VULCAN

OPERATING, INSTALLATION, SERVICE & PARTS MANUAL FOR CONVEYOR BAKER MODELS VC-1224, VC-1824

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⚠ IMPORTANT

OPERATING, INSTALLATION AND SERVICE PERSONNEL

Operating information for this equipment has been prepared for use by qualified and/or authorized operating personnel.

All installation and service on this equipment is to be performed by qualified, certified, licensed and/or authorized installation or service personnel, with the exception of any marked with a □ in front of the part number.

Service may be obtained by contacting the Factory Service Department, Factory Representative or Local Service Agency.

DEFINITIONS

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified or authorized operating personnel are those who have carefully read the information in this manual and are familiar with the equipment's functions or have had previous experience with the operation of the equipment covered in this manual.

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are individuals, a firm, corporation or company which either in person or through a representative are engaged in, and are responsible for:

1. The installation of gas piping from the outlet side of the gas meter, or the service regulator when the meter is not provided, and the conneciton and installation of the gas appliance. Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference in the United States of America - National Fuel Gas code ANSI Z223.1 (Latest Edition). In Canada-Canadian Standard CAN1-B149.1 NAT. GAS (Latest Edition) or CAN1-B149.2 PROPANE (Latest Edition).
2. The installation of electrical wiring from the electric meter, main control box or service outlet to the electric appliance. Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference: In the United States of America-National Electrical Code ANSI NFPA No. 70 (Latest Edition). In Canada-Canadian Electrical Code Part 1 CSA-C22.1 (Latest Edition).

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those who are familiar with Vulcan equipment who have been endorsed by the Vulcan-Hart Corporation. All authorized service personnel are required to be equipped with a complete set of service parts manuals and stock a minimum amount of parts for Vulcan equipment.

SHIPPING DAMAGE CLAIM PROCEDURE

For your protection, please note that equipment in this shipment was carefully inspected and packed by skilled personnel before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of this shipment.

If shipment arrives damaged:

1. **VISIBLE LOSS OR DAMAGE** — Be certain this is noted on freight bill or express receipt and signed by person making delivery.
2. **FILE CLAIM FOR DAMAGES IMMEDIATELY** — Regardless of extent of damage.
3. **CONCEALED LOSS OR DAMAGE** — If damage is unnoticed until merchandise is unpacked, notify transportation company or carrier immediately, and file "concealed damage" claim with them. This should be done within (15) days of date of delivery is made to you. Be sure to retain container for inspection.

   We cannot assume responsibility for damage or loss incurred in transit. We will, however, be glad to furnish you with necessary documents to support your claim.

PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE

IMPORTANT NOTES FOR ALL VULCAN APPLIANCES

1. These units are produced with the best possible workmanship and material. Proper installation is vital if best performance and appearance are to be achieved. Installer must follow the installation instructions carefully.
2. Information on the construction and installation of ventilating hoods may be obtained from the "Standard for the installation of equipment for the removal of smoke and grease laden vapors from commercial cooking equipment," NFPA No. 96 (latest edition) available from the National Fire Protection Association, Battery March Park, Quincy MA 02269.
3. For an appliance equipped with a flexible electric supply cord, the cord is equipped with a three prong (grounding) plug. This grounding plug is for your protection against shock hazard and should be plugged directly into a properly grounded three prong recepticle. Do not cut or remove the grounding prong from this plug. If the appliance is not equipped with a grounding plug, and electric supply is needed, ground the appliance by using the ground lug provided (refer to the wiring diagram).

(FOR GAS APPLIANCES ONLY)

4. Do not obstruct the air flow into and around the appliance. This air flow is necessary for proper combustion of gases and for ventilation of the appliance. Provisions for ventilation of incoming air supply for the equipment in the room must be in accordance with National Fuel Gas Code ANSI Z223.1 (latest edition).
5. Do not obstruct the flow of flue gases from the flue duct (when so equipped) located on the rear (or sides) of the appliance. It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.
6. For an appliance equipped with casters, (1) the installation shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 (latest edition), and Addenda, Z21.69a (latest edition), and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 (latest edition), and Addenda, Z21.41a (latest edition) and Z21.41b (latest edition), and (2) adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick–disconnect device or its associated piping to limit the appliance movement.

   If disconnection of the restraint is necessary, reconnect this restraint after the appliance has been returned to its originally installed position.
7. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.45 k Pa).
8. The appliance must be isolated from the gas supply system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than ½ psig (3.45 k Pa).

CAUTIONS

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS EQUIPMENT OR ANY OTHER APPLIANCE.

