



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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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.

-NOTE-

“A copy of this manual is included with each MODEL MINI-32 MIXER-GRINDER.”

The descriptions and illustrations contained in this manual are not binding. The manufacturer reserves the right to introduce any modification without updating the manual.”

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	2.2	208/230	60	3	11/9.8
3	2.2	208/230	60	1	19/17
3	2.2	460	60	3	4.9
2.5	1.9	380	50	3	4.4

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.

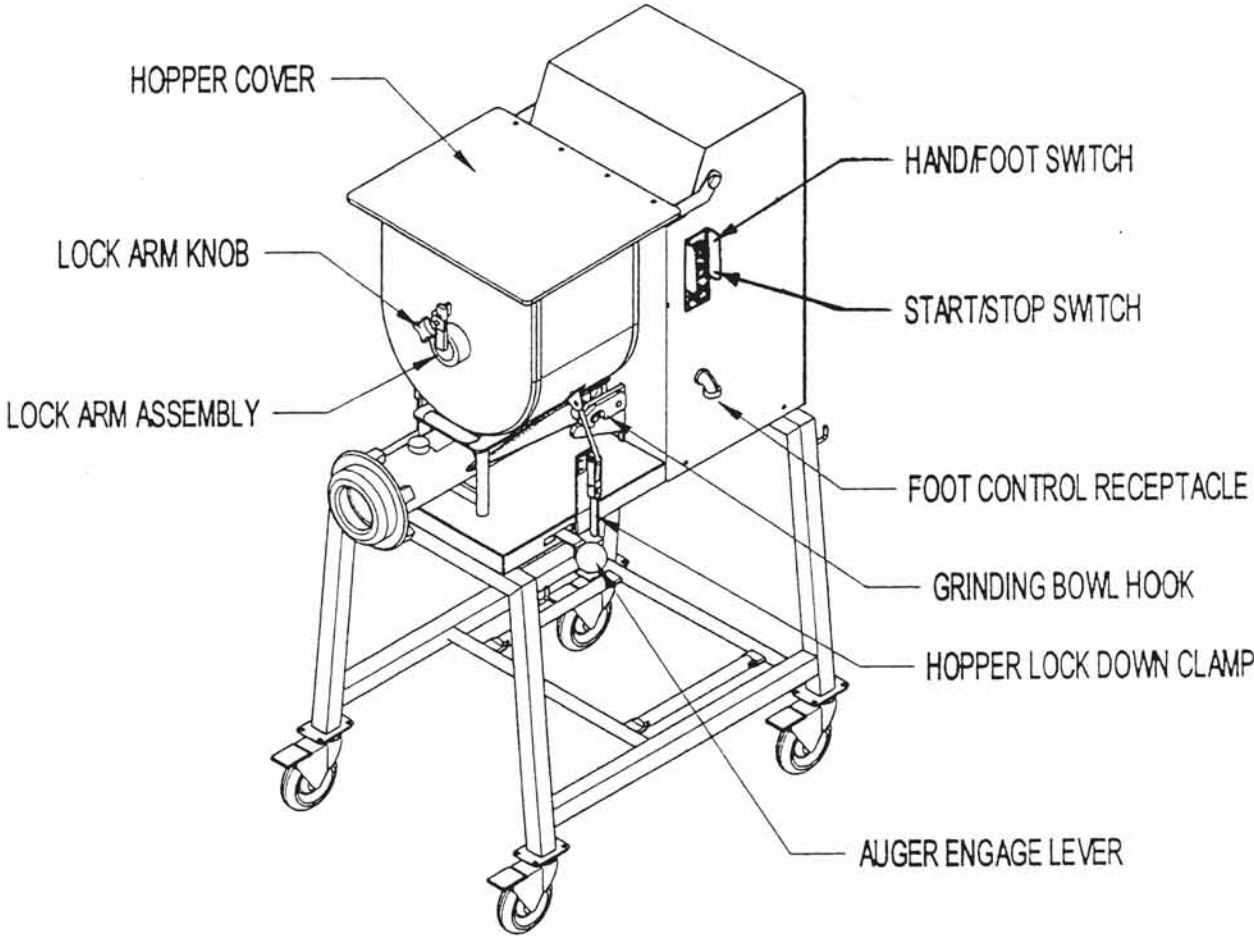


ONLY HAND TIGHTEN RETAINING RING

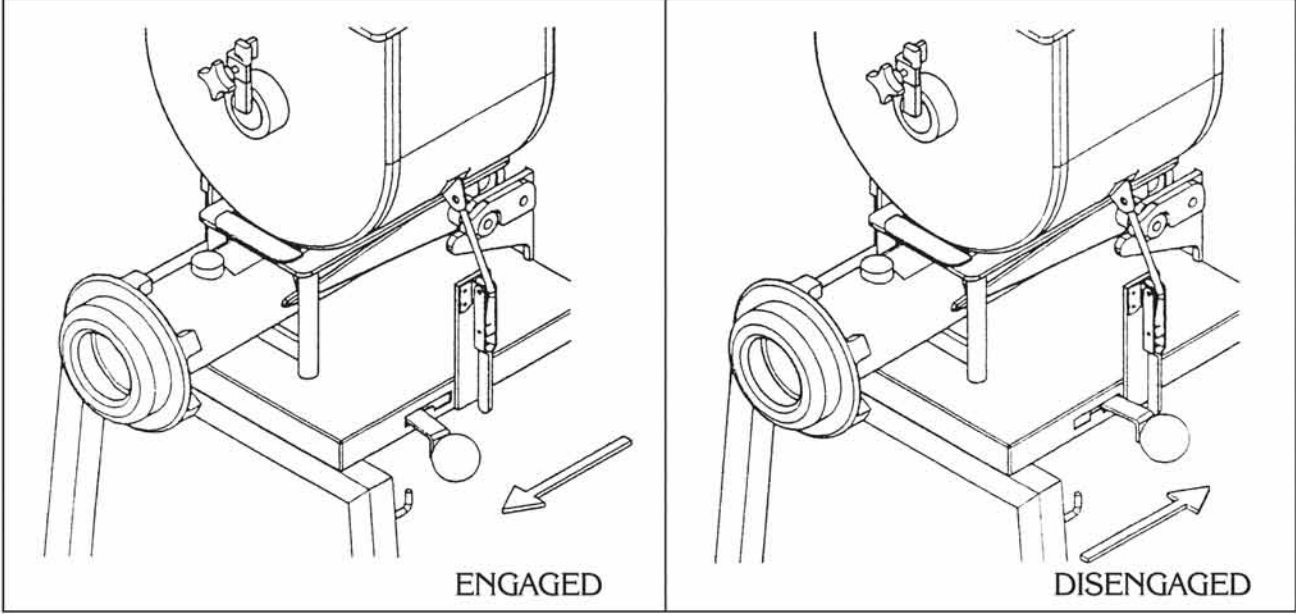
For best results, use knife and plate as a set. Do not operate machine for any period of time without product in the grinding bowl. This will cause heating and dulling of the knife and plate.

