

# ***BIRO***®

## **MODEL MINI-32 AUTOMATIC FEED MIXER GRINDER OPERATING AND SERVICE MANUAL**



### ☆ **IMPORTANT NOTICE** ☆

**This Manual contains important safety instructions which must be strictly followed when using this equipment.**



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— OPERATOR'S NOTES —

# NOTICE TO OWNERS AND OPERATORS

BIRO's products are designed to process food products safely and efficiently. Unless the operator is properly trained and supervised, however, there is the possibility of a serious injury. It is the responsibility of the owner to assure that this machine is used properly and safely, strictly following the instructions contained in this Manual and any requirements of local law.

No one should use or service this machine without proper training and supervision. All operators should be thoroughly familiar with the procedures contained in this Manual. Even so, BIRO cannot anticipate every circumstance or environment in which its products will be used. You, the owner and operator, must remain alert to the hazards posed by the function of this equipment — particularly the ROTATING GRINDING AUGER and the ROTATING MIXING PADDLE, which can severely injure an inattentive operator amputating fingers and limbs. No one under eighteen (18) years of age should operate this equipment. If you are uncertain about a particular task, ask your supervisor.

This Manual contains a number of safe practices in the SAFETY TIPS section. Additional warnings are placed throughout the Manual. Warnings related to your personal safety are indicated by:



OR



Warnings related to possible damage to the equipment are indicated by:



BIRO also has provided warning labels on the equipment. If any warning label, instruction label or Manual becomes misplaced, damaged, or illegible, please contact your nearest Distributor or BIRO directly for a replacement.

Remember, however, this Manual or the warning labels do not replace the need to be alert and to use your common sense when using this equipment.

## THE BIRO MANUFACTURING COMPANY

1114 West Main Street  
MARBLEHEAD, OHIO 43440  
Phone (419) 798-4451  
FAX (419) 798-9106  
<http://www.birosaw.com>  
E-Mail: [service@birosaw.com](mailto:service@birosaw.com)

## SAFETY TIPS



### **ROTATING GRINDING AUGER & ROTATING MIXING PADDLES TO AVOID SERIOUS PERSONAL INJURY**

**NEVER** Touch This Machine without Training and Authorization by Your Supervisor.

**NEVER** Place Hands into Machine Input or Output Openings.

**NEVER** Open Machine During Operation.

**ONLY** Use a Qualified Electrician to Install According to Local Building Codes: Machine **MUST** Be Properly Grounded.

**ALWAYS** Connect to **Proper** Voltage & Phase.

**ONLY** Install on Level, Non-Skid Surface in a Clean, Well-Lighted Work Area Away from Children and Visitors.

**ALWAYS** Lock Machine Castors After Moving This Machine.

**NEVER** Use This Machine For Non-Food Products.

**NEVER** Operate Machine With Product Mixer Safety Cover Open or Removed or Magnetic Interlock Switch By-Passed.

**ALWAYS** Turn Off, Unplug Machine From Power Source and Perform Lockout/Tagout Procedure to this Machine **BEFORE** Attempting to Unjam or Unclog, Cleaning or Servicing.

**NEVER** Leave Machine Unattended While Operating.

**NEVER** Alter This Machine From its Original Form as Shipped From Factory. **DO NOT** Operate Machine With Missing Parts.

**PROMPTLY REPLACE** Any Worn or Illegible Warning Labels.

**ALWAYS** Read Operation and Service Manual **BEFORE** Operating, Cleaning, or Servicing.

**USE ONLY BIRO** Parts and Accessories Properly Installed.

# INSTALLATION



## TO AVOID SERIOUS PERSONAL INJURY, PROPERLY INSTALL EQUIPMENT IN ADEQUATE WORK AREA

**ALWAYS** Use Qualified Technician and Electrician for Installation.

**ALWAYS** Connect to **Proper** Voltage & Phase.

**ALWAYS** Install Equipment in Work Area with Adequate Light and Space Away From Children and Visitors.

**ONLY** Operate on a Solid, Level, Non-Skid Surface.

**ALWAYS** Lock Machine Castors After Moving Machine.

**NEVER** Bypass, Alter, or Modify This Equipment in Any Way From Its Original Condition.

**NEVER** Operate Machine With Product Mixer Safety Cover Opened or Removed or Magnetic Interlock Switch By-Passed.

**NEVER** Operate Without all Warning Labels Attached and Owner/Operator Manual Available to the Operator.

## UNCRATING AND SET UP

1. Read this Manual thoroughly before installation and operation. **Do not** proceed with installation and operation if you have any questions or do not understand anything in this Manual. Contact your local Distributor, or BIRO **first**.
2. Remove all banding, shipping carton, and all equipment from inside the tub. Then take machine off shipping pallet.
3. Install machine on a level, non-skid surface in a well-lighted work area away from children and visitors.
4. This machine is complete except for knife and plate. There is a bowl shipping plug (stamped steel) placed in the output end of the grinding bowl to retain the grinding auger during shipment. **REMOVE THE BOWL SHIPPING PLUG AND THE GRINDING AUGER.**



5. After checking and making sure the power supply is correct, plug in your machine. **NEVER OPERATE MACHINE WITH PRODUCT MIXER SAFETY COVER OPEN OR HOPPER REMOVED.** (Machine will not run with cover open or hopper removed.)
6. Machine must be properly grounded. Use qualified electrician to install according to local building codes.

## MOTOR WIRING AND ELECTRICAL REQUIREMENTS

1. Interchange of motor current is made in motor outlet box. Leads are properly marked. Changing instructions are on the motor plate or inside junction box cover.
2. All grinders are wired 220 volts unless otherwise specified. Be sure motor specifications (voltage, cycle, phase) match power supply line. Be sure line voltage is up to specification.
3. Connect leads to machine in a manner that will be approved by local electrical inspectors.
4. Rated voltage of the unit shall be identical with full supply voltage.
5. Voltage drop on the supply line shall not exceed 10% of full supply voltage.
6. The feederline conductor size in the raceway from the branch circuit to the unit must be correct to assure adequate voltage under heavy starting and short overload conditions.
7. The feederline conductor shall only be used for the supply of one unit of the relevant horsepower. For connections of more than one unit on the same feeder line, a local electrician will have to be consulted to determine the proper conductor size.
8. The size of the electrical wiring required from the power source to the mixer-grinder/chopper is a **MINIMUM OF No. 12 WIRE**.
9. The BIRO Manufacturing Company is not responsible for permanent wiring, connection or installation



**NOTE TO OWNER AND ELECTRICIAN: IF THIS MACHINE IS NOT CORD AND PLUG CONNECTED TO THE ELECTRICAL SUPPLY SOURCE, THEN IT SHOULD BE EQUIPPED WITH, OR CONNECTED TO, A LOCKABLE, MANUALLY-OPERATED DISCONNECT SWITCH (OSHA 1010.147).**

### MOTOR SPECIFICATIONS

| HP | KW  | VOLTS   | HZ | PH | AMPS   |
|----|-----|---------|----|----|--------|
| 3  | 2.5 | 208/230 | 60 | 3  | 11/9.8 |
| 3  | 2.5 | 208/230 | 60 | 1  | 19/17  |
| 3  | 2.5 | 460     | 60 | 3  | 4.9    |



10. The start stop switch and the grind engage lever are located on the right side of the machine when facing the grinding bowl. The start stop switch will activate the mixer paddles. The start stop switch will also activate the grinding auger only when the grind lever is in the "engaged" position. To deactivate the grinding operation move the grind lever to the "disengaged" position. The tank and hopper cover interlock switches are located in the motor compartment. When the safety cover is raised the machine will stop operation.



## **PRE-OPERATION AND AUGER ROTATION CHECK**

**ROTATION MUST ONLY BE CHECKED WITH THE GRINDING AUGER REMOVED, otherwise serious irreparable damage may occur to grinding components.**

11. Turn the toggle hand/foot selector switch to the hand position and engage the grind lever to activate the grinding auger. Push the green start button. CHECK THE ROTATION OF THE AUGER DRIVE SHAFT; ROTATION MUST BE COUNTER-CLOCKWISE as indicated by the rotation decal affixed to the grinding bowl.
12. If machine runs clockwise (backwards), it must be rewired to correct rotation, otherwise serious irreparable damage may occur to the grinding components.
13. Check operation of optional footswitch provided as needed. Plug footswitch cord into fitting located on the same side as the operation controls. Move toggle selector to foot. The machine will operate with pressure on the footswitch treadle. Releasing the treadle stops the machine. The footswitch operates the mix and grind together.
14. Insert auger assembly into grinding bowl, place knife (sharp edges out) onto the square end of the auger assembly. The breaker plate slides over the worm knife drive pin, and is held from rotating by pins in the grinder bowl. Install the retaining ring.

