



MODEL 722 GRINDER

OPERATION AND SERVICE MANUAL

GRINDER PARTS LIST

GENERAL INSTRUCTIONS



★ IMPORTANT SAFETY 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 WORM, 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 TIP 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 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 722 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 WORM TO AVOID SERIOUS PERSONAL INJURY

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

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

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

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

***ONLY** Use a Qualified Electrician to Install Electrical Connections 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.*

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

***NEVER** Operate Machine With Tray Removed.*

***ALWAYS** Turn Off, Unplug 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 Parts Missing.*

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

***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.

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

NEVER Operate With Tray Removed.

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. Install machine on a level, solid, non-skid surface in a well-lighted work area away from children and visitors.
3. This machine is complete **except** for a knife and plate. The grinding bowl assembly is packed separately in the crate. Remove the grinding bowl assembly from the carton. Disassemble the grinding bowl assembly. Assemble the grinding bowl only, onto the front of the grinder. Install the bowl lock handle assembly into the frame under the grinding bowl. Securing the bowl. The back flange of the grinding bowl should be tight against the front of the machine. Do not install grinding worm at this time.



4. Install the feed tray to the top of the grinder. After checking and making sure the power supply is correct, plug in your machine. **NEVER OPERATE MACHINE WITHOUT TRAY INSTALLED.**
5. Machine must be properly grounded. Use qualified electrician to install according to building codes.
6. A toggle switch is located on the motor junction box.
7. Push the toggle switch to “ON” position. **CHECK THE ROTATION OF THE WORM DRIVE SHAFT. ROTATION MUST BE COUNTER-CLOCKWISE** as indicated by the rotation decal affixed to the grinding bowl. **ROTATION MUST ONLY BE CHECKED WITH THE GRINDING WORM REMOVED**, otherwise serious irreparable damage may occur to grinding components. Push toggle switch to “OFF” position.

UNCRATING AND SET UP - CONTINUED

8. If machine runs clockwise (backwards), it must be rewired to correct rotation, otherwise serious irreparable damage may occur to grinding components.
9. Check that the grinding bowl is properly seated and that the bowl lock assembly is tight. Insert worm assembly into grinding bowl, place knife (sharp edges out) onto the square end of the knife drive pin. The breaker plate slides over the worm knife drive pin, and is held from rotating by a pin in the grinding bowl. Put on 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.

10. Check placement of all warning labels and Manual. Machine is now ready for trained operators to process product.
11. Contact your local Distributor or BIRO directly if you have any questions or problems with the installation or operation of this machine.

MOTOR WIRING AND ELECTRICAL REQUIREMENTS

- (1) Interchange of current is made in motor outlet box. Leads are properly marked. Changing instructions are on the motor plate or motor outlet box.
- (2) All grinders are wired for the voltage as ordered. Be sure motor specifications (voltage, cycle, phase) match power supply line. Be sure line voltage is up to specification.
- (3) Electrical connections to be in accordance with safety codes and National Electrical Code.
- (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 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).

OPERATION



ROTATING GRINDING WORM 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 Tray Removed.*

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

***NEVER** Leave Unattended While 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 grinder, have meat stomper within easy reach and a container for receiving ground product at the output end of grinding bowl.
2. Turn toggle to “ON” position. Look down grinder bowl and make certain grinding worm is turning in the proper direction (counter-clockwise).
3. Carefully push unground product to top opening of grinding bowl and let drop onto the grinding worm. Product will then be ground out.



DO NOT REACH DOWN BOWL OPENING

4. Use meat stomper to assist any product that should “bridge up” in grinding bowl opening.
5. When finished grinding, turn toggle to “OFF” position and unplug grinder from power source and perform lockout/tagout procedures.

CLEANING



ROTATING GRINDING WORM TO AVOID PERSONAL INJURY

ALWAYS Turn Off, Unplug 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 BIRO MODEL 722 GRINDER

1. Disconnect grinder from power source and perform lockout/tagout procedures.
2. Remove the feed tray.
3. Remove grinding bowl end ring, breaker plate, knife and grinding worm.



DO NOT SPRAY DIRECTLY AT ELECTRICAL COMPONENTS

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 to not spray directly at any electrical controls.
5. The grinding bowl can be removed for cleaning if desired. This is accomplished by unscrewing the bowl lock assembly.
6. After machine has been cleaned and allowed to dry, all exposed metal surfaces should be coated with a good food grade light oil or grease.

