



Exacting Standards, Just Like Yours, since 1948

SRM30+

Swing Ring Series

SRM30+ PLANETARY MIXER

Maintenance & Parts Manual

SRM30+



Persons under the age of 18 are not permitted to operate or have accessibility to operate this equipment per U.S. Dept. of Labor Employment Standards Administration Fact Sheet No. ESA91-3.

Welcome to Univex

Thank you for purchasing this Univex product.

Your new SRM30+ Mixer has been designed with advanced performance and safety features that make it an excellent addition to your food preparation equipment. Like all Univex mixers, slicers, meat grinders and accessories, this mixer is engineered to provide years of reliable service.

If you have any questions concerning the operation of this unit, or if we can be of further assistance, please call our Customer Service Department.

Univex Customer Service:

USA & Canada 800-256-6358 • International 603-893-6191

Safety is our Top Priority

READ AND MAKE SURE THAT YOU UNDERSTAND THE INSTRUCTIONS AND SAFETY WARNINGS IN THIS BOOKLET BEFORE ATTEMPTING TO OPERATE THE MIXER OR ATTACHMENTS.

NEVER PUT FINGERS OR HANDS IN THE BOWL WHILE THE MIXER IS OPERATING OR SERIOUS INJURY COULD RESULT.

NEVER ATTEMPT TO CLEAR A JAMMED ATTACHMENT OR STALLED MIXER WITHOUT SHUTTING THE POWER OFF. DISCONNECT THE ELECTRICAL PLUG FROM ELECTRICAL OUTLET.

ALWAYS REPLACE THE POWER TAKE-OFF (PTO) CAP WHEN ATTACHMENTS ARE NOT IN USE.

DO NOT OPERATE THIS MIXER WITHOUT THE BOWL IN PLACE

WARRANTY

The Univex SRM30+ Mixer is warranted by Univex Corporation against defects in materials and workmanship for a period of one year from date of delivery if delivered to a destination in the United States or Canada.

Contact Univex Customer Service to report any warranty claim. Univex shall not be liable for any consequential, compensatory, incidental, or special damages. damages incurred in transit or from installation error, accident, alteration, or misuse are not covered. Transit damages should be reported to the carrier immediately.

If the SRM30+ Mixer is delivered to a country other than the United States or Canada, it is warranted by Univex's authorized distributor. Contact your distributor directly to report any warranty claims outside of the United States or Canada.

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
WARRANTY	1
TABLE OF CONTENTS, LIST OF ILLUSTRATIONS	2
CHOOSING THE RIGHT LOCATION FOR YOUR NEW MIXER	3
USER-FRIENDLY SWING RING™ SAFETY GUARD	3 & 4
OPERATING THE SRM30+ MIXER	4 - 6
USING THE POWER TAKE-OFF (PTO)	6
TABLE OF MIXING CAPACITIES & RECOMMENDED AGITATOR	7
BATTERS, AGITATORS, BOWLS, & ACCESSORIES	8
CLEANING YOUR MIXER	10
OPERATOR'S PREVENTIVE MAINTENANCE	10
TROUBLE SHOOTING GUIDE	11 & 12
REMOVAL OF TOP COVER	13
MECHANICS MAINTENANCE	13 & 14
REPAIR INSTRUCTIONS	15 - 19
REPLACEMENT PARTS, LISTS	20 - 31
WIRING DIAGRAMS	32 - 34

LIST OF ILLUSTRATIONS

<u>ILLUSTRATION</u>	<u>PAGE</u>
FIGURE 1 OVERALL VIEW OF MIXER	9
FIGURE 2 LUBRICATION INSTRUCTIONS	14
FIGURE 3 TRANSMISSION	20
FIGURE 4 BEATER HEAD ASSEMBLY	21
FIGURE 5 POWER TAKE OFF ASSEMBLY	22
FIGURE 6 INPUT ASSEMBLY	23
FIGURE 7 VERTICAL SHAFT ASSEMBLY	24
FIGURE 8 BOWL LIFT ASSEMBLY	25
FIGURE 9 BOWL SUPPORT ASSEMBLY	26
FIGURE 10 SPEED CONTROL ASSEMBLY	27
FIGURE 11 VARI-SPEED AND DRIVE SYSTEM	28 - 29
FIGURE 12 HOUSING ASSEMBLY	30 - 31
FIGURE 13A WIRING DIAGRAM 115/208-240V, 60HZ, 1PH, 220-240V, 50HZ, 1PH, 100V, 50/60HZ, 1PH	32
FIGURE 13B WIRING DIAGRAM 380-400V, 50HZ, 3PH, 460V, 60HZ, 3PH....	33
FIGURE 13C WIRING DIAGRAM 208-240V, 60HZ, 3PH, 220-240V, 50HZ, 3PH	34

CHOOSING THE RIGHT LOCATION FOR YOUR NEW MIXER.

When selecting the best location for the mixer, it is helpful to consider the following:

- Where is the best location for the operator, both for saving steps and easy viewing?
- Is this a good location for product flow as in:
 - Easy to get ingredients to the mixer?
 - Destination of the mix after mixing?
 - Is there existing electrical service at this location?
 - Does this location provide easy access for cleaning and service?
 - Check to be sure that your mixer with attachments does not extend out into heavy traffic areas.
 - If stands and/or portable equipment are used along side of your mixer, can they be moved easily to and from your mixer?
- The chrome cap plugs included in your manual package are supplied to cap shipping bolt holes (Fig. 1 [16]) in mixer base if base is not anchored.
- If unit is not provided with a plug, then the unit is to be fitted with a primary disconnect device that has a contact separation of at least 3mm in all poles.

IMPORTANT ELECTRICAL SERVICE INFORMATION

Electrical wiring instructions are found in the wiring diagram (Figures 13A thru 13C). Before making electrical connections, CHECK the specifications on the nameplate to make sure that they agree with those on your electric service.

USER-FRIENDLY SWING RING™ SAFETY GUARD

Your SRM30+ Mixer features a newly updated, 2-part safety guard. The Swing Ring™ Safety Guard ring is easily be removed and installed, as well as dishwasher safe. It conveniently swings out of the way without having to be remove to place or sample ingredients in the bowl. Only one side of the guard needs to be open when adding ingredients. You'll find this two-piece design is easy to handle and fits conveniently in your sink or dishwasher. It also provides a clear view of the product throughout the mixing cycle.

This mixer will not operate unless the Swing Ring™ Safety Guard is properly engaged. Metal tabs at the rear of the guard activate twin switches that enable the mixer to run only when the guard is securely closed. These switches protect against accidental operation of the mixer when the safety guard is open or removed from the mixer. The mixer will automatically stop if the guard is open. Additional switches in the bowl slide mechanism automatically stop the mixer if the bowl is lowered from the "up" (mixing) position.

To install the Swing Ring™ Safety Guard, insert the pointed end of the rod at the rear of the guard into the lower mounting bracket on the mixer housing. Then insert the top end of the rod into the upper bracket by aligning the groove in the rod with the slot in the bracket. Press the rod in and allow it to drop

down into position. Repeat this for each of the two sections of the guard. Swing the two halves of the guard forward. When the guard is properly closed, the switches are now activated and the mixer can be operated.

To remove the guard, simply reverse the installation procedure. Grip the two halves of the guard and pull it open. Use an upward motion to release each half of the guard from the bracket on the machine body.

To open the guard for access to the bowl, first turn the mixer off by pushing the red stop button (Fig. 1 [13]). Pull open the two halves of the guard and swing one or both outward. It is not necessary to remove them. Close the guard to resume mixing operations.

OPERATING THE SRM30+ MIXER

Your Univex Mixer is designed to meet the cook's and Baker's demand for an efficient, dependable appliance. It should give unfailing performance over a period of years when operated and maintained according to the instructions contained herein.

The mixer drives various agitator attachments through a beater head shaft to beat, mix, or whip liquid, viscous, or dry ingredients. The shaft is driven by a sturdy motor whose power is transmitted by a rugged, cogged belt and a Continuously Variable Transmission (CVT) through a gear train and a planetary gear set. The speed of the beater shaft can be varied from approximately 80 to 370 revolution per minute (rpm). (See page 8 for part numbers of various agitators, attachments and accessories.)

The SRM30+ Mixer is equipped with a power take-off (PTO) that operates other attachments such as slicers, graters and grinders. The PTO speed can be varied from 65 to 300 rpm **Be sure to read and follow any safety instructions provided by the manufacturers of attachments that you operate on the PTO.** The PTO hub should be covered with the PTO cap provided with your mixer when in use.

Warning---Never put hands, spoons, utensils or other objects into the bowl while the mixer is operating!

Note: Noise emissions are below 70db (A).

Securing the Bowl & Installing the Mixer Agitator.

Place the bowl on the bowl support (Fig. 1 [17]). The pin at the rear of the bowl must align with the corresponding slot on the bowl support. Align the holes in the bowl mounting brackets over the pins on the bowl support and lower the bowl into position. Secure the bowl by turning the bowl clamps (Fig. 1 [18]).

With the bowl in the "down" position, install the desired agitator by sliding it upward onto the beater shaft (Fig. 1 [1]). Rotate the agitator counter-clockwise until it is engaged.

Safety Note Serious injury may result if the bowl is not fully secured to the bowl support using the bowl support pins and firmly closing the clamps.

With the bowl secured, add ingredients. Liquids should be added first. The bowl is now ready to be raised to the "up" (mixing) position by turning the bowl lift handle (Fig. 1 [14]) clockwise.

When using the wire whip agitator, raise the bowl to the "up" position first and then add ingredients to avoid wire whip damage.

Secure and close the Swing Ring™ Safety Guard before proceeding.

Using the Bowl Lift

The mixer will not operate unless the bowl is in the “up” position. Raise the bowl by turning the bowl lift handle (Fig. 1 [14]) clockwise. To lower the bowl, turn the handle counter-clockwise. It is necessary to lower the bowl to change the agitator. This also makes the bowl accessible for filling.

Setting the Timer - Start/Stop Controls

This mixer will not operate unless the timer has been set to a specified number of minutes or set in the “HOLD” position. To start the mixer, first turn the timer dial (Fig. 1 [8]) to the desired mixing time. Then push the start button (Fig. 1 [12]). The mixer will automatically stop when the timer reaches “0”. To stop mixing before the timer reaches “0”, push the red stop button (Fig. 1 [13]).

