



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.

Item No. 32313-299
Form No. Mini-32-4-16-7-B

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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 relate to your personal safety are indicated by:



or



Warnings related to possible damage are indicated by:



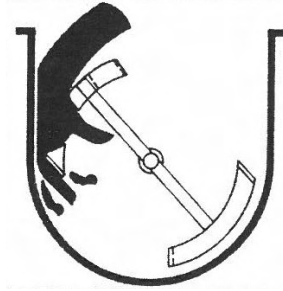
BIRO also has provided warning labels on the equipment. If any warning label, instruction label or Manual becomes misplaced, damaged, or illegible, please contact your nearest Distributor or BIRO directly for a replacement.

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 PADDLE 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 Grinder is Running.
- **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 Open or Removed or Magnetic Interlock Switch By-Passed.
- **NEVER** Operate Without all Warning Labels Attached and Owner/Operator Manual Available to the Operator.
- **USE ONLY BIRO** Parts and Accessories Properly Installed.

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 (cardboard) 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.)
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 208-230 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 feederline, 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 Auger 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 Auger Engage Lever is engaged, or in the “Grind” position. To disengage the grinding operation move the Auger Engage Lever to the “Mix” 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 move the Auger Engage Lever to “Grind” to activate the grinding drive shaft. 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 if equipped. Plug footswitch cord into fitting on control panel. Turn selector to foot. The machine will operate with pressure on the footswitch treadle. Releasing the treadle stops the machine.
14. Insert auger assembly into the grinding bowl and fully engage the auger into the drive shaft. Place knife first (sharp edges out) then grinding plate into end of grinding bowl. The grinding plate slides over the knife drive pin, and is held from rotating during operation by three pins in the grinding bowl. Install the end retaining ring.

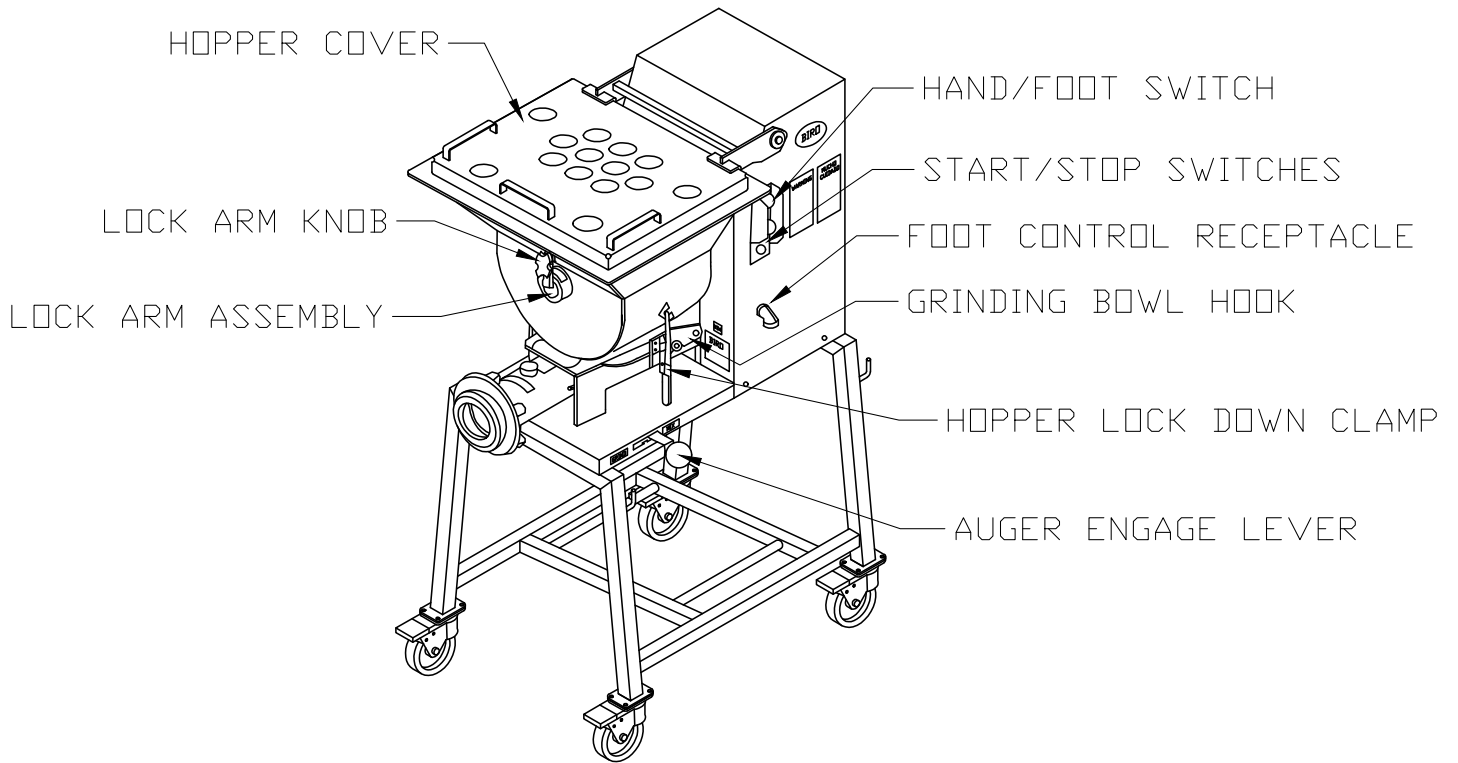


ONLY HAND TIGHTEN END RETAINING RING

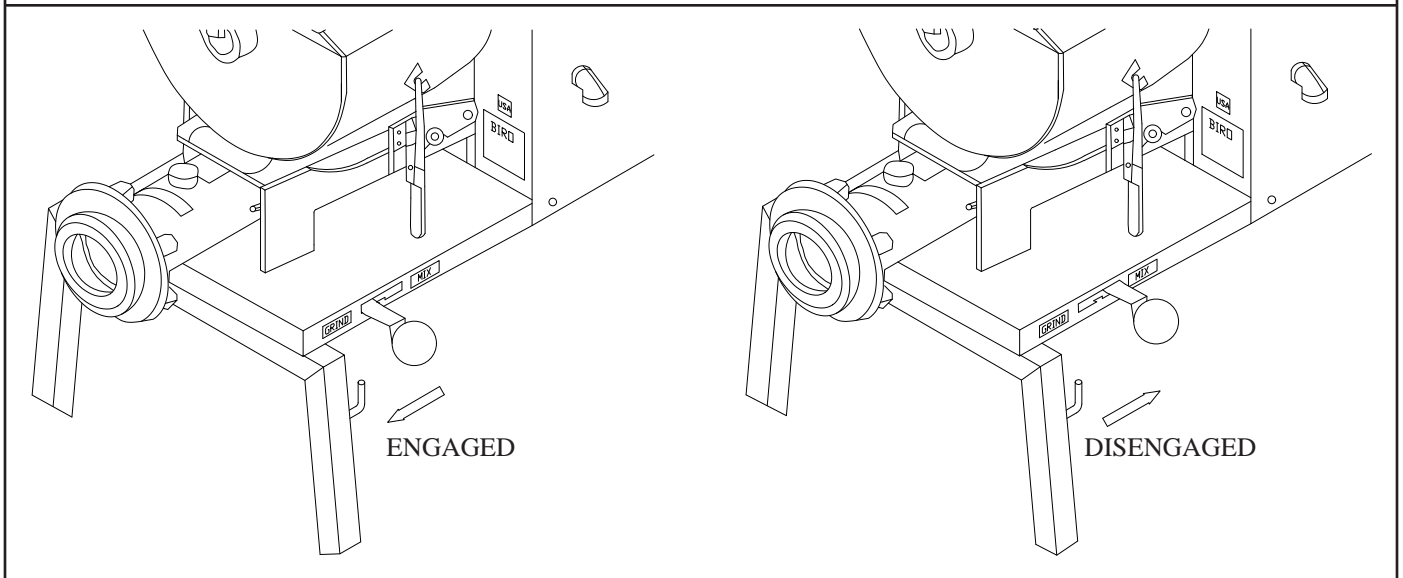
For best results, use knife and plate as a set. Do not operate machine for any period of time without product in the grinding bowl. This will cause heating and dulling of the knife and plate.

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 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 the Grinder is Running.
- **NEVER** Operate Without All Warning Labels Attached and Owner/Operator 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 engage the Auger Engage Lever by moving it to the “Grind” position to feed first grind. It is recommended to use a breaker plate with a 3/8” diameter or larger holes.
 - c. Push the red stop button and disengage the Auger by moving the Auger Engage Lever to the “Mix” 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 Auger Engage Lever disengaged, in the “Mix” 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.
 - c. After the desired mix, engage the Auger Engage Lever by moving it into the “Grind” position to operate the grinding auger and grind out the product.
 - d. Push the red stop button and disengage the grinder by moving the Auger Engage Lever to “Mix” 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 perform lockout/tagout procedures.
2. Remove grinding bowl end ring, breaker plate, knife and grinding auger.
3. Remove mixing paddle, hopper and grinding bowl assembly from machine (see instruction on page 9).
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. 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.
6. Never wash the clear hopper cover with abrasive cleaners. Use a soft cloth and warm soapy water only.

REMOVAL & INSTALLATION 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 (four point 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 Machine 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.

LUBRICATION CONTINUED FOR GEAR REDUCERS

1. Factory Filling

The speed reducers are oil filled at the factory to the proper level for the standard mounting position. The oil level should be checked and adjusted (if necessary) prior to operation, using the oil level plug provided and while the unit is oriented in its operating position.

2. Oil Changing



**WHEN CHANGING OIL FOR ANY REASON,
DO NOT MIX DIFFERENT OILS IN THE REDUCER.
OILS SHOULD BE COMPATIBLE WITH
VITON® SEAL MATERIAL.**

Therefore, when changing to a different oil, it is recommended that the housing be completely drained and thoroughly flushed with a light flushing oil prior to refilling with the appropriate lubricant. The oil level should be rechecked after a short period of operation and adjusted, if necessary.



**OIL SHOULD BE CHANGED MORE OFTEN IF THE
REDUCER IS USED IN A SEVERE ENVIRONMENT
(i.e., DUSTY, HUMID)**

A. Initial Oil Change

The oil in a new speed reducer should be changed at the end of 250 hours of operation. (30 days for 8 hour per day service, 15 days for 16 hour service, 10 days for 24 hour service.)

All standard reducers ordered from the factory are filled with lubricant to operate within a 30° to 100° F ambient temperature range.

B. Subsequent Oil Changes

Under normal conditions, after the initial oil change, the oil should be changed after every 2500 hours of operation, or every six months, whichever occurs first. Under severe conditions (rapid temperature changes, moist, dirty, or corrosive environment) it may be necessary to change oil at intervals of one to three months. Periodic examination of oil samples taken from the unit will help establish the appropriate interval.