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

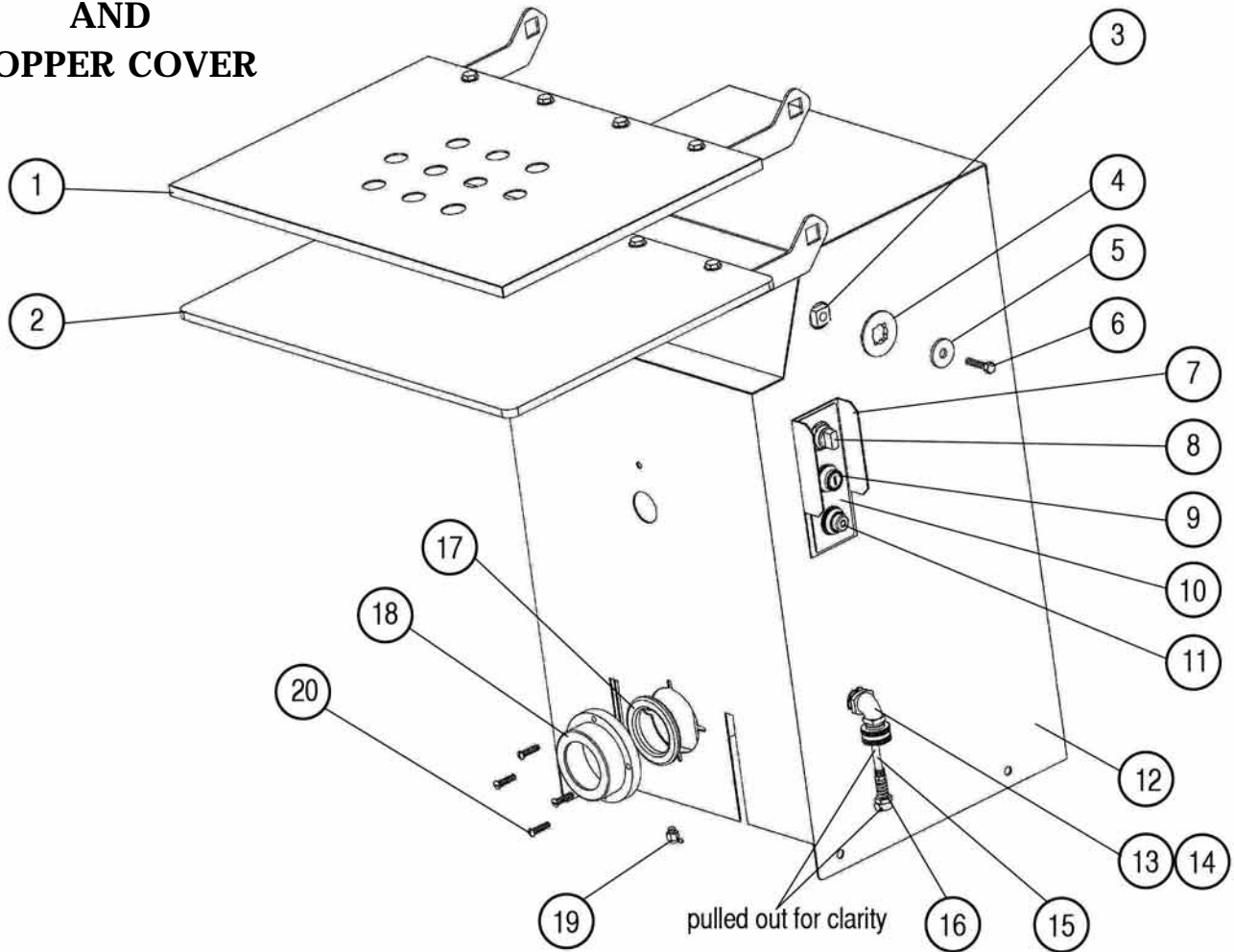
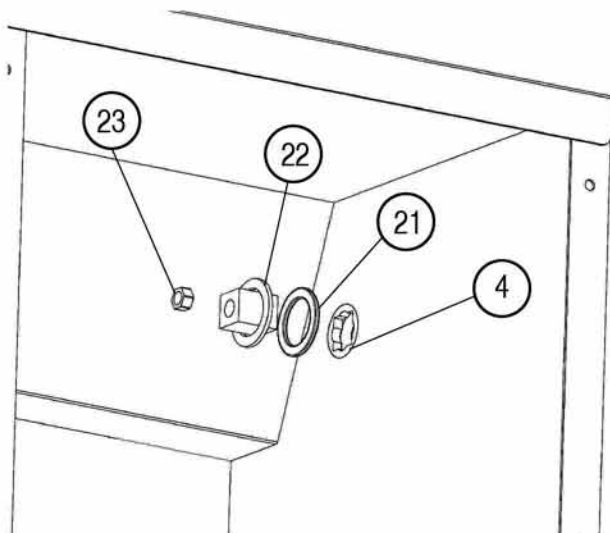


Fig.	Item Number	Description
1.	63035S	STN STL Hopper cover & arm assembly
2.	63035	Hopper cover & arm assembly
3.	63082	Lid safety arm
4.	62182	Sleeve bushing, hinge
5.	EMG92032	Washer, outside lid hinge arm
6.	HHS083S	Hex head cap screw 3/8-16 x 1-3/4 SS
7.	56337	Shroud selector switch
8.	56105	Selector switch hand/foot
9.	42MC-Y73	Start button, green
10.	56125	Legend plate (controls)
11.	42MC-Y74	Stop button, red
12.	63044	Hood wrap
13.	56301G	Water tight cord connector 90 deg
14.	241-LN	Lock nut, 1/2 conduit
15.	56302I	Plastic tubing 1/4 od x id x 18"lg
16.	56300J	Female coupling body w/nut, quick connect
17.	50024-1	Oil seal, auger shaft
18.	63021	Bearing cover
19.	360A1	Angle grease fitting
20.	RHS070S	Round head screw 10-24 x 1 SS
21.	EMG62181	Washer, inside lid hinge
22.	63096	Lid arm pivot
23.	HNNL25S	Hex nut 3/8-16 SS Nylon
4.	62182	Sleeve bushing, hinge