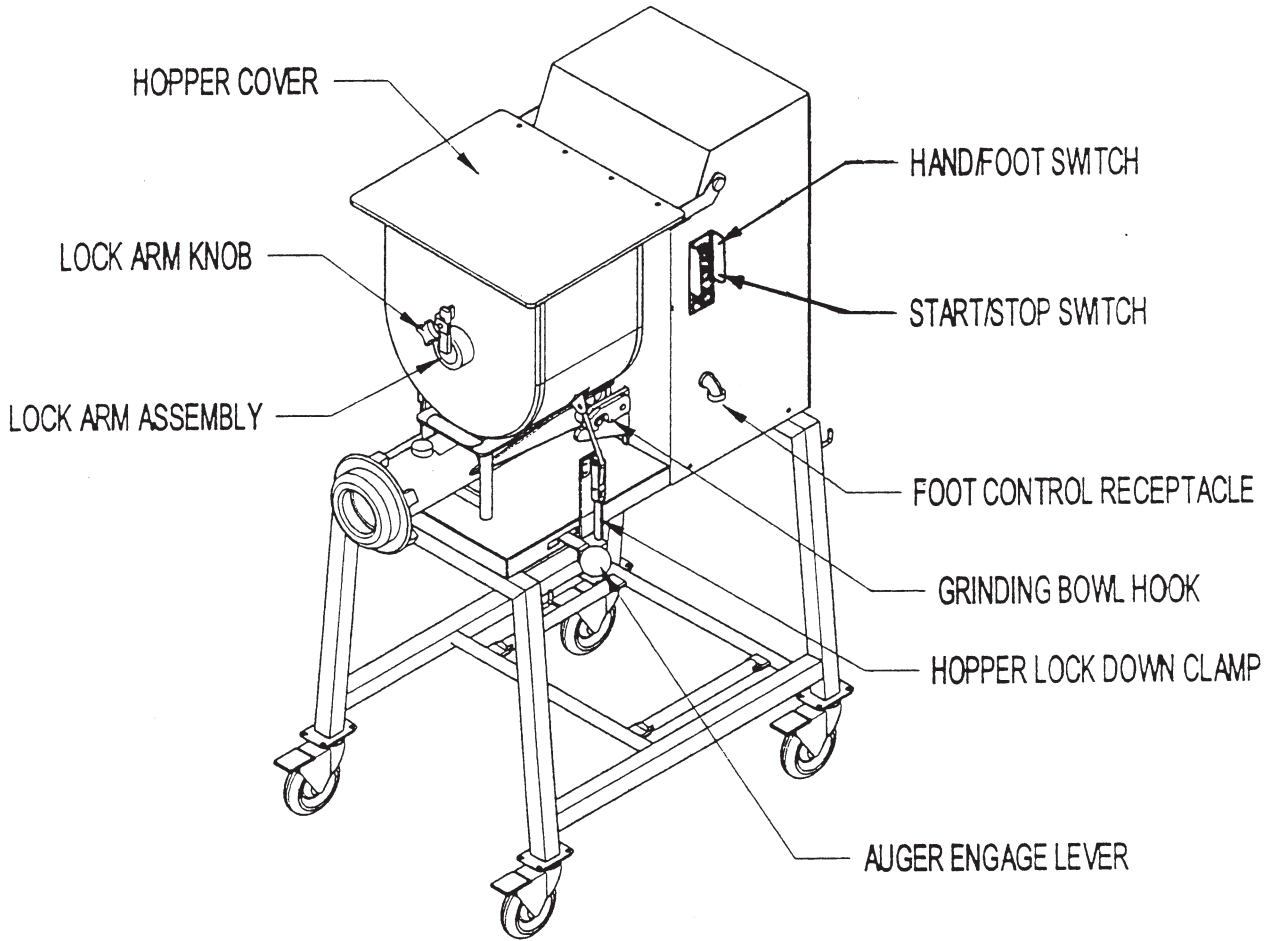


## **ONLY HAND TIGHTEN RETAINING RING**

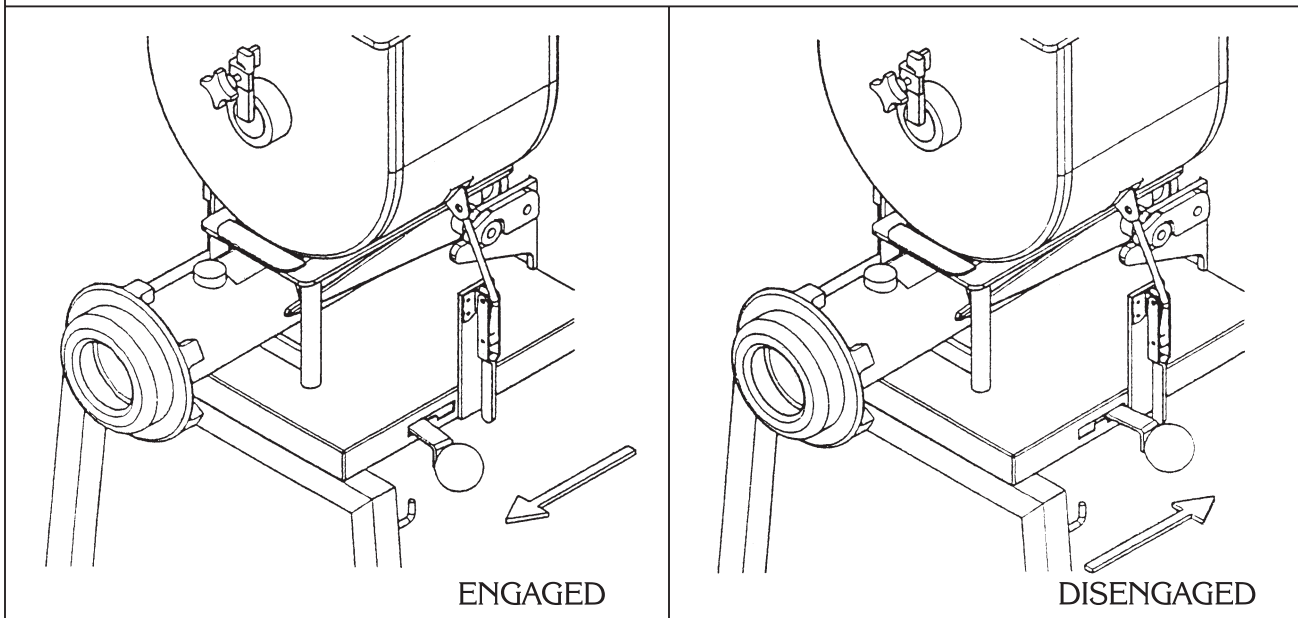
**For best results, use knife and plate as a set. Do not operate machine for any period of time without product in the grinding bowl. This will cause heating and dulling of the knife and plate.**

15. Check placement of all warning labels and be sure anyone who is to operate this MINI-32 MIXER GRINDER has read and fully understands the operators manual. Machine is now ready for trained operators to process product.
16. Use meat deflector attached to grinding bowl to eliminate meat splatter.
17. Contact your local distributor if you have any questions or problems with the installation or operation of this machine.

# PARTS LOCATION



## AUGER DRIVE ENGAGE LEVER



# OPERATION



## **ROTATING GRINDING AUGER & ROTATING MIXING PADDLE**

### **TO AVOID SERIOUS PERSONAL INJURY**

***ONLY** Properly Trained Personnel Should Use This Equipment.*

***NEVER** Place Hands Into Machine Input or Output Openings.*

***NEVER** Open Machine During Operation.*

***DO NOT** Wear Gloves While Operating.*

***DO NOT** Tamper With, Bypass, Alter, or Modify This Equipment in Any Way From Its Original Condition.*

***NEVER** Operate Machine With Product Mixer Safety Cover Opened or Hopper Removed or Magnetic Interlock Switch By-Passed.*

***ALWAYS** Turn Off and Unplug Machine from Power Source and Perform Lockout/Tagout Procedure to This Machine Before Unjamming, Unclogging, Cleaning or Servicing, or When Not in Use.*

***NEVER** Leave Machine Unattended While Operating.*

***NEVER** Operate Without All Warning Labels Attached and Operating Manual Available to the Operator.*

### **A. TO PROCESS PRODUCT**

1. Before starting the mixer-grinder, have a container for receiving ground product at the output end of the grinding bowl.
2. **FIRST GRIND**
  - a. Fill product hopper (maximum 55 pounds), and close Product Mixer Safety Cover.
  - b. Push the green start button with the selector switch in hand position and shift the grind lever into the "Engaged" position to feed first grind. It is recommended to use a breaker plate with  $\frac{3}{8}$ " diameter or larger holes.
  - c. Push the red stop button and move the grind lever to "Disengaged" position when all product has been ground out.
3. **SECOND GRIND**
  - a. Fill product hopper (maximum 55 pounds), and close Product Mixer Safety Cover.
  - b. With the grind lever in the "Disengaged" position and the selector switch in hand position, push the green start button. During this mix operation seasonings may be added through the sight holes in the Product Mixer Safety Cover, or by lifting Product Mixer Safety Cover.
  - c. After the desired mix, shift the grind lever into the "Engaged" position to operate grinding auger and grind out product.
  - d. Push the red stop button and move the grind lever to "Disengaged" position when all product has been ground out.
4. Unplug machine from power source and perform lockout/tagout procedures.

