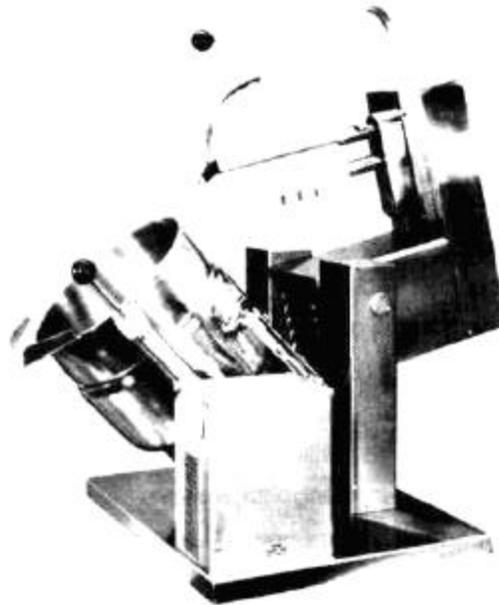


OPERATOR MANUAL

OM-TA/2

Model: TA/2 Twin Shaft Mixer

Stainless steel
Tilting
Variable speed
For 20 or 40 quart mixers: TDB/7
TDC
TD/2



THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE.

**FOR YOUR SAFETY
DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND
LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

G GROEN



IMPORTANT — READ FIRST — IMPORTANT

The Groen food service equipment you have purchased has been handcrafted from the finest materials, meticulously inspected, and tested to ensure you receive the best possible product. With reasonable care and periodic-maintenance, your Groen unit should provide years of faithful service.

PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLING OR OPERATING YOUR GROEN EQUIPMENT. It contains information you will need to install, operate, and maintain the equipment properly.

It is recommended that you establish a timetable for periodic maintenance as outlined in the operator manual. Space has been provided in the manual for a maintenance and service log. Keep the log up to date and on file with the warranty information.

CONDITIONS AND TERMS OF LIMITED WARRANTY

The warranty does **not** extend to:

1. Installation and start-up.
2. Malfunction as a result of improper service.
3. Repairs made by anyone other than qualified service personnel as recommended by Groen.
4. Damage caused in shipment or damage as a result of improper use.
5. Normal maintenance as outlined in this manual.
6. Damage caused by tampering with, removal of, or change of any preset control or safety device.
7. Lubrication of gears or pivot points. Lubrication points must be checked regularly as a part of routine service.
8. Damage to any part of the unit as a result of cleaning with high pressure water or steam. **DO NOT SPRAY THIS EQUIPMENT WITH WATER OR STEAM.**
9. Damage caused by overloading the mixer with high viscosity materials. SOME PRODUCTS REQUIRE HEAVY INDUSTRIAL MOTORS AND DRIVE ASSEMBLIES.
10. Normal wear on scraper fingers.
11. Labor involved in moving other equipment to gain access to the unit. The user must maintain the accessibility of the unit for service under the warranty.

CAUTION: Use of any replacement parts other than those supplied by Groen or their authorized distributor VOIDS ALL WARRANTIES. Service performed by other than factory authorized personnel WILL VOID ALL WARRANTIES.

If you have any questions about warranty coverage, operating procedures, or maintenance, contact your area Groen representative or an authorized Groen Service Agency.

Table of Contents

I. OWNER INFORMATION	
EQUIPMENT DESCRIPTION	2
INSTALLATION & START-UP	3,4
II. OPERATOR INSTRUCTIONS	
OPERATION	3, 4
CLEANING	5
OPERATOR'S TROUBLESHOOTING LIST	6
III. SERVICE INFORMATION	
SERVICE	7
SERVICE TROUBLESHOOTING	7,8
PARTS LIST	9
REFERENCES	9
DIAGRAMS & SCHEMATICS	10,11
SERVICE LOG	12
WARRANTY INFORMATION	13

For operator information on the kettle portion of your cooker/ mixer, see the separate kettle manual.