MOTOR DRIVE COVER AND HOPPER COVER

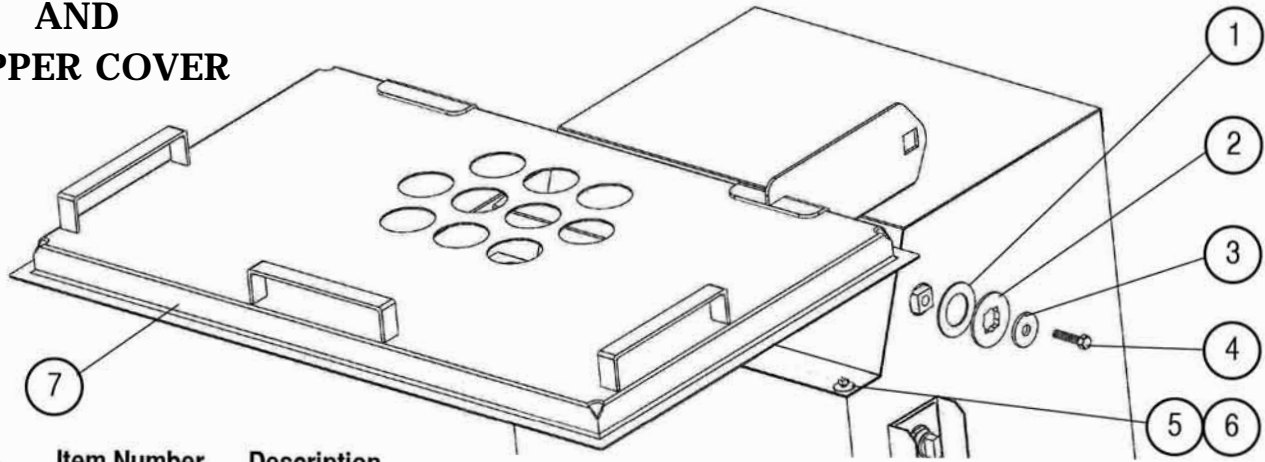
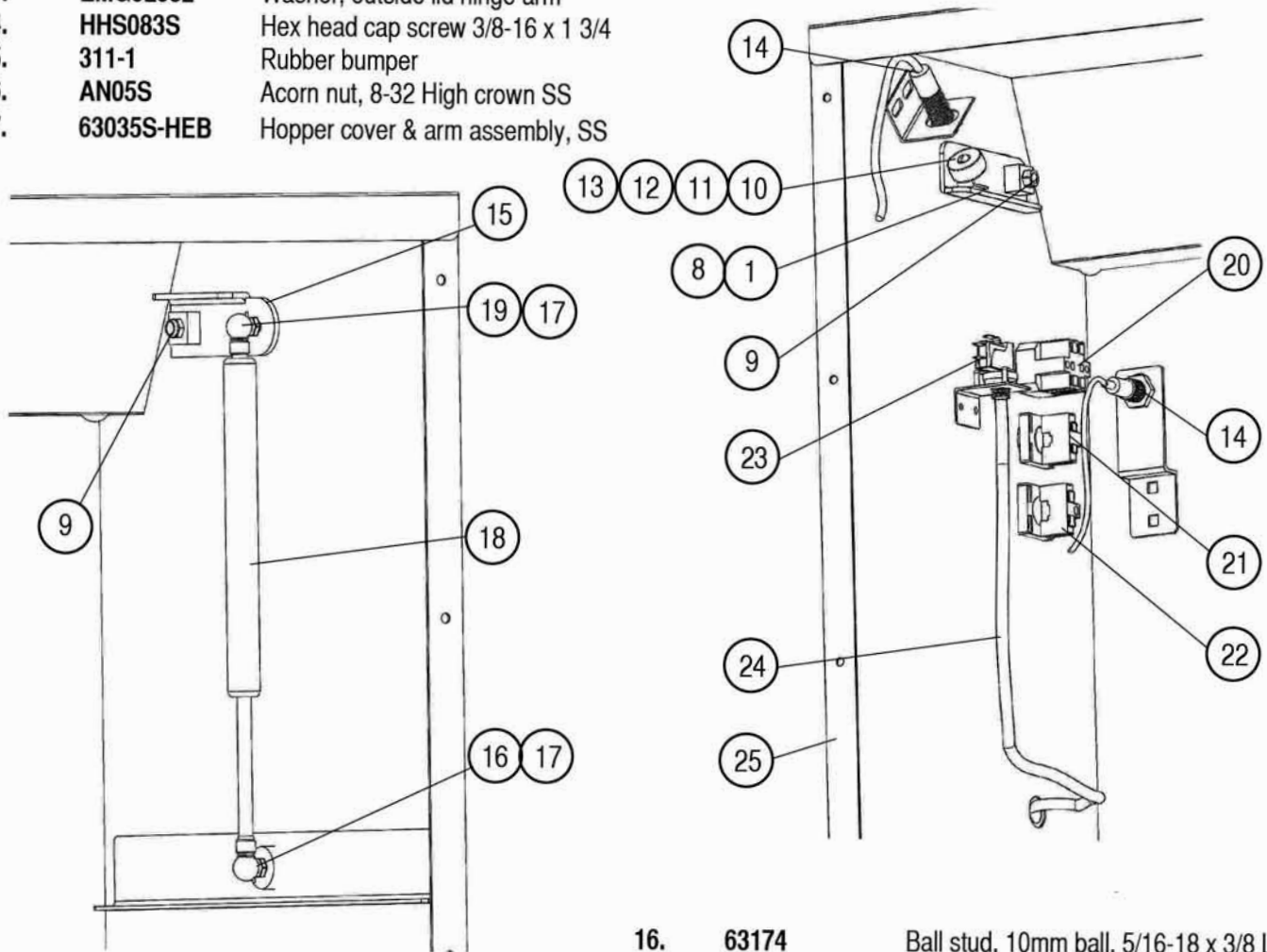


Fig.	Item Number	Description
1.	63169	Sleeve bushing washer
2.	62182 Rev A	Sleeve bushing Rev. A
3.	EMG92032	Washer, outside lid hinge arm
4.	HHS083S	Hex head cap screw 3/8-16 x 1 3/4
5.	311-1	Rubber bumper
6.	AN05S	Acorn nut, 8-32 High crown SS
7.	63035S-HEB	Hopper cover & arm assembly, SS



