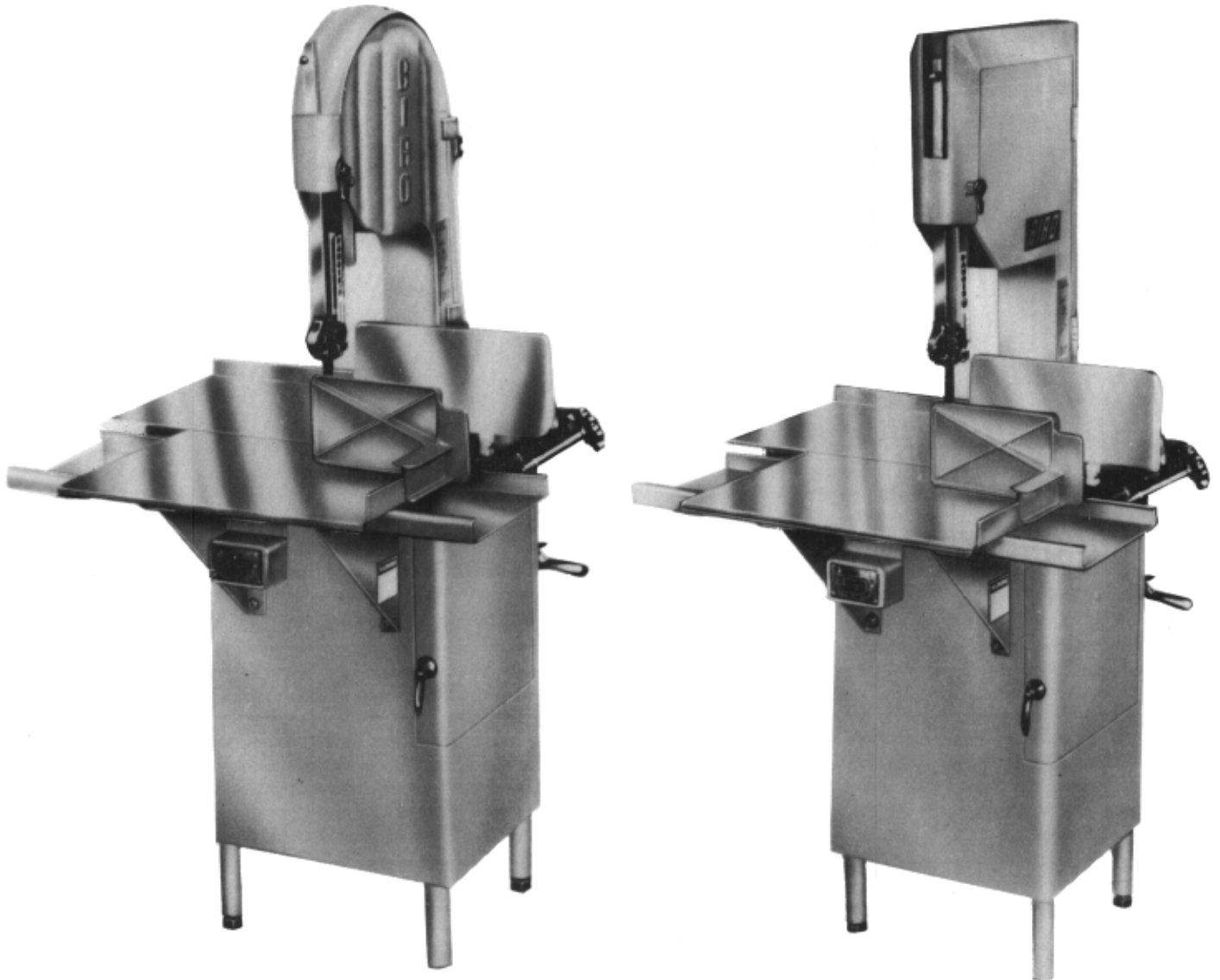


BIRO®

MODEL 22 POWER MEAT CUTTER OPERATING AND SERVICE MANUAL

REVISED — SERIAL NO. 35301 ON



☆ **IMPORTANT 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 Install Equipment in Work area with adequate Light and Space.

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

NEVER Operate With the Saw Guide Bar with Saw Guard in the Raised Position or the Saw Guard Removed from the Saw Guide Bar.

