

BIRO[®]

MODEL 922

GRINDER PARTS LIST GENERAL INSTRUCTIONS

Starting with Serial Number C9861001



IMPORTANT SAFETY NOTICE



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

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 And/Or Tray Guard Removed or Manetic Safety 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. 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. Assemble the grinding bowl only into the front of the grinder. Insert and screw in tight the bowl lock handle under the grinding bowl. Be sure that the back of the grinding bowl is 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.** (Machine will not run with tray removed.)
5. Machine must be properly grounded. Use qualified electrician to install according to building codes.
6. Pushbuttons that activate the internal on/off switch is located on the front of the machine. The interlock safety switch is mounted inside the machine case toward the front and will break contact with the magnetic starter should the tray be removed.

7. Push the green "ON" button. **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 red "STOP" button.
8. If machine runs clockwise (backwards), it must be rewired to correct rotation, otherwise serious irreparable damage may occur to grinding components.
9. Insert worm assembly into grinding bowl, place knife (sharp edges out) onto the square end of the worm assembly. 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. Electrical contactor mounted on machine frame must also be changed to match motor voltage.
- (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).

ELECTRICAL CONTACTORS

- (1) All 1 HP motors are dual voltage and can be changed according to wiring diagram on motor nameplate.
- (2) Be sure Contactor voltage matches voltage of motor.
- (3) Failure to use proper Contactor for motor voltage will cause irreparable damage to contactor.
- (4) Install proper plug on power cord for voltage used.

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.

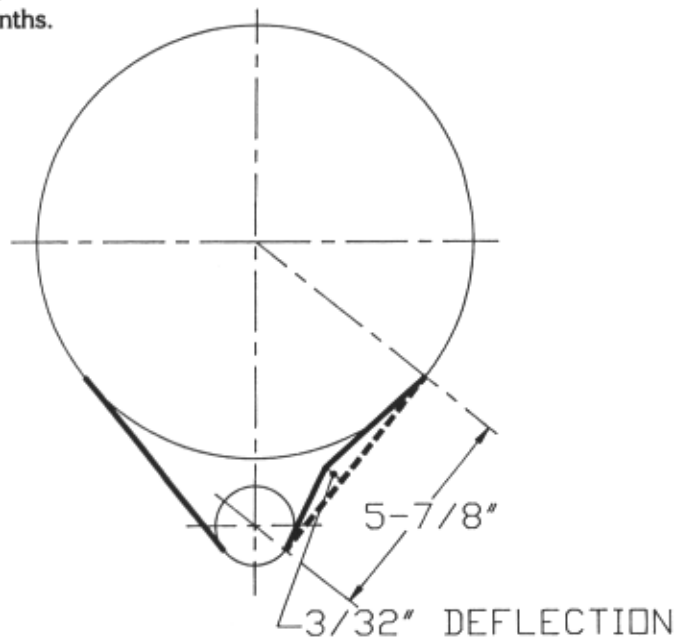
A. HIGH TORQUE DRIVE SYSTEM

The Model 922 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 bearings are sealed for life. No need to lubricate.
2. Lubricate the motor bearings once a year with bearing grease.

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 922 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 and the grinding bowl.



