

#22184

# **LANDA®**

## **SPRAY JET PARTS WASHER OPERATOR'S MANUAL**

■ PW-30

■ PW-200

■ PW-400

■ PW-100

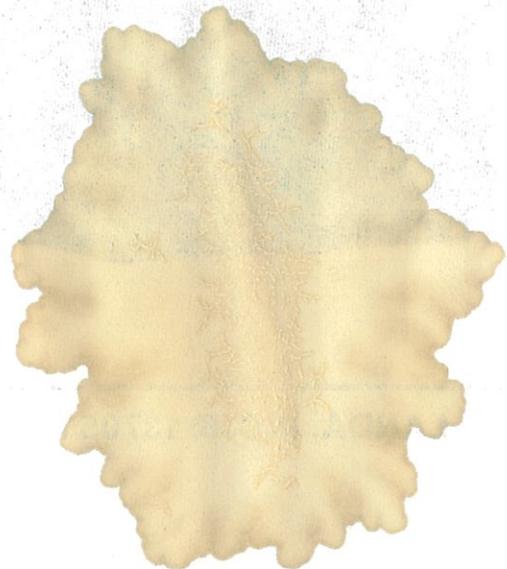
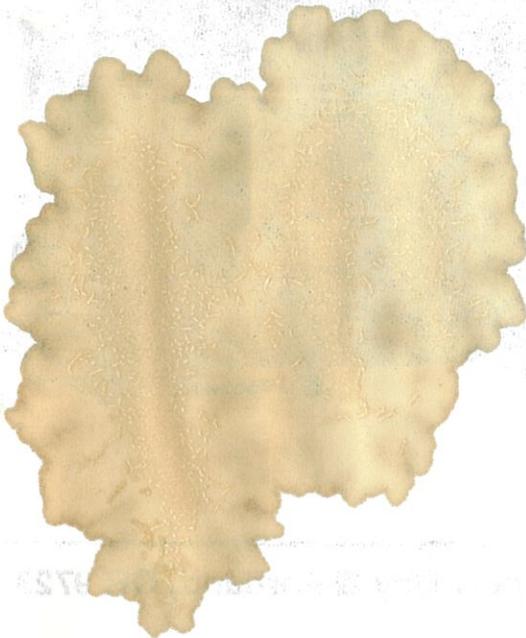
■ PW-300

■ PWC-200



LANDA, INC. ■ 13705 N.E. Airport Way ■ Portland, OR 97230

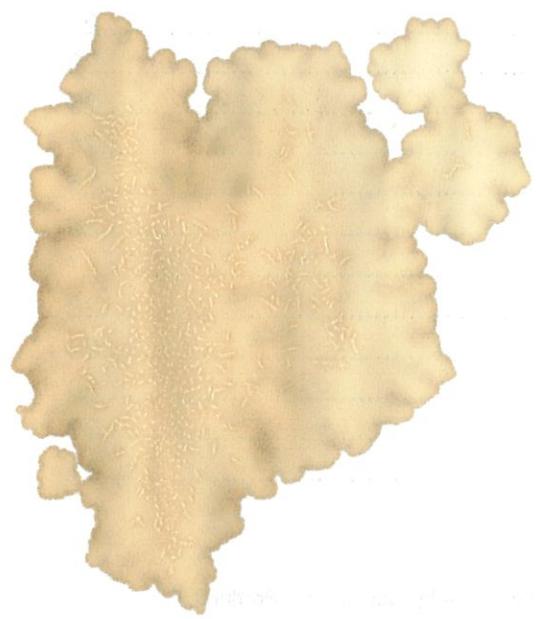
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117-100



## INTRODUCTION

Thank you for purchasing a LANDA Parts Washer.

This manual covers the operation and maintenance of the PW-30, PW-100, PW-200, PW-300, PW-400 AND PWC-200 washers. All information in this manual is based on the latest product information available at the time of printing.

LANDA, Inc. reserves the right to make changes at any time without incurring any obligation.

This manual should be considered a permanent part of the machine and should remain with it if unit is resold.

When ordering parts, please specify model and serial number.

## UNPACKING

Carefully unpack your new LANDA washer and check contents against the packing slip. Basic equipment with each machine includes:

1. Parts washer assembly
2. Operator's Manual
3. Accessory options

## SAFETY INSTRUCTIONS

**Read the owner's manual thoroughly. Failure to follow instructions could cause a malfunction of the unit and result in death, serious bodily injury and/or property damage.**

All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details.

Avoid installing units in small areas. Do not store or use gasoline or any flammable vapors, liquids or solids within 50 ft. of this equipment.

**CAUTION:** please comply with all operating instructions!

Never use petroleum based solvents or flammable products in LANDA parts washers. Suggest using only biodegradable water soluble detergents. Be certain to check water level daily. Never allow water level to drop below the top of the pump head. Never expose heating elements to air when the units are turned on as this will cause damage to the elements.

Always ensure that your parts washer is clean. Pump and heating elements could be harmed by continued build-up of sludge. Before plugging in your parts washer, check to see that all switches are in the off position.

**NEVER STAND IN WATER WHILE PLUGGING OR UNPLUGGING ELECTRICAL CORDS.**

When unloading cleaned parts, use insulated gloves. Parts will be hot and could cause serious burns when moved directly from the washer.

Unauthorized machine modification may cause personal injury and /or property damage and will void machine warranty.

Locate washer in area with adequate slopes and drainage.

**CAUTION: WHEN OPENING CABINET DOORS, HOT WATER/DETERGENT VAPORS WILL BE EMITTED. STAND BACK!**

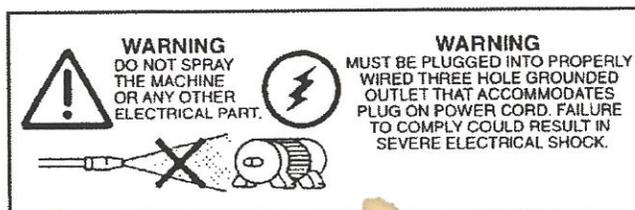
Before disconnecting, turn unit off. When maintenance and repairs are required, disconnect unit from electrical source. In cold climates the Parts Washer and components will freeze if not in operation. Therefore it must be located in a heated enclosure.

Running the system or the pump without water will damage the pump and will void the warranty. The Parts Washer should be installed and started up by an authorized LANDA Spray Jet Parts Washer dealer.

The best insurance against an accident is precaution and knowledge of the machine.

LANDA will not be liable for any changes made to our standard units or any components not purchased from LANDA.

**THIS MACHINE MUST BE ATTENDED AT ALL TIMES DURING OPERATION**



## INSTALLATION

Location of the unit is important. Avoid installing near combustible material or in poorly ventilated areas.

Electrical connection to machine should be proper voltage, phase and amperage. See specification for particular model. Plug the power cord into a GROUND RECEPTACLE.

Water source for units should be supplied by a 5/8" ID garden hose with a city water pressure of not less than 20 psi (automatic fill option).

The parts washer should be located on a level surface. It is advisable to locate your washer in a manner to make draining, cleaning and servicing safe and convenient. All installations must comply with local codes covering installations of this nature.

THE HISTORY OF THE UNITED STATES

OF THE

AMERICAN PEOPLE

FROM THE

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TO THE

PRESENT

BY

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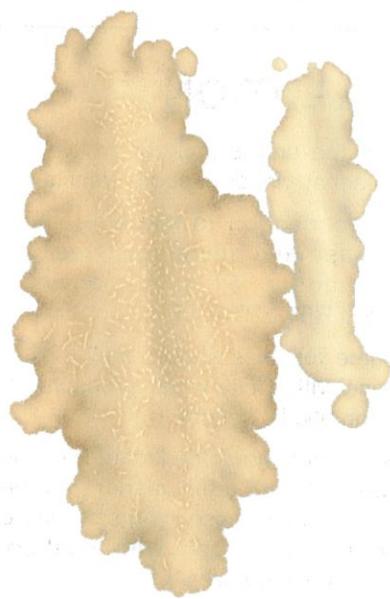
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Fill Washer solution tank with water. Water level should come to within 2" beneath turntable support bar or 3" from the top of the optional oil skimmer slot in solution holding tank. Never allow water level to drop below the top of the pump head.

## **STARTING AND OPERATING INSTRUCTIONS**

### **To Start**

Read entire safety instructions, installation and preventative maintenance instructions before starting machine.

Have a certified electrician install all wiring according to local codes. Be certain all switches are in the OFF position before applying power to your washer. Ensure that the washer is filled with water before turning on the heaters.

Check all connections (electrical, water, etc.) before starting. Flip the toggle switch marked "heater" to ON position and adjust the thermostat to desired working temperature. Suggested operating range is between 130° to 160°. The washer will take a short time to come up to operating temperature.

To ensure soap mixes properly and does not foam, make sure machine is up to operating temperature before adding any soap. Add soap as shown on mixing chart (see page 4).

Turn on the pump by turning timer to desired wash cycle. You should be able to hear the pump start its operation. NOTE: Make sure the motor rotation is in the direction of rotation arrow on motor. Model PWC-200 will have a pump switch and conveyor speed control knob which controls the rate of the conveyor.

NOTE: For future use, keep a record of the time or conveyor speed that gives the best cleaning.

Let washer run through a complete wash cycle. Always remember to shut off the heater when leaving the washer unattended for long periods of time (i.e. overnight, weekends, etc.).

### **7-Day Timer**

This timer automatically starts and stops the heating cycle. This option will have your parts washer heated and ready for operation when you start work each morning and turn the machine off at night. Set the timer according to the instructions located on the inside cover of the timer. For timing operations, turn on the heater switch. If a timing operation is not needed, turn heating switch off and timer will not initiate the heating cycle.

### **Low Water Shutdown**

The low water shutdown will automatically override the system if the water level drops below safe operating levels. If the washer is not operating, check the water level and refill the tub as necessary.

### **50 Micron Filter**

The filter option will extend the working life of your solution by removing sediment from the solution. It is recommended to note the pressure reading on the canister gauge. If the pressure reading fluctuates 10 psi from normal operating pressure, remove the filter bag and replace if necessary.

### **Oil Skimmer**

The oil skimmer will prolong the life of the working solution by removing up to 85% of the oils in your solution tank. The skimmer works best when the solution has cooled and the oil has separated to the top. If the solution is skimmed daily, a 30 minute operation will be sufficient time to clean your washer. To operate, flip toggle switch marked SKIMMER to the ON position.

### **To Stop**

Allow timer to turn OFF pump (allow clean part to exit in model PWC-200). Turn pump switch OFF (model PWC-200). All models, turn heater switch OFF (unless it is equipped with the 7-day timer. If your are finished cleaning for the day, open door slowly and protect yourself from hot vapor and heavy parts that may have shifted during operation.

## **MAINTENANCE & SERVICE**

### **Tank Cleaning**

Failure to properly clean the tank of this unit may burn out the pump unit, heating element or plug the spray openings. Proper cleaning instructions are as follows:

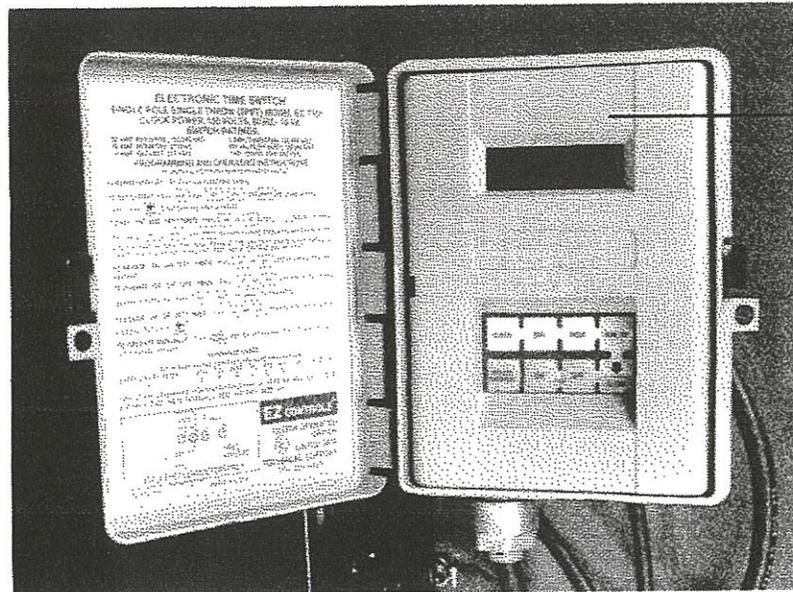
1. Turn all switches to the Off position.
2. Disconnect power to the machine.
3. Drain tank by removing screw-in plug located at the end of the washer.

Remove all sediment and sludge from the tank unit by using a scoop or water hose. Make sure the filter is free from blockage.

Refill machine with water and LANDA biodegradable soap. Follow standard operating procedures as described in Installation and Use.

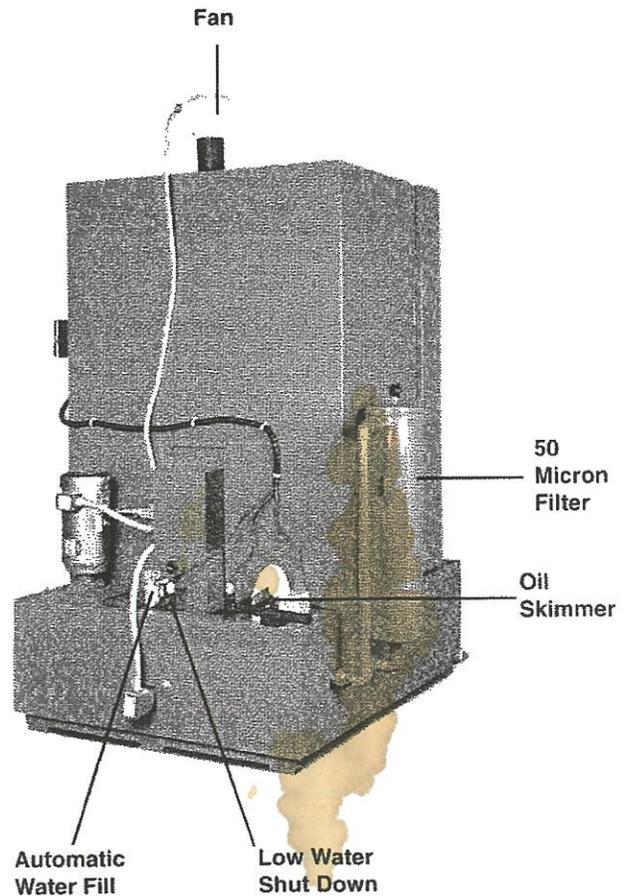


**PARTS  
WASHER  
OPTIONS**



7-Day  
Timer

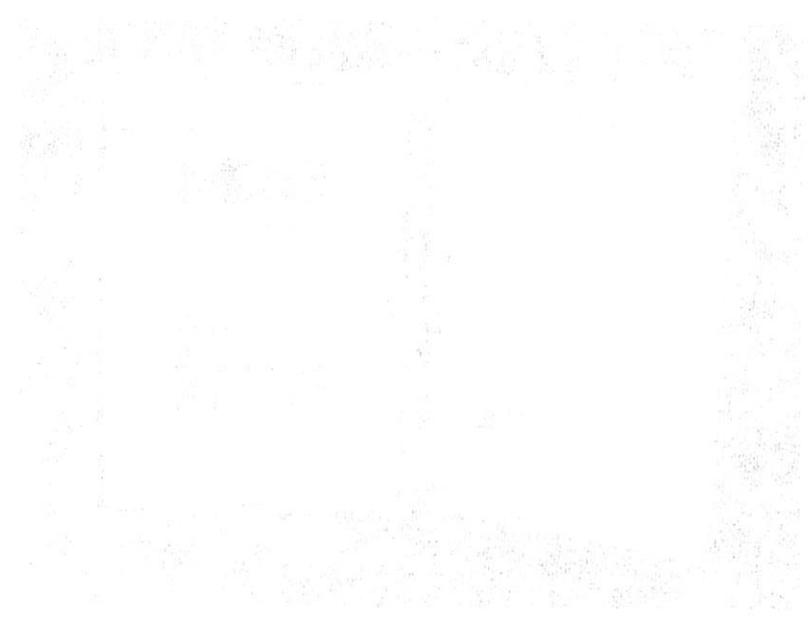
PART NO.	DESCRIPTION	QTY
20-100	Oil skimmer, spray jet	12
20-105	50 Micron filter	1
20-110	Timer, 7-day, parts washer	1
20-115	Automatic water fill, parts washer	1
20-120	Low water shut-off, parts	1
20-122	Exhaust fan	1



Automatic  
Water Fill

Low Water  
Shut Down

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**Nozzle Maintenance**

- Unscrew nozzles
- Inspect for damage or plugging
- Clean orifice with small wire and air
- Replace nozzles, being sure to tighten properly

**Surface Cleaning**

Rinse any soap residue on the painted surfaces of your machine with water and a wet shop rag. By cleaning the surface of your machine you will increase the life and finish of the washer.

