-11	Plug, 1/4 Inch I.P.S., Square HD	1011 thru ____	2
*16	31-0063-07	Plug, 1 Inch I.P.S., Square HD	1011 thru ____	1

* Indicates common hardware parts, may be available locally.

° Indicates motor must be wired for CLOCKWISE rotation - when viewing motor from wiring terminal end.

Servicing and Adjustments - Pressure Tank and Pressure Switch

Important: Disconnect electrical power, drain water and relieve pressure in system.

Should the pressure tank be replaced for any reason, follow the adjusting and pre-charge requirements below.

Note! Pressure switch and tank originally installed in cabinet have been pre-set by cabinet manufacturer to operate at approximately 25 P.S.I. "on" to approximately 60 P.S.I. "off" pressure gauge reading (although switch label may otherwise state) when connected to 115/230V. 50/60 Hz. 1-PH power.

Before installing new pressure tank, remove red plastic cap on "closed" end of new tank to expose "Tire Style" valve stem. Check existing air pressure in tank with a suitable gauge and add air by means of the valve stem fitting until a pressure of 25 P.S.I. is obtained in tank.

Replace plastic cap on valve stem. New tank may now be fitted to pump assembly.

Note! A new pressure tank is normally precharged to 20 P.S.I. by the tank manufacturer.

If the tank only was replaced, electrical power can now be restored and water system primed to check for leaks and proper operation. Pressure switch may have to be fine tuned at this time to assure proper operation of pump. See adjustment section below.

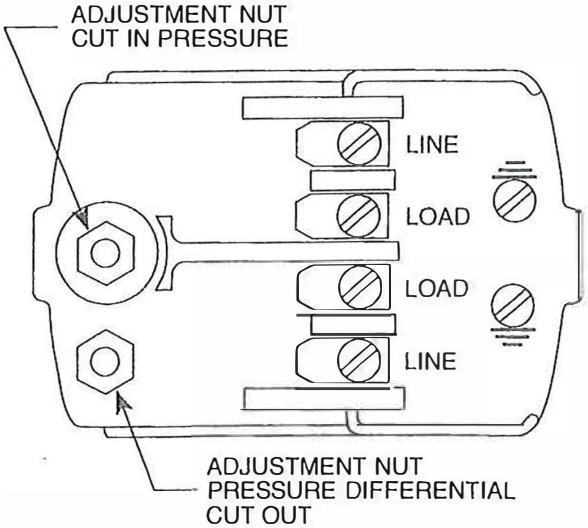
Should the pressure switch be replaced for any reason, the new switch will have to be adjusted to cut-in at 25 P.S.I. and cutout at approximately 60 P.S.I. after fitting new switch to pump and attaching electric cords.

Note! Pressure gauge on pump body shall be used to monitor cut-in and cutout pressure readings. Restore electric power to cabinet, prime pump, and let run until pump motor stops. Observe pressure reading on the gauge. Check for water leaks at switch pipe fittings. Open cold water faucet and run water until pump motor starts. Observe pressure reading on gauge. Close cold water faucet valve and snap motor control switch located in moisture proof box to "off". Remove cover on pressure switch and locate the 2 spring tension adjustment nuts on switch. Caution: Do not touch wire terminals or current carrying components of the switch as these parts are "live" unless twist lock connector at back of cabinet has been disconnected or main circuit breaker is turned "off". Adjust spring tensions as necessary.

Restore power and/or turn motor control switch "on". Repeat "on/off" cycles and adjustments until pump motor cuts-in at 25 P.S.I. and cuts-out at approximately 60 P.S.I. readings on gauge when used on 60 Hz. electric system. Replace cover on pressure switch.

Note! Adjustment nuts: Clockwise rotation will increase and counterclockwise rotation will decrease motor cut-in and cutout pressures. Large spring controls "cut-in" pressure and small spring controls "cutout" pressure.