Equipment Description

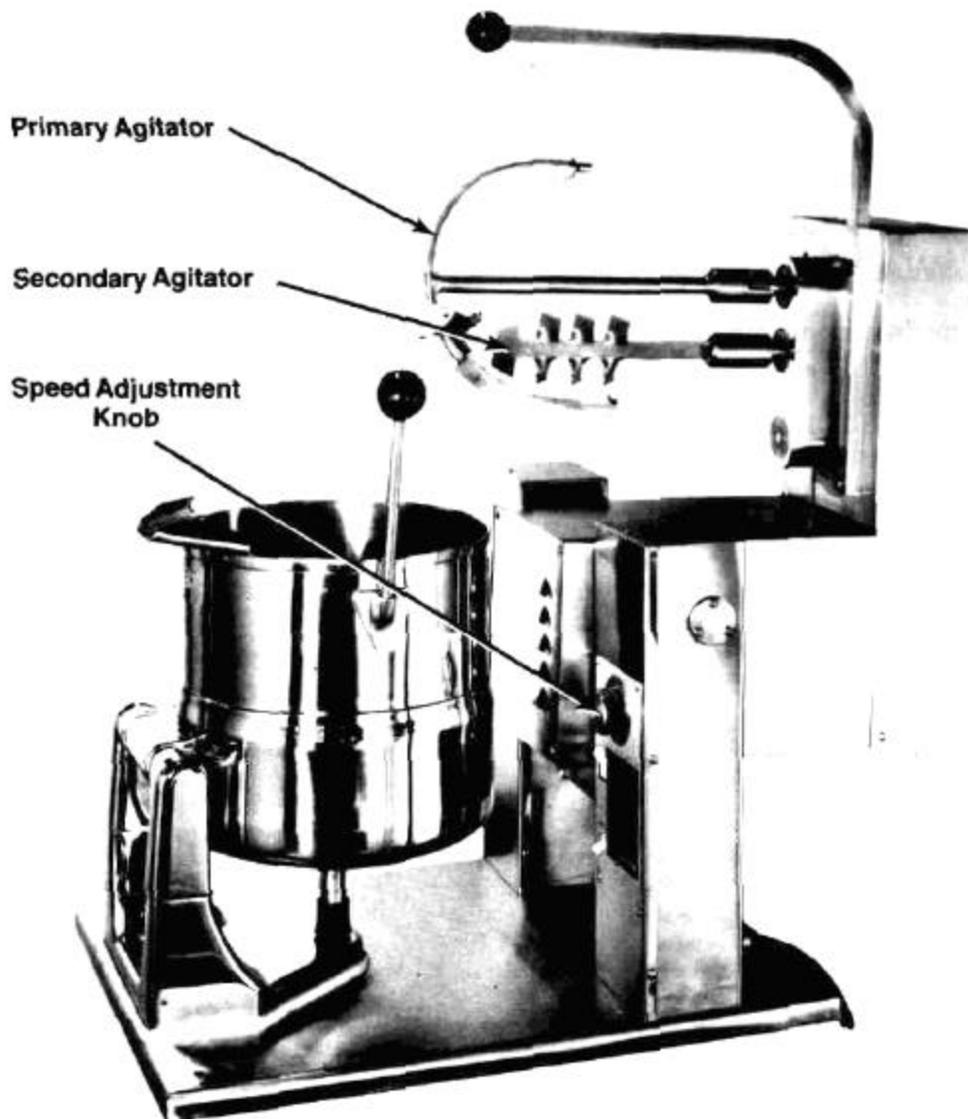
Groen TA/2 is an electrically powered, twin shaft mixer, which is mounted on Groen kettles with capacities of 20 to 40 quarts. The mixer is mounted with a kettle on a common base. To permit easy cleaning of the equipment and emptying of the kettle, a hinge in the pedestal allows the mixer to be tilted back out of the kettle.

Model TA/2 has a motor (1/2 HP or optional 3/4 HP) that drives removable agitators through a combination of belt and gears. The stainless steel agitators consist of a primary agitator, which continuously scrapes the bottom and side of the kettle with nylon fingers, and a faster, counter rotating, secondary agitator, which operates between the center line and the wall of the kettle.

Controls for the mixer are an on/off power switch and a variable speed adjustment knob. For safety, the mixer is also equipped with an automatic tilt cutoff switch. All controls and drive components are enclosed in a stainless steel console with a No. 4 finish.

Installation of the TA/2 requires connection to a 120 or 240 V, 1 PH, 50 or 60 HZ electrical service. If the mixer is employed with an electrically heated kettle, a separate electrical connection is required for the kettle heating elements.

For a description of the kettle component of your cooker/mixer, see the separate kettle manual.



TA/2 Mixer

Installation & Start-Up

A. INSTALLATION

Your Groen mixer has been test operated at the factory and furnished with all internal wiring, complete and ready for final connection. A wiring diagram is furnished on the inside of the service panel.

WARNING: INSTALLATION OF THE COOKER/MIXER MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING: ANY MECHANICAL OR ELECTRICAL CHANGE MUST BE APPROVED BY THE GROEN FOOD SERVICE ENGINEERING DEPARTMENT.