**MIXING INSTRUCTIONS  
FOR LANDA WASHER DETERGENTS**

**ALUMINUM WASH**

Washer Size	40 Gal	80 Gal	157 Gal	245 Gal
Pounds of Detergent	10 lb	20 lb	39.25 lb	61.25 lb

**CAST IRON AND STEEL CLEANER**

Washer Size	40 Gal	80 Gal	157 Gal	245 Gal
Pounds of Detergent	10 lb	20 lb	39.25 lb	61.25 lb

**HEAVY DUTY RUST INHIBITOR**

Washer Size	40 Gal	80 Gal	157 Gal	245 Gal
Pounds of Detergent	4 lb	8 lb	15.7 lb	24.5 lb

**CHEMICAL ACCESSORY PARTS LIST**

PART NO.	DESCRIPTION	QTY
9-03100	Aluminum Wash w/rust inhibitor, parts washer detergent	100 lbs
9-03105	Aluminum Wash w/rust inhibitor, parts washer detergent	400 lbs
9-03110	Cast Iron Wash w/rust inhibitor, parts washer detergent	100 lbs
9-03115	Cast Iron Wash w/rust inhibitor, parts washer detergent	400 lbs
9-03120	Rust inhibitor, parts washer detergent	100 lbs
9-03125	Rust inhibitor, parts washer detergent	400 lbs

# THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. From the first settlers to the present day, the nation has evolved through various stages of development. The early years were marked by exploration and the establishment of colonies. The American Revolution led to the birth of a new nation, and the subsequent years saw the expansion of territory and the growth of industry.

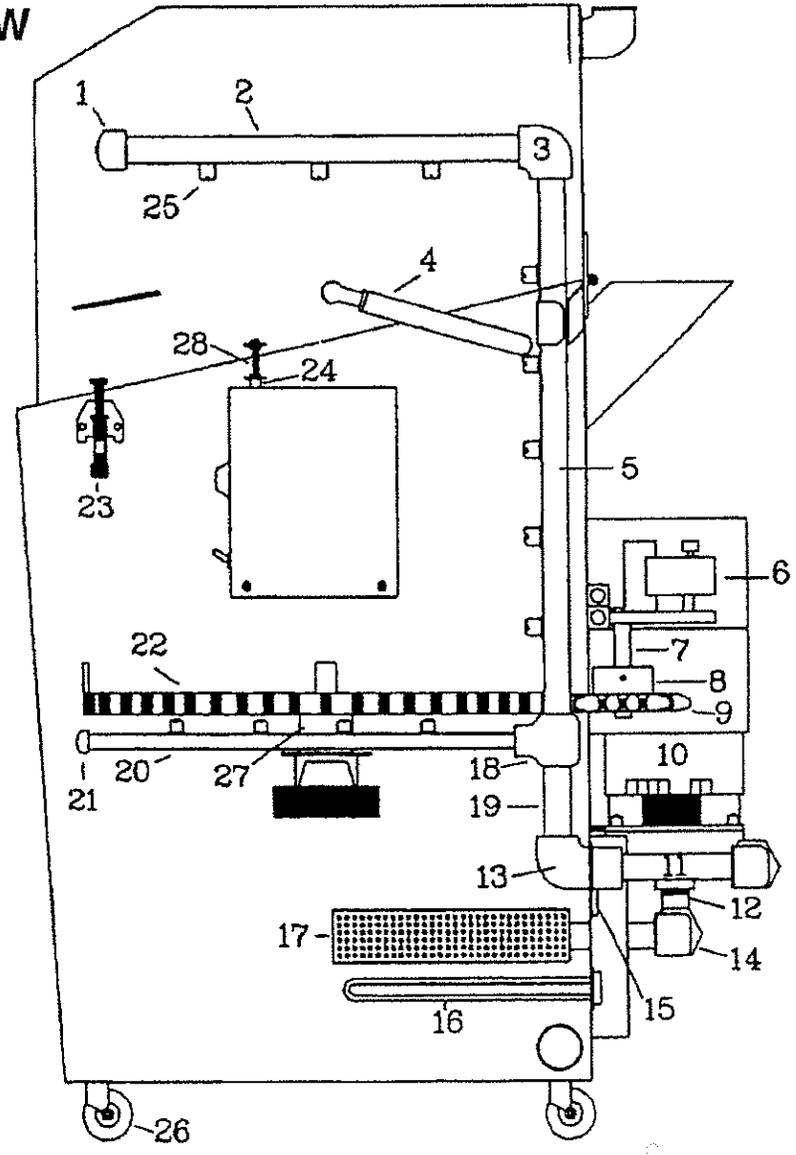
## THE AMERICAN REVOLUTION AND THE EARLY YEARS

The American Revolution was a pivotal moment in the nation's history. It was a struggle for independence from British rule, fought between 1775 and 1783. The revolution was led by George Washington and resulted in the signing of the Declaration of Independence in 1776. The new nation was founded on the principles of liberty, justice, and equality. The early years of the republic were marked by the struggle to establish a stable government. The Constitution was drafted in 1787 and ratified in 1789. The first President, George Washington, served from 1789 to 1797. The early years of the republic were also marked by the expansion of territory and the growth of industry.



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**PW-30, SIDE VIEW**

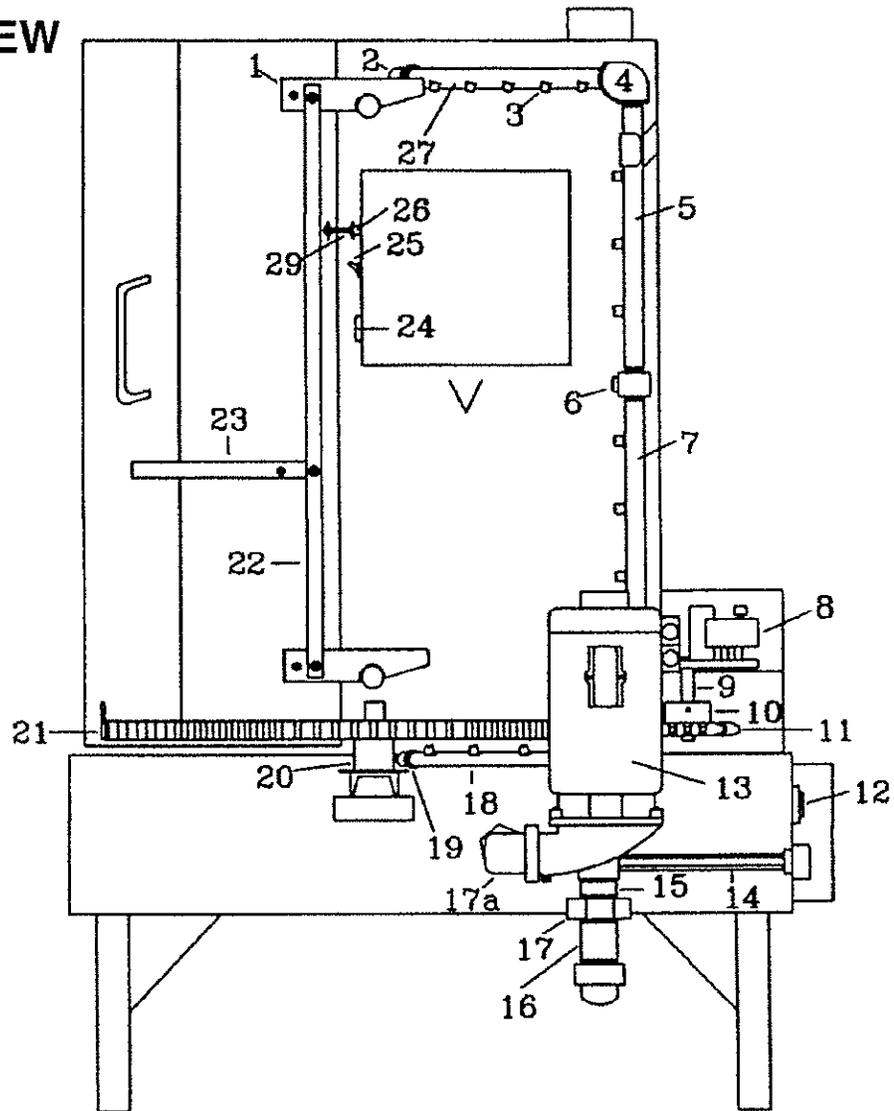


ITEM	PART NO.	DESCRIPTION	QTY
1	20-0100-P-0013	1-1/4" Cap	1
2	20-0100-P-0200	Pipe, 21"1-14" Dia.	1
3	20-0100-P-0010	1-1/4" 90° Elbow	4
4	20-0600-H0001	Door Strut	3
5	20-0100-P-0201	Pipe, 26" x 1-14" Dia.	1
6	20-0100-E-0001	Drive Motor	1
7	20-0100-H-0016	Drive Shaft	1
8	20-1000-F-0037	Donut	1
9	20-0100-H-0017	Cast Sprocket	1
10	20-1000-P-0001	Pump, 1.5 HP	1
11	20-0100-P-0056	1-1/4" Nipple, 5" Long	1
12	20-0100-P-0137	1-1/4" Nipple, 1-1/2" Long	5
13	20-0100-P-0137	90° Street Elbow	1
14	20-0100-P-0009	Union	2

ITEM	PART NO.	DESCRIPTION	QTY
15	20-0100-E-0013	Thermostat	1
16	20-0100-E-0006	4.5 KW Heater	1
17	20-0100-P-0077	Filter	1
18	20-0100-P-0053	1-1/4" x 3/4" Tee	1
19	20-0100-P-0203	1-1/4" Pipe 6" Long	1
20	20-0100-P-0202	Pipe, 22" x 3/4" Dia.	1
21	20-0100-P-0052	3/4" Cap	1
22	20-0600-S-TURN	Turntable	1
23	20-0100-H-0002	Spring Latch	2
24	20-0100-E-0008	Rubber Boot <i>See tech</i>	1
25	20-0600-P-0001	Brass Nozzle <i>40/20</i>	12
26	20-0100-H-0084	Caster	4
27	20-1000-F-0038	Hub Bearing	1
28	20-0100-H-0041	1/4" Elevator Bolt	1



**PW-100, SIDE VIEW**



ITEM	PART NO.	DESCRIPTION	QTY
1	20-1000-F-0200	8" Hook	2
2	20-0100-P-0013	1-1/4" Cap	1
3	20-0100-P-0021	Stainless Steel Nozzle	15
4	20-0100-P-0010	1-1/4" 90° Elbow	4
5	20-1000-P-0019	Pipe, 19" x 1-1/4" Dia.	1
6	20-0100-P-0053	1-1/4" to 3/4" Tee	2
7	20-1000-P-0020	Pipe, 20" x 1-1/4" Dia.	1
8	20-0100-E-0001	Drive Motor	1
9	20-0100-H-0016	Drive Shaft	1
10	20-1000-F-0037	Donut	1
11	20-0100-H-0017	Cast Sprocket 3/4" ID	1
12	20-0100-E-0013	Thermostat	1
13	20-0100-P-0001	Pump, 1.5 HP	1
14	20-0100-E-0065	6KW Heater Element	1
15	20-0100-P-0137	1-1/2" Nipple x 1-1/4" Dia.	2
16	20-0100-P-0094	2-1/2" Nipple x 1-1/4" Dia.	3

\*Not Shown

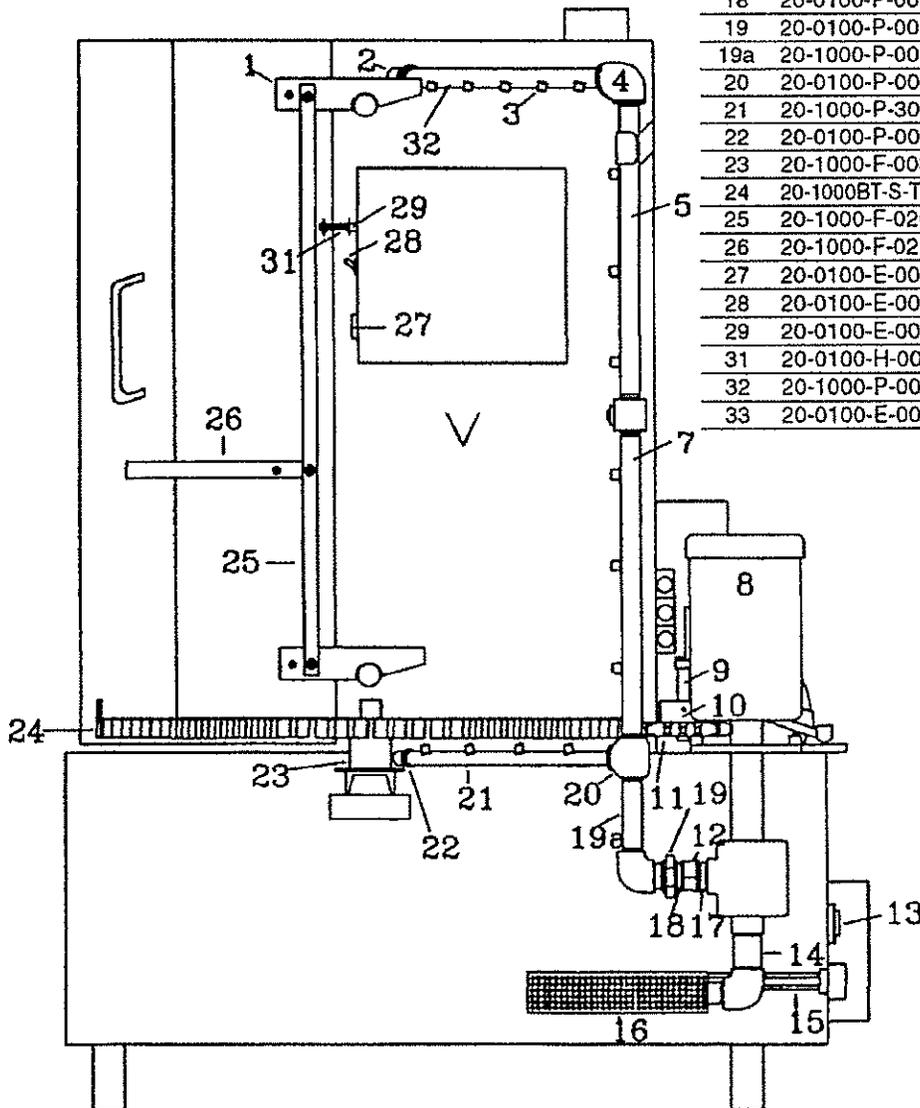
ITEM	PART NO.	DESCRIPTION	QTY
17	20-0100-P-0009	Union, 1-1/4"	3
17a	20-0100-P-0011	Street Elbow, 1-1/4" Dia.	3
18	20-1000-P-3022	Pipe, 22" x 3/4" Dia.	1
19	20-0100-P-0052	3/4" End Cap	1
20	20-1000-F-0038	Hub Bearing	1
21	20-1000-S-TURN	Turntable	1
22	20-1000-F-0205	36-1/2" Door Rod	1
23	20-1000-F-0210	12" Door Handle	1
24	20-0100-E-0007	60 Min. Timer	1
25	20-0100-E-0009	Toggle Switch	1
26	20-0100-E-0008	Rubber Boot	1
27	20-1000-P-0038	Pipe, 28" x 1-1/4" Dia.	1
29	20-0100-H-0041	1/4" Elevator Bolt	1
30	20-0100-P-0077	*Strainer for Pump	1
31	20-0100-P-0032	*6" Nipple x 1-1/4" Dia.	1
32	20-1000-P-0012	*Pipe, 12" x 1-1/4" Dia.	1