1. **KEEP THE APPLIANCE FREE AND CLEAR FROM ALL COMBUSTIBLE SUBSTANCES.**
2. **IN THE EVENT A GAS ODOR IS DETECTED, SHUT UNIT(S) DOWN AT THE MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.**
3. **POST IN A PROMINENT LOCATION, INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION MAY BE OBTAINED FROM A LOCAL GAS SUPPLIER.**

CONVEYOR BAKER 1224 or 1824 - OPERATING, INSTALLATION, SERVICE AND PARTS MANUAL - INDEX

This Conveyor Baker is produced with the best possible workmanship and material. Proper usage and maintenance will result in many years of satisfactory performance.

We suggest that you thoroughly read this entire manual and carefully follow all of the instructions provided.

DESCRIPTION — PAGE

GENERAL INFORMATION

The Conveyor Baker is designed for table or counter top operation. It uses infra-red, quartz sheathed heaters in independently controlled groups to meet a wide range of baking requirements. By adjustment of the heater voltage regulators and the belt speed controls, an almost infinite range of baking conditions can be obtained.

INSTALLATION

The Conveyor Baker has been inspected and tested at the factory prior to shipment.

CAUTION: Upon receipt, check for visible damage. If damaged in shipment, check with the carrier for claim adjustment.

Unpack the Conveyor Baker and remove all packing materials. Heaters are packed in the long boxes - do not throw them away. When finished, you should have the following parts:

Conveyor Baker
Hood
Top Reflector
Slide
Ramp
14 Heaters

(See assembly drawing on page 6.)

Place the baker on a flat horizontal surface at the desired location.

CAUTION: Keep the baker at least 6 inches from any vertical wall.

The baker may be leveled by screwing the tips of the legs in or out.

Slide the crumb tray into the channels under the body.

Unhook the belt at the link with the hooks left partly open. Allow the belt to run out the rear end of the machine. Remove the idler assembly.

Install the 8 bottom heaters by placing one end in a socket on one side and pushing in until the tip of the heater on the opposite end clears the top of the socket as you guide it into place. Rotate each heater after insertion to insure that it is correctly seated. It should rotate smoothly.

Place the bottom reflector in the troughs provided for it. The bottom reflector is not a crumb catcher and the angles should face down.

Replace the idler assembly and reinstall the belt by pulling it forward over the idler assembly and along the belt supports until you can hook the free ends together.

NOTE: For best operation the conveyor belt should be always installed with the hooks trailing away from the direction of travel. See the inset on page 6.

Install the 6 top heaters.

Place the top reflector on its support rods. Both angles go **inside** the support rods.

Place the hood on top of the body and press down firmly.

Install the slide on the two support rods at the rear of the body.

Install the ramp by dropping the tongues into grooves over the idler assembly brackets. The ramp supports fit onto the projecting pegs at the bottom corners of the baker.

The assembly is now complete.

CAUTION: Have the wiring to the wiring box on the unit installed by a qualified electrician. The 1224 will require a 30 amp service. The 1824 will require a 50 amp service. (Single phase.).

OPERATING

CAUTION: Do not operate the oven unless the crumb tray (item #45) is in place.

Turn on the power at the main switch. Turn on the speed control. Turn all heater controls to maximum and run the baker for ½ hour before its first use.

Exact adjustment of the heat controls and the belt speed will be determined by your particular requirements and location. The bottom heaters are in two groups of 4. The top heaters are in one group of 6. The output wattage of each individual group may be varied with the appropriate controls.

NOTE: Numbers on the dials are for reference and do not refer to any specific temperature.

CLEANING

To clean the belt, turn all heaters to the maximum settings. Clean the belt with a soft clean wet cloth dipped in cold water.

CAUTION: Do not use steel wool or abrasive cleansers to clean the belt as they may damage the Silverstone coating.

Other removable parts may be washed in soap and water after the baker has been shut off and allowed to cool. The baker itself may be cleaned with any standard commercial cleaner. We do not recommend steam cleaning.

CAUTION: High voltage with the possibility of electric shock hazard is inside this unit. Therefore, before cleaning the conveyor baker, shut off the power to it to eliminate the danger of an electric shock.

CAUTION: Quartz heaters are self-cleaning and do not need to be washed. In particular, DO NOT immerse them in water.

TROUBLE SHOOTING

IF THE MACHINE BLOWS A FUSE OR TRIPS A CIRCUIT BREAKER

1. Check that other devices are not overloading the circuit. Ideally, the Conveyor Baker should have its own circuit: 30 amps for the 1224; 50 amps for the 1824. (Single phase)

2. Shorts may be accompanied by sputtering sounds or sparks.

CAUTION: Shut off all the power to the unit before removing the front or side panels.

3. Remove the side panels and the control panel and check for burned spots or loose connections where shorts may have occurred.

IF THE HEATERS DO NOT LIGHT

1. Heater controls may be turned down too low to cause a visible glow, even though some heat will still be emitted - a phenomenon called "black heat".

2. One fuse or circuit breaker to one input wire may be off. In a single phase unit, all heaters will not light. In a three phase oven, one group of heaters may be lit. The motor may or may not run, depending on which phase is affected.