The timer may be set for up to 15 minutes of mixing, or may be set to the “HOLD” position for continuous operation. When setting a time of less than 5 minutes, turn the dial beyond 5 minutes and then return it to the desired time.

Safety Note The mixer will start only when the Swing Ring™ Safety Guard is engaged and the bowl is in the raised position. Do not operate the mixer without the bowl in place.

Manual Stop Button

For safety and operational ease, this mixer is equipped with a stop button (Fig. 1 [13]) that has an oversized, red mushroom-style cap.

Safety Note Although the motor shuts off instantly when the Swing Ring™ Safety Guard is opened, or the bowl is lowered, or the stop button is pushed, the agitator may not come to complete rest for several revolutions. **Do not put hands or utensils into bowl or near the beater shaft until it is stopped.**

Both the start button and stop button are momentary contact type. They provide low voltage protection and prevent accidental start-up in the event of power interruption.

Vari-Speed Control

A major advantage of Univex mixers is their Continuously Variable Transmission (CVT). Unlike other mixers, CVT lets you **change speed while the mixer is running**. Change speed by moving the speed control lever (Fig. 1 [9]) to the desired level. The speed indicator (Fig. 1 [10]) shows four speeds. Numerous intermediate speeds give the Cook or Baker tremendous flexibility.

Use speed 1 (slow) for heavy mixtures like pizza, bread or roll dough. Speed 1 should also be used with the Meat and Food Chopper attachment. For most mixing tasks, start on speed 1 and progress to higher speeds as needed. Use high speeds for whipping cream, beating eggs, and thin batter. **To avoid damaging your mixer, follow the speed, volume limits and attachments recommendations shown in the Table of Mixing Capacities on page 7.**

If you notice any slippage during mixing, the mixer may be overloaded. Reduce the load, or reduce speed until mixing action is smooth. Refer to the Trouble- Shooting Guide on page 11 & 12.

If the mixer jams and the motor stalls, immediately press the stop button. Take necessary steps to reduce the load. **Never put hands in the bowl to clear a jam.**

Note Always return to speed 1 before shutting off the mixer. Do not move the speed control lever when the mixer is not running, because this will cause belt to become loose and the mixer will not operate properly.

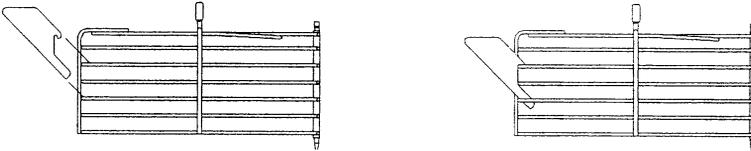
If the mixer has been shut off by the timer, or stop button in speed 2, 3 or 4, follow these steps to avoid belt slippage or jerky start: Empty the bowl. Set the timer to "HOLD". Press the start button. As the mixer begins to operate, move the speed control lever back to speed 1. Press the stop button. Return to "0". Your mixer is now ready for it's next task.

Using the Ingredients Chute

The ingredients chute provided with your mixer enables you to add ingredients to the bowl while the mixer is running, and without opening or removing the Swing Ring™ Safety Guard. The chute may be installed on the front or side of either half of the guard. See below. Once the chute is properly installed, it can remain in place permanently, if desired.

Ingredients Chute Installation

Slide the bottom of the chute between horizontal safety guard rings and engage the chute onto the safety guard.



Using Smaller Bowl

For maximum flexibility, an alternative 20 quart bowl is available for use on your SRM30+ Mixer. Specially sized agitators must be used. See page 8 for part numbers.

Splash/Extension Ring

A splash/extension ring (page 8 [j]) mounted to the bowl helps confine ingredients during the mixing of certain recipes. The ring should **never be used to overload** a mixer beyond its recommended capacity. Consult the Table of Mixing Capacities on page 7 when you are unsure of appropriate loads.

USING THE POWER TAKE-OFF (PTO)

The power take-off hub (Fig. 1[5]) accommodates #12 tapered attachments such as a Vegetable Slicer and Shredder, or a Meat and Food Chopper. The mixer's speed control lever also controls the PTO drive speed.

Before installing attachments, turn the mixer off. Remove the PTO cap and loosen the thumb screw (Fig. 1 [6]) on the PTO hub. Insert the attachment with a slight twist until firmly in place. Tighten the thumb screw. **Be sure to read and follow any safety instructions provided for attachments that you operate on the PTO.**

Safety Notes

When grinding meat, chopper attachments must never run faster than speed 1. For vegetables, attachments may run at higher speed.

Always turn the mixer off to install or remove attachments.

Always return to speed 1 before shutting off mixer.

Cover the PTO hub with the PTO cap when not in use.

Table of Mixing Capacities & Recommended Agitators

MODEL		SRM30+	
		36 qt #12 1 hp	34 L
Kitchen Capacities (single batches)	Agitator(s)		
Mashed potatoes	Batter beater, 4-wing beater	23 lb	10.5 kg
Whipping cream	Wire whip, 4-wing beater	6 qt	5.7 L
Mayonnaise	Batter beater, wire whip, 4-wing beater	12 qt (oil)	11.4 L (oil)
Egg whites	Wire whip	1 1/2 qt	1.4 L
Meringue	Wire whip	1 qt (water)	0.9 L (water)
Waffle or pancake batter	Batter beater	12 qt	11.4L
Bakery Capacities (single batches)	Agitator(s)		
Pie dough	Pastry knife	27 lb	12.3 kg
Cake	Batter beater, 4-wing beater	30 lb	13.7 kg
Sponge cake batter	Wire whip, 4-wing beater	18 lb	8.2 kg
Angle food batter (8-10 oz cake)	Wire whip, 4-wing beater	22 cakes	22 cakes
Marshmallow icing	4-wing beater	3 lb	1.4 kg
Fondant icing	Batter beater	18 lb	8.2 kg
Shortening & sugar creamed	Batter beater	24 lb	10.9 kg
Egg & sugar for sponge cake	Batter beater, 4-wing beater	12 lb	5.5 kg
Use only speed 1 for:			
Pizza dough			
thin, 40% AR	Dough hook	14 lb	6.4 kg
medium, 50% AR	Dough hook	20 lb	9.1 kg
thick, 60% AR	Dough hook	40 lb	18.2 kg
Use speed 1 or 2 for:			
Raised doughnut dough			
65% AR	Dough hook	15 lb	6.8 kg
Bread/roll dough			
heavy, 55% AR	Dough hook	30 lb	13.7 kg
light to med., 60% AR	Dough hook	45 lb	20.5 kg

NOTES: Recommended speeds are for the capacities listed. For larger capacities, reduce speed. Dough capacity, whether for bread, rolls, pizza, bagels or doughnuts, is based on 12% flour moisture and 70°F (21°C) water temperature. Reduce capacity if cold water is used. If higher gluten flour is used, reduce total capacity by 10%.

AR% (Absorption Ratio) = the weight of the water divided by the weight of the flour.

The lower the AR% the stiffer and more difficult the dough is to mix.

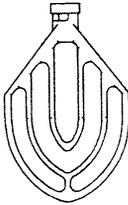
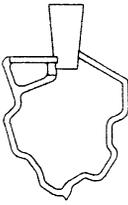
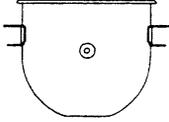
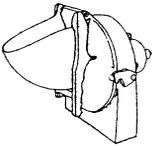
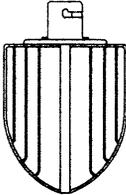
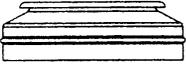
AR% below 40% will reduce total capacity.

1 gallon of water = 8.3 lb. (1 liter of water = 2.2lb)

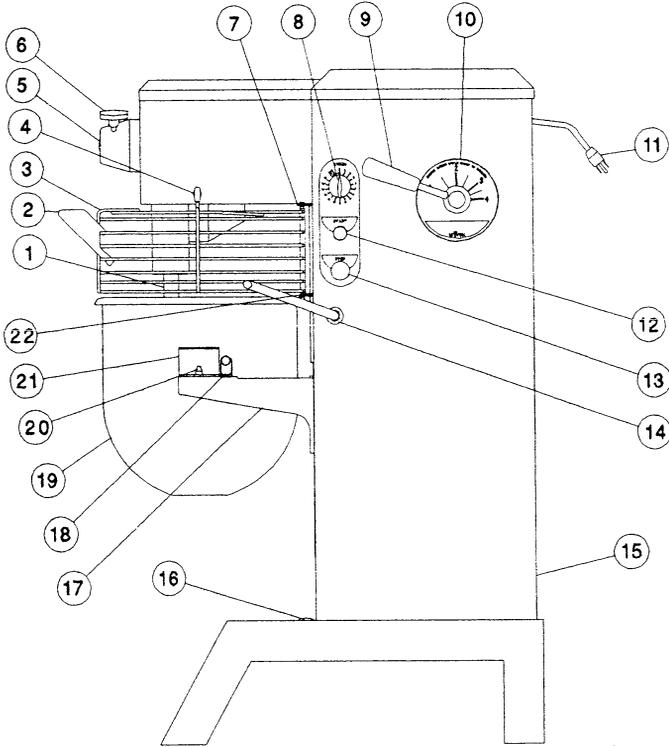
Beaters, Agitators, Bowls, & Accessories

Available for the SRM30+ Mixer

Part numbers (size in quarts)

<p>A. Batter Beater 1033107 (30)</p> <p>Optional 1030108 (20 for 30)</p> 	<p>F. Sweet Dough Beater</p> <p>Optional 1030098 (30) 2030195 (20 for 30)</p> 
<p>B. Wire Whip 1030111 (30)</p> <p>Optional 1030226 (20 for 30)</p> 	<p>G. Bowl 1035023 (30)</p> <p>Optional 1035024 (20 for 30)</p> 
<p>C. Dough Hook 1033225 (30)</p> <p>Optional 1030224 (20 for 30)</p> 	<p>H. Vegetable Slicer/Grater</p> <p>Optional VS9 Slicer 1000950 VS9H Grater 1001050</p> 
<p>D. Pastry Knife Optional 1030227 (30) 1030321 (20 for 30)</p> 	<p>I. Meat & Food Chopper</p> <p>Optional ALMFC12 1000550</p> 
<p>E. Four Wing Beater Optional 1030101 (30) 1030102 (20 for 30)</p> 	<p>J. Splash/Extension Ring Optional 1061299 (30)</p> 

OVERALL VIEW OF FOOD MIXER
FIGURE 1



- | | |
|--|-------------------------------------|
| 1. BEATER SHAFT | 12. START BUTTON |
| 2. CHUTE 1000541 | 13. STOP BUTTON |
| 3. SAFETY RING ASSEMBLY
1030041 RIGHT, 1030042 LEFT | 14. BOWL LIFT HANDLE |
| 4. MAGNET | 15. REAR ACCESS PANEL |
| 5. NO. 12 HUB | 16. CAP (COVERS SHIPPING BOLT HOLE) |
| 6. THUMB SCREW | 17. BOWL SUPPORT |
| 7. UPPER MOUNTING BRACKET | 18. BOWL CLAMP |
| 8. TIMER | 19. BOWL |
| 9. SPEED CONTROL LEVER | 20. BOWL SUPPORT PIN |
| 10. SPEED INDICATOR LABEL | 21. BOWL MOUNTING BRACKET |
| 11. CORD | 22. LOWER MOUNTING BRACKET |

CLEANING YOUR MIXER

Consistent use of the following procedures will ensure that your mixer is in optimum condition.