1. Set the cooker/mixer in place and level it. Confirm that there is enough rear wall and overhead clearance to tilt the mixer safely through its entire tilting range. Provide enough clearance to permit access for service. Fasten the unit base to the work surface to eliminate any chance that the unit could tip over.
2. Provide the proper electric power supply as specified on the electrical information plate attached to the equipment. Observe local codes and/or The National Electrical Code in accordance with ANSI/NFPA 70 - latest edition. The installation should conform to the code that has the more strict requirements.

A standard mixer requires 1 PH, 60 HZ service that provides 8 AMP at 120 V. (See the table of electrical requirements.) Any electrical service for the kettle requires a separate connection.

ELECTRICAL REQUIREMENTS

	120 Volts	240 Volts
1/2 HP motor	7.9 Amps	4.0 Amps
3/4 HP motor	11.5 Amps	5.8 Amps

3. Bring electrical service through the entrance in the back of the control console. Use waterproof conduit and waterproof connectors.

WARNING: TO PREVENT POSSIBLE ELECTRIC SHOCK, GROUND THE UNIT AT THE TERMINAL PROVIDED.

4. The following check list may be used to confirm the correctness of the installation.
 - Unit level
 - Adequate clearance for tilting
 - Access for service
 - Unit fastened down
 - Mixer power supply conforms to information plate and code
 - Electrical conduit and connections are waterproof
 - Mixer grounded

For instructions on installing the kettle component of your cooker/mixer, see the separate kettle manual.

B. START-UP

After the mixer is installed, the installer should confirm that the equipment is operating correctly.

1. At the circuit breaker or fuse box, turn on the electric power supply to the mixer.
2. Tilt the mixer to confirm that it can swing back far enough, so there is no interference when the kettle is tilted.
3. Make sure that each agitator is properly seated on its drive shaft and that the drive pin is fully engaged with the coupling.

Installation & Start-Up (con't)

4. Carefully examine the primary agitator to make sure that every nylon finger is positioned so the flat side will be against the kettle wall and the beveled side will face the center of the kettle. An inverted finger will not sweep the surface of the kettle and may be damaged or knocked off the agitator.
5. When the mixer is in operating position, the primary agitator should be centered in the kettle, and all the nylon fingers should touch the inside of the kettle.
6. Press the power switch to turn on the drive. Rotate the speed adjustment knob to confirm that the mixer operates smoothly throughout its speed range.
7. Make sure the primary agitator turns in the correct direction, so it pushes the fingers ahead of the agitator bar.

If the mixer functions as described above, it is ready for use. If it does not, contact your authorized Groen Service Agency.

For instructions on initial start-up of the kettle component of your cooker/mixer, see the separate kettle manual.

Operation

1. Mount the larger (primary) agitator on the drive shaft that operates over the center of the kettle and the smaller (secondary) agitator on the other shaft. Slide the agitator up onto the shaft as far as it will go, then turn the agitator and pull it down, so the stud on the shaft becomes firmly seated against the end of the J-slot. (See Figure 1)
2. Before you operate the mixer, confirm that each agitator is properly connected with its shaft. This precaution will prevent damage to the unit.