\*Not Shown



# LANDA SPRAY JET PARTS WASHER OPERATOR'S MANUAL 7

## PW-200, SIDE VIEW

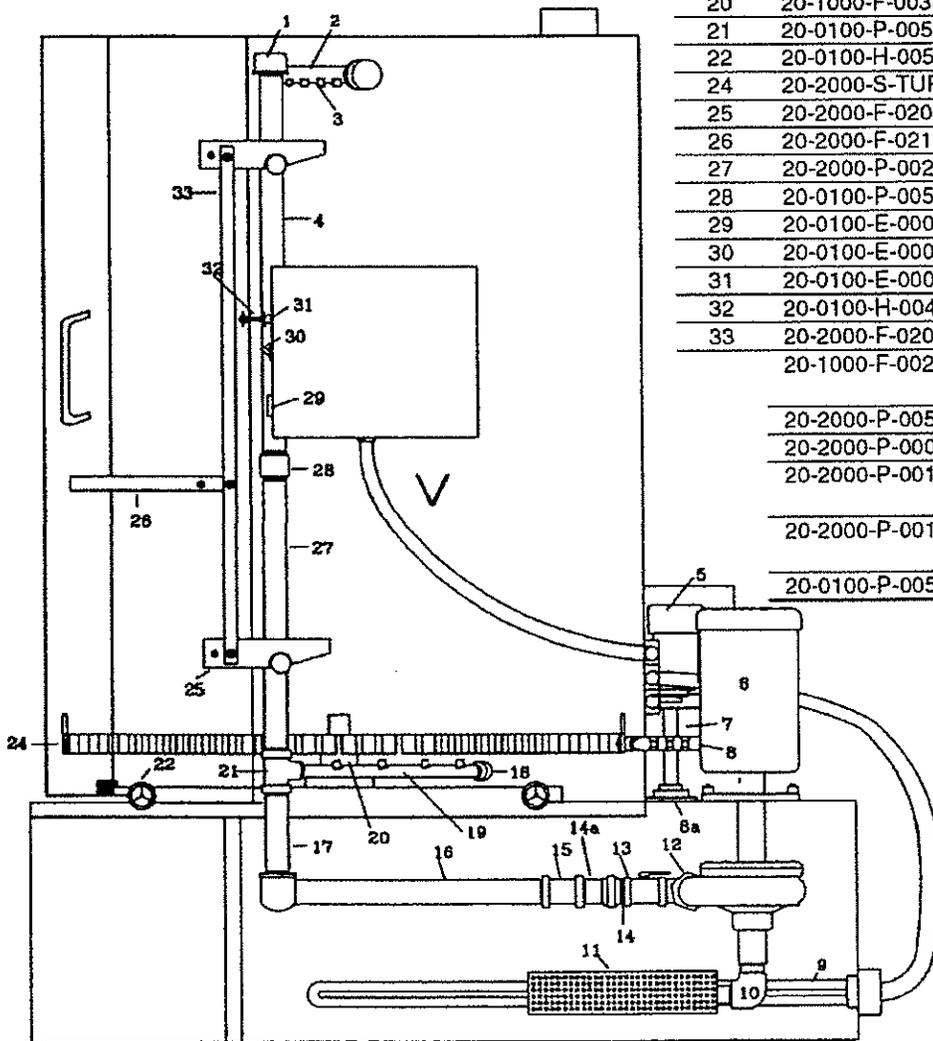


ITEM	PART NO.	DESCRIPTION	QTY
1	20-1000-F-0200	8" Hook	2
2	20-0100-P-0013	1-1/4" Cap	1
3	20-0100-P-0021	Stainless Steel Nozzle	15
4	20-0100-P-0010	1-1/4" 90° Elbow	4
5	20-1000-P-0019	Pipe, 19" x 1-1/4" Dia.	1
7	20-1000-P-0020	Pipe, 20" x 1-1/4" Dia.	1
8	20-0100-P-0002	3 HP Pump, 1 PH, 220V,	1
9	20-0100-H-0016	Drive Shaft	1
10	20-1000-F-0037	Donut	1
11	20-0100-H-0017	Cast Sprocket 3/4" ID	1
12	20-0100-P-0050	1-1/2" to 1-1/4" Bell Reducer	1
13	20-0100-E-0013	Thermostat	1
14	20-0100-P-0094	2-1/2" Nipple x 1-1/4" Dia.	2
15	20-0100-E-0006	4.5 KW Heater	2
16	20-0100-P-0077	Strainer for Filter	1
17	20-0100-P-0049	1-1/2" Nipple x 1-1/2" Dia.	1
18	20-0100-P-0014	1-1/4" Nipple x 1-1/4" Dia.	1
19	20-0100-P-0009	1-1/4" Union	1
19a	20-1000-P-0006	Pipe, 6" x 1-1/4" Dia.	1
20	20-0100-P-0053	1-1/4" to 3/4" Tee	2
21	20-1000-P-3022	Pipe, 22" x 3/4" Dia.	1
22	20-0100-P-0052	3/4" End Cap	1
23	20-1000-F-0038	Hub Bearing	1
24	20-1000BT-S-TURN	Turntable	1
25	20-1000-F-0205	36-1/2" Door Rod	1
26	20-1000-F-0210	12" Door Handle	1
27	20-0100-E-0007	60 Min. Timer	1
28	20-0100-E-0009	Toggle Switch	1
29	20-0100-E-0008	Rubber Boot	1
31	20-0100-H-0041	1/4" Elevator Bolt	1
32	20-1000-P-0028	Pipe, 28" x 1-1/4" Dia.	1
33	20-0100-E-0001	*Drive Motor	1

\*Not Shown



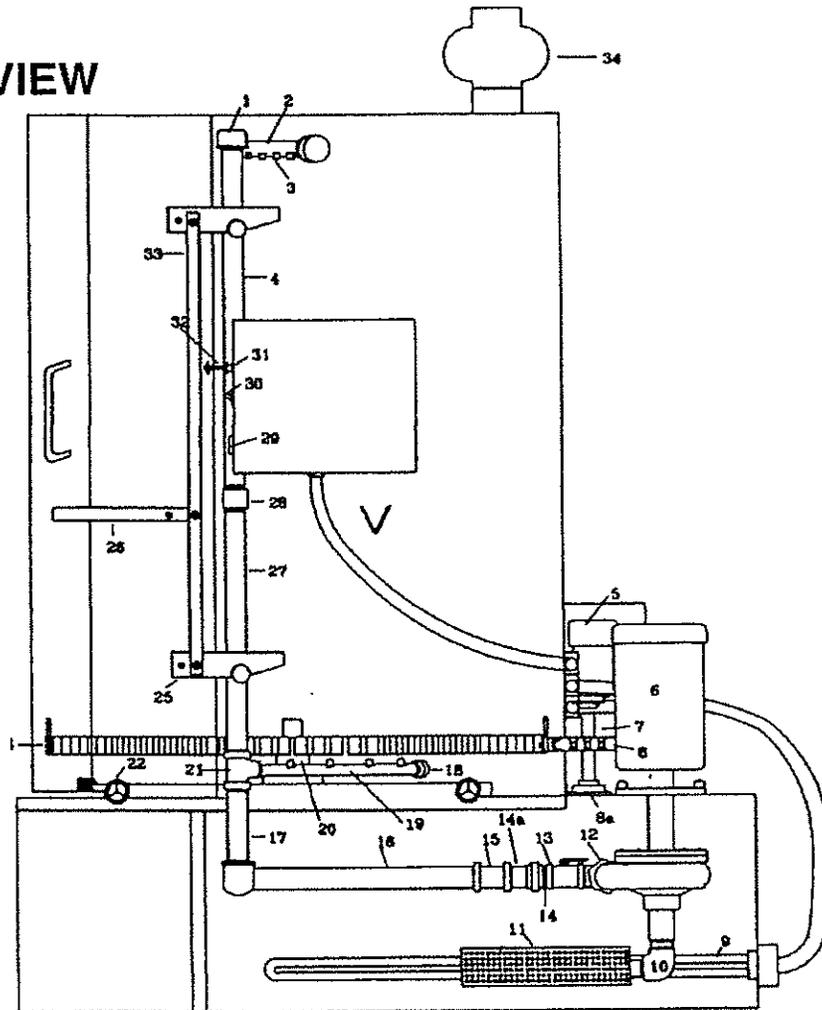
**PW-300, SIDE VIEW**



ITEM	PART NO.	DESCRIPTION	QTY
1	20-0100-P-0013	Cap, 1-1/4"	2
2	20-1000-P-0028	Pipe, 28" x 1-1/4" Dia.	1
3	20-0100-P-0021	Stainless Steel Nozzle	19
4	20-2000-P-0024	Pipe, 24" x 1-1/4" Dia.	1
5	20-2000-E-0003	Drive Motor	1
6	20-2000-P-0003	Pump, 5 HP, 3 PH, 220V	1
7	20-2000-H-0002	Drive Shaft, 11"	1
8	20-0100-H-0017	Cast Sprocket, 3/4" ID. 12T	1
8a	20-0100-H-0027	2 Bolt Flange Drive Bearing	2
(2000Z - 460V) → 9	20-2000-E-0001	Heater Element, 220 V, 12 KW1	1
10	20-0100-P-0010	1-1/4" 90° Elbow	4
11	20-0100-P-0077	Strainer for Pump	1
12	20-0100-P-0009	Union, 1-1/4"	4
13	20-0500-P-0003	1-1/4" Ball Valve	1
14	20-0100-P-0137	Nipple, 1.5" x 1-1/4" Dia.	7
14a	20-0100-P-0094	Nipple, 2-1/2" x 1-1/4" Dia.	2
15	20-0100-P-0012	1-1/4" Tee	3
16	20-2000-P-0012	Pipe, 12" x 1-1/4" Dia.	1
17	20-2000-P-0010	Pipe, 1-1/2" x 1-1/4" Dia.	1
18	20-0100-P-0052	3/4" Cap	1
19	20-1000-P-3022	Pipe, 22" x 3/4" Dia.	1
20	20-1000-F-0038	Hub Bearing	1
21	20-0100-P-0053	1-1/4" to 3/4" Tee	2
22	20-0100-H-0059	3" V-Groove Casters	4
24	20-2000-S-TURN	Turntable	1
25	20-2000-F-0200	9-1/2" Door Hook	2
26	20-2000-F-0210	14" Door Handle	1
27	20-2000-P-0023	Pipe, 22-1/2" x 1-1/4" Dia.	1
28	20-0100-P-0053	1-1/4" x 3/4" Pipe Tee	1
29	20-0100-E-0007	60 Min. Timer	1
30	20-0100-E-0009	Toggle Switch	1
31	20-0100-E-0008	Rubber Boot	1
32	20-0100-H-0041	Elevator Bolt	1
33	20-2000-F-0205	Door Rod, 46-1/2"	1
	20-1000-F-0020	*Pipe to Filter System, 20" x 1-1/4" Dia.	2
	20-2000-P-0059	*Pipe, 59" x 1-1/4" Dia.	1
	20-2000-P-0003	*Pipe, 3" x 1-1/4" Dia.	1
	20-2000-P-0016	*Pipe to Spray Bar, FS, 15-1/2" x 1-1/4" Dia.	1
	20-2000-P-0015	*Pipe to Spray Bar, PS, 14-1/2" x 1-1/4" Dia.	1
	20-0100-P-0050	*1-1/2" to 1-1/4" Bell Reducer 1	1
		*Not Shown	



## PW-400, SIDE VIEW



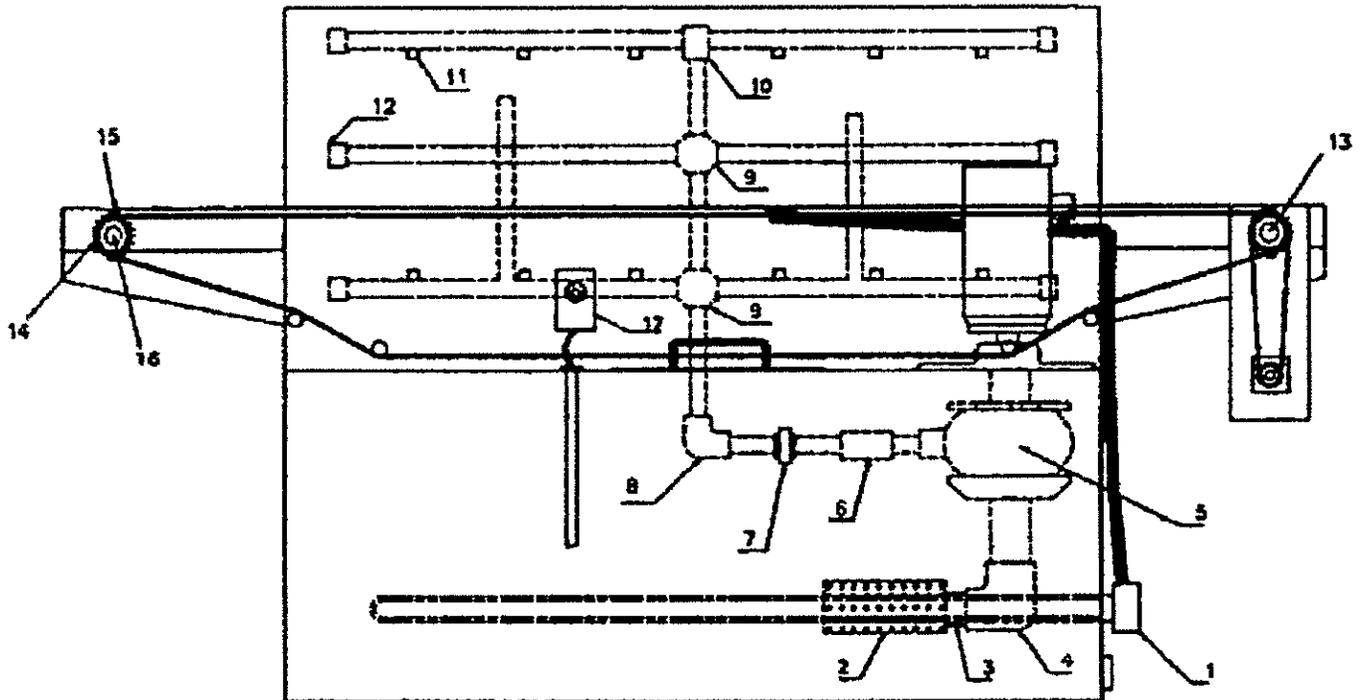
ITEM	PART NO.	DESCRIPTION	QTY
1	20-0100-P-0013	Cap, 1-1/4"	2
2	20-1000-P-0038	Pipe, 38" x 1-1/4" Dia.	1
3	20-0100-P-0021	Stainless Steel Nozzle	28
4	20-3000-P-0030	Pipe, 29-1/2" X 1-1/4" Dia.	1
5	20-2000-E-0003	Drive Motor	1
6	20-2000-P-00031	Pump, 7.5 HP, 3 PH, 220 V	1
7	20-2000-H-0002	Drive Shaft, 11"	1
8	20-0100-H-0017	Cast Sprocket, 3/4" ID, 12T	1
8a	20-0100-H-0027	2 Bolt Flange Drive Bearing	2
9	20-3000-E-0001	Heater Element, 220 V, 18 KW	1
10	20-0100-P-0010	1-1/4" 90° Elbow	4
11	20-0100-P-0077	Strainer for Pump	1
12	20-0100-P-0009	Union, 1-1/4"	4
13	20-0500-P-0003	1-1/4" Ball Valve	1
14	20-0100-P-0137	Nipple, 1-1/2" x 1-1/4" Dia.	7
14a	20-0100-P-0094	Nipple, 2-1/2" x 1-1/4" Dia.	2
15	20-0100-P-0012	1-1/4" Tee	3
16	20-3000-P-0017	Pipe, 17" x 1-1/4" Dia.	1
17	20-3000-P-0011	Pipe, 10-1/2" x 1-1/4" Dia.	1
18	20-0100-P-0053	3/4" Cap	1
19	20-3000-P-0024	Pipe, 23" x 3/4" Dia.	1