## DO's

- Always keep knife & plate as matched set.
- Always keep the knife & plate sharp.
- Always check for straightness by laying the knife on the plate before inserting in machine.
- Always install the knife & plate in correct sequence, knife 1st, then plate.
- Always keep knives & plates lubricated in storage and when starting machine.
- Always use coolant when sharpening plates.
- Always inspect the plates making sure all holes are clear – that there are no cracks.

## DON'Ts

- Never, never mix different knives to different plates.
- Never, never over tighten the bowl retaining ring on the machine.
- Never, never run the grinder without product. Product is a natural lubricant. Heat can build up so fast that cold product could crack the plate.
- Never, never hit the plate against anything to clean the holes.
- Never, never throw the knives & plates.

## CLEANING



### BEFORE CLEANING OR SERVICING

**ALWAYS** Turn Off, Unplug Machine From Power Source and Perform Lockout/Tagout Procedure to This Machine **Before** Cleaning or Servicing.

**ONLY** Use Recommended Cleaning Equipment, Materials, and Procedures.

**NEVER** Spray Water or Other Liquid Substances Directly at Motor, Power Switch or any Other Electrical Components.

**ALWAYS** Thoroughly Clean Equipment at Least Daily.

### CLEANING THE MINI-32 MIXER GRINDER

1. Disconnect mixer grinder from power source and/or perform lockout/tagout procedures.
2. Remove end ring, breaker plate, knife and grinding auger.
3. Remove mixing paddle, hopper and grinding bowl assembly from machine (see disassembly instructions on the following page).
4. Machine is now ready to be cleaned using warm soapy water and rinsed with clean water. Machine may be cleaned by power spray washing, taking care not to spray directly at any electrical controls.
5. The grinding head can be removed for cleaning if desired.
6. After machine has been cleaned and allowed to air dry, all exposed metal surfaces should be coated with a good food grade light oil or grease.
7. Never wash the clear hopper cover with abrasive cleaners. Use a soft cloth and warm soapy water only.

# DISASSEMBLY INSTRUCTIONS

## **PADDLE REMOVAL:**

Remove mixing paddle by first locating and lifting up on the hopper lock down clamps releasing them from the hopper. Next loosen the paddle lock knob (black knob located at the front of the hopper). Then turn the locking lever clockwise approximately  $\frac{1}{4}$  turn and remove to unlock the paddle shaft from the hopper. Slide paddle shaft toward front of hopper and lift drive end up and out to remove paddle.

## **PADDLE INSTALLATION:**

Install paddle shaft by first connecting the driven end of the paddle shaft to the driver hub. Insert the locking lever and tighten the paddle lock knob.

## **HOPPER REMOVAL:**

After the paddle shaft has been removed, be sure the hopper lock down clamps have been lifted and lock down rods extracted from the hopper anchor releasing them from the hopper. The hopper is now ready for removal.

## **HOPPER INSTALLATION:**

Place the hopper on top of the grinding bowl assembly with the lock arm retainer facing toward the front of the machine. Connect the hopper lock down rods to the hopper anchors and lower the lock down handles to lock the hopper in place.

## **AUGER ASSEMBLY REMOVAL:**

Loosen the retaining ring and remove knife and plate. Now the auger can be pulled out from grinding bowl.

## **GRINDING BOWL ASSEMBLY REMOVAL:**

After the paddle shaft, hopper, retaining ring and auger assembly have been extracted, the grinding bowl can be removed by lifting the output end of the assembly and pushing toward the cabinet. Next lift the bowl lock hooks and separate the bowl assembly from the machine.

## MAINTENANCE



### **ROTATING GRINDING AUGER & ROTATING MIXING PADDLE TO AVOID SERIOUS PERSONAL INJURY**

**ALWAYS** Turn Off, Unplug From Power Source and Perform Lockout/Tagout Procedure to This Machine **BEFORE** Servicing.

**NEVER** Touch This Machine Without Training and Authorization By Your Supervisor.

**NEVER** Place Hands Into Machine Input or Output Openings.

**NEVER** Bypass, Alter, or Modify This Equipment in Any Way From Its Original Condition.

**PROMPTLY REPLACE** Any Worn or Illegible Warning Labels.

**USE ONLY GENUINE BIRO** Parts and accessories Properly Installed.

### LUBRICATION

1. **MOTOR:** The grinder motor has pre-lubricated motor bearings. These bearings should be re-lubricated annually with a good grade of bearing grease. Do not over-grease.
2. **ROLLER CHAIN AND DRIVE SPROCKETS:** The main drive chain has been pre-lubricated at the factory to protect it against dirt and moisture. Chain life will vary appreciably depending upon its lubrication. The better the lubrication, the longer the chain life.

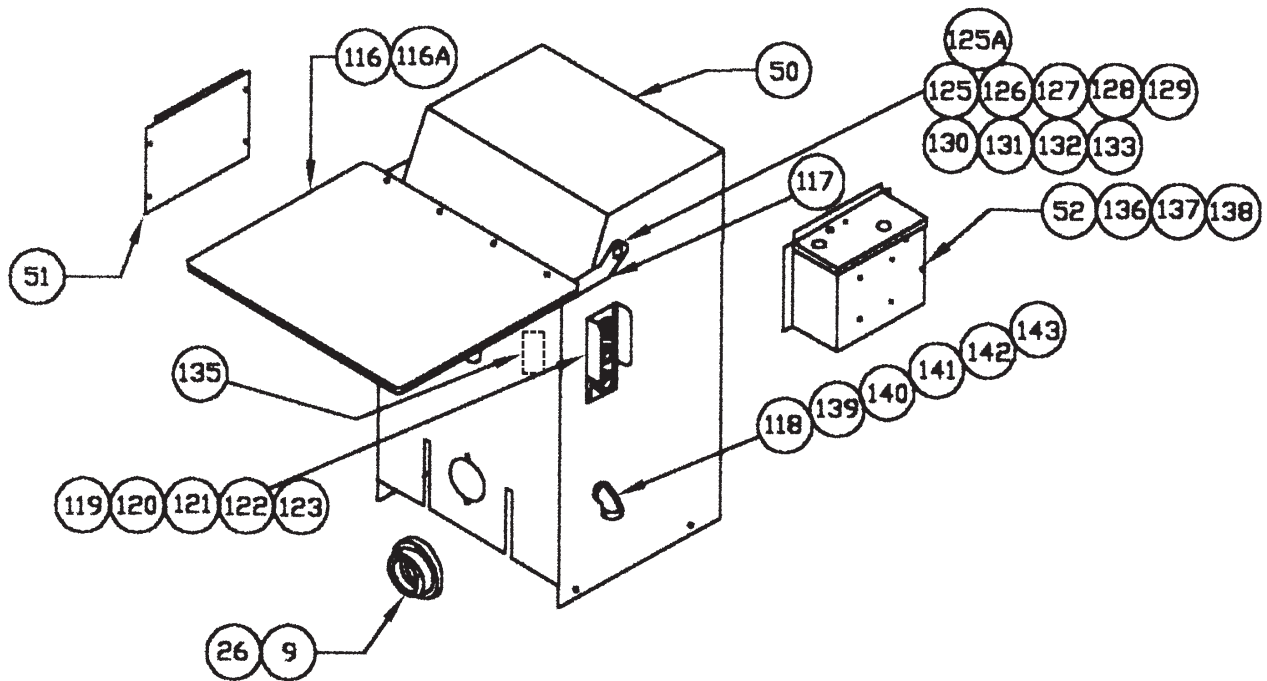
Lubrication effectiveness will vary with the amount of lubricant and frequency of application. Ideally, a lubricant film should always be present between the working parts. Manually lubricate the chain as often **as is needed** (possibly once a week). **NEVER** exceed three months without lubricating.