CLEANING THE BOWL- RING AND WORM CARE OF TIN COATED PRODUCTS (DO'S AND DON'TS)

1. Do not use abrasive cleaning materials, such as brillo pads or metal scrapers. Tin is a soft metal and should be cleaned with a soft cloth and dried.
2. Do not use a cleaning agent containing a high percentage of free alkali or acid.
3. Do not use a detergent containing a high percentage of tri-sodium phosphate or meta-silicate. Tin is reactive to both.
4. Rinse well and dry thoroughly after washing to remove agents that may be reactive to tin.
5. If sterilizing agent containing chlorine is used, the tinned surface must be thoroughly rinsed. Chlorine is corrosive to tin.
6. Dry thoroughly after rinsing and store in a dry environment.
7. If water is exceptionally hard, drying will be necessary to prevent spotting.

MAINTENANCE



ROTATING GRINDING WORM 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 Labels.

USE ONLY GENUINE BIRO Parts and Accessories Properly Installed.

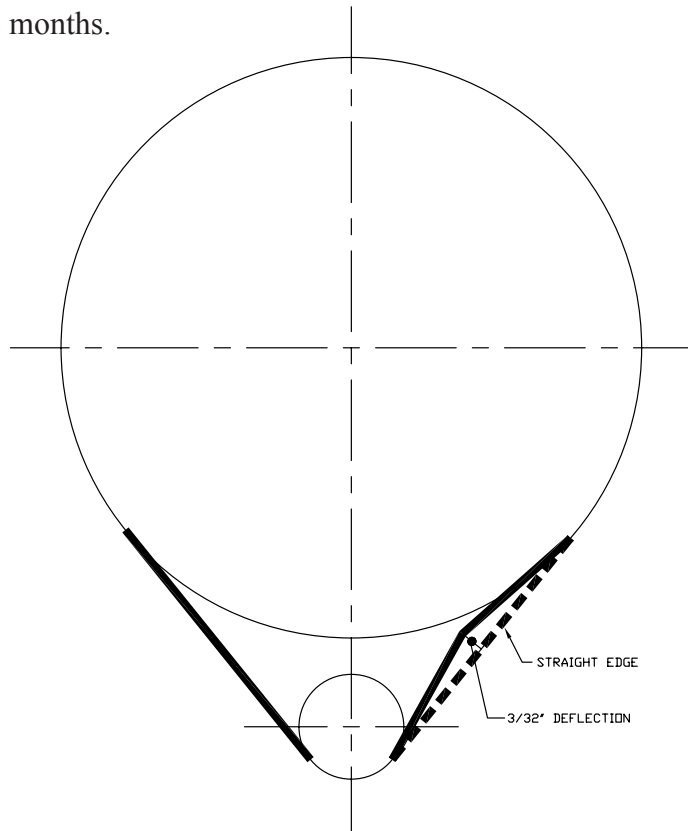
A. HIGH TORQUE DRIVE SYSTEM

The Model 722 is driven by a High Torque Drive system for power transmissions.

“No Lubrication” is required (in fact) be sure no lubricant comes in contact with the sprockets or belt.

To insure a long life to the drive components:

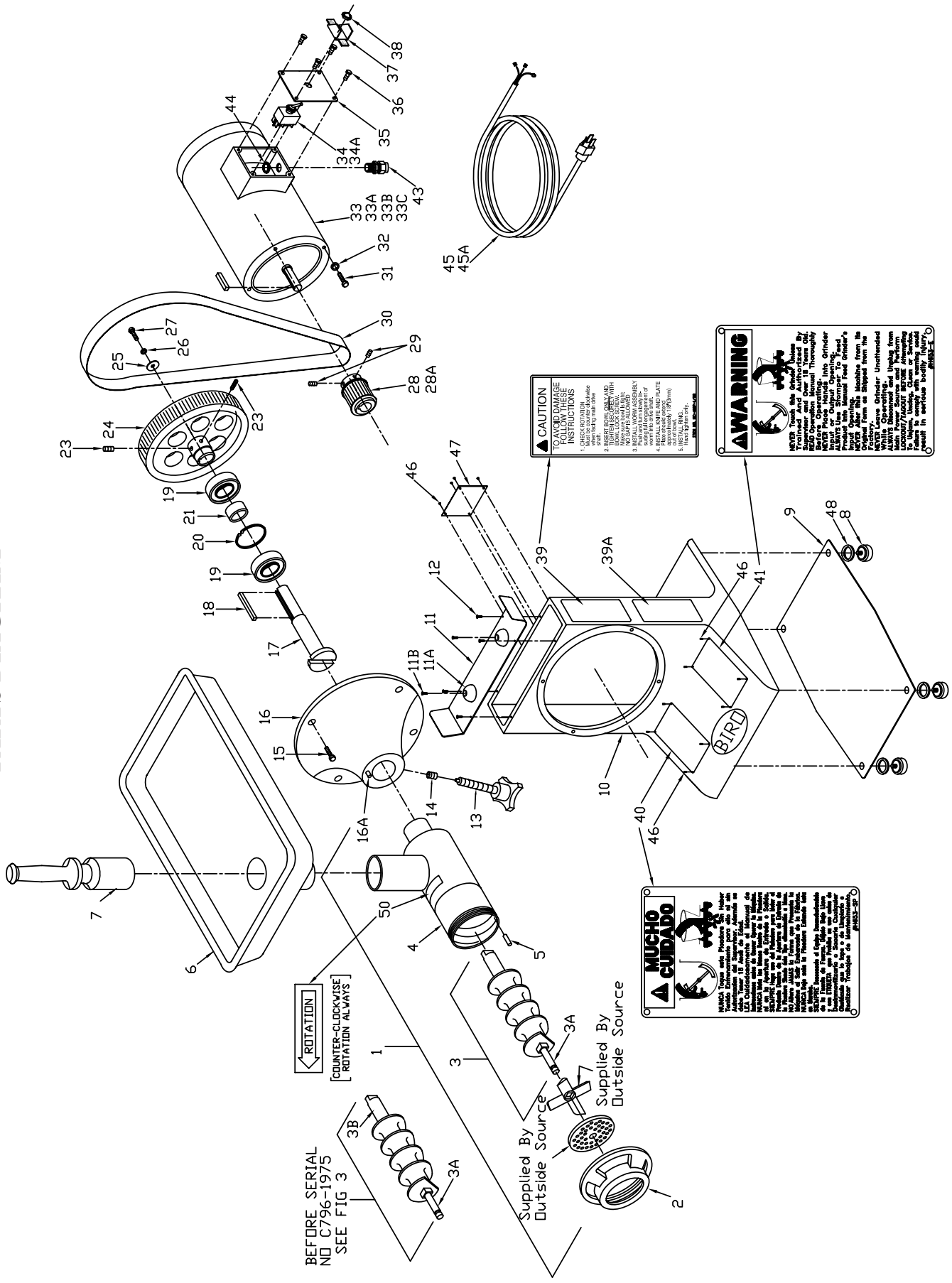
1. Be sure the motor shaft and main drive shaft are parallel.
2. Be sure sprockets are in alignment.
3. Proper HTD belt tension is $\frac{3}{32}$ ” on one side.
Tension should be checked every six (6) months.



B. BEARINGS

1. The main drive shaft bearings are sealed for life. No need to lubricate.
2. The motor bearings are sealed for life. No need to lubricate.

PARTS DIAGRAM



BEFORE SERIAL NO D C796-1975 SEE FIG 3

ROTATION COUNTER-CLOCKWISE [ROTATION ALWAYS]

Supplied By Outside Source

Supplied By Outside Source

CAUTION
TO AVOID DAMAGE TO THE INSTRUMENTS

- CHECK ROTATION
- RESET FROM ONLY AND
- INSTALL WORK ASSEMBLY
- INSTALL NAME AND PLATE
- INSTALLING

WARNING

NEVER Touch the Animal Head By Supervisor and Over 18 Years Old. Before Operating, Thoroughly Inspect or Output Opening. ALWAYS Use Stomach to Feed. Input Opening. Handle from the Original Form as Shipped from the

NEVER Leave Grinder Unattended While Operating. Unplug from Main Power Source and Perform To Unplug, Unload, Clean or Service. Do not use any other than the power in service as shown in the

MUCHO CUIDADO

NEVER Tocar el Animal Cabeza por el Supervisor y Mas de 18 Años de Edad. Antes de Operar, Revisar Thoroughly el Input o Output Opening. SIEMPRE Usar el Estomago para Alimentar. Input Opening. Manejar desde su Forma Original como se Envio desde el

NEVER Dejar el Molino sin Vigilancia Mientras Opera. Desconectar de la Fuente de Energia Electrica antes de Limpiar, Cargar o Servir. No usar otra fuente de energia que la que se muestra en el diagrama de servicio.