ITEM	PART NO.	DESCRIPTION	QTY
20	20-1000-F-0038	Hub Bearing	1
21	20-0100-P-0053	1-1/4" to 3/4" Tee	2
22	20-0100-H-0059	3" V-Groove Casters	4
24	20-3000-S-TURN	Turntable	1
25	20-2000-F-0200	9-1/2" Door Hook	2
26	20-2000-F-0210	14" Door Handle	1
27	20-1000-P-0028	Pipe, 28" x 1-1/4" Dia.	1
28	20-0100-P-0053	1-1/4" x 3/4" Pipe Tee	1
29	20-0100-E-0007	60 Min. Timer	1
30	20-0100-E-0009	Toggle Switch	1
31	20-0100-E-0008	Rubber Boot	1
32	20-0100-H-0041	Elevator Bolt	1
33	20-3000-F-0205	Door Rod	1
34	20-0500-F-0205	Blower	1
	20-3000-P-0023	*Pipe to Filter System 23" x 1-1/4" Dia.	2
	20-2000-P-0059	*Pipe, 59" x 1-1/4" Dia.	1
	20-2000-P-0003	*Pipe, 3" x 1-1/4" Dia.	1
	20-3000-P-0018	*Pipe to Spray Bar 17-3/4" x 1-1/4" Dia.	2
	20-0100-P-0050	*1-1/2" to 1-1/4" Bell Reducer	1

\*Not Shown



**PWC-200, SIDE VIEW**



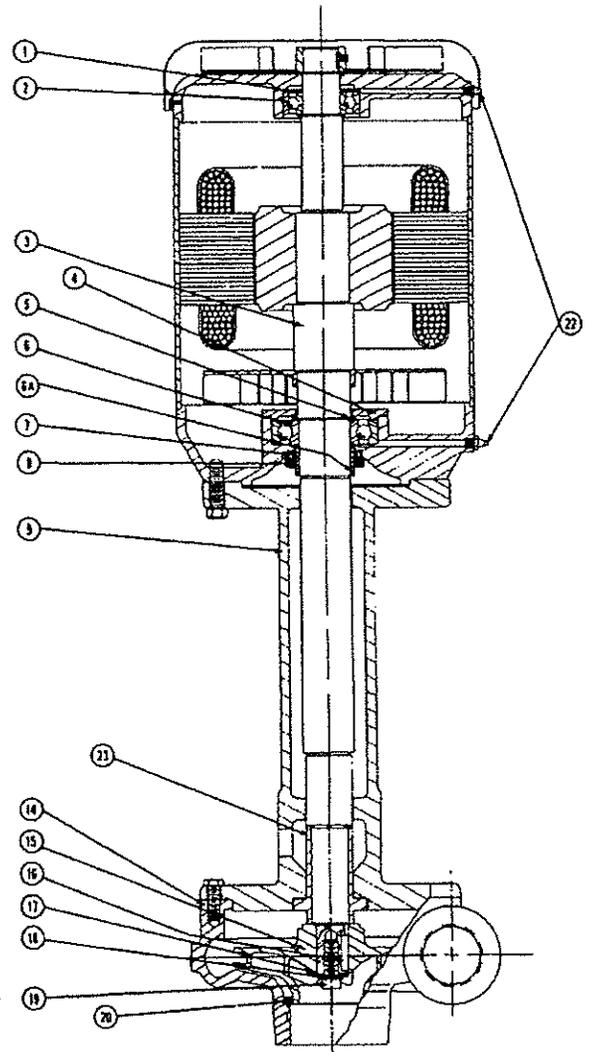
ITEM	PART NO.	DESCRIPTION	QTY
1	20-3000-E-0001	240V 18KW 2 Screw Plug, 3 PH	1
2	20-0100-P-0077	Strainer for PUmp	1
3	20-0100-P-0137	1-1/2" Nipple	1
4	20-0100-P-0010	1-1/2" 90° Elbow	1
5	20-2000-P-0001	5 HP Pump	1
6	20-0500-P-0003	1-1/4" Ball Valve	1
7	20-0100-P-0009	1-1/4" Union	1
8	20-0100-P-0118	1-1/4" x 1" Reducing Elbow	1
9	20-0100-P-0093	1" Cross	4
10	20-0100-P-0118	1" 90° Elbow	2
11	20-0100-P-0021	Stainless Steel Spray Nozzle	36
12	20-0100-P-0095	1" Cap	12
13	20-2000-H-0002	Drive Shaft	1
14	20-0100-H-0105	Sprocket	4
15	20-0100-H-0027	Bearing	4
16	20-0800-F-0003	Drag Shaft	1
17	20-0100-E-0007	60 Min. Timer	1

20-0800-H-0007 Conveyor Belt 1



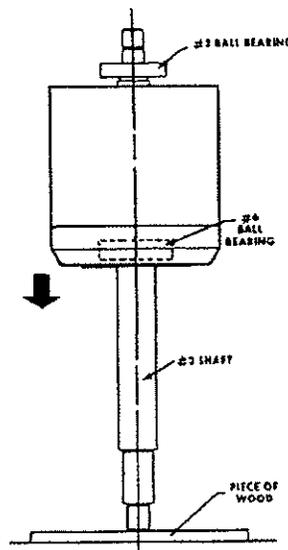
## PUMP PW-200, 300, 400 & PWC-200

ITEM	PART NO.	DESCRIPTION
1		Load Spring
2		Ball Bearing
3		Shaft
4		Ball Bearing Retainer
5	20-71143	Drive Key (All models)
6		Ball Bearing
6A		Press Collar
7	20-83005	Oil Seal (All models)
8		Rubber Slinger
9	20-17026-CI	Stem (PW-200)
	20-17030-CI	Stem (PW-300, 400, PWC-200)
14	20-27026-CI-19	Impeller Housing (PW-200)
	20-27030-CI-19	Impeller Housing (PW-300, 400, PWC-200)
15	20-25026-CI-E	Impeller (PW-200)
	20-25030-CI-5	Impeller (PW-300, 400, PWC-200)
16		Square Key or Woodruff Key
17	20-68006	Impeller Washer (All models)
18		Lock Washer
19	20-68013	Retainer Screw (All models)
20		Wear Ring
22		Grease Fitting
23	20-62012-CI	Throttle Sleeve (PW-200)
	20-63012-CRS	Throttle Sleeve (PW-300, 400, PWC-200)
24		Adapter
25		Locknut & Washer
26		Ball Bearing Housing
27		Motor Base Bracket ('CM' Models)
28		Ball Bearing Retainer ('CM' Models)
30		Discharge Flange
	B35L7465291	Motor (PW-200)
	B36EZ161864	Motor (PW-300, PWC-200)
	B36EZ16W385	Motor (PW-400)



### General Repair:

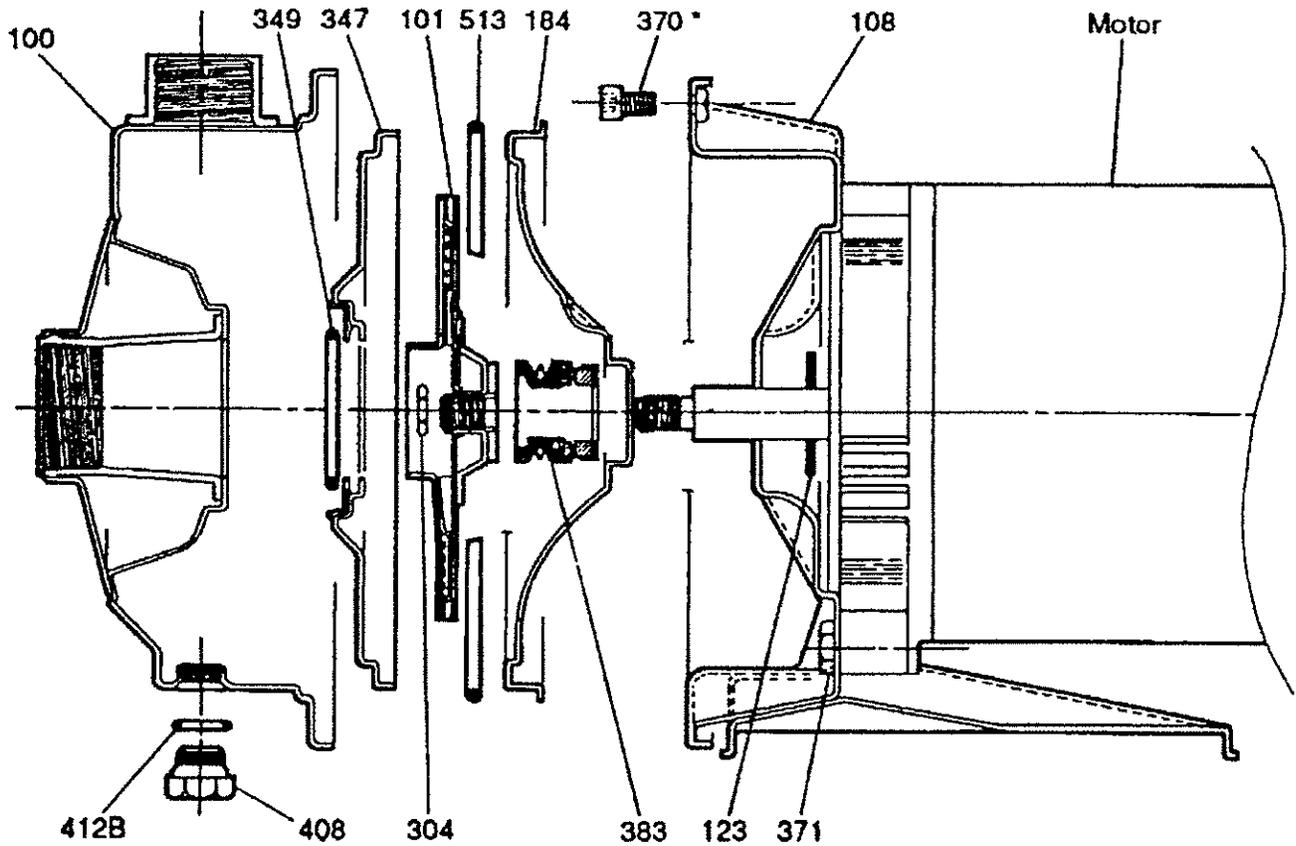
**DISASSEMBLY...** Shut off main power switch and disconnect the motor wiring. Close the inlet and outlet valves, disconnect the piping at the unions and remove from service. Remove the screws securing the impeller housing (14) to the stem (9), remove the impeller housing. Take off the retaining screw (19) and slide the impeller (15) and throttle sleeve (23) off the shaft (3). Take off the stem (9) by removing four screws securing it to motor and bell and slide it off the shaft. Check for wear, replace worn parts where necessary and reassemble by reversing the procedure.



**BALL BEARING REPLACEMENT...** Follow the above steps to stem removal. Remove screws in fan cover & remove cover, loosen set screw in fan and remove fan, remove four screws securing upper end bell to stator and remove end bell, remove screws in bearing retainer (4), lay a block of wood or some other soft material on the floor and tap the shaft (3) and ball bearing (6) out of the stator and lower end bell using the weight of the stator as you drop the shaft on the block of wood lightly (see drawing at left). Tap the old bearings off the shaft and install new ones.



**1-1/2 HP PUMP  
PW-30, 100**

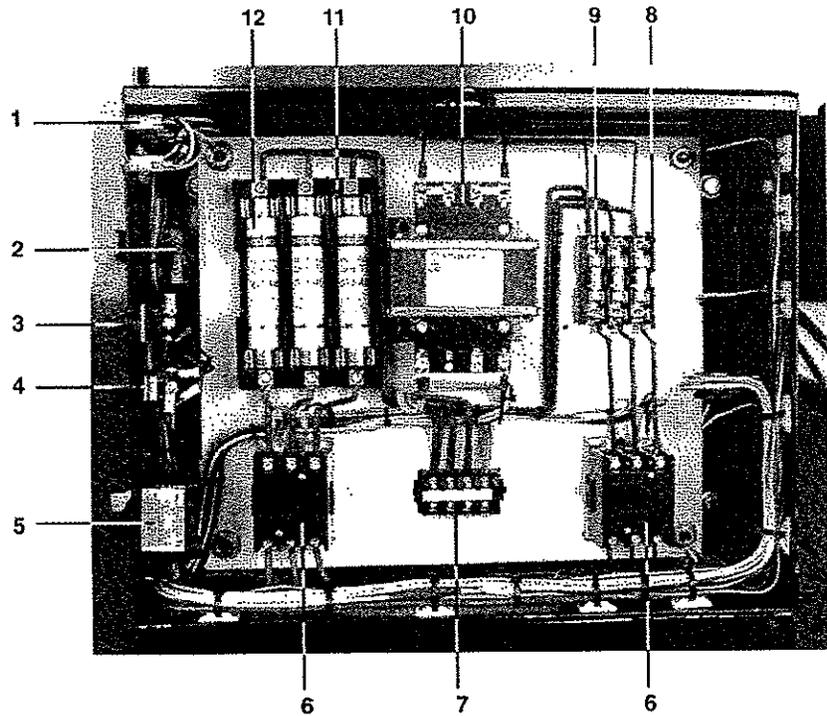


ITEM	DESCRIPTION
100	Casing
101	1-1/2 HP Model
304	Impeller Locknut
108	Motor Adapter
123	Deflector
184	Seal Housing
347	Guidevane
349	O-Ring, Guidevane
370	Cap Screws, Casing
371	Bolts, Motor
383	Mechanical Seal
408	Fill & Drain Plug
412B	O-Ring, Drain Plugs
513	O-Ring, Casing
Motor	1-1/2 HP Model