8.	63082	Lid safety arm weldment	16.	63174	Ball stud, 10mm ball, 5/16-18 x 3/8 LG
9.	HNNL25S	Hex nut 3/8-16 SS Nylon	17.	EMG62190-1	Retaining clip
10.	PC084	South pole magnet (green)	18.	EMG62190	Gas spring, internal
11.	RHS074S	Round head screw 8-32 x 5/8 SS	19.	63175	Ball stud, 10mm ball, 5/16-18 x 5/32 LG
12.	LW03S	Lock washer #8 SS	20.	56105	Selector switch hand/foot
13.	HN05S	Hex nut 8-32 SS	21.	42MC-Y73	Start button, green
14.	PC166	Safety switch	22.	42MC-Y74	Stop button, red
15.	63173	Damper arm, lid	23.	56301D	Air switch w/nut, momentary SPDT
			24.	56302I	Plastic tubing 1/4 od x 1/8 id x 18"lg
			25.	63044-HEB	Hood wrap w/cyl mnt

ELECTRICAL BOX

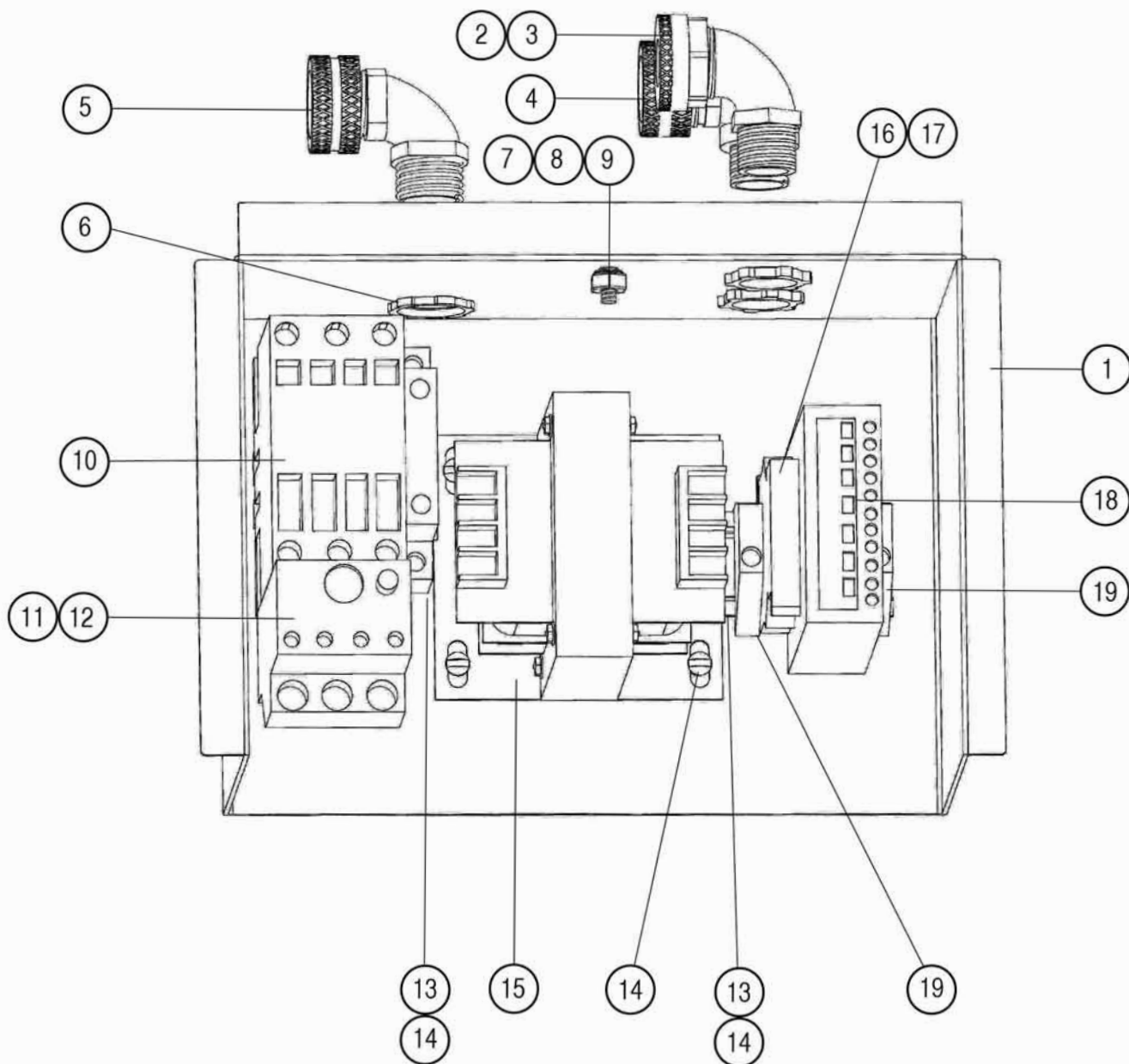


Fig.	Item Number	Description
1.	63094-1	Electrical Box Weldment, S/N 500-on
2.	63027-A	Bushing, Multi-hole, .25 DIA
3.	63027-B	Cord Grip, 90°, 1/2
4.	224-11	Cord Grip Connector 90°, 1/2, .25-.375
5.	224-5	Cord Grip Connector 90°, 1/2, .50-.625
6.	241-LN	Locknut, 1/2 Conduit
7.	HHS020S	Hex Head Screw 1/4-20x3/8SS
8.	LW10S	1/4 Lockwasher SS
9.	HN15S	Hex Nut 1/4-20 SS
10.	226EE-GO11K	Contactors, LS11K, 24-V Coil
11.	226EE-OL12M	Overload, B18K-M, B-12AMP
12.	H281EE-51	Overload, B18K-K, 4-6.3AMP
13.	63028	Din Rail, 2-3/8LG
14.	RHS060S	Round Head Screw, #10-24x3/8,SS
15.	63026	Transformer, 100VA, 208-460/24SEC
16.	EMG92014	Fuse Block, Din Rail Type
17.	EMG90552	Fuse, 3A, Time-Delay
18.	PC162	Central Control Unit
19.	BLK323	End Barrier