- **Warning -- Disconnect electric power supply before cleaning.**
- Wash the body of the mixer, the bowl support, and beater shaft with warm water and mild soap.
- Avoid excess water in the area of the safety switch that protrude from the housing where the Swing Ring™ Safety Guard is mounted.
- Do not rinse with a hose.
- Do not use abrasive pads.
- Dry the mixer thoroughly using a soft cloth.
- Wash the bowl and beater immediately after use. If egg mixtures or flour batter have been used, rinse the bowl and beater with cold water before washing with hot water. Wash the Swing Ring™ Safety Guard in the same manner, or in your dishwasher.
- Dry bowls, agitators and safety guard thoroughly.

OPERATOR'S PREVENTIVE MAINTENANCE

For best long-term performance, operators should follow these simple practices.

- Lightly lubricate the beater shaft (Fig. 1 [1]) after washing. Petro-Gel or equivalent food grade lubricant should be used.
- Do not cover the unit with a plastic bag, as this traps humidity in your mixer.
- If the electrical supply cord is damaged, it must be replaced by a special cord or assembly available from Univex directly or from a Univex service agent.
- Do not overload the mixer. **Overloading is the #1 cause of mixer failure**, Follow the Table of Mixing Capacities on page 7. It may be helpful to post a copy of this table adjacent to the mixer.
- Keep the mixer properly lubricated. **Lack of lubrication is #2 cause of mixer failure**. Key mixer components require lubrication after each 500 hours of operation. (Instructions on frequency and method of lubricating are on page 14).
- Only change speed with the mixer running. **Changing speed with mixer off will cause belts to loosen, and the mixer will not turn** (see Trouble-Shooting Guide on page 11 & 12). Return to speed 1 before shutting the mixer off. Use the procedure described on page 6 to return the mixer to speed 1 if mixer is shut off in a higher speed.

SRM30+ TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	REMEDY
1. Mixer will not operate.	1.1 Timer not turned on.	1.1 Turn timer on.
	1.2 Burned switch contacts	1.2 Replace. *
	1.3 Electrical service down.	1.3 Check electrical service. Replace fuse or reset circuit breaker if necessary.
	1.4 Motor capacitor defective. (1 HP Only)	1.4 Replace. *
	1.5 Burned out motor.	1.5 Remove, test, repair or replace. *
	1.6 Magnetic starter tripped due to overload	1.6 Wait several minutes and push start button
	1.7 SAFETY RING not mounted and closed.	1.7 Install SAFETY RING.
	1.8 Bowl not raised.	1.8 Raise bowl completely .
2. Mixer runs but agitator will not turn.	2.1 Drive belt off pulley	2.1 Reinstall drive belt on motor pulley and adjust mount center distance. *
	2.2 Key or Pin sheared on input shaft, input gear, bevel pinion, bevel gear, vertical shaft or beater shaft.	2.2 Locate by step inspection and replace defective part. *
	2.3 Shifting speed with mixer not running.	2.3 With mixer running, slowly move speed control lever slowly fully forward then backward to re-engage belt
3. Agitator stalls during mixing	3.1 Mixer bowl is overloaded	3.1 Adjust contents of bowl per Mixing Capacities Table
	3.2 Speed is set too high for the mix	3.2 Shift speed lower till action rotates smoothly
	3.3 Loose belt	3.3 Readjust pulley center distance to tighten belt. *
	3.4 Contamination of belt with grease	3.4 Clean pulleys and replace belt *
4. Speeds do not change properly	4.1 Loose belts.	4.1 Tighten or replace belts. *
	4.2 Vari-Speed pulley inoperative	4.2 Remove, clean & lubricate, or replace. *

SRM30+ TROUBLESHOOTING GUIDE (CONT'D).

5. Mixer runs, but repeatedly cuts out and stops	5.1 Bowl overloaded 5.2 Speed is set too high for the mix 5.3 Service voltage too low or fluctuating 5.4 Starter improperly set	5.1 Adjust contents of bowl per Mixing Capacities Table 5.2 Reduce speed 5.3 Check electrical voltage. * 5.4 Adjust amp setting on starter. *
6. Attachments contact bottom of bowl.	6.1 Dented bowl. 6.2 Bowl height is set too high	6.1 Remove dent or replace bowl. 6.2 Reset bowl height. *
7. Attachments contact side of bowl	7.1 Dented bowl 7.2 Insufficient clearance between bottom of bowl and beater.	7.1 Remove dents or replace bowl 7.2 Adjust bowl height. *
8. Excessive noise.	8.1 Gears need to be repacked with grease. 8.2 Badly worn or frayed drive belts. 8.3 Attachments hitting bowl 8.4 Overloaded mixing bowl	8.1 Locate source by inspection and repack with grease. * 8.2 Replace belts. * 8.3 Inspect for cause in items 6 and 7 above. 8.4 Adjust contents of bowl per Mixing Capacities Table

* Remedies designated with a * require the services of an authorized service agent.

REMOVAL OF TOP COVER

- a. The top cover (Fig. 12 [17]) must be removed in order to perform the maintenance operations. It is secured by a spring clip at its front end and a screw at its rearward end. First, **DISCONNECT THE ELECTRICAL POWER FOR SAFETY**. Then, remove the screw in the rear (Fig. 12 [21]), lift rear of cover, push forward about 3 inches and lift cover off.
- b. Reinstall in reverse procedure using care to insure that the cover sits squarely and uniformly on the mixer housing.

MECHANICS MAINTENANCE

Every six months a mechanic should perform the following inspection and maintenance as required:

1. BELTS

- a. **WARNING:** Start mixer and adjust speed control (Fig. 1 [9]) to speed 4. Stop mixer. **FOR SAFETY, DISCONNECT POWER.**
- b. Remove top cover (Fig. 12 [17]) and rear access panel (Fig. 12 [24]).
- c. Check belts (Fig. 11 [11 & 22]). If broken, glazed or worn, replace.
- d. Check belt (Fig. 11 [11]) for proper tension. The outer edge of the belt should be flush with the outer diameter of the variable speed pulley (Fig. 11 [10]). If not, adjust by loosening the Jam Nut (Fig. 10 [15]) and turning the connecting rod (Fig. 10 [14]) until the outer edge of belt is flush with the outer diameter of the pulley. Retighten Jam Nut.
- e. **WARNING:** Plug machine in, start mixer, and adjust speed control to speed 1. Stop mixer. **FOR SAFETY, DISCONNECT POWER.**
- f. Check belt (Fig. 11 [22]) for proper tension. The outer edge of the belt should be flush with the outer diameter of the variable speed pulley (Fig. 11 [10]). If not, adjust by loosening nuts (Fig. 11 [14]), holding motor (Fig. 11 [29]), raise or lower the motor until the outer edge of belt is flush with the outer diameter of pulley. Retighten Nuts.

2. MOTOR

Check motor (Fig. 11 [29]) for overheating, noise and excessive end play. Replace if defective.

3. BOWL LIFT ADJUSTMENT (Fig. 8 and 9)

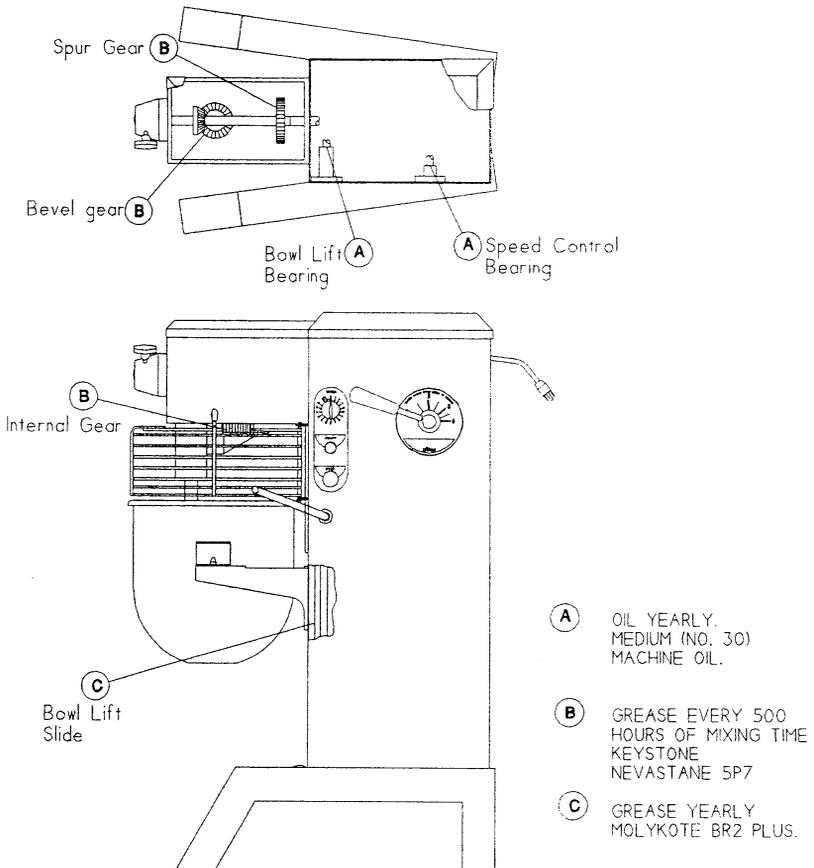
- a. Place 30 qt. mixing bowl on bowl support (Fig. 1 [17]) and 30 qt. batter beater on beater shaft (Fig. 1 [1]).
- b. Raise bowl support to the high position.
- c. Check clearance between bottom of bowl and lowest point of batter beater. Clearance should be 3/16 inch, plus or minus 1/16 inch.
- d. If adjustment is required, disconnect power, loosen lock nut (Fig. 8 [10]) and turn linkage rod (Fig. 8 [9]) until desired clearance is obtained. Retighten lock nut.