ALWAYS Adjust Saw Guide Bar With Saw Guard to Within $\frac{1}{2}$ " of Product to be Cut.

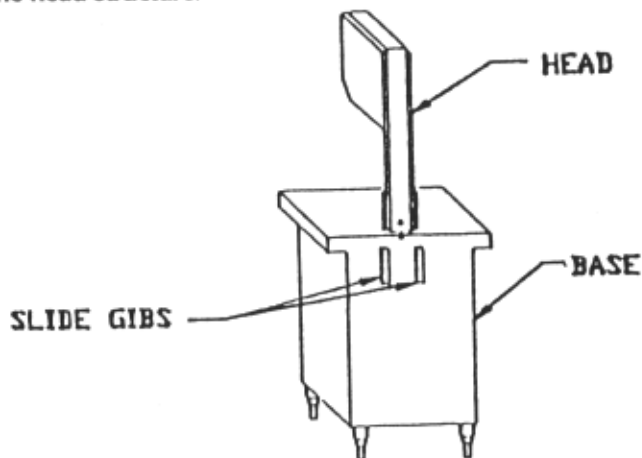
NEVER Operate Without all Warning Labels Attached and Wall Chart Posted.

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.



ALWAYS LEVEL MACHINE BEFORE USING

3. After installing machine in operational area, it is imperative that the four adjusting leg bolts be adjusted to level the machine and also to eliminate rocking.
4. To assemble meat gauge plate (Part No. A14275) to the machine; Loosen the lock knob (Part No. 272-10) on the right side meat gauge bracket. Remove the meat gauge gear rack (Part No. 12272-3AL) and insert into the meat gauge plate. Re-install the gear rack by first inserting the rectangle end in to the left hand meat gauge bracket, then swing the right hollow round end of the gear rack into the original lock position. Upon aligning the gear rack with the cap screw (Part No. 272-11), tighten the lock knob clockwise, fastening the locking cap screw into the hollow end of the gear rack, **CHECKING** for a secure assembly. Keep gear rack well oiled with food grade oil to ensure free movement.
5. The head structure (Part No. 12005A) comes detached from the base. Slip the head into the slide gibs (Part No. 260) located on the back of the base structure. Make sure the slide gibs are oiled or greased to ensure free vertical movement of the head structure.



6. Place removable finger lift with saw guard assembly (Part No. A211MS-AL or A211MS-SS) on the saw guide bar (Part No. 116-18) and fasten in place with the finger lift fastener knob (Part No. 211Q).



SHARP SAW BLADE. HANDLE WITH EXTREME CAUTION.

7. Placing blade on cutter: Hang upper wheel assembly (Part No. A12003U335-6) on the hinge bracket (Part No. 71-1). Lift the nylon filler (Part No. 177). Hang blade on the upper wheel and hold with right hand. With left hand force the back of the blade between the front blade cleaners (Part No. 131), located below the nylon filler. Lower the nylon filler and insert the back of the blade in the upper saw guide (Part No. 602B). The blade has already dropped over the lower wheel. With right hand force the back of the blade between the rear blade cleaners (Part No. 131). The blade is now ready to be tightened. Press down on the ratchet arm (Part No. 10-1) located at the rear of the base structure. Turn the upper wheel slowly by hand to ensure proper tracking of the saw blade on the wheels. Tighten to proper tension. When the tension gauge (Part No. 197), located at the bottom rear of the head becomes tight laterally the blade is at proper tension.
8. The side platter bracket (Part no. S12214B) is packed loose in the machine and must be installed on the left side of the base structure with the supplied hardware and checked for proper adjustment. Stationary platter must be flat.
9. The stationary platter (Part No. A12163-2) is placed on top of the base structure and held in place by two push-pull hold down rods (Part No. 12212W), located at the rear of the base.
10. The sliding meat carriage assembly (Part No. A12155) is installed by turning the movable stop assembly (Part No. A200) clockwise. After the carriage assembly is in the channel for operation, turn the movable stop counterclockwise to lock.
11. Post SAFETY TIPS wall chart within easy view of operator. Keep Manual available to operator.
12. Machine **MUST** be properly grounded. Use qualified electrician to install according to building codes.