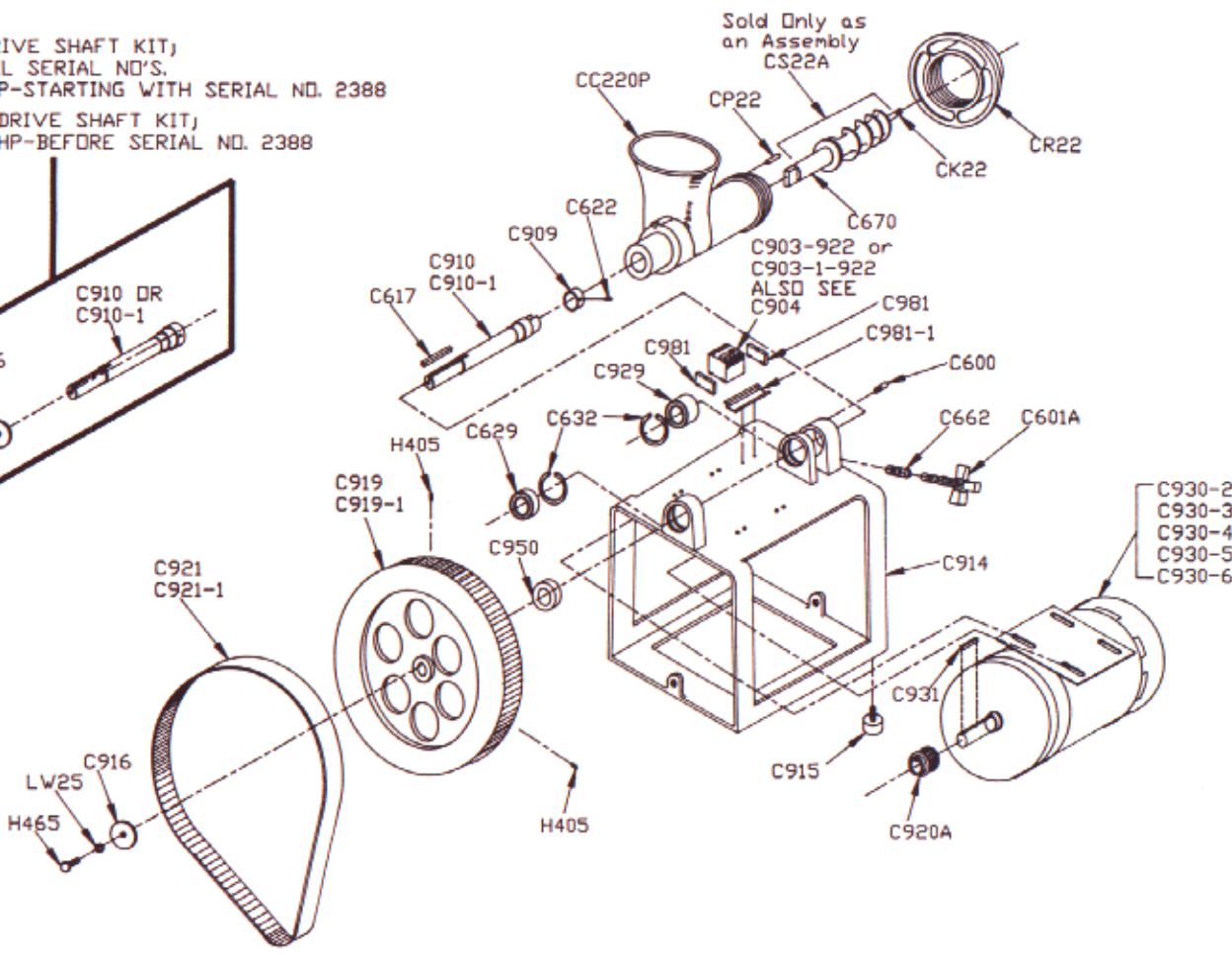
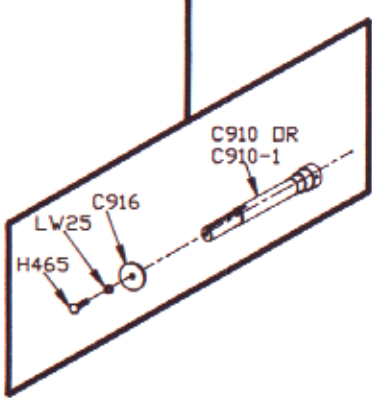
DO NOT SPRAY DIRECTLY AT ELECTRICAL COMPONENTS

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. 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.