C. Synthetic Oils

Synthetic lubricants can be advantageous over mineral oils in that they generally are more stable, have a longer life, and operate over a wider temperature range. These oils are appropriate for any application but are especially useful when units are subjected to low start-up temperatures or high operating temperatures. Use of synthetics can cause problems if they are not compatible with the seals or the conventional lubricants they replace. For continuous duty at normal ambient temperatures (-10° to 105°F) we recommend the use of Mobile SHC 634 which is compatible with the standard compounded oil shipped in our product and the Viton® seal material used through size 252.

3. Overfilling or Underfilling

If a speed reducer is overfilled with oil, the energy in churning the excessive oil can result in overheating. If this occurs, shut down the drive, remove the oil level plug and allow oil to drain until oil ceases to drain from the level hole, reinstall the oil level plug and restart the drive. If the speed reducer is underfilled, the resultant friction can cause overheating and possible damage. If this occurs, fill the speed reducer to the oil level plug hole and check the gearing for excessive wear. NOTE: Oil capacity is 32 ounces.

4. Oil Seals

Although the speed reducer uses high quality oil seals and precision ground shafts to provide a superior seal contact surface, it is possible that circumstances beyond the speed reducer's control can cause oil seal leakage (damage during shipment or installation, etc.) When replacing a shaft oil seal, using the following suggestions will help to insure leak-free operation and long seal life:

A. When installing a new seal, cover the keyway and any other surface discontinuity with smooth tape to protect the seal lip from being damaged.

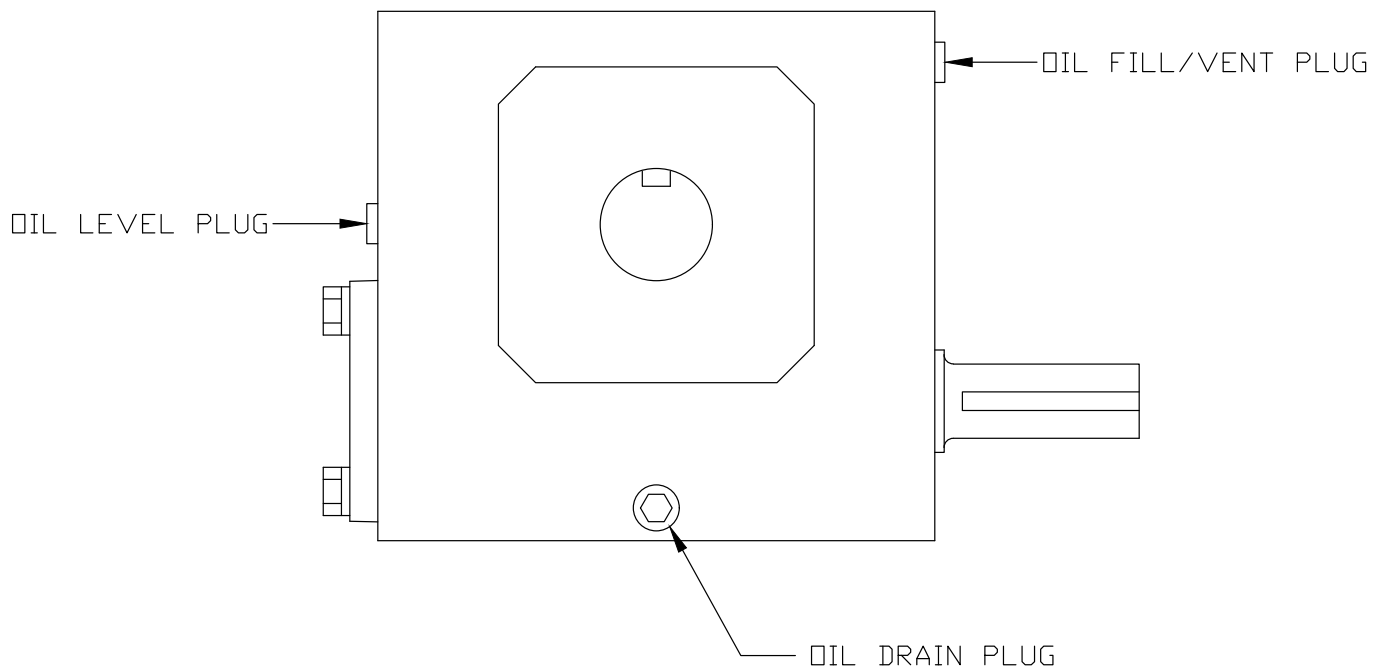
B. A sealant should be used between the O.D. of the seal and the I.D. of the bore into which the seal is installed. The seal bore should also be free of any burrs, nicks, or scratches.

C. Be sure that the seal is not cocked in the bore. The outer face of the seal should be flush with the surface into which it is mounted.

GEAR REDUCERS

(Item No. 63070, up to Serial No. 560) (Item No. 63070G, Serial No. 560 and up)

LUBRICATION AND MAINTENANCE



LUBRICANTS FOR 63070/63070G GEAR WORM REDUCERS

The precision-made gears and bearings in gear speed reducers require high-grade lubricants of the proper viscosity to maintain trouble-free performance. For best results, use lubricants on the following chart for worm gear reducers.

Manufacturer	30° to 100°F Ambient Temperature AGMA Compounded No. 7	50° to 125°F Ambient Temperature AGMA Compounded No. 8
Amoco Oil Co.	Worm Gear Oil	Cylinder Oil #680
Chevron USA, Inc.	Cylinder Oil #460X	Cylinder Oil #680X
Exxon Co. USA	Cyclesstic TK-460	Cyclesstic TK-680
Gulf Oil Co.	Senate 460	Senate 460D
Mobile Oil Corp.	600 W Super Cylinder	Extra Hecla Super
Shell Oil Co.	Valvata Oil J460	Valvata Oil J680
Sun Oil Co.	Gear Oil 7C	Gear Oil 8C
Texaco	Honor Cylinder Oil	650T Cylinder Oil
Union Oil Co. of CA	Steaval A	Worm Gear Lube 140

Standard factory-installed lubricant is Mobile Oil Corp. 600 W Super Cylinder Oil (AGMA7).

Some gear lubricants contain E.P. additives that can be corrosive to gear bronze material. Avoid lubricants that are compounded with sulfur and/or chlorine.

MOTOR DRIVE COVER AND HOPPER COVER

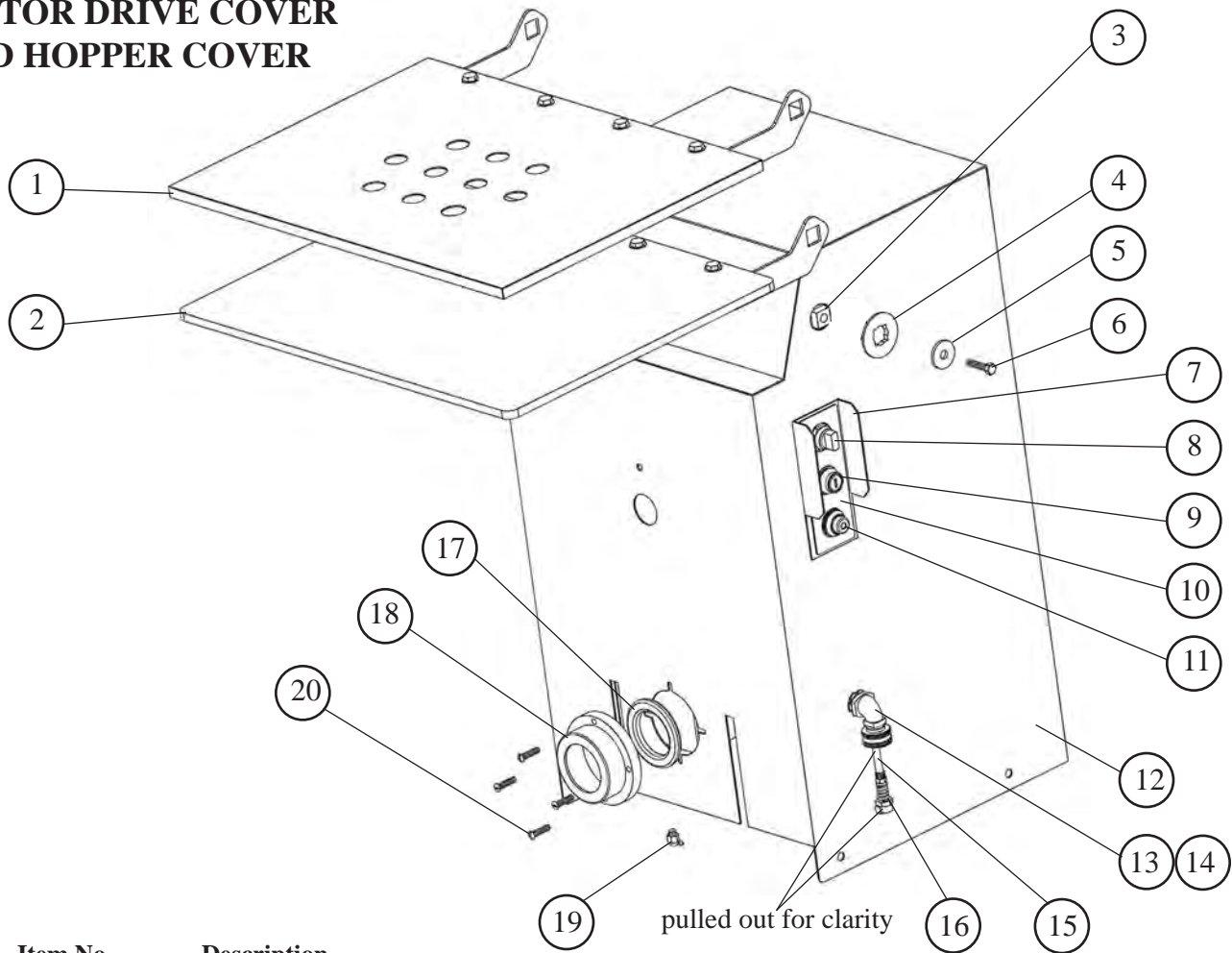
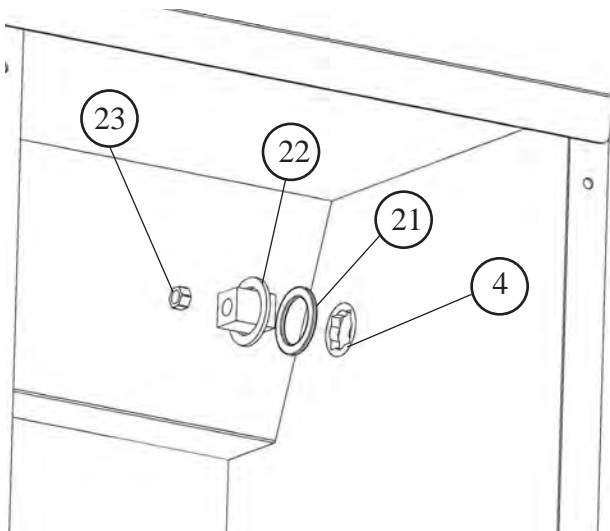


Fig. Item No.