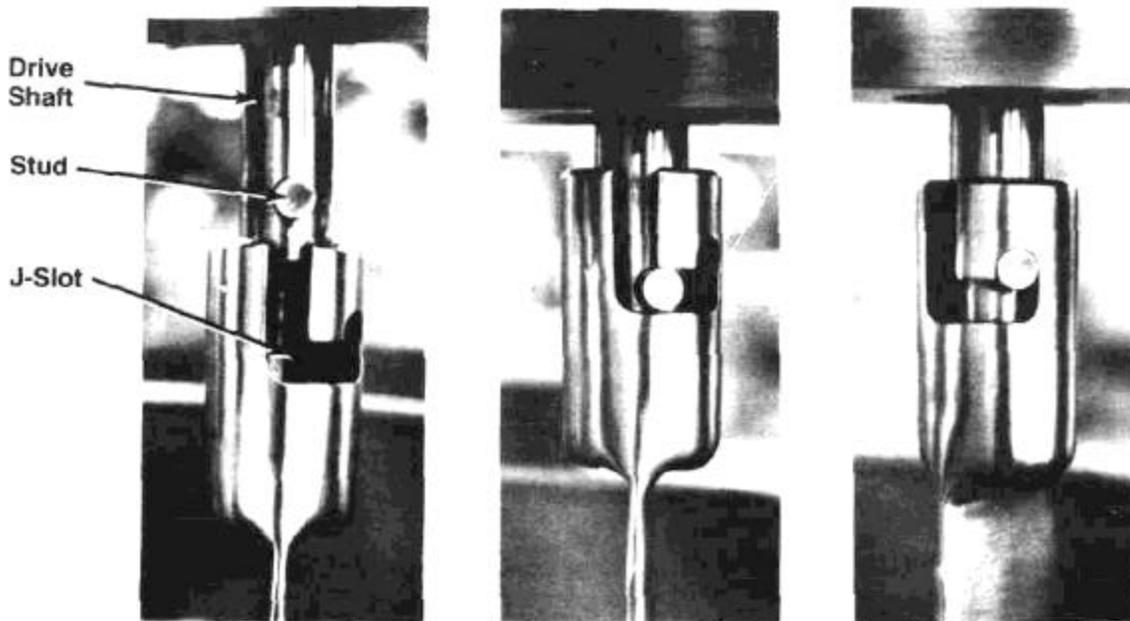


Figure 1

3. Turn the speed adjustment knob to the lowest setting. (See Figure 2) *

CAUTION: Starting with the mixer set at HIGH SPEED MAY CAUSE material to SPILL out of the kettle.

4. To start the mixer, press the power switch to "ON".

WARNING: IF POWER IS ON WHEN A TILTED MIXER IS LOWERED INTO OPERATING POSITION, THE MIXER WILL START AUTOMATICALLY, BECAUSE THE UNIT HAS AN AUTOMATIC TILT CUTOFF SWITCH.

5. Set the desired mixing speed by turning the speed adjustment knob. To avoid damaging the speed control, do **not** run the mixer continuously under heavy load at speeds less than 5% of full speed.

6. To stop the mixer, press the power switch to "OFF".

7. Before you tilt the mixer, switch it off. As you begin to tilt the mixer, tilt the kettle forward slightly, so the agitators will clear the wall of the kettle. Scrape excess product off the agitators, so it will not drip onto the exterior of the kettle and surroundings.

8. When the cooker/mixer is to be cleaned or serviced, or when it will not be used for a week or longer, shut off all supplies of electric power to the unit.

For instructions on operating the kettle component of your cooker/mixer, see the separate kettle manual.

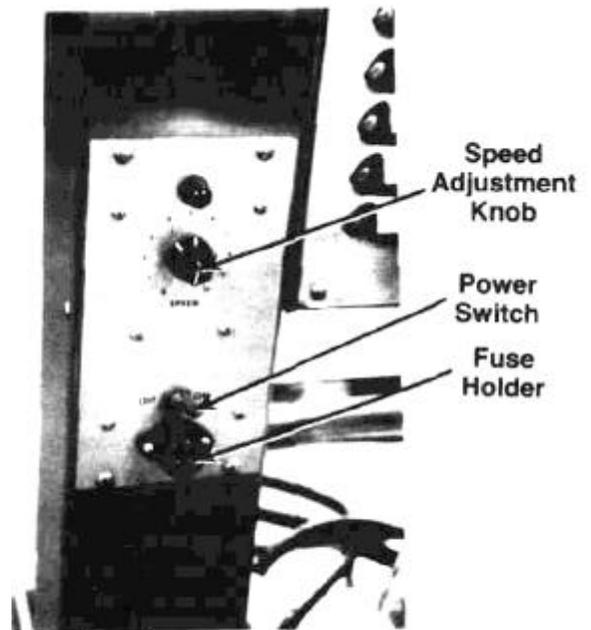


Figure 2

Cleaning

A. SUGGESTED TOOLS & MATERIALS

1. Cleaner, like HC-10 or HC-32 from ECOLAB, Inc.
2. Stiff brush
3. Sanitizer, like Klenzade XY-12

B. PRECAUTIONS

WARNING: BEFORE CLEANING ANY PART OF THE MIXER, OTHER THAN THE AGITATORS, SHUT OFF ALL ELECTRIC POWER TO THE COOKER/MIXER AT THE CIRCUIT BREAKER OR FUSE BOX, TO AVOID POSSIBLE ELECTRIC SHOCK.

WARNING: KEEP WATER AND SOLUTIONS OUT OF THE CONTROLS, ELECTRICAL WIRING, AND DRIVE MECHANISM. NEVER SPRAY OR HOSE THE MIXER.

C. PROCEDURE

1. Wash the agitators as soon as possible after use. If the unit is in continuous use, thoroughly clean all parts of the mixer at least once every 12 hours.
2. Take each agitator off its drive shaft by pushing the agitator up toward the drive housing, then turning the agitator and pulling it down, to slip the J-slot off the stud on the shaft. Remove the nylon fingers from the primary agitator by sliding them to the end of the agitator bar and turning them until they can slip off the end.