Pressure Switch, Adjustment of, Illustration 14



Top View
(Cover Removed)

Adjust in proper sequence

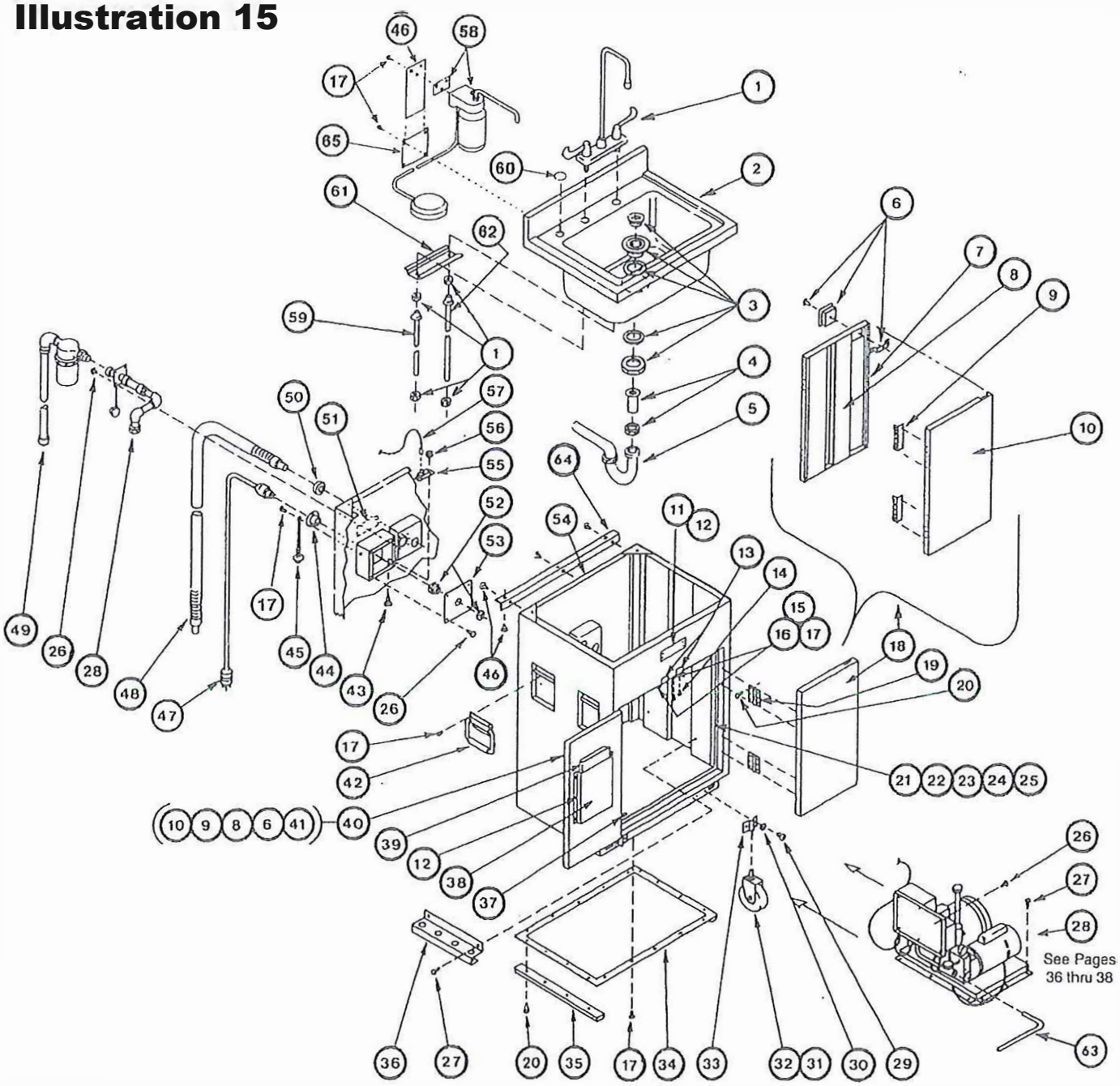
1. **Cut In:** Turn nut clockwise (Down) for higher cut in pressure, or counterclockwise for lower pressure.
2. **Cut Out:** Turn nut clockwise (Down) for higher cut in pressure, or counterclockwise for lower pressure.

Notes:

1. Initial factory settings are cut in 20 PSI, cut out 40 PSI.
2. For location of pressure switch see "Cover with Pressure Switch" on Page 8, Section "A-A", Item 20 and Page 36, Item 46.