Description

1	63035S	Stn Stil hopper cover & arm assembly	9	42MC-Y73	Start button, Green
2	63035	Hopper cover & arm assembly	10	56125	Legend plate (controls)
3	63082	Lid safety arm weldment	11	42MC-Y74	Stop button, Red
4	62182	Sleeve bushing, hinge	12	63044	Hood wrap weldment
5	EMG92032	Washer, outside lid hinge arm	13	56301G	Watertight cord connector, 90°
6	HHS083S	Hex head cap screw, 3/8-16 x 1 3/4", SS	14	241-LN	Locknut, 1/2" conduit, metal
7	56337	Shroud, selector switch	15	56302I	Plastic tubing, 1/4 O.D. x 1/8 I.D. x 18"
8	56105	Selector switch, hand/foot	16	56300J-CPB	Female coupling body w/ nut, Quick disconnect, metal
			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 weldment
			23	HNNL25S	Hex nut, 3/8-16, SS nylok, jam
			4	62182	Sleeve bushing, hinge



MOTOR DRIVE COVER AND HOPPER COVER

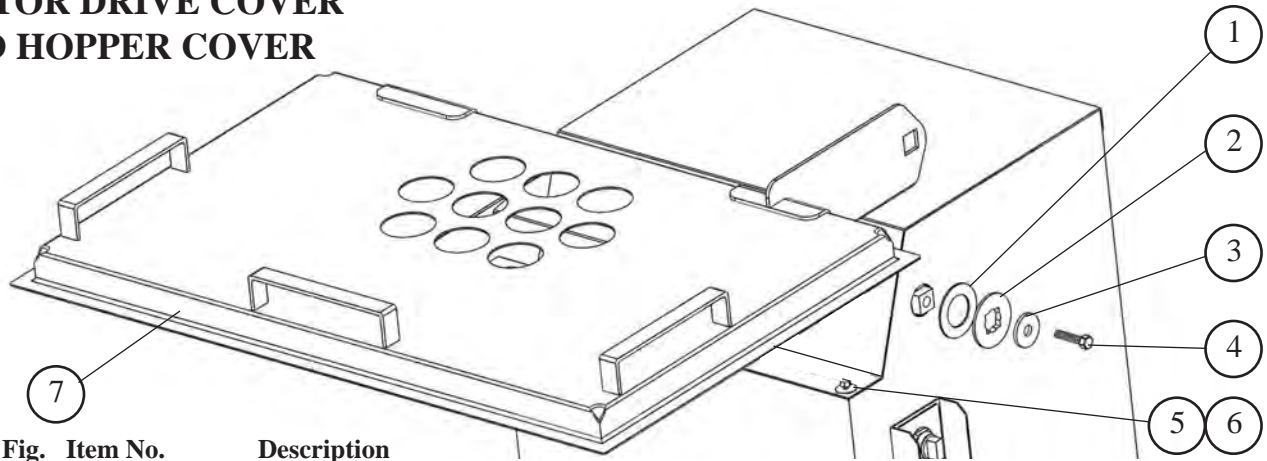
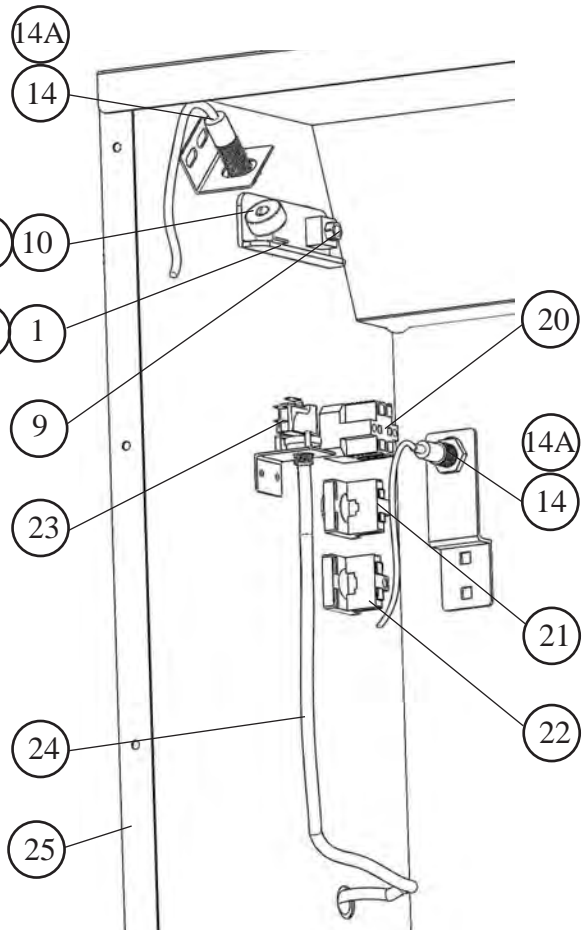
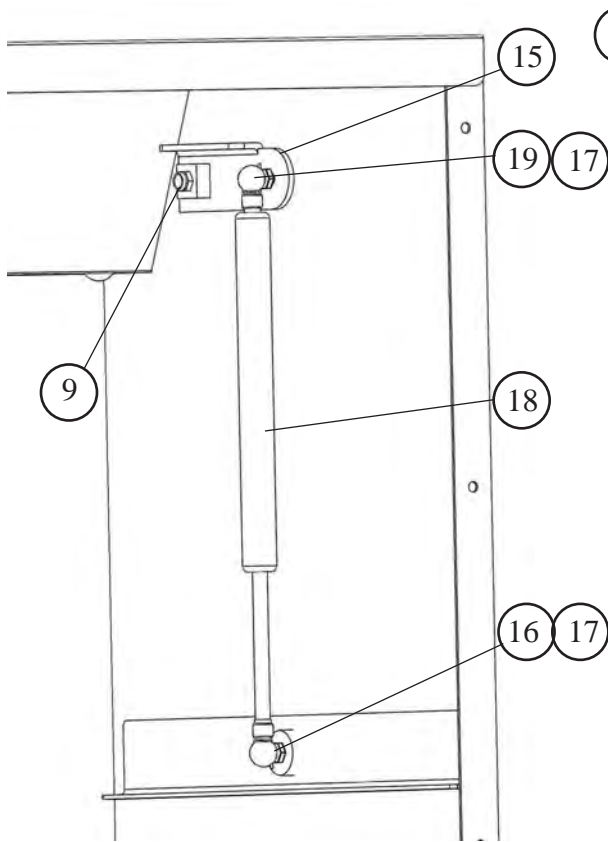


Fig.	Item No.	Description
	1	63169 Sleeve bushing washer
	2	62182 Sleeve bushing, hinge
	3	EMG92032 Washer, outside hinge lid arm
	4	HHS083S Hex head cap screw, 3/8-16 x 1 3/4", SS
	5	311-1 Rubber bumper
	6	AN05S Acorn nut, 8-32, high crown, SS
	7	63035S-HEB Hopper cover & arm assembly, SS



8	63082	Lid safety arm weldment	16	63174	Ball stud, 10mm ball, 5/16-18 x 3/8"
9	HNNL25S	Hex nut, 3/8-16, SS nylok, jam	17	EMG62190-1	Retaining clip, gas spring, internal
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"
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
14A	63031	Wire connection, Safety switch circuit	23	56301D	Air switch w/ nut, momentary, SPDT
15	63173	Damper arm, lid	24	56302I	Plastic tubing, 1/4 O.D. x 1/8 I.D. x 18"
			25	63044-HEB	Hood wrap weldment w/damper boss

