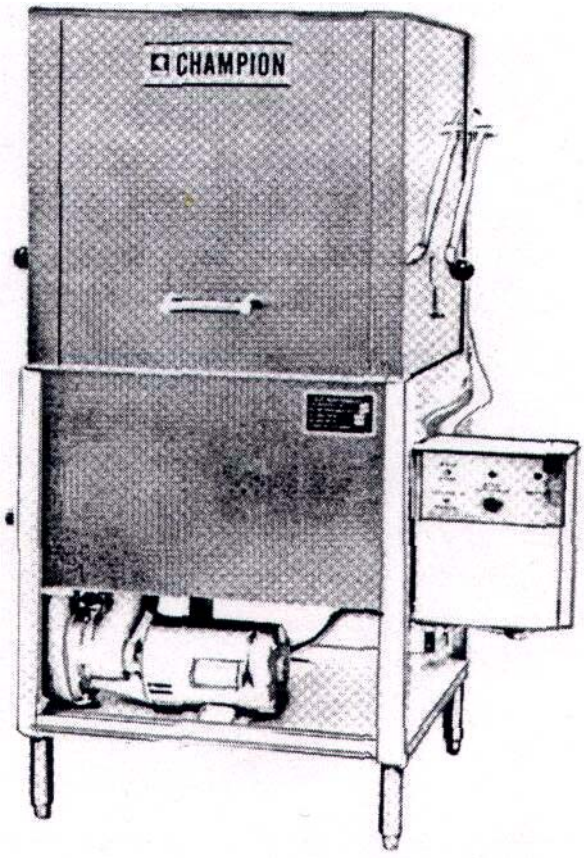
Champion

The Dishwashing Machine Specialists

Equipment Manual



Dish Washer Models **1 KAB & 1 KACB**

Part No. 108108 January 1990

Champion Industries, Inc. P.O. Box 4149 Winston-Salem, NC 27115 336/661 -1556 Fax 336/661 -1979

Champion
The Dishwashing Machine Specialists

GENERAL	
Introduction	**1**
Directional Reference	**1**
Ordering Parts	**1**
INSTALLATION	
Installation Instructions	**23**
OPERATION	
Operation Instructions	**4,5**
MAINTENANCE	
Procedures	**6**
Service Tips	**6**
Trouble Shooting — Specific Problems	**6,7,89**
Maintenance Schedule	**910**
Special Maintenance	**10,11,12,13,14**
PARTS BREAKDOWN AND LISTINGS	
Hood and Base Assemblies	
For Model 1-KAB	**15**
For Model 1-KACB	**16**
Installation on Door Lever	
For Model 1-KAB	**17**
For Model 1-KACB	**18**
Control Panel	**19**
Upper Revolving Wash assembly	**20**
Lower Revolving Wash and Rinse Assemblies	**21**
Wash System Installation	**22**
Pump assembly	**23**
Drain Assembly	**24**
Rinse and Fill Piping	**25**
Electric Heat Installation	**26**
Gas Heat Installation	**27**
Steam Heat with Injector and Electric Thermostat Installation	**28**
Closed Coil Steam Heat with Electric Thermoswitch Installation	**29**
Steam Booster Piping	**30**
Door Lock and Safety Switch Installation	**31**
Electric Schematic	**32**
Steam Heat	**33**
Gas Heat	**34**

NOTE: Champion Industries, Inc reserves the right to modify the design and specifications of the Model 1 -KAB dishwasher at anytime and without prior notice This would be done in the interest of maintaining equipment approval under applicable standards and codes and also to assure that Champion Industries products reflect the advantages of a continuing research and development program

Champion
The Dishwashing Machine Specialists

MACHINE INSTALLATION

NOTE: Exercise care when uncrating and moving your dishwasher to Its permanent location. Protect your investment from the start.

1. Use a Nail Remover — NOT a hammer — remove the shipping case and move the machine on skids to a position near its permanent location.

2. Cut the steel strapping that secures the machine to the skids. With at least **two** men, tip the dishwasher enough to unscrew the adjustable feet about one inch to give a nominal table connection height of 34 inches. "Walk" the dishwasher off the skids and slide it into the permanent location.

3. Level the machine by placing a spirit level on the base and adjusting the feet Level side-to-side as well as front-to-back.

4. The electrician should check the electrical characteristics labeled on the machine against the power supply prior to connecting to the incoming service at a **fused** disconnect switch. See Figure 1 or 2 for the appropriate model.

NOTE: All wiring must be done according to local electrical codes.

5. The plumber should make all connections for water, steam and/or gas — if your dishwasher is so equipped — as well as the drain to the sewer line. (See Figure 1 or 2 for the appropriate model).

6. Install shutoff valves in the steam and water supply lines at points nearthedishwasher before installing the hot water and steam connections. All plumbing connections should comply with local codes.

7. Check the interior of the dishwasher and remove any foreign material.

CAUTION: DO NOT OPERATE PUMPS NOR TURN ON HEATER WITHOUT WATER IN THE TANK. Pumps operated dry will cause mechanical seal to burn up and leak.

8. Untie the upper and lower wash spray manifolds. i

9. Manually spin the revolving wash arms to make sure they rotate freely.

10. Open and close the doors several times to make sure they operate freely.

11. See that refuse screens are in position, resting on the angle supports above the tank.

NOTE: Close pet cock located In bottom of pump before filling tank.

12. When all plumbing and electrical connections are completed, fill the tank with water and let stand fora period of thirty (30) minutes: check for possible leaks in the service connections Run the pump to check for proper rotation in accordance with the indicating arrow on it. Also check out automatic time cycle and manual controls.

13. Open the drain valve and check all waste line' connections for leaks. (See Figure 3)

14. After completing Steps 1 through 13. attach dish tables to each end of the dishwasher.

NOTE: Dish tables are pitched slightly toward machine for proper draining.

Champion
The Dishwashing Machine Specialists

MACHINE INSTALLATION

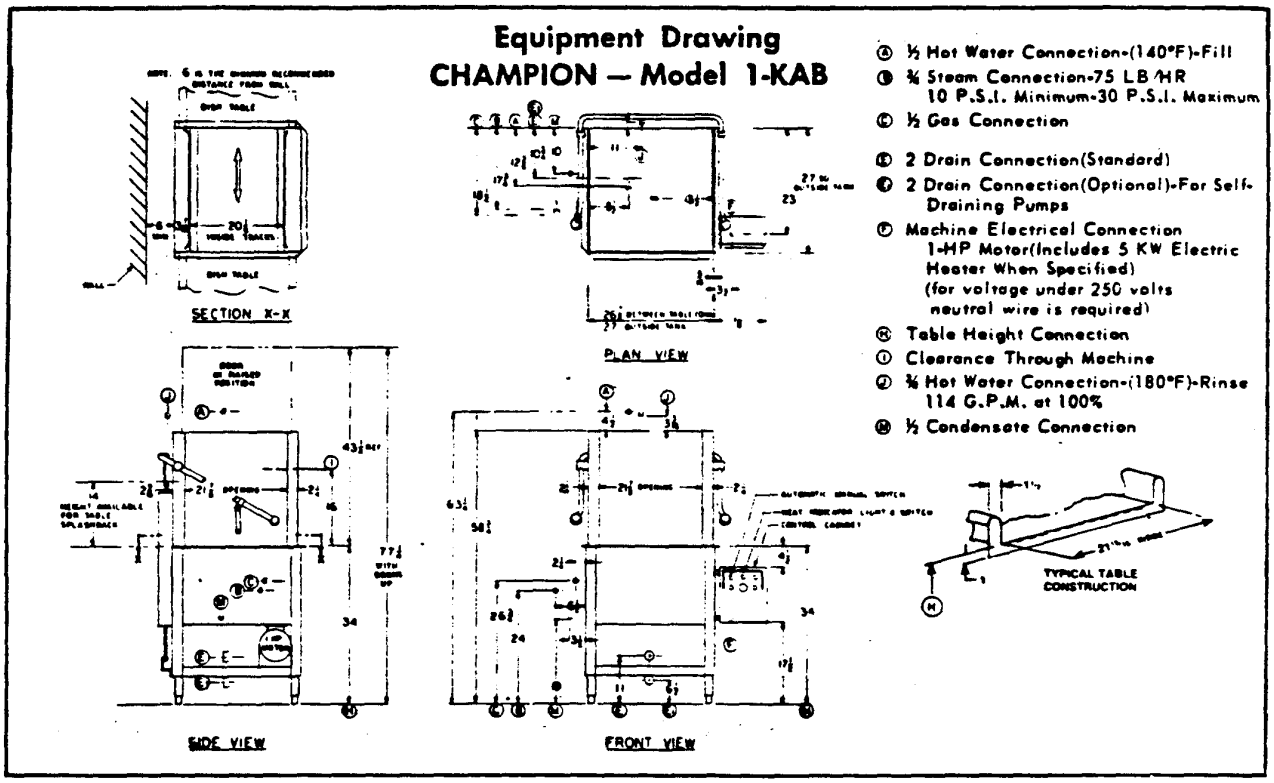


Figure 1

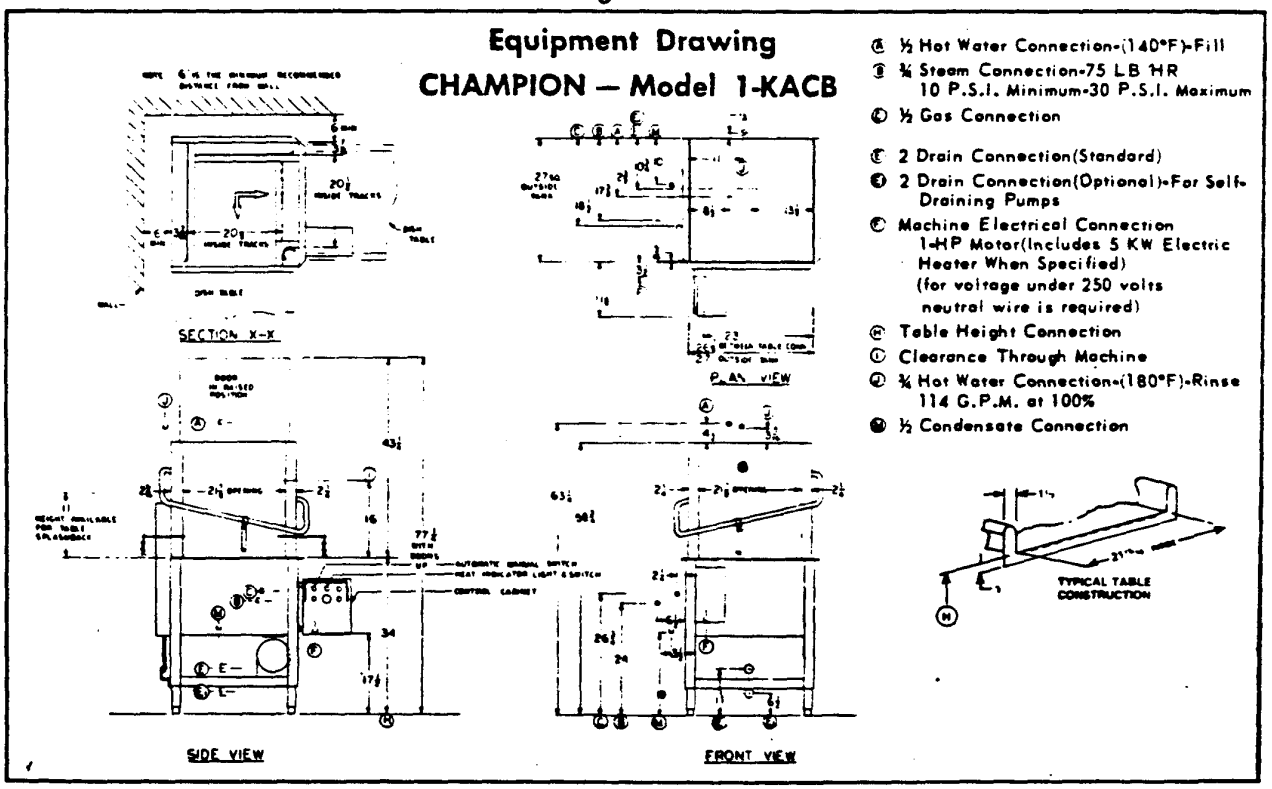


Figure 2

Champion
The Dishwashing Machine Specialists

OPERATION

Operation of the Champion Dishwasher Model 1-KAB or 1-KACB is fairly simple; however, you should pay close attention to the following instructions and recommendations for ensuring efficient operation **as** well as long life.

WARNING: Turn off the tank heat before you drain the tank. DO NOT operate the motor pump when the tank is empty.

1. Be sure that all wash and rinse spray pipes, rinse nozzles and scrap screens are clean and in place. Close the doors.
2. Close the tank drain valve (See Figure 3). Open the fill valves; shut off when the tanks are fulKSee Figure 4).

NOTE: On some models the tank may fill through the manual rinse switch.

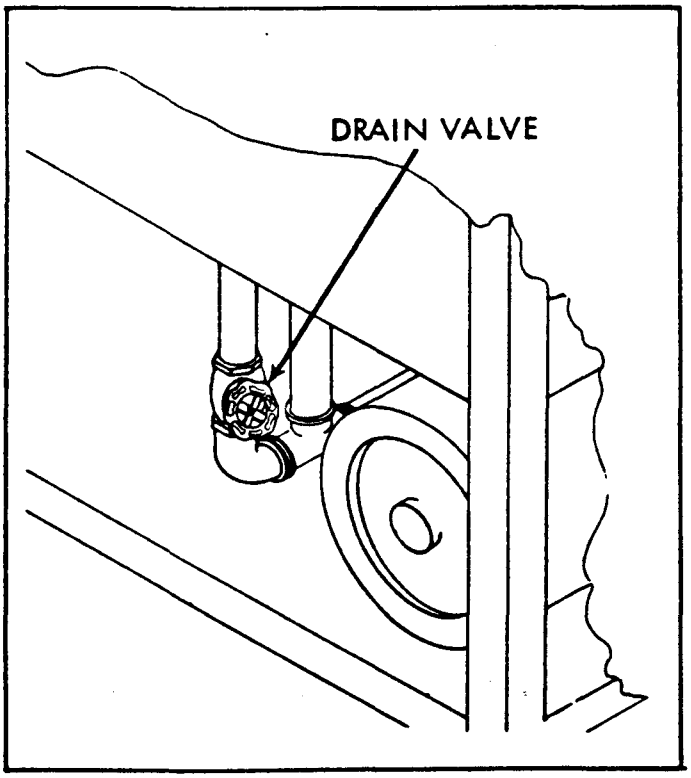


Figure 3

3. Spread a half-pound (one cup) of detergent over the screens in the wash compartment or. if an electronic dispenser is used, check-and replenish the supply of detergent in the dispenser. Turn on the dispenser switches.

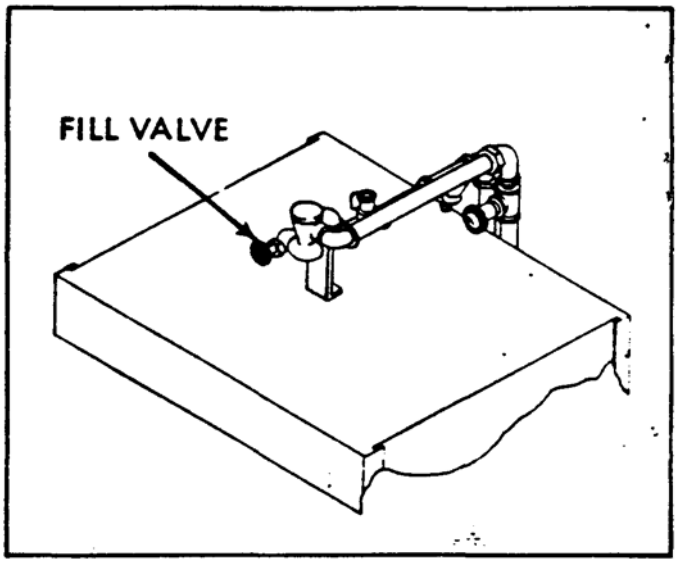


Figure 4

4. Turn on the steam valve if your dishwasher model **is** steam-heated (See Figure 5). Turn on the electric heat switch if electrically heated (See Figure 6). Turn on the gas valve; be sure the burners are lit if gas-heated (See Figure 7). Open the valves on the water and steam line to the booster (if your model has one).

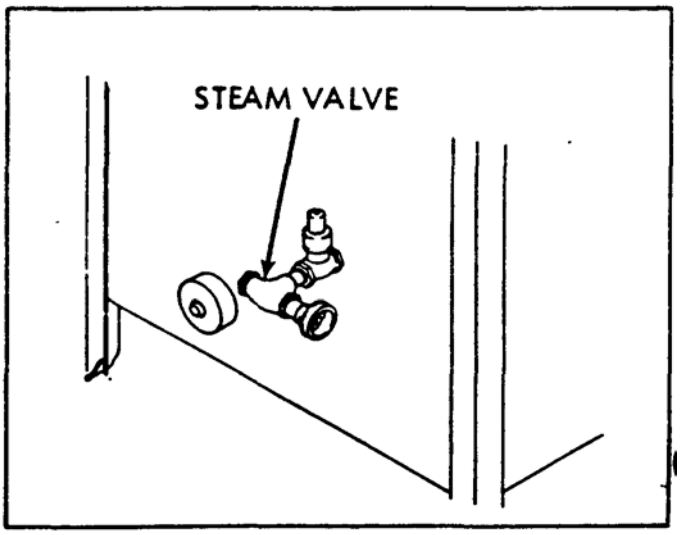


Figure 5

OPERATION

Champion
The Dishwashing Machine Specialists

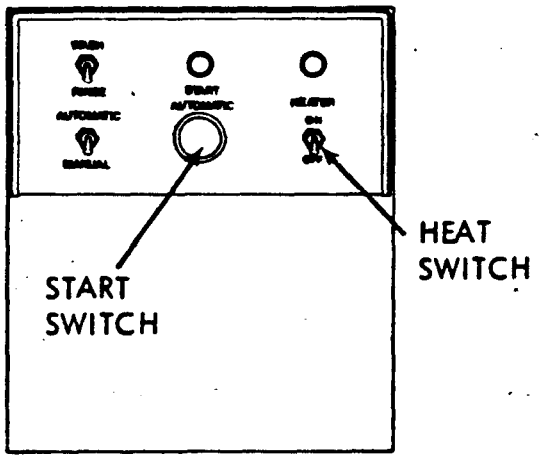


Figure 6

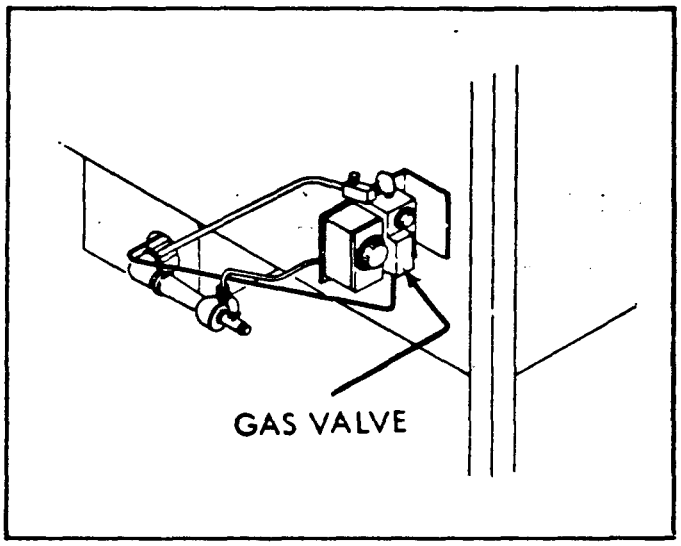


Figure 7

5. Throw the main power switch on the "ON" position.

6. Scrape or pre-flush all pieces to be washed. Place .all items in their proper racks. Do not overload racks. Sprays must hit all surfaces. Wash one layer only of silver in the rack. (See maintenance procedures for proper tank temperatures).