WIRING MOTOR

- (1) Interchange of current is made in motor outlet box. Leads are properly marked. Changing instructions are on motor plate or motor outlet box.
- (2) All cutters 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) We recommend not less than No. 12 wire. If leads are too light, machine may not have sufficient cutting power and/or speed.
- (5) The V-belt is packed loose in machine to prevent deformation, and must be installed on pulleys at time of wiring motor.
- (6) The BIRO Manufacturing Company is not responsible for permanent wiring, connection or installations.




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).




KEEP HANDS CLEAR OF SHARP MOVING BAND TYPE SAW BLADE

13. Make sure saw guide bar with saw guard is in its lowest position. Close head and base doors.
14. Push start button and check for proper phasing of motor. Blade should be travelling down through saw guide.
15. Watch for proper tracking of blade. Back of blade should be centered in hole in saw guide in stationary bar (Part No. 119A). Push stop button to stop machine.
16. Check Placement of all warning labels, wall chart and Manual. Machine is ready for trained operators to process product.
17. Contact your local Distributor or BIRO directly if you have any questions or problems with the installation or operation of this machine.

WARNING LABELS AND WALL CHART



WARNING



DO NOT Use Unless Trained and Authorized By Supervisor And Over 18 Years Old.

Read Operation Manual Thoroughly Before Operating.

ALWAYS Keep Hands Clear of Saw Blade and Other Moving Parts. Turn Off Saw when Finished Cutting.

ALWAYS Keep Blade Guard Adjusted to 1/2" Above the Product being Cut.

ALWAYS Use End Cut Pusher Plate When Cutting Smaller Piece of Product.

DO NOT Use Saw if it is Altered, Damaged, Improperly Maintained, or If Warnings Are Illegible or Missing.

ALWAYS Disconnect and Unplug from Main Power Source and Perform LOCKOUT/TAGOUT Before Cleaning or Servicing.

#653PC-E

Item No. 653PC-E



MUCHO CUIDADO



NO Opere Esta Sierra Sin Haber Sido Entrenado Para Ello Ni Tampoco Sin Autorizacion de un Supervisor. Uno Tiene que Haber Cumplido 18 Anos Para Operarla.

LEA Cuidadosamente el Manual de Operacion Antes de Usar Este Equipo.

SIEMPRE Guarde las Manos a Salvo de la Hoja de Serrar y de Otras Partes Moviles. Cirre el Interruptor Despues de Terminar de Cortar.

SIEMPRE Tenga Ajustado el Guardasierra Para que Quede a 1/2" Por Encima del Producto que se Corta.

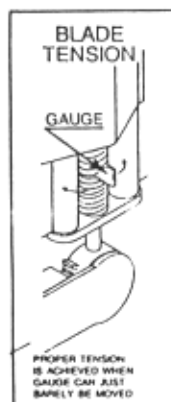
SIEMPRE Haga Uso de la Placa de Empuje Para Cortes de Extremos al Cortar Trocitos Pequenos.

NO Utilice la Sierra si se Halla Alterada, Danadao si No ha Sido Debidamente Mantenido o si la Advertencia es Alegible o si Falta Esta.

SIEMPRE Desconecte el Equipo Decenchifandolo de la Fuente de Fuerza. DejeLo Bajo Llave o con Etiqueta que Prohiba su Uso Antes de Limpiarlo o Hacer Trabajos de Mantenimiento.