PARTS LIST

NOTE: SPECIFY MODEL & SERIAL NUMBER WHEN ORDERING PARTS

Fig.	Item No.	Description	Fig.	Item No.	Description
1	CC22A	Bowl assembly	30	C921	HTD drive belt, #800-5M-30
2	CR22	Bowl end ring	31	HHS070S	Hex head screw, 3/8-16 x 1", SS
3	CS22A-R1	Worm assembly, All Serial #'s	32	LW20S	Lock washer, 3/8", SS
3A	CK22	Knife drive pin	33	C765 *	Motor, 1HP, 115/208/230-60-1
3B	C670	Worm drive shaft, Replacement only, before C796-1975	33A	C765-1 *	Motor, 1HP, 220-50-1
4	CC22	Safety bowl w/ plate pin	33B	C765-2 *	Motor, 1HP, 230/460-50/60-3
5	CP22	Bowl pin, 3/16" dia. x 1 1/8" long	33C	C765-4M *	Motor, 3/4HP, 115/208-230-50/60-1
6	C612-1	Tray, SS, 2 1/8" neck	* See Note Below for these items.		
7	C606-1	Stomper, hollow	34	C768	Toggle switch w/ 1/2 boot, 1PH
	C606-1-SLD	Stomper, solid	34A	C773	Toggle switch w/ 1/2 boot, 3PH
8	C763	Rubber foot	35	C758	Motor box cover, (1HP only)
9	C759	Grinder base bottom cover	36	HHS004S	Hex head screw, 8-32 x 3/8", SS
10	C750	Grinder base w/ decals	37	X5287-5	On/Off switch guard plate
11	C753	Base top cover w/ tray bumpers	38	C665	Toggle switch 1/2 boot
11A	C760	Tray bumpers	39	MC-410P	Bowl installation instruction label, English
11B	HHS004S	Hex head screw, 8-32 x 3/8", SS (attach bumpers)	39A	MC-410SP	Bowl installation label, Spanish
12	HHS004S	Hex head screw, 8-32 x 3/8", SS (attach base top cover)	40	H653-SP	Warning label, Spanish
13	C601A	Bowl lock assembly, 1/2"	41	H653-E	Warning label, English
14	C662	Heli coil, 1/2"	43	PC161	Power cord strain relief, 7/8"
15	HHS067S	Hex head screw, 3/8-16 x 3/4", SS	44	241-LN	Lock nut strain relief
16	C751	Journal box	45	C767	Power cord w/ plug, 8', 14/3 115 Volt, 1 phase
16A	C600	Bowl locator pin, 5/16-18	45A	C645	Power cord, 14/4, 3 phase
17	C752	Main drive shaft	46	375	Drive screw for model plate
18	C762	Key, 1/4" square x 1 11/16"	47	C764	Model & S/N plate (S/N req'd)
19	C629	Bearing, 2 required	48	53659	Nylon washer, 1.00 O.D.
20	C632	Retaining ring	50	53783	Decal, Rotation
21	C754	Inner race spacer, bearing	NOT SHOWN		
23	SSS17KL	Set screw cup knurled 5/16-18 x 3/8"	C774		Terminal, push-on, 16-14 AWG, insul.
24	C919	HTD sprocket, 148T, driven	C775		Terminal, push-on, 12-10 AWG, insul.
25	C916	Washer, drive shaft, 25/64 x 1 3/4"	C776		Terminal, ring, #10, 16-14 AWG, insul.
26	LW20S	Lock washer, 3/8", SS			
27	HHS067S	Hex head screw, 3/8-16 x 3/4", SS			
28	C755	HTD sprocket, 19T, motor 60HZ			
28A	C772	HTD sprocket, 23T, motor 50HZ			
29	C920D	Socket set screw, 8-32 x 1/4"			

NOTE:

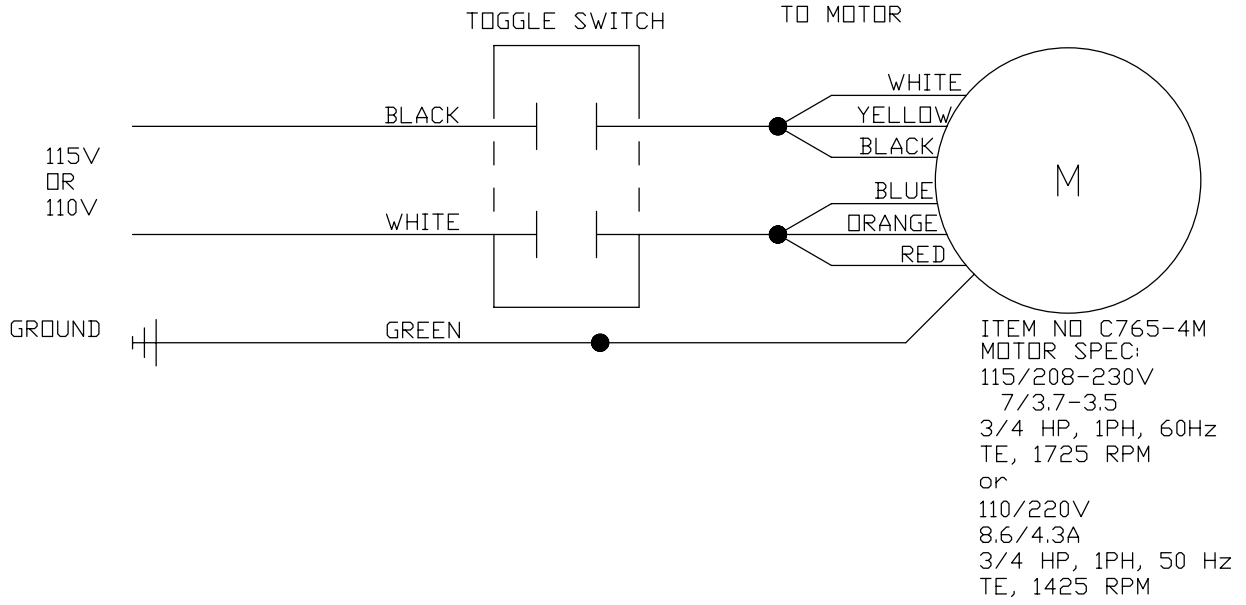
1HP Motors are represented strictly for identification purposes. Should a 1HP motor need to be replaced, use Item No. C765-4M.

Item No. C765-4M, 3/4 HP Motor sold as an assembly. *Includes* cord with plug(115V-60), cord connector, toggle switch, motor box cover and toggle guard.