3. If one group of heaters does not light, the probable cause is either a loose connection or a failure of the voltage regulator for that group.

CAUTION: Shut off all power before removing the control panel or side panels.

4. If two heaters do not light, check to see that they are correctly seated in the sockets. It should be possible to rotate them smoothly if they are properly seated. Check that one is not burned out. Check for a loose or broken wiring connection.

IF THE BELT DOES NOT RUN

1. Check that the conveyor belt is not caught or jammed.

NOTE: The belt should be installed with the hooks on the links facing up and trailing away from the direction of travel. See inset sketch on page 6.

2. If the motor runs but the belt does not run, or runs irregularly, check for a loose setscrew in the drive sprockets. See the drawing of the belt drive components on page 7.

3. If the motor does not run, check for jammed motor drive chain.

4. If the motor still does not run, remove the control panel.

CAUTION: Shut off all power to the machine before removing the control panel.

Check that wires are clear of the cooling fan on the rear of motor. Check for a loose wiring connection in the motor circuit. Check for a defective motor or speed control.

SPECIFICATIONS

	1224	1824
UNIT CONSTRUCTION	302/304 Stainless Steel	302/304 Stainless Steel
OVERALL DIMENSIONS		
Length	45"	45"
Width	21"	27"
Height	24"	24"
INPUT POWER REQUIREMENTS	208-240V 60 Hz., 4.2 KW 1 or 3 Phase	208-240V 60 Hz.,7 KW 1 or 3 Phase
HEATERS	Quartz, 300 Watt	Quartz, 500 Watt
CONVEYOR BELT	12" Wide Silverstone coated	18"Wide Silverstone coated

PARTS REPLACEMENT INSTRUCTIONS

HOW TO REPLACE A MOTOR
(Refer to the drawing on page 7.)

CAUTION: Shut off all power to the machine before removing the control or side panels.

1. Remove the control panel and the front right side cover panel.

2. Loosen the motor mount bolts (item #5) and slide the motor forward to remove the belt drive chain (item #30).

3. Loosen the setscrew (item #29) on the motor drive sprocket (item #27) and remove the sprocket.

4. Disconnect the motor wires.

5. Unscrew the motor mount bolts (item#5) and remove the old motor.

6. Install the new motor. Be sure to keep the flat washers (item #7) and the lock washers (item #6) on the motor mount bolts (item #5) in their correct order. See sketch below. Do not tighten the bolts yet.

7. Mount the motor drive sprocket (item #27) on the motor shaft. Be sure to tighten the setscrew against the flattened part of the motor shaft.

8. Slide the motor forward and install the drive chain (item #30) on the belt drive sprocket (item #28) and the motor drive sprocket (item # 27).

9. Slide the motor back to tighten the drive chain. Do not overtighten the drive chain - you should be able to wiggle the chain from side to side at least ⅛" then tighten the motor mount bolts (item #5).

10. Pass the motor wire through the bushing (part #52) and reconnect to the speed control. Reconnect the other motor wire inside control compartment.

11. Remount the control panel.

12. Remount the side panel and test run the unit.

HOW TO REPLACE A VOLTAGE REGULATOR
(Refer to the drawing on page 8.)

CAUTION: Shut off all power to the machine before removing the control panel.

1. Unscrew the control panel mounting bolts (item #1) and remove the control panel.

2. Unscrew the wire nuts from the control to be replaced.

3. Loosen the setscrew on the control knob (item #11) and remove the knob.

4. Remove the retaining nut (item#9) and remove the potentiometer.

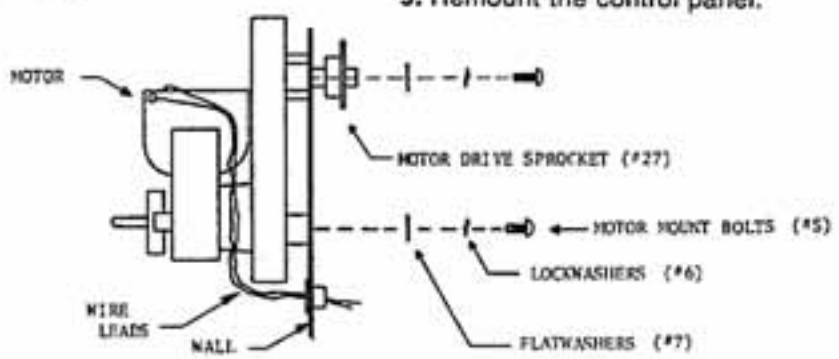
5. Unscrew the mounting nuts (item #18) to remove the regulator (item #13).

6. Mount the new regulator.

7. Mount the new potentiometer and tighten. Rotate the potentiometer shaft fully clockwise and place the control knob (item#11) on the shaft. Rotate clockwise until the arrow lines up with 100 on the dial. Tighten the setscrew.