ELECTRICAL BOX

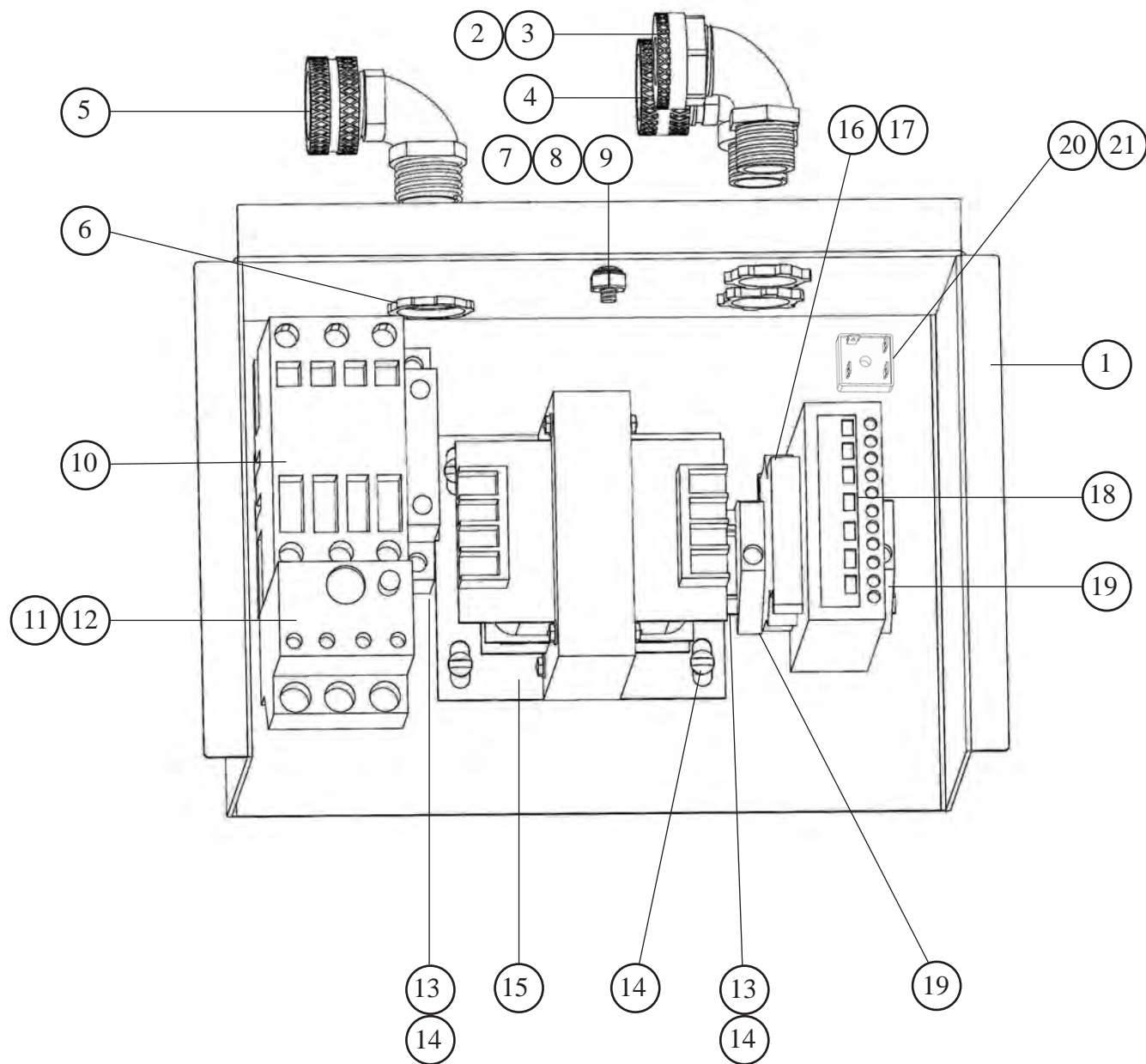


Fig.	Item No.	Description	Fig.	Item No.	Description
1	63094-1	Electrical box weldment, s/n 500 on	12	H281EE-51	Overload, B18K-K, 4-6.3 A
2	63027-A	Bushing, multi hole, .25 DIA	13	63028	Din rail, 2 ³ / ₈ " long
3	63027-B	Cord grip, 90°, 1/2"	14	RHS060S	Round head screw, 10-24 x 3/8", SS
4	224-11	Cord grip connector, 90°, 1/2", .25-.375	15	63026	Transformer, 100VA, 208-460/24 SEC
5	224-5	Cord grip connector, 90°, 1/2", .50-.625	16	EMG92014	Fuse block, din rail type
6	241-LN	Locknut, 1/2" conduit, metal	17	EMG90552	Fuse, 3A, time delay
7	HHS020S	Hex head screw 1/4-20 x 3/8", SS	18	PC162-1	Central control unit, 24 VDC
8	LW10S	Lock washer, 1/4", SS	19	BLK323	End barrier
9	HN15S	Hex nut, 1/4-20, SS	20	PC148	Bridge rectifier, AC-DC volts
10	226EE-GO11K	Contactors, LS11K, 24 V Coil	21	RHS062S	Round head screw, 10-24 x 3/8", SS
11	226EE-OL12M	Overload, B18K-M, 8-12 A			

MOTOR-DRIVE UNIT AND COMPONENTS

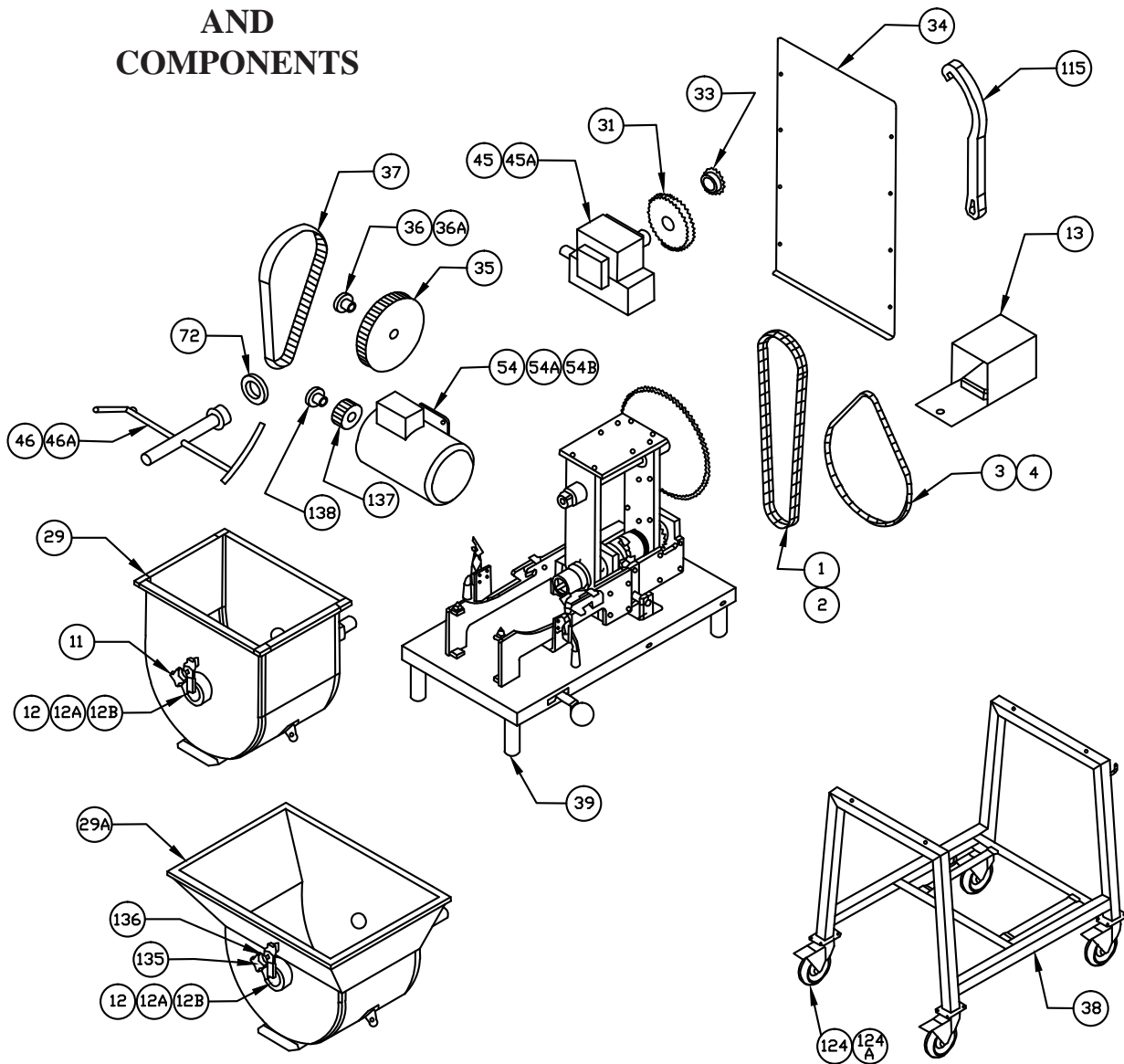


Fig.	Item No.	Description	Fig.	Item No.	Description
	1	15026-02		38	63055
	2	15029		39	63057
	3	20050-10		45	63070
	4	20050-01		45A	63070G
	11	53568		46	63073
	12	53852		46A	63073-2
	12A	53517-1		54	63099
	12B	53594		54A	63099-3
	13	56304		54B	63099-4
	29	63036		72	63136
	29A	63036-1-HEB		115	H340
	31	63041		124	PC175-1
	33	63043		124A	PC175S-1
	34	63045		135	14688
	35	63047		136	WS077S
	36	63048-01		137	63048
	36A	63048-03		138	63048-02
	37	63049			