MOTOR-DRIVE UNIT AND COMPONENTS

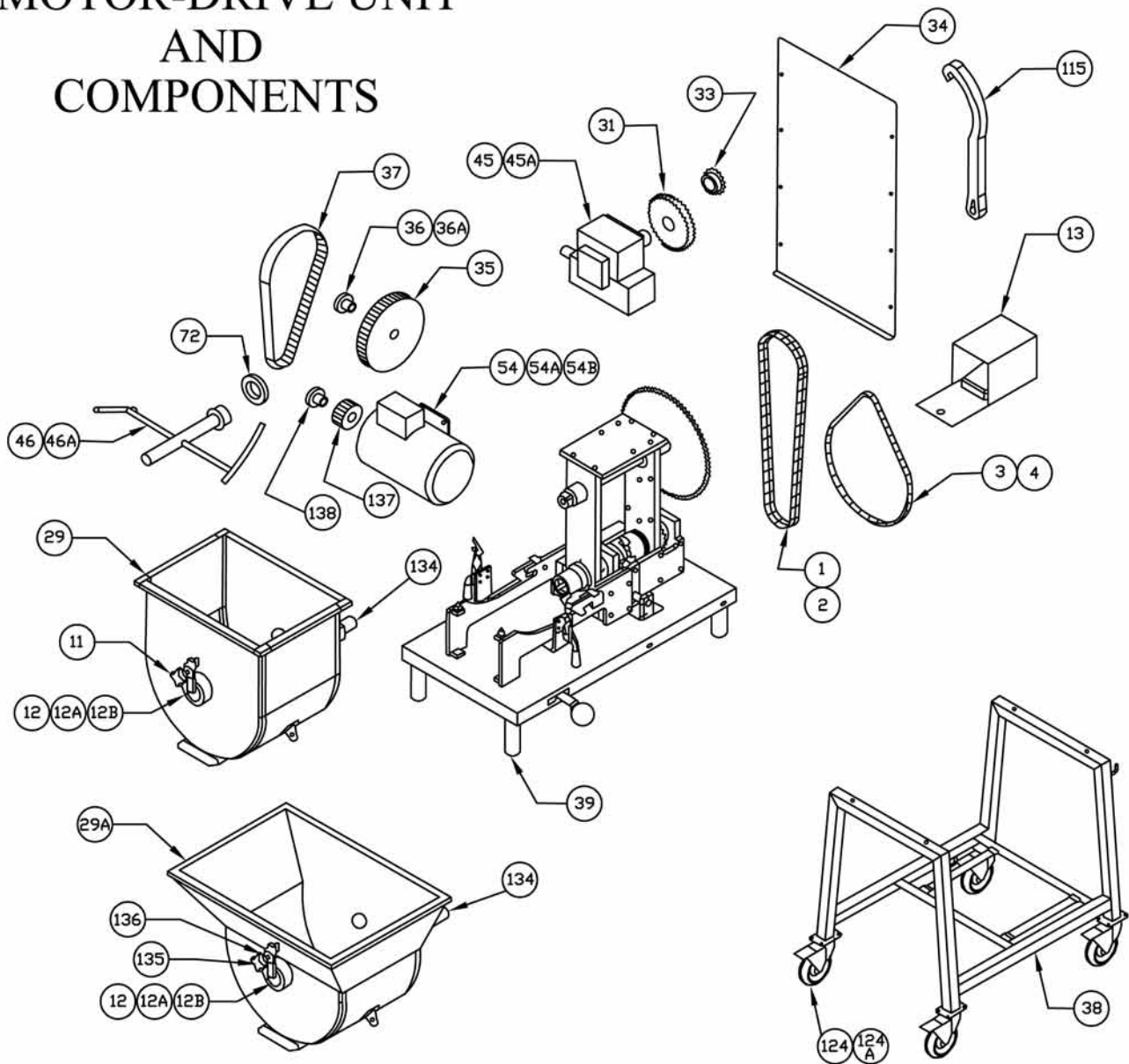


Fig.	Item No.	Description	Fig.	Item No.	Description
1	15026-02	Double roller chain, 49"	39	63057	table top leg (optional)
2	15029	Double chain master link	45	63070	Gear reducer, #924 Winsmith
3	20050-10	#40 Roller chain, 80 pitch	45A	63070G	Gear reducer, #B224 Grove
4	20050-01	#40 Roller chain master link, #40-C/L	46	63073	Mixer paddle assembly, round blade
11	53568	Paddle locking thumb screw	46A	63073-2	Mixer paddle assembly, curved blade
12	53852	Lock arm assembly w/bushings	54	63099	Motor, 3HP/208/230/460V/60HZ/3PH
12A	53517-1	Thrust bearing	54A	63099-1	Motor, 3HP/200/208V/60HZ/1PH
12B	53594	Radial bushing	54B	63099-2	Motor, 3HP 200/60HZ/3PH
13	56302	Foot switch assembly w/6' tubing	72	63136	Paddle spacer
29	63036	Hopper assembly	115	H340	Ring wrench
29A	63036-1-HEB	Hopper assembly, HEB style	124	PC175	Caster w/swivel lock
31	63041	Sprocket, D40B35	124A	PC175S-1	S.S. Caster w/swivel lock
33	63043	Sprocket, D40B15F-01	134	PC085	Magnetic housing- hopper
34	63045	Back access panel	135	14688	4-point knob, 3/8-16 thread
35	63047	Timing pulley, 48H100SK	136	WS077S	Weld stud, 3/8-16 X 1-1/2"
36	63048-01	Taper lock, SK, 1" (Winsmith reducer)	137	63048	Timing pulley, 18H100QD, 18 TEETH
36A	63048-03	Taper lock, SK, 3/4" (Grove reducer)	138	63048-02	Taper lock, SH 7/8"
37	63049	Timing belt			
38	63055	Cart assembly w/casters			