8. Reconnect the wiring and screw the wire nuts on tight.

9. Remount the control panel.



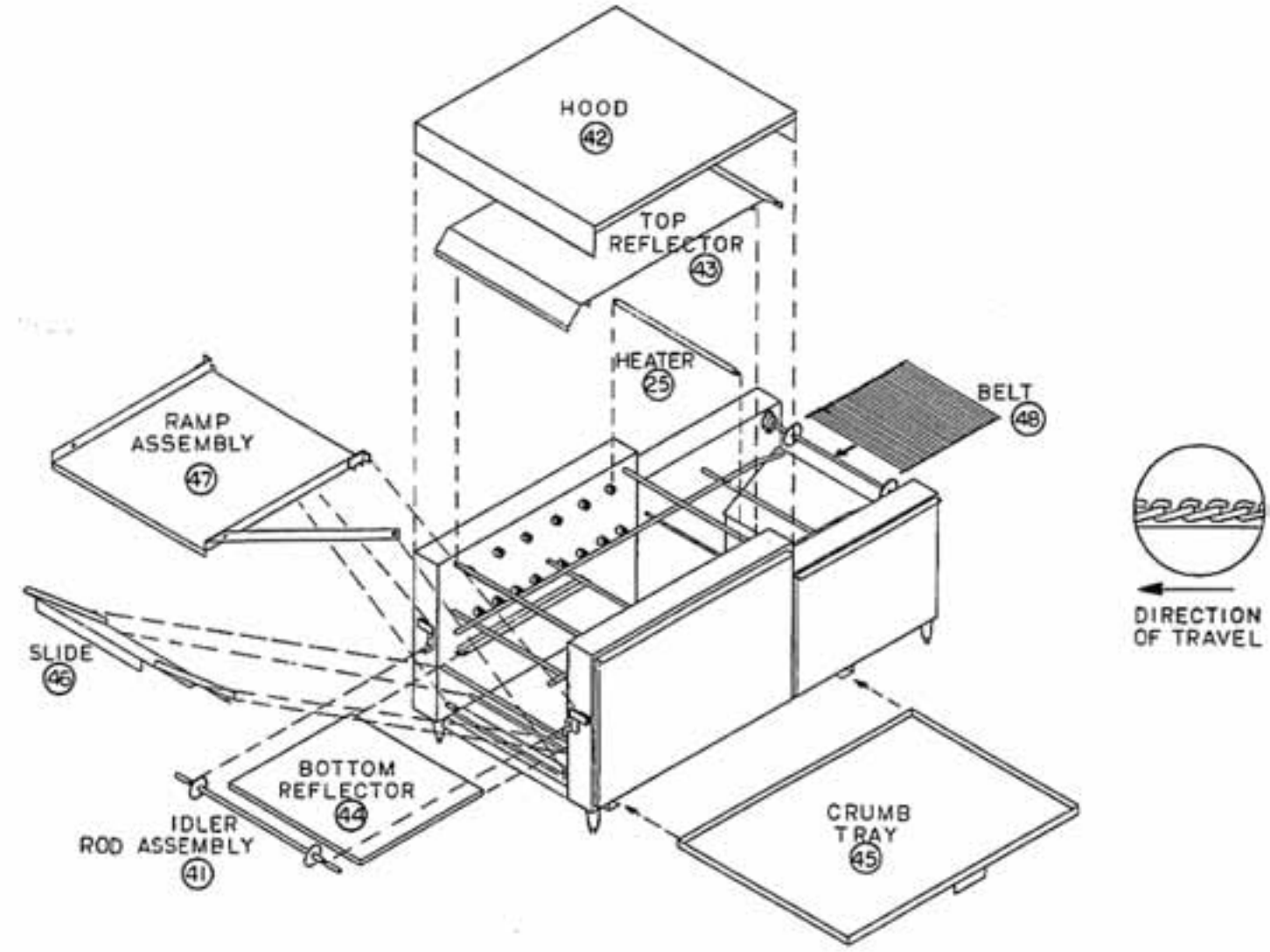
PARTS REPLACEMENT INSTRUCTIONS (Continued)