Parts List - Sink Unit - Dwg. 6012111899MM

Illustration 15



Item No.	Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Serial No.	Qty.
1	17671			Faucet assembly with jam and riser nuts	1001 thru ____	1
2	684695			Sink assembly	" "	1
*3	618635			Crumb cup strainer assembly, stainless steel	" "	1
4	Part of Item 3			Tailpiece, stainless steel	" "	1
*5	95704	Genova	17515	P-Trap, Ploypropylene	" "	1
6	18261	SouthCo	64-10-103-50	Latch assembly	" "	2
7	618626			Outside head - right-hand door	" "	1
8	620268			Vertical Filler	" "	4
9	610016			Hinge mounting angle (door)	" "	4
10	684706			Inside head assembly - right & left-hand door	" "	1
11	70574			Warning label	" "	1
12	9920606			PPHSDS, No. 6-18 X 3/8", stainless steel	" "	16
13	618612			Strike plate, door latch	" "	2

Item No.	Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Serial No.	Qty.
14	29259			Pop rivet - 1/8 X .294, anodized aluminum	1001 thru ____	4
15	618631			Strike	" "	2
16	12853			Rubber bumper	" "	2
17	29258			Pop rivet - 3/16 X 7/16, anodized aluminum	" "	44
18	684708			Door assembly, right-hand, swing	" "	1
19	48598			Hinge	" "	4
20	1120810			PFHSMS, No. 8 X 5/8", stainless steel	" "	32
21	610146			Front corner upright	" "	2
22	14537			Retainer clip	" "	4
23	14538			Retainer clip	" "	2
24	610015			Hinge mounting angle (cabinet)	" "	4
25	14539			Retainer clip, hinge angle	" "	4
26	1920808			PPHSMS, No. 8 X 1/2", stainless steel	" "	12
27	1921008			PPHSMS, No. 10 X 1/2", stainless steel	" "	11
28	684705			Switch, heater, pump & piping assembly	" "	1
29	34109			HHCS, 5/16-18 X 1/2", stainless steel	" "	8
30	44501			5/16" Shakeproof lockwasher (Ext.)	" "	8
31	57657	Bassick	SB14696X2RP	Caster with brake	" "	2
32	57656	Bassick	14696X2RP	Caster without brake	" "	2
33	618996			180° Caster socket bracket	" "	4
34	618610			Flush bottom	" "	1
35	618666			Skid, plastic	" "	2
36	618662			Bracket, caster storage	" "	1
37	17757			Rubber grommet, small	" "	1
38	618633			Manual "Pocket"	" "	1
39	684712			Information packet	" "	1
40	684707			Door assembly, left-hand, swing	" "	1
41	618627			Outside head, left-hand door	" "	1
42	618428			Handle assembly	" "	4
43	3920608			PPHMS, No. 6-32 X 1/2", stainless steel	" "	2
44	49475	Arrowhart	6515	Electric inlet assembly, twist-lock, 30 Amp	" "	1
45	49015	Hubbell	2898	Closure cover assembly	" "	1
46	618970			Mounting strap	" "	1
**47	618973			Electrical supply cord assembly	" "	1
**48	684689			Waste outlet drain hose assembly	" "	1
**49	684686			Quick connect water supply hose & filter assembly	" "	1
50	17777	McMaster Carr	9602K17	Rubber grommet, large	" "	1
51	70576			Electric inlet label	" "	1
*52	49047			Electric box/cable connector with nut	" "	1
53	618626			Electric box cover	" "	1
54	684711			Body assembly - 30" wide	" "	1
55	49894			Circuit breaker - 10 Amp	" "	1
56	25682			Hex nut, No. 6-32, stainless steel	" "	1
57	618644			Wire assembly - black	" "	1
58	61733	Levernier	1600	Soap dispenser assembly	" "	1
*59	61817	Genova	53088	Hot water riser, 35-3/4" P.B.	" "	1
*60	13416			Plug button, 1-3/8" dia.,	1001 thru 1109	1
61	618673			Spacer	1001 thru ____	1
*62	61817	Genova	53088	Hot water riser, 35-3/4" P.B.	" "	1
*63	618639			Vinyl drain tube, 3/8" I.D. X 18" long	" "	1
64	618745			Top mounting angle	" "	1
65	681911			Mounting plate assembly	" "	1

* Indicates parts that may be available at larger hardware stores, plumbing supply shops or electrical supply houses. Substitutes are permitted providing that the designs and sizes permit such substitutions without affecting overall design or operations.