WARNING: AVOID CONTACT WITH THE CLEANER, AS RECOMMENDED BY THE SUPPLIER. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER. MANY CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES, AND CLOTHING.

3. Prepare a hot solution of the cleaning compound as instructed by the supplier. Wash the agitator parts and rinse them well.

NOTE: To obtain the sweeping action and avoid damage, make sure each nylon finger is replaced on the agitator with the flat side against the kettle wall and the beveled side toward the center of the kettle.

Use a cloth moistened with the cleaning solution to clean other parts of the mixer.

4. To remove materials stuck to the agitators, use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool along with the cleaning solution. To make washing easier, let the cleaning solution soak into the residue. When you clean the stainless steel parts, do **not** use any abrasive material (like metal sponges or scouring powder) or metal implement (like a spoon, scraper, or wire brush) that might scratch the surface. Scratches make the surface hard to clean and provide places for bacteria to grow. Do **not** use steel wool, which may leave particles imbedded in the surface and cause eventual corrosion and pitting.
5. As part of the daily cleaning program, clean all surfaces that may have been soiled. Remember to check such parts as the back and underside of the drive housing, back of the control console, etc.
6. When the agitators need to be sanitized, use a sanitizing solution equivalent to one that supplies 100 parts per million available chlorine. Obtain advice on the best sanitizing agent from your supplier of sanitation products. Following the supplier's directions, apply the sanitizer after the agitators have been washed, then rinse off the sanitizer completely. It is recommended that the agitators be sanitized just before use.

CAUTION: NEVER LEAVE A SANITIZER in contact with the surface of stainless steel LONGER THAN 30 MINUTES. Longer contact can cause corrosion.

7. The exterior of the unit may be polished with a recognized stainless steel cleaner like "Zepper" from Zep Manufacturing Company.

Cleaning procedures for the kettle component of your cooker/mixer are described in the separate kettle manual.

OPERATOR'S Troubleshooting List

The mixer is designed to operate smoothly and efficiently if properly maintained. However, the following is a list of checks to make in the event of a problem.

If following the directions in this list does not correct the problem, call an authorized Groen Service Agency.

SYMPTOM	WHAT TO CHECK
Motor will not run.	<ul style="list-style-type: none">a. That power is turned on at the circuit breaker or fuse box.b. That power is being supplied to the building.c. Fuse in the control console.d. For a mechanical overload, that is, too much material in the kettle or material that is too thick or hard to mix.
Motor runs at low speed only.	<ul style="list-style-type: none">a. For a mechanical overload.
Motor speed varies rapidly.	<ul style="list-style-type: none">a. For an oscillating load, by disconnecting the mixer drive from the agitators and checking motor speed.
Motor overheats and/or sparks excessively.	<ul style="list-style-type: none">a. For an overload.
Fuse blows frequently.	<ul style="list-style-type: none">a. For an overload.

Troubleshooting guidance for the kettle component of your cooker/mixer is contained in the separate kettle manual.

Service

WARNING: USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY GROEN OR THEIR AUTHORIZED DISTRIBUTOR VOIDS ALL WARRANTIES AND CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT. SERVICE PERFORMED BY OTHER THAN FACTORY AUTHORIZED PERSONNEL WILL VOID ALL WARRANTIES.

A. PERIODIC SERVICE

1. The interior of control and drive housings should be kept clean and dry.
2. Electrical wiring should be kept securely connected and in good condition.
3. Regular service of the mixer should include cleaning the motor, checking the motor brushes and commutator, lubricating the gears and pivot points, and checking the belt for tightness and wear.

B. COMPONENT REPLACEMENT

WARNING: BEFORE REPLACING ANY PARTS, SHUT OFF ALL ELECTRIC POWER SUPPLIES TO THE COOKER/MIXER.

All internal wiring is marked as shown on the schematic drawings. Be sure that new components are wired in the same manner as the old components.

C. SERVICE RECORDS

A Service Log is provided with the warranty information. Each time service is performed on this Groen equipment, enter the date on which the work was done, what was done, and who did it. The owner should file the log with the warranty.

Service procedures for the kettle component of the cooker/mixer are described in the separate kettle manual.

Service Troubleshooting

If an item in the "WHAT TO CHECK" column is followed by an asterisk (*), the work should be done only by an authorized Groen Service Representative.