HOW TO REPLACE A MOTOR SPEED CONTROL

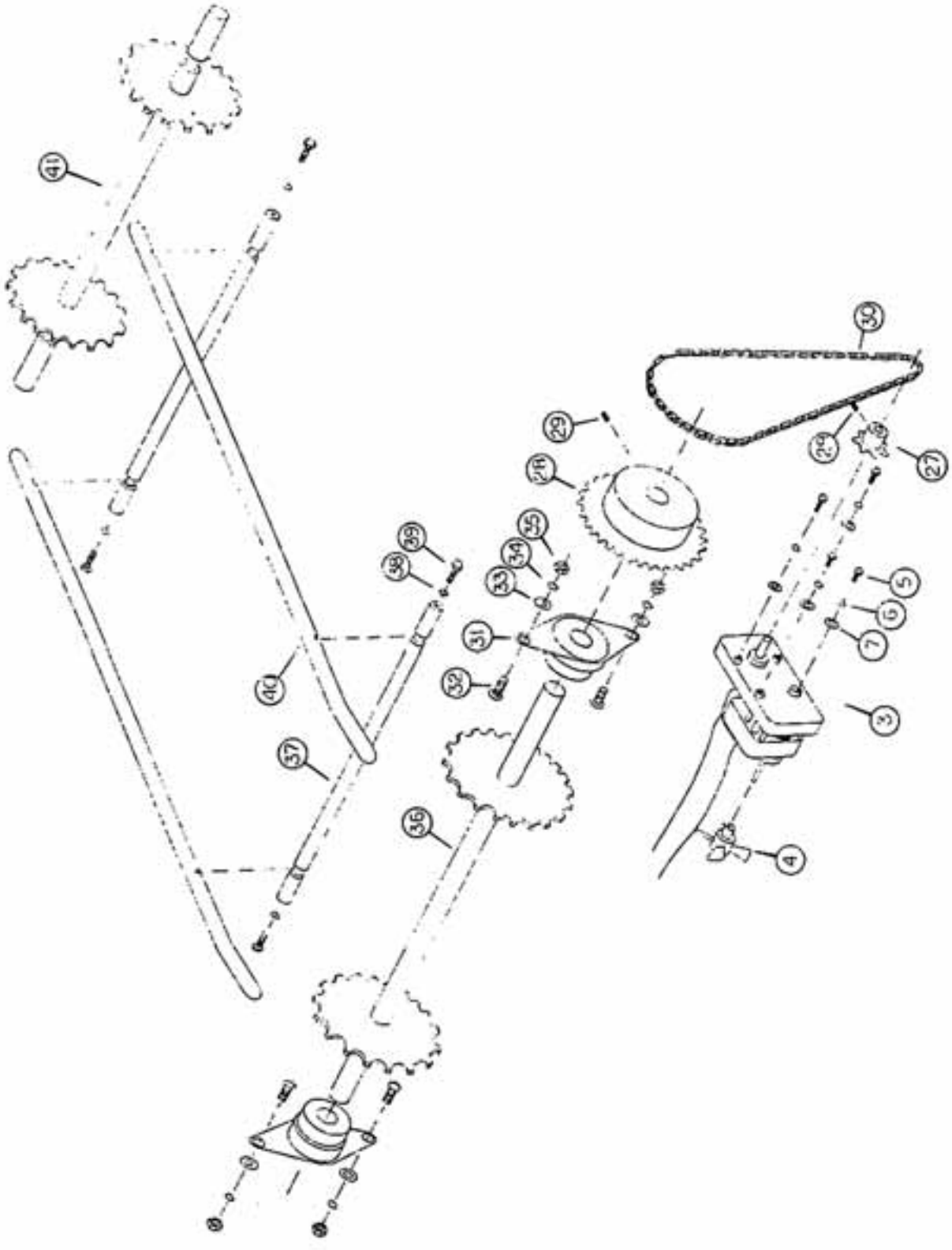
CAUTION: Shut off all power to the machine before removing the side panel.

1. Remove the right front side cover.
2. Unscrew the wire nuts connecting the speed control (item #8) to the wires entering the control compartment.
3. Loosen the setscrew on the control knob (item #11), and remove the knob.
4. Remove the front retaining nut (item #9) and remove the speed control.
5. Be sure the rear retaining nut on the new speed control is the same distance from the housing as on the old speed control. Slide the lockwasher (item #10) on, insert the new speed control through the hold in the housing, and screw on the front retaining nut. Do not overtighten.
6. Rotate the control shaft clockwise as far as it will go. Place control knob (item #11) on the control shaft and turn it clockwise until the arrow lines up with 100 on the dial. Tighten the setscrew.
7. Reconnect the wiring and screw ont he wire nuts.
8. Remount the side cover panel.