TRANSMISSION MOUNTING ASSEMBLY

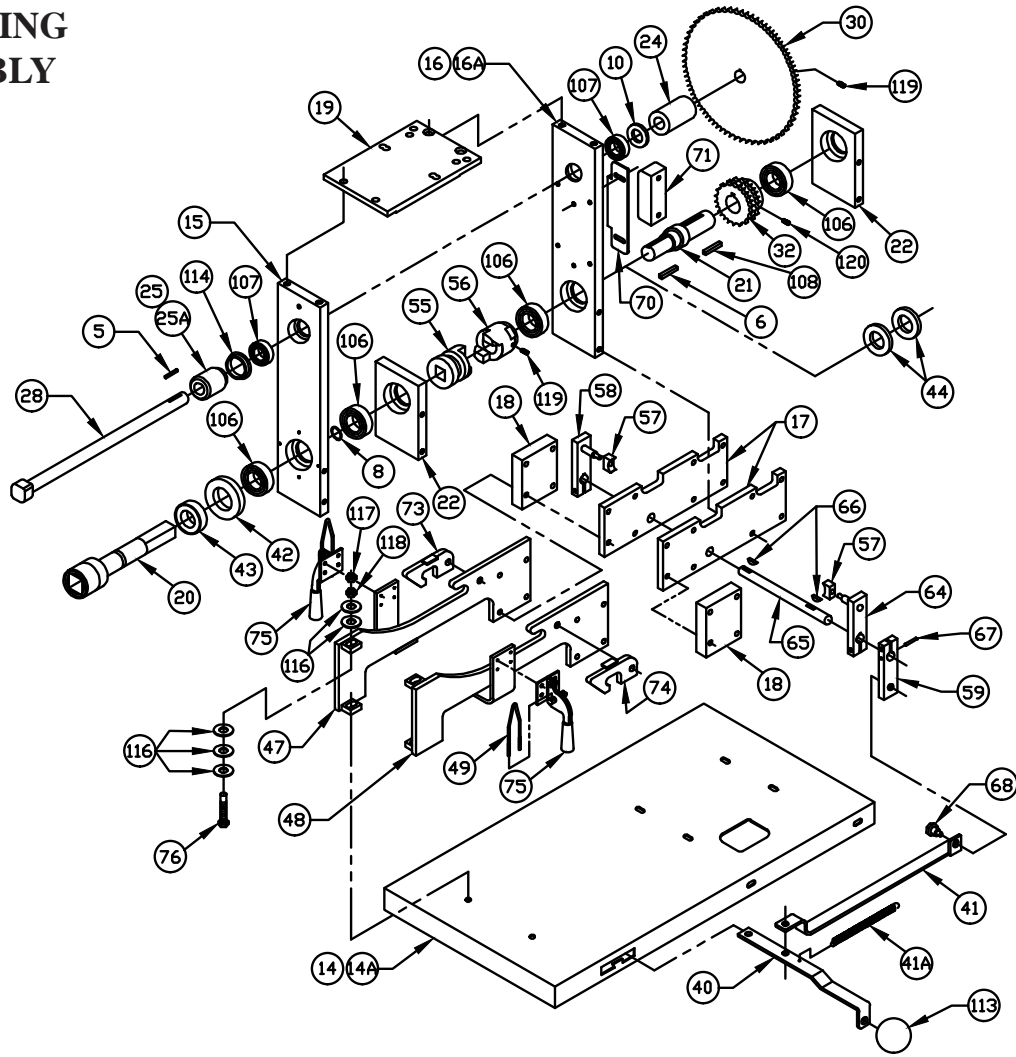


Fig.	Item No.	Description	Fig.	Item No.	Description	
	5	20665	Key, 1/4 x 1/4 x 1 1/8"	48	63081-02	Bowl support bracket, RH
	6	20665-01	Key, 1/4 x 1/4 x 1 3/4"	49	63084	Hold down rod
	8	30315	O-Ring, 1.25 I.D.	55	56064	Driven clutch, square drive
	10	50029	Washer, brass (up to s/n: 499)	56	56065	Driving clutch, motor output
	14	63005	Base plate (up to s/n: 499)	57	56211-1	Driven clutch engagement lever bushing
14A	63005-1	Base plate (used s/n: 500 on)	58	56214	Clutch engagement lever, LH	
15	63007	Shaft bearing retainer, front	59	63104	Link engagement handle	
16	63008	Shaft bearing retainer, rear (up to s/n 499)	64	56215	Clutch engagement lever, RH	
16A	63008-1	Shaft bearing retainer, rear (s/n 500 on)	65	63119	Clutch engagement shaft	
17	63009	Frame side plate	66	56127-1	Woodruff key	
18	63010	Bowl lock mount spacer, sides	67	MC-21R2	Lock handle groove pin	
19	63011	Gear box mount plate, top	68	SSB50PS	Shoulder bolt, 3/8-16 x 1/2"	
20	63014	Grinder socket shaft	70	63126	Bracket, chain tensioner	
21	63015-1	Auger drive shaft w/ shoulder	71	63127	Tension block	
22	63016	Bearing mount, auger drive shaft	73	63185-01	Bowl lock hook, LH	
24	63019	Spacer, mixer drive shaft	74	63185-02	Bowl lock hook, RH	
25	63020	Spacer, mixer drive shaft (up to s/n 645)	75	63140	Hopper latch	
25A	63020-1	Spacer, mixer drive shaft (s/n 646 on)	76	63141	Bowl adjusting pin	
28	63033	Mixer drive shaft	106	83017	Bearing, auger drive shaft	
30	63040	Sprocket, 72 tooth, #40B72-01	107	83032	Bearing, mixer shaft	
32	63042	Sprocket, 22 tooth, #D40B22	108	83080-07	Key, 3/8 x 3/8 x 1 1/2"	
40	63062	Linkage pivot arm	113	90509	Plastic ball knob	
41	63063	Linkage arm	114	PCM570	V-Ring seal	
41A	63063-1	Spring, clutch linkage arm	116	FW07S	Flat washer, 3/8"	
42	63065	Spacer, thrust bearing	117	HN30S	Hex nut, light jam, 3/8-16, SS	
43	63066	Thrust bearing, auger drive shaft	118	HN35S	Hex nut, 3/8-16, SS	
44	63067	Spacer, auger drive shaft	119	SSS17KL	Set screw, knurled cup point, 5/16-16 x 3/8"	
47	63081-01	Bowl support bracket, LH	120	SSS20	Set screw, knurled cup point, 3/8-16 x 3/8"	

BOWL & WORM ASSEMBLY

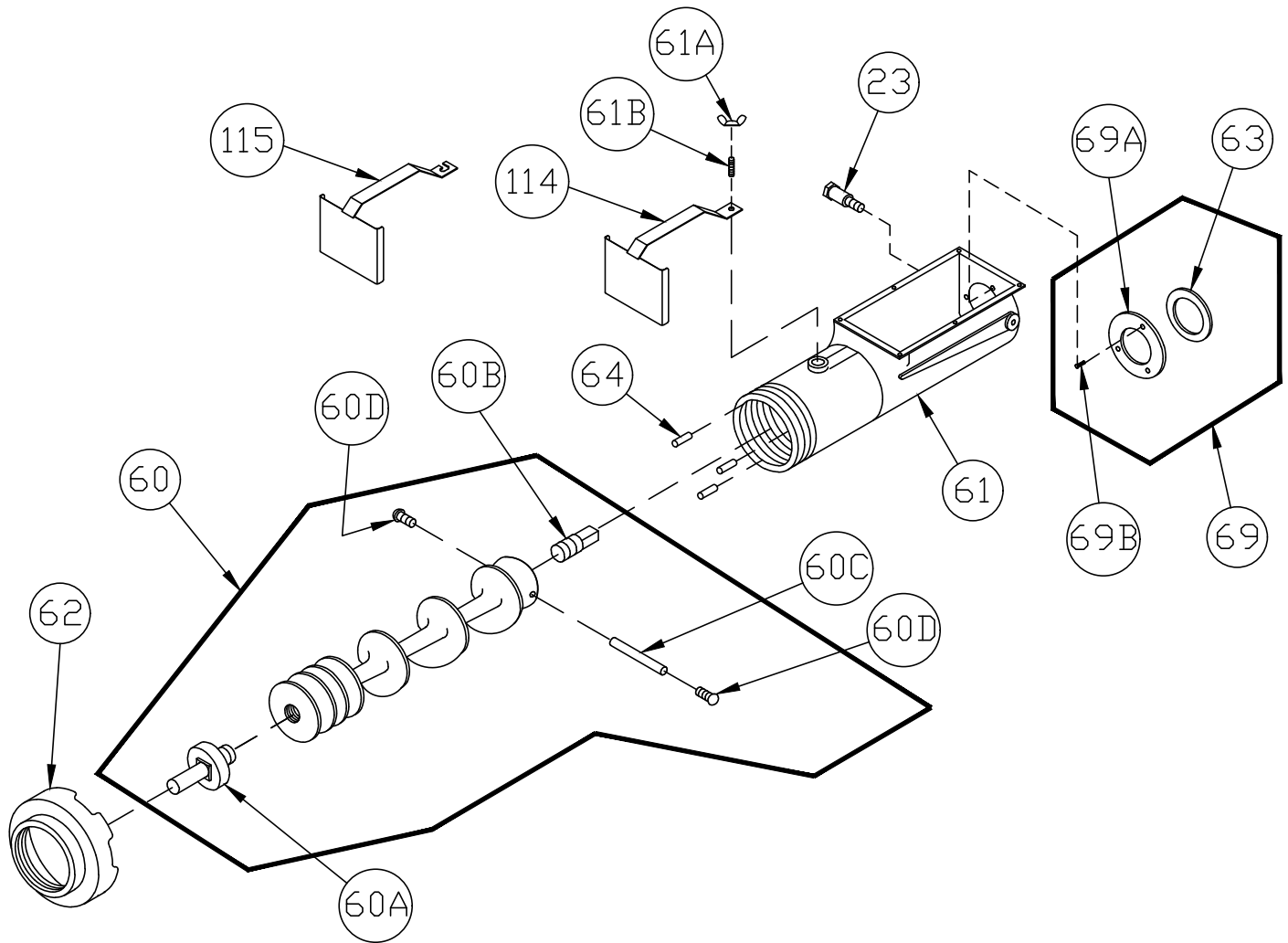


Fig.	Item No.	Description
	23 63017	Bowl hook stud, 2 required
	60 54278-CTN	Auger assembly
	60A HK48	Knife drive pin
	60B 54278B	Square drive insert
	60C 54278C	Auger shear pin
	60D FHS33S	Shear pin screws, 1/4-20 x 1/2", SS
	61 56049	Bowl & plate pins
	61A WN20S	Wing nut, 3/8-16, SS
	61B SSS45S	Stud, 3/8-16 x 1", SS
	62 HR42/48	Ring
	63 57159	Auger drive shaft seal
	64 HP48	Bowl plate pin, 3 required
	69 57159K	Auger drive shaft seal kit
	69A 57160	Seal retainer
	69B FHS26S	Flat head screw, 10-32 x 3/4", SS
	114 52392	Product splash shield
	115 52392-HEB	Product splash shield

FASTENERS & LOCATIONS

Base Plate (63005) to Cart Assembly (63055)

	Item No.	
4 ea.	HHS088S	Hex head screw, $\frac{3}{8}$ -16 x $2\frac{1}{4}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS
4 ea.	HN25S	Hex nut, $\frac{3}{8}$ -16, heavy, SS, w/ loctite

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

	Item No.	
4 ea.	HHS058S	Hex head screw, $\frac{5}{16}$ -18 x $\frac{7}{8}$ ", SS
4 ea.	LW15S	Lock washer, $\frac{5}{16}$ ", SS
8 ea.	FW10S	Flat washer, $\frac{5}{16}$ ", SS

Frame Side Plates (2 ea. 63009) to Bearing Mount- auger drive shaft- rear (63016)

	Item No.	
4 ea.	HHS075S	Hex head screw, $\frac{3}{8}$ -16 x $1\frac{1}{4}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS

Bowl Support Brackets (LH 63081-01 & RH 63081-02) to Bowl Lock Mount Spacer (2 ea. 63010) to Frame Side Plates (2 ea. 63009) to Bearing Mount-auger drive shaft-front (63016)

	Item No.	
4 ea.	HHS090S	Hex head screw, $\frac{3}{8}$ -16 x $2\frac{1}{2}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS

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

	Item No.	
4 ea.	HHS090S	Hex head screw, $\frac{3}{8}$ -16 x $2\frac{1}{2}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS

Frame Side Plates (2 ea. 63009) to Shaft Bearing Retainer-rear (63008 or 63008-1)

	Item No.	
4 ea.	HHS075S	Hex head screw, $\frac{3}{8}$ -16 x $1\frac{1}{4}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS

Bracket, Chain Tensioner (63126) to Shaft Bearing Retainer-rear (63008 or 63008-1)

	Item No.	
2 ea.	HHS055S	Hex head screw, $\frac{5}{16}$ -18 x $\frac{3}{4}$ ", SS
2 ea.	LW15S	Lock washer, $\frac{5}{16}$ ", SS
2 ea.	FW10S	Flat washer, $\frac{5}{16}$ ", SS

Motor (63099 or 63099-3 or 63099-4) to Shaft Bearing Retainer-rear (63008 or 63008-1)

	Item No.	
4 ea.	HHS060S	Hex head screw, $\frac{5}{16}$ -18 x 1", SS
4 ea.	LW15S	Lock washer, $\frac{5}{16}$ ", SS
8 ea.	FW10S	Flat washer, $\frac{5}{16}$ ", SS

Bowl Hook Stud (63017) to Bowl (56049)

	Item No.	
2 ea.	HHS129S	Hex head screw, $\frac{1}{2}$ -13 x 2", SS w/ loctite

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

	Item No.	
2 ea.	HHS070S	Hex head screw, $\frac{3}{8}$ -16 x 1", SS
2 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS
2 ea.	HN25S	Hex nut, $\frac{3}{8}$ -16, heavy, SS

Gear Box Mount Plate-top (63011) to Shaft Bearing Retainer-front & rear (63007 & 63008 or 63008-1)