4. LUBRICATION

The lubrication instructions are in Fig. 2. Motors have pre-lubricated bearings with a service interval of ten years. The transmission and beater head gearing are packed with Nevastane 5p7 grease. They must be repacked every 500 hours of mixing time.

WARNING: NEVER WORK ON THE TRANSMISSION WITH THE MIXER RUNNING. IT IS RECOMMENDED THAT THE ELECTRICAL SERVICE BE DISCONNECTED TO PREVENT ACCIDENTAL START UP.

LUBRICATION INSTRUCTIONS
FIGURE 2



REPAIR INSTRUCTIONS
(including disassembly, replacement and reassembly)

TRANSMISSION (Fig. 3)

Removal

1. **WARNING:** DISCONNECT POWER FOR SAFETY.
2. Remove housing top cover (Fig. 12 [17]).
3. Adjust speed control to low speed, then back to high speed, remove upper retainer bracket (Fig. 11 [16]), and upper V-belt (Fig. 11 [11]) from transmission drive pulley (Fig. 11 [12]). Remove drive pulley.
4. **Caution:** Transmission assembly is heavy and must be supported prior to removing. Remove four cap screws (Fig. 3 [10]) securing transmission housing to mixer housing. Remove transmission assembly and place on work bench.
5. Remove transmission cover (Fig. 3 [2]) by removing four screws (Fig. 3 [3]) and sliding towards the rear and lifting up.
6. Rotate gear train by hand and inspect for worn or chipped gears, bent shafts, worn bearings and excessive back lash; removal of grease may be necessary. Back lash measured at gear teeth exceeding 1/32" is considered excessive. After trouble has been isolated, proceed to disassemble.

Disassembly

1. **Beater Head Assembly** (Fig. 4)

NOTE: If a gear requires replacement, always replace it's mating gear.

- a. Remove cap screw, left hand thread, (Fig. 4 [12]) and remove beater head assembly using jacking screws (Fig. 4 [9]) if necessary.
- b. Remove drive pin (Fig. 4 [1]), retaining rings (5), gear (6), key (3), retaining ring (7), and press shaft (2) and bearings (4) from housing (10).
- c. Press bearings (4) along with spacer (8) from shaft (2)

2. **Power-Take-Off Assembly** (Fig. 5)

- a. Remove three cap screws (Fig. 5 [8 & 21]), washer (6 & 7), deflector (5) retaining ring (3), at gear (12) end of shaft. Withdraw the PTO assembly from the transmission housing.

NOTE: Gear (12) must be removed during withdrawal of PTO assembly.

- b. Slide retaining ring (3) and bevel gear (11) away from PTO housing (4). Remove retaining ring (10) and adapter (2). Press shaft assembly from housing (4).
- c. Remove retaining rings (3), key (14 & 17). Press bearings (9) and gear (11) from shaft (13).

3. Input Assembly (Fig. 6)

- a. Remove screw (Fig 6 [11]) and washers (12 &13) to detach grease retainer (14) from housing (8)
- b. Remove two cap screws (Fig. 6 [10]) and remove input assembly from transmission.
- c. Remove retaining rings (1), gear (2), woodruff key (5). Press shaft (6) at gear end with bearing (4) from housing (8).
- d. Remove retaining rings (3) and press bearing (4) from housing (8).
- e. Remove retaining ring (1) and press shaft (6) from bearing (4).

Note: Grease retainer can only be removed from gear box once the PTO gear (Fig. 5 [12]) has been removed.

4. Vertical Shaft Assembly (Fig. 7)

- a. Remove retaining ring (1) from shaft (5).
- b. Drive shaft (5) and lower bearing (3) downward out of transmission housing. A brass drift will be necessary to drive shaft (5) completely free from transmission housing.
- c. Lift bevel gear (2) and key (6) from transmission housing.
- d. Remove retaining ring (4) and drive upper bearing (3) from transmission housing.
- e. Remove key (7) and press lower bearing (3) off shaft (5).

Reassembly

- a. Clean all components, except bearings with safety approved cleaning solvent. Inspect components for defects and replace those found to be defective.

NOTE: All gears should be replaced as sets.

- b. If shafts have become slightly scored during the disassembly process, polish the shafts with fine machinist's crocus cloth. Use care to avoid excessive removal of shaft surface or proper fit of components will be lost.
- c. Reassembly should be carried out in the reverse of the disassembly procedure as follows.
 1. Vertical shaft assembly.
 2. PTO assembly except spur gear (Fig 5 [12]).
 3. Place grease retainer (Fig 6 [14]) in place in transmission housing (Fig 3 [1]), then assemble gear (Fig 5 [12]) associated with PTO assembly, then slide input housing assembly in place and finally attaching grease retainer (Fig 6 [14]) back onto input housing (Fig 6 [8]) with screw (Fig 6 [11]). Attach input housing to transmission housing with screws (Fig 6 [10]).

d. Transmission should be progressively checked for smooth operation while on the workbench by hand turning each assembly as it is installed.

- e. Lubrication of the transmission should be done following its installation on the mixer. Apply Keystone Nevastane 5p7 grease to the spur gear and bevel gear meshes. This may be simplified by feeding the grease into the rotating gear meshes. Caution should be exercised to avoid entrapment of the application implement in the gear teeth. Insure the deflector (Fig. 5 [5]) is positioned to dynamically guide the lubrication into the bevel gear mesh.

BOWL SUPPORT ASSEMBLY: (Fig. 9)

- a. **WARNING:** Disconnect electrical power for safety.
- b. Remove housing top cover (Fig. 12 [17]) and rear access panel Fig. 12 [24]).
- c. Remove four cap screws (Fig. 9 [18]) and remove bowl support (Fig. 9 [1]) and slide cover (Fig. 9 [7]).

CAUTION: Bowl support must be held while screws are being removed in order to prevent it from falling.

- d. Reassembly is the reverse procedure.

SLIDE ASSEMBLY: (Fig. 9)

- a. Carry out above disassembly procedure for removing bowl support.
- b. Remove fixed slide cover (Fig. 12 [6]) by removing two nuts (Fig. 12 [5]).
- c. Remove retaining ring (Fig. 9 [10]) from rod end pin (13). Withdraw pin (13) from rod end (12).
- d. Remove four Kep nuts (Fig. 9 [9]) and withdraw slide frame (8) from housing studs.
- e. Remove four cap screws (Fig. 9 [15]) and lift off gibbs (14). Remove slide (20).
- f. Clean and inspect sliding surfaces for excessive wear.
- g. Replace parts showing excessive wear.
- h. Lubricate sliding surfaces with grease.
- i. Reassemble and reinstall in the reverse of the above procedure.
- j. Check clearance between batter beater and bowl per Mechanics Maintenance section 3 (a-d) and readjust as necessary.

SPEED CONTROL ASSY. (Fig. 10)

Disassembly

1. Remove housing cover (Fig. 12 [17]) and rear access panel (Fig. 12 [24]).

2. Loosen screw on collar (Fig. 10 [17]). Remove collar (17) rod end (16) and O-ring (Fig 11 [8]) from cam assembly (Fig. 10 [11]). Loosen set screws (10) in cam assembly (11).
3. Drive roll pin (4) from hub (3) and pull hub (3), lever (2), and handle (1) from cam assembly shaft (11). Remove washer (5) from cam assembly (11).
4. Unscrew handle (1) from lever (2), and lever (2) from hub (3).
5. Remove nut (8) and washer (7) from studs holding speed control bearing (6) to housing (Fig. 12 [3]).
6. Withdraw bearing (6) and remaining assembly from housing (Fig. 12 [3]).
7. Pull cam assembly (11) from bearing (6).
8. Remove screws (20), lock washers (21), strap (22), and spring (19) from bearing (6).
9. Remove screws (13) and detent disk (12).

Reassemble

- 10 Reassemble in reverse of above procedure. Grease cam assembly shaft (11) and detent disk (12) during assembly with MolyKote BR2 Plus or general purpose bearing grease. Adjust belt as described in Mechanics Maintenance section 1 paragraph a,d,f.

NOTE: The detent disk (12) has a slight angle on the O.D. Assemble with small dia. of O.D. toward the cam assembly (11).

- 11 If speed control handle (1) moves while the mixer is running, tighten set screws (10) against spring washer (9) until movement stops.

VARI-SPEED ASSEMBLY (Fig 11)

Disassembly

1. Remove housing cover (Fig. 12 [17]) and rear access panel (Fig. 12 [24]) as described in the removal of top cover section.
2. Shift handle (Fig. 10 [1]) from fourth speed to first speed and back to fourth speed with the mixer **OFF**. (Squeezing the belts (Fig. 11 [11 & 22]) together at mid span will help.)
3. Unscrew nut (14) and remove washer (15) and belt retainer (16).
4. Unwrap belt (11) from pulley (12) and withdraw from vari-speed pulley (10).
5. Shift handle (Fig. 10 [1]) to first speed.
6. Unscrew nuts (14). Remove washers (15) and belt retainer (24) from mixer.
7. Unwrap belt (22) from pulley (23). Withdraw belt (22) from vari-speed pulley (10).

8. Loosen screws on starter (Fig. 12 [33]) which secure motor cord power leads (Fig. 11 [35]). Remove nut (33), lock washer (34) and motor cord ground lead from weld stud. Remove nuts (33), and cord clamps (32).
9. Remove nuts securing motor (29) and lift motor from mixer. Loosen set screw on pulley (23) and slide pulley (23) and key (28) off motor shaft.
10. Remove two screws securing connection box plate on rear end of motor. Remove green grounding screw securing motor cord (35) ground lead. Pull cord leads from motor terminals. (Three phase motors have wire nuts securing cord leads to motor leads)
11. Loosen jam nut (Fig. 10 [15]). Loosen set screw on collar (Fig. 10 [17]). Slide collar and rod end (Fig. 10 [16]) off cam assy. (Fig. 10 [11]). Unscrew rod end (Fig. 10 [16]) and jam nut (Fig. 10 [15]) from connecting rod (Fig. 11 [18]). Unscrew connecting rod from rod end (Fig. 11 [7]).
12. Remove nuts (14) and washers (13). Withdraw vari-speed pulley assy. from mixer housing.
13. Loosen the two set screws on each vari-speed pulley (10) and remove from shaft (9). Remove woodruff keys (17) and retaining rings (1) from shaft. Drive shaft (9) from pulley swivel bracket (4). Press remaining ball bearings (2) from shaft (9) and from swivel bracket (4). Remove retaining rings (3) from swivel bracket.
14. Remove retaining rings (6) from rod end pin (5) and bracket swivel pin (21). Drive pins (21 & 5) from swivel bracket (4) and swivel bracket base (19).