TRANSMISSION MOUNTING ASSEMBLY

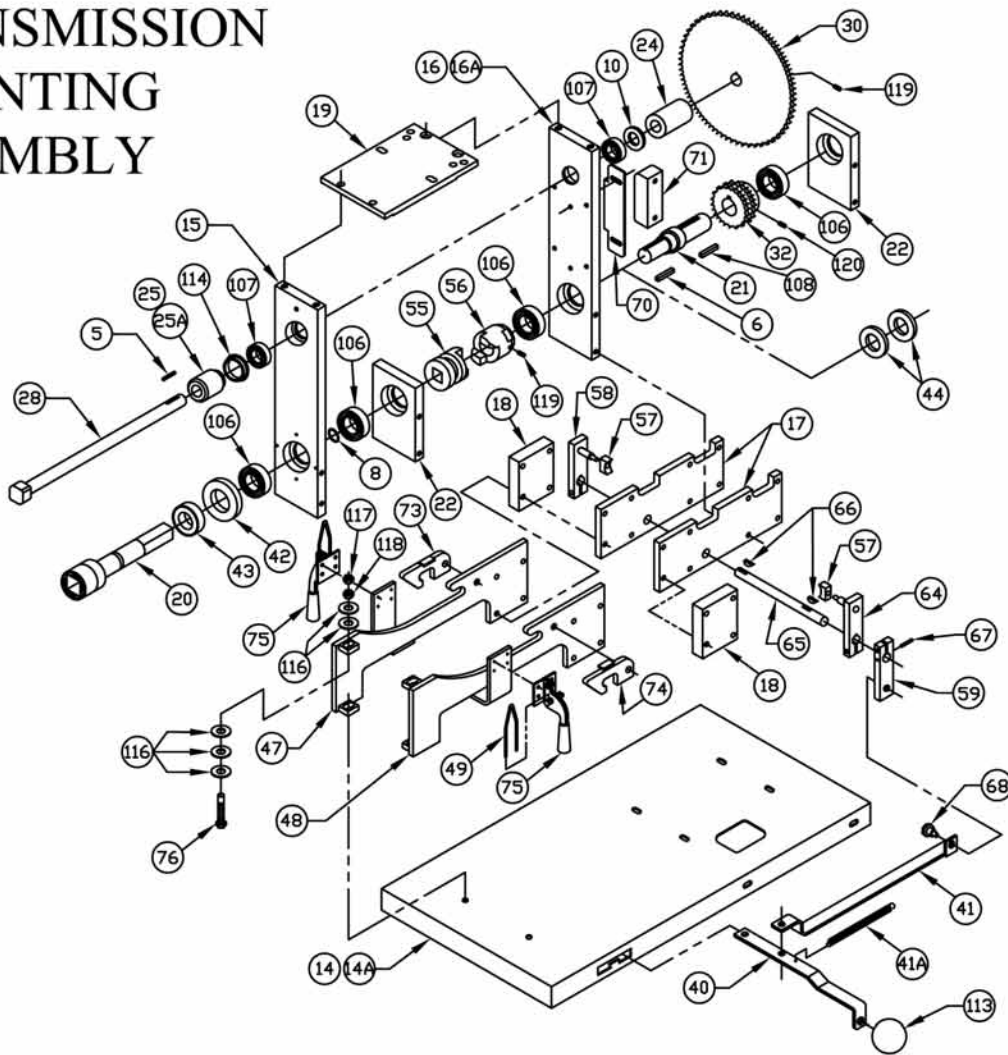


Fig.	Item No.	Description	Fig.	Item No.	Description
5	20665	Key, 1/4 x 1/4 x 1-1/8 S.S.	47	63081-01	Bowl support bracket, LH
6	20665-01	Key, 1/4 x 1/4 x 1-3/4 S.S.	48	63081-02	Bowl support bracket, RH
8	30315	O-Ring, 1.25 I.D.	49	63084	Hopper latch rod
10	50029	Washer, brass (used up to s/n 499)	55	56064	Drive clutch, squire drive
14	63005	Base plate (used up to s/n 499)	56	56065	Driving clutch, motor output
14A	63005-1	Base plate (used on s/n 500-on)	57	56211-1	Engagement lever bushing
15	63007	Shaft bearing retainer, front	58	56214	Clutch engagement lever, LH
16	63008	Shaft bearing retainer, rear (used up to s/n 499)	59	63104	Link engagement handle
16A	63008-1	Shaft bearing retainer, rear (used on s/n 500-on)	64	56215	Clutch engagement lever, RH
17	63009	Frame side plate	65	63119	Clutch engagement shaft
18	63010	Bowl lock side spacer	66	56127-1	Woodruff key
19	63011	Gear box top plate	67	MC-21R2	Lock handle groove pin
20	63014	Auger drive shaft	68	SSB50PS	Shoulder bolt, 3/8-16 x 1/2
21	63015	Main drive shaft	70	63126	Chain tensioner
22	63016	Bearing retainer, main shaft	71	63127	Tensioner block
24	63019	Spacer, mixer drive shaft	73	63139-01	Bowl lock hook, LH
25	63020	Spacer, plastic, mixer drive shaft	74	63139-02	Bowl lock hook, RH
25A	63020-1	Spacer, sealed, mixer drive shaft (used on s/n 646-on)	75	63140	Hopper latch
28	63033	Mixer drive shaft	76	63141	Bowl adjusting pin
30	63040	72T sprocket #40B72-01	106	83017	Bearing
32	63042	22T sprocket #D40B22	107	83032	Bearing
40	63062	Linkage pivot arm	108	83080-07	Key, 3/8 x 3/8 x 1-1/2 lg.
41	63063	Linkage arm	113	90509	Pivot arm knob
41A	63063-1	Spring, clutch linkage arm	114	PCM570	V-Ring seal
42	63065	Spacer, thrust bearing	116	FW07S	Flat washer, 3/8
43	63066	Thrust bearing	117	HN30S	Light jam nut, 3/8-16
44	63067	Spacer, main drive shaft (used up to s/n 499)	118	HN35S	Heavy jam nut, 3/8-16
			119	SSS17KL	Set screw, 5/16-18 X 5/16 lg., knurled cup point
			120	SSS20	Set screw, 3/8-16 X 3/8 lg., knurled cup point