7. Slide the loaded rack to the center of the machine. Close the doors. Start the automatic timer by pressing the starter switch (See Figure 6). The wash-rinse cycle is complete when pilot light goes out. For manual operation, put the selector switch on "Manual". Switch the control to WASH for a minimum of 45 seconds. Depress the control to rinse and hold for 10 seconds minimum.

WARNING: Do not switch to manual operation when automatic cycle is on.

8. For best results, clean the tank-screens and change the wash water each hour of operation Renew the detergent according to Step No. 3.
9. When washing is complete, turn off the tank heat according to Step No. 4.
10. Throw the main power switch to the "OFF" position.
11. Remove and clean the scrap screens Place them on the dish table to allow the tanks to air out and dry. Remove the spray pipes and caps: clean the pipes with a brush. Replace the caps and install in the machine.

NOTE: Do not hammer the spray pipes.

12. Clean the tanks and flush with fresh water.
13. Leave the doors open between operations to allow the interior of the machine to dry.
14. Keep the machine clean and final rinse nozzles free of internal hard water deposits by using a straightened paper clip to remove solids from the nozzles. Consult your detergent supplier of the use of scale solvents.
15. Report unusual conditions to your supervisor.

Champion
The Dishwashing Machine Specialists

PREVENTIVE MAINTENANCE

A well maintained Dishwasher periodically drained and cleaned will give better service. On the other hand. a machine that is neglected will soon clog up with deposits, break down prematurely. Keep your "machine on the job. not on the sidelines.

PROCEDURES

1. Each day — It will pay — to make a brief inspection of the Dishwasher. Check the pump motor for leaks around the shaft; check thermometers and gauges for proper readings. Proper tank temperatures are 150° F. minimum to 160° F. maximum (pumped) for the wash cycle, 180°F. minimum to 200° F. maximum (fresh water) for rinsing. If necessary, adjust the control(s) to the correct setting(s).
2. Certain parts of the Dishwasher should be inspected and cleaned each day. as required (See Maintenance Schedule).
3. Once a week, inspect all water lines for leakage and tightness at joints.

SERVICE TIPS (Trouble-Shooting)

1. Prior to determining the specific cause of any breakdown or abnormal operation of the Dish- • washer:
   (a) Be sure **all** switches are ON.
   (b) Position the scrap screens in the tank. ,
   (c) Check the position of the spray pipe (slots in the upper pipe must be on the lower side. slots on the lower pipe must be on the upper side).

After all above items have been accomplished, con-sult the following table for particular service problems.

TROUBLESHOOTING

CONDITION	PROBABLE CAUSE and SOLUTION
1. Insufficient Pumped Spray Pressure	-Check motor rotation (must rotate to ward discharge outlet on pump: raised arrow on discharge port gives direction on rotation. -Check for clogged pump intake and discharge. -Check scrap screens (screens must be kept clean). -Check and clean spray pipe. - Check water level in tank (tank must be full). -Check drain valve for leaks (valve must be closed when machine is in use.)
2. Low or no final rinse pressure	-Check incoming pipe size (may be un dersized). -Check pressure reducing valve, if furn ished; clean and adjust upward to 20psi optimum flow pressure at machine. - Check for worn rinse nozzles; oversized or worn nozzle parts will tend to de crease rinse pressure.

Champion
The Dishwashing Machine Specialists

TROUBLE SHOOTING - (CONT'D)

CONDITION	PROBABLE CAUSE and SOLUTION
2. Low or no final rinse pressure (cont'd)	-Check for faulty vacuum breaker (seat must be in good order). -Check rinse solenoid valve for proper operation or possible burned out coil.
3. Low final rinse temperature	-Check incoming water — 140° F. minimum to booster. 180° F. minimum without booster. Temperature at nozzles MUST be 180° F. MINIMUM. -Check the booster — be. sure the.thermoswitch is set to maintain 180°F. temperature; check all valves. Be sure all are open. clean and operating. -Check the piping, may need insulating. NOTE: Dishwasher must not be installed on the same supply line with other equipment using hot water supply needed for the machine.
4 Low or No Tank Heat Temperature	Electric Heat -Check: Heaters for correct voltage. phase, and operation. Power source to heater — be sure disconnect switch is in "ON" position. Electrical heater thermostat for proper calibration and setting. Heater contactor inoperative. For free operation of low water cut-off inside tank. - Refer to electrical diagram in parts section of manual. Steam Heat -Check all valves and flow pressure as well as the trap. Gas Heat -Check the burner and gas supply.

Champion
The Dishwashing Machine Specialists

TROUBLE SHOOTING - (CONT'D)

CONDITION	PROBABLE CAUSE and SOLUTION
4. Low or No Tank Heat Temperature (Confd)	General: (all types of heat) - Check: Thermoswitch for setting and operation. Low water cut-off switch. Thermometer for proper cali bration. Heat contactor and heat switch, Heaters and coils for soil build up -- clean if evident. NOTE: Tank temperatures should be: Wash cycle - 150°F. Min. 160° F.Max, (pumped) Rinse cycle - 180' F. Min. 200° F. Max. (fresh water)
5. Low water condition in tank	-Check: Drain valve — be sure, it is closed. Drain valve and overflow box for leaks.
6. Poor Washing Results	- Check: For proper amount of detergent. For overloaded rack causing blocked sprays. Wash water and detergent not changed often enough. NOTE: Water in wash tank should be changed after each hour of oper ation. Dishware improperly placed in rack. NOTE: Be sure operator is not pushing rach of dishes into machine past washing cycle.

Champion
The Dishwashing Machine Specialists

TROUBLE SHOOTING - (CONT'D)

CONDITION	PROBABLE CAUSE and SOLUTION
7. Poor Drying Results	-Check: For excessive humidity in dish pantry. Exhaust fans for proper function. Final rinse water temperature — 180° F. Min. Improperly stacked dishes after washing.

MAINTENANCE OF THE DISHWASHER

Scheduled maintenance saves down time and head-aches. The chart below is designed to aid you in keeping your dishwasher on the job. It's a well known and widely accepted fact that well maintained machines do not break down as frequently as machines receiving only occasional care — or no attention at all. It will take only a few minutes to give your Champion Dishwasher the small amount of care it deserves. Take the time — your dishwasher will pay you dividends in the form of many troublefree hours of faithful service.

The time intervals shown in the maintenance schedule represent the average lengths of time that various parts of the Champion Dishwasher should go without service **Maintenance intervals should be shortened:** whenever the machine is faced with poor working conditions— hard water, etc. — or multiple shift operation.

REGULAR MAINTENANCE	
Daily or Every 10 Hours:	Shut down machine — pull main switch — check following and clean, if required: - Drain tank and flush with water. -Empty and clean scrap screens • Flush out 'garbage disposer. • Leave doors raised to air interior. - Remove all spray pipes (wash and rinse) — inspect and clean. -Wash inside of machine with fresh water. also tank, side and top of machine.
As Required — daily, or otherwise:	Check thermometers and gauges for read ings and adjust controls to proper settings.
Every Week:	Thoroughly clean detergent residue from ex terior of machine.

Champion
The Dishwashing Machine Specialists

REGULAR MAINTENANCE (CONT'D)

Every Month:	Check the drain valve for leakage (drop in water level in still tank of over 1 to 2 inches per hour). Electric Heat (see Special Maintenance). Clean accumulated scale and coating off heat ing elements. Check and clean stem of float switch. Check operation of thermostat.
Every Three (3) Months:	Grease or oil all shafts with fittings except pump motor with good grade of ball bearing grease or high Quality lubricating oil.
Every Six (6) Months:	Grease motors with fittings (if no fittings, see Special Maintenance) with good grade of ball -. bearing grease or according to label on each.
	NOTE: DO NOT over lubricate.

SPECIAL MAINTENANCE

CHAMPION MOTOR-PUMP UNIT: D-756

The integral motor-pump assembly, shown in Figure 8, was developed for maximum performance, adherence to the latest sanitation reQuirements and sound engineering design. New NEMA frame sizes have been adopted; however, they are interchangable with the older and larger NEMA frame sizes.

The pump mounting ring bolts onto the motor "End Shield" and the motor shaft extends into the pump housing, eliminating the need for a separate pump. One seal only is reouired in this assembly.

The exclusive "inside suction" design of this pump premits removal of the entire cover of the pump housing as an access plate, allowing unrestricted access to the impeller and interior of the pump chamber. When the seal has worn to the point of replacement, it is easily reached by removing the access plate cover of the pump and the bolt holding the impeller on the shaft. Withdraw the impeller-sleeve assembly. Oil the shaft lightly to facilitate withdrawing the seal.

NOTE: A number 5 wheel puller will aid in removing the impeller.

Before installing the new seal, be sure the tapered cavity is smooth and free of dirt. Again lightly oil the shaft, the outside rubber ring of the seal and wall of the cavity of the pump.

CAUTION: The seal must be pushed to the bottom of the cavity and be "square" with the shaft for satisfactory operation. Install "O" ring between seal and impeller assembly.

After the impeller-sleeve assembly is in place — also the key — install the fibre washer, metal washer and bolt. As the bolt is tightened, the seal will be automatically compressed to the proper working height. No other adjustment is necessary.

Champion
The Dishwashing Machine Specialists

Keep the pump motor clean and lubricate according tothe Maintenance Schedule. If the motor is not equipped with grease fittings, remove the plug (screw) on top front and rear of motor and install the fittings.

NOTE: DO NOT OVER LUBRICATE - one or two pumps of the grease gun are sufficient.

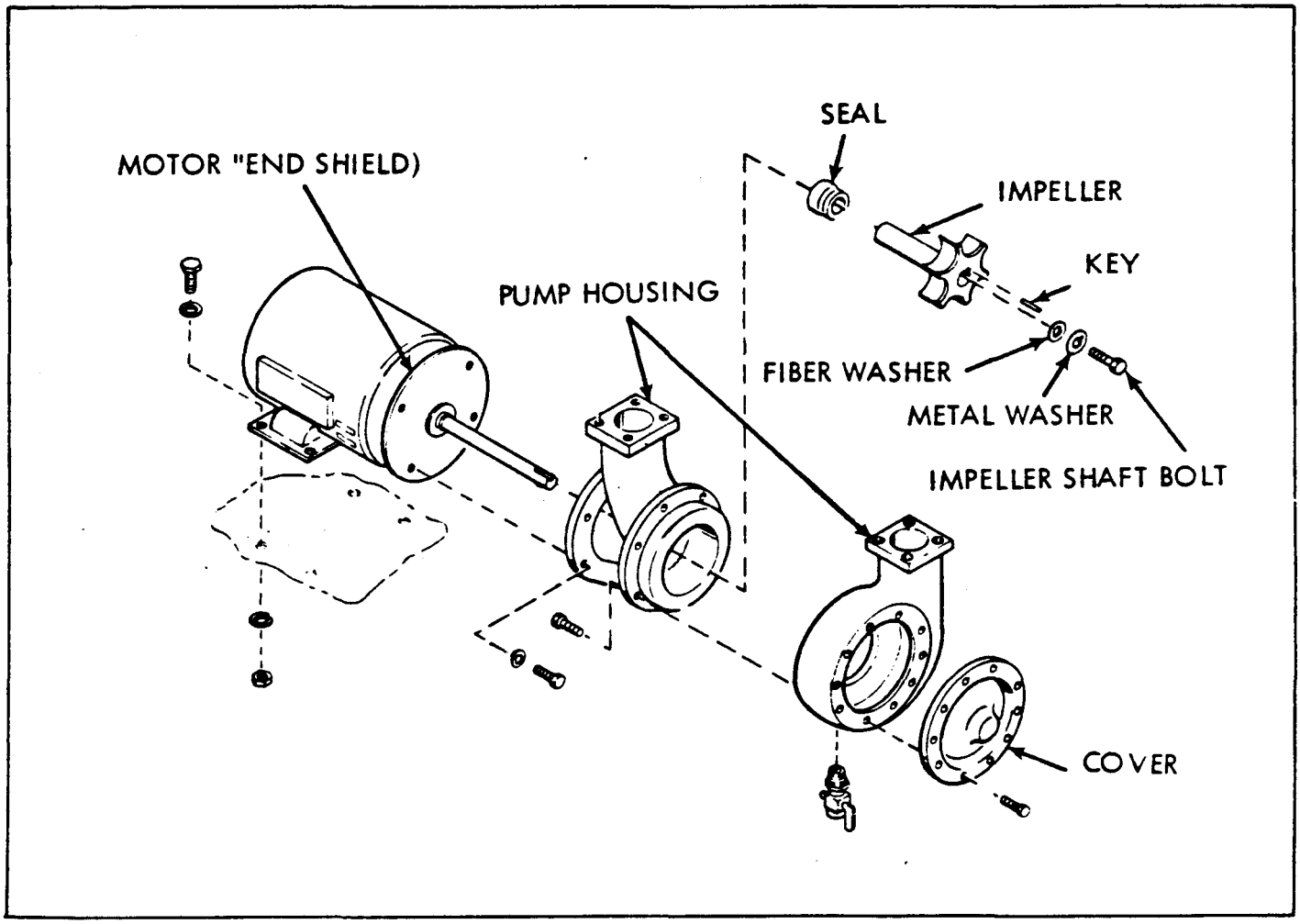


Figure 8

SOLENOID VALVES

Periodically clean all solenoid valves. Time between cleanings will vary, depending on use and service conditions. Generally, if voltage to the coil is correct. sluggish valve operation or excessive leakage indicates cleaning is required.

CAUTION: NEVER REMOVE VALVE FROM THE PIPING WHEN TESTING OR SERVICING.

If the valve fails to operate properly, compare the electrical service and line pressure with the service and pressure shown on the nameplate of the valve A metallic "click" is heard if the solenoid is operating Absence of the "click" indicates loss of power supply. Check for loose or blown-out fuses, grounded coil, broken lead wires or connections.

To replace the coil, TURN OFF ELECTRIC POWER AND LINE PRESSURE to the valve. Remove the coil cover, washers, gaskets and retaining clip and disconnect the coil lead wires. Replace the coil with a new coil of the same voltage. Replace the gaskets, washers and cover.

For leakage, examine the internal parts for wear or binding; also inspect the diaphragm or disc for wear-dirt may have accumulated on the valve seats or diaphragm and disc. If parts must be replaced, use only the same make of parts as the valve; also replace as supplied in repair kit (See section for description).

MANUAL VALVES

Leakage of water from the tank of the dish washer over 1 to 2 inches per hour when machine is not in use indicates wear on the internal parts of the drain valve. If the seat is worn, replace.the complete valve.

When dishwasher is not in use and tank continues to fill, wear on the internal parts of the fill valve is indicated. Replace the stem assembly or replace the complete valve if the seat is worn.

VACUUM BREAKER

Only the disc in the vacuum breaker can be replaced if leakage is excessive. If the seat is worn, replace the complete vacuum breaker.

PRESSURE REDUCING VALVE (PRV)

Leakage of water from the PRV valve wil cause loss of pressure to the machine. If the valve is leaking or networking, installthe complete service kit. (See Parts Section).,

ELECTRIC HEAT

The electric heat with low water cut-off and thermostat (Shown in Figure 9) was developed for maximum performance, adherence to the latest in sanitation re-Quirements with minimum maintenance and replacement.

1. Every month clean the accumulated scale and coating off the heating elements. Check for pits.
2. Check and clean the stem of the float switch at least once a month. Check the spring clip on the float to be sure it is fastened securely. Be sure the float is installed correctly—the normally-open side should be up — and that the ball float moves up and down, freely.
3. Check operation of the thermostat at least once a month.

NOTE: Should the dishwasher be emptied of water, and the heater left in operation, the low water cut-off will cut the heater off without damaging the heating element. The heater will come on when the tank is filled to its proper level and the heat switch is "ON".

In the event of failure of-a heater, the heater can be removed without removal of the low water cut-off and thermostat. Remove the heater from the tank by dis-connecting the wiring to the heater — be sure the power is "OFF" — remove the locknut, and remove the heater from the tank. Install a new heater in the tank using a sealant on the face of the heater and on the locknut.

tn the event of failure of the low water cut-off thermostat. it can be replaced without removing the heater. Remove only the unit to be replaced. Be sure the power is OFF before removing.