Reassemble

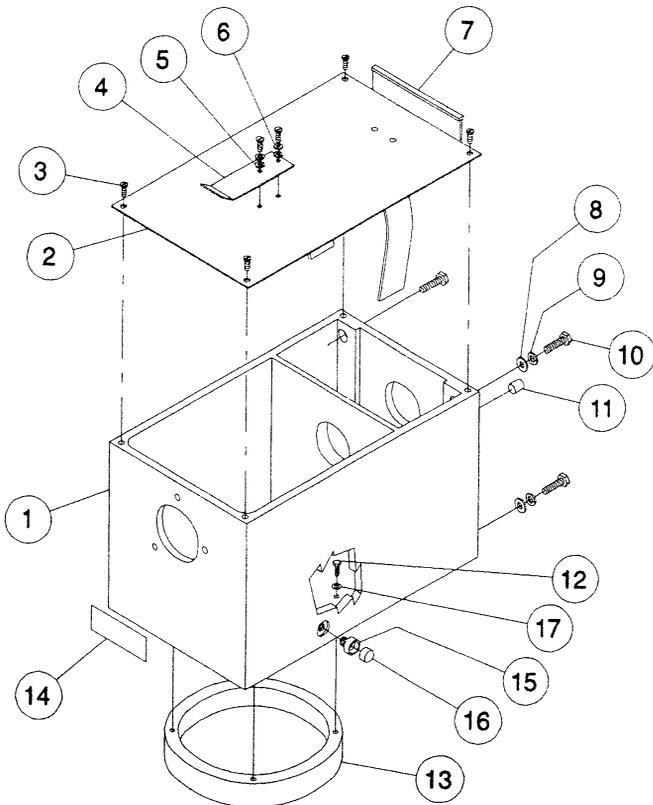
15. Reassemble in reverse of above procedure. Adjust belts as described in Mechanics Maintenance section 1 a, d-f.
16. Adjust upper and lower belt retainers (16 & 24) 1/8" from outer belt surface.

HOUSING (Fig 12)

For the remaining parts which have not been discussed pertain to electrical components and the housing, Figures 12, 13A, 13B, and 13C should provide adequate guidance for the disassembling and reassembling of these parts.

TRANSMISSION
FIGURE 3

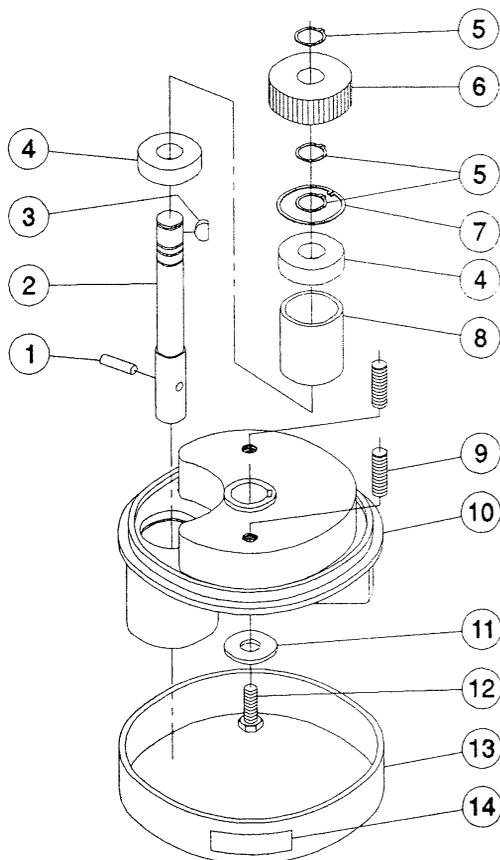
ILLUS.	PART NO.	DESCRIPTION	QTY.
1	1035044	Transmission Housing	1
2.	1035015	Transmission Cover	1
3.	1200012	Phillips Hd. Screw 10-32 x 1/2	6
4.	1024041	Spring Clip	1
5.	1200076	Washer, Flat #10	2
6.	4400065	Washer, Lock #10	2
7.	8800022	Foam Strip	1 ft
8.	1200084	Steel Flat Washer 1/2	4
9.	1200085	Split Spring Lock Washer 1/2	4
10.	1200057	Hex Hd. Cap Screw 1/2-20 x 1	4
11.	4400194	Dowel pin 1/4 OD x 1/2 LG	2
12.	1200437	Soc Hd. Cap Screw 1/4-20 x 1 1/8" Nyloc	4
13.	1030174	Internal Gear	1
14.	4400344	Label, Univex	1
15.	1012438	Holder, Magnet	2
16.	1012439	Magnet	2
17.	4400005	Lock Washer 1/4	4



BEATER HEAD ASSEMBLY

FIGURE 4

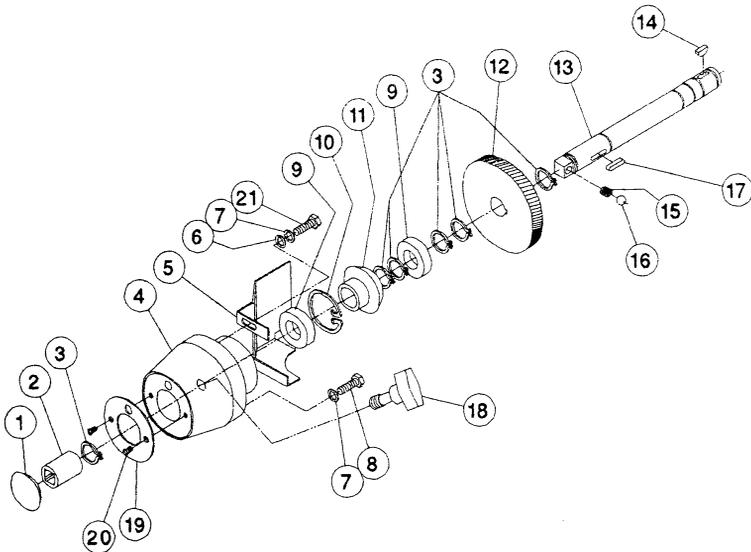
ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1200110	Drive Pin, 3/8 x 1-3/8"	1
2.	1033236	Beater Head Shaft	1
3.	1200113	Woodruff Key #9	1
4.	1030148	Ball Bearing, 6205LL	2
5.	1200253	Retaining Ring, External	3
6.	1031039	Beater Head Gear, Pinion	1
7.	1200254	Retaining Ring, Internal	1
8.	1030149	Beater Head Spacer	1
9.	8900038	Set Screw 3/8-16 x 1 1/4	2
10.	1030173	Beater Head	1
11.	4400399	Washer, 7/16"x 1-1/4"x 5/64"	1
12.	1200051	Hx. Hd. Cap Screw 3/8-24x1-1/4" lh thd	1
13.	1030209	Splash Ring	1
14.	4400269	Label, Rotation	1



POWER-TAKE-OFF ASSEMBLY
FIGURE 5

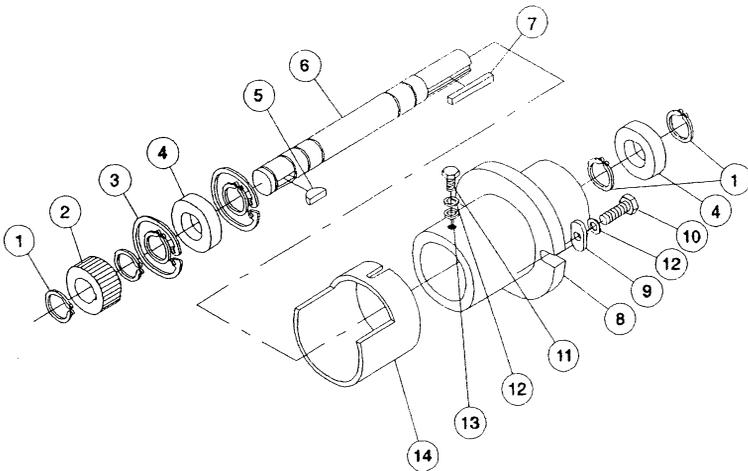
ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	8800033	P.T.O. Cover	1
2.	8800012	Adapter, Attachment	1
3.	1200119	Retaining Ring, External	6
4.	4400030	P.T.O. Housing	1
5.	1035025	Deflector, Lubrication	1
6.	1200075	Washer, Flat 1/4	1
7.	4400005	Lock washer, Steel 1/4	3
8.	1200025H	Hex Hd. Cap Screw 1/4-20 x 3/4"	2
9.	1030019	Ball Bearing, 6204 LL	2
10.	1200117	Retaining Ring, Internal	1
11.	1035016	Bevel Gear, Pinion Only	1
12.	1020004	Spur Gear	1
13.	1035019	P.T.O. Shaft	1
14.	1200113	Woodruff Key #9	1
15. *	4400006	Spring, P.T.O. Shaft	1
16. *	4400016	Ball, P.T.O. Shaft	1
17.	4400232	Key 3/16 SQ x 1.0 LG Rounded Ends	1
18.	4400229	P.T.O. Knob Assy	1
19.	4400210	Washer, P.T.O.	1
20.	8900019	Screw SFHD 6-32 x 3/8	2
21.	1200022H	Screw, Hex HD. Cap 1/4-20 x 1"	1