BOWL & WORM ASSEMBLY

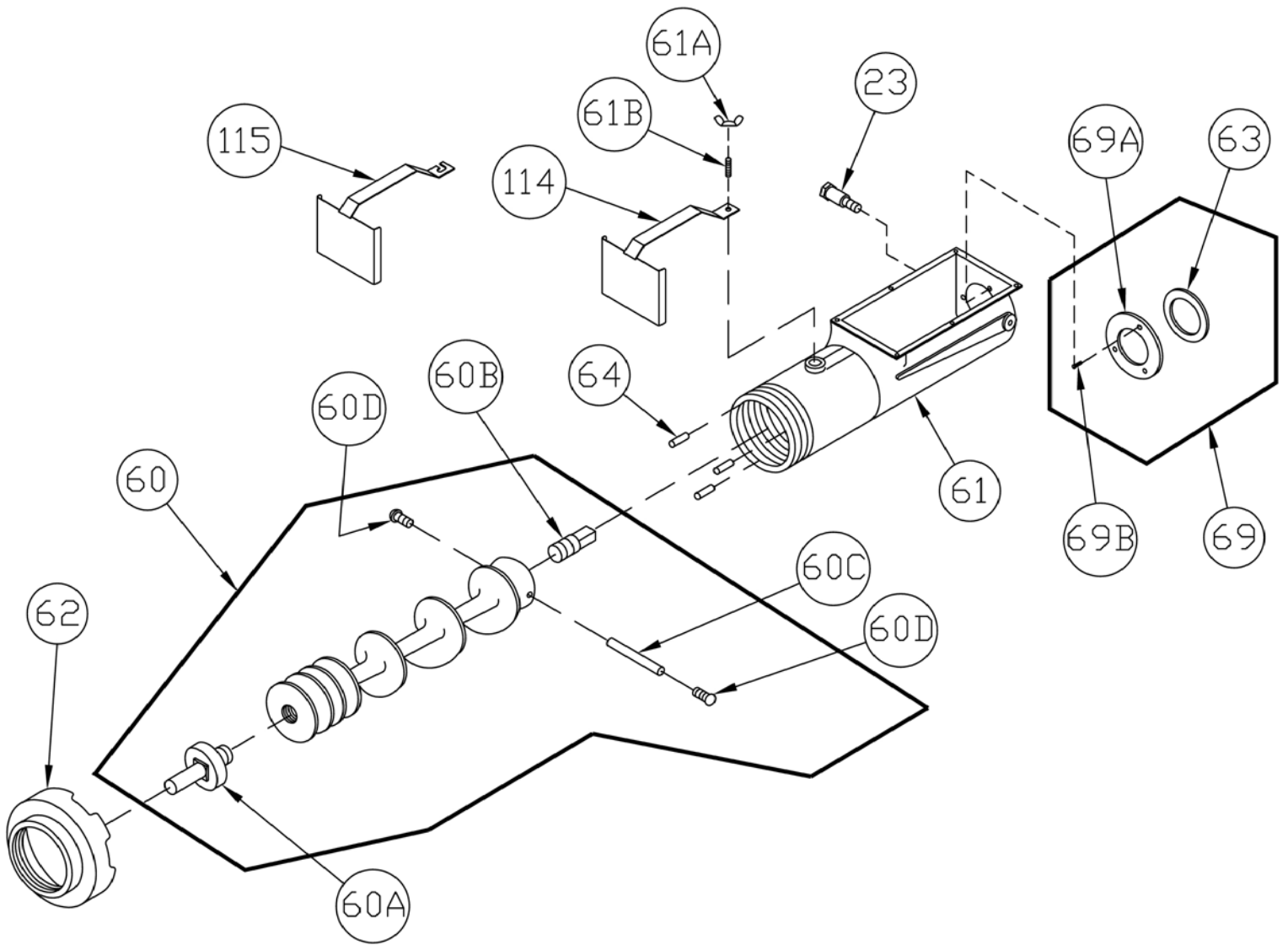


Fig.	Item No.	Description
	23	63017 Bowl mounting stud, 2 required
	60	54278-CTN Auger assembly
	60A	HK48 Knife drive pin
	60B	54278B Square drive insert
	60C	54278C Auger shear pin
	60D	54278D Shear pin screws
	61	56049 Bowl & plate pins
	61A	WN20S Wing nut $\frac{3}{8}$ -16
	61B	SSS45S Stud $\frac{3}{8}$ -16 x 1
	62	HR42/48 Ring
	63	57159 Auger drive shaft seal
	64	HP48 Bowl Plate Pin (3 REQ.)
	69	57159K Auger drive shaft seal kit
	69A	57160 Seal retainer
	69B	FHS26S Flat head screw 10-32 x $\frac{3}{4}$ SS
	114	52392 Product splash shield
	115	52392-HEB Product splash shield

FASTENERS & LOCATIONS

Base Plate (63005) to Cart Assembly (63055)

- 4 ea. HHS088S $\frac{3}{8}$ -16 \times 2 $\frac{1}{4}$
- 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 \times $\frac{7}{8}$
- 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 \times 1 $\frac{1}{4}$
- 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 \times 2 $\frac{1}{2}$
- 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 \times 2 $\frac{1}{2}$
- 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 \times 1 $\frac{1}{4}$
- 4 ea. LW25S $\frac{3}{8}$ heavy

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

- 2 ea. HHS055S $\frac{5}{16}$ -18 \times $\frac{3}{4}$
- 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 \times 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 \times 2 (with loctite)

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

- 2 ea. HHS070S $\frac{3}{8}$ -16 \times 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 \times 1 $\frac{1}{4}$
- 4 ea. LW25S $\frac{3}{8}$ heavy

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

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

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

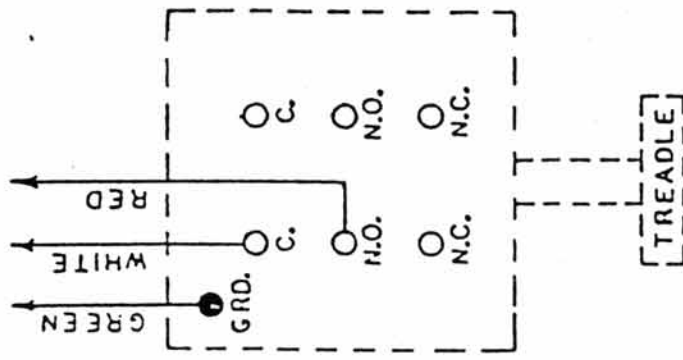
- 8 ea. RHS09S 10-32 \times $\frac{3}{8}$ (with loctite)

OPERATOR'S NOTES

FOOT SWITCH WIRING DIAGRAM

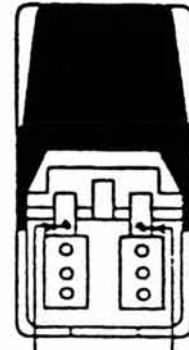
FOOT SWITCH ADJUSTMENT

To change adjustment of the operating point of an interior switch, depress the treadle to the point where you want the switch to operate. With the treadle depressed to the desired operating point, turn the adjusting screw until the switch snaps. Turn clockwise to lower the operating point and counter clockwise to raise it.