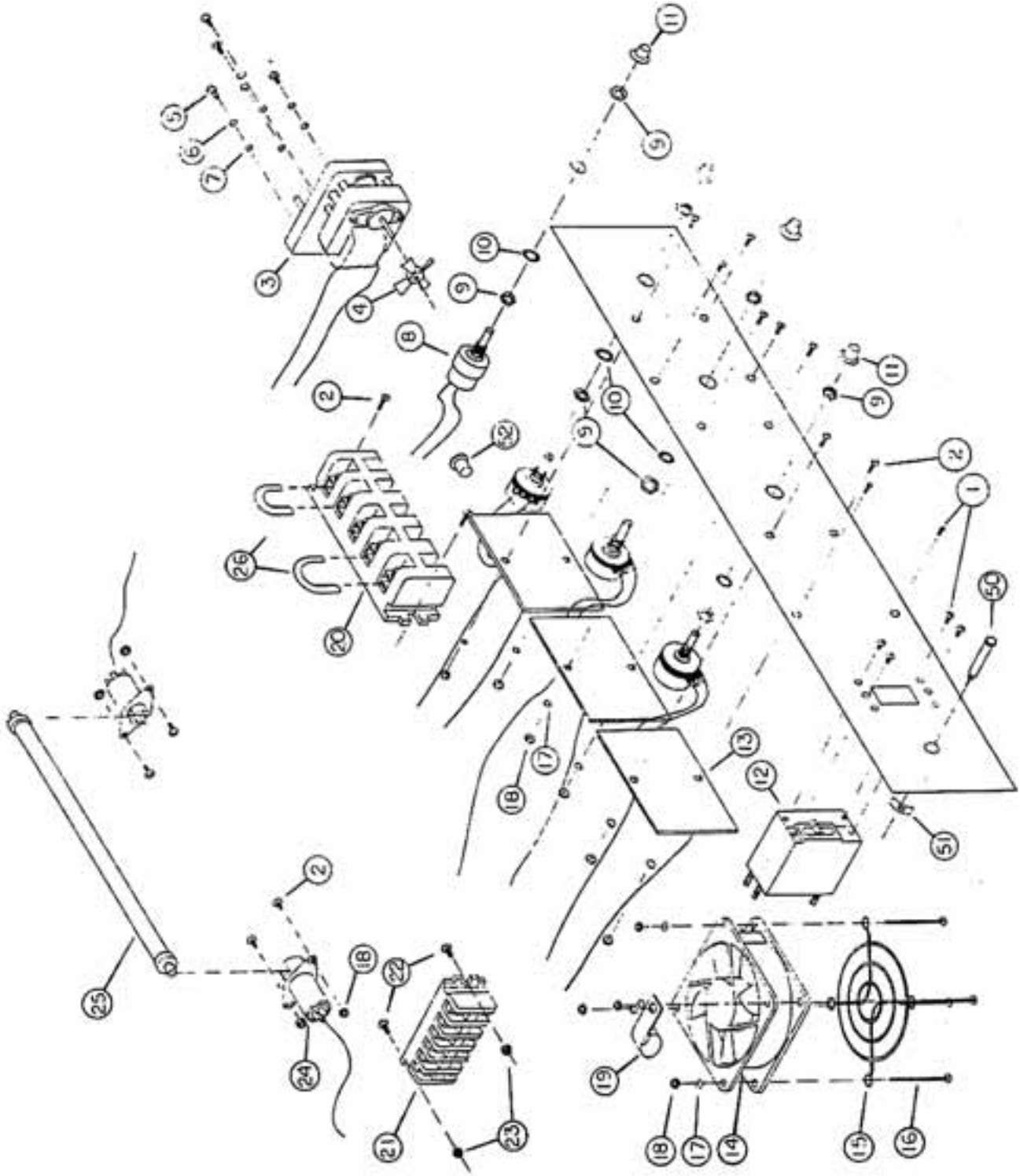
ASSEMBLY DRAWING



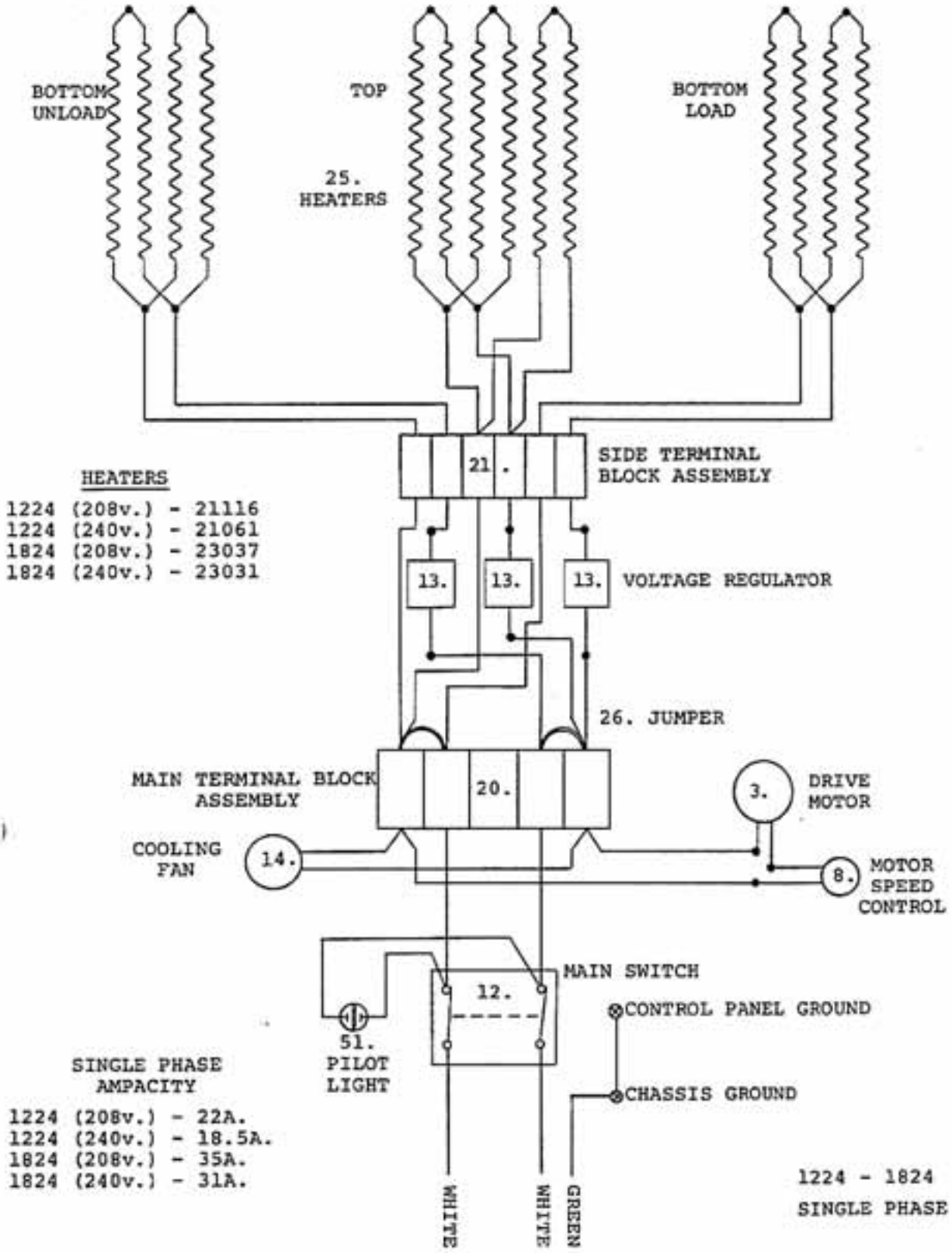
BELT DRIVE COMPONENTS



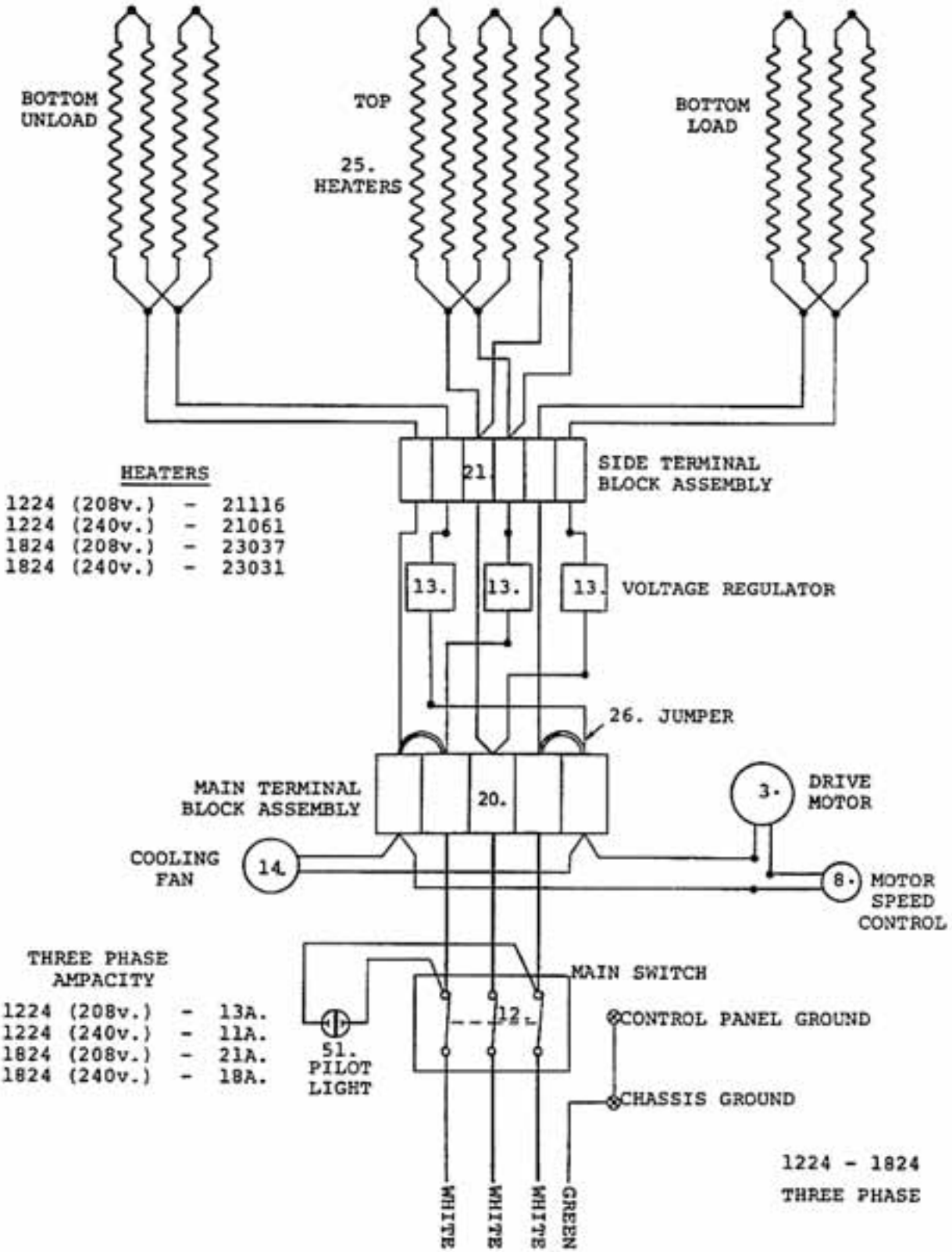
ELECTRICAL COMPONENTS



ELECTRICAL SCHEMATICS - MODEL 1224 & 1824 - 1 PHASE



ELECTRICAL SCHEMATIC - MODEL 1224 & 1824 - 3 PHASE



PARTS LIST

Item No.	Part Name	1224 Quan.	1224 Part No.	1824 Quan.	1824 Part No.
1	Mounting Bolt	12	70018	12	70018
2	Attaching Bolt	70	70024	74	70024
3	Drive Motor	1	30142	1	30142
5	Motor Munting Bolt	4	70065	4	70065
6	Lockwasher	4	70080	4	70080
7	Flat Washer	4	70025	4	70025
8	Motor Speed Control	1	30025	1	30025
9	Mounting Nut	8	70120	8	70120
10	Lockwasher	4	70124	4	70124
11	Control Knob	4	30187	4	30187
12	Main Switch (Single Phase)	1	30227	1	30227
	Main Switch (Three Phase)	1	30228	1	30228
13	Voltage regulator	3	30049	3	30049