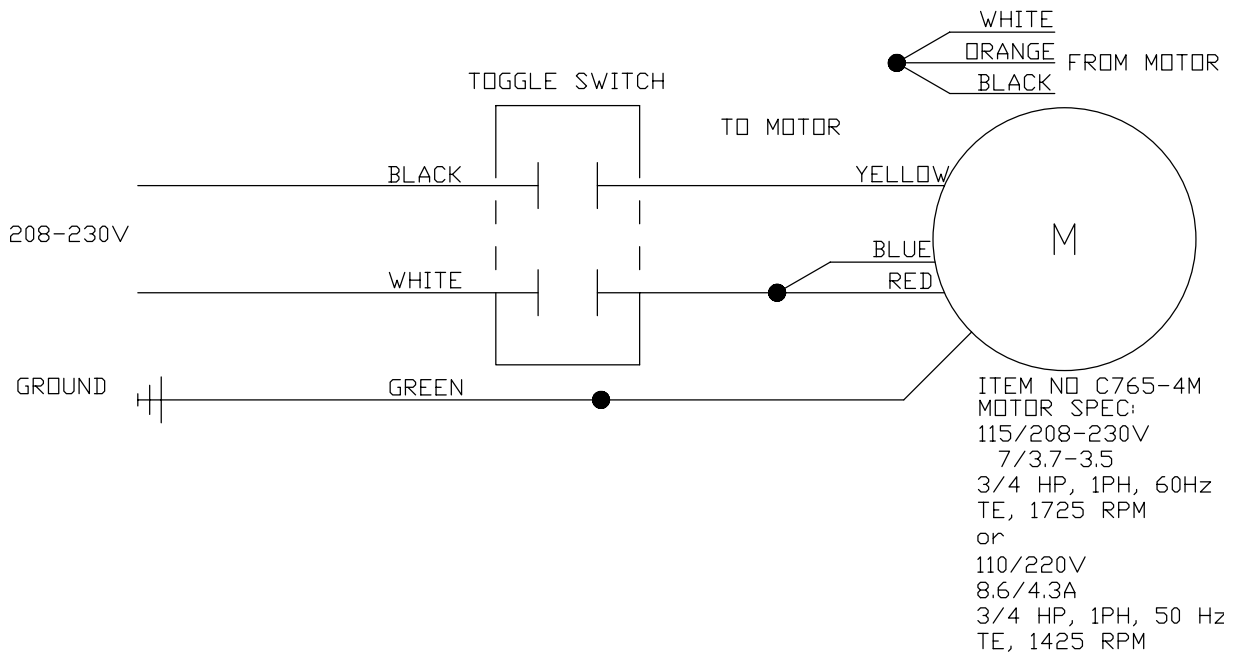
WIRING DIAGRAMS

3/4 HP MARATHON MOTOR - 1 PHASE

WIRE DIAGRAM
 115 VOLT/ 1 PHASE
 60 Hz
 or
 110 VOLT/ 1 PHASE
 50 Hz



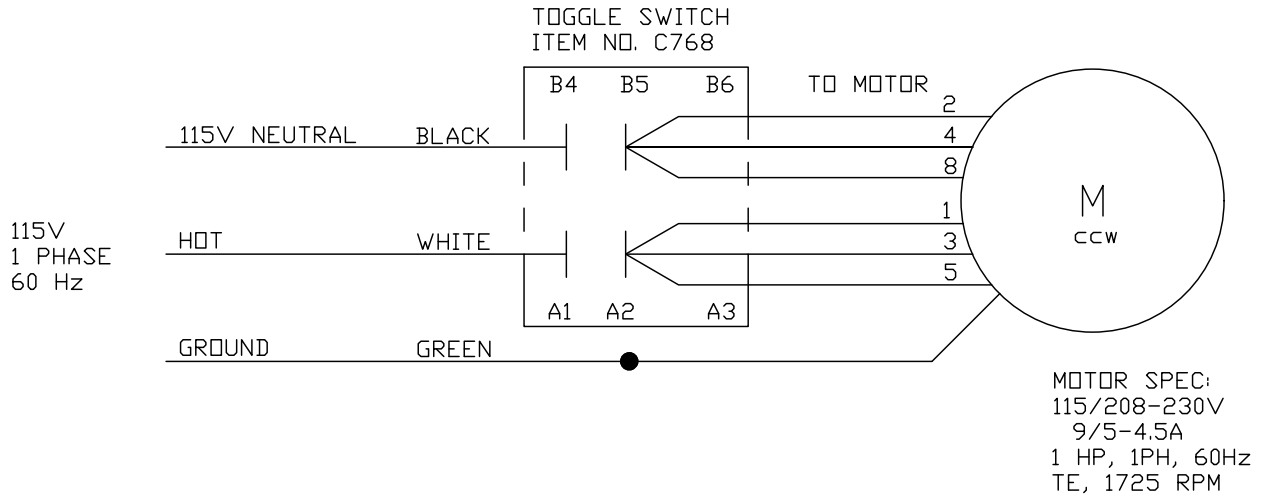
WIRE DIAGRAM
 208-230 VOLT/ 1 PHASE
 60 Hz
 or
 220 VOLT/ 1 PHASE
 50 Hz