* Not Available. Part of P.T.O. Shaft. 13



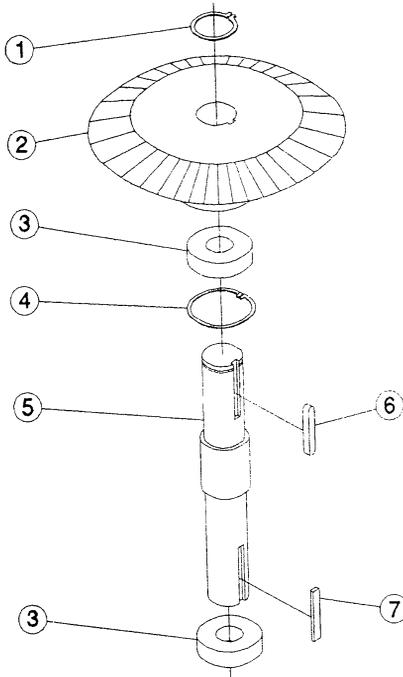
INPUT ASSEMBLY
FIGURE 6

ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1200119	Retaining Ring, External	6
2.	1020010	Gear-Input Pinion	1
3.	1200117	Retaining Ring, Internal	2
4.	1030019	Ball Bearing, 6204 LL	2
5.	1200113	Woodruff Key #9	1
6.	1035021	Input Shaft	1
7.	4400230	Key 3/16 sq. x 1-1/2 lg	1
8.	1030017	Input Housing	1
9.	4400003	Steel Flat Washer 1/4	2
10.	1200022H	Hx. Hd. Cap Screw 1/4-20 x 1	2
11.	1200328	Screw, Hx Hd Cap 1/4-20 x 5/16	1
12.	4400005	Lock washer 1/4	3
13.	1200075	Washer, Flat 1/4	1
14.	1035028	Retainer, Grease	1



VERTICAL SHAFT ASSEMBLY
FIGURE 7

ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1200253	Retaining Ring, External	1
2.	1035018	Gear, Bevel	1
3.	1030142	Ball Bearing	2
4.	1200254	Retaining Ring, Internal	1
5.	1035017	Vertical Shaft	1
6.	4400500	Key 1/4 sq x 1 1/2 Lg Rounded Ends	1
7.	4400230	Key 3/16 sq x 1 1/2 Lg	1

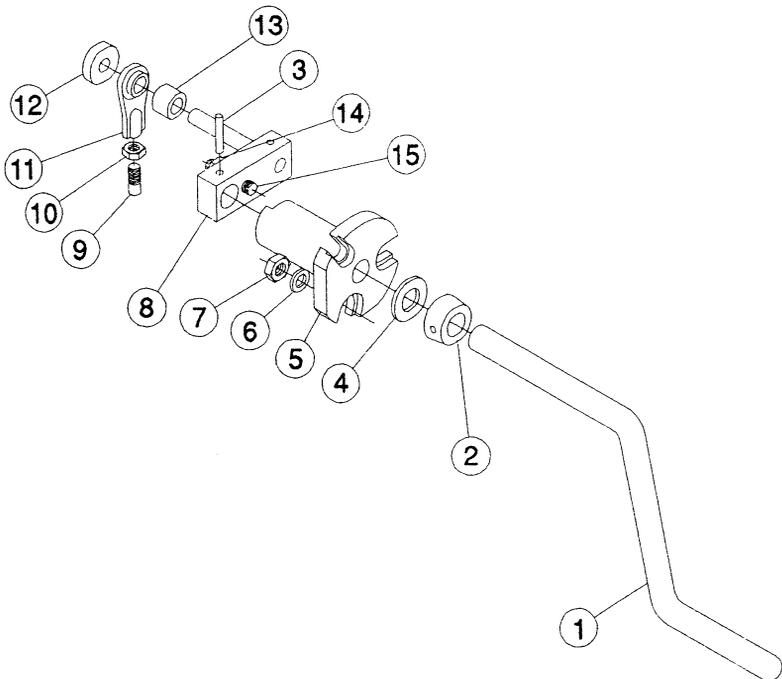


BOWL LIFT ASSEMBLY
FIGURE 8

ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1024512	Lever, Bowl Lift	1
2.	1012350 **	Collar, Bowl Lift	1
3.		Reserved	
4.	1200301	Nylon Washer 5/8	1
5.	1012133	Bowl Lift Bearing	1
6.	4400127	Steel Flat Washer 3/8	3
7.	1200063	Keo Nut 5/16-18	3
8.	1035026	Cam Assembly (includes items 14 & 15)	1
9.	1020078 *	Connecting Rod	1
10.	1200155	Hex Nut 3/8-24	1
11.	1012201	Rod End 3/8-24 R.H.	1
12.	1020441	Collar & Set Screw	1
13.	1030318	Spacer, Nylon 3/8"	1
14.	1200435	Reversible Lockout 5/16-24	1
15.	1200434	Set Screw 5/16-24 x 1 1/8	1

* Part NO. 1020078 is broken in half in Figure 10. It is actually one piece and only one is needed for bowl lift assembly.

** Comes with Set Screw 10-32 x 3/4 LG.



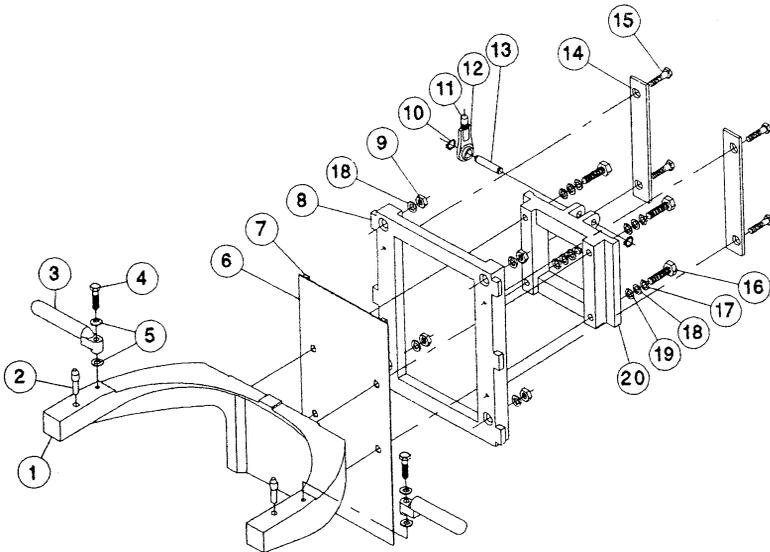
BOWL SUPPORT ASSEMBLY
FIGURE 9

ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1030166	Bowl Support	1
2.	4400219	Pin, Bowl Support	2
3.	1030322	Bowl Clamp	2
4.	1200448	Hx.Hd. Cap Screw Shldr 3/8x1, thd 5/16-18 x 1/2"	2
5.	1200091	Belleville Washer	2
6.	1030193	Slide Cover, Moveable	1
7.	1020040	Gasket Strip	2
8.**	1030178	Frame, B.L.	1
9.	1200063	Kep Nut 5/16-18	4
10.	1200311	Retaining Ring, External	2
11.*	1020078	Connecting Rod, B.L.	1
12.	1012202	Rod End 3/8-24 L.H.	1
13.	1012181	Pin, Rod End	1
14.	1030179	Gibb, B.L.	2
15.	1200039	Hex Hd. Cap Screw 5/16-18 x 3/4"	4
16.	1200049	Hex Hd. Cap Screw 3/8-16 x 2"	4
17.	1200079	Lock Washer 3/8	4
18.	4400127	Flat Washer 3/8	8
19.	1200083	Steel Flat Washer 3/8	4
20.**	1030177	Slide, B.L.	1

* Same part as ILLUS NO. 9 in Figure 8.

** Sold as a matched set

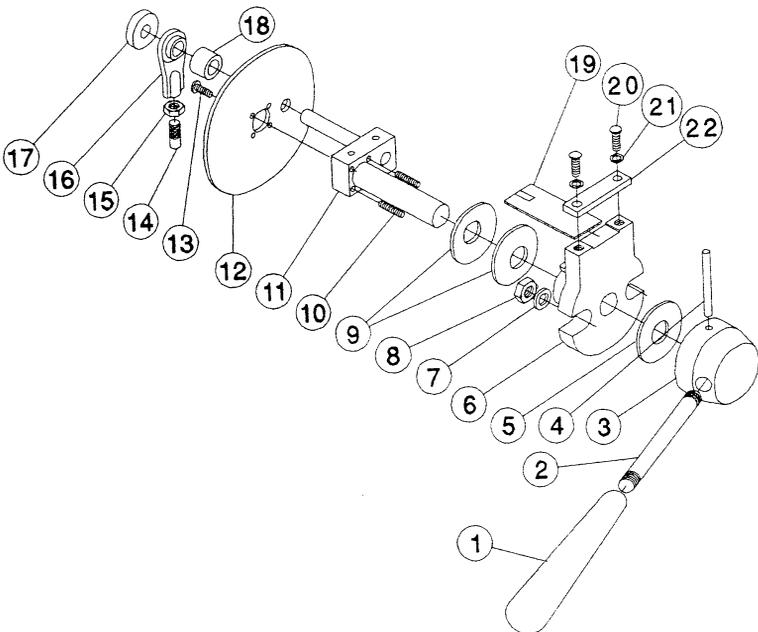
NOTE: ILLUS. NO. 8, 10, 11, 12, 13, 14, 15, and 20, may be purchased as an assembly 1030176.



SPEED CONTROL ASSEMBLY
FIGURE 10

ILLUS	PART NO.	DESCRIPTION	QTY.
1.	4400202	Knob, S.C.	1
2.	1020066	Lever, S.C.	1
3.	1012137	Hub, S.C.	1
4.	1200300	Roll Pin 3/16"x2"	1
5.	1200301	Nylon Washer 5/8	1
6.	1020068	Speed Control Bearing	1
7.	4400127	Steel Flat Washer 3/8	2
8.	1200063	Kep Nut 5/16-18	2
9.	1200156	Spring Washer 5/8	2
10.	1200304	Set Screw, 10-32 x 3/4"	2
11.	1020069	Cam, S.C.	1
12.	1023222	Detent Disk	1
13.	1200471	Screw, Hex Socket Hd. Cap Plated 10-32 x 1/2"	2
14.*	1030223	Connecting Rod, S.C.	1
15.	1200155	Hex Nut 3/8-24	1
16.	1012201	Rod End 3/8-24, R.H.	1
17.	1020441	Collar & Set Screw	1
18.	1030318	Spacer, Nylon 3/8" ID	1
19.	1023223	Spring, S.C.	1
20.	4400208	Phillips Hd. Screw 1/4-20 x 1/2"	2
21.	4400005	Lock Washer 1/4	2
22.	1023225	Strap, S.C.	1

* Part NO. 1030223 is broken in half in Figure 11. It is actually one piece and only one is needed for bowl lift assembly.