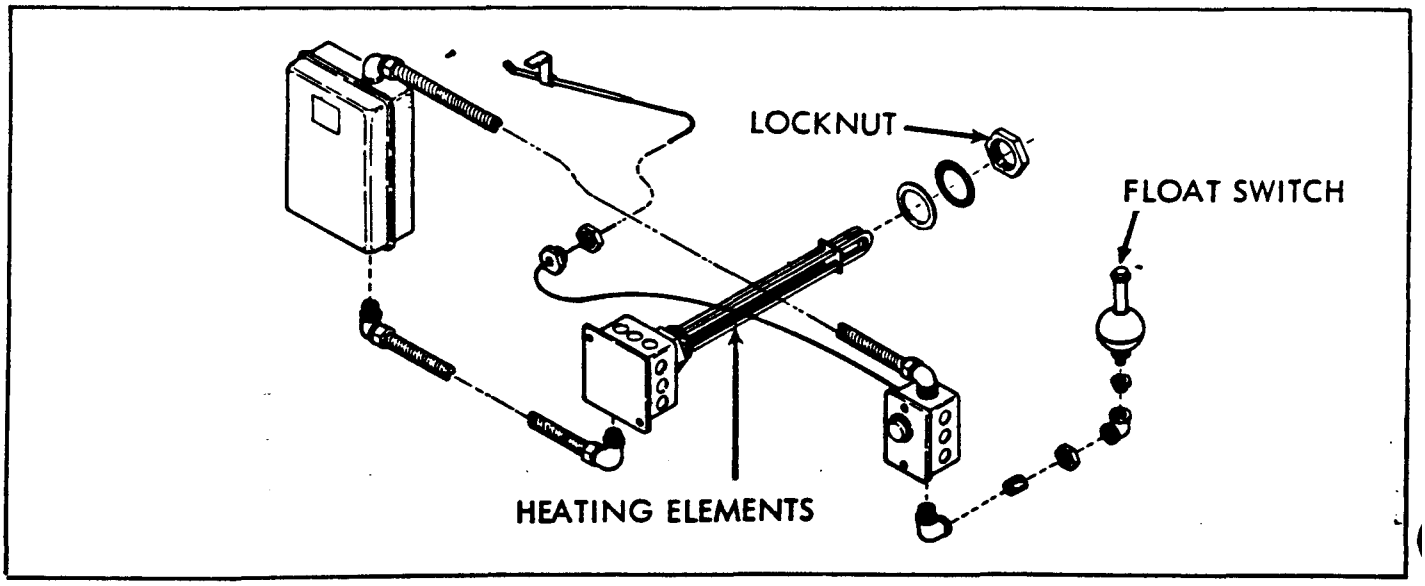


Figure 9

Champion
The Dishwashing Machine Specialists

GAS HEAT—VALVE

DESCRIPTION

The valve is a combination gas valve which provides all manual and automatic control functions required for operation of gas fired heating equipment. This valve is suitable for use with all gases.

OPERATION

Electric power (millivoltage) for operation of the valve is produced by a generator. The 750 millivolt generator is used when valve is to be controlled by a remote thermostat.

With proper pilot flame established, main valve operator is opened and closed by thermostat to maintain constant temperature. If pilot flame goes out or be-comes low or unstable, safety valve closes, shutting off both pilot and main line **gas.**

INSTALLATION

Use valve within following operating ranges:
Maximum operating pressure: 1/2 psi (14"WC)
Minimum operating pressure: 1 oz. (2"WC)
Maximum ambient temperature: 175°F.

1. Valve is multi-poised and may be mounted in any position. Inlet and outlet connections are marked on valve body.
2. Make sure all piping and tubing is free of foreign matter. Apply thread seal to male threads only.
3. Connect 1/4" pilot tubing between valve and pilot burner assembly. Pilot burner assembly must be mounted rigidly in a position where pilot will ignite main burner when it has been reduced to smallest flame which will hold thermo magnet safety valve open.
4. Venting is internal and requires no attention.
5. Make sure all wiring connections are clean and tight.

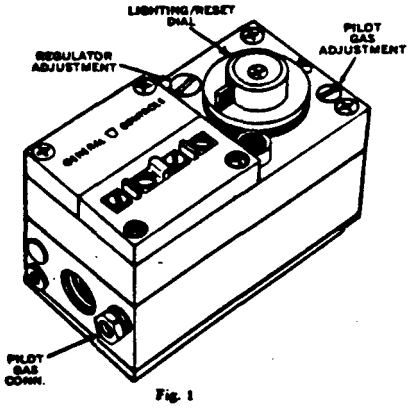
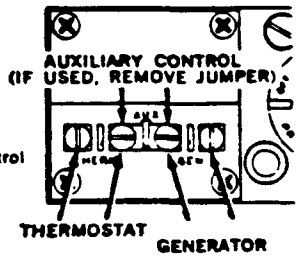
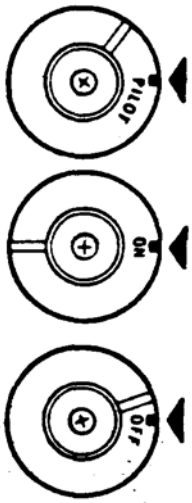


Fig. 1

Wiring for Remote Thermostat Control



LIGHTING PROCEDURE



1. Turn to PILOT. Press dial in and light pilot. Hold for 60 seconds and release.

2. Turn dial counter-clockwise to ON. Use this position for thermostat control. Set -thermostat for desired room temperature.

3. Press dial in and turn clockwise **to** OFF. Use this position when complete shutdown is necessary. (Use PILOT position for temporary or seasonal shutdown.)

NOTE: When valve is turned OFF, dial on models equipped with Safety-Lock cannot be turned to PILOT for relighting until after three minutes. Do not attempt to force dial.

Pilot Gas

Remove pilot adjustment cap screw and turn pilot adjustment screw to produce non-blowing blue fame surrounding generator cartridge. Replace cap screw.

Pressure Regulator (Optional)

Regulator has been factory adjusted to value stamped on valve: i.e., 3 1/2″ W.C. To adjust regulator, remove pipe plug from *W* NPT pressure tap near valve outlet and install pressure measuring device. Remove cap screw and turn adjustment screw clockwise to increase pressure, counter-clockwise to decrease pressure. Replace pipe plug and cap screw.

SERVICE

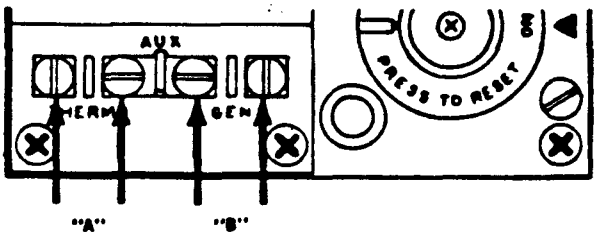
For efficient operation, pilot must burn with non-lowing, blue flame surrounding generator cartridge. All wiring connections and splices must be clean and tight. Sluggishness or failure in valve operation usually indicates pilot generator is not producing sufficient millivoltage or that a power loss is occurring somewhere in the system.

Checking with a millivoltmeter Is the quickest method of locating trouble in the system.

Champion
The Dishwashing Machine Specialists

MILUVOLTMETER TEST

Use a 0-500 millivolt scale. Place meter test probes or clips as indicated below. If meter needle moves to left of zero or no reading is indicated reverse probes. Take all readings with pilot burning and thermostat contacts closed.



Generator Check

Thermostat reading "A" should be 20 millivolts or less without anticipation or 100 millivolts or less with anticipation. If higher, check all wiring and terminals. Replace thermostat and/or limit control. Generator reading "B" should be 140 millivolts or more closed circuit. If lower, clean pilot burner orifice and primary air holes. Replace generator if necessary.

A "Pilot Generator" provides a pilot flame for ignition of gas burners and generates electricity from the heat of the pilot flame for reliable operation of millivolt gas valves and relays.

INSTALLATION

Main burner flame must not hit the generator cartridge or the snorkel tube. Mount pilot burner securely with respect to main burner. Perform field test to assure safe ignition. Readjust pilot gas flow for safe, steady, non-blowing blue flame.

FIELD TEST FOR SAFE IGNITION (Turn Down Test)

WARNING

WITH PILOT GAS REDUCED TO LOWEST POINT WHICH WILL GENERATE THE MILLIVOLTAGE REQUIRED TO OPEN VALVE, THE MAIN BURNER MUST LIGHT OFF SMOOTHLY. IF IGNITION IS DELAYED DURING TEST, IMMEDIATELY SHUT OFF **GAS.** WAIT 5 MIN. BEFORE CONTINUING TEST.

1. Disconnect one pilot generator wire from valve terminal. Jumper thermostat terminals of valve.
2. Open pilot gas valve. Light pilot and adjust for MAXIMUM pilot flame. Check appearance to be sure flame is in proper position to ignite burner.
3. Open main burner gas cock. Touch and hold the loose pilot generator wire to valve terminal. Burner should light off smoothly within a few seconds.
4. Reduce pilot flame by adjustment valve until flame around cartridge is about *Vs* of maximum. Wait two minutes for generation to stabilize. Touch and hold the loose pilot generator wire to valve terminal. If valve opens, burner should light off with no delay. Again reduce pilot gas flow slightly, wait two minutes, and test. Repeat until pilot flame is too low to produce sufficient millivoltage to open valve. Reposition pilot generator if necessary.
5. Remove jumpers from valve and reconnect all wires in their original positions. Make all wiring connections clean and tight. Readjust pilot gas flow for blue, non-blowing flame surrounding the generator cartridge. Be sure the main burner flame does not hit generator cartridge or snorkel.

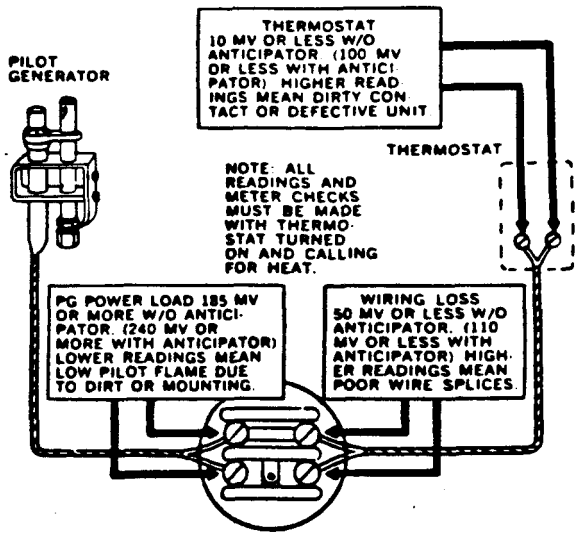
SERVICE

If the top %" of the cartridge is not heated sufficiently by a well defined blue ring of flame, the complete control system may operate sluggishly. The pilot orifice may be removed for cleaning or changing by unscrewing the orifice base fitting. On old style units, a clip holds orifice in place. In the event of damage, replace generator cartridge. Be sure replacement cartridge is fully inserted when clip is reassembled.

MILLIVOLT METER TEST

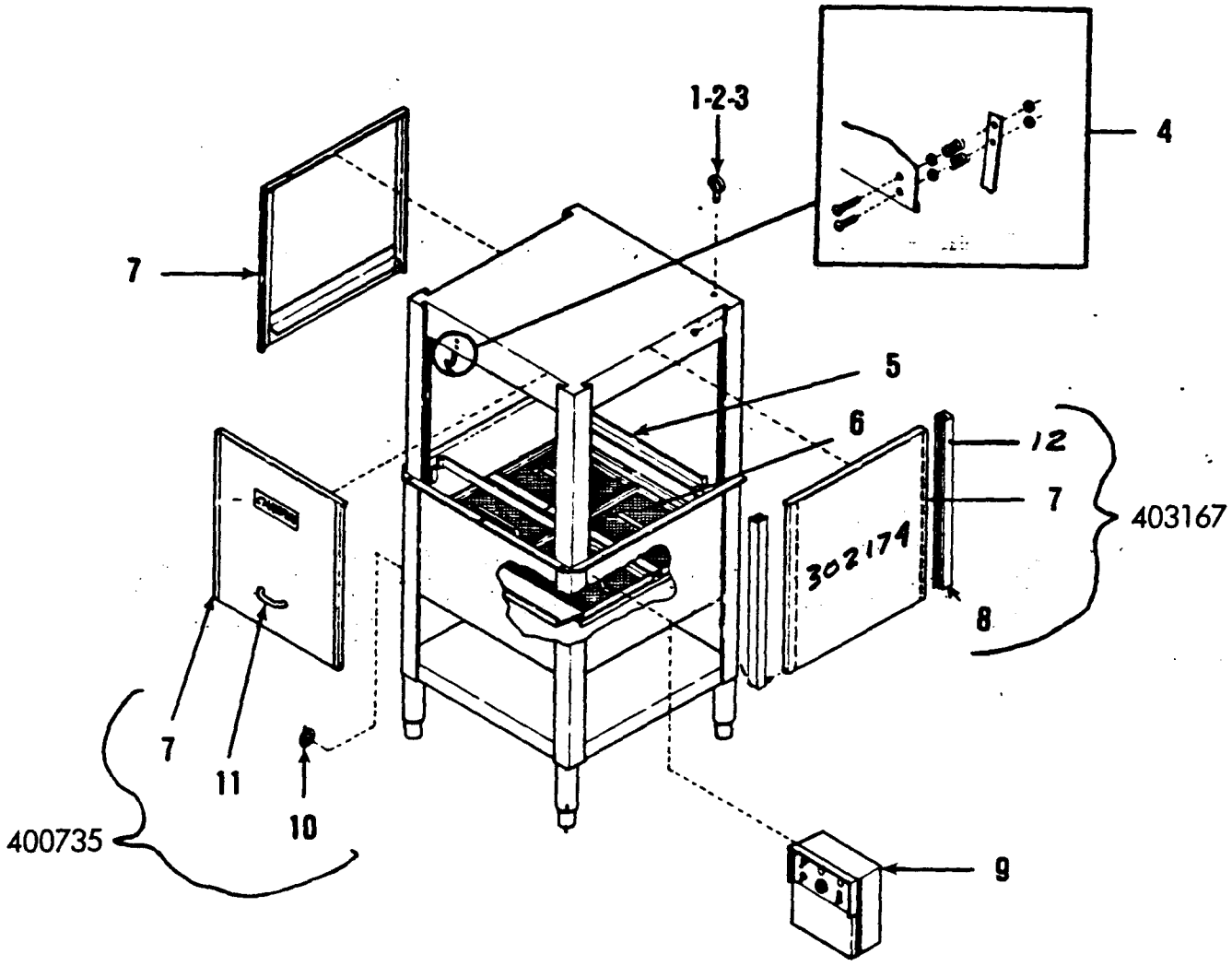
The only satisfactory method of testing a pilot generator is with a millivolt meter. Using 0 to 500 or 0 to 1000 millivolt scale, connect the meter leads to valve or relay terminals to which the pilot generator wires are attached. Be sure the pilot is burning and all thermostats and other switches are ON calling for heat.

MILLIVOLTMETER CHECK



Champion
The Dishwashing Machine Specialists

HOOD AND BASE ASSEMBLIES
(Model 1-KAB)

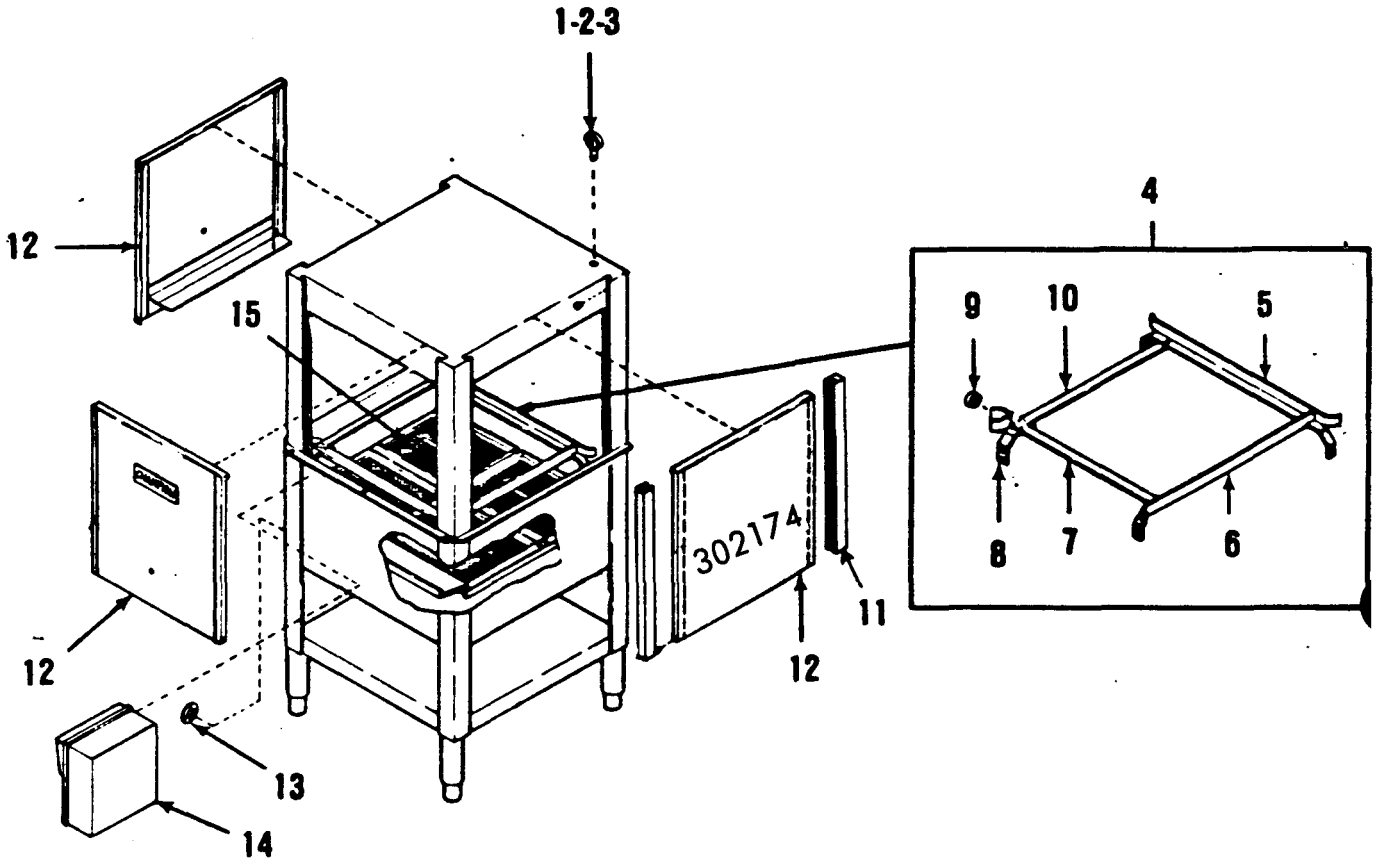


Door Roller
A4408-1

Item	Port No.		Oty.	Description	Item	Port No.	Oty.	Description
1	100125		1	THERMOMETER	7	00735	3	DOOR (includes item 8)
2	201029		1	LOCKNUT	8	301105	*6*	WEAR STRIP
3	201041		1	SPACER	9	D5673	1	CONTROL CABINET (see poge 19)
4	401641		1	CATCH ASSEMBLY	10	200087	1	INDICATOR, WATER LEVEL (optional)
5	303284	•	*2*	TRACK	11	100012	1	HANDLE
6	304807		*4*	SCREEN	12	107245	3	ROLL PIN 3/32" x 3/8"