	Item No.	
4 ea.	HHS075S	Hex head screw, $\frac{3}{8}$ -16 x $1\frac{1}{4}$ ", SS
4 ea.	LW20S	Lock washer, $\frac{3}{8}$ ", SS

Gear Reducer (63070 or 63070G) to Gear Box Mount Plate-top (63011)

	Item No.	
4 ea.	HHS110S	Hex head screw, $\frac{1}{2}$ -13 x 1", SS
4 ea.	LW30S	Lock washer, $\frac{1}{2}$ ", SS

Bowl Lock Hook-LH (63185-01) to Bowl Support Bracket-LH (63081-01)

	Item No.	
1 ea.	HHS126S	Hex head screw, $\frac{1}{2}$ -13 x $1\frac{1}{4}$ ", SS
1 ea.	LW30S	Lock washer, $\frac{1}{2}$ ", SS

Bowl Lock Hook-RH (63185-02) to Bowl Support Bracket-RH (63081-02)

	Item No.	
1 ea.	HHS126S	Hex head screw, $\frac{1}{2}$ -13 x $1\frac{1}{4}$ ", SS
1 ea.	LW30S	Lock washer, $\frac{1}{2}$ ", SS

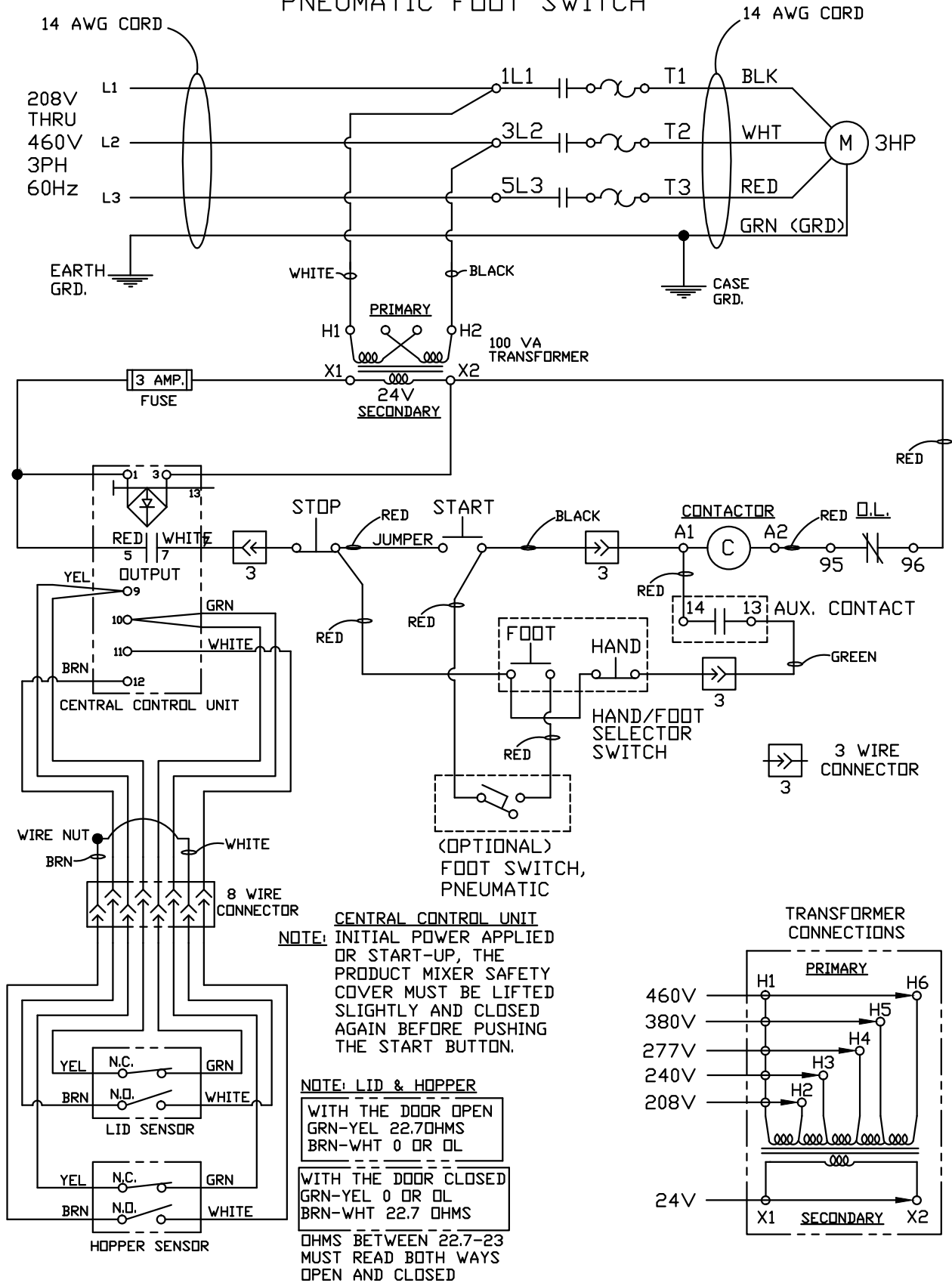
Hopper Latch (2 ea. 63140) to Bowl Support Brackets LH & RH (LH 63081-01 & RH 63081-02)

	Item No.	
8 ea.	RHS09S	Hex head screw, 10-32 x $\frac{3}{8}$ ", SS (w/ loctite)

- OPERATOR'S NOTES -

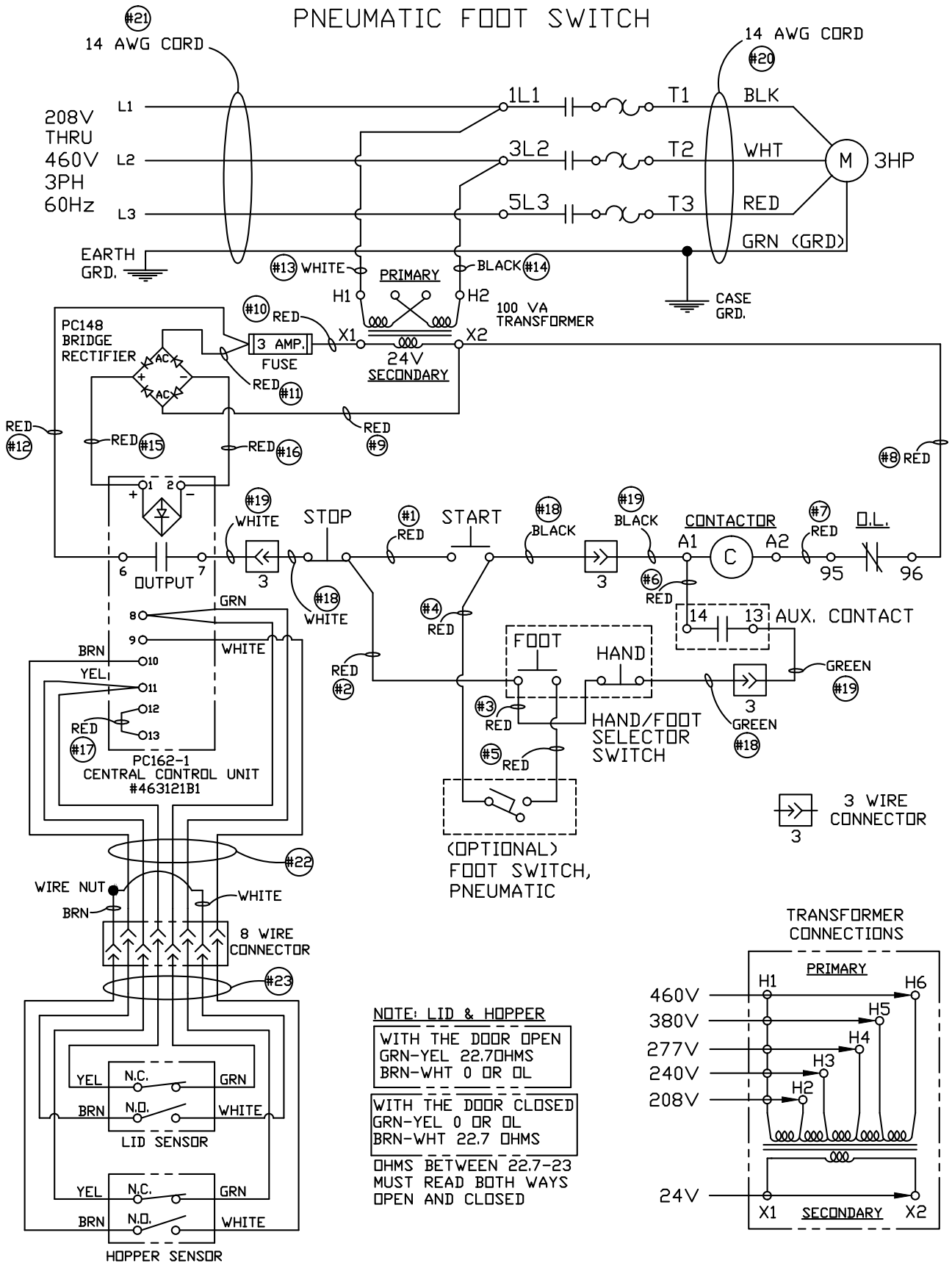
Before
Serial No. 783

MINI-32 WIRING SCHEMATIC
208-460VAC/60HZ/3PH
WITH ELOBAU MAGNETIC
SAFETY SWITCHES &
PNEUMATIC FOOT SWITCH

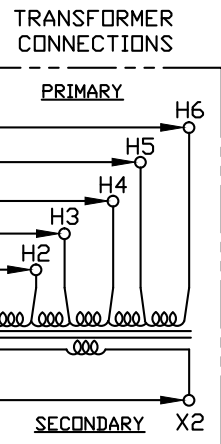
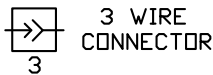