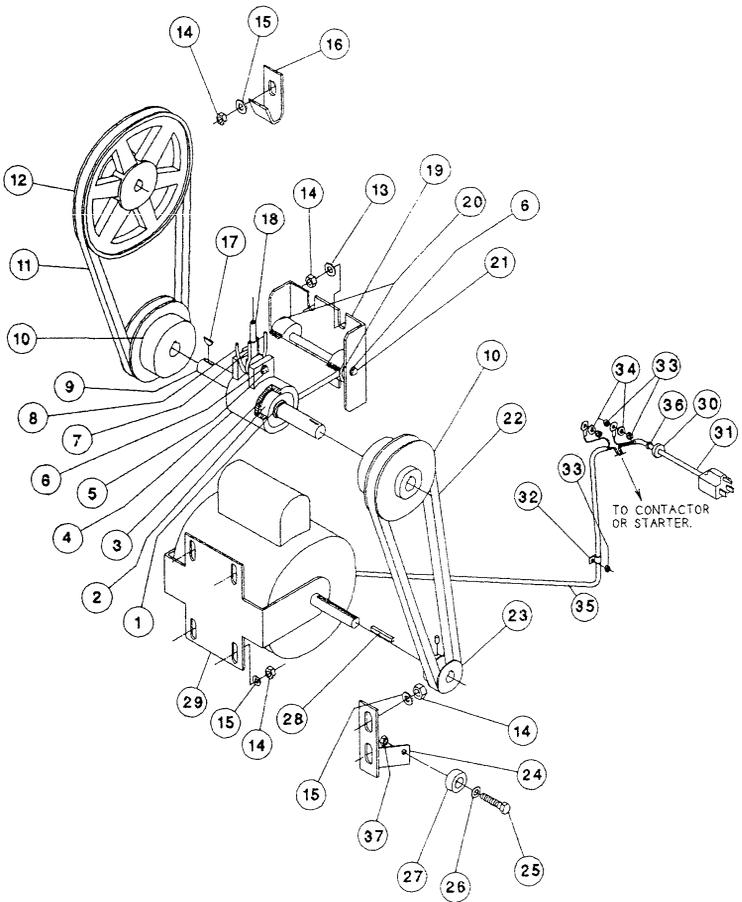


VARI-SPEED ASSEMBLYFIGURE 11

ILLUS.	PART NO.	DESCRIPTION	QTY.
1.	1200119	Retaining Ring - External	2
2.	1030019	Ball Bearing - 6204LL	2
3.	1200117	Retaining Ring - Internal	2
4.	1030167	Pulley Swivel Bracket	1
5.	1012181	Rod End Pin	1
6.	1200311	Retaining Ring - External	4
7.	1012202	Rod End 3/8-24 L.H.	1
8.	4400009	Rubber "O" Ring 3/16 x 4"	1
9.	1035020	Vari-Speed Shaft	1
10.	1030154	Vari-Speed Pulley (comes with (2) 1/4-20x3/8 set screws)	2
11.	1030153	Cog Belt BX42	1
12.	1030152	Pulley Driven BK95X3/4 (comes with (2) 5/16-18x5/8 set screws)	1
13.	1200083	Washer, Flat 3/8	4
14.	1200063	Kep Nut 5/16-18	11
15.	4400127	Steel Flat Washer 3/8	9
16.	1023240	Bracket, Upper Belt Retainer	1
17.	1200113	Woodruff Key #9	2
18.*	1030223	Connecting Rod - S.C.	1
19.	1030216	Swivel Bracket Base	1
20.	4400127	Steel Flat Washer 3/8	2
21.	1030191	Bracket Swivel Pin	1
22.	1030157	Cog Belt BX35	1
23.	1030155	Pulley Drive BS24X5/8 (comes with 5/8-18x3/8 set screw)	1
24.	1033220	Bracket, Lower Belt Retainer	1
25.	1200413	Screw Cap Hex HD 1/4-20 X 1-1/2	1
26.	1200075	Washer, Flat 1/4	1
27.	1023219	Roller	1
28.	4400232	Key 3/16 SQ. X 1	1
29.	1030307E	Motor, 1HP, 115/208-240V, 60HZ, 1PH (includes item 30)	1
	1031310	Motor, 1HP, 220-240V, 50HZ, 1PH	1
	1031311	Motor, 1HP, 208-240/460V, 60HZ, 3PH	1
	1031312	Motor, 1HP, 220-240/380-400V, 50HZ, 3PH	1
	1031314	Motor, 1HP, 100V, 50/60HZ, 1PH	1
30.	7100107	Strain Relief	1
31.	8800200	Cord, 115V, 60HZ, 1PH, 100V, 50/60HZ, 1PH	1
	8800201	Cord, 208-240V, 60HZ, 1PH, 220-240V, 50HZ, 1PH	1
	8800101	Cord, 220-240V, 50HZ, 1PH (British)	1
	8800102	Cord, 220-240V, 50HZ, 1PH (CE)	1
	7100100	Cord, 400V, 50HZ, 3PH (CE & BRITISH)	7 FT
32.	4400101	Clamp, Cord	3
33.	1200060	Nut, Hex 10-32	6
34.	4400065	Lock washer #10	2
35	8800225	Cord, Motor 1PH	1
	8800226	Cord, Motor 3PH	1
36	4400398	Wire Tie	2
37	4400141	Kep Nut 1/4-20	1

* Same part as ILLUS NO. 14 in Figure 10.

VARI-SPEED ASSEMBLY
FIGURE 11 (CONT.)