** See Schedules A, B, or C on next page.

Parts List - Sink Unit (continued)

SCHEDULE A, REFERENCE No. 49 CONSISTS OF:

Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Qty.
17671	McMaster Carr	5316-K49	1/2" M.P.T. Quick connect plug, brass	1
41478	McMaster Carr	9875-K71	1/2" F.P.T. Plastic in-line strainer, No. 40 mesh	1
*46085	U.S. Plastics	27046	1/2" I.P.S. X 2" long PVC short nipple	1
*45812	U.S. Plastics	27229	1/2" F.P.T. X 1/2" F.P.T. 90° PVC elbow, Sch. 80	1
*45593	U.S. Plastics	61145	1/2" M.P.T. X 5/8" I.D. Hose nylon adapter	1
*618651	McMaster Carr	5288-K13	5/8" I.D. X 1" O.D. Double braid rubber hose	120"
*90675	U.S. Plastics	57135	Snap-grip hose and tubing clamp	1

SCHEDULE B, REFERENCE No. 48 CONSISTS OF:

61713	U.S. Plastics	36028	1-1/2" I.D. "Ductail" Polyethylene flexible hose	84"
27414	U.S. Plastics	36038	1-1/2" I.D. "Ductail" Vinyl hose end fitting	2

SCHEDULE C, REFERENCE No. 47 CONSISTS OF:

618973			No. 10 AWG Type S.J.O. 4 Cond. Heavy duty portable cord	108"
618665	Hubbell, Inc.	6035	"Seal-Tite" Rubber boot	1
618665	Hubbell, Inc.	2713	30 Amp, 4-wire twist-lock connector	1
See Note No. 1			30 Amp Plug	1

NOTE 1 - NEMA configuration has been determined by contracting officer at time of procurement and may be any one of the following:

NEMA No. 14-30P-Hubbell No. 9431 or No. 9432 (or equal) Straight Blade 125/250V. 1Ø, NEMA No. L14-30P-Hubbell No. 2711 (or equal) Twist-Lock 125/250V. 1Ø.

If a determination had not been made, the NEMA No. 14-30P style plug is furnished as standard (Hubbell No. 9431 or equal).

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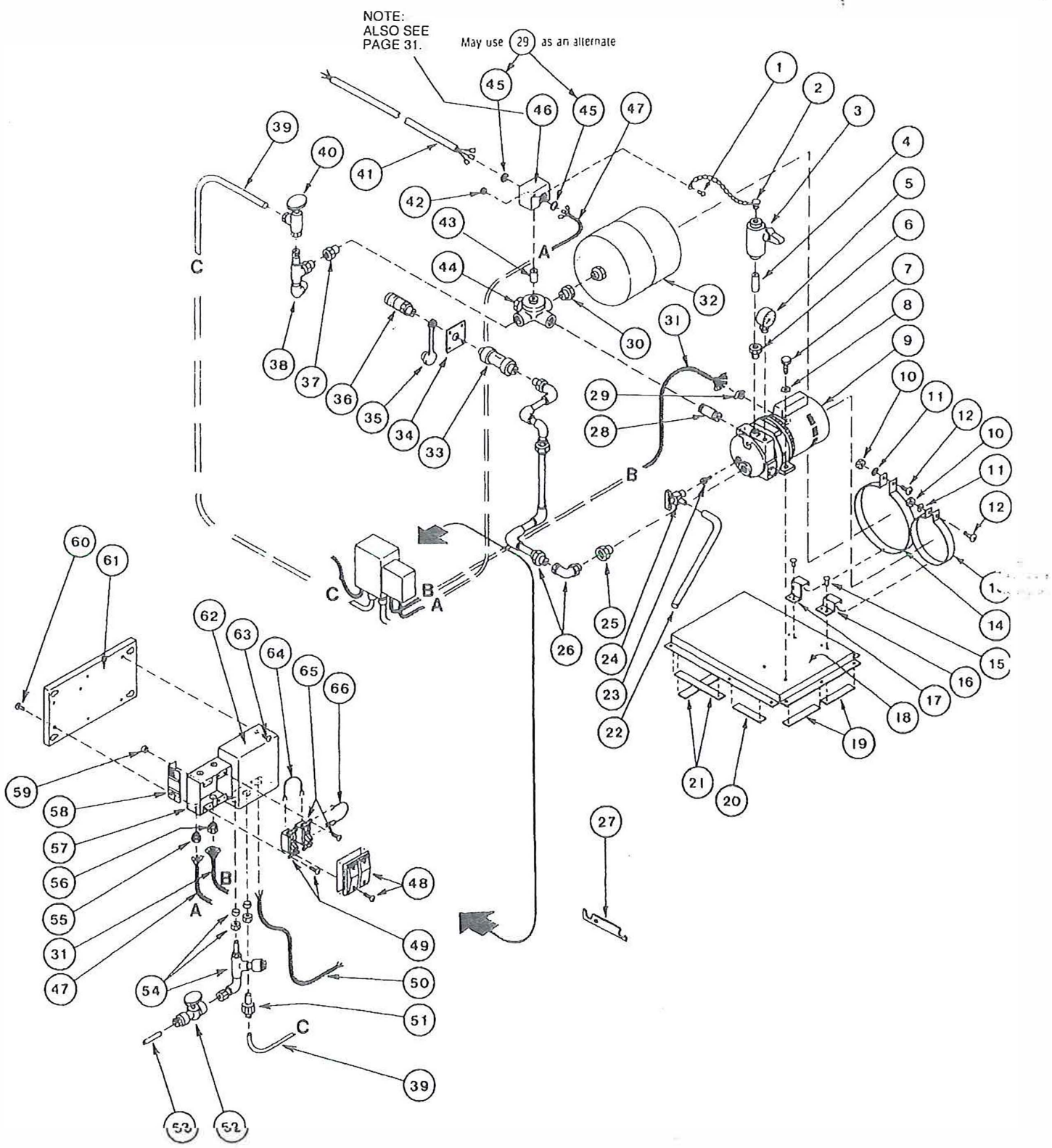
Parts list - Switch-Heater-Pump Assembly