BOWL, FRAME & MOTOR PARTS

C910K, MAIN DRIVE SHAFT KIT;
 1 HP-ALL SERIAL NO'S.
 1-1/2 HP-STARTING WITH SERIAL NO. 2388

C910-1K, MAIN DRIVE SHAFT KIT;
 1-1/2 HP-BEFORE SERIAL NO. 2388



BOWL, FRAME & MOTOR PARTS LIST

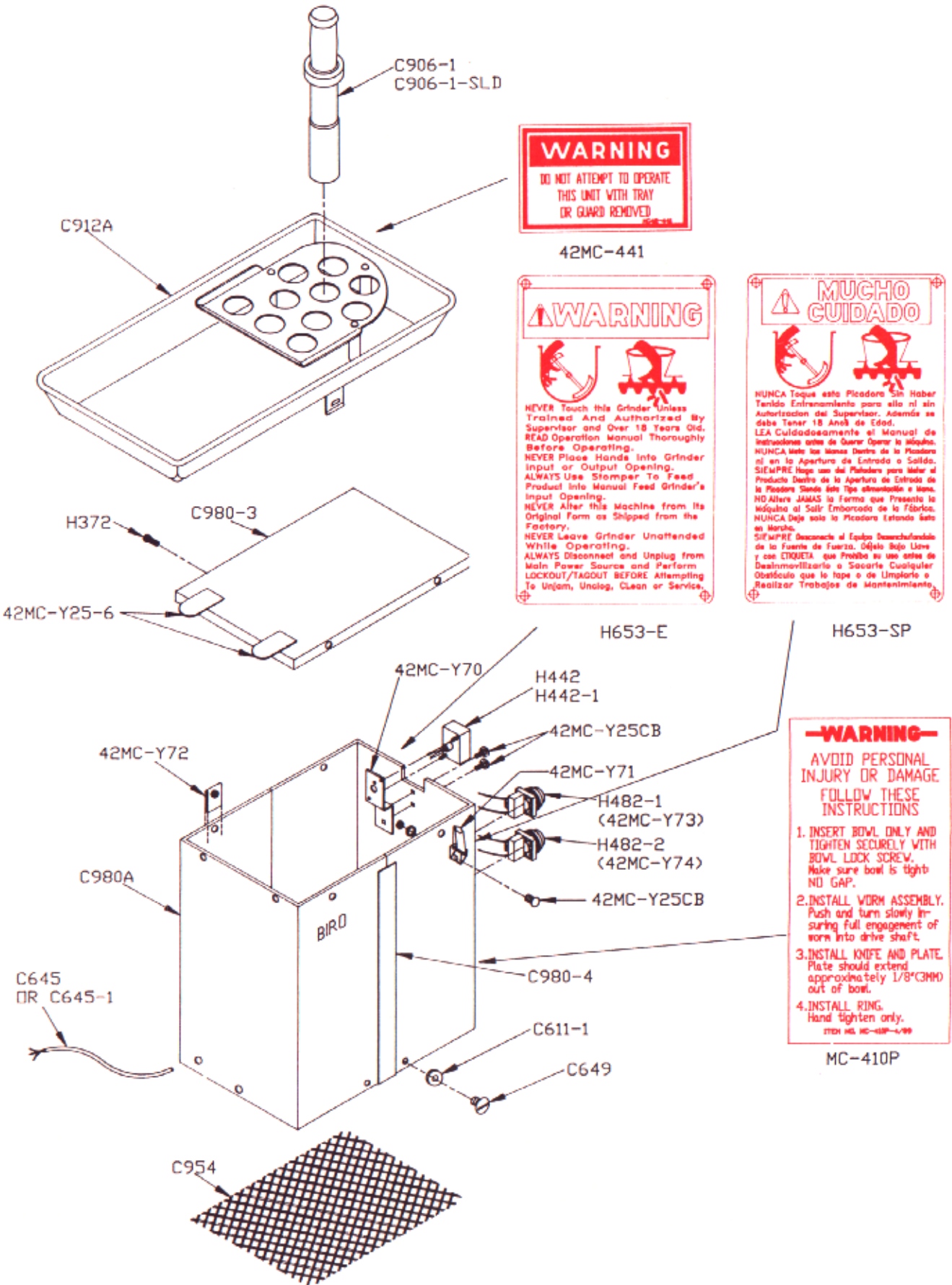
NOTE: SPECIFY MODEL & SERIAL NUMBER WHEN ORDERING PARTS

CC22OP	Grinding bowl
CK22	Knife drive pin, 1" round
CP22	Bowl pin, $\frac{3}{16} \times 1\frac{1}{8}$
CR22	End retaining ring
C600	Bowl locator pin, $\frac{5}{16}$ -18
C617	Key, $\frac{1}{4} \times 2$
C622	Shaft collar lock pin
C629	Rear main bearing
C632	Retaining ring
C638	Motor stud, $\frac{5}{16} \times 1\frac{3}{8}$, motor/frame
C662	Heli-coil, $\frac{1}{2}$ "
C664	Jam nut, $\frac{5}{16}$ -18, 50 HZ
C664-1	Hex nut, $\frac{5}{16}$ -18, 60 HZ
C670	Worm drive shaft
C903-922	Contactora, 110 Volt
C903-1-922	Contactora, 220 Volt
C904	Transformer, 380/415 Volt only
C909	Upper shaft collar
C910	Order C910K
C910-1	Order C910K after s/n 2388, C910K-1 before s/n 2388
C910K	Main drive shaft kit all 1HP, 1 $\frac{1}{2}$ HP after s/n 2388
C910K-1	Main drive shaft kit 1 $\frac{1}{2}$ HP before s/n 2388
C914	Aluminum grinder frame
C915	Rubber foot, 1", $\frac{1}{4}$ -20 thread
C916	Flatwasher
C919	Main drive gear, 148T, 60 HZ
C919-1	Main drive gear, 122T, 50 HZ
C920A	Motor pinion, 28T, 50/60 HZ, 1&3PH
C921	HTD belt, 800-5M-30MM, 60 HZ
C921-1	HTD belt, 710-5M-30MM, 50 HZ
C929	Front main bearing
C930-2	Motor, 1HP, 220/440-50/60-3
C930-3	Motor, 1HP, 104/208-60-1
C930-4	Motor, 1HP, 115/230-60-1
C930-5	Motor, 1HP, 240-50-1
C930-6	Motor, 1 $\frac{1}{2}$ HP, 208/230-60-1
C931	Motor key, $\frac{3}{16} \times \frac{3}{16} \times 1\frac{3}{8}$
C950	Shaft spacer, $\frac{5}{16}$ tk
C981	End clip for din rail
C981-1	Din rail
H370	Hex nut, $\frac{5}{16}$ -18, (top of motor stud)
H465	Hex head screw, $\frac{3}{8}$ -16 \times $\frac{3}{4}$
LW25S	Lock washer $\frac{3}{8}$

ASSEMBLIES

CC22OPA	Open bowl assembly