20 - 1000 - P. 0505



**ELECTRICAL BOX,  
PARTS WASHER**



ATM 30-35 <sup>LET</sup> 31.17

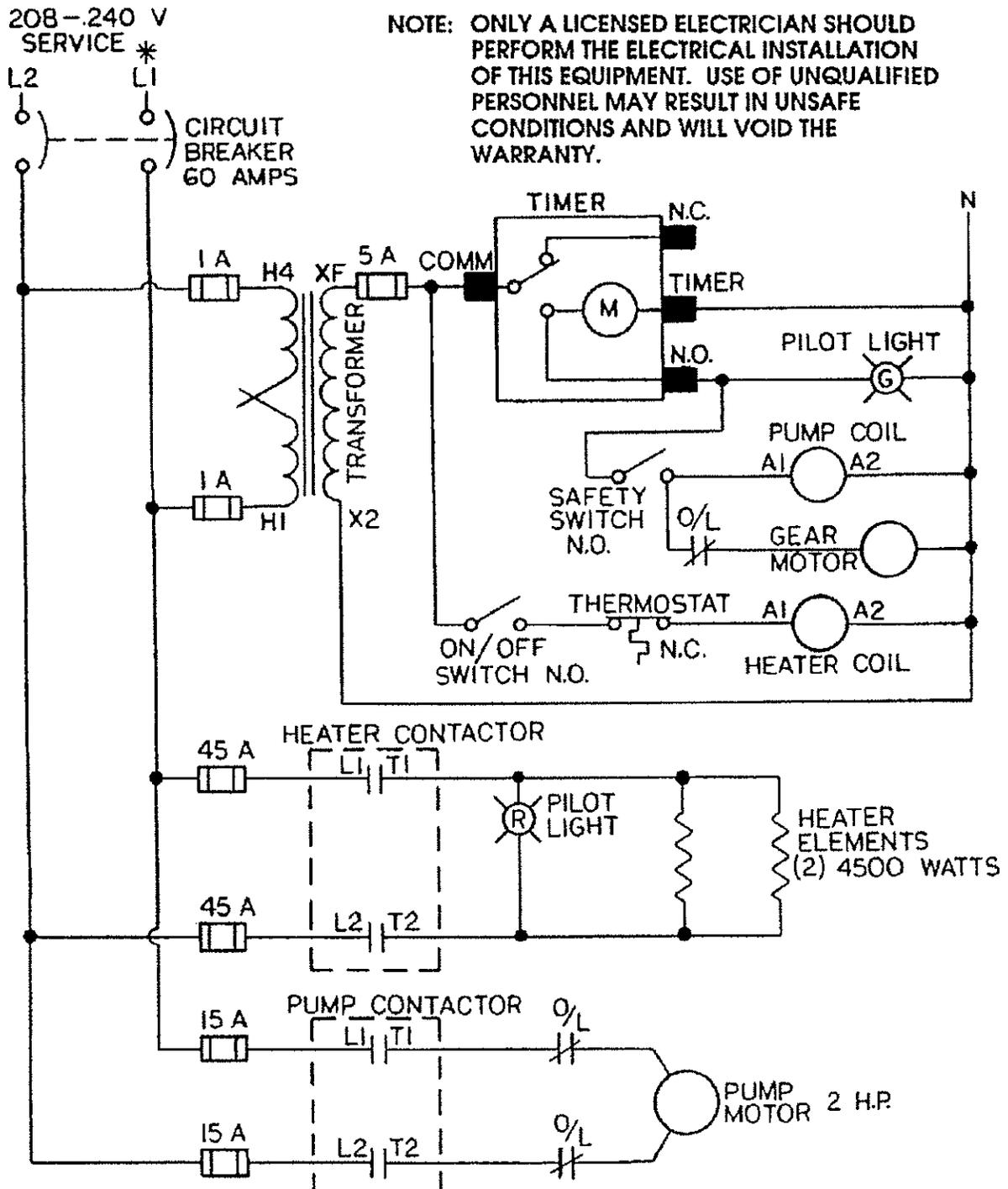
ITEM	PART NO.	DESCRIPTION	QTY
1	20-0100-E-0014	Light, Indicator, 125V, Pump, Red	1
	20-0100-E-0016	Light, Indicator, 125V, Table, Green	1
	20-0100-E-0015	Light, Indicator, 125V, Heater, Amber	1
	20-0100-E-0030	Light, Indicator, 125V, Skimmer & Fan, White	2
2	20-0100-E-0145	Door Safety Limit Switch	1
	20-0100-E-0146	Door Limit Switch Activator	1
3	20-0100-E-0009	1 Pole Single Throw	1
4	20-3000-E-0010	2 Pole, Double Throw (PW-400 only)	1
5	20-0113	Timer, Wash Cycle, Solid State	1
6	20-0100-E-0001	Contactor, 2 Pole for 1 pH (PW-30)	2
	20-0100-E-0004	Contactor, 2 Pole for 1 pH (PW-100)	2
	20-0100-E-0069	Contactor, 3 Pole for 3 pH (PW-200, 300, 400 PWC-200)	2
7	20-0100-E-0066	Terminal Block, Lug Block	1
	20-0100-E-0067	Lug Block End	2
8	20-0100-E-0073	Midget Fuse Blocks (PW-30B, PW-100B, C, PW-200, PW-300, PW-400, PWC-200)	6
	20-0100-E-0082	Midget Fuse Blocks (PW-100A)	4
<b>PUMP FUSES</b>			
9	20-0100-E-0137	Fuse, TRM 8, 220V (PW-30B, PW-100B)	
	20-0100-E-0139	Fuse, ATQ 4.5, 440V (PW-30C, PW-100C)	
	20-0100-E-0083	Fuse, TRM 15, 220V (PW-100A, PW-200B)	
	20-0100-E-0075	Fuse, TRM 25, 220V (PW-200A, PW-300B, PWC-200B)	

ITEM	PART NO.	DESCRIPTION	QTY
9	20-0100-E-0141	Fuse, ATQ 8, 440V (PW-200C)	
	20-0100-E-0076	Fuse, ATQ 12, 440 V (PW-300C, PWC-200C)	
	20-0100-E-0077	Fuse, TRM 30, 220 V (PW-400B)	
	20-0100-E-0136	Fuse, ATQ 15, 440 V (PW-400C)	
10	20-0100-E-0005	Transformer, .150 KVA 220 V (PW-30A)	1
	20-0100-E-0085	Transformer, .250KVA (PW-30 B, C, PW-100B, C, PW-200B, C, PW-300B, C, PW-400 B, C, PWC-200B, C)	1
	20-0100-E-0006	Transformer, .500 KVA (PW-100A)	1
11	20-0100-E-0074	Class H Fuse Holder (PW-400B, C, PWC-200B, C)	1
<b>HEATER FUSES</b>			
12	20-0100-E-0138	Fuse, TRM 12, 220V (PW-30B)	
	20-0100-E-0140	Fuse, TRM 7, 440V (PW-30C, PW-100C)	
	20-0100-E-0077	Fuse, TRM 30, 220V (PW-100A, PW-300B)	
	20-0100-E-0083	Fuse, TRM 15, 220V (PW-100B)	
	20-0100-E-0135	Fuse, TRM 20, 220 V (PW-200A)	
	20-0100-E-0075	Fuse, TRM 25, 220V (PW-200B)	
	20-0100-E-0136	Fuse, ATQ 15, 440 V (PW-200C, PW-300C)	
	20-0100-E-0079	Fuse, OTS 45, 220V (PW-400B)	
	20-0100-E-0080	Fuse, OTS 25, 440V (PW-400C, PWC-200B, C)	

Note: A = 220V, 1 Phase; B = 230V, 3 Phase; C = 440V, 3 Phase



**WIRING DIAGRAM  
7-Day Timer**

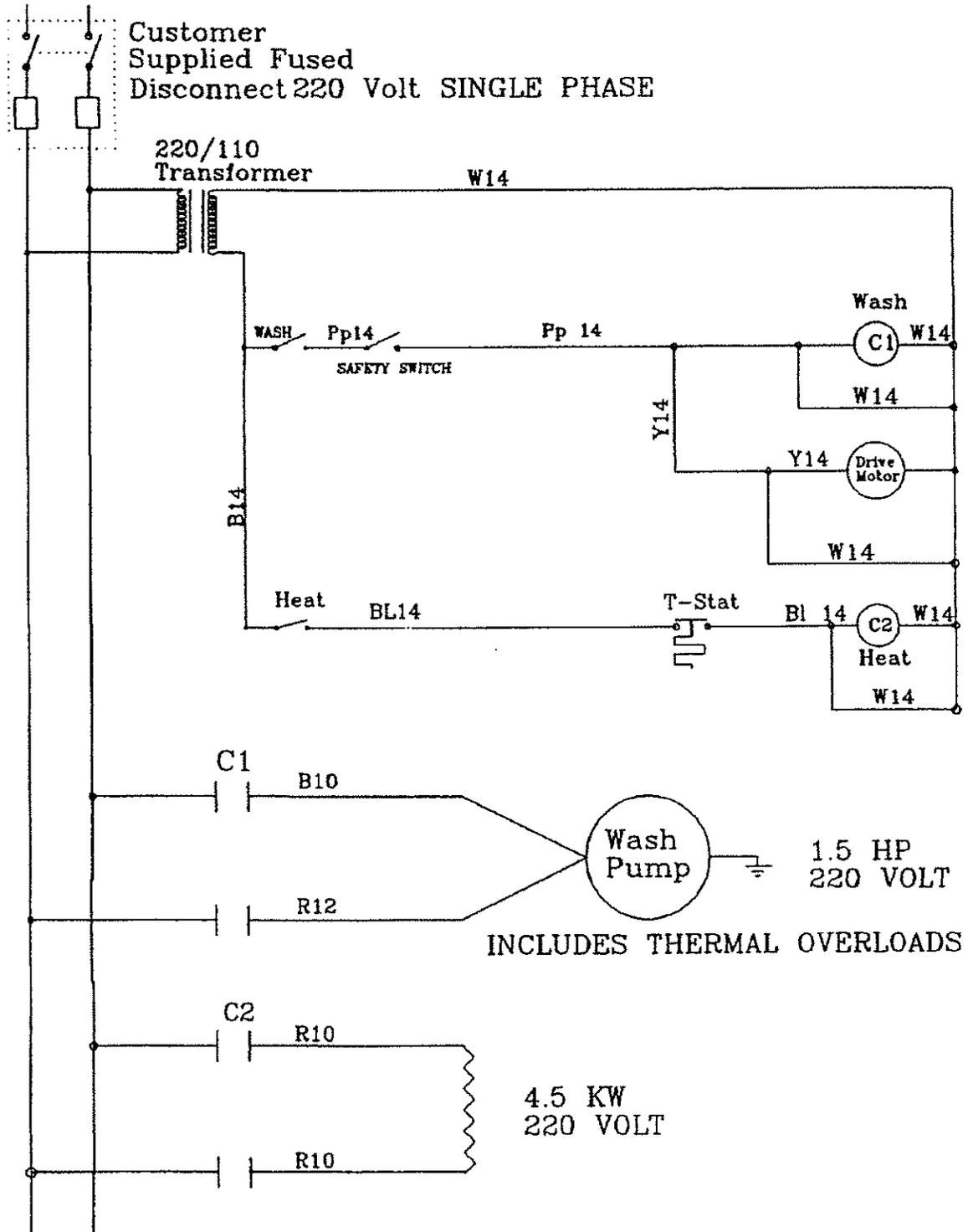


NOTE: ONLY A LICENSED ELECTRICIAN SHOULD PERFORM THE ELECTRICAL INSTALLATION OF THIS EQUIPMENT. USE OF UNQUALIFIED PERSONNEL MAY RESULT IN UNSAFE CONDITIONS AND WILL VOID THE WARRANTY.