Illustration 16



Item No.	Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Serial No.	Qty.
*1	29258			Pop rivet, 3/16 X .43, anodized aluminum	1001 thru ____	1
2	684688			Plug & chain assembly (See Schedule A)	" "	1
3	47447	US Plastics Corp.	27352	3/4" I.P.S. ball valve, PVC	" "	1
*4	46086	US Plastics Corp.	27352	3/4" I.P.S. X 2" long nipple, PVC	" "	1
★*5	618667	Jacuzzi Bros.	3G8	Pressure gauge, 0 to 100 P.S.I., 1/4" F.P.T.	" "	1
*6	45392	US Plastics Corp.	26007	1" M.P.T. X 3/4" F.P.T. bushing, PVC	" "	1
*7	34110			5/16-18 X 7/8" hex head cap screw, stainless steel	" "	2
*8	44396			5/16" X .125 X .078 Kantlink lockwasher	" "	1
★ 9	618667-2	Jacuzzi Bros.	JB9102-12B7	Pump and motor assembly	" "	1
*10	25710			No. 10-24 hex nut, stainless steel	" "	2
*11	44499			No. 10 Shakeproof external lockwasher	" "	2
*12	3921016			PPHMS No. 10-24 X 1", stainless steel	" "	2
13	618999			Motor hold-down strap	1011 thru ____	1
	618624			Motor hold-down strap	1001 thru 1010	1
14	618625			Water tank hold-down strap	1001 thru ____	1
*15	29258			Pop rivet, 3/16 X .43, anodized aluminum	" "	4
16	618998			Motor support	1011 thru ____	1
	618623			Motor support	1001 thru 1010	1
17	618622			Tank support	1001 thru ____	1
18	684690			Pan assembly, pump support	" "	1
19	618655			Insulator strip, 5" long, Corr. rubber	" "	2
20	618656			Insulator strip, 7" long, Corr. rubber	" "	2
21	618657			Insulator strip, 8-3/4" long, Corr. rubber	" "	3
*22	618639			Vinyl drain tube, 3/8" I.D. X 18" long	" "	1
23	45395	Seal Products, Inc.	3200X4	1/4" F.P.T. X 1/4" M.P.T. adapter, "Weatherhead"	" "	1
24	47448	Seal Products, Inc.	A6860	Compression angle shut-off valve, "Weatherhead"	" "	1
*25	45394	US Plastics Corp.	26013	1-1/4" M.P.T. X 1/2" F.P.T. bushing, PVC	" "	1
26	684702			Inlet piping assembly (cemented) (See Schedule B)	" "	1
*27	618659			Wrench, internal water heater fittings	" "	1
★*28	618673	McMaster Carr	4549K615	1" I.P.S. X 3-1/2" long pipe nipple, galvanized iron	" "	1
*29	49047			1/2" K.O. box/cable connector w/ nut (Also alternate to Ref. No. 45)	" "	2 or 4
★*30	6186677	McMaster Carr	4535K62	1" M.P.T. X 3/4" F.P.T. hex bushing, galvanized iron	" "	1
31	618997			8-Wire cord set (motor to selector switch)	1011 thru ____	1
	618664			6-Wire cord set (motor to selector switch)	1001 thru 1010	1
★*32	6186678	Amtrol Model	WX-101	Water tank ("Jacuzzi" No. PP-5)	1001 thru ____	1
33	47446	US Plastics Corp.	18291	1/2" F.P.T. ball check calve, PVC	" "	1
34	618658			Retaining plate	" "	1
35	94512	McMaster Carr	5248K73	Plastic dust plug, 1/2" size	" "	1