Lubricating just the outside of the chain does little good. Apply lubrication on the inside of the chain span so that it will work through the moving parts and joints by centrifugal force as the chain rotates and reaches the area where one surface “scrubs” another.

Recommended types of chain lubricant are those with Molybdenum Disulphide or Graphite added. Also bonded lubricants such as Dow Corning Molykote 321R or equivalent are excellent for open chains. The lubricant should be of a viscosity whereby it will “flow” somewhat and penetrate the internal working surfaces. Thick stiff greases are of little value because they cannot work into moving parts of the chain.

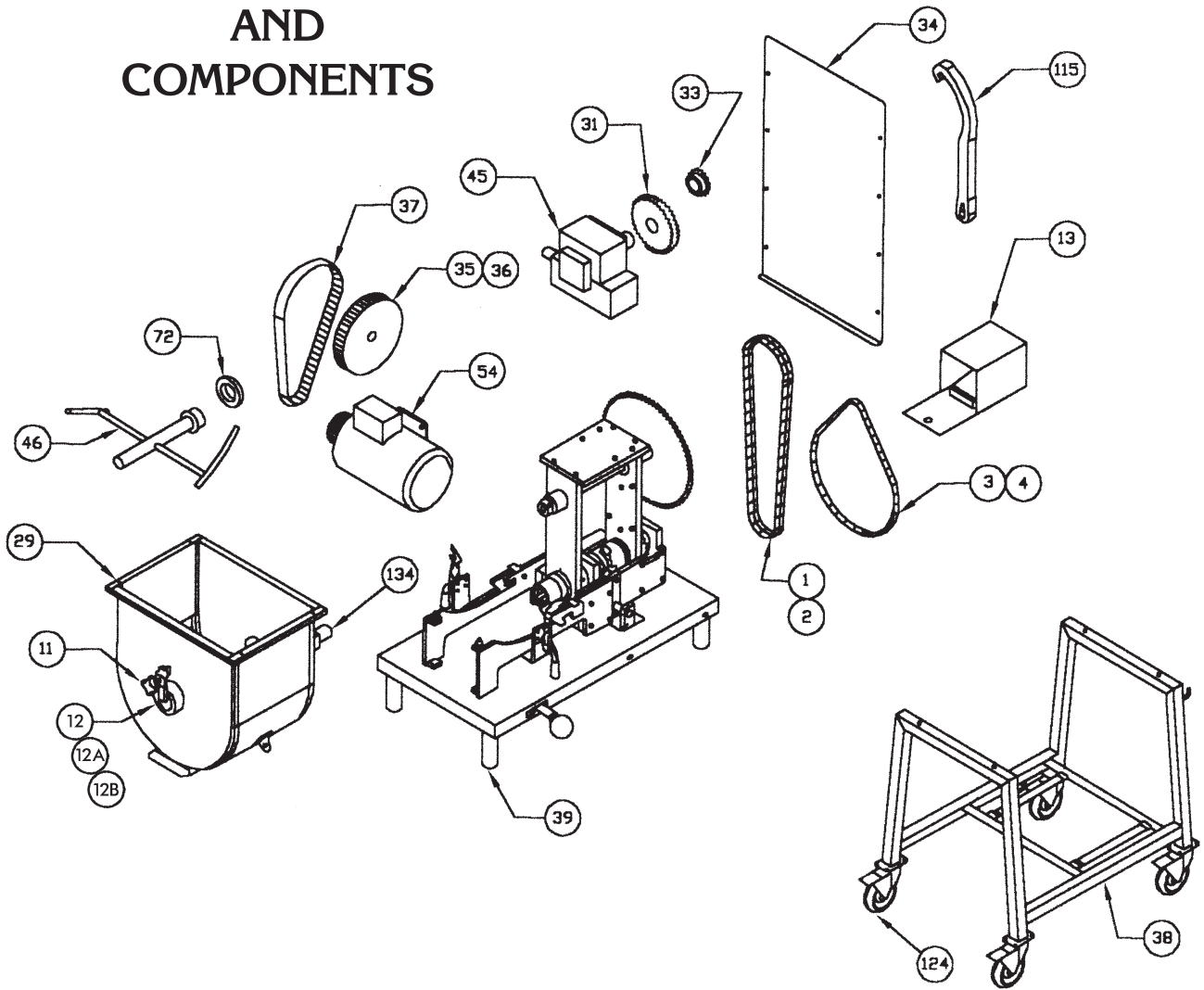
- a. Unplug mixer/grinder from power source and perform lockout/tagout procedures.
- b. Remove rear drive or access cover.
- c. Spray or brush lubricant on inside of chain, slowly and carefully turning the large sprocket by hand.
- d. Reinstall rear drive cover.

# MOTOR DRIVE COVER AND HOPPER COVER



| Fig. | Item No. | Description                            | Fig. | Item No. | Description  |
|------|----------|--|------|----------|--|
|      | 9        | Auger drive shaft seal                 |      | 128      | Hex head screw $\frac{3}{8}$ -16 x 2, SS                         |
|      | 26       | Nylon bearing cover                    |      | 129      | Flat washer .397 x 1 $\frac{1}{4}$ x .120 TH, SS                 |
|      | 50       | Hood, motor & drive unit               |      | 130      | EMG62184 Outside hinge flat washer, SS                           |
|      | 51       | Electrical box access panel            |      | 131      | EMG62182 Sleeve bushing step washer, SS                          |
|      | 52       | Electrical box                         |      | 132      | EMG62181 Inside hinge flat washer – plastic                      |
| 116  | 63095    | Hopper cover – NSS                     |      | 133      | HNHL25S Hex Nylock nut $\frac{3}{8}$ -16, SS                     |
| 116A | 63035    | Hopper cover & arm assembly            |      | 135      | 56294CE Safety switch bracket – NSS                              |
|      | 117      | Hopper cover arm bracket – NSS         |      | 136      | PC162 Central control unit                                       |
|      | 118      | Watertight 90° cord connector          |      | 137      | PC144 Contactor – SP17.10-G0/24V coil                            |
|      | 119      | 56105 Switch – selector – hand/foot    |      | 138      | PC140 Transformer –<br>208/240/277/380/480V<br>PRI/24V SECONDARY |
|      | 120      | H482-1 Switch – start pushbutton       |      | 139      | 56301D Airswitch w/nut   |
|      | 121      | H482-2 Switch – stop pushbutton        |      | 140      | 56301E Airswitch bracket   |
|      | 122      | 56125 Legend plate                     |      | 141      | 56300H Locknut   |
|      | 123      | 56337 Switch guard                     |      | 142      | 56300J Coupling body   |
|      | 125      | PC166 Magnetic safety switch           |      | 143      | 56302I Plastic tubing  |
|      | 125A     | PC044 Mounting bracket – safety switch |      |          |  |
|      | 126      | PC084 Magnet – south pole              |      |          |  |
|      | 127      | 63082 Safety lid lock arm              |      |          |  |