\* L1 MUST BE 110 VAC TO GROUND



**WIRING DIAGRAM  
PW-30A**

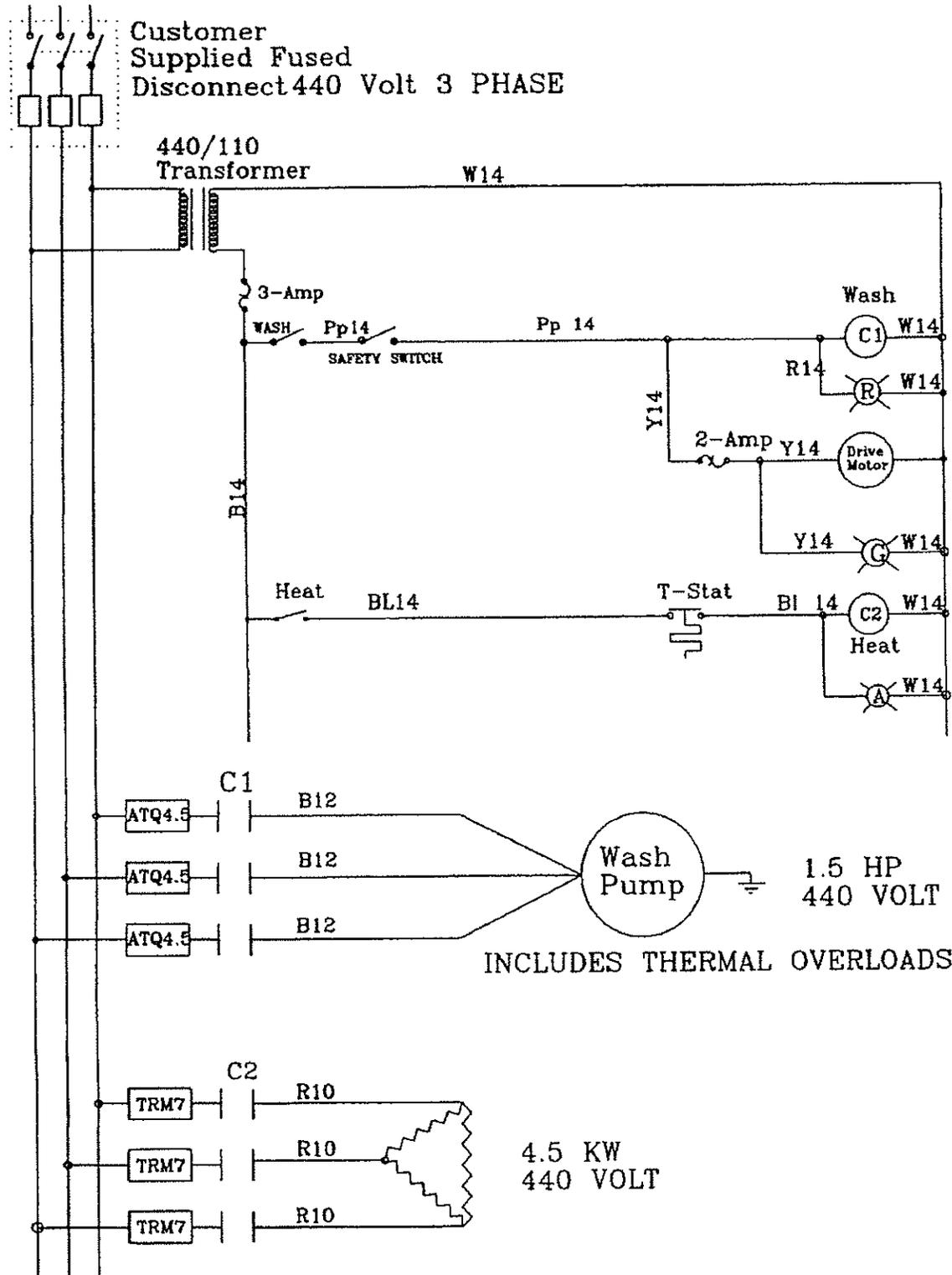






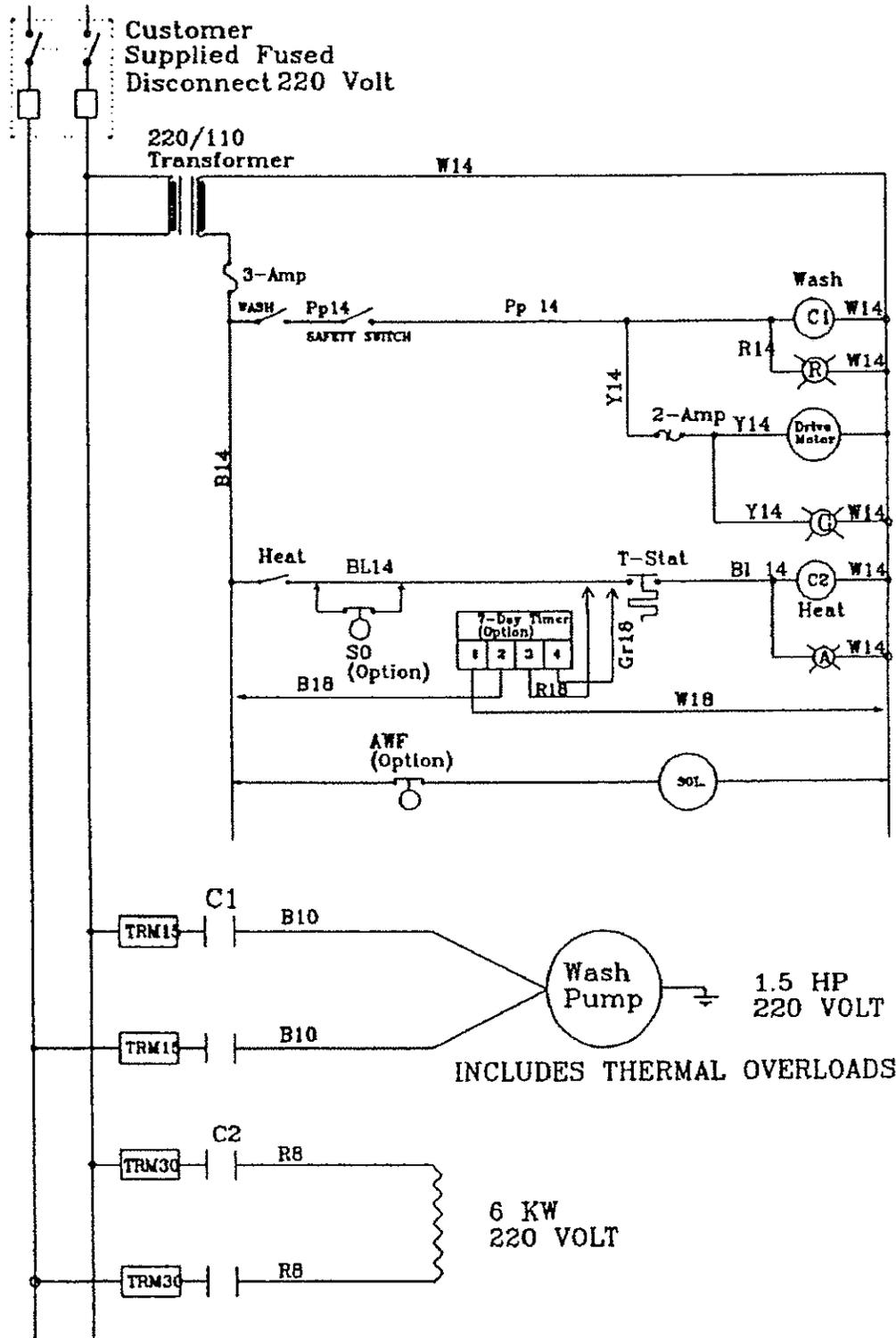


**WIRING DIAGRAM  
PW-30C**



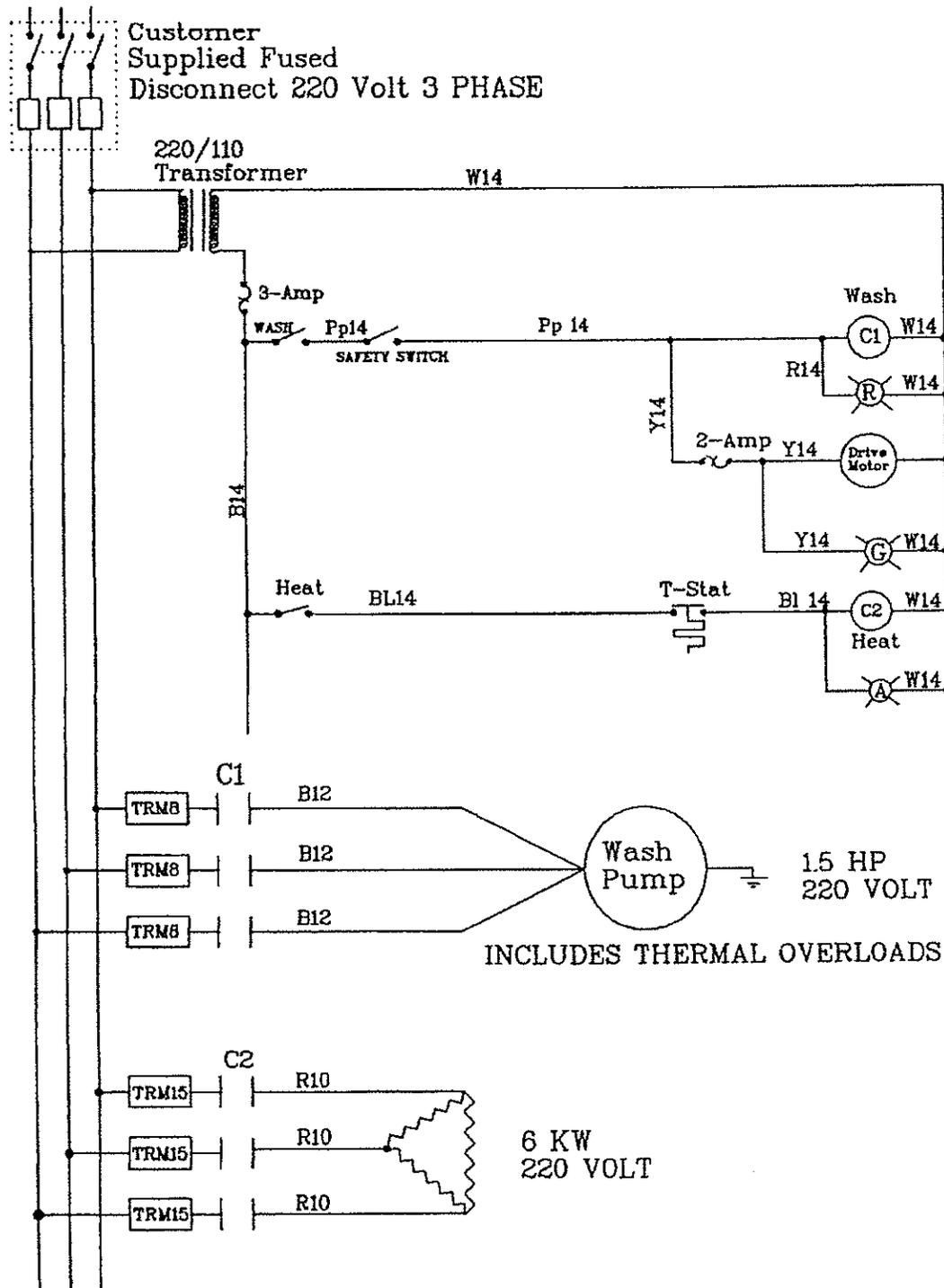


**WIRING DIAGRAM  
PW-100A**



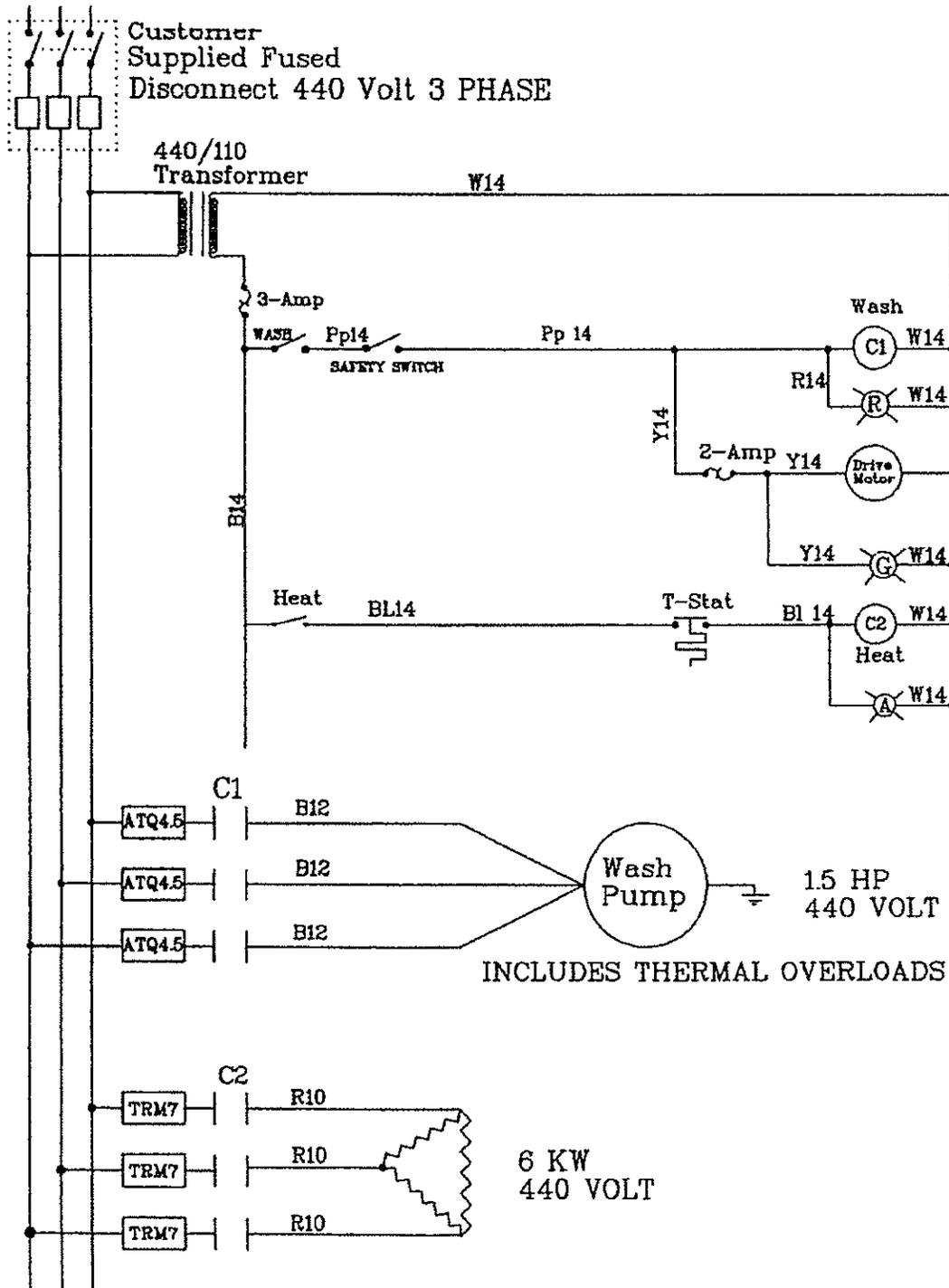


**WIRING DIAGRAM  
PW-100B**



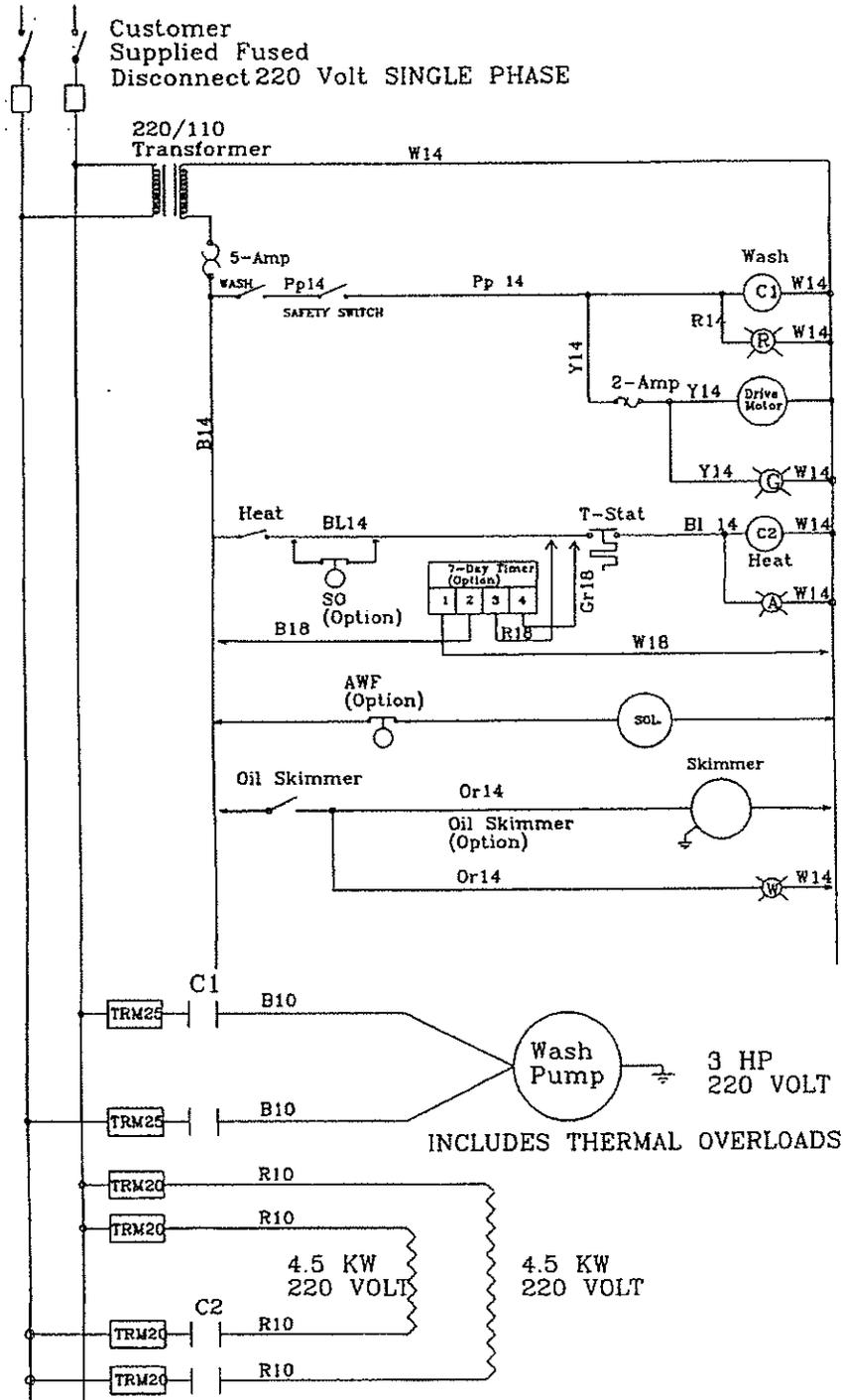


**WIRING DIAGRAM  
PW-100C**



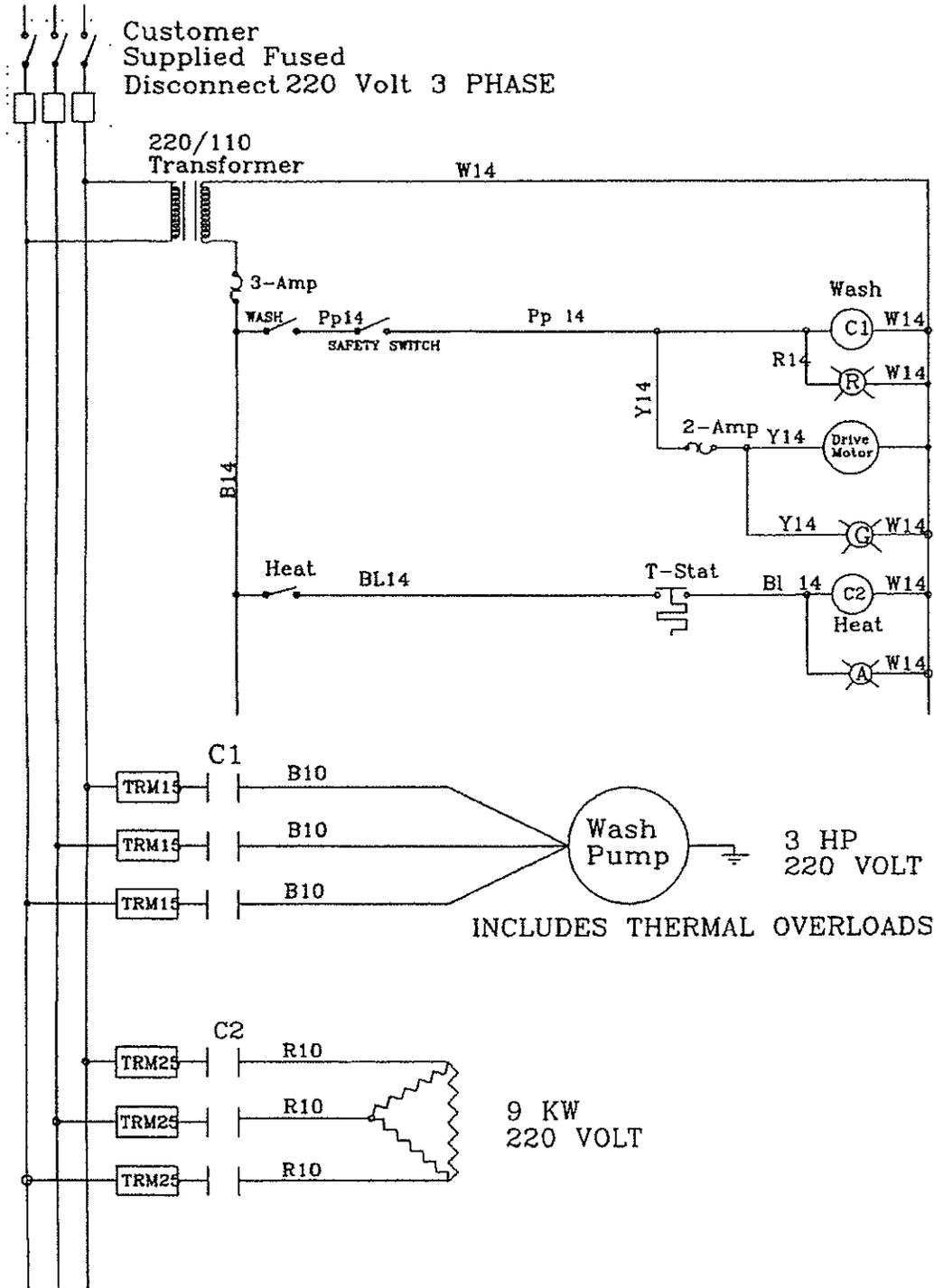


**WIRING DIAGRAM  
PW-200A**



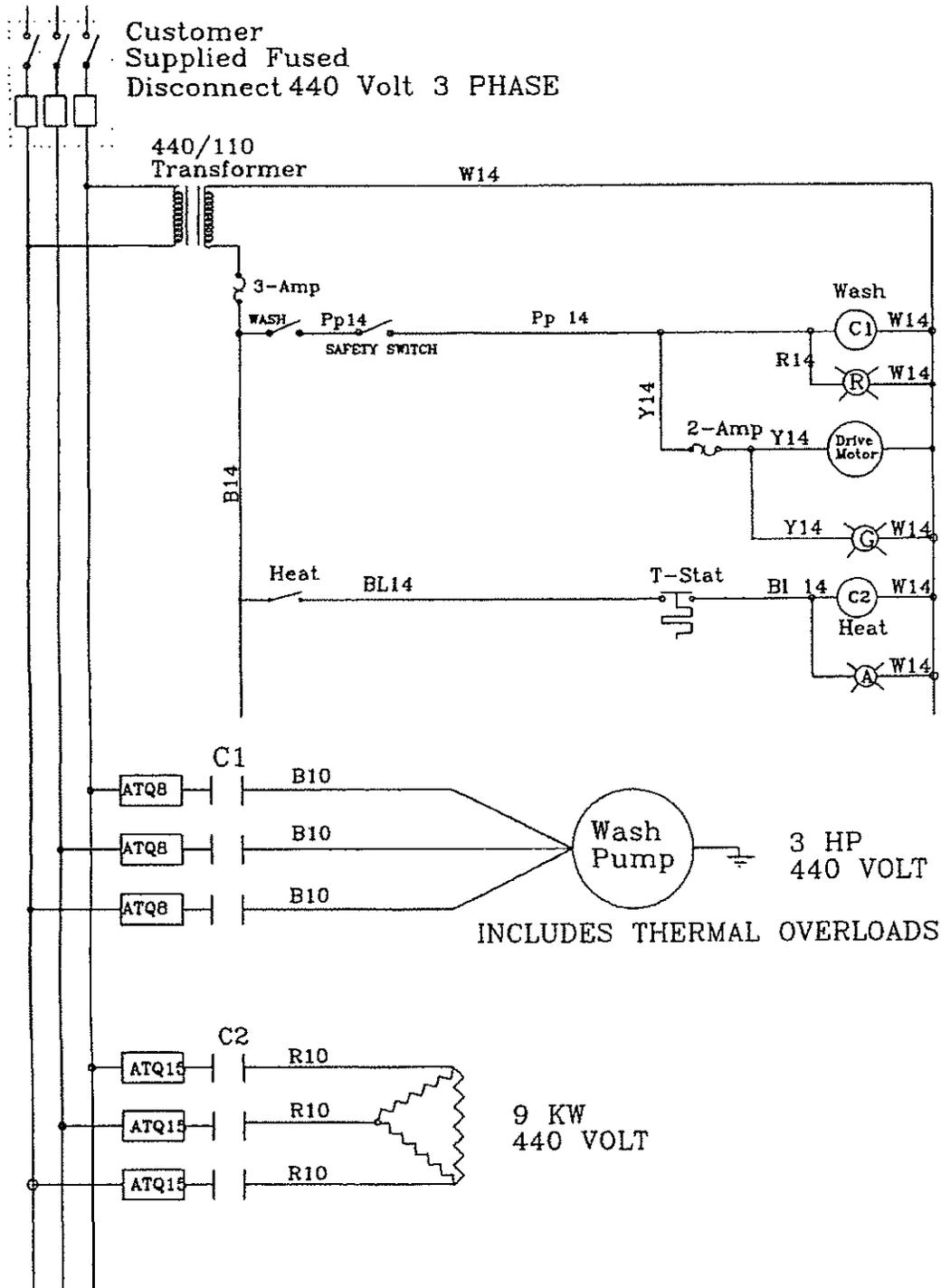


**WIRING DIAGRAM  
PW-200B**



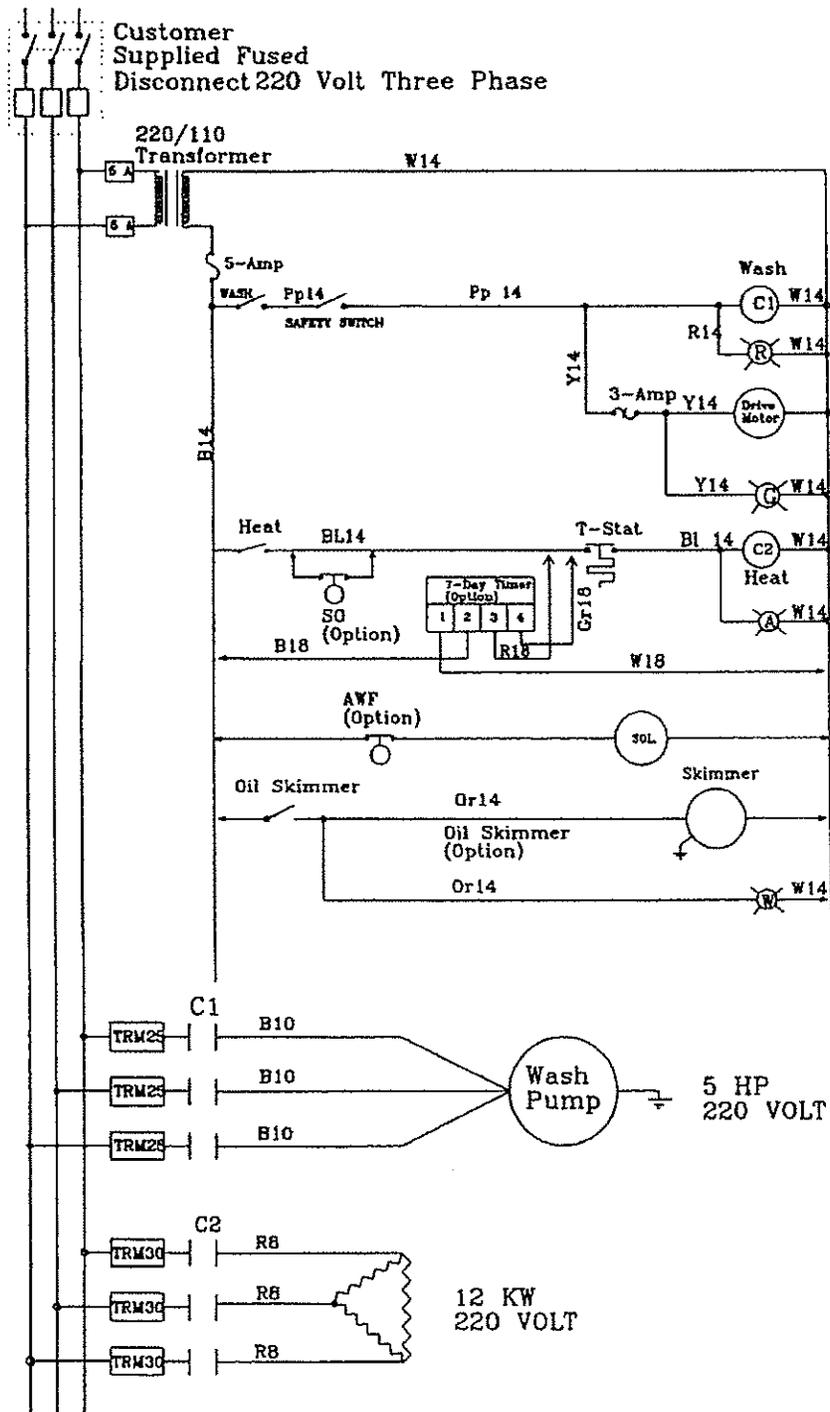


**WIRING DIAGRAM  
PW-200C**





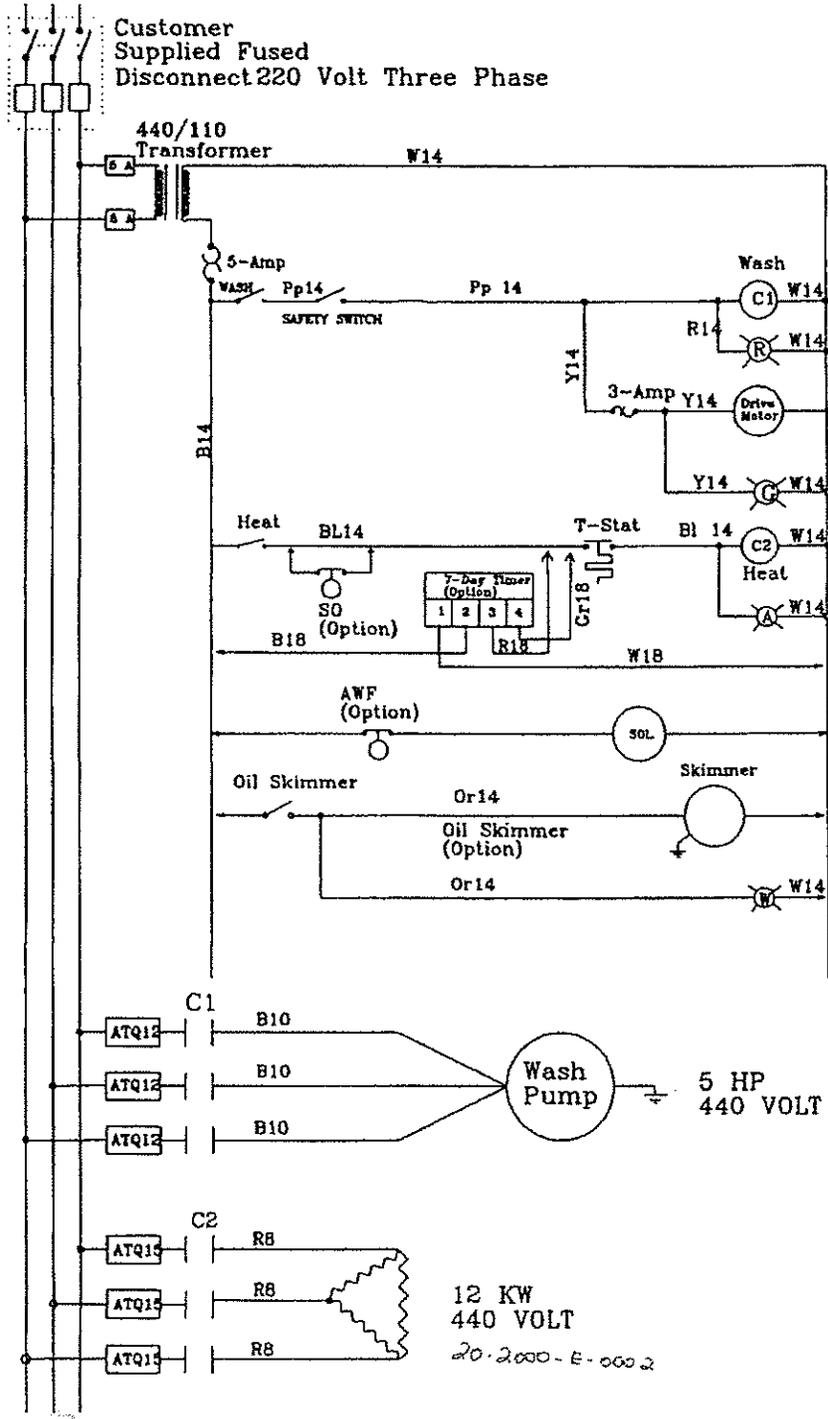
**WIRING DIAGRAM  
PW-300B**





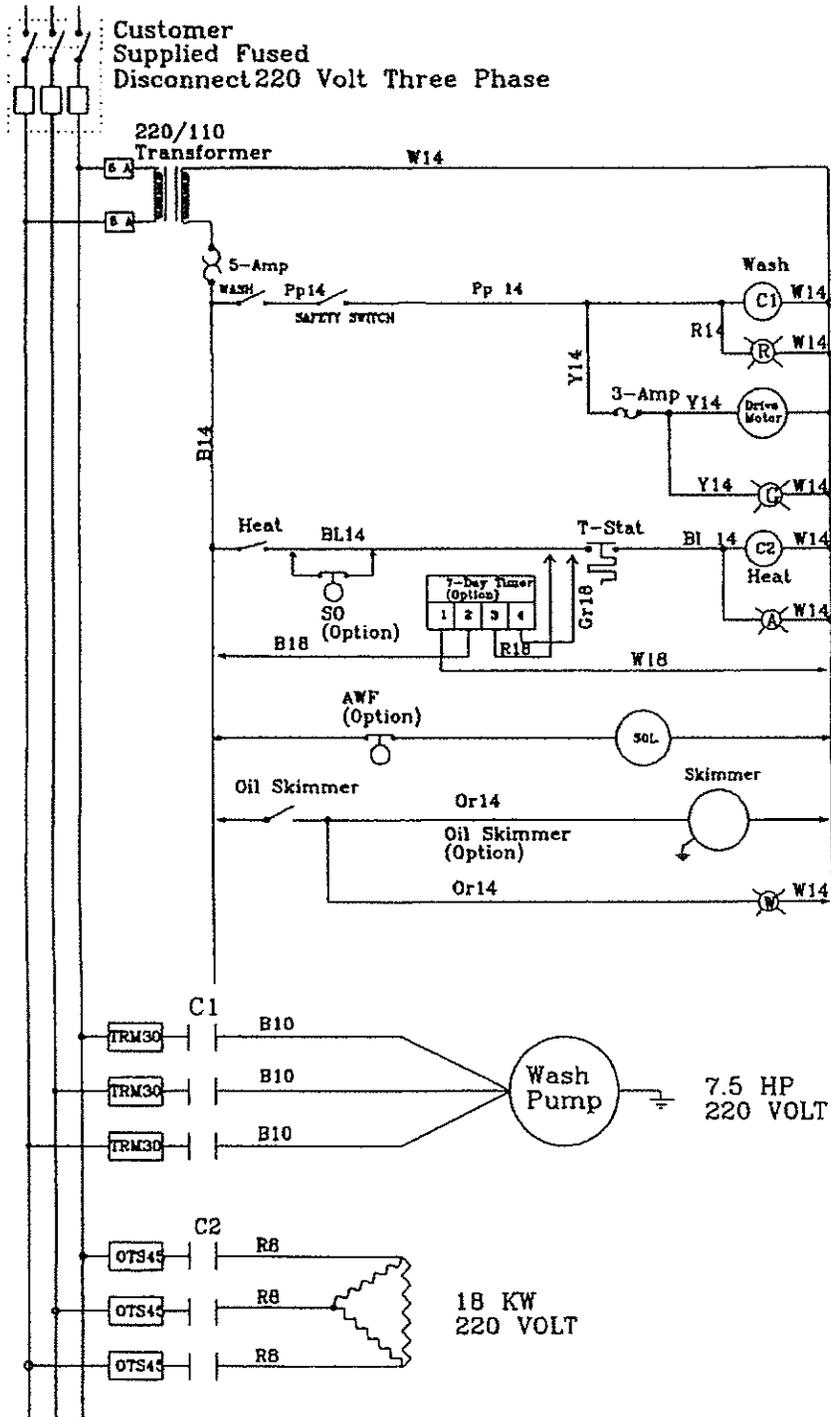
# LANDA SPRAY JET PARTS WASHER OPERATOR'S MANUAL

## WIRING DIAGRAM PW-300C





**WIRING DIAGRAM  
PW-400B**

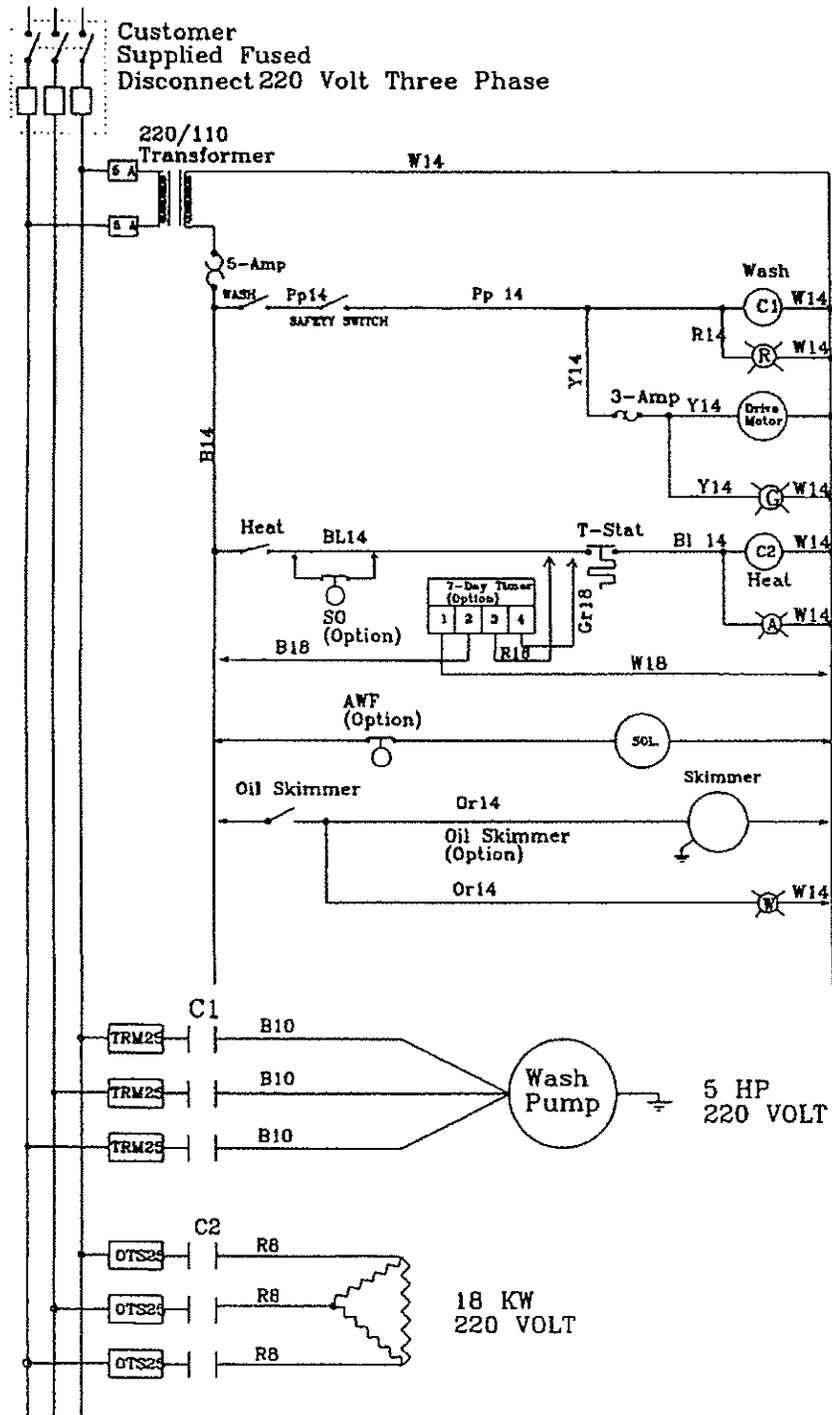






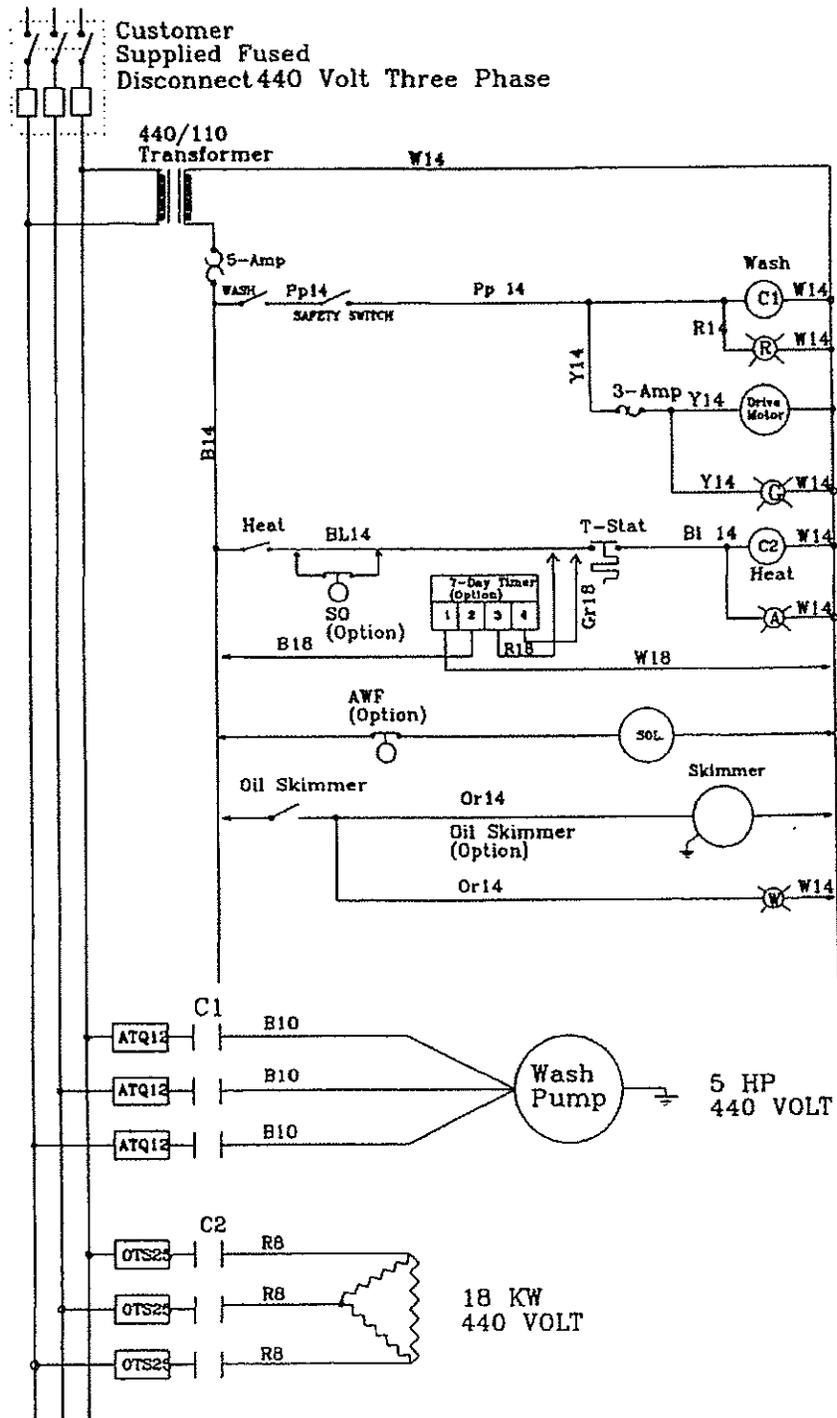


**WIRING DIAGRAM  
PWC-200B**





**WIRING DIAGRAM  
PWC-200C**





## SPECIFICATIONS

MODEL		PW-30	PW-100	PW-200	PW-300	PW-400	PWC-200
LOAD WEIGHTS	LBS	500	500	500	1000	1500	1000
LOAD HEIGHTS		24" OR 31"	36"	36"	42"	55"	15"
BASKET DIAMETERS		21"	31"	31"	36" ROLL OUT	42" ROLLOUT	24" CONVEYOR BELT WIDTH
TANK CAPACITIES	GAL	27	40	80	157	245	180
WATER PUMPS	GPM	24	24	35	85	120	80
	PSI	38	38	52	80	75	60
ELECTRIC PUMPS	HP	1.5	1.5	3	5	7.5	5
WATER HEATERS	KW	4.5	6	9	12	18	18
ELECTRICAL REQUIREMENTS		A, B, C	A, B, C	A, B, C	B, C	B, C	B, C
AMPS		26, 13, 7	30, 15, 8	44, 22, 12	40, 20	56, 28	50, 25
INSULATION PACKAGE		N/A	OPT.	OPT.	OPT.	STD.	STD.
DIMENSIONS	L x W x H	35" x 35" x 57"	30" x 48" x 70"	55" x 48" x 67"	67" x 54" x 79"	73" x 60" x 91"	90" x 48" x 53"
SHIPPING WEIGHTS	LBS	425	800	970	1900	2200	1500

To establish net weight, subtract approximately 125 lbs for packaging for each model.

## OPTIONS

### OPTIONS AVAILABLE ON THESE MODELS

PART #	DESCRIPTION	PW-30	PW-100	PW-200	PW-300	PW-400	PWC-200
20-100	Oil Skimmer		X	X	X	X	X
20-105	Filtration system, 50 micron		X	X	X	X	X
20-107	Replacement Bags 50 Micron		X	X	X	X	X
20-110	Timer, 7-day	X	X	X	X	X	X
20-112	Timer, Two Channel 7-day (Heater & Skimmer)		X	X	X	X	X
20-113	Timer, Wash Cycle		X	X	X	X	X
20-115	Automatic water fill		X	X	X	X	X
20-120	Low water shut-off		X	X	X	X	X
20-122	Exhaust Fan		X	X	X	Std.	
20-124	Head/crank rack 20" bottom		X	X	X	X	
20-125	Head/crank rack 30" bottom		X	X	X	X	
20-129	Parts tree 20" w/15 limbs	X	X	X	X	X	
20-130	Parts tree 30" w/20 limbs		X	X	X	X	
20-131	31" Working Height	X					
20-135	Insulation package		X	X	X	Std.	Std.
20-140	Parts basket, 10" x 10"	X	X	X	X	X	X
20-145	Parts basket, 30" x 24"		X	X	X	X	
20-150	Double basket w/spray bar PW-100/200		X	X			