36	45594	McMaster Carr	5316K23	1/2" M.P.T. disconnect socket, brass	" "	1
*37	45393	US Plastics Corp.	26008	1" M.P.T. X 1/2" F.P.T. bushing, PVC	" "	1
38	684692			Outlet piping assembly (cemented (See Schedule C)	" "	1
*39	618661			Cold water supply tube, Polypropylene	" "	1
*40	47445	Qest/US Brass	QV-342	Angle supply valve, 1/2" tube X 3/8"P.B. (plastic)	" "	1
41	618640			3-Wire cord set (power inlet to switch)	" "	1
42	44215			Flat washer, back up, stainless steel	" "	1
★*43	6186674	McMaster Carr	4549K532	1/4" I.P.S. X 1/2" long nipple, galvanized iron	" "	1
★ 44	6186672	Jacuzzi Bros.	1GB	"Aqua-Genie" 80 valve, black plastic	" "	1
★ 45	6186676	Jacuzzi Bros.	23-1120-06	Rubber grommet	" "	2
★*46	6186675	Jacuzzi Bros.	Sq. D Class 9013	Ser. B FSG2 Form U Pressure switch, 20/40PSI (Jacuzzi Part No. 0J8)	" "	1
47	618641			3-Wire cord set (pump switch to on/off switch)	" "	1
*48	59402	Mulberry Metal	30461	Moisture proof box cover with gasket and screws	" "	1
*49	50146	Arrow Hart	12021	D.P.S.T. On/Off switch with mounting screws	" "	1
50	618630			Heater wire assembly (3-No. 10AWG "THW" bldg. wire) (See Schedule E)	" "	1
*51	50879	Genova, Inc.	53070	C.P.V.C. Street adapter, 1/2" tube X 3/8" P.B.	" "	1
*52	47442	Genova, Inc.	53030	Straight supply valve, C.P.V.C.	" "	1
*53	618637			Drain tube, 3/8" O.D. X 2-3/4" long P.B.	" "	1
54	684693			Heater outlet piping asm. (cemented) (See Schedule D)	" "	1
*55	48958	Appleton Co.	CG-2575	3/4" straight portable cord connector	" "	1

Item No.	Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Serial No.	Qty.
*56	48959	Appleton Co.	CG-5075	3/4" straight portable cord connector	1001 thru	
57	618663	Mulberry Metal	3059	Moisture proof electric box with two 3/4" plugs		
58	618654			Switch functions plate		
*59	94511	Appleton Co.	PLG-75A	3/4" screw-in plug, slotted		1
*60	6921008			No. 10-32 X 1/2" PPHTCS, stainless steel		3
61	618668			Support pan (switch box & heater)		
★ 62	618669	Thermar	HP-424L	Tankless electric water heater, 240V., 4KW		
*63	1920808			No. 6 X 1/2" PPHSMS, stainless steel		4
64	618642			White switch-to-switch jumper wire		
65	50148	Pass & Seymour	1276	D.P.S.T.On/On switch with mounting screws		
66	618643			Blue "Selector" switch jumper wire		

* Indicates parts that may be available at larger hardware stores, plumbing supply shops or electrical supply houses. Substitutes are permitted providing that the designs and sizes permit such substitutions without affecting overall design or operations.

★ These parts may be ordered as a completed assembly. Order assembly number 618667.