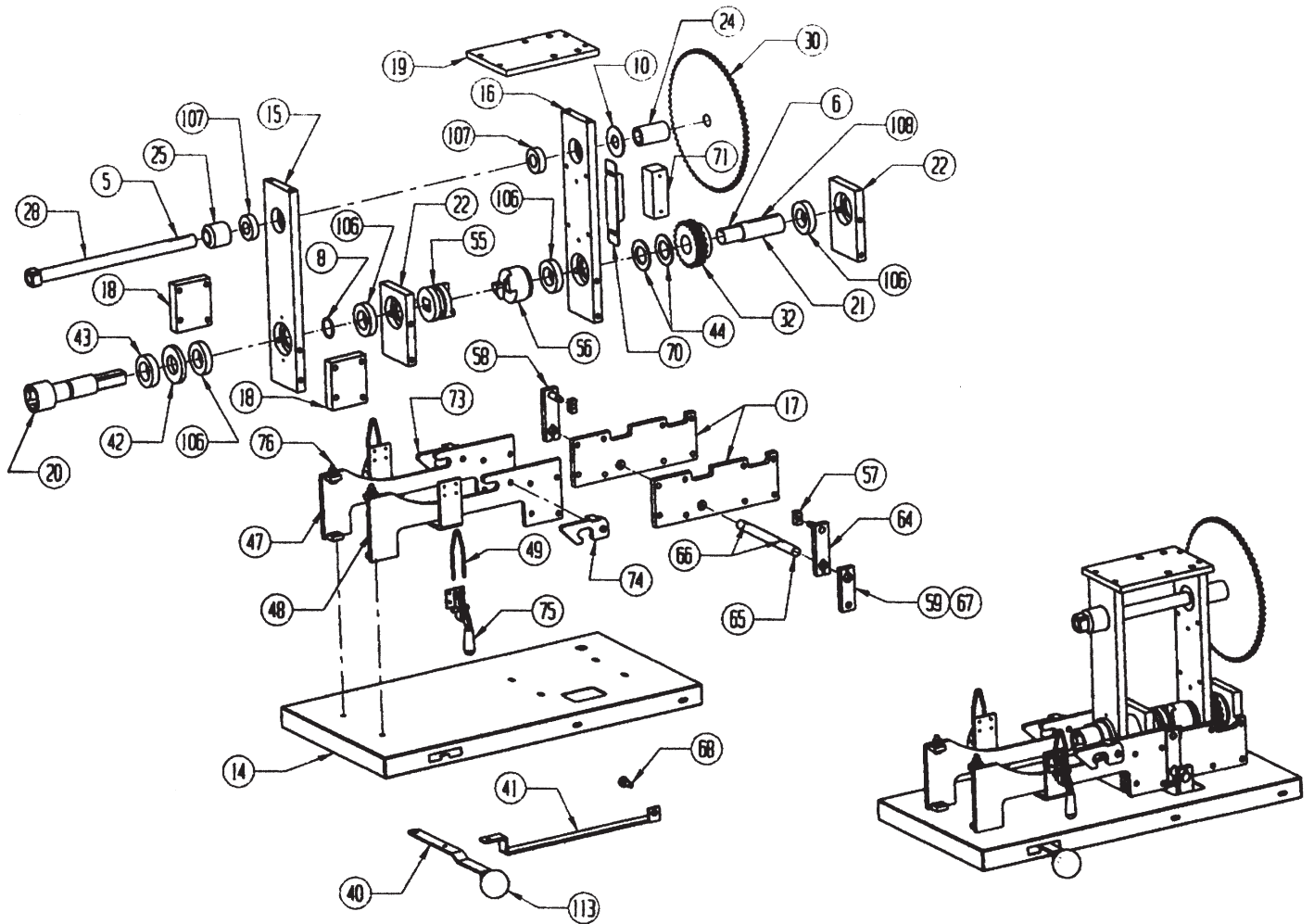
# MOTOR – DRIVE UNIT AND COMPONENTS



| Fig. | Item No. | Description                      | Fig. | Item No. | Description                 |
|------|----------|----------------------------------|------|----------|-----------------------------|
| 1    | 15026-02 | Double roller chain 49"          | 35   | 63047    | Timing pulley 48H100SK      |
| 2    | 15029    | Double chain master link         | 36   | 63048-01 | Taper lock SK 1"            |
| 3    | 20050-10 | #40 Roller chain                 | 37   | 63049    | Timing belt                 |
| 4    | 20050-01 | #40 Chain master link #40-C/L    | 38   | 63055    | Cart assembly w/casters     |
| 11   | 53568    | Paddle locking thumb screw       | 39   | 63057    | table top leg (optional)    |
| 12   | 53852    | Lock arm assembly w/bushings     | 45   | 63070    | Gear reducer #924DN RT5:1   |
| 12A  | 53517-1  | Thrust bearing                   | 46   | 63073    | Mixer paddle assembly       |
| 12B  | 53594    | Radial bushing                   | 54   | 63099    | Motor, 3HP/208/230/460V/3PH |
| 13   | 56302    | Foot switch assembly w/6' tubing | 72   | 63136    | Paddle spacer               |
| 29   | 63036    | Hopper assembly                  | 115  | H340     | Ring wrench                 |
| 31   | 63041    | Sprocket D40B35                  | 124  | PC175    | Casters w/swivel lock       |
| 33   | 63043    | Sprocket 40B15F-01               | 134  | PC085    | Magnetic housing – hopper   |
| 34   | 63045    | Back access panel                |      |          |                             |