#653PC-SP

Item No. 653PC-SP



Item No. 710

ALWAYS LOWER GUARD TO HEIGHT OF PRODUCT



D A N G E R

E X P O S E D B L A D E



Item No. 708

CLEANING



SHARP MOVING BAND TYPE SAW BLADE TO AVOID SERIOUS PERSONAL INJURY

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

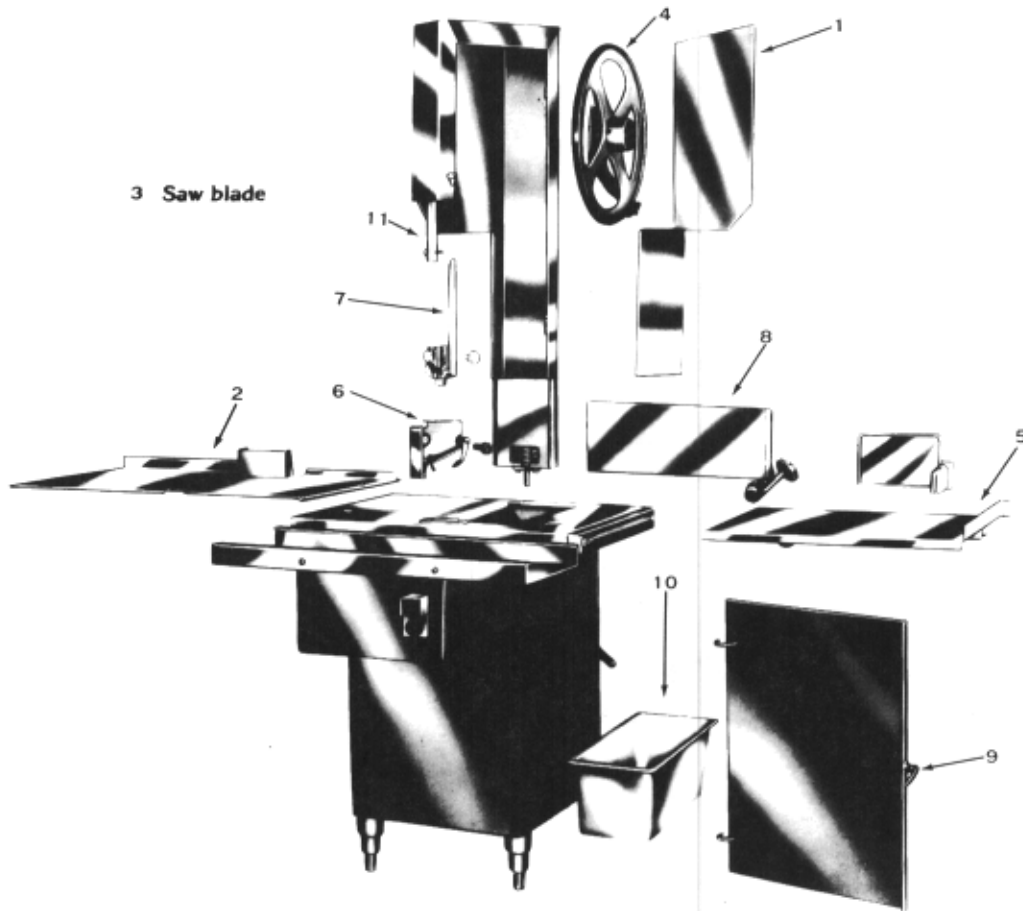
ONLY Use Recommended Cleaning Equipment, Materials and Procedures.

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 POWER CUTTER:

Disconnect electrical power to the machine before cleaning. Parts to be removed have been made accessible and can be removed without tools. Notice in the drawing below that all parts are numbered. Each part should be removed for cleaning in the numbered sequence shown. To ensure cleaner cuts, keep the cleaning system in good condition. Parts on the cleaning system which should be checked weekly, and changed as required are as follows: Wheel Cleaners (Part No. 179), Saw Cleaners (Part No. 131), Saw Guide in Stationary Bar (Part No. 119A), Upper Saw Guide (Part No. 602B), Lower Blade Back-Up Guide (Part No. S608) and Nylon Filler (Part No. 177).



MAINTENANCE



SHARP MOVING BAND TYPE SAW BLADE 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.

ALWAYS Keep Hands Clear of Band Type Saw Blade and Other Moving Parts.

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. GENERAL

1. Machine should be generally inspected every time it is cleaned (at least daily) to ensure that it is in good condition and has not been damaged or tampered with.
 - a. **SAW WHEELS:** Clean outer diameter grooves daily. Check for cracks, gouges or wear on flange and grooves.



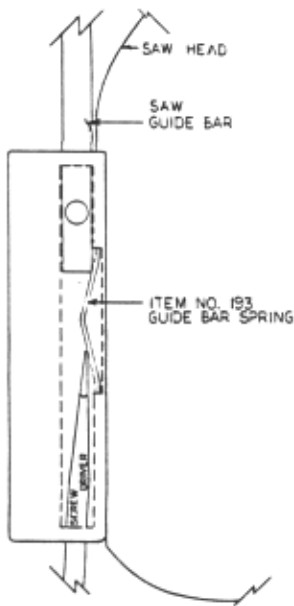
DO NOT IMMERSE UPPER WHEEL ASSEMBLY IN WATER

- b. **WHEEL CLEANER ASSEMBLIES:** Check condition of fiber cleaner, change every four (4) weeks. Check condition of tension spring, replace as needed.
- c. **REMOVABLE FINGER LIFT ASSEMBLY:** Check condition of saw guard, make sure mounting bolts are tight and **DANGER EXPOSED BLADE** decal is attached and legible. Check condition of upper saw guide (Part No. 602B), replace every six (6) months. Check adjustment of upper saw guide. Should be $\frac{1}{32}$ " between back of blade and saw guide carbide.