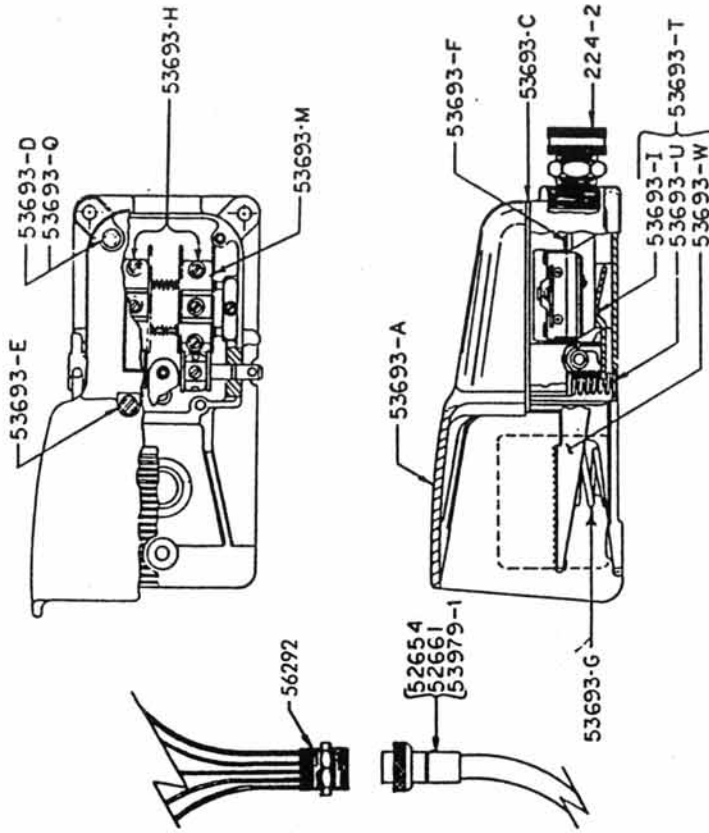
FOOT SWITCH WITHOUT COVER

ALLEN SCREW
NO. (2)



ALLEN SCREW
NO. (1)

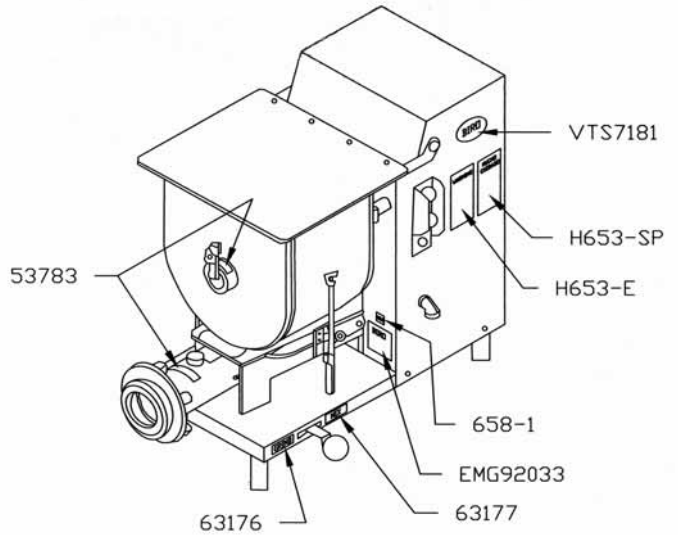
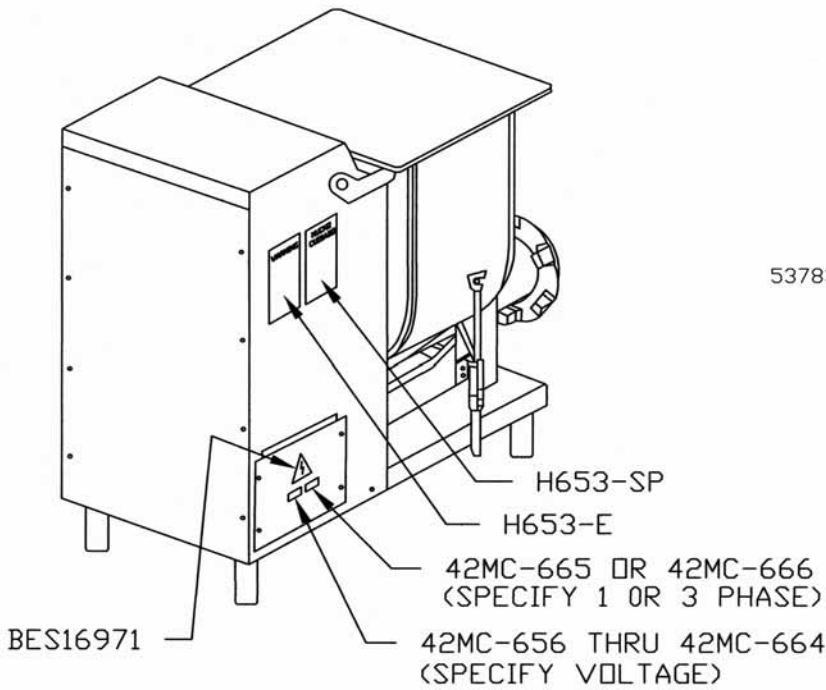
Adjust both Allen
Screws to activate
Micro-Switches
when the treadle
is in the center
position.



FOOTSWITCH PARTS LIST

- 224-2 Cord connector, wt. straight, 3/4"
- 52654 Male plug w/6' cord, 5 wire
- 56292 Female receptacle, 90°
- 52661 Male plug w/12' cord, 5 wire
- 52668 Footswitch w/12' cord and plug
- 53693 Footswitch
- 53693-A Cover guard
- 53693-C Cover gasket
- 53693-D Cover screw - short
- 53693-E Cover screw - long
- 53693-F Ground screw
- 53693-G Treadle spring
- 53693-H Internal assembly complete
- 53693-I Actuator
- 53693-M Micro switch BA-2R62-A4
- 53693-O Washer
- 53693-T Treadle w/actuator & return spring
- 53693-U Auxiliary treadle return spring
- 53693-W Treadle
- 53693-X One actuator & actuator spring assembly
- 53979-1 Cord 8' w/o foot switch
- 54213 Foot switch w/6' cord & plug

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



#EMG92033



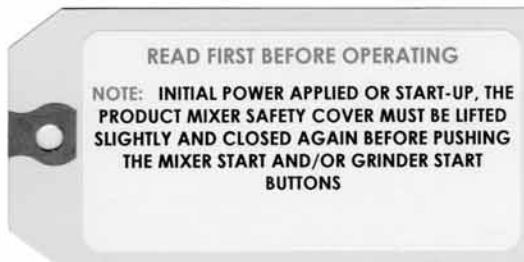
#658-1



#H653-E



#H653-SP



#56774K



#53783



#63176



#63177



#BES16971

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

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