20-155	Double basket w/spray bar PW-300				X		
20-160	Double basket w/spray bar PW-400					X	
20-165	Spraybar, intermediate, w/o Double Basket PW-100, PW-200		X	X			
20-167	Spraybar, intermediate, w/o Double Basket PW-300, PW-400				X	X	
20-175	Electrical heater converted to Gas Fired				X	X	X



## **LANDA LIMITED NEW PRODUCT WARRANTY**

(Effective May 1, 1994)

Subject to the terms and conditions stated herein, Landa warrants to the original purchaser that each new Landa Product will be free from defects in materials and workmanship for a period of one (1) year from the date of purchase, with the following limitations:

Warranty limited to one (1) year from date of purchase:

1. All Parts Washers and accessories, with the exceptions listed below.

Warranty provided by other manufacturers:

1. Motors are warranted by their respective manufacturers. Your authorized Landa Dealer can help you obtain service through these manufacturers' local authorized service centers.

### **WHAT THIS WARRANTY COVERS**

During the term of this warranty and subject to its limitations, we will repair or replace, at our option, any part which is defective, malfunctions, or otherwise fails under normal use. Motors which are warranted by their respective manufacturers, are serviced through these manufacturers' local authorized service centers. Landa, Inc. cannot provide warranty on these items.

### **WHAT YOU MUST DO TO OBTAIN WARRANTY SERVICE**

While not required for warranty service, we request that you register your Landa Product by returning the completed registration card. In order to obtain warranty service on items warranted by Landa, you must return the product to your local Landa Dealer, freight prepaid, within the applicable warranty period. If the product is permanently installed, you must notify your local Landa Dealer of the alleged defect. Your local Landa Dealer will file a claim with Landa, Inc., which must subsequently verify the defect. For warranty service on parts warranted by other manufacturer's your authorized Landa Dealer can help you obtain warranty service through these manufacturers' local authorized service centers. If you are unable to resolve the warranty claim satisfactorily, write to Landa at the address below, detailing the nature of the defect, the name of the local Landa Dealer, and a copy of the purchase invoice.

### **WHAT THIS WARRANTY DOES NOT COVER**

This warranty does not cover the following:

1. Used products and demonstration equipment used prior to purchase by the end user.
2. Damage or malfunctions resulting from accidents, abuse, modifications, alterations, incorrect installation or improper servicing.
3. Freezing or chemical deterioration.