CS22A	Worm assembly
C601A	Bowl lock handle assembly

TRAY AND CASE PARTS



WARNING
DO NOT ATTEMPT TO OPERATE
THIS UNIT WITH TRAY
OR GUARD REMOVED

42MC-441

WARNING

NEVER Touch this Grinder unless Trained and Authorized By Supervisor and Over 18 Years Old. READ Operation Manual Thoroughly Before Operating.
NEVER Place Hands into Grinder Input or Output Opening.
ALWAYS Use Stomper To Feed Product Into Manual Feed Grinder's Input Opening.
NEVER Alter this Machine from Its Original Form as Shipped from the Factory.
NEVER Leave Grinder Unattended While Operating.
ALWAYS Disconnect and Unplug from Main Power Source and Perform LOCKOUT/TAGOUT BEFORE Attempting To Unjam, Unclog, Clean or Service.

MUCHO CUIDADO

NUNCA Toque esta Picadora Sin Haber Tenido Entrenamiento para ello ni sin Autorización del Supervisor. Además se debe Tener 18 Años de Edad. LEA Cuidadosamente el Manual de Instrucciones antes de Querer Operar la Máquina. NUNCA Meta las Manos Dentro de la Picadora ni en la Apertura de Entrada o Salida. SIEMPRE Haga uso del Stomper para Meter el Producto Dentro de la Apertura de Entrada de la Picadora Siempre este tipo alimentación o Mano. NO Altere JAMAS la Forma que Presenta la Máquina al Salir Emborcada de la Fábrica. NUNCA Deje sola la Picadora Estando esta en Marcha. SIEMPRE Desconecte el Equipo de Alimentación de la Fuente de Fuerza. Déjelo Bajo Llave y con ETIQUETA que Prohíba su uso antes de Desarmarlo o Sacarle Cualquiera Obstrucción que lo tape o de Limpieza o Realizar Trabajos de Mantenimiento.

WARNING

AVOID PERSONAL INJURY OR DAMAGE
FOLLOW THESE INSTRUCTIONS

1. INSERT BOWL ONLY AND TIGHTEN SECURELY WITH BOWL LOCK SCREW. Make sure bowl is tight NO GAP.
2. INSTALL WORM ASSEMBLY. Push and turn slowly insuring full engagement of worm into drive shaft.
3. INSTALL KNIFE AND PLATE. Plate should extend approximately 1/8" (3MM) out of bowl.
4. INSTALL RING. Hand tighten only.