SCHEDULE A, REFERENCE No. 2 CONSISTS OF:

Hamilton Part Number	Vendor Name	Vendor Part No.	Description	Qty.
*94513	McMaster Carr	5481K18	3/4" M.P.T. Polyethylene pipe plug, red	1
*618670	McMaster Carr	3606T51	No. 13 X 10" long bead chain	
*16548	McMaster Carr	3606T34	End coupling for No. 13 bead chain	2
*44215			Flat washer, back-up, stainless steel	1
*29258			Pop rivet, 3/16" X .43, anodized aluminum	

SCHEDULE B, REFERENCE No. 26 CONSISTS OF:

*45597	Genova, Inc.	50405	1/2" male iron pipe adapter, CPVC	2
*618645	Genova, Inc.	50005	Nipple, 1/2" CPVC tubing X 1-1/8" long	3
*45813	Genova, Inc.	50705	1/2" 90° CPVC elbow	6
*618650	Genova, Inc.	50005	1/2" CPVC pipe X 4" long	1
*618647	Genova, Inc.	50005	1/2" CPVC pipe X 1-7/16" long	2
*47383	Genova, Inc.	530211	1/2" CPVC Union	2
*618649	Genova, Inc.	50005	1/2" CPVC pipe 1X 1-11/16" long	1
*618648	Genova, Inc.	50005	1/2" CPVC pipe 1X 6-1/4" long	

SCHEDULE C, REFERENCE No. 38 CONSISTS OF:

*618646	Genova, Inc.	50005	Nipple, 1/2" CPVC tubing X 2-3/4" long	
*47300	Genova, Inc.	51405	1/2" X 1/2" X 1/2" CPVC Tee	
*45597	Genova, Inc.	51405	1/2" Male iron pipe adapter	
*618645	Genova, Inc.	50005	Nipple, 1/2" CPVC tubing X 1-1/8" long	
*45596	Genova, Inc.	53060	CPVC Angle adapter, 1/2" tube X 3/8" P.B.	

SCHEDULE E, REFERENCE No. 50 CONSISTS OF:

*618630			No. 10 AWG type "THW" building wire, black	40"
*618630			No. 10 AWG type "THW" building wire, red	40"
*618630			No. 10 AWG type "THW" building wire, green	40"

SCHEDULE D, REFERENCE No. 54 CONSISTS OF:

*47300	Genova, Inc.	51405	1/2" X 1/2" X 1/2" CPVC Tee	
*50879	Genova, Inc.	53070	CPVC Street adapter, 1/2" tube X 3/8" P.B.	
*45811	Genova, Inc.	52905	1/2" 90° CPVC Street elbow	
*618646	Genova, Inc.	50005	Nipple, 1/2" CPVC tubing X 2-3/4" long	

Design Change Notice (DCN)

1. Procurable Type Items

A. Design changes of in-house manufactured parts, to notify provisioning activity within twenty-one (21) days after release for fabrication, accompaniey by applicable SPTD.

B. Design changes of purchase type parts, to notify provisioning activity within forty-two (42) days after release for assembly, accompaniey by applicable SPTD.

2. Nonprocurable Type Items

A. Design changes of in-house manufactured and purchased type parts, to notify provisioning activity within sixty (60) days after release for fabrication and assembly, accompaniey by applicable SPTD.

Appendix for Service Manual SPO200-94-C-8555

ITEM 9913 - SHORT FORM PROVISIONING PARTS LIST (SFPPL) 38
DATA ITEM DESCRIPTION - DEPMEDS-AT-01

TOOLS AND TEST EQUIPMENT LIST (TTEL), DATA ITEM DESCRIPTION 26

ITEM 9913- SPECIAL EQUIPMENT COMMERCIAL SERVICE MANUAL-A005
DATA ITEM NUMBER - DPSC-A

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      4. Listing of additional equipment required (including cabling but not supplies) 12, 24
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      4. Initial adjustments 12-14
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      6. Wire sizes 24
      7. Cable fabrication details ..... N/A
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      2. Meter readings, results to be expected from operation ..... N/A
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   e. THEORY OR PRINCIPLES OF OPERATION
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   f. MAINTENANCE
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DATA ITEM NUMBER - DPSC-B