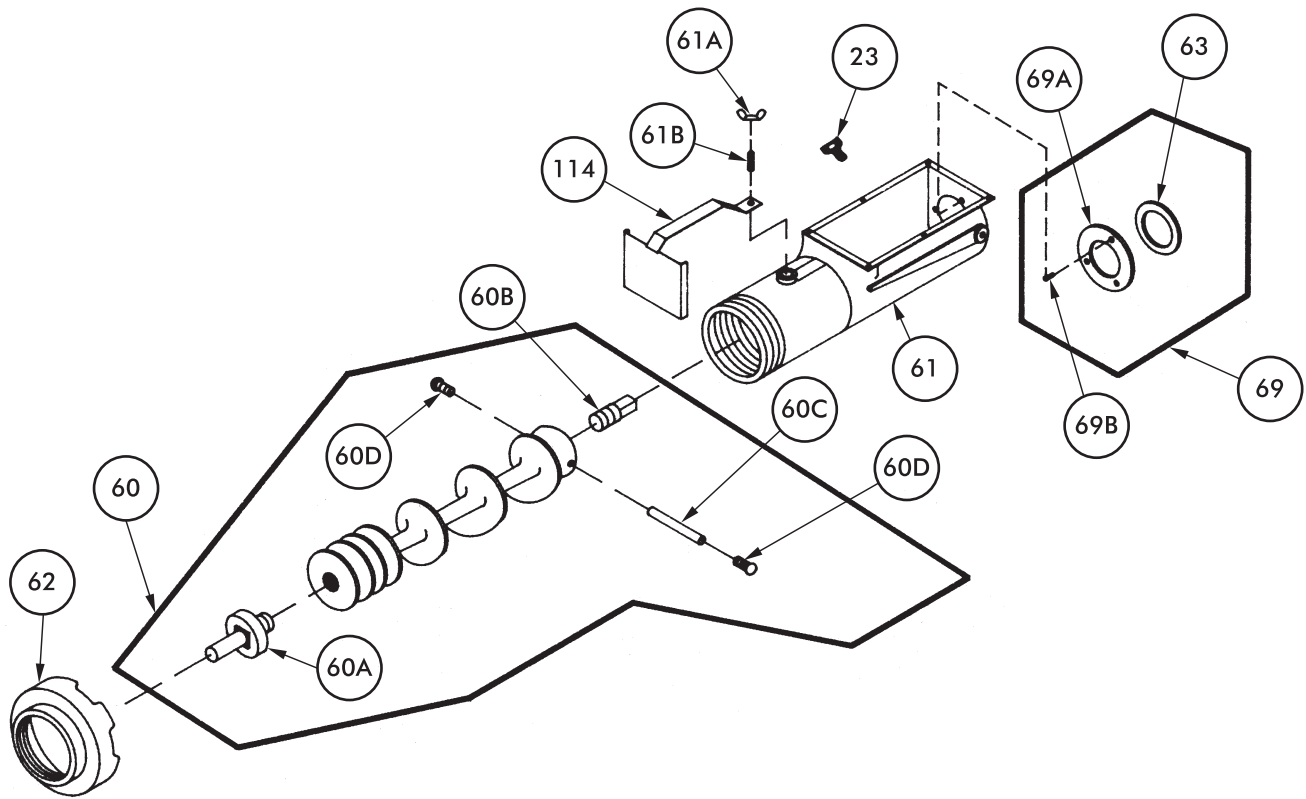


# TRANSMISSION MOUNTING ASSEMBLY



| Fig. | Item No. | Description  | Fig. | Item No. | Description  |
|------|----------|--|------|----------|--|
| 5    | 20665    | Key $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{8}$ SS | 47   | 63081-01 | Bowl support bracket – LH                                    |
| 6    | 20665-01 | Key $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ SS | 48   | 63081-02 | Bowl support bracket – RH                                    |
| 8    | 30315    | O-Ring 1.25 I.D.   | 49   | 63084    | Hopper latch rod   |
| 10   | 50029    | Washer – brass   | 55   | 56064    | Drive clutch – square ID                                     |
| 14   | 63005    | Base plate   | 56   | 56065    | Driving clutch – motor output                                |
| 15   | 63007    | Shaft bearing retainer – front                             | 57   | 56211-1  | Engagement lever bushing                                     |
| 16   | 63008    | Shaft bearing retainer – rear                              | 58   | 56214    | Clutch engagement lever – LH                                 |
| 17   | 63009    | Frame side plate   | 59   | 63104    | Link engage handle   |
| 18   | 63010    | Bowl lock side spacer                                      | 64   | 56215    | Clutch engagement lever – RH                                 |
| 19   | 63011    | Gear box top plate   | 65   | 63119    | Clutch engagement shaft                                      |
| 20   | 63014    | Auger drive shaft  | 66   | 56127-1  | Woodruff key   |
| 21   | 63015    | Main drive shaft   | 67   | MC-21R2  | Lock handle groove pin                                       |
| 22   | 63016    | Bearing retainer – main shaft                              | 68   | SSB50P   | Shoulder bolt $5 \frac{3}{8}$ -16 $\times$ $\frac{1}{2}$     |
| 24   | 63019    | Spacer – mixer drive shaft                                 | 70   | 63126    | Chain tensioner  |
| 25   | 63020    | Spacer – plastic – mixer drive shaft                       | 71   | 63127    | Tensioner block  |
| 28   | 63033    | Mixer driver shaft   | 73   | 63139-01 | Bowl lock hook – LH  |
| 30   | 63040    | 72T sprocket #40B72-01                                     | 74   | 63139-02 | Bowl lock hook – RH  |
| 32   | 63042    | 22T sprocket #D40B22                                       | 75   | 63140    | Hopper latch   |
| 40   | 63062    | Linkage pivot arm  | 76   | 63141    | Bowl adjusting pin   |
| 41   | 63063    | Linkage arm  | 106  | 83017    | Bearing  |
| 42   | 63065    | Spacer   | 107  | 83032    | Bearing  |
| 43   | 63066    | Thrust bearing   | 108  | 83080-07 | Key $\frac{3}{8} \times \frac{3}{8} \times 1 \frac{1}{2}$ LG |
| 44   | 63067    | Spacer   | 113  | 90509    | Pivot arm knob   |

# BOWL & WORM ASSEMBLY



| Fig. | Item No. | Description  |
|------|----------|--|
|      | 23       | 63017 Bowl mounting stud, 2 required                   |
|      | 60       | 54278-CTN Auger assembly                               |
|      | 60A      | HK48 Knife drive pin                                   |
|      | 60B      | 54278B Square drive insert                             |
|      | 60C      | 54278C Auger shear pin                                 |
|      | 60D      | 54278D Shear pin screws                                |
|      | 61       | 56049 Bowl & plate pins                                |
|      | 61A      | WN20S Wing nut $\frac{3}{8}$ -16                       |
|      | 61B      | SSS45S Stud $\frac{3}{8}$ -16 $\times$ 1               |
|      | 62       | HR42/48 Ring   |
|      | 63       | 57159 Auger drive shaft seal                           |
|      | 69       | 57159K Auger drive shaft seal kit                      |
|      | 69A      | 57160 Seal retainer                                    |
|      | 69B      | FHS26S Flat head screw 10-32 $\times$ $\frac{3}{4}$ SS |
|      | 114      | 52392 Product splash shield                            |

## FASTENERS & LOCATIONS

### Base Plate (63005) to Cart Assembly (63055)

|       |         |  |
|-------|---------|--|
| 4 ea. | HHS088S | $\frac{3}{8}$ -16 × 2¼                 |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy                    |
| 4 ea. | HN25S   | $\frac{3}{8}$ -16 heavy (with loctite) |

### Frame Side Plates (2 ea. 63009) to Base Plate (63005)

|       |         |                                    |
|-------|---------|------------------------------------|
| 4 ea. | HHS058S | $\frac{5}{16}$ -18 × $\frac{7}{8}$ |
| 4 ea. | LW15S   | $\frac{5}{16}$ regular             |
| 8 ea. | FW10S   | $\frac{5}{16}$                     |

### Frame Side Plates (2 ea. 63009) to Bearing Retainer-main shaft-rear (1 ea. 63016)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS075S | $\frac{3}{8}$ -16 × 1¼ |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy    |

### Bowl Support Brackets (LH 63081-01 & RH 63081-02) to Bowl Lock Side Spacer (2 ea. 63010) to Frame Side Plates (2 ea. 63009) to Bearing retainer-main shaft-front (1 ea. 63016)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS090S | $\frac{3}{8}$ -16 × 2½ |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy    |

### Bowl Support Brackets (LH 63081-01 & RH 63081-02) to Bowl Lock Side Spacer (2 ea. 63010) to Frame Side Plates (2 ea. 63009) to Shaft Bearing Retainer-front (63007)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS090S | $\frac{3}{8}$ -16 × 2½ |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy    |

### Frame Side Plates (2 ea. 63009) to Shaft Bearing Retainer-rear (63008)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS075S | $\frac{3}{8}$ -16 × 1¼ |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy    |

### Chain Tensioner (63126) to Shaft Bearing Retainer-rear (63008)

|       |         |                                    |
|-------|---------|------------------------------------|
| 2 ea. | HHS055S | $\frac{5}{16}$ -18 × $\frac{3}{4}$ |
| 2 ea. | LW15S   | $\frac{5}{16}$ regular             |
| 2 ea. | FW10S   | $\frac{5}{16}$                     |

### Motor (63099) to Shaft Bearing Retainer-rear (63008)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS060S | $\frac{5}{16}$ -18 × 1 |
| 4 ea. | LW15S   | $\frac{5}{16}$ regular |
| 8 ea. | FW10S   | $\frac{5}{16}$         |

### Bowl Mount Stud (63017) to Bowl (56049)

|       |         |                                      |
|-------|---------|--------------------------------------|
| 2 ea. | HHS129S | $\frac{1}{2}$ -13 × 2 (with loctite) |
|-------|---------|--------------------------------------|

### Bowl Support Brackets (LH 63081-01 & RH 63081-02) to Base Plate (63005)

|       |         |                         |
|-------|---------|-------------------------|
| 2 ea. | HHS070S | $\frac{3}{8}$ -16 × 1   |
| 2 ea. | LW25S   | $\frac{3}{8}$ heavy     |
| 2 ea. | HN25S   | $\frac{3}{8}$ -16 heavy |

### Gear Box Top Plate (63011) to Shaft Bearing Retainers (Front 63007 & Rear 63008)

|       |         |                        |
|-------|---------|------------------------|
| 4 ea. | HHS075S | $\frac{3}{8}$ -16 × 1¼ |
| 4 ea. | LW25S   | $\frac{3}{8}$ heavy    |

### Gear Reducer (63070) to Gear Box Top Plate (63011)

|       |         |                       |
|-------|---------|-----------------------|
| 4 ea. | HHS110S | $\frac{1}{2}$ -13 × 1 |
| 4 ea. | LW30S   | $\frac{1}{2}$         |

### Bowl Lock Hook-LH (63139-01) to Bowl Support Bracket-LH (63081-01)

|       |         |                        |
|-------|---------|------------------------|
| 1 ea. | HHS126S | $\frac{1}{2}$ -13 × 1¼ |
| 1 ea. | LW30S   | $\frac{1}{2}$          |

### Bowl Lock Hook-RH (63139-02) to Bowl Support Bracket-RH (63081-02)

|       |         |                        |
|-------|---------|------------------------|
| 1 ea. | HHS126S | $\frac{1}{2}$ -13 × 1¼ |
| 1 ea. | LW30S   | $\frac{1}{2}$          |