Serial No. 783 on MINI-32 WIRING SCHEMATIC

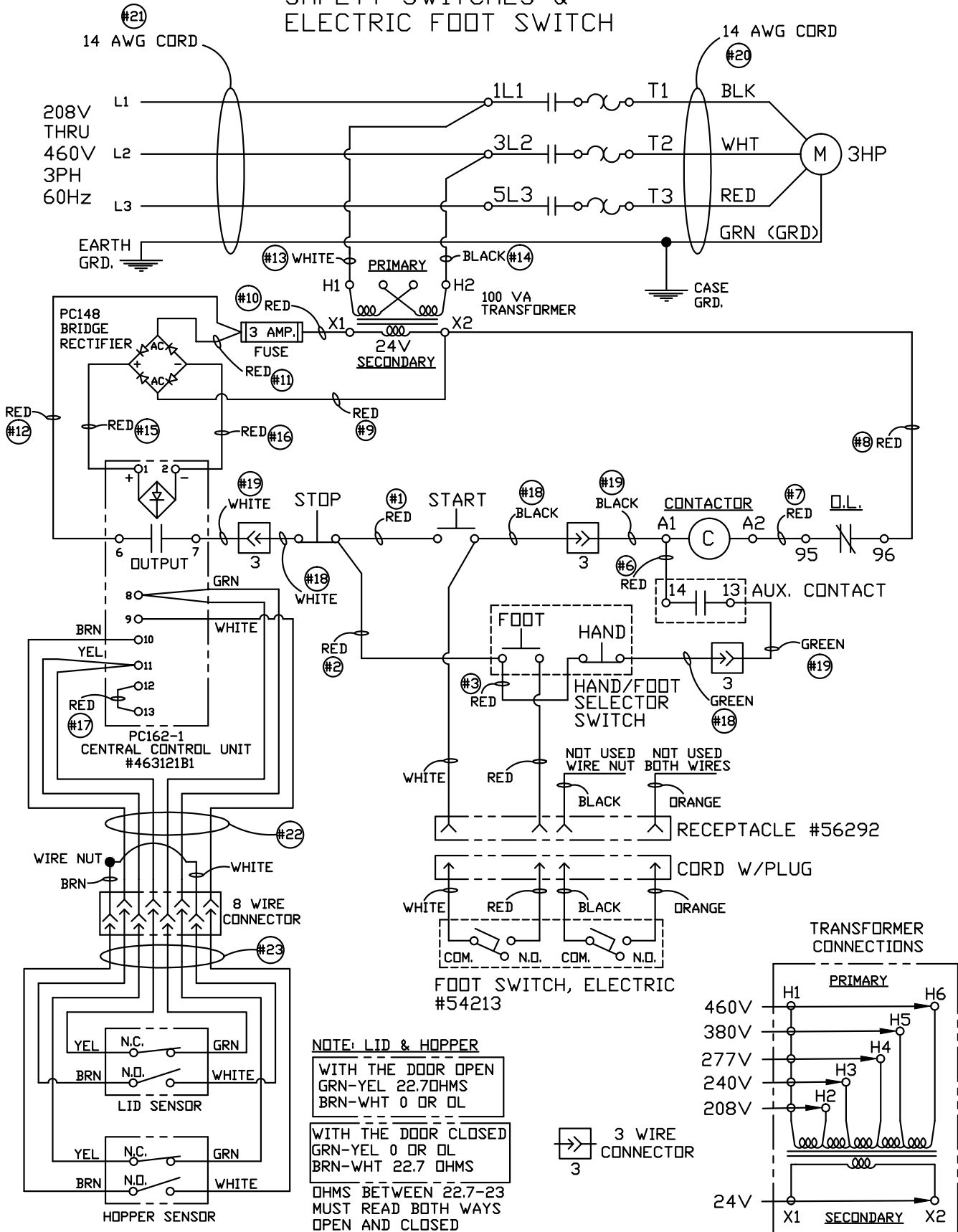
208-460VAC/60HZ/3PH
WITH DC ELOBAU MAGNETIC
SAFETY SWITCHES &
PNEUMATIC FOOT SWITCH



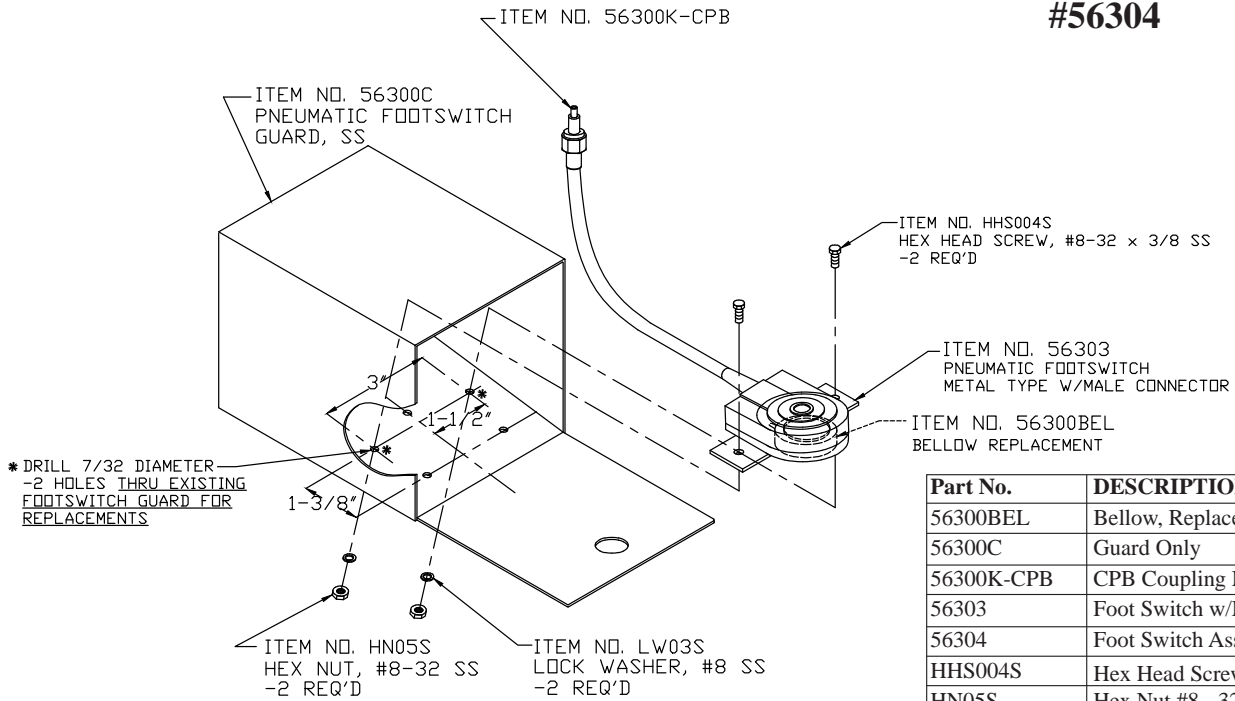
NOTE: LID & HOPPER
 WITH THE DOOR OPEN
 GRN-YEL 22.7OHMS
 BRN-WHT 0 OR OL
 WITH THE DOOR CLOSED
 GRN-YEL 0 OR OL
 BRN-WHT 22.7 OHMS
 OHMS BETWEEN 22.7-23
 MUST READ BOTH WAYS
 OPEN AND CLOSED



MINI-32 WIRING SCHEMATIC 208-460VAC/60HZ/3PH WITH DC ELOBAU MAGNETIC SAFETY SWITCHES & ELECTRIC FOOT SWITCH



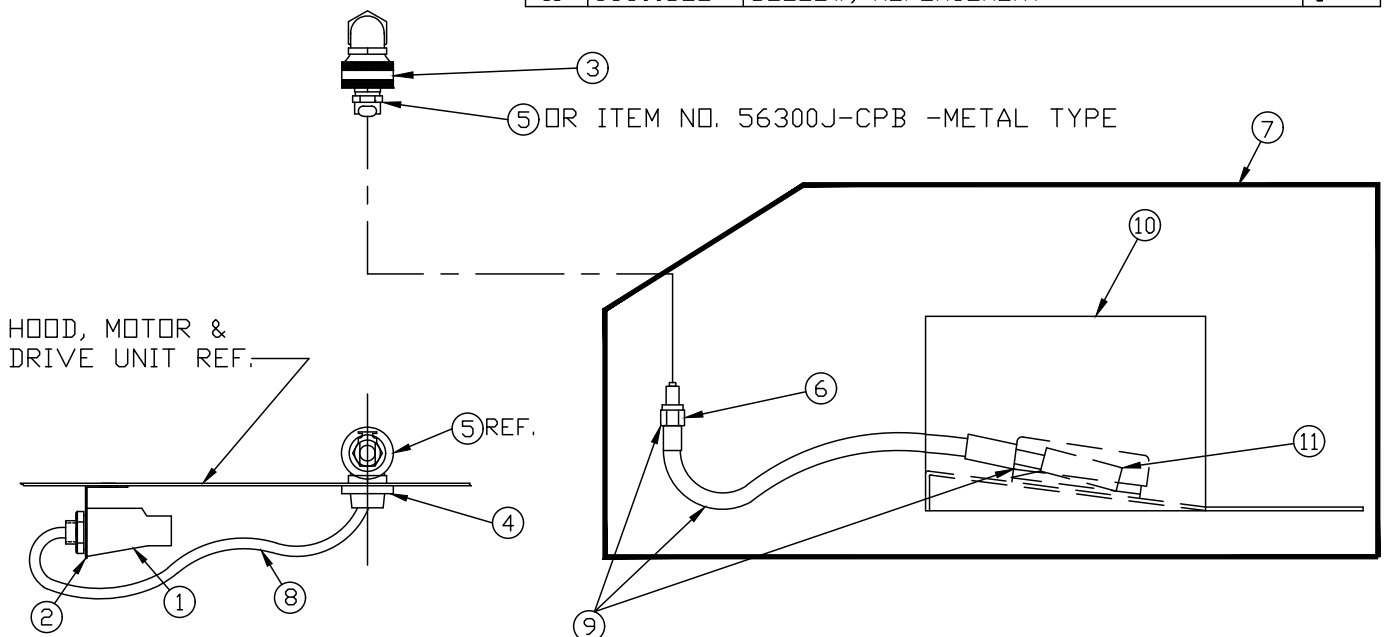
PNEUMATIC FOOT SWITCH #56304



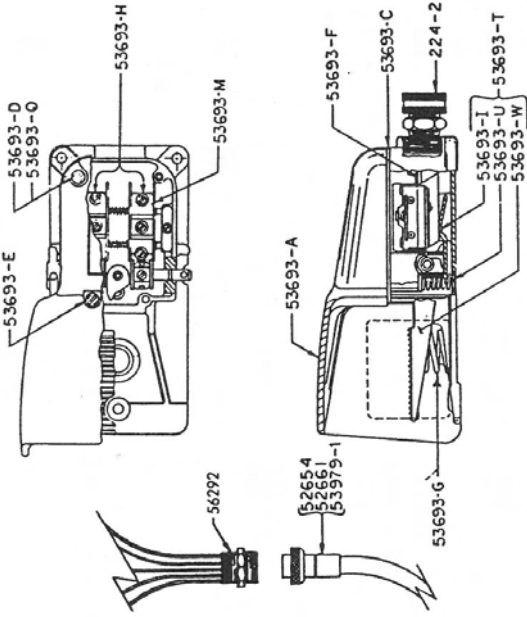
Part No.	DESCRIPTIONS
56300BEL	Bellow, Replacement
56300C	Guard Only
56300K-CPB	CPB Coupling Metal Body-Male
56303	Foot Switch w/Male Coupling
56304	Foot Switch Assembly Complete
HHS004S	Hex Head Screw, #8 - 32 x 3/8
HN05S	Hex Nut #8 - 32
LW03S	Lock Washer #8