NEVER USE THIS MACHINE WITHOUT PROPERLY INSTALLED AND FUNCTIONING SAW GUIDE BAR AND SAW GUARD

- d. **SAW GUIDE BAR:** Check condition of bar for coating peeling and wear, replace as necessary. Check saw guide bar spring for proper tension. The spring should hold the bar in any desired position in its travel. Replaces saw guide bar spring (Part No. 193) as necessary using instructions on following page.



1. Remove the finger lift fastener knob and the fingerlift assembly.
2. Remove the finger lift fastener stud.
3. Push the saw guide bar up and out of the top of the head structure.
4. Remove the saw guide bar spring.
5. Clean and lubricate the babbitt pocket area (the square indented area that seats the saw guide bar spring).
6. Lower the new saw guide bar spring through the top of the babbitt pocket area and guide the spring into position with a standard screwdriver. (NOTE: Drawing)
7. While holding the saw guide bar spring in position, re-enter the saw guide bar from the top compressing the saw guide bar spring slightly until the saw guide bar slides past the spring.
8. Replace the finger lift fastener stud, the fingerlift assembly and the finger lift fastener knob.
9. Test by making several adjustments.

- e. **STATIONARY BAR ASSEMBLY:** Check condition of nylon filler (Part No. 177), change every four (4) weeks. Check condition of saw guide (part No. 119A), check tracking of blade through guide, back of blade should be centered in hole, replace every six (6) months. Check condition of lower blade back-up guide (Part No. S608). Check adjustment of back-up guide, should have $\frac{1}{32}$ " gap between back of blade and saw guide carbide. Replace every six (6) months.
- f. **SAW CLEANERS:** Check condition of blade cleaners, replace every four (4) weeks.
- g. **RATCHET ASSEMBLY:** Check for smooth operation through full range of travel. Check condition of trigger spring, replace as necessary.
- h. **SLIDE GIBS:** Check that head structure moves freely up and down. Check for side to side and fore to aft slop. Adjust as required. Grease every four (4) weeks.
- i. **MEAT GAUGE ASSEMBLY:** Check free movement of meat gauge plate on gear rack. Gear rack to be kept lubricated at all times with light food grade oil. Check operation of release handle. Check that worm gear engages properly with gear rack. Check tension of release handle spring, replace as necessary.
- j. **MEAT CARRIAGE ASSEMBLY:** Check for free movement through full range of travel. Check for side to side slop, adjust as necessary. Check condition of bearings, replace as necessary. Check condition of thumb guard, replace as necessary.
- k. **SAFETY ITEMS:** Safety end cut pusher plate with machine and accessible. All warning labels present, properly affixed and legible. Model and Serial Number plate properly affixed and legible. Wall poster within operators view from machine. Manual accessible to operator.

B. LUBRICATION

1. **UPPER WHEEL BEARINGS:** Grease every four (4) months. Change grease every twelve (12) months.
2. **LOWER BEARING HOUSING:** Grease every four (4) months. Change grease every twelve (12) months.
3. **SLIDE GIBS:** Grease every four (4) weeks.
4. **MEAT CARRIAGE BEARINGS:** Grease every four (4) weeks.
5. **SAW GUIDE BAR:** Oil daily with food machine oil.
6. **MEAT GAUGE GEAR RACK:** Oil daily with food machine oil.

C. SAW GUIDE BAR AND SAW GUARD

The factory recommends that when service is performed on any BIRO SAW the servicing agency be sure that the BIRO SAW is equipped with the most current safety features available.