SYMPTOM	WHAT TO CHECK
Motor will not run.	<ol style="list-style-type: none"> a. Power supply to the unit. b. Fuse in the control console. c. For a mechanical overload. d. That the tilt switch is closed.* e. For a ground or short in the motor.* f. For a defect in the power module. Check SCRs and diodes.* g. Regulator.* h. For loss of reference voltage. Check speed adjustment pot and wiring. Check maximum speed pot.* i. Motor brushes for wear or sticking.*
Motor runs at high speed only without control.	<ol style="list-style-type: none"> a. Speed adjustment pot or wiring.* b. Power module.* c. Regulator.*

SYMPTOM**WHAT TO CHECK**

Motor runs at low speed only	<ul style="list-style-type: none">a. For a mechanical overload.b. Speed adjustment pot or wiring.*c. Motor brushes for wear or improper seating.*d. Regulator.*e. For open motor field circuit, by checking field current.*
Motor speed varies rapidly.	<ul style="list-style-type: none">a. For an oscillating load, by disconnecting the mixer drive from the agitators and checking motor speed.b. Motor brushes for wear, improper seating, or sticking in holders.*c. I.R. drop compensation, and adjust if set too high.*d. SCRs.*e. I.R. drop compensation pot.*f. Dirty or defective regulator.*g. Control panel and motor for a ground.*
Motor overheats and/or sparks excessively.	<ul style="list-style-type: none">a. For an overload.b. Motor brushes for wear or improper seating.*c. Grade of brushes used.*
Fuse blows frequently.	<ul style="list-style-type: none">a. For an overload.b. For incorrect jumper horsepower.*c. Power module.*d. Regulator.*e. Whether line voltage is too high.*f. Motor armature and wiring for ground or short.*g. For open motor field circuit, by checking field current.*
SCRs or diodes have short lives.	<ul style="list-style-type: none">a. For constant overload, peak overload, or excessive starting load.*b. Panel for overheating, because ambient temperature is too high or ventilation is obstructed.*c. Line voltage.*d. Motor or wiring for a ground.*

Troubleshooting guidance for the kettle component of your cooker/mixer is contained in the separate kettle manual.

Parts List

To order parts, contact your authorized Groen Service Agency. Supply the model designation, part description, part number, quantity, and where applicable, voltage and phase.

WARNING: USE ONLY GROEN SUPPLIED PARTS. SUBSTITUTION OF UNAUTHORIZED PARTS OR GENERIC PARTS CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT.

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	12692	TOLERANCE RING (PART OF ITEM 2)	16	13383	SPACER
2	12691	PLASTIC KNOB (FRICTION)	17	13359	GEAR, 48-TOOTH, 4.000 P. DIA.
3	13355	GASKET (BUNA N RUBBER)	18	13386	KEY
4	13382	SHAFT	19	1538	SNAPPING
5	9442	BRONZE BEARING	20	13379	SECONDARY SHAFT
6	9199	CORD GRIP	21	13360	GEAR, 18-TOOTH, 1.5000 P. DIA
7	6495	3-WIRE POWER CORD, 8' LONG	22	13361	GEAR, 72-TOOTH, 6.000 P. DIA,
8	6455	3-PRONG ELECTRIC CORD PLUG	23	13384	SPACER
9	13972	CONTROL. DC ADJUSTABLE SPEED	24	13362	PULLEY, 7" O.D.
10	13491	MOTOR	25	13363	V-BELT
11	12337	SCRAPER, HALF FINGER	26	13364	PULLEY, 2 3/4" O.D.
12	13357	GEAR CARRIER	27	13380	PULLEY SHAFT
13	13358	BEARING	28	13381	PLUG
14	13378	PRIMARY SHAFT	29	13385	SPACER
15	13366	SEAL	30	9253	COUPLING PIN

A list of parts for the kettle component of your cooker/mixer is contained in the separate kettle manual.

References

KLENZADE SALES CENTER — ECOLAB, INC.
370 Wabasha
St. Paul, Minnesota 55102
800/328-3663 or 612/293-2233