4. Units altered in any way that deviates from original manufacturer's specifications.
5. Damage to components from fluctuations in electrical or water supply.
6. Normal maintenance service, including but not limited to, adjustments, fuel system cleaning, and clearing of obstructions.
7. Replacement of maintenance items, including but not limited to, o-rings, filters, and chemical nozzles.
8. Field labor charges in connection with adjustments, disassembly or reassembly.
9. Transportation charges in connection with the repair or replacement of defective parts.
10. Freight damage. If products are damaged in transit, you must file a claim with the carrier.
11. Purchases by consumers as defined by the Magnuson-Moss Warranty-Federal Trade Commission Improvement Act.

### **THIS IS THE ONLY EXPRESS WARRANTY ON OUR PRODUCTS**

Landa, Inc. does not authorize any other party, including authorized Landa Dealers, to make any representation or promise on behalf of Landa, Inc., or to modify the terms, conditions, or limitations in any way.

### **LIMITATION OF RESPONSIBILITY**

Landa, Inc.'s liability shall be limited to repair or replacement of defective parts pursuant to the terms of this warranty, and does not include replacement of complete products. Landa, Inc. shall not be liable for special, incidental, or consequential damages, however caused, including, but not limited to, loss of use, lost profits, or damage to property occasioned by or arising out of the operation, use, installation, repair or replacement of the Landa product. Landa makes every effort to ensure that all illustrations and specifications are correct, however, these do not imply a warranty that the product is merchantable or fit for a particular purpose, or that the product will actually conform to the illustrations and specifications. **THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, INCLUDING QUALITY OF WASTEWATER TREATMENT.** In no event shall Landa, Inc.'s liability exceed the purchase price of the product in question. It is the buyer's responsibility to ensure that the installation and use of Landa products conforms to local codes. While Landa, Inc. attempts to assure that its products meet national codes, it cannot be responsible for how the customer chooses to use or install the product.

Attn: Warranty Service Department, Landa, Inc., 13705 N.E. Airport Way, Portland, Oregon 97230-1048

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**LANDA**  
WATER CLEANING SYSTEMS

13705 NE Airport Way • Portland, OR 97230-1048

Form #96-640 • May 1994 • Printed in the U.S.A. by Landa, Inc. • Portland, OR



WATER CLEANING  
13705 NE Airport Way • Portland, OR 97218

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