Champion
The Dishwashing Machine Specialists

HOOD AND BASE ASSEMBLIES
(Model 1-KACB)

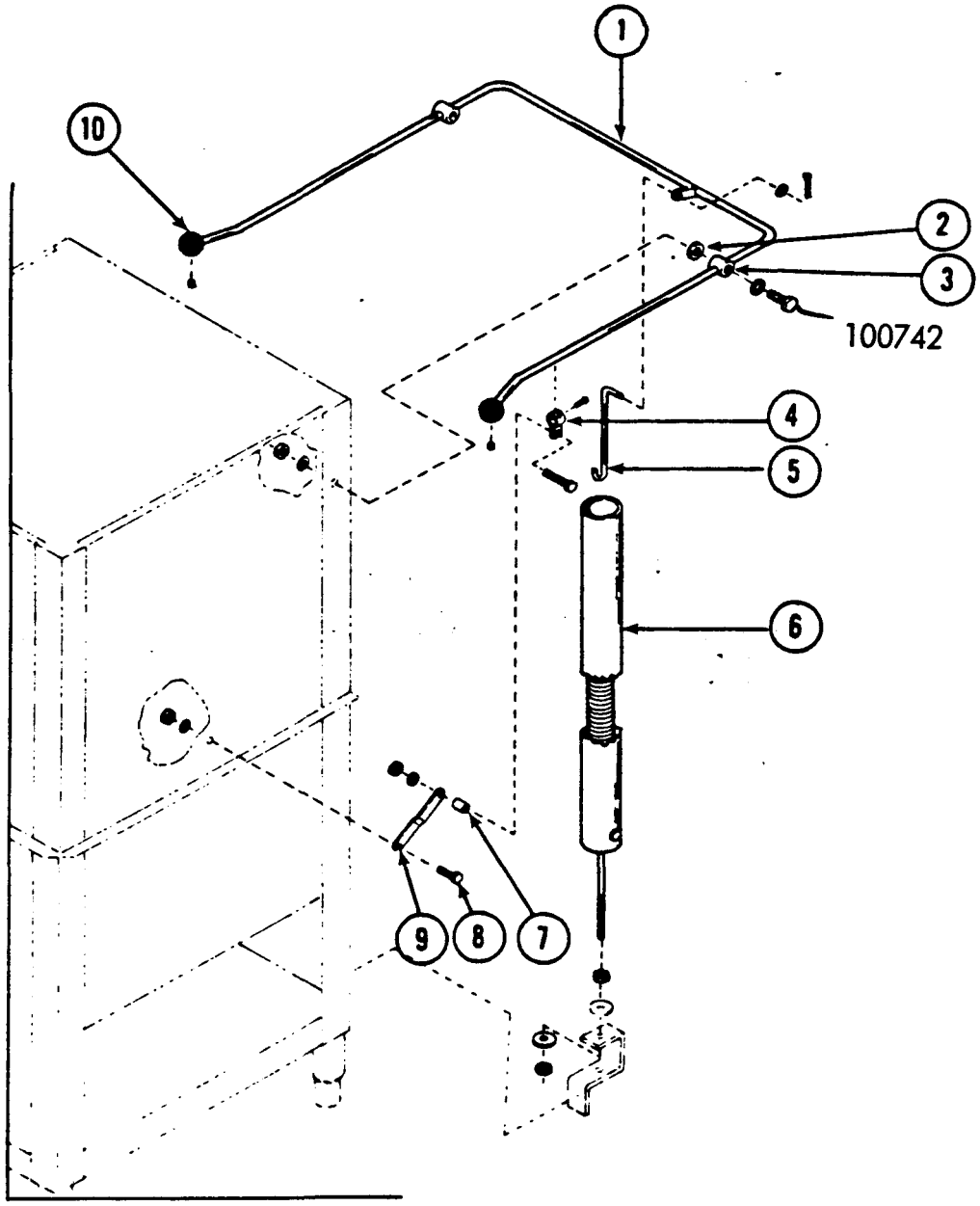


Item	Part No.	Qty.	Description
1	100125	1	THERMOMETER
2	201029	1	LOCKNUT
3	201041	1	SPACER
4	D6386-1	1	TRACK ASSEMBLY (consists of items 5 thru 10)
5	304785	1	TRACK, rear
6	C4681-1	1	TRACK, right side
7	304787	1	ANGLE, cross
8	B3320-1	1	BRACKET

Item	Part No.	Oty.	Description
9	100035	1	SPACER
10	304787	1	ANGLE
11	301105	6	WEAR STRIP
12	400735	3	DOOR (includes item 11)
13	200087	1	INDICATOR, WEAR LEVER (optional)
14		1	CONTROL CABINET (see page 19)
15	304807	4	SCREEN

Champion
The Dishwashing Machine Specialists

INSTALLATION OF DOOR LEVER
(Model 1-KAB)

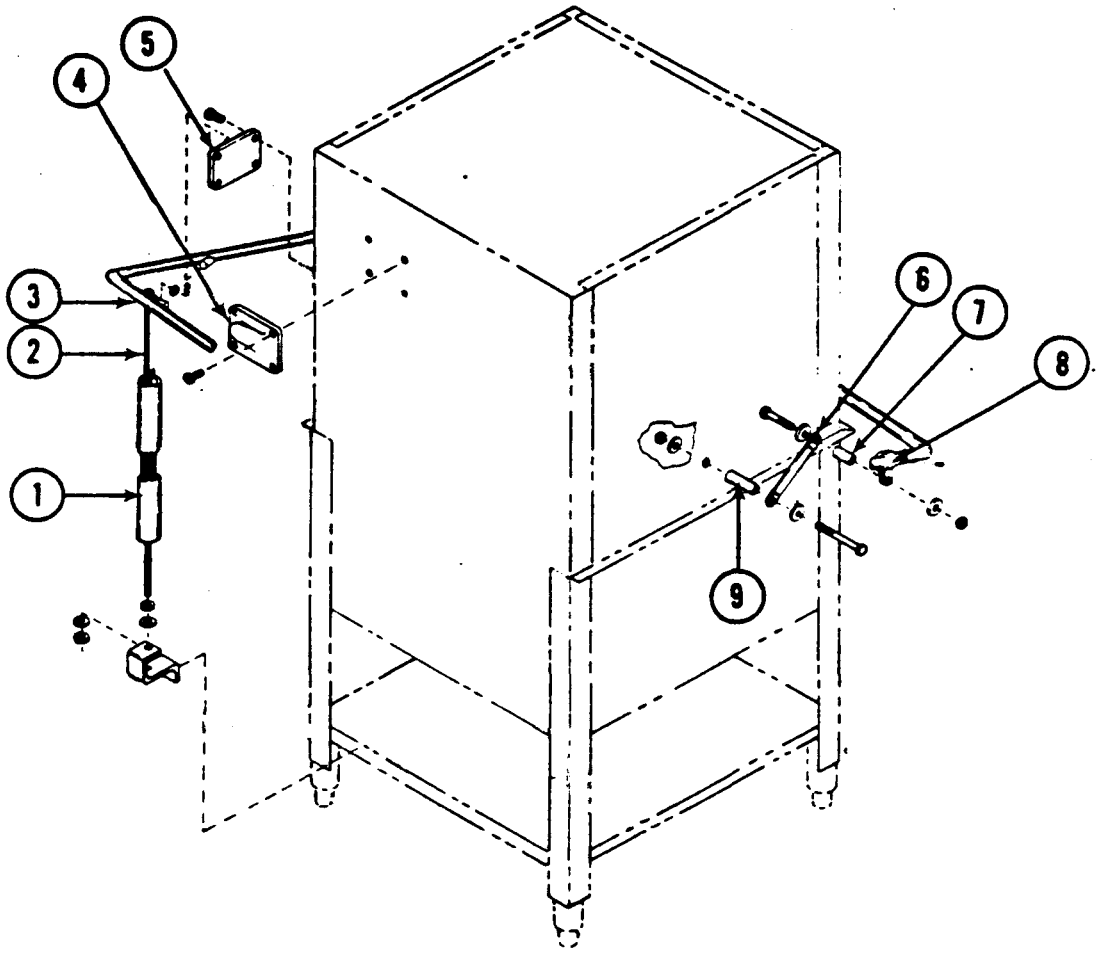


Item	Part No.	Qty.	Description
1	303296	1	LEVER, door
2	106915	2	WASHER, pivot block
3	106913	2	BLOCK, pivot
	106914	2	BLOCK, pivot
4	106168	2	BRACKET
5	104646	2	LINKAGE, spring
f			

Item	Part No.	Qty.	Description
6	401120	1	SPRING ASSEMBLY, pre-loaded
7	105299	2	SLEEVE
8	106169	2	BOLT, shoulder
9	106565	2	LINK
TO	100145	2	KNOB

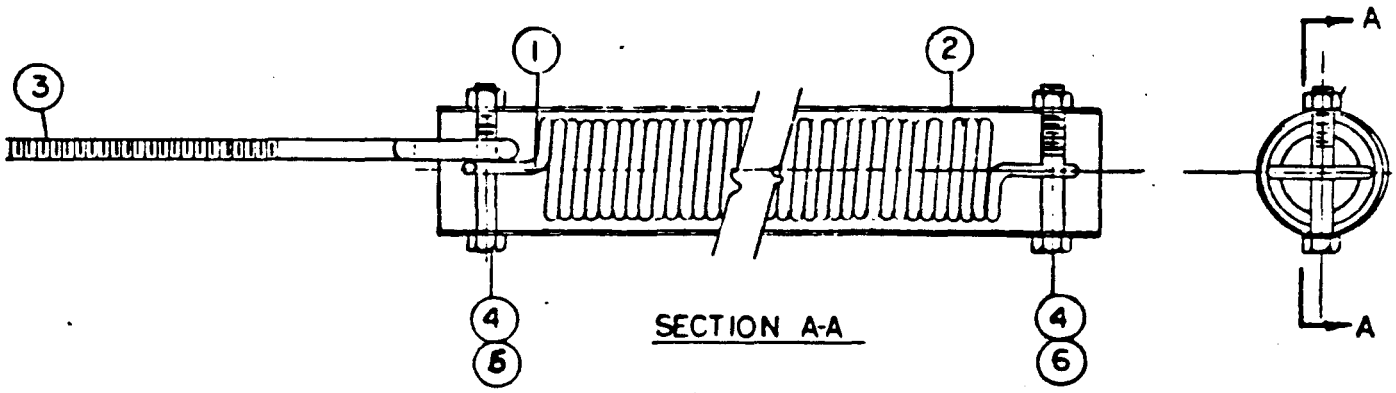
Champion
The Dishwashing Machine Specialists

INSTALLATION OF DOOR LEVER
(Model 1-KACB)



Item	Part No.	Qty.	Description
1	401120	1	SPRING ASSEMBLY
2	104646	1	LINKAGE, spring
3	105643	1	LEVER,door
4	401164	1	PIVOT
5	401165	1	PIVOT
6	106166	2	LINK
7	104648	2	SPACER
8	106168	2	BRACKET
9	104648	2	SPACER

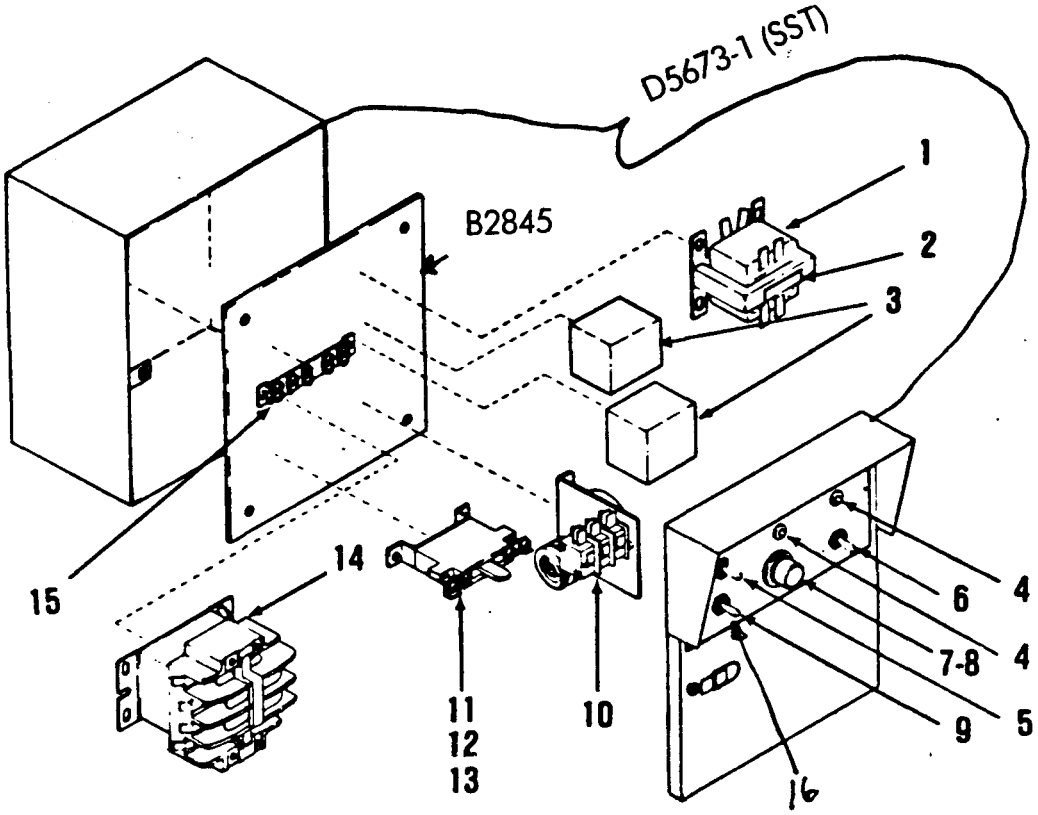
Champion
The Dishwashing Machine Specialists



PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
401120		SPRING ASSY	
100143	6	HUT GRIP 3/8-16	2
107177	4	BOLT 3/8-16 X 2 3/4 HEX HE	2
201048	2	TUBING SPRING COVER SST.	1
104647	1	SPRING EXTENTION	1
201049	3	LINK SPRING FORMED NOT PIA	1

Champion
The Dishwashing Machine Specialists

CONTROL PANEL



OPT. TIMED TANK FILL -108251

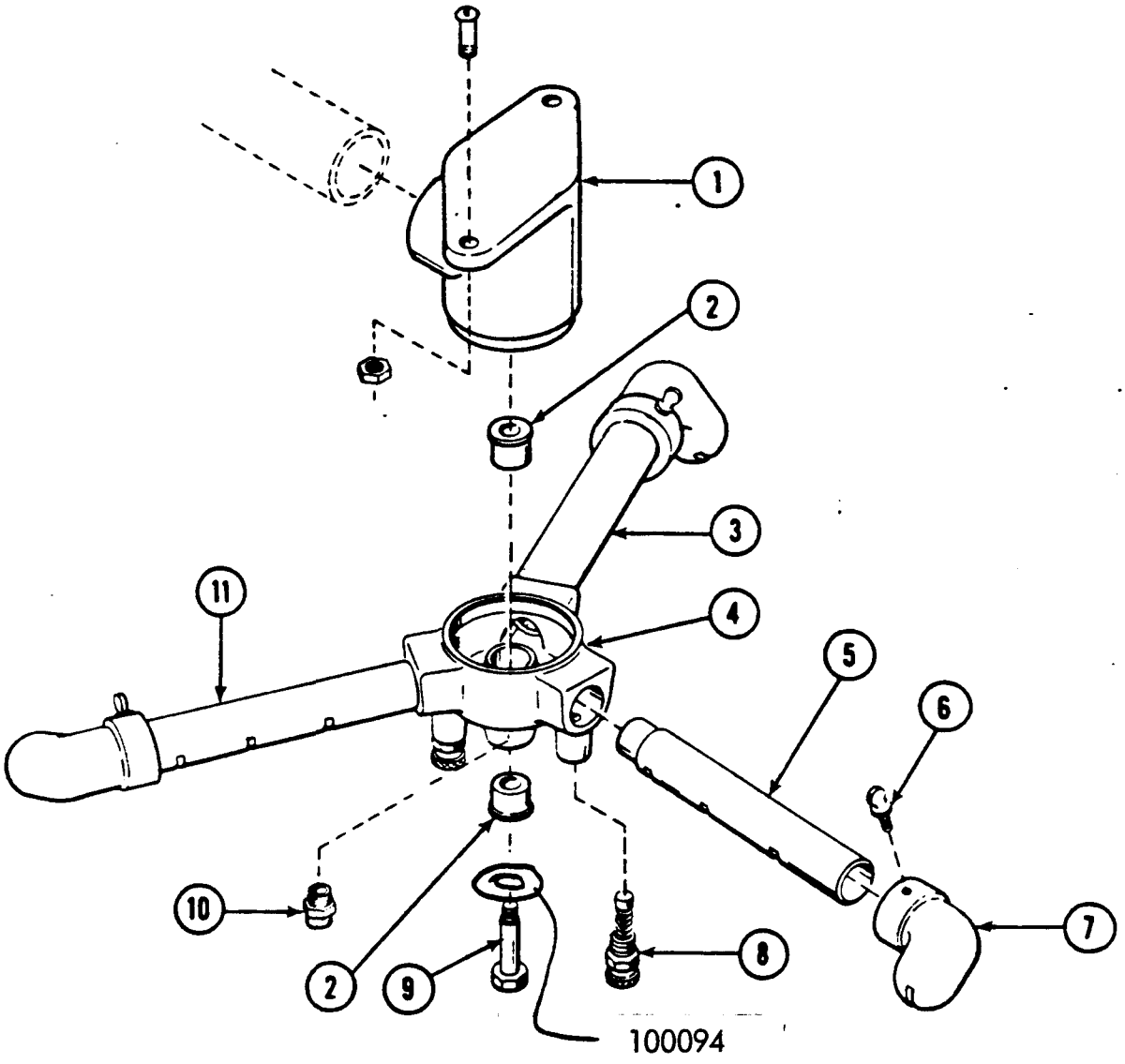
40032501 -30 HRS
40032502 -30 SST
40032503 -10 HRS
40032504 -10 SST

Item	Part No.	Qty.	Description
1	104630	1	TRANSFORMER
2	100906	1	FUSE
3	104709	1	RELAY (2 req'd gas heat)
4	101151	2	LIGHT
5	101180	1	SWITCH, wash/rinse
6	100326	1	SWITCH, heat
7	100316	1	PUSHBUTTON
8	100305	1	BLOCK
9	101181	1	SWITCH, auto/manual

Item	Port No.	Qty.	Description
10	102324	1	TIMER (120V)
10	104513	1	TIMER (220V)
11	100336	1	RELAY (3 phase)
12	100327	1	RELAY (single phase)
13			HEATER, overload*
14	106876	1	CONTACTOR
15	100293	1	BLOCK, terminal
16	104628	1	DECAL
Specify number and size of heater.			