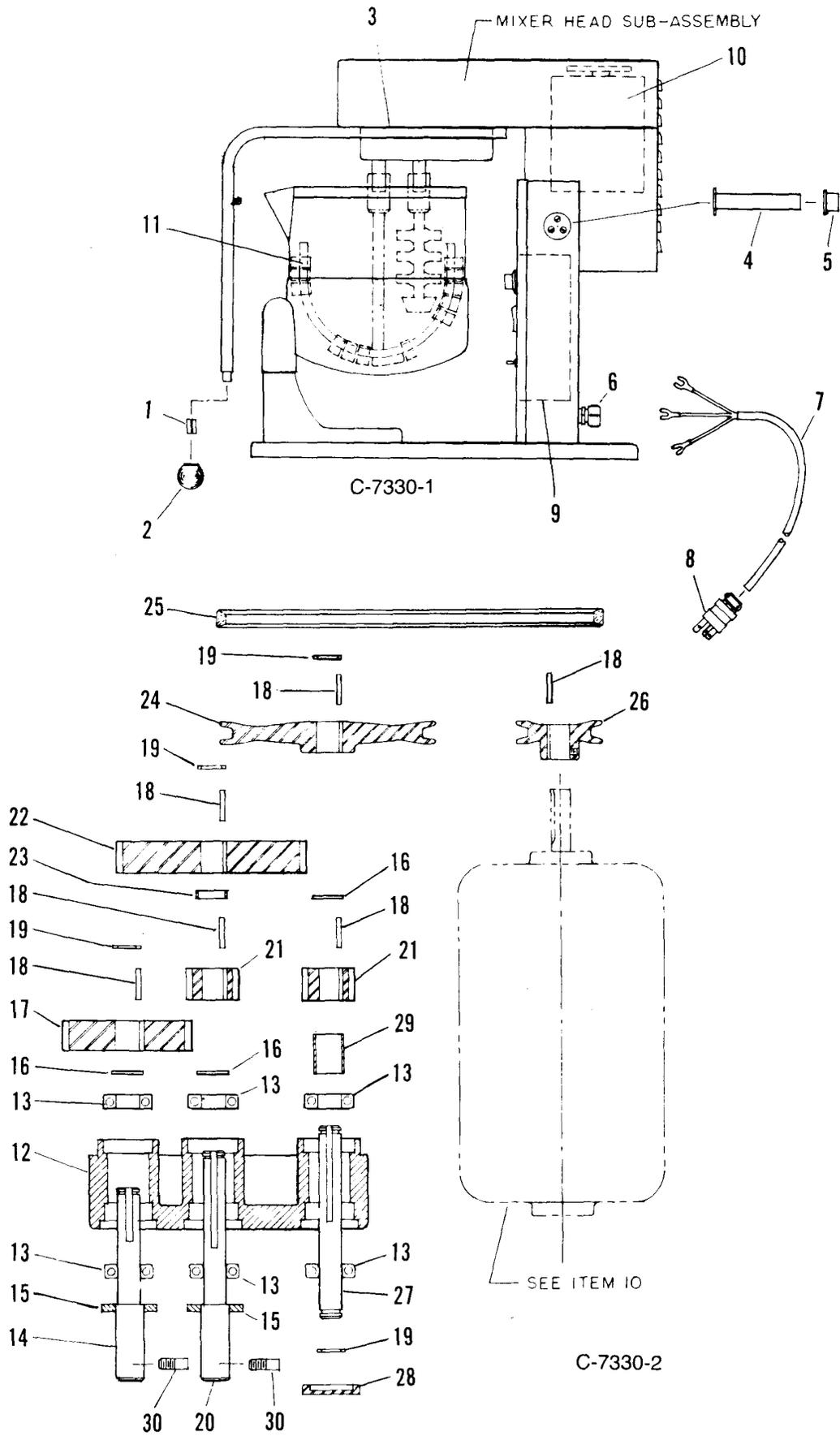
NATIONAL FIRE PROTECTION ASSOCIATION
60 Battery March Park
Quincy, Massachusetts 02269