MC-410P

TRAY AND CASE PARTS LIST

NOTE: SPECIFY MODEL & SERIAL NUMBER WITH ORDERING PARTS

C611-1	Rubber Grommet
C627-1	Voltage wiring (decal)
C645	Cord for 3 Phase, 14/4 SO
C645-1	Cord for 1 Phase, 14/3 SO
C649	Case to base screw, $\frac{5}{16}$ -18 x $\frac{3}{4}$
C906-1	Stomper
C906-1-SLD	Solid stomper
C908	Tray attachment pin
C913	Tray attachment bracket
C938SFT	Tray guard (not sold separately) ORDER C912A
C954	Safety screen
C957-213	General instruction manual (not shown)
C977	SS standoff for tray guard
C980-3	Case cover
C980-4	Case side strip (not sold separately) ORDER C980A
C983-1	"Start" legend plate
C983-2	"Stop" legend plate
HN15S	Hex nut, $\frac{1}{4}$ -20, SS
H333	Model and Serial Number plate, (S/N required)
H372	Hex head cap screw, $\frac{1}{4}$ -20 x $\frac{1}{2}$
H374-1	Aluminum pop rivet for S/N plate
H442	Magnet safety interlock switch, to 230V
H442-1	Magnet safety interlock switch, 230V to 600V
H482-1	Red push button assembly
LW10S	Lock washer, $\frac{1}{4}$, SS
MC-410P	Bowl instructions
16163A	Hold down clip, welded
42MC-441	Warning label
42MC-Y20-8	Magnet, (not sold separately)
42MC-Y25-6	Tray locator and rear hold down
42MC-Y25CB	Carriage bolt, $\frac{1}{4}$ -20 x $\frac{1}{2}$
42MC-Y70	Safety switch bracket
42MC-Y72	Self retaining nut
H653-E	Warning label, English
H653-SP	Warning label, Spanish

ASSEMBLIES

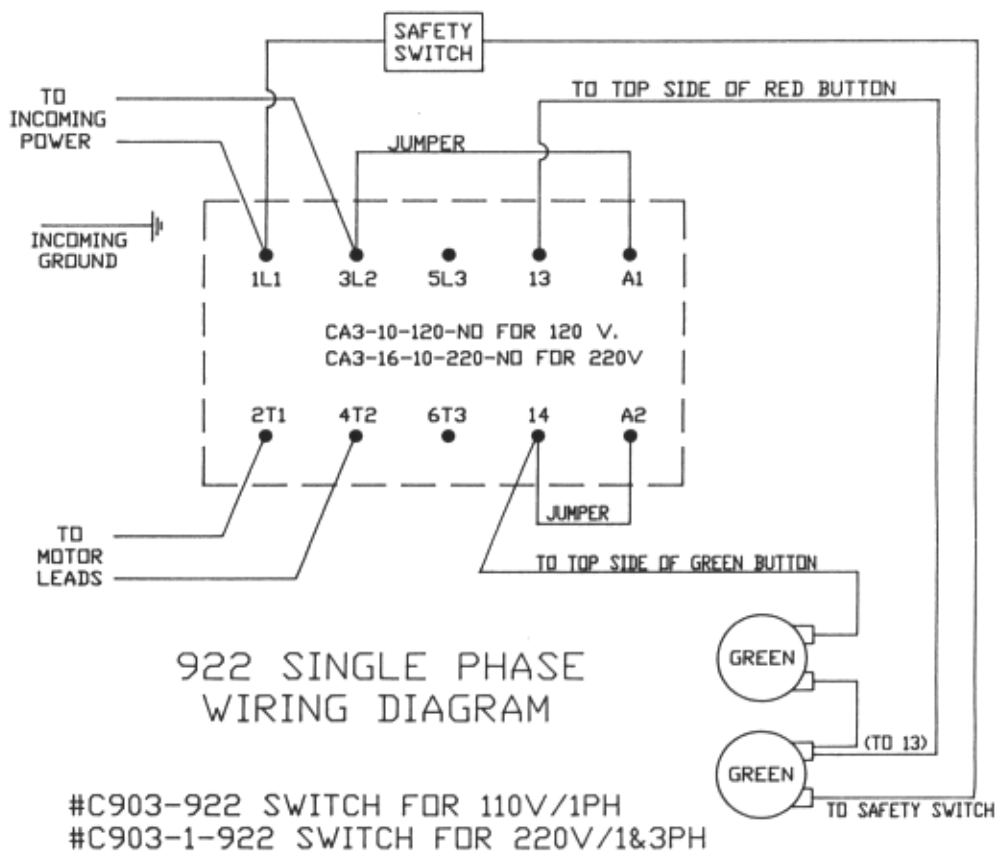
C912A	Tray assembly w/guard & magnet complete
C980A	Case assembly