Champion
The Dishwashing Machine Specialists

UPPER REVOLVING WASH ASSEMBLY

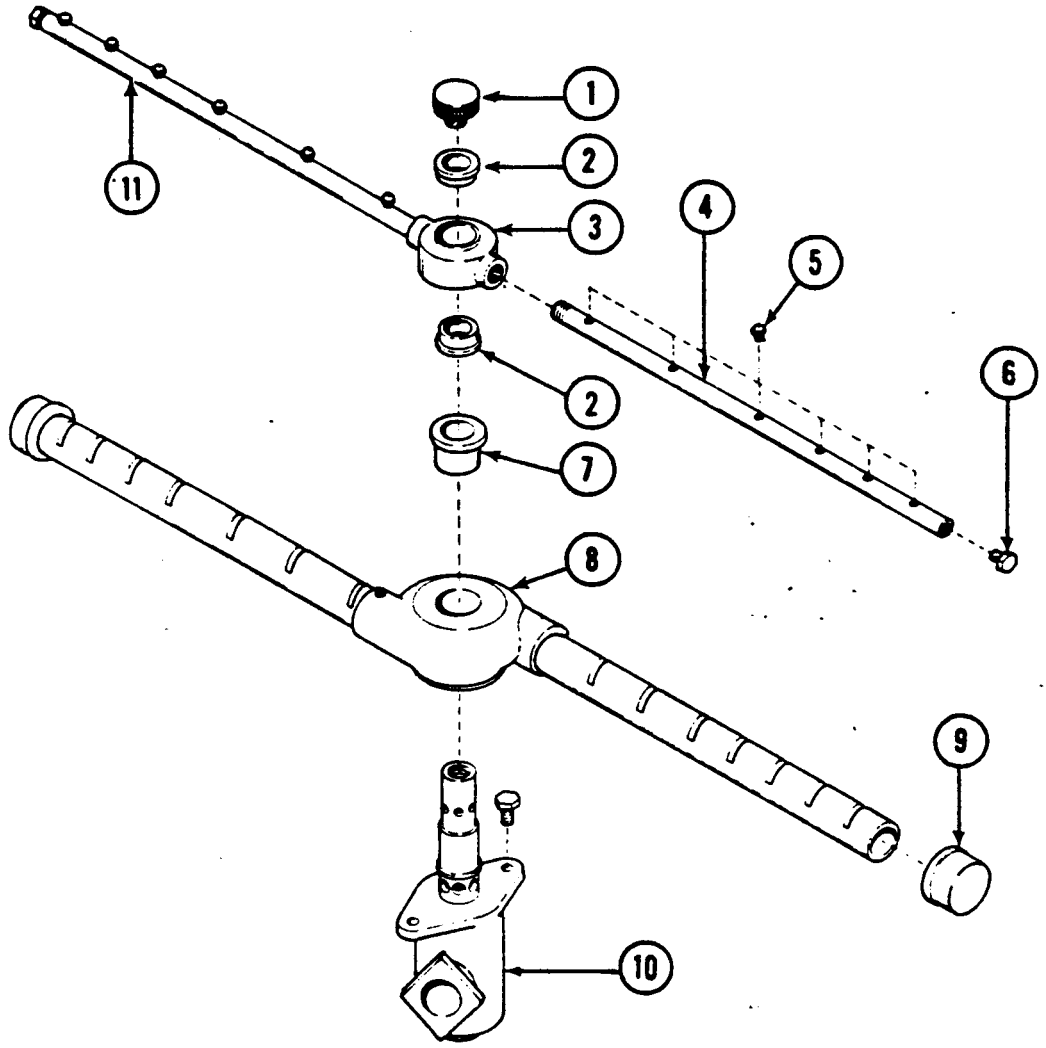


Item	Part No.	Qty.	Description
1	C4081-1	1	ADAPTER, upper rotary wash
2	106252	2	BEARING
3	B236-1	1	PIPE, spray
4	C4905-1	1	MANIFOLD, upper rotary wash
5	8236-2	1	PIPE, spray
6	1001054	3	SCREW, thumb

Item	Part No.	Qty.	Description
7	201065	3	NOZZLE, drive
8	104794	3	PIN, sproy pipe lock
9	104793	1	BOLT, manifold lock
10	100163	1	NOZZLE, vee jet
11	B236-3	1	PIPE,spray

Champion
The Dishwashing Machine Specialists

LOWER REVOLVING WASH AND RINSE ASSEMBLIES

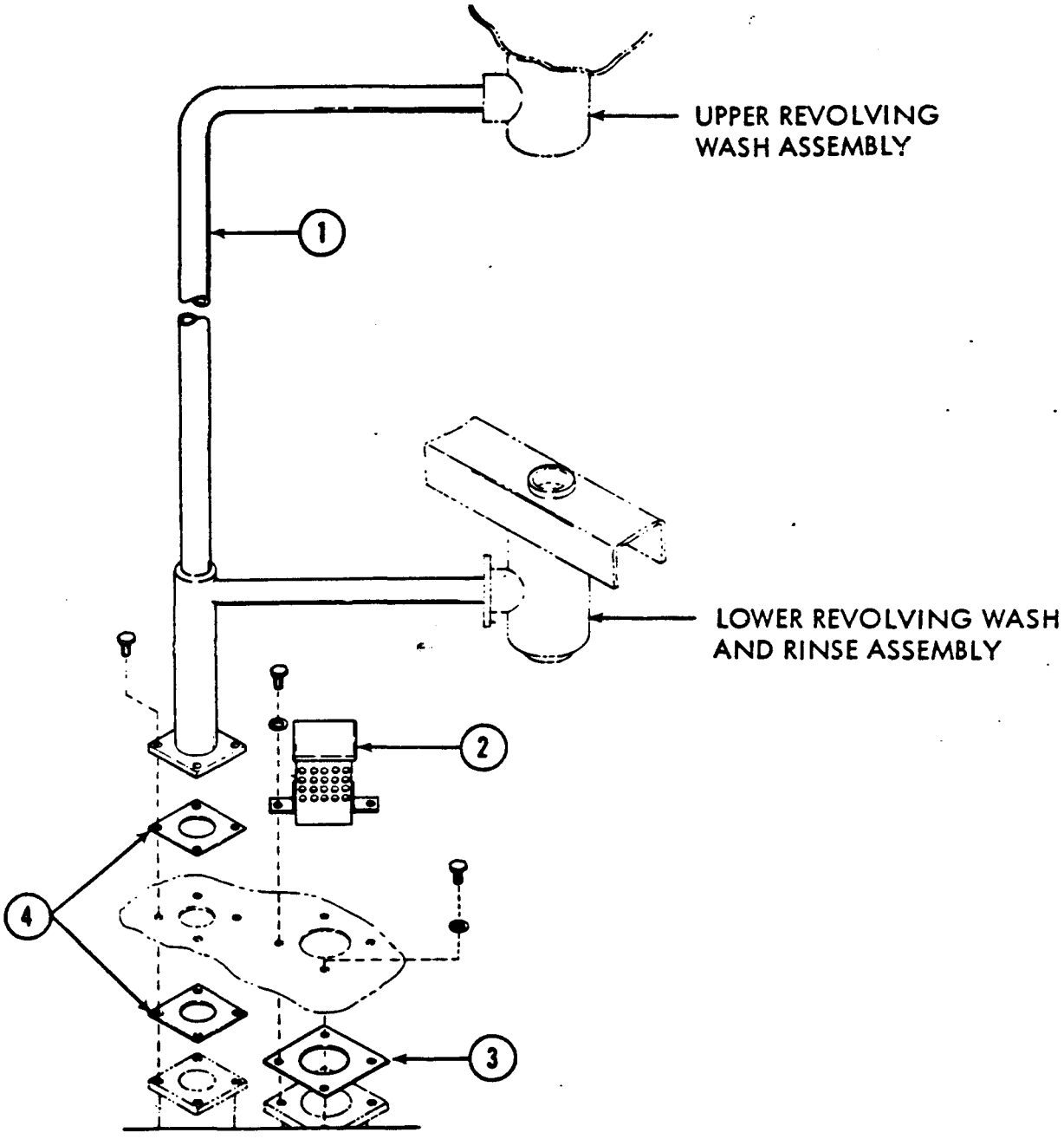


Item	Part No.	Qty.	Description
1	106170	1	KNOB, knurled
2	106253	2	BEARING
3	B3407-1	1	MANIFOLD, revolving rinse - (includes item 2)
4	202801	1	PIPE, rinse
5	104010	12	NOZZLE
6	100210	2	PLUG

Item	Part No.	Qty.	Description
7	106251	1	BEARING
8	401464	1	MANIFOLD ASSEMBLY, lower wash
9	106625	2	CAP, pipe 3/4″ NPT
10	C4546-1	1	ADAPTER, lower wash/ rinse
11	202281	1	PIPE, rinse

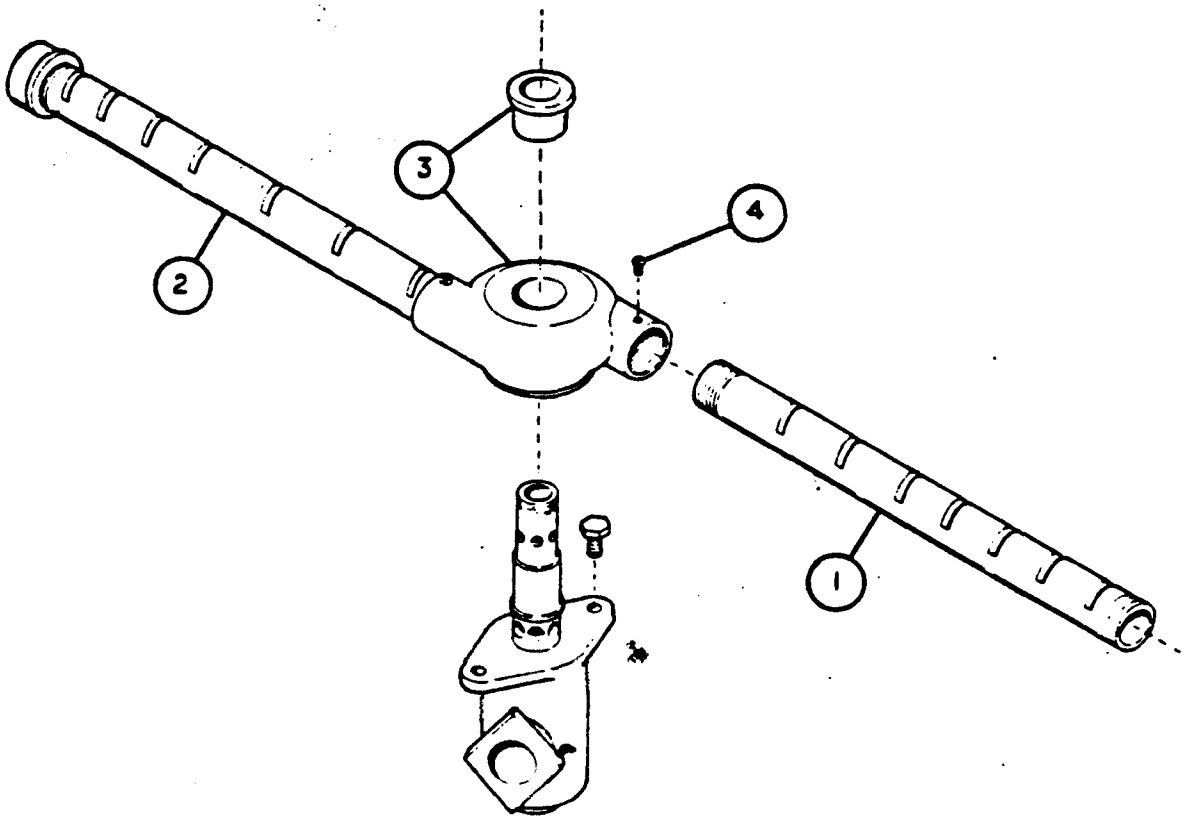
Champion
The Dishwashing Machine Specialists

WASH SYSTEM INSTALLATION



Item	Part No.	Qty.	Description
1	C4479-1	1	STANDPIPE
2	304816	1	STRAINER
3	104640	1	GASKET, pump suction
4	104638	2	GASKET, pump discharge

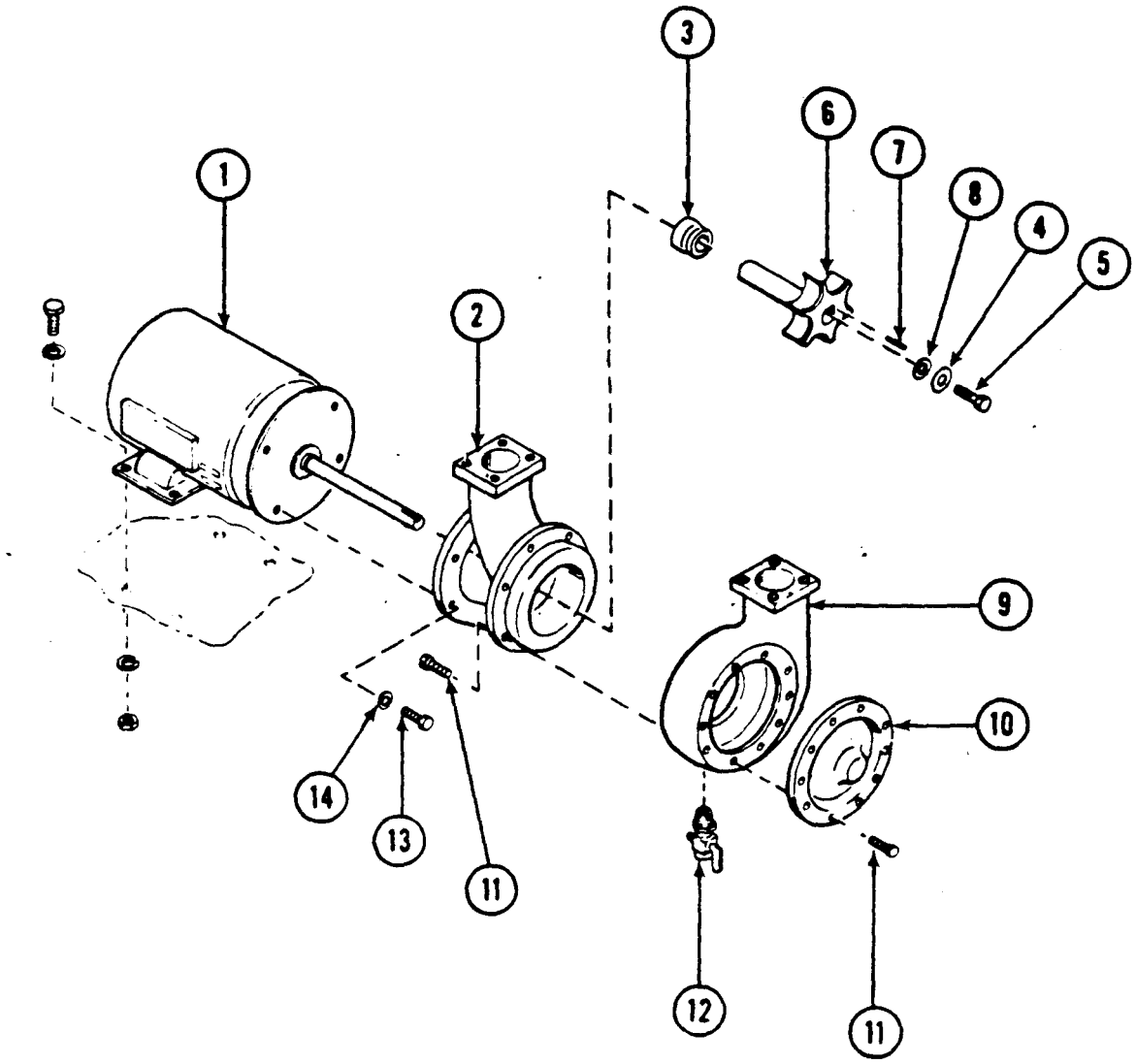
Champion
The Dishwashing Machine Specialists



PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
401464		LOWER WASH ARM - SUB-ASSY	
C4111-1	1	SPRAY PIPE	1
C4111-2	2	SPRAY PIPE	1
C4324-1	3	MANIFOLD WITH BEARING 1124	1
106503	4	SCREW #6 X 1/4 DRIVE	2

Champion
The Dishwashing Machine Specialists

PUMP ASSEMBLY



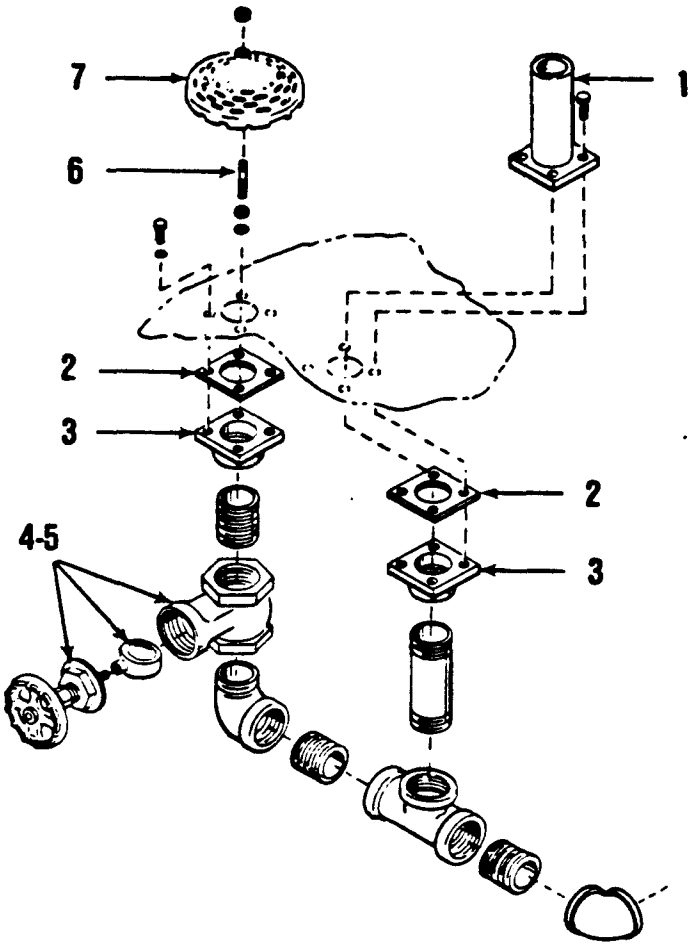
30—401699/401698-10

Item	Part No.	Qty.	Description
1	—	1	MOTOR, 1 HP - specify voltage and phase)
2	14217-1	1	HOUSING, pump suction
3	100038	1	SEAL
4	104619	1	WASHER, flat
5	100153	1	BOLT, impeller
6	401692	1	IMPELLER
7	104916	1	KEY