WIRING DIAGRAMS

1 HP BALDOR MOTOR - 1 PHASE

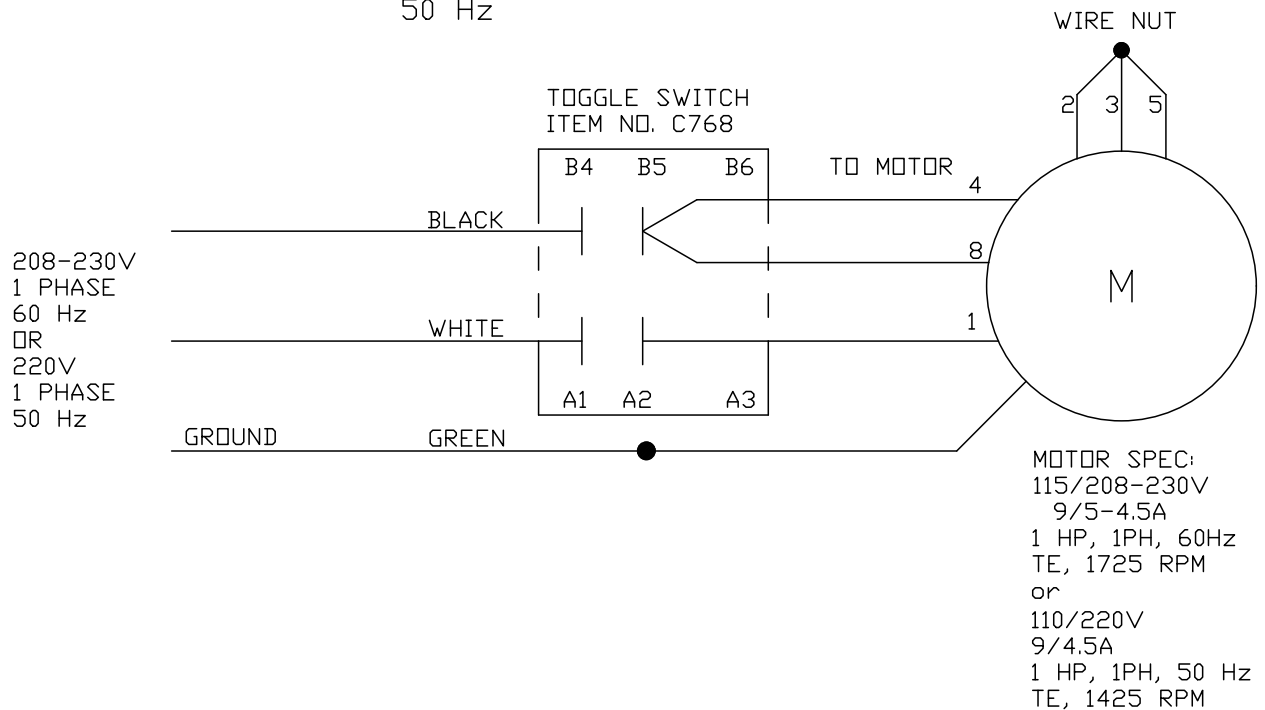
WIRE DIAGRAM
115 VOLT/ 1 PHASE
60 Hz



NOTE: TO SWITCH MOTOR ROTATION,
SWITCH MOTOR LEADS 5 & 8

CHECK THE ROTATION OF THE WORM
DRIVE SHAFT, ROTATION MUST BE
COUNTER-CLOCKWISE

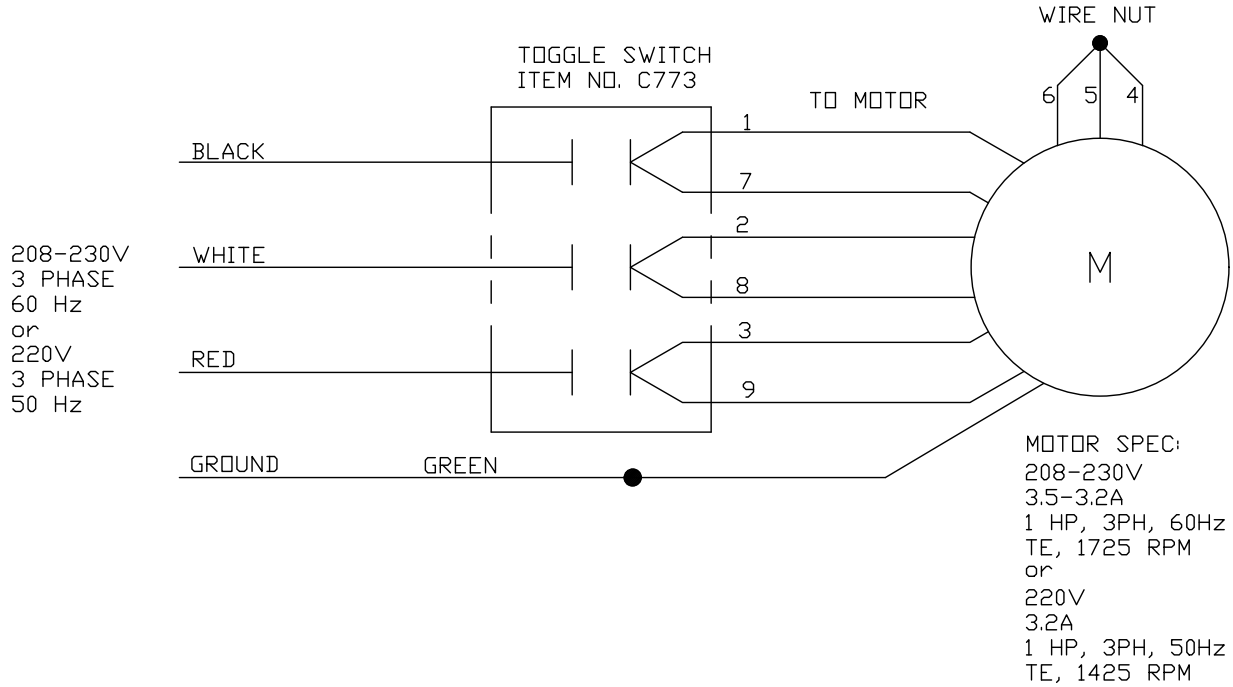
WIRE DIAGRAM
208-230 VOLT/ 1 PHASE
60 Hz
or
220 VOLT/ 1 PHASE
50 Hz