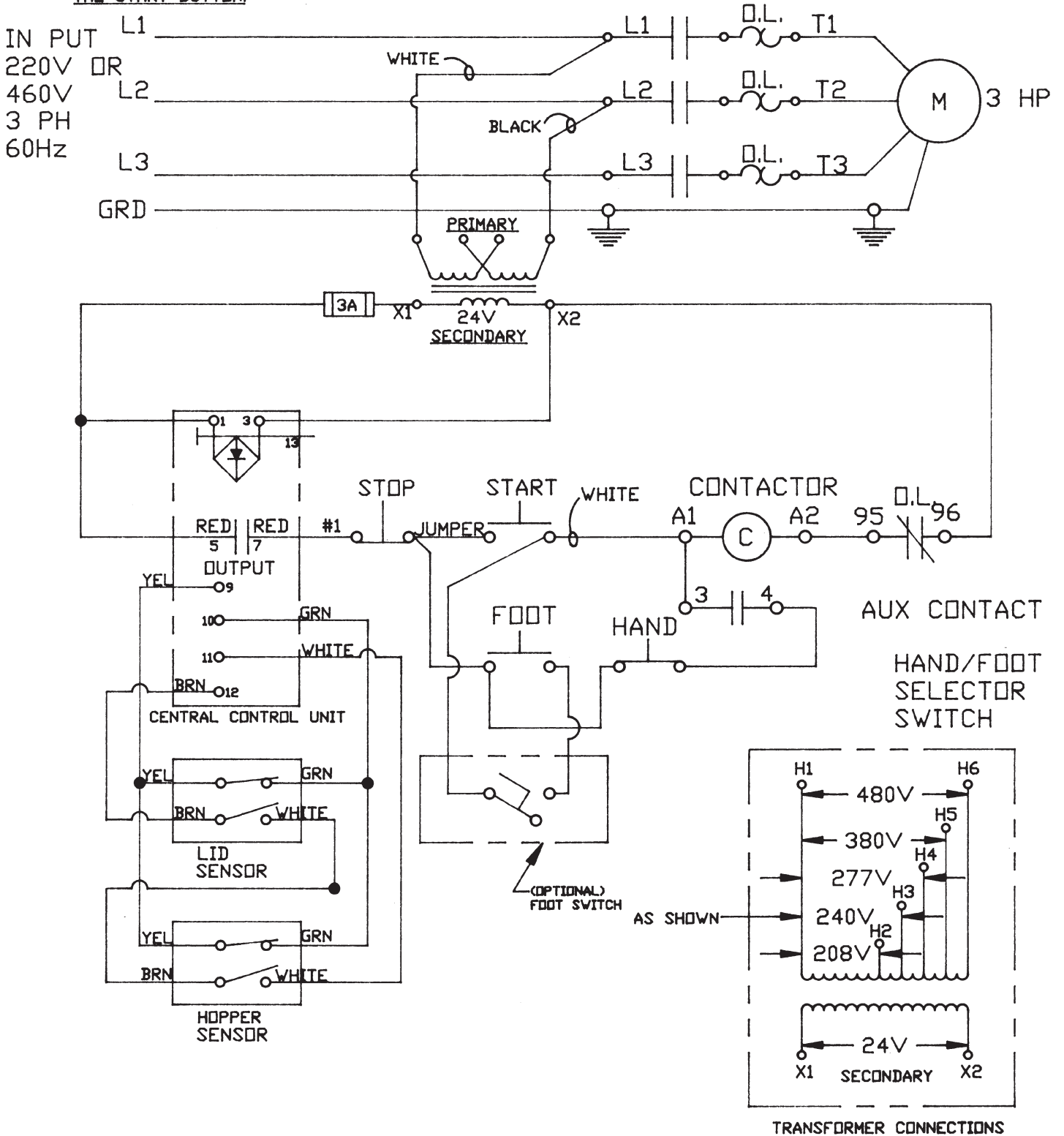
### Hopper Latch (2 ea. 63140) to Bowl Support Bracket (LH 63081-01 & RH 63081-02)

|       |        |                                      |
|-------|--------|--------------------------------------|
| 8 ea. | RHS09S | 10-32 × $\frac{3}{8}$ (with loctite) |
|-------|--------|--------------------------------------|

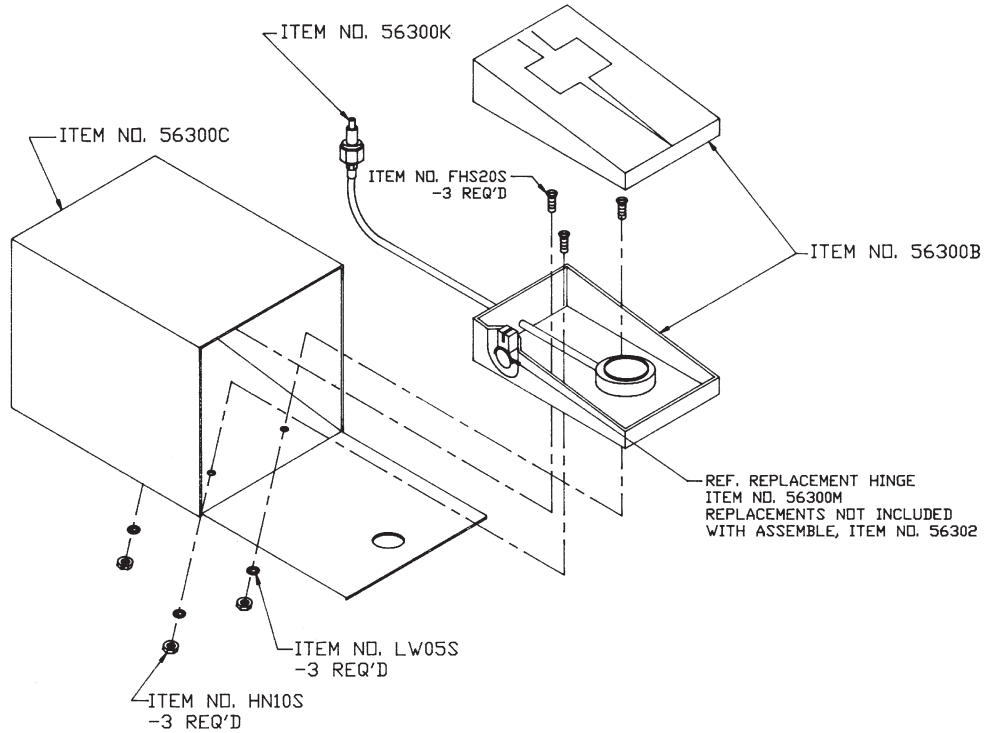
# MINI-32 SCHEMATIC

## for 208-230/460 Volts, Three Phase, 60 Cycle with Elobau Magnetic Safety Switches

**NOTE:** INITIAL POWER APPLIED OR START-UP, THE HOPPER SAFETY LID MUST BE OPENED AND CLOSED AGAIN BEFORE PUSHING THE START BUTTON.