Item	Part No.	Qty.	Description
8	104617	1	GASKET, fiber
9	C3820-1	1	HOUSING, pump discharge
10	12672-1	1	PLATE, impeller access
11	100735	16	BOLT
12	100045	1	DRAIN COCK
13	100153	4	BOLT
14	104616	4	WASHER, star

Champion
The Dishwashing Machine Specialists

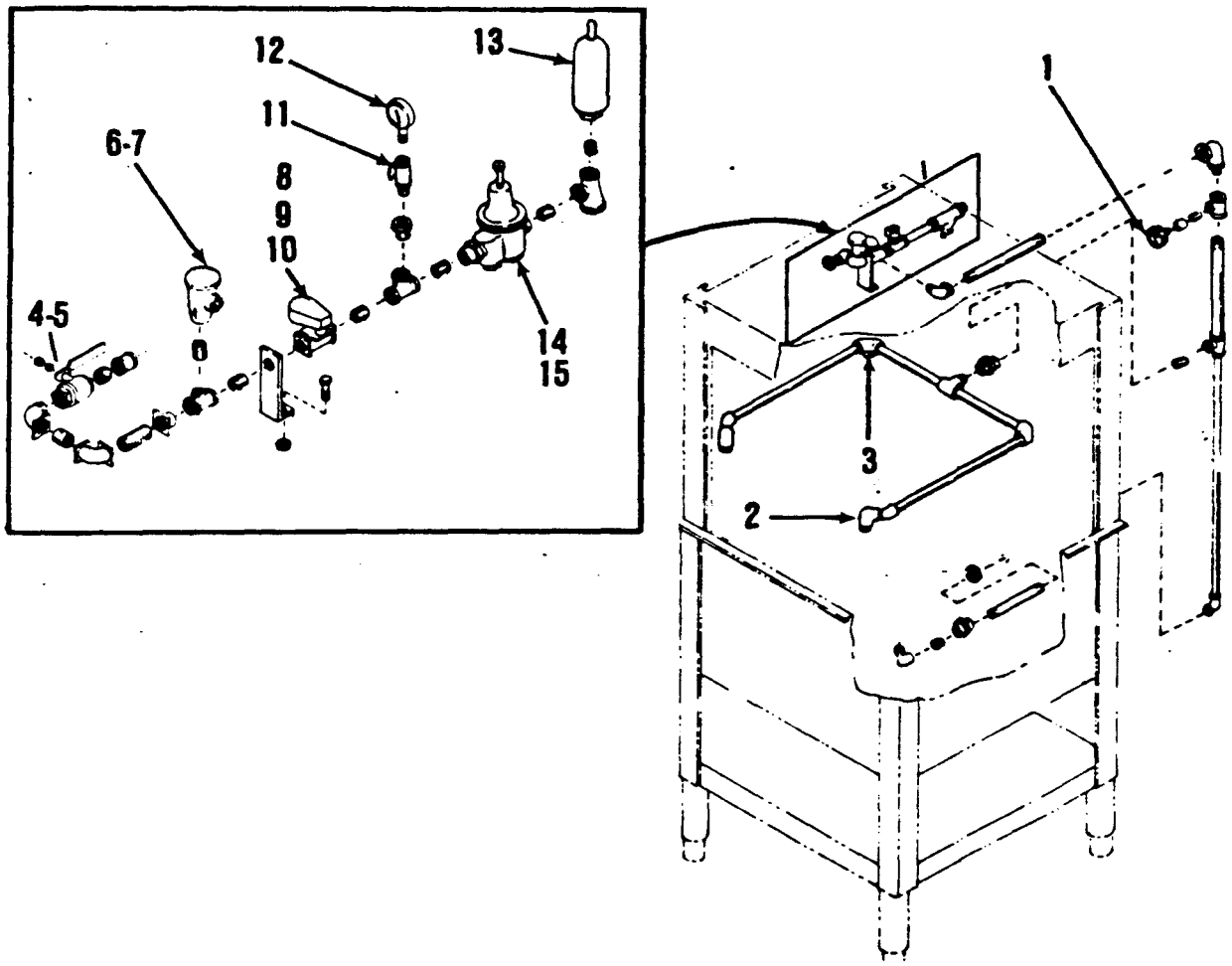
DRAIN ASSEMBLY



Item	Part No.	Qty.	Description
1	303317	1	PIPE, overflow
2	104639	2	GASKET
3	202191	2	FLANGE
4	100178	1	VALVE
5	104791	1	BONNET ASSEM8LY
6	104637	1	STUD
7	304816	1	STRAINER

Champion
The Dishwashing Machine Specialists

RINSE AND FILL PIPING

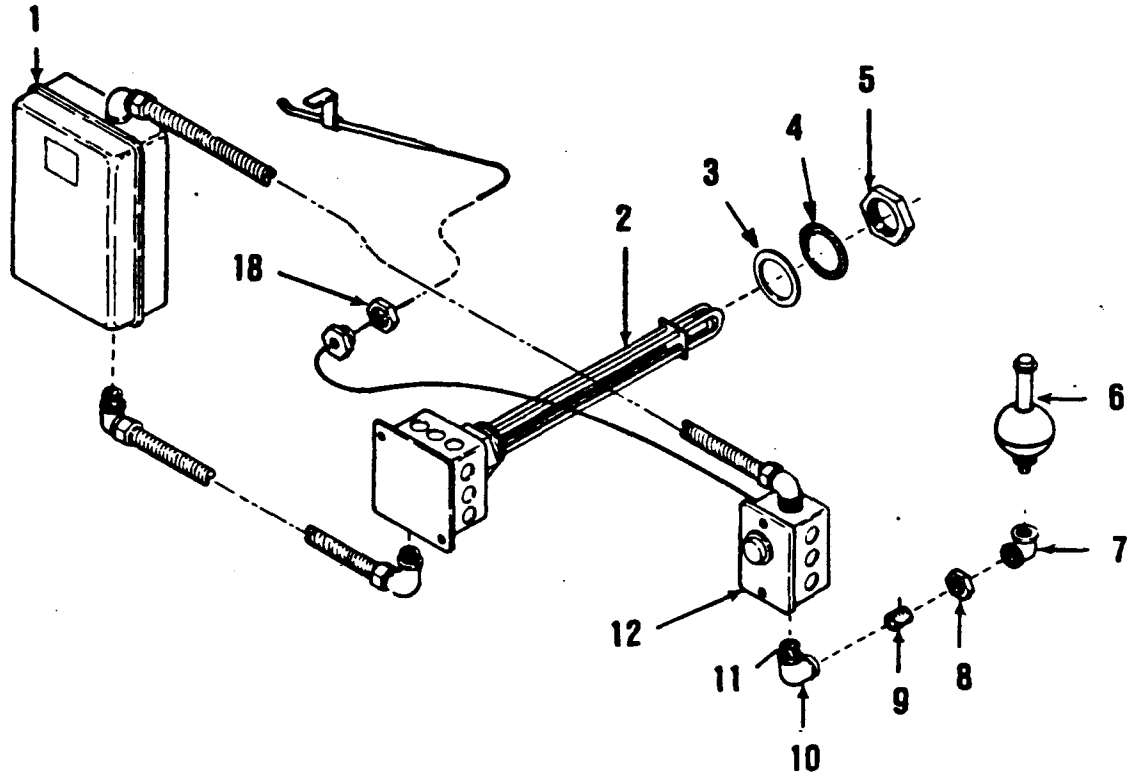


Item	Part No.	Qty.	Description
1	100124	1	THERMOMETER
2	600710	1	UPPER RINSE ASSEMBLY
3	100172	4	NOZZLE
4	104749	1	VALVE, ball
5	104726	1	HANDLE
6	104429	1	VACUUM BREAKER
7	104942	1	REPAIR KIT
8	100054	1	VALVE, solenoid (110V)

Item	Part No.	Qty.	Description
9	104669	1	COIL.110V
10	104735	1	REPAIR KIT
11	100123	1	COCK, gouge
12	100135	1	GAUGE
13	104681	1	SILENCER
14	104753	1	STRAINER
15	105474	1	VALVE, pressure reducing

Champion
The Dishwashing Machine Specialists

ELECTRIC HEAT INSTALLATION

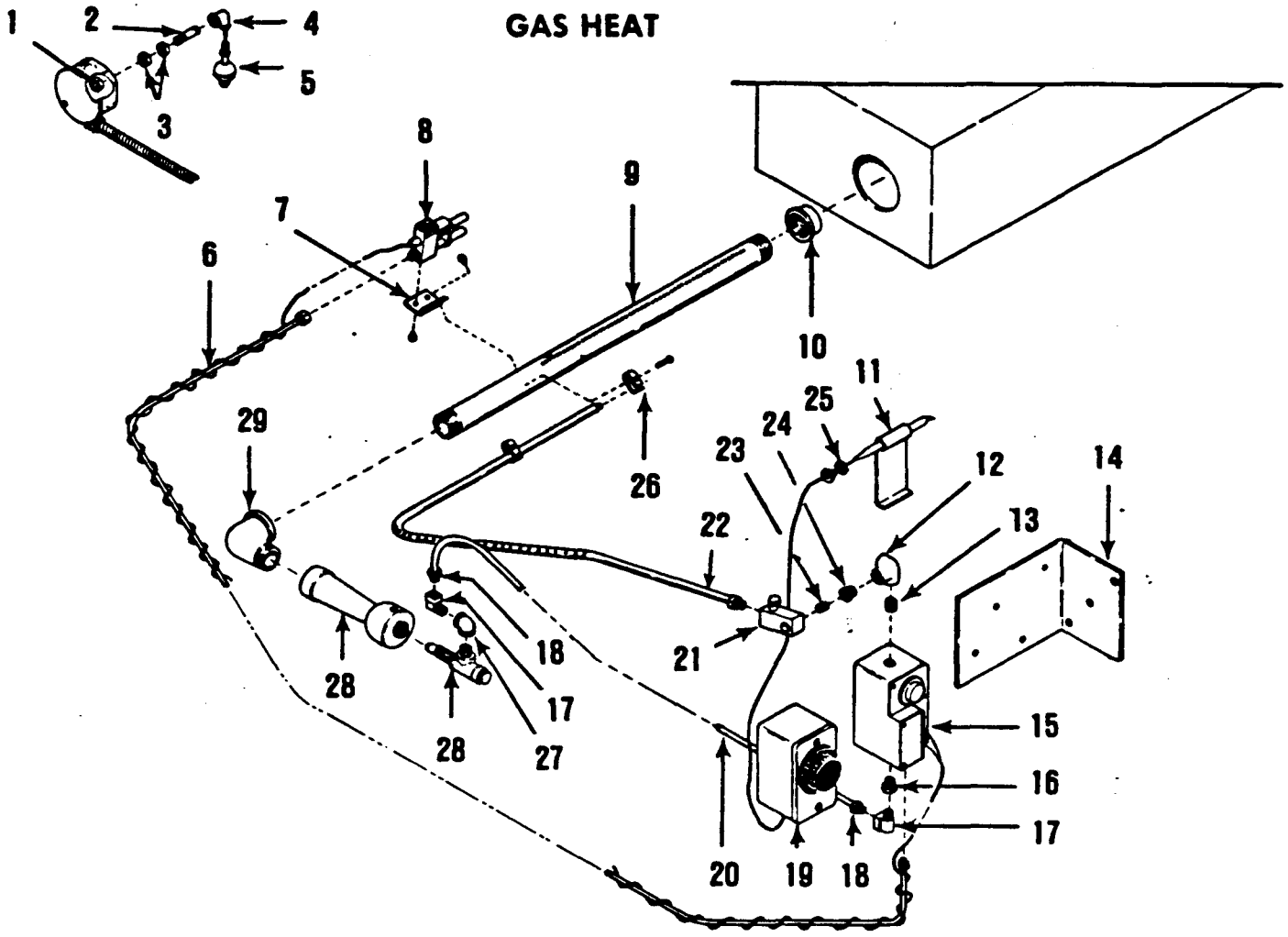


Item	Part No.	Qty.	Description
1	100062	1	CONTACTOR
2	106098	1	HEATER, 5 KW 1/60/208
2	107839	1	HEATER, 5 KW 3/60/208
2	106099	1	HEATER, 5 KW 1/60/240
2	107840	1	HEATER, 5 KW 3/60/240
2	106100	1	HEATER, 5 KW 3/60/480
3	104652	1	SPACER
4	104651	1	GASKET
5	100192	1	LOCKNUT

Item	Part No.	Oty.	Description
6	100170	1	SWITCH, float
7	100544	1	ELBOW
8	201029	1	LOCKNUT
9	201758	1	NIPPLE
10	102514	1	TEE
11	100883	1	CHASE NIPPLE
12	104512	1	THERMOSTAT box
	103376	1	THERMOSTAT less box

Champion
The Dishwashing Machine Specialists

GAS HEAT

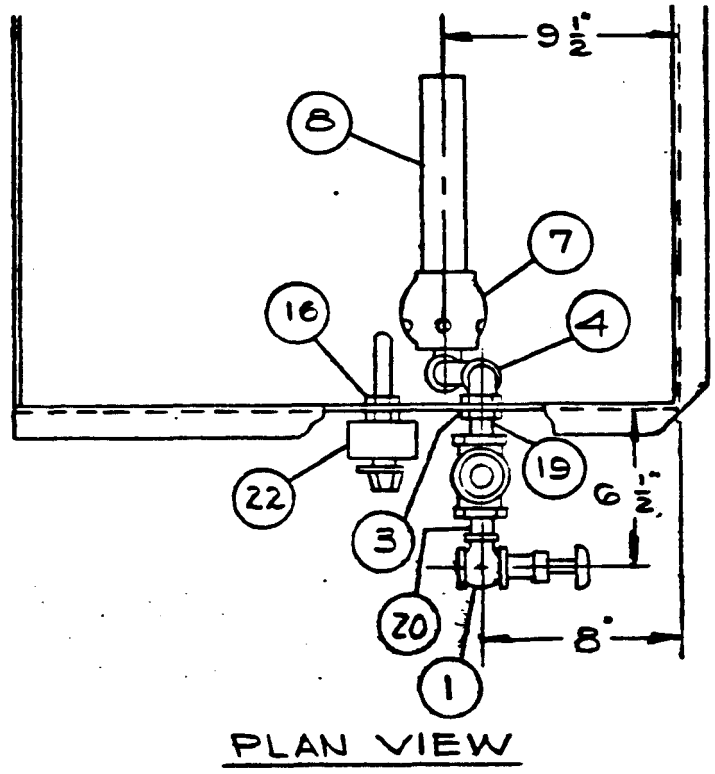


Item	Part No.	Qty.	Description
1	101302	1	BOX with cover
2	201758	1	NIPPLE
3	201129	2	LOCKNUT
4	201030	1	ELBOW
5	100170	1	SWITCH, float
6	102087	1	TUBE, pilot
7	A-3478-1	1	BRACKET
8	102258	1	PILOT BURNER (not gas)
8	104003	1	PILOT BURNER (LP gas)
9	C1775	1	PIPE, burner
10	100976	1	CAP
11	A1539	1	HEAT CONDUCTOR
12	100960	1	ELBOW
13	100954	1	NIPPLE
14	B2860-1	1	BRACKET
15	100117	1	VALVE (not gas)

Item	Part No.	Qty	Description
15	102257	1	VALVE (LP gas)
16	102402	1	BUSHING
17	100680	2	FITTING
18	100678	2	NUT
19	100432	1	THERMOSTAT
20	102090	1	TUBE
21	102246	T	VALVE (not gas)
21	102379	1	VALVE (LP gas)
22	104606	1	ZIP TUBE
23	100188	1	NIPPLE
24	100115	1	BUSHING
25	201097	1	IOCKNUT
26	104610	2	CLAMP
27	101093	1	ELBOW
28	100137	1	IOJECTOR
29	100134	1	Ell, street