NFPA/70 The National Electrical Code

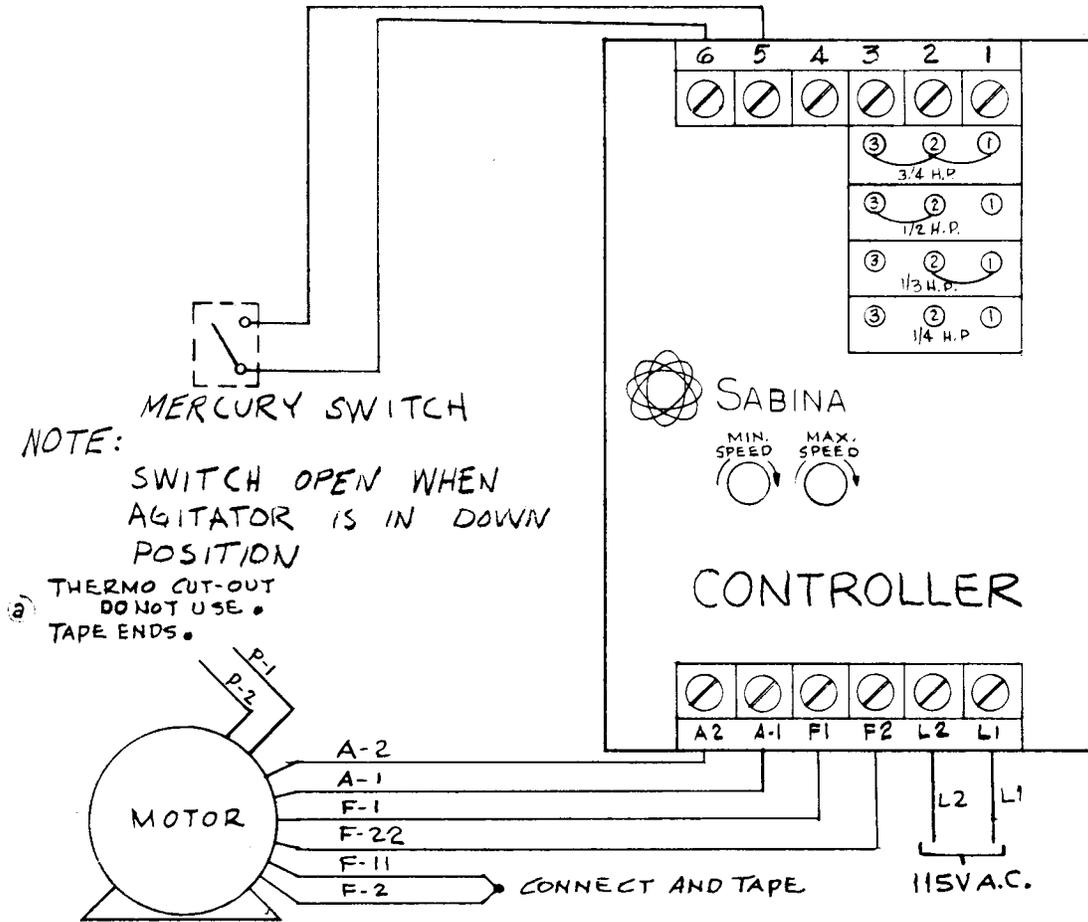
NATIONAL SANITATION FOUNDATION
3475 Plymouth Rd.
Ann Arbor, Michigan 48106

ZEP MANUFACTURING CO.
1390 Lunt Avenue
Elk Grove Village, Illinois 60007

KLENZADE SALES CENTER — ECOLAB, INC.
370 Wabasha
St. Paul, Minnesota 55102
800/328-3663 or 612/293-2233



Schematic



A-7408-10

LIMITED WARRANTY TO COMMERCIAL PURCHASERS

(Continental U.S., Hawaii & Canadian Sales Only)

Groen Foodservice Equipment ("Groen Equipment") has been skillfully manufactured, carefully inspected and packaged to meet rigid standards of excellence. Groen warrants its Equipment to be free from defects in material and workmanship for (12) twelve months, with the following conditions and subject to the following limitations.

- I. This parts and labor warranty is limited to Groen Equipment sold to the original commercial purchaser/users (but not original equipment manufacturers), at its original place of installation, in the continental United States, Hawaii and Canada,
- II. Damage during shipment is to be reported to the carrier, is not covered under this warranty, and is the sole responsibility of purchaser/user.
- III. Groen, or an authorized service representative, will repair or replace, at Groen's sole election, any Groen Equipment, including but not limited to, draw-off valves, safety valves, gas and electric components, found to be defective during the warranty period. As to warranty service in the territory described above, Groen will absorb labor and portal to portal transportation costs (time & mileage) for the first twelve (12) months from date of installation or fifteen (15) months from date of shipment from Groen.
- IV. This warranty does not cover boiler maintenance, calibration, periodic adjustments as specified in operating instructions or manuals, and consumable parts such as scraper blades, gaskets, packing, etc., or labor costs incurred for removal of adjacent equipment or objects to gain access to Groen Equipment. This warranty does not cover defects caused by improper installation, abuse, careless operation, or improper maintenance of equipment. This warranty does not cover damage caused by poor water quality or improper boiler maintenance.
- V. **THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL GROEN BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.**
- VI. Groen Equipment is for commercial use only. If sold as a component of another (O.E.M.) manufacturer's equipment, or if used as a consumer product, such Equipment is sold AS IS and without any warranty.

•(Covers All Foodservice Equipment Ordered after October 1, 1995)

OM-TA/2 (Revised 2/88)



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