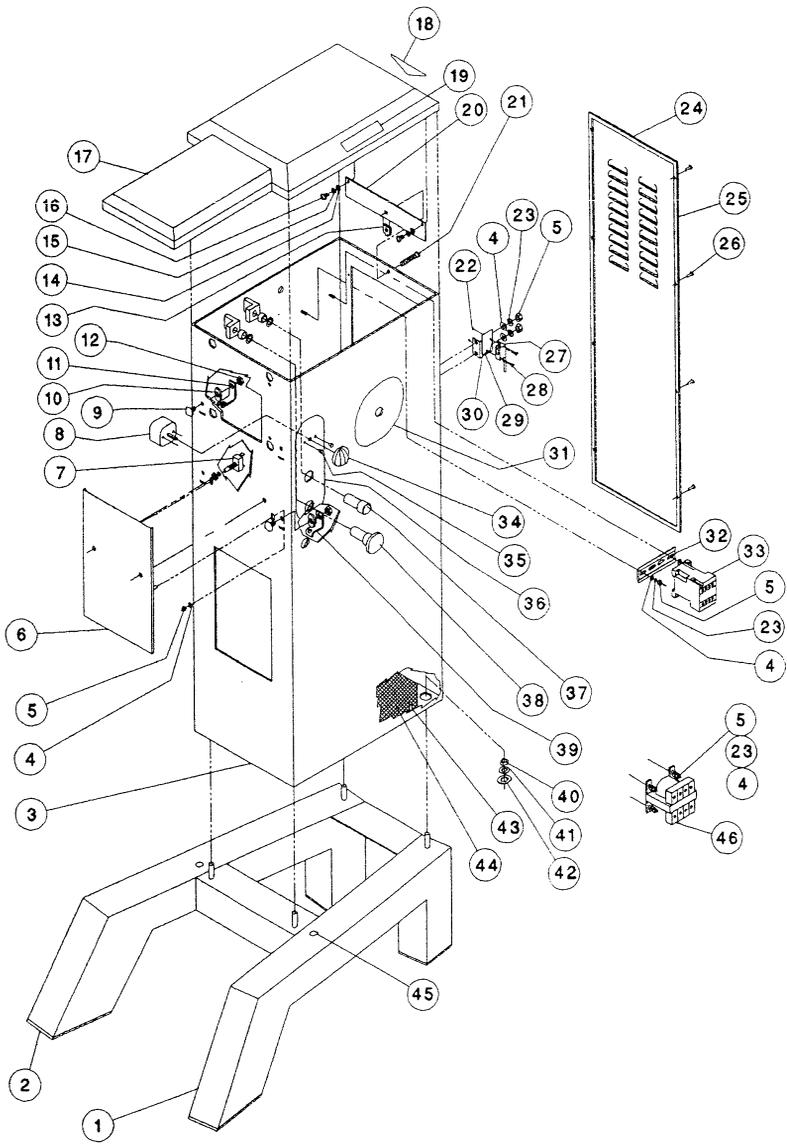


HOUSING ASSEMBLYFIGURE 12

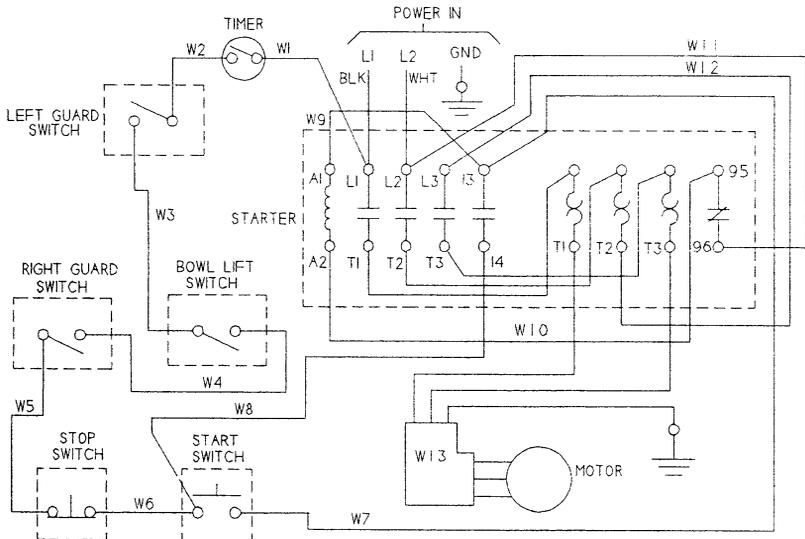
ILLUS	PART NO.	DESCRIPTION	QTY.
1	1035011	Mixer Base	1
2	4400237	Feet	4
3	1035043	Mixer Housing, SRM30+	1
4	1200076	Steel Flat Washer #10	10
5	1200060	Hex Nut 10-32 x 3/8 x 1/8	6
6	1035045	Fixed Slide Cover	1
7	7100123	Switch, Guard	2
8	7100027	Timer, 15 min.	1
9	4400413	Bolt, Carr 1/4-20 X 3/4 SS	4
10	4400003	Spacer	4
11	1012441	Bracket, Upper	2
12	4400141	Nut, Kep 1/4-20	4
13	4400001	Nut, Tinnerman	1
14	1200092	Washer, Flat #8	2
15	4400183	Washer, Lock #8	2
16	1200008	Screw, 8-32 x 3/8" PPHD	2
17	1035013	Housing Cover	1
18	4400114	Label, To Lift Cover (Not For Europe)	1
19	4400113	Label, Stop Unplug (Not For Europe)	1
20	1024042	Spring, Top Cover	1
21	1200422	Screw Sheet Metal #12 PPHD 1" LG.	1
	1200451	Screw (Security Option)	1
22	1200433	Nut, Elastic Stop 4-40	6
23	4400065	Lock washer #10	4
24	1030190	Rear Access Panel	1
25	8800022	Rubber Strip	7.5 ft
26	1200012	Phillips Hd. Screw 10-32 x 1/2	8
	1200452	Screw (Security Option)	8
27	7100103	Switch, Guard	1
28	1200432	Screw, Hex HD 4-40 x 3/4	6
29	7100023	Insulating Barrier	1
30	1024411	Bracket, Bowl Switch	1
31	4400349	Decal, Speed Control	1
32	7100010	Mount, Contactor	1
33	1033324	Starter 115V, 60HZ, 1PH	1
	7100041	Starter 208-240V, 60HZ, 1PH,	1
	7100110	Starter 220-240V, 50HZ, 1PH	1
	1033325	Starter 208-240V, 60HZ, 3PH	1
	7100111	Starter 460 V, 60HZ, 3PH	1
		380V, 50HZ, 3PH	1
	7100042	Starter 220 V, 50HZ, 3PH	1
	7100113	Starter, 100V, 50/60HZ, 1PH	1
34	7100028	Knob, Timer	1
35	4400079	Screw CHZ HD M4-.7mm x 6mm LG	2
36	4400311	Decal, Start/Stop/Timer	1
37	7100101	Push Button, Start	1
38	7100102	Push Button, Stop	1
39	1012442	Bracket, Lower	2
40	4400015	Kep Nut 3/8-16	4
41	1200083	Steel Flat Washer 5/16	4
42	1200302	Steel Flat Washer 5/8	4
43	4400081	Screw Drive (CE and Canada only)	4
44	1035012	Screening	1
45	1200125	Cap	4

46	1033326	Transformer, 440-460V, 60HZ, 3PH	1
	7100106	Transformer, 380V, 50HZ, 3PH	1
47	4400171	Bushing, (Not Shown)	3
48	1200450	Tool Kit (Security Option)	1

HOUSING ASSEMBLY
FIGURE 12



SCHMATIC 115/208-240V, 60HZ, 1PH
100V, 50/60HZ, 1PH
220-240-V, 50HZ, 1PH
FIGURE 13A



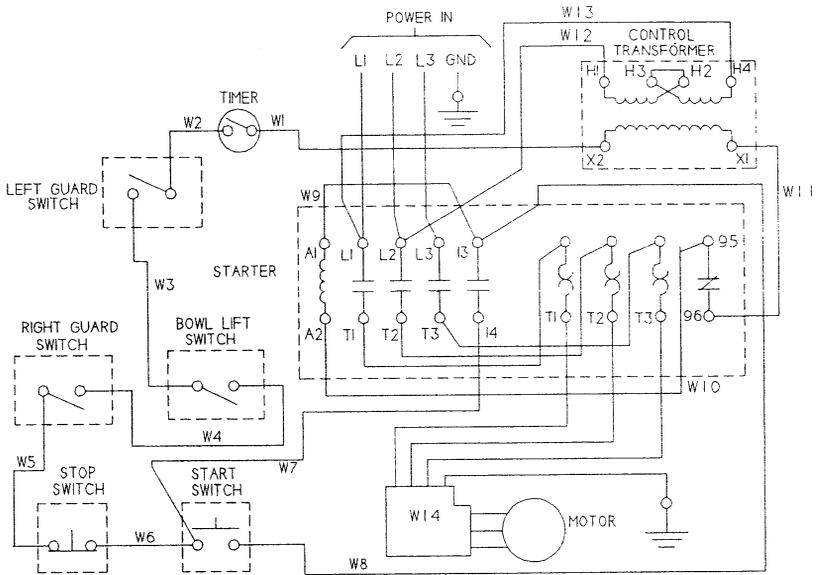
WIRE TABLE							
PART NUMBER	WIRE NO.	GA	SEE NOTE	LENGTH IN INCHES	END A SEE NOTE	END B SEE NOTE	COLOR
8800235	W1	16	3	31	1	2	WHITE
	W2	16	3	12	2	2	WHITE
	W3	16	3	6	2	2	BLACK
	W4	16	3	6	2	2	BLACK
	W5	16	3	4	1	2	RED
	W6	16	3	2 1/2	1	1	RED
	W7	16	3	31	1	1	BLACK
	W8	16	3	34	1	1	RED
PART OF STARTER	W9	16	3	2 1/2	1	1	RED
	W10	16	3	5 1/2	1	1	RED
	W11	16	3	8 1/2	1	1	RED
	W12	16	3	11	1	1	BLACK
8800225	W13						

- NOTES: 1. ATTACH DOUBLE CRIMP FERRULE.
 2. ATTACH DOUBLE CRIMP 1/4" FEMALE QUICK DISCONNECT FULLY INSULATED.
 3. MATERIAL: 1015 TEW CSA AND UL APPROVED.

IMPORTANT: Before making electrical connections, check the specifications on the data plate (located on the rear access panel) to assure they agree with those of your electrical service.

Warning: Whenever maintenance is being performed or whenever the top cover or rear access panel have been removed, DISCONNECT electrical cord and place a tag on it indicating the mixer is being worked on.

SCHMATIC
380-400V, 50HZ, 3PH, 460V, 60HZ, 3PH
FIGURE 13B



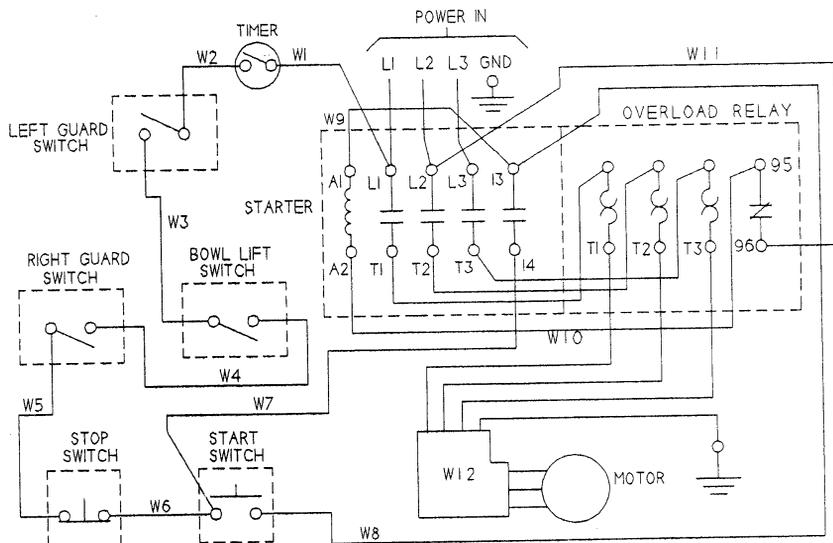
WIRE TABLE							
PART NUMBER	WIRE NO.	GA	SEE NOTE	LENGTH IN INCHES	END A SEE NOTE	END B SEE NOTE	COLOR
8800236	W1	16	3	45	4	2	WHITE
	W2	16	3	12	2	2	WHITE
	W3	16	3	6	2	2	BLACK
	W4	16	3	6	2	2	BLACK
	W5	16	3	4	1	2	RED
	W6	16	3	2 1/2	1	1	RED
	W7	16	3	31	1	1	BLACK
	W8	16	3	34	1	1	RED
	W11	16	3	9	1	4	RED
	W12	16	3	9	1	4	BLACK
W13	16	3	9	1	4	WHITE	
PART OF STARTER	W9	16	3	2 1/2	1	1	RED
	W10	16	3	5 1/2	1	1	RED
8800226	W14	CORD					

- NOTES: 1. ATTACH DOUBLE CRIMP FERRULE.
 2. ATTACH DOUBLE CRIMP 1/4" FEMALE QUICK DISCONNECT FULLY INSULATED.
 3. MATERIAL: 1015 TEW CSA AND UL APPROVED.
 4. NO. 10 RING TERMINAL. AMP 60772-1

IMPORTANT: Before making electrical connections, check the specifications on the data plate (located on the rear access panel) to assure they agree with those of your electrical service.

Warning: Whenever maintenance is being performed or whenever the top cover or rear access panel have been removed, DISCONNECT electrical cord and place a tag on it indicating the mixer is being worked on.

SCHEMATIC 208-240V, 60HZ, 3PH
220-240V, 50HZ, 3PH
FIGURE 13C



WIRE TABLE								
PART NUMBER	WIRE NO.	GA	SEE NOTE	LENGTH IN INCHES	END A SEE NOTE	END B SEE NOTE	COLOR	
8800235	W1	16	3	31	1	2	WHITE	
	W2	16	3	12	2	2	WHITE	
	W3	16	3	6	2	2	BLACK	
	W4	16	3	6	2	2	BLACK	
	W5	16	3	4	1	2	RED	
	W6	16	3	2 1/2	1	1	RED	
	W7	16	3	31	1	1	BLACK	
	W8	16	3	34	1	1	RED	
PART OF STARTER	W9	16	3	2 1/2	1	1	RED	
	W10	16	3	5 1/2	1	1	RED	
	W11	16	3	8 1/2	1	1	RED	
8800226	W12	CORD						

- NOTES: 1. ATTACH DOUBLE CRIMP FERRULE.
 2. ATTACH DOUBLE CRIMP 1/4" FEMALE QUICK DISCONNECT FULLY INSULATED.
 3. MATERIAL: 1015 TEW CSA AND UL APPROVED.

IMPORTANT: Before making electrical connections, check the specifications on the data plate (located on the rear access panel) to assure they agree with those of your electrical service.

Warning: Whenever maintenance is being performed or whenever the top cover or rear access panel have been removed, DISCONNECT electrical cord and place a tag on it indicating the mixer is being worked on.