Champion
The Dishwashing Machine Specialists

STEAM HEAT w/ INJECTOR and ELECTRIC THERMOSTAT INSTALLATION

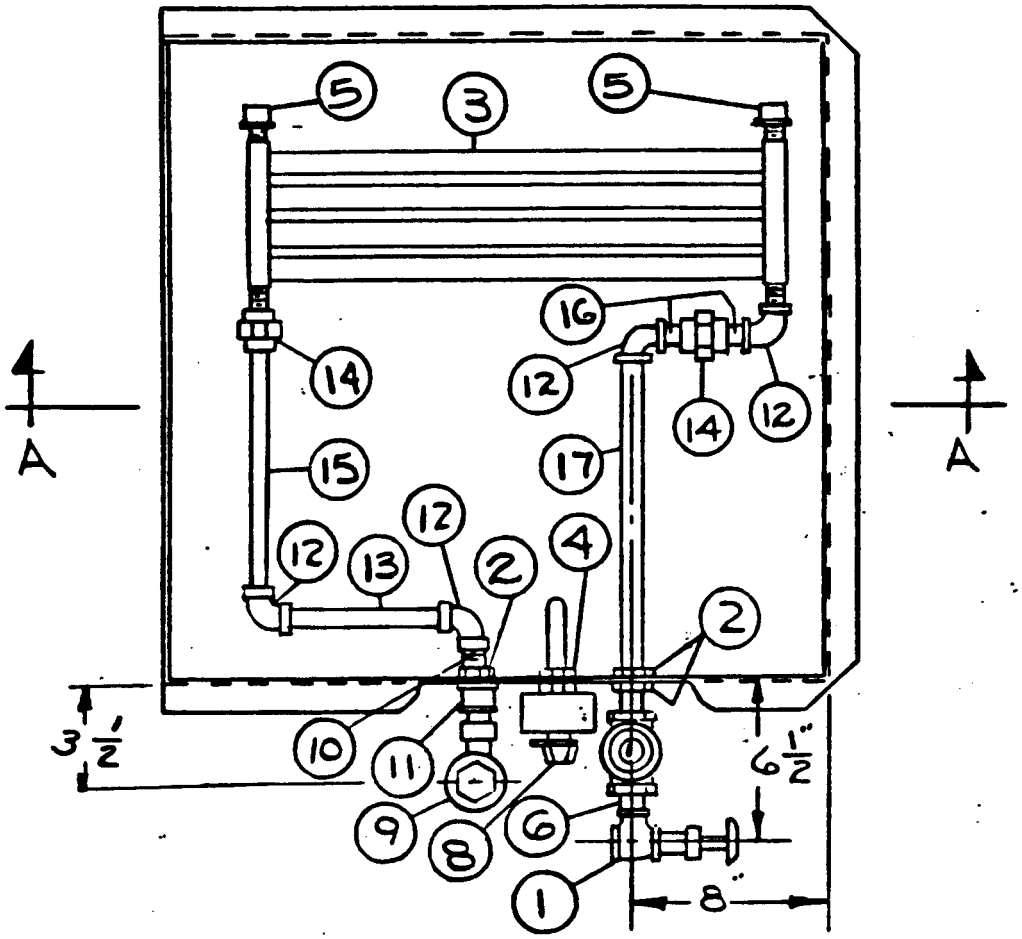


PLAN VIEW

PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
D1834-4		1K 1KC STM INJECT W/THERMO	
109069		THERMOSTAT W/CAPILLA ESSEX	1
104828	1	VALVE BALL 3/4 INCH 70-104	1
100548	3	LOCKNUT 3/4	1
105738	4	ELBOW 3/4 X 1/2 90 BI	1
3.05783	5	NIPPLE 1/2 X 2 BI	1
100147	6	STREET ELL 1/2 IN BI	1
201110	7	STEAM INJECTOR	1
101677	8	NIPPLE TOE 1 X 9 SST	1
100547	16	LOCKNUT 1/2 INCH NPT SST	1
106937	19	NIPPLE RTOE 3/4X1 3/4 FULL	1
105803	20	NIPPLE 3/4.CLOSE BI	1
108488	21	VALVE 3/4 120V STEAM	1
107922	22	BOX&COVER THERMOSTAT 2X3X4	1

Champion
The Dishwashing Machine Specialists

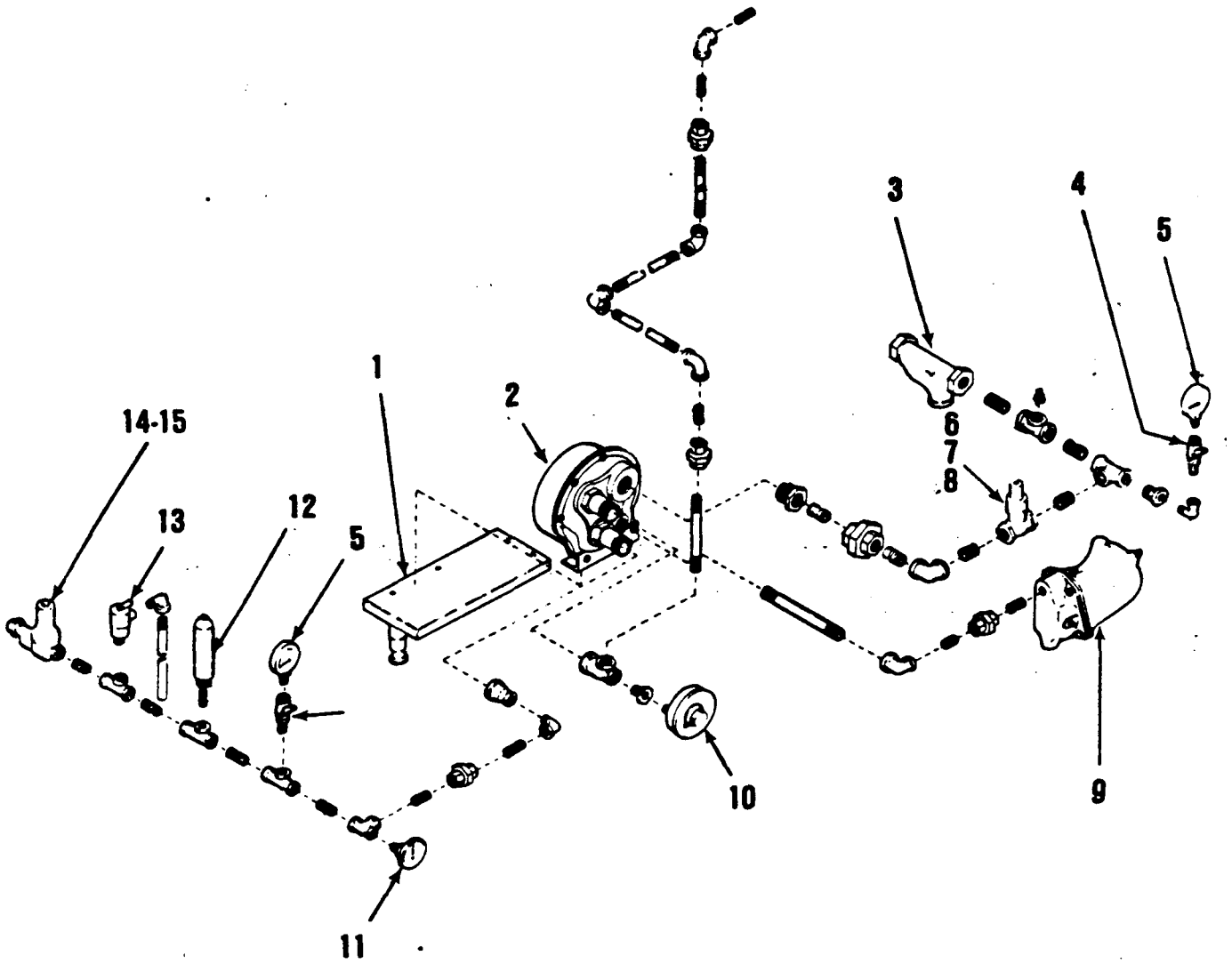
CLOSED COIL STEAM HEAT WITH ELECTRIC THERMOSWITCH INSTALLATION



PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
B1497-1		1-K 1-KC CLOSED COIL W/THM	
109069		THERMOSTAT W/CAPILLA ESSEX	1.
104828	1	VALVE BALL 3/4 INCH 70-104	1.
201263	2	LOCKNUT 3/4 NI PLATED	3.
D5980-1	3	STEAM COIL	1.
201029	4	LOCKNUT 1/2 INCH NP	1.
100113	5	CAP 3/4 INCH SST	2.
100184	6	NIPPLE 3/4 CLOSE BRASS	1.
108488	7	VALVE 3/4 120V STEAM	1.
107922	8	BOX&COVER THERMOSTAT 2X3X4	1.
100365	9	TRAP STEAM 1/2 25PSI	1.
100685	10	NIPPLE RTOE 3/4 X 2 1/2	1.
102416	11	COUP REDUCE 3/4 X 1/2 BRAS	1.
102443	12	ELBOW 3/4 90 SST	4.
101500	13	NIPPLE 3/4 X 4 1/2 SST	1.
101544	15	NIPPLE 3/4 X 10 1/2 SST	1.
102554	15	UNION 3/4 SST	1.
100051	16	NIPPLE 3/4 CLOSE SST	2.
104541	17	NIPPLE RTOE 3/4X15 1/2 SST	1.

Champion
The Dishwashing Machine Specialists

STEAM BOOSTER

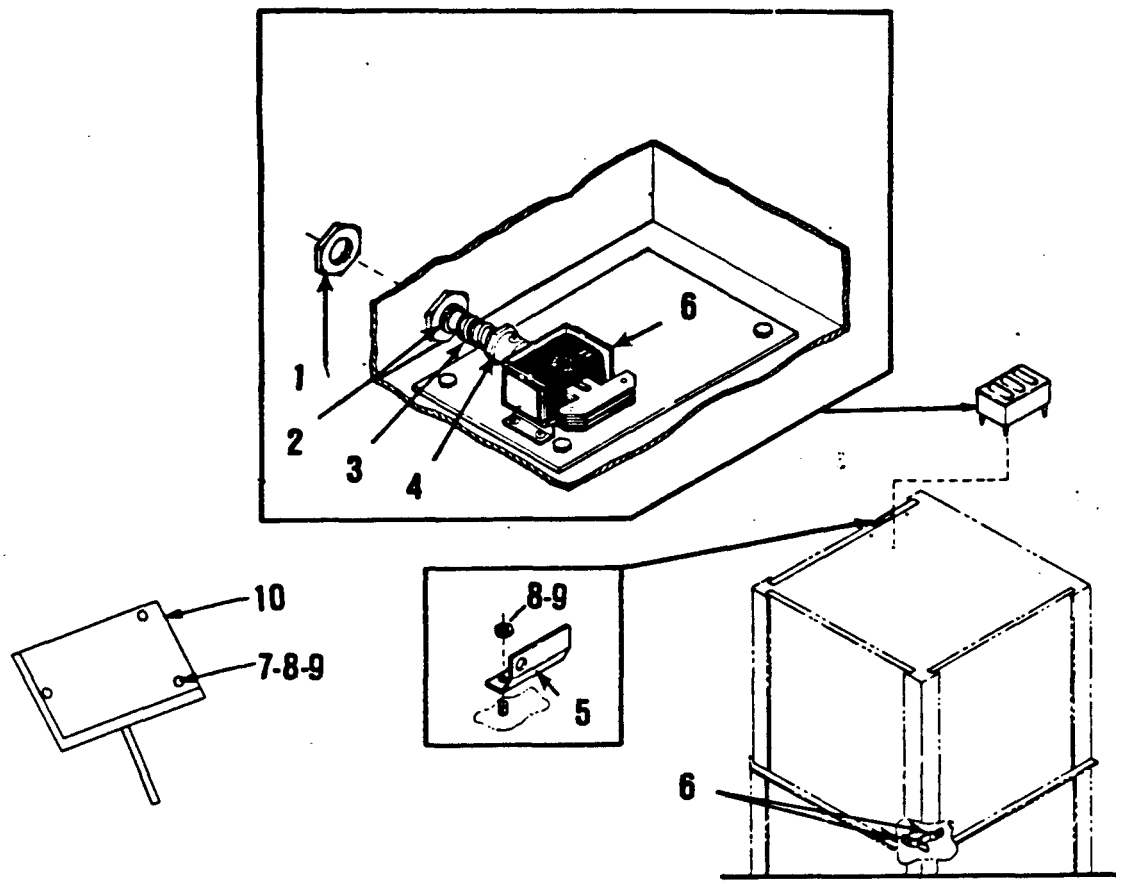


Item	Part No.	Qty.	Description
1	81383-2	1	BASE
2	100021	1	BOOSTER
3	100263	1	STRAINER
4	100123	2	COCK, gauge
5	100135	2	GAUGE
6	100224	1	VALVE, solenoid
7	104722	1	PISTON ASSEMBLY
8	104668	1	COIL

Item	Part No.	Qty.	Description
9	100366	1	TRAP
10	100128	1	THERMOSWITCH
11	100124	1	THERMOMETER
12	104681	1	SILENCER
13	103385	1	VALVE, relief
14	105474	1	VALVE, pressure reducing
15	104790	1	SERVICE KIT

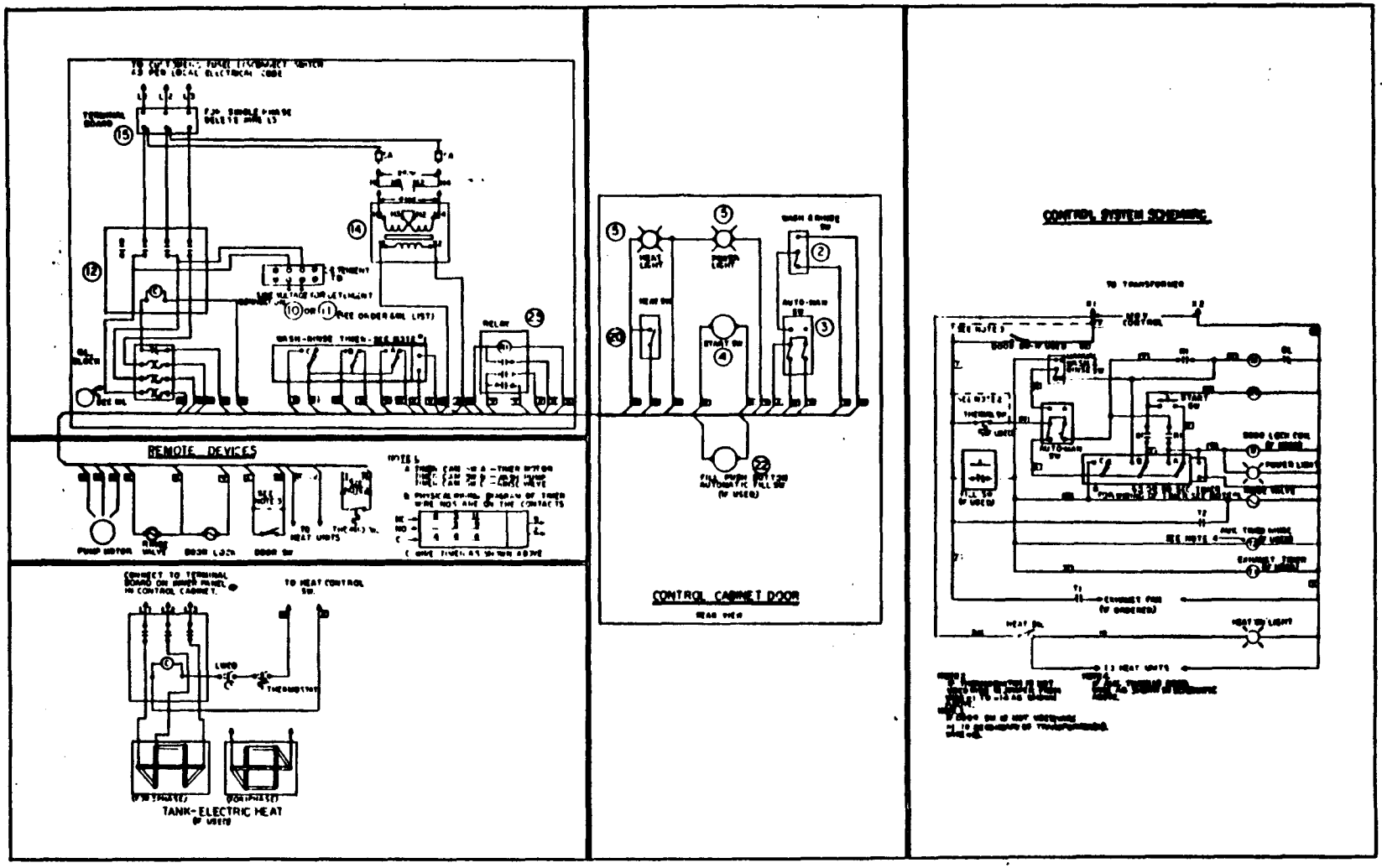
Champion
The Dishwashing Machine Specialists

DOOR LOCK AND SAFETY SWITCH

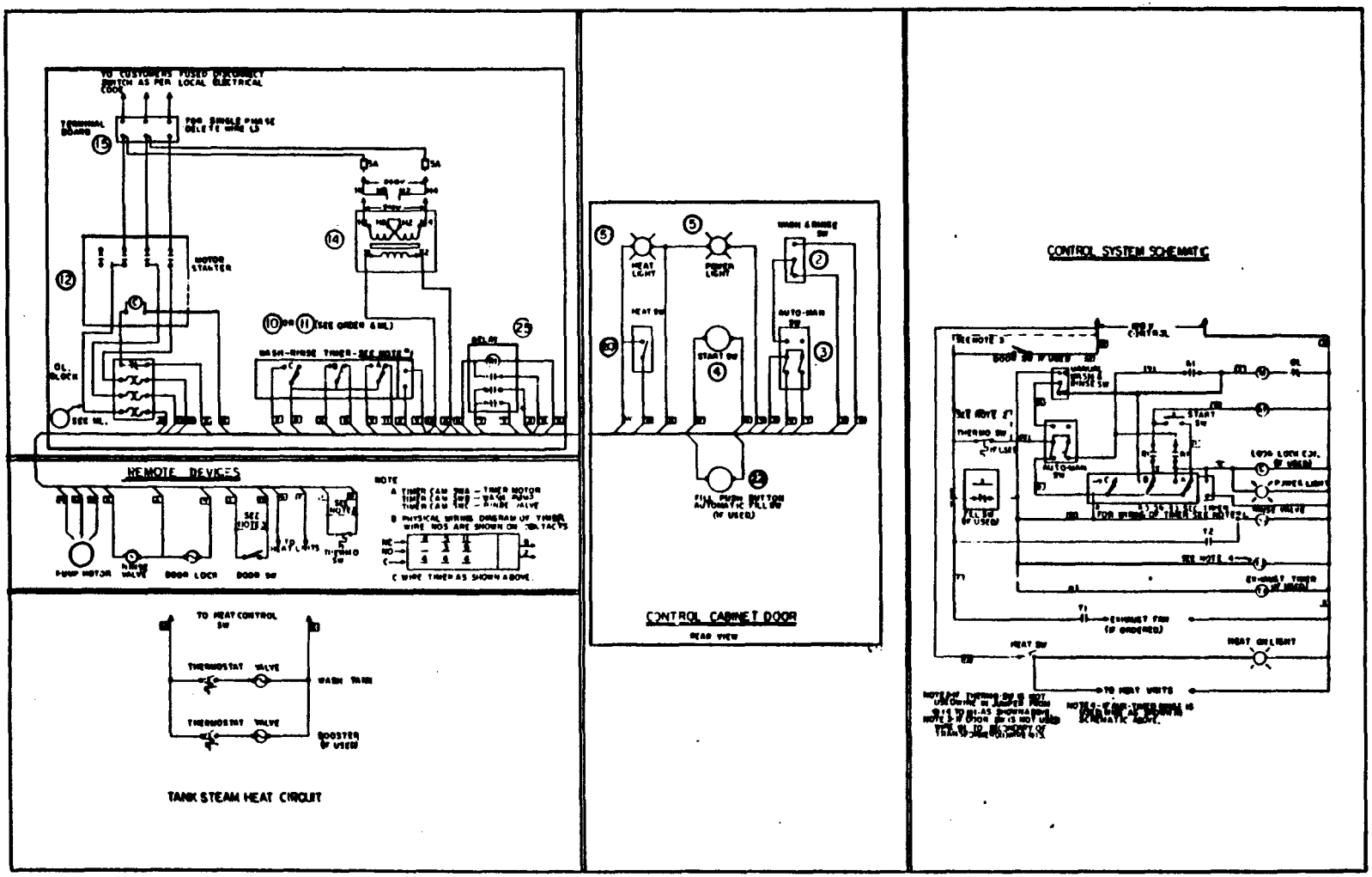


Item	Part No.	Qty.	Description
1	100120	1	LOCKNUT
2	250001	1	BUSHING
3	105253	1	SPRING
4	A861-3	1	PLUNGER
5	A3944	1	BRACKET
6	303311	2	STOP
7	106027	3	BOLT
8	100141	5	NUT
9	106014	5	NUT, cap
10	107053	1	SWITCH