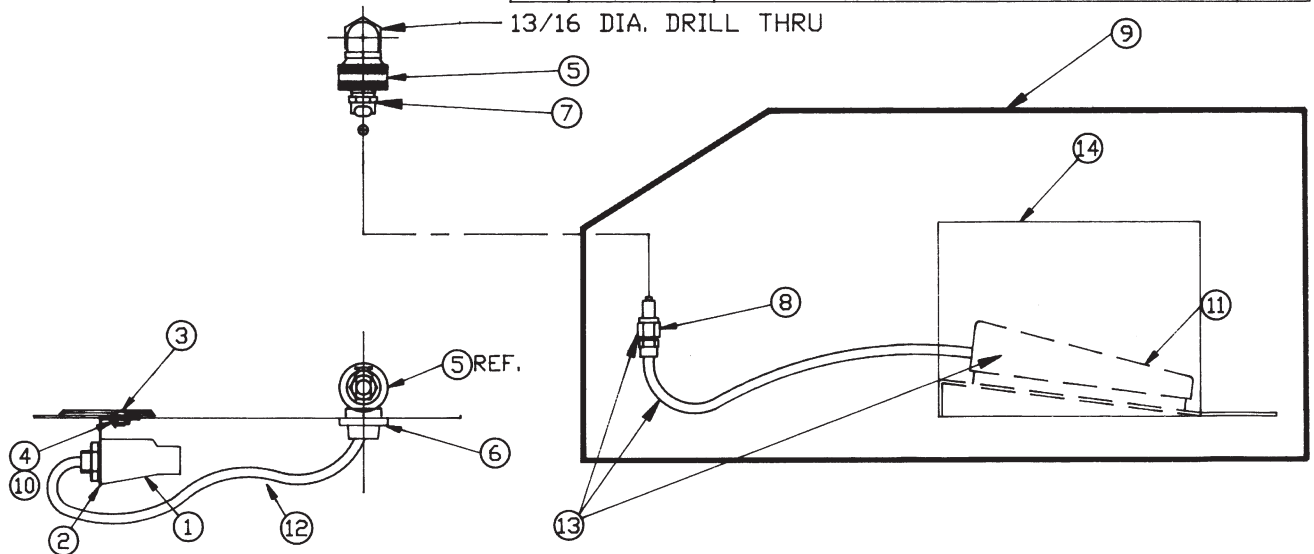


# OPTIONAL PNEUMATIC FOOTSWITCH

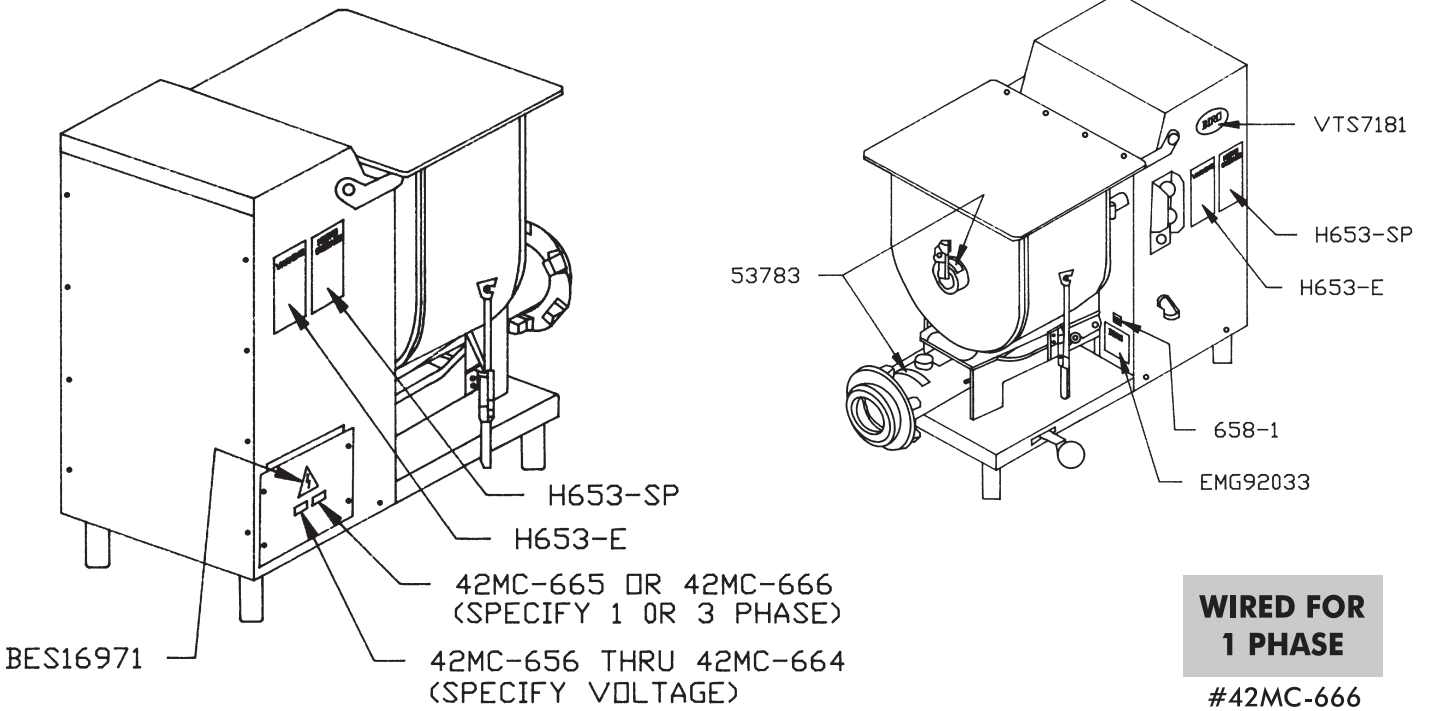


## PNEUMATIC FOOT SWITCH ASSEMBLY

| ITEM NO. | PART NO. | PART NAME/DESCRIPTION               | QTY  |
|----------|----------|-------------------------------------|------|
| 1        | 56300D   | AIR SWITCH W/NUT                    | 1    |
| 2        | 56301E   | AIR SWITCH BRACKET                  | 1    |
| 3        | RHS05S   | ROUND HEAD SCREW, #8-32 x 1/4 LG    | 2    |
| 4        | HNS05S   | HEX NUT, #8-32                      | 2    |
| 5        | 56301G   | WATER TIGHT 90° CORD CONNECTOR      | 1    |
| 6        | 56300H   | CORD CONNECTOR LOCKNUT              | 1    |
| 7        | 56300J   | COUPLING BODY, FEMALE               | 1    |
| 8        | 56300K   | COUPLING INSERT, MALE               | 1    |
| 9        | 56302    | FOOT SWITCH ASSY W/6' TUBE & GUARD  | 1    |
| 10       | LW03S    | LOCK WASHER, #8                     | 2    |
| 11       | 56300B   | FOOT SWITCH ONLY                    | 1    |
| 12       | 56302I   | PLASTIC TUBING, 1/8 I.D. x 1/4 D.D. | 12'  |
| 13       | 56300N   | PNEU. FOOT SWITCH, W/MALE COUPLING  | OPT. |
| 14       | 56300C   | GUARD, ONLY                         | 1    |



# SAFETY LABEL LOCATIONS



**WIRED FOR  
1 PHASE**  
#42MC-666

**WIRED FOR  
3 PHASE**  
#42MC-665

**WIRED FOR  
208 VOLTS**  
#42MC-656

**WIRED FOR  
220 VOLTS**  
#42MC-657



#VTS7181



#H653-E



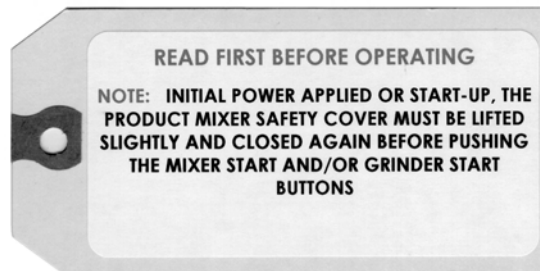
#H653-SP



#EMG92033



#658-1



#56774K



#53783



#BES16971

# OPERATOR'S SIGNATURE PAGE

**WARNING**  
**READ AND UNDERSTAND THIS ENTIRE**  
**MANUAL BEFORE SIGNING BELOW**

MY SIGNATURE ATTESTS THAT I HAVE COMPLETELY READ AND UNDERSTAND THIS MANUAL. I REALIZE THAT THIS MACHINE, IF OPERATED CARELESSLY, CAN CAUSE SERIOUS INJURY TO MYSELF AND OTHERS.

| NAME (PRINT) | SIGNATURE | SUPERVISOR'S INITIALS | DATE |
|--------------|-----------|-----------------------|------|
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## LIMITED WARRANTY:

**WARRANTY:** The Biro Manufacturing Company warrants that the BIRO MINI-32 Grinder will be free from defects in material and workmanship under normal use and with recommended service. BIRO will replace defective parts, which are covered by this limited warranty, provided that the defective parts are authorized for return, shipping charges prepaid, to a designated factory for inspection and/or testing.

**DURATION OF WARRANTY:** The warranty period for all parts covered by this limited warranty is one (1) year from date of inspection/demonstration as advised on the returned Warranty registration card, or eighteen (18) months from original factory shipping date, whichever date occurs first, except as noted below.

**PARTS NOT COVERED BY WARRANTY:** The following are **not** covered by this limited warranty: wearable parts in the grinding system such as bowl, ring, worm, drive shaft, knife drive pin, bowl pin, knife and plate. This limited warranty does not apply to machines sold as used, rebuilt, modified, or altered from the original construction in which the machine was shipped from the factory. (Water contaminated electrical systems are not covered under this limited warranty.) BIRO is not responsible for electrical connection of equipment, adjustments to the switch controls or any other electrical requirements, which must be performed only by a certified electrician. BIRO is not responsible for service charges or labor required to replace any part covered by this limited warranty or for any damages resulting from misuse, abuse, lack of proper or recommended service.

**EXCLUSION OF WARRANTIES AND LIMITATION OF REMEDIES:** BIRO gives no warranties other than those expressly stated in this limited warranty. THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR PROCESSING OF FOOD PRODUCTS, AND ALL OTHER IMPLIED WARRANTIES ARE SPECIFICALLY EXCLUDED. BIRO IS NOT LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, EXPENSES, OR LOSSES. THE REMEDIES PROVIDED IN THIS BIRO LIMITED WARRANTY ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES AGAINST BIRO.

**REGISTRATION CARDS:** You must sign, date and complete warranty registration card supplied with each machine. The warranty card must be returned to The Biro Manufacturing Company for proper registration. If no warranty card is returned to BIRO, the warranty period will begin from the date the machine was originally shipped from the factory.

### HOW TO GET SERVICE:

1. Contact the entity from whom you purchased the machine; or
2. Consult the yellow pages of the phone directory for the nearest authorized dealer; or
3. Contact BIRO Mfg. Company for the authorized service entity (250 plus worldwide) in your area.

## THE BIRO MANUFACTURING COMPANY

1114 Main Street  
Marblehead, Ohio  
Ph. 419-798-4451  
Fax 419-798-9106

E-mail: [service@biro saw.com](mailto:service@biro saw.com)

Web: <http://www.biro saw.com>