ELECTRICAL CONTACTORS

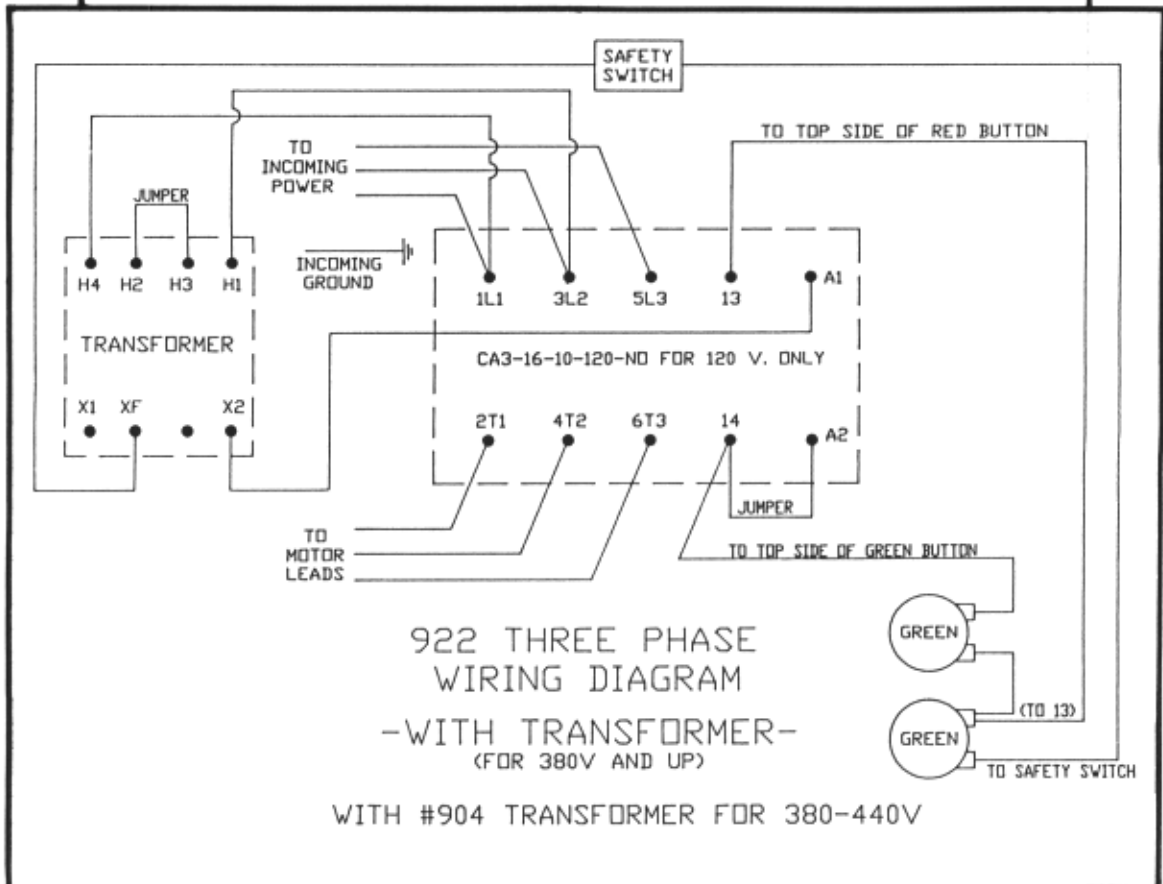
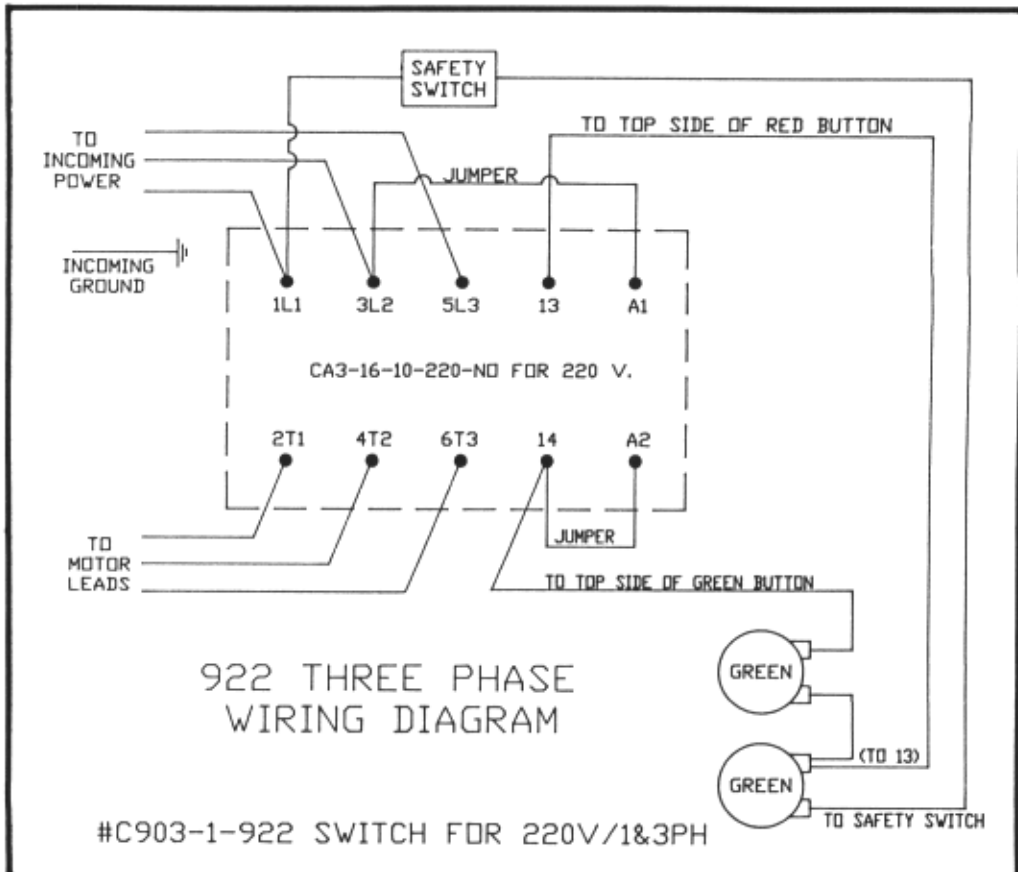
- (1) All 1 HP motors are dual voltage and can be changed according to wiring diagram on motor nameplate.
- (2) Be sure Contactor voltage matches voltage of motor.

A. Item No. C903-922 Contactor 1HP, 104-60-1 1HP, 115-60-1 1HP, 380/415/440-50/60-3 with C904 transformer	B. Item No. C903-1-922 Contactor 1HP, 220-50/60-3 1HP, 208/230-60-1 1HP, 240-50-1 1½HP, 230-60-1
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- (3) FAILURE TO USE PROPER CONTACTOR FOR MOTOR VOLTAGE WILL CAUSE IRREPARABLE DAMAGE TO CONTACTOR.
- (4) Install proper plug on power cord for voltage used.

WIRING DIAGRAMS



WIRING DIAGRAMS



LIMITED WARRANTY:

WARRANTY: The BIRO Manufacturing Company warrants that Model 922 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 inspection/demonstration advised on the returned Warranty registration card, or eighteen (18) months from original factory shipping date, whichever 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, 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 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 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.
2. Consult the yellow pages of the phone directory for the nearest authorized dealer.
3. Or call BIRO Service Department (419) 798-4451 who will put you in contact with the nearest service agency.