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      2. An overall illustration of the main operator controls, with a brief description as to its function and use 6, 8
      3. Where status alert indicators are provided. (Pilot light illuminates when water heater is operating ..... N/A
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      1. Step-by-step procedure to be followed each time the equipment is used 12, 14
   e. Operation
      1. Step-by-step instructions for starting, operating and stopping 12, 14
   f. Patient safety and other precautions 11
   g. Equipment care 11
   h. Alerts troubleshooting 19, 25
   i. Accessories ..... N/A
   k. Storage 14-15

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6. Item management coding 6-7
7. Preparation of allowance issue list 21, 30-38
8. Initial procurement from the contractor or original manufacturer 5

DESIGN CHANGE NOTICE (CNC) DATA ITEM DESCRIPTION 37

CONSUMABLE/DURABLE ITEM LIST DATA ITEM DESCRIPTION 38

Keys To Receiving Your Order

1. Ask These Questions:
   - A. Is it for me?
   - B. Is the piece count correct?
   - C. Is it damaged?

2. If Damaged:
   - A. Did you note the exception on the driver's receipt?
   - B. Did you discover the damage later? Then call the carrier to inspect.
   - C. Did you save the packaging? Hold it until the inspection is made.
   - D. Did you determine if you can:
     - Repair it
     - Return it to Hamilton for repair, or
     - Replace it
   - E. Did you hold the damaged product for salvage by the carrier?

Now you can file a claim with the carrier or ask Hamilton for assistance.

Your Responsibility When Receiving Freight

1. **Steps to take at time of delivery to protect against loss or damage**

   A. **Verify Count** — Make sure you are receiving as many cartons as are listed on the delivery. If any shortage is discovered, note exactly how many cartons are short on the carrier's delivery receipt and have the driver note the shortage on your copy.

   B. **Carefully Examine Each Carton for Damage** — If damage is visible, so note this fact on the delivery receipt and have the driver clearly note that fact on your copy. If carton has appearance that contents inside may possibly be damaged, insist that it be opened at that time, and both you and the driver should make joint inspection of the contents. Any concealed damage discovered should likewise be noted on the delivery receipt and on your copy. Be sure to retain your copy.

   C. **Immediately After Delivery, Open All Cartons and Inspect for Concealed Damage** — Even though driver has already left, all cartons should immediately be opened and the contents inspected for possible concealed damage.

2. **Steps to Take When Visible or Concealed Damage is Discovered**

   A. **Retain Damaged Items** — Not only must the damaged items be held at the point where received, but the containers and all inner packing materials must be held until an inspection is made by a carrier inspector.

   B. **Call Carrier to Report Damage and Request Inspection** — The call should be placed immediately upon discovery of the damage, but under no circumstances should it be put off longer than 15 days after delivery. Failure to report concealed damage within this 15 day period will almost certainly result in the carrier denying your claim.

   C. **Confirm Call in Writing** — Although this is not a mandatory requirement, for your own protection in establishing the fact the carrier was notified within the 15 day period, we strongly recommend that all calls be confirmed to the carrier in writing. Be sure to retain a copy of your letter.

3. **Steps to Take When Carrier Makes Inspection of Damaged Items**

   A. **Have Damaged Items in Receiving Area** — Make certain the damaged items have not been moved from the receiving area prior to discovery of the damage. Allow inspector to inspect damaged items, cartons, inner packing materials and freight bill. Be sure to retain your delivery receipt - it will be needed as a supporting document when claim is filed.

   B. **After Inspector Fills Out Inspection report, Carefully Read It Before Signing** — If you do not agree with any facts or conclusions made by the inspector on the report, do not sign it. Unless repairs will be completely satisfactory, be sure the inspector requests replacement **on the inspection report.** A new item can be ordered **only** if the inspection report specifies "REPLACE".

4. **Steps To Take After Inspection Has Been Made**

   A. **Continue to Retain Damaged Merchandise** — Even though inspection has been completed, damaged items cannot be used or disposed of without written permission from the carrier.

   B. **Do Not Return Damaged Items to Shipper** — Return of such items should not be made without written authorization of the supplier.

   C. **Secure Receipt From Carrier if Damaged Items are Picked Up for Salvage** — If you surrender damaged merchandise to a carrier for salvage because it is valueless to you, be sure to secure a receipt from the driver when it is picked up and retain that receipt.

Remember, it is your responsibility to accept shipment regardless of damage, then to determine extent of damage and file a claim.

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