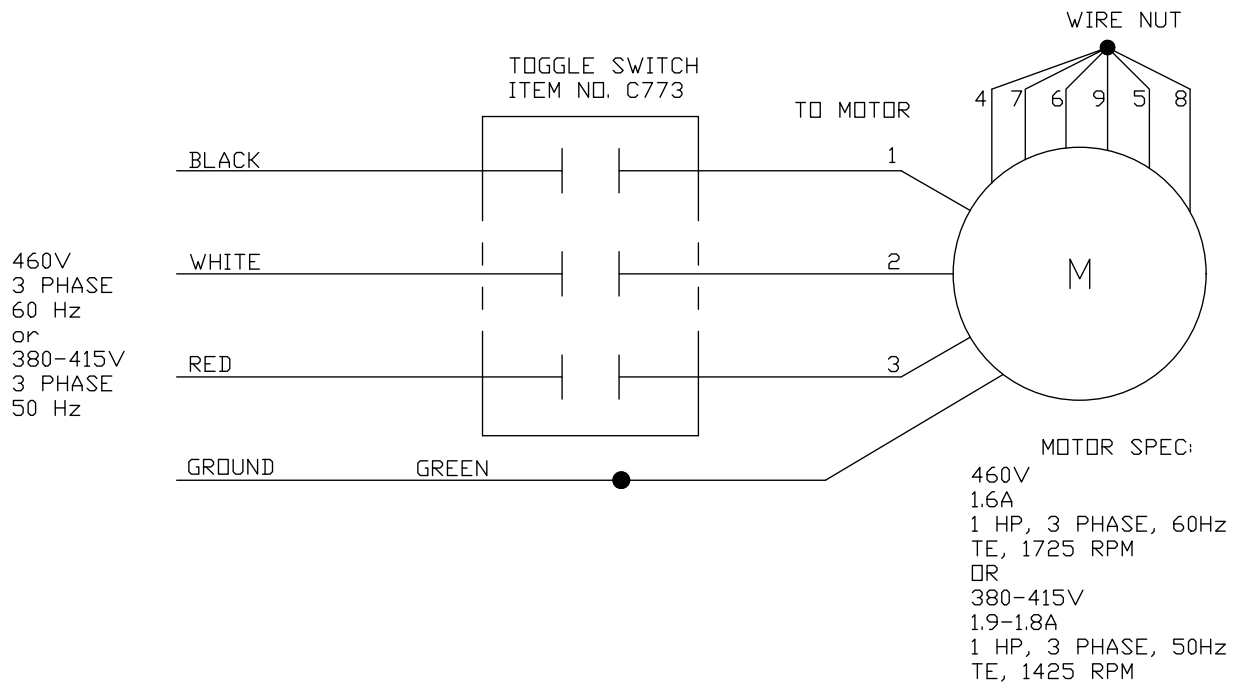
WIRING DIAGRAMS

1 HP BALDOR MOTOR - 3 PHASE

WIRE DIAGRAM
 208-230 VOLT/ 3 PHASE
 60 Hz
 OR
 220 VOLT/ 3 PHASE
 50 Hz



WIRE DIAGRAM
 460 VOLT/ 3 PHASE
 60 Hz
 OR
 380-415 VOLT/ 3 PHASE
 50 Hz



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 Model 722 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 Installation/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, worm drive shaft, ring, worm, and knife drive pin. 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 agency 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 nearest authorized service entity in your area.

BIRO MANUFACTURING COMPANY

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E-mail: service@birosaw.com; <http://www.birosaw.com>