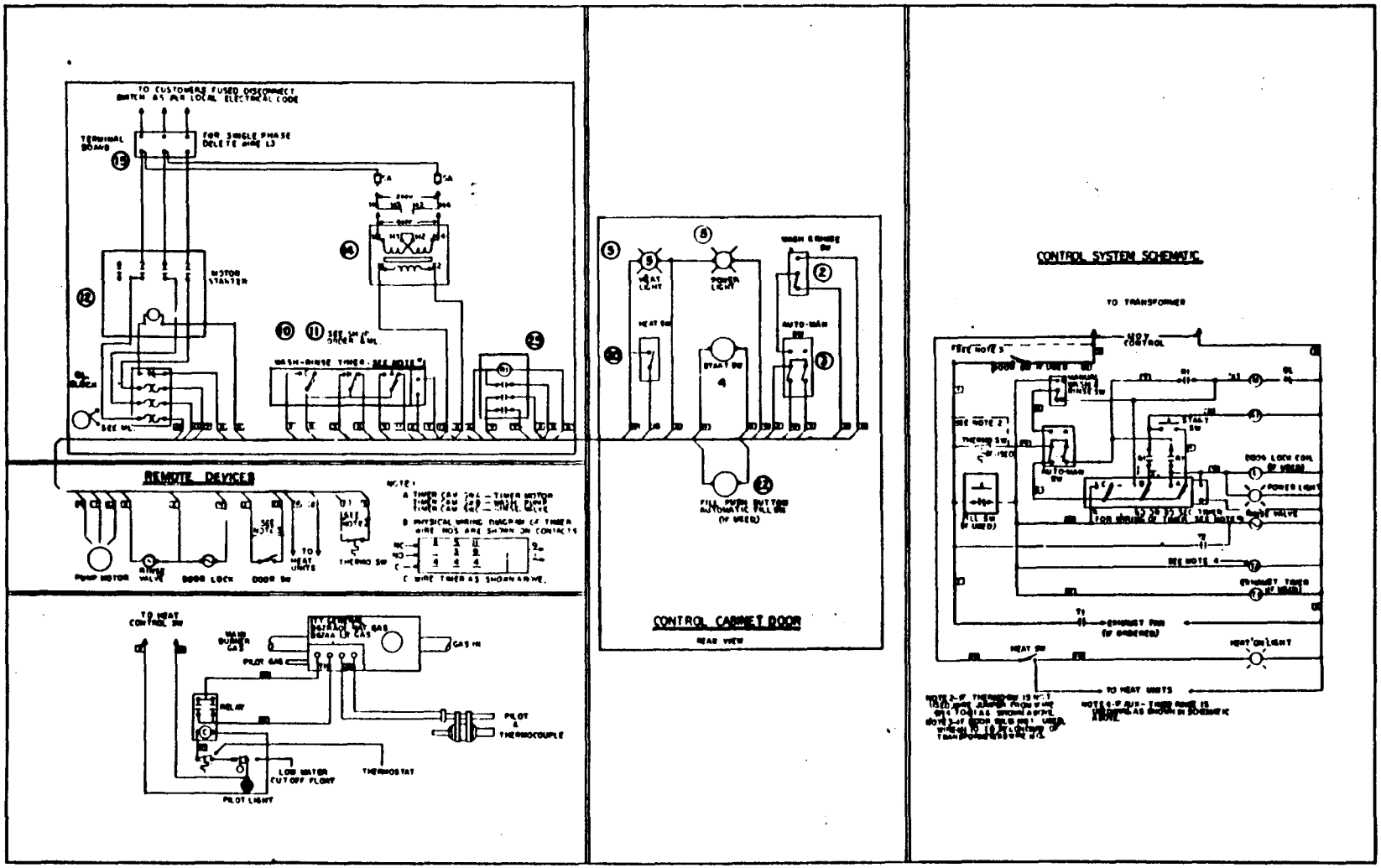
700134 ELECTRIC HEAT SCHEMATIC



700135 STEAM HEAT SCHEMATIC



700136 GAS HEAT SCHEMATIC



Champion
The Dishwashing Machine Specialists

PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
500153		1-KAB PARTS	
A1143		BRACKET THERMOMETER	1.
A3903		FILLER FRONT	1.
A4309-1		STOP DOOR FRONT	1.
B236-1		SPRAY PIPE	1.
B236-2		SPRAY PIPE	1.
B236-3		SPRAY PIPE	1.
B2686		SUPPORT SCREEN CENTER	1.
B3407-1		MANIFOLD RINSE 1K	1.
C4081-1		ADAPTER UPPER WASH 1120	1.
C4479-1		STANDPIPE ASSY	1.
C4546-1		ADAPTER LOWER 1K	1.
C4905-1		MANIFOLD PATT 1119	1.
D6078-2		HOOD ASSY 1KAB GAS	1.
100012		HANDLE DOOR	1.
100029		UNION 3/8 SST	1.
100045		COCK DRAIN	1.
100054		VALVE 3/4 INCH 120V 8210D9	1.
• 100073		SCREW 1/4-20 XL/2 TRUSS HD	2.
100094		WASHER 1/2 X 1 1/16 X 1/32	1.
100105		SCREW 1/4-20 X 3/4 THUMB	3.
100115		BUSH REDUC 1/2 X 1/8 B.I.	1.
100118		UNION ELBOW 3/4 MALE	1.
100120		LOCKNUT 3/8	1.
100123		COCK GAUGE 1/4 41-500-01	1.
100125		THERMOMETER	1.
100145		KNOB DOOR	2.
100163		NOZZLE 3/8 U-SS50120	1.
100171		BUSH FACE RED 3/4X1/2 BRAS	1.
100172		NOZZLE 3/8 HH18SO	4.
100184		NIPPLE 3/4 CLOSE. BRASS	3.
100206		NIPPLE 1/2 X 2 1/2	1.
100209		NIPPLE 1/2 CLOSE BRASS	2.
100210		PLUG 1/8 SST	2.
100599		CROSS 3/4 BRASS	1.
100709		LOCKNUT 1/2 BRASS	1.
102388		BUSH REDUC 1/2 X 1/4 BRASS	1.
102435		ELBOW 1/2 90 BRASS	1.
102438		ELBOW STREET 1/2 90 BRASS	1.
102444		ELBOW STREET 3/4 90 BRASS	1.
102457		NIPPLE 3/8 CLOSE SST	1.
102471		NIPPLE 3/4X3 1/4 BRASS	1.
102505		PLUG 3/4 BRASS	1.
102525		TEE 3/4 X 1/2 X 3/4 BRASS	1.
102526		TEE 3/4 X 3/4 X 1/2 BRASS	1.
102549		UNION 1/2 BRASS	1.
102658		NIPPLE 3/4X5 1/2 BRASS	1.
102683		NIPPLE 3/4 X 13 1/2 BRASS	1.
102795		ELBOW STREET 3/8	1.
104010		NOZZLE 5/16	12.
104429		VACUUM BREAKER 3/4 IN BRASS	1.
104644		SPRING MANIFOLD LOCKPIN	2.

Champion

The Dishwashing Machine Specialists

PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
500153		**1-KAB PARTS**	
104646		LINKAGE SPRING UPPER	1.
104682		THERMOMETER 2 INCH STEM CB	1.
104686		NIPPLE RTOE 3/8 X 11	1.
104749		VALVE BALL 1/2 IN 70-80301	1.
104753		STRAINER LINE 3/4	1.
104793		BOLT MANIFOLD LOCK	1.
104794		LOCKPIN MANIFOLD	3.
105299		SPACER 1/2 INCH	2.
106168		BRACKET DOOR LEVER	4.
106169		BOLT SHOULDER	2.
106170		KNOB KNURLED	1.
106565		LINK DOOR LEVER	2.
106625		CAP 3/4 INCH PLASTIC	2
106913		PIVOT BLOCK	2.
106914		PIVOT BLOCK	2. •
106915		WASHER PIVOT BLOCK	2.
107342		BASKET DRAIN 1818 18223251	1.
107680		SEAT OVERFLOW TUBE RUBBER	1.
201029		LOCKNUT 1/2 INCH NP	2.
201065		NOZZLE DRIVE PATT 990	3.
201097		LOCKNUT 3/8 NP	1.
201758		NIPPLE RTOE 1/2 X 1 3/4 NP	1.
202280		FINAL RINSE PIPE L33 1K	1.
202281		FINAL RINSE PIPE L33 1K	1.
302394		PANEL FRONT 1K	1.
303262		BAFFLE DOOR 1K	1.
303278		CATCH DOOR	1.
303296		LEVER DOOR	1.
303530		BRACKET PIPE 3/4	1.
304784		TRACK REAR L-33	2 .
304796		OVERFLOW TUBE WELDMENT L-3	1.
304807		SCREEN 9 13/32 X 13 3/8	4.
304816		STRAINER 6 INCH DIA	1.
400735		DOOR W/STRIP 23 X 26 1K	2.
401120		SPRING ASSY	1.
401168		PIPING VERTICAL 1K	1.
401464		LOWER WASH ARM - SUB-ASSY	1.
403167		DOOR ASSY CAMPION LOGO 1K	1.
600511		RINSE WELDMENT UPPER	1.
990000		BASE WELDMENT 1-KAB	1.

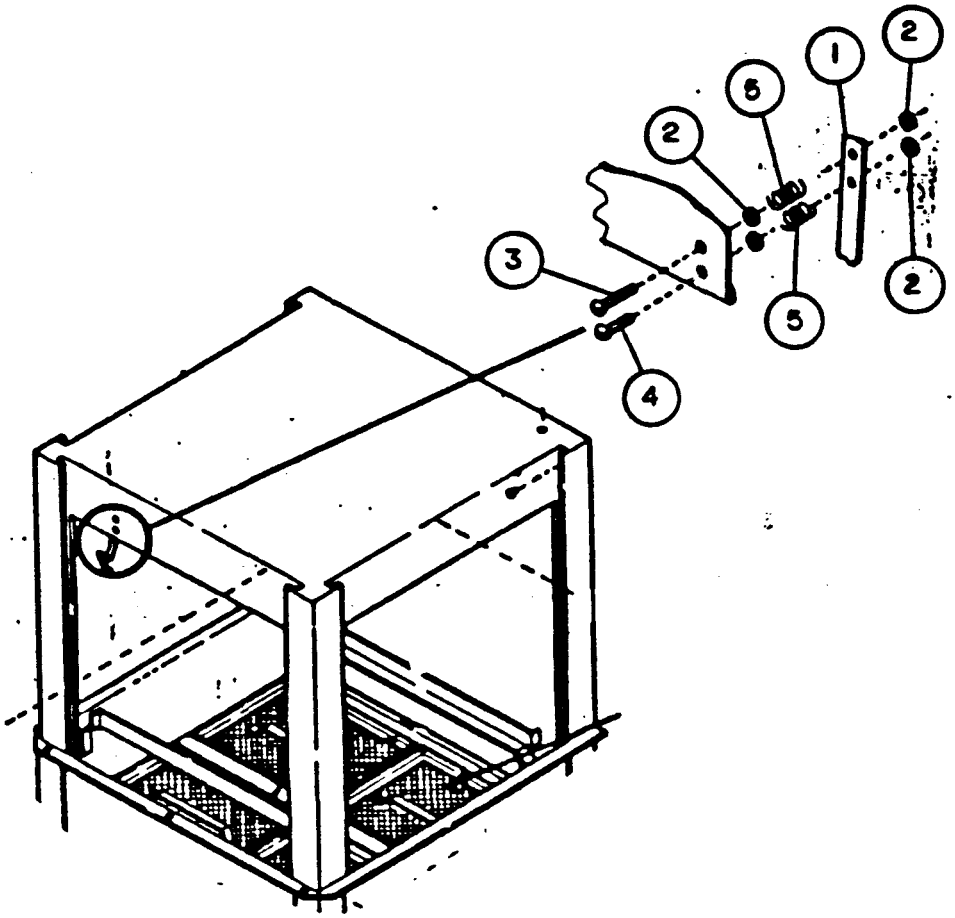
Champion

The Dishwashing Machine Specialists

PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
500154		1KACB MAIN ASSY	
A1143		BRACKET THERMOMETER	1.
A3903		FILLER FRONT	1.
B236-1		SPRAY PIPE	1.
B236-2		SPRAY PIPE	1.
B236-3		SPRAY PIPE	1.
B2686		SUPPORT SCREEN CENTER	1,
B3407-1		MANIFOLD RINSE 1K	1.
C4081-1		ADAPTER UPPER WASH 1120	1.
C4479-1		STANDPIPE ASSY	1.
C4546-1		ADAPTER LOWER 1K	1.
C4905-1		MANIFOLD PATT 1119	1.
D6078-2		HOOD ASSY 1KAB GAS	1.
100029		UNION 3/8 SST	1.
100045		COCK DRAIN	1.
100054		VALVE 3/4 INCH 120V 8210D9	1.
100094		WASHER 1/2 X 1 1/16 X 1/32	1.
100105		SCREW 1/4-20 X 3/4 THUMB	3.
100115		BUSH REDUC 1/2 X 1/8 B.I.	1.
100118		UNION ELBOW 3/4 MALE	1.
100120		LOCKNUT 3/8	1.
100123		COCK GAUGE 1/4 41-500-01	1.
100125		THERMOMETER	1.
100163		NOZZLE 3/8 U-SS50120	1.
100171		BUSH FACE RED 3/4X1/2 BRAS	1.
100172		NOZZLE 3/8 HH18SO	4.
100184		NIPPLE 3/4 CLOSE. BRASS	3.
100206		NIPPLE 1/2 X 2 1/2	1.
100209		NIPPLE 1/2 CLOSE BRASS	2.
100210		PLUG 1/8 SST	2.
100599		CROSS 3/4 BRASS	1.
100709		LOCKNUT 1/2 BRASS	1.
102388		BUSH REDUC 1/2 X 1/4 BRASS	1.
102435		ELBOW 1/2 90 BRASS	1.
102438		ELBOW STREET 1/2 90 BRASS	1.
102444		ELBOW STREET 3/4 90 BRASS	1.
102457		NIPPLE 3/8 CLOSE SST	1.
102471		NIPPLE 3/4X3 1/4 BRASS	1.
102505		PLUG 3/4 BRASS	1.
102525		TEE 3/4 X 1/2 X 3/4 BRASS	1.
102526		TEE 3/4 X 3/4 X 1/2 BRASS	1.
102549		UNION 1/2 BRASS	1
102658		NIPPLE 3/4 X 5 1/2 BRASS	1
102683		NIPPLE 3/4 X 13 1/2 BRASS	1
102795		ELBOW STREET 3/8	1
104010		NOZZLE 5/16	12
104429		VACUUM BREAKER 3/4 IN BRASS	1
104646		LINKAGE SPRING UPPER	1
104648		SPACER 13/16 INCH SST	2
104682		THERMOMETER 2 INCH STEM CB	1
104686		NIPPLE RTOE 3/8 X 11	1
104749		VALVE BALL 1/2 IN 70-80301	1.

PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
500154		1KACB MAIN ASSY	
104753		STRAINER LINE 3/4	1
104793		BOLT MANIFOLD LOCK	1
104794		LOCKPIN MANIFOLD	3
105643		LEVER DOOR 1KCB	1
106166		LINK DOOR	2
106168		BRACKET DOOR LEVER	4
106170		KNOB KNURLED	1
106625		CAP 3/4 INCH PLASTIC	2
107342		BASKET DRAIN 1818 18223251	1
107680		SEAT OVERFLOW TUBE RUBBER	1
201029		LOCKNUT 1/2 INCH NP	2
201065		NOZZLE DRIVE PATT 990	3
201097		LOCKNUT 3/8 NP	1
201758		NIPPLE RTOE 1/2 X 1 3/4 NP	1
202280		FINAL RINSE PIPE L33 1K	1
202281		FINAL RINSE PIPE L33 1K	1
202313		STUD PIN	2.
303262		BAFFLE DOOR 1K	1.
303530		BRACKET PIPE 3/4	1
304784		TRACK REAR L-33	1.
304785		TRACK FRONT L-33	1.
304786		TRACK GUIDE RACK 2 X 20 DL	1.
304787		TRACK RACK SUPPORT L-33	2.
304796		OVERFLOW TUBE WELDMENT L-3	1.
304807		SCREEN 9 13/32 X 13 3/8	4.
304816		STRAINER 6 INCH DIA	1.
400735		DOOR W/STRIP 23 X 26 1K	2.
401120		SPRING ASSY	1.
401164		PIVOT BLOCK PATT 1091	1.
401165		PIVOT BLOCK PATT 1091A	1.
401168		PIPING VERTICAL 1K	1.
401464		LOWER WASH ARM - SUB-ASSY	1.
403167		DOOR ASSY CAMPION LOGO 1K	1.
403253		SPRING. ASSY 1KABC	1.
600511		RINSE WELDMENT UPPER	1.
990000		BASE WELDMENT 1-KAB	1.

Champion
The Dishwashing Machine Specialists



PART NUMBER	ITEM NO	DESCRIPTION	QTY/PER
401641		CATCH ASSEMBLY	
303278	1	CATCH DOOR -	1.
100194	2	*HUT GRIP 10-32*	3.
100211	3	*SCREW 10-32 X 1 TRUSS HD*	1.
100212	4	*SCREW 10-32 X 3/4 TRUSS HD*	1.
104644	5	*SPRING MANIFOLD LOCKPIN*	2.