PNEUMATIC FOOT SWITCH ASSEMBLY

ITEM NO.	PART NO.	PART NAME/DESCRIPTION	QTY
1	56301D	AIR SWITCH SPDT W/NUT	1
2	56301E	AIR SWITCH BRACKET	1
3	56301G	WATER TIGHT 90° CORD CONNECTOR	1
4	56300H	CORD CONNECTOR LOCKNUT	1
5	56300J	COUPLING BODY, FEMALE	1
5	56300J-CPB	COUPLING BODY, FEMALE-METAL TYPE	1
6	56300K-CPB	COUPLING INSERT, MALE-METAL TYPE	1
7	56304	FOOT SWITCH ASSY W/6' TUBE & GUARD	1
8	56302I	PLASTIC TUBING, 1/8 I.D. x 1/4 O.D.	18"
9	56303	PNEU. FOOT SWITCH, W/MALE COUPLING	1
10	56300C	GUARD, ONLY	1
11	56300BEL	BELLOW, REPLACEMENT	1



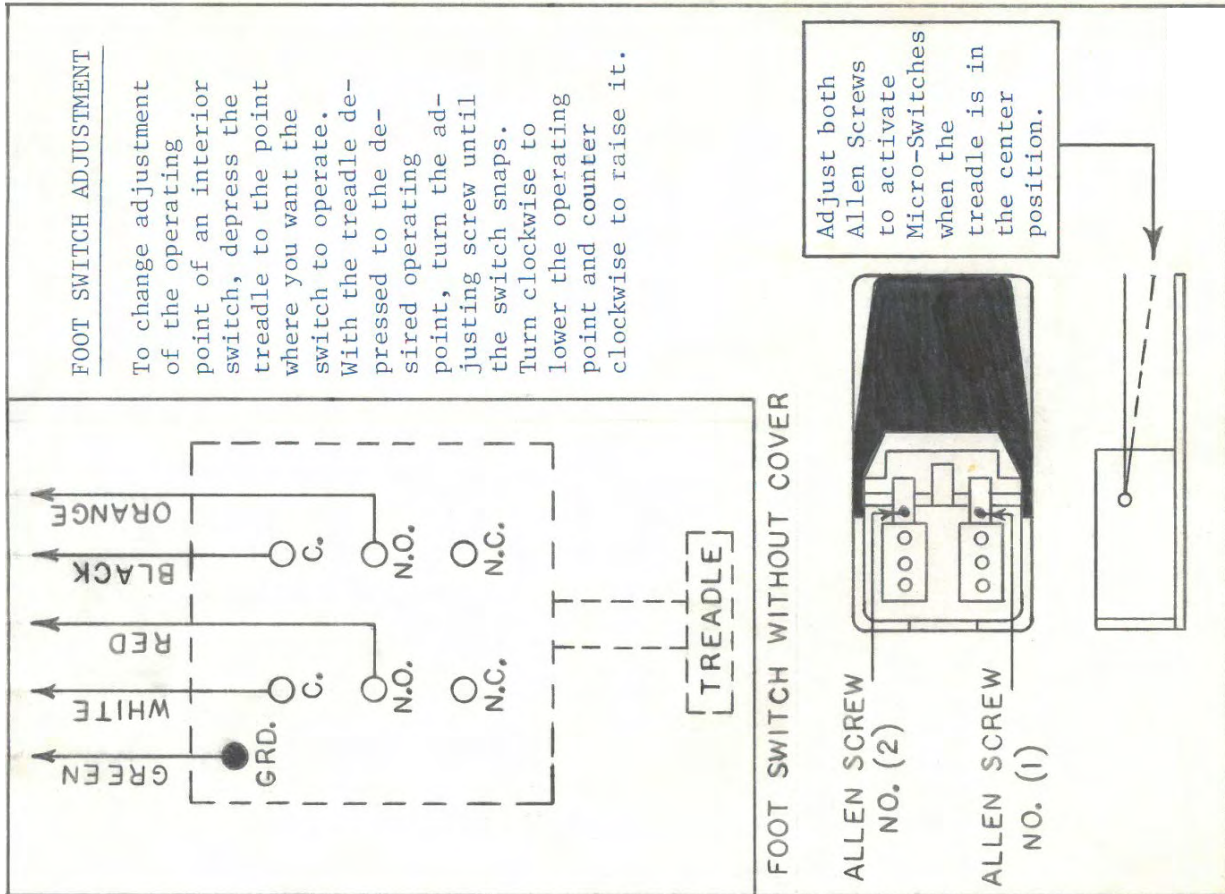
ELECTRIC FOOT SWITCH



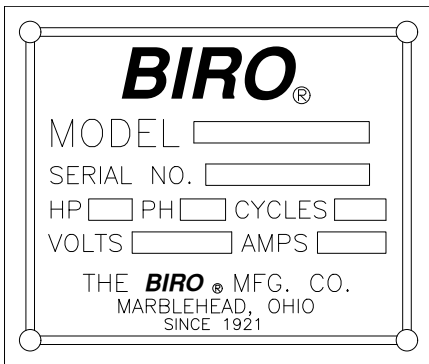
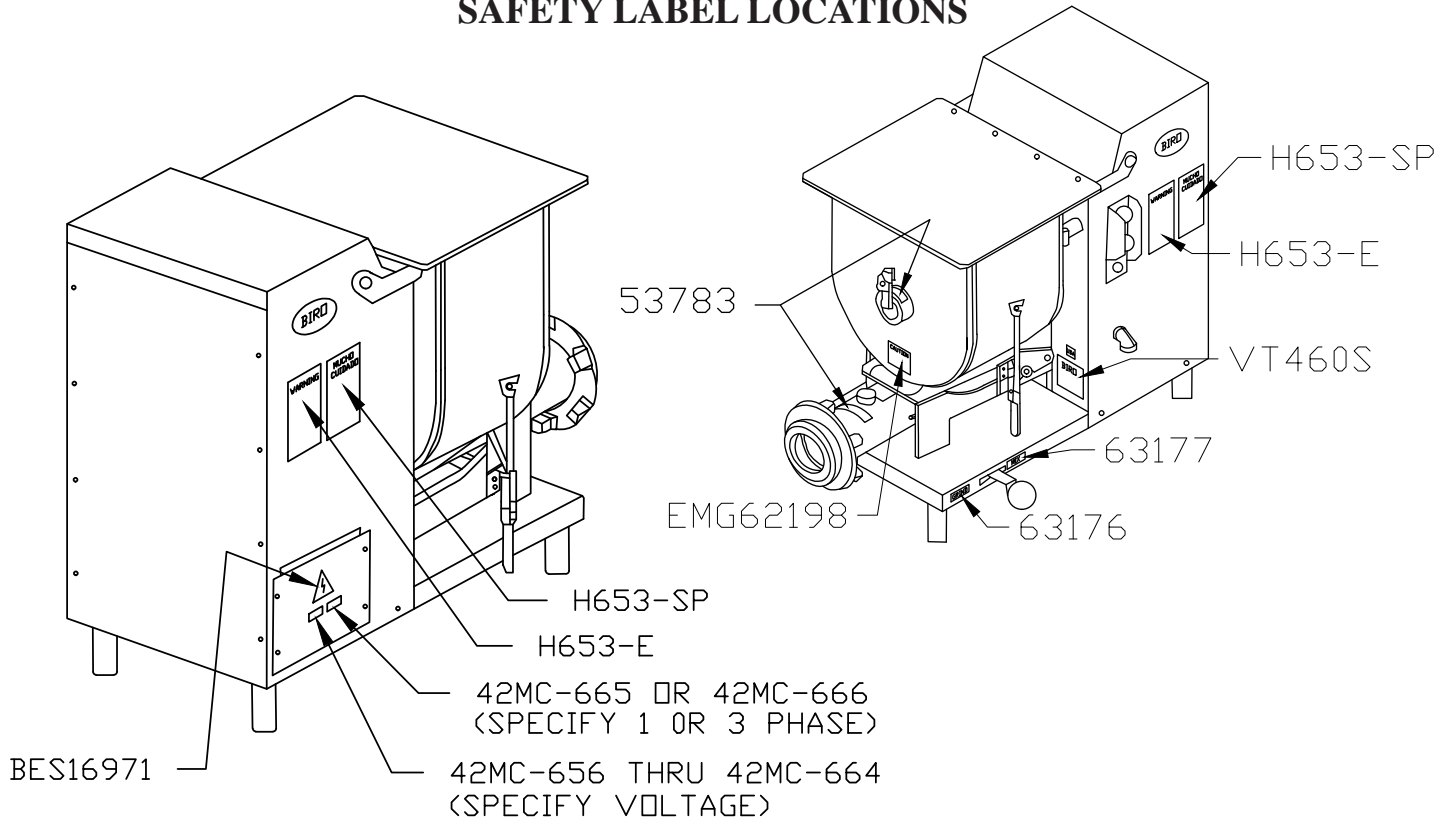
FOOTSWITCH PARTS LIST

- 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 footswitch
- 54213 Footswitch w/6' cord & plug

FOOTSWITCH WIRING DIAGRAM



SAFETY LABEL LOCATIONS



#VT460S



#H653-E



#H653-SP



#42MC-666



#42MC-665



#42MC-656



#42MC-657



#53783



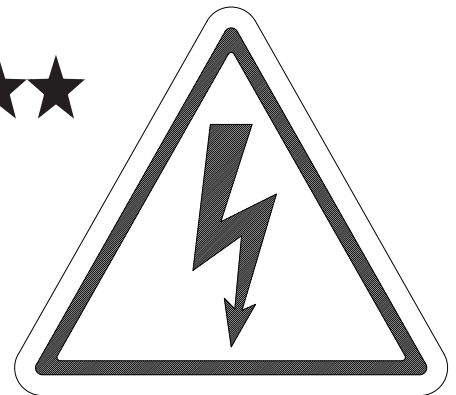
NOT TO SCALE



#63176



#63177



#BES16971

- OPERATOR'S NOTES -

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

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 the bowl, bowl pin, ring, auger, drive shaft, knife drive pin, plate and knife. 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 switch components 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 the 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 in your area.

BIRO MANUFACTURING COMPANY

1114 W. Main St.

Marblehead, OH 43440 U.S.A.

Ph: 419-798-4451 Fax: 419-798-9106

E-mail: service@birosaw.com; www.birosaw.com