14	Cooling Fan	1	30149	1	30149
15	Finger Guard	1	30084	1	30084
16	Mounting Bolt	4	70118	4	70118
17	Lockwasher	10	70068	10	70068
18	Nut	80	70028	80	70028
19	Wiring Clamp	2	30152	2	30152
20	Main Terminal Block Ass'y	1	30193	1	30193
21	Side Terminal Block Ass'y	1	30194	1	30194
22	Mounting Bolt	2	70024	2	70024
23	Mounting Nut	2	70028	2	70028
24	Heater Socket	32	30001	32	30001
25	Heater, 208 volt	14	21116	14	23037
	Heater, 240 volt	14	21061	14	23031
26	Jumper	2	30033	2	30033
27	Motor Drive Sprocket	1	40022	1	40022
28	Belt Drive Sprocket	1	40025	1	40025
29	Setscrew	2	Part of Sprocket	2	Part of Sprocket
30	Belt Drive Chain Assembly	1	40176	1	40176
31	Belt Drive Rod Bearing	2	40020	2	40020
32	Mounting Bolt	4	70058	4	70058
33	Flat Washer	4	70026	4	70026
34	Lockwasher	4	70059	4	70059
35	Nut	4	70048	4	70048

PARTS LISTS (CONTINUED)

36	Belt Drive Rod Assembly	1	40142	1	40143
37	Belt Support Rod	2	40144	2	40145
38	Lockwasher	4	70055	4	70055
39	Mounting Bolt	4	70084	4	70084
40	Belt Support	2	40044	2	40044
41	Idler Rod Assembly	1	40141	1	40127
42	Hood	1	50075	1	50076
43	Top Reflector	1	50077	1	50009
44	Bottom Reflector	1	50018	1	50010
45	Crumb Tray	1	50078	1	50079
46	Slide	1	50080	1	50081
47	Ramp Assembly	1	50082	1	50083
48	Conveyor Belt	1	40036	1	40037
49	Leg	4	40186	4	40186
50	Pilot Light	1	30013	1	30013
51	Tinnermam Nut	1	Part of 30013	1	Part of 30013
52	Bushing	1	30118	1	30118

PART NO. 99-10-02A

MODELS: 1224 and 1824 CONVEYOR BAKERS

DESCRIPTION: OPERATING, INSTALLATION, SERVICE AND PARTS MANUAL

REV. BLOCK		
REV.#	DATE	SIG.
1	**10/83**	**LWB**
2	5/84	LWB
3	**10/85**	**JCL**

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