MODEL 22 SAW GUIDE BARS AND SAW GUARDS

All Model 22 Units Prior to Serial Number 25900 (1967)

The SAW GUIDE BAR used on original equipment measured $14\frac{3}{8}$ " long. The (Item #211 O/S) FINGER LIFT held the (Item #17-0) SAW GUIDE BEARING BRACKET that held the (Item #228) SAW GUIDE BEARING. The (Item #255) SAW GUARD attached directly to the SAW GUIDE BAR. Any items required for these units should be replaced by (Item #A116-18AL) SAW GUIDE BAR ASSEMBLY, (Item #193) SAW GUIDE BAR SPRING and (Item #660) SAW GUARD ON HEAD DOOR (see adjacent page).

Serial Number 25900 (1967) to Serial Number 29423 (1975)

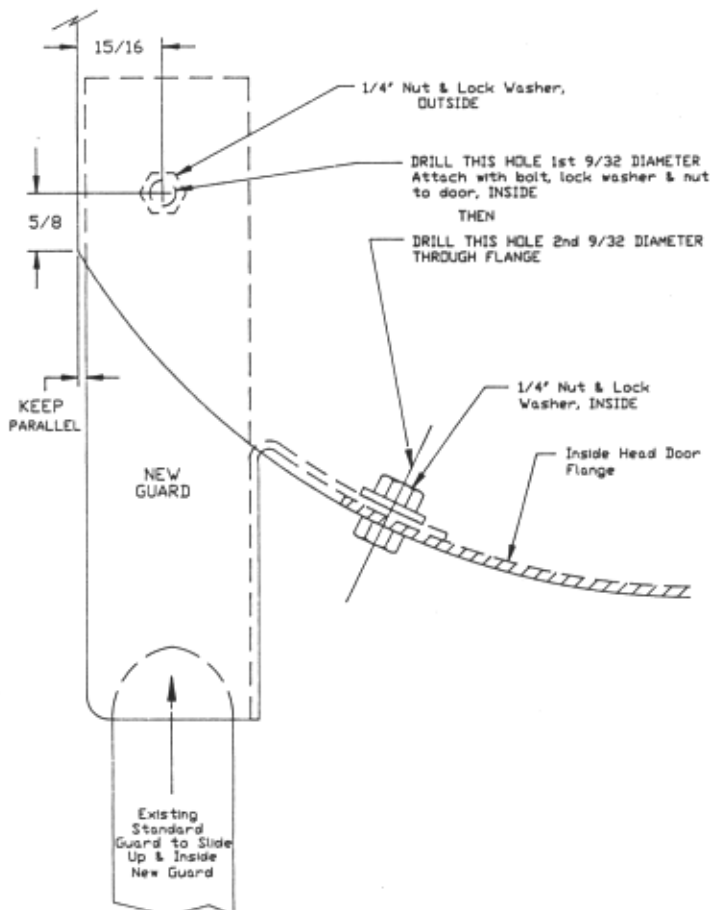
The SAW GUIDE BAR was not drilled across the width. The (Item #255MS) SAW GUARD was now attached to the (Item #211MS) FINGER LIFT. The (Item #17-0) SAW GUIDE BEARING BRACKET and (Item #228) SAW GUIDE BEARING were replaced by the (Item #601) SAW GUIDE BRACKET and the (Item #602B) UPPER SAW GUIDE. When replacing any items on these units the factory recommends the complete UPPER SAW GUIDE BAR ASSEMBLY (Item #A116-18AL) be installed along with a new (Item #193) SAW GUIDE BAR SPRING. The (Item #660) SAW GUARD ON HEAD DOOR (see adjacent page should be attached to the head door.

Serial Numbers 29423 On (1975 to current)

The SAW GUIDE BAR has been increased to $18\frac{1}{4}$ " and drilled and tapped through the one inch width. The (Item #211MS) FINGER LIFT was redrilled to mate to the (Item #211D) FASTENER STUD. The GUARD (Item #12662-AL) now attaches directly to the FINGER LIFT along with the (Item #601) BRACKET and (Item #602B) GUIDE. The (Item #211Q) FINGER LIFT FASTENER KNOB holds the entire finger lift assembly to the guide bar. The (Item #660) HEAD DOOR GUARD is standard equipment (see adjacent page) and nests with the (Item #12662-AL) GUARD.

Once again, (Item #A116-18AL) UPPER SAW GUIDE BAR ASSEMBLY is currently standard and is applicable to any Model 22 in the field.

The (Item #660) HEAD DOOR GUARD can be attached to all BIRO Model 22 units produced before and after serial number 25900.



MODEL 22 GUARD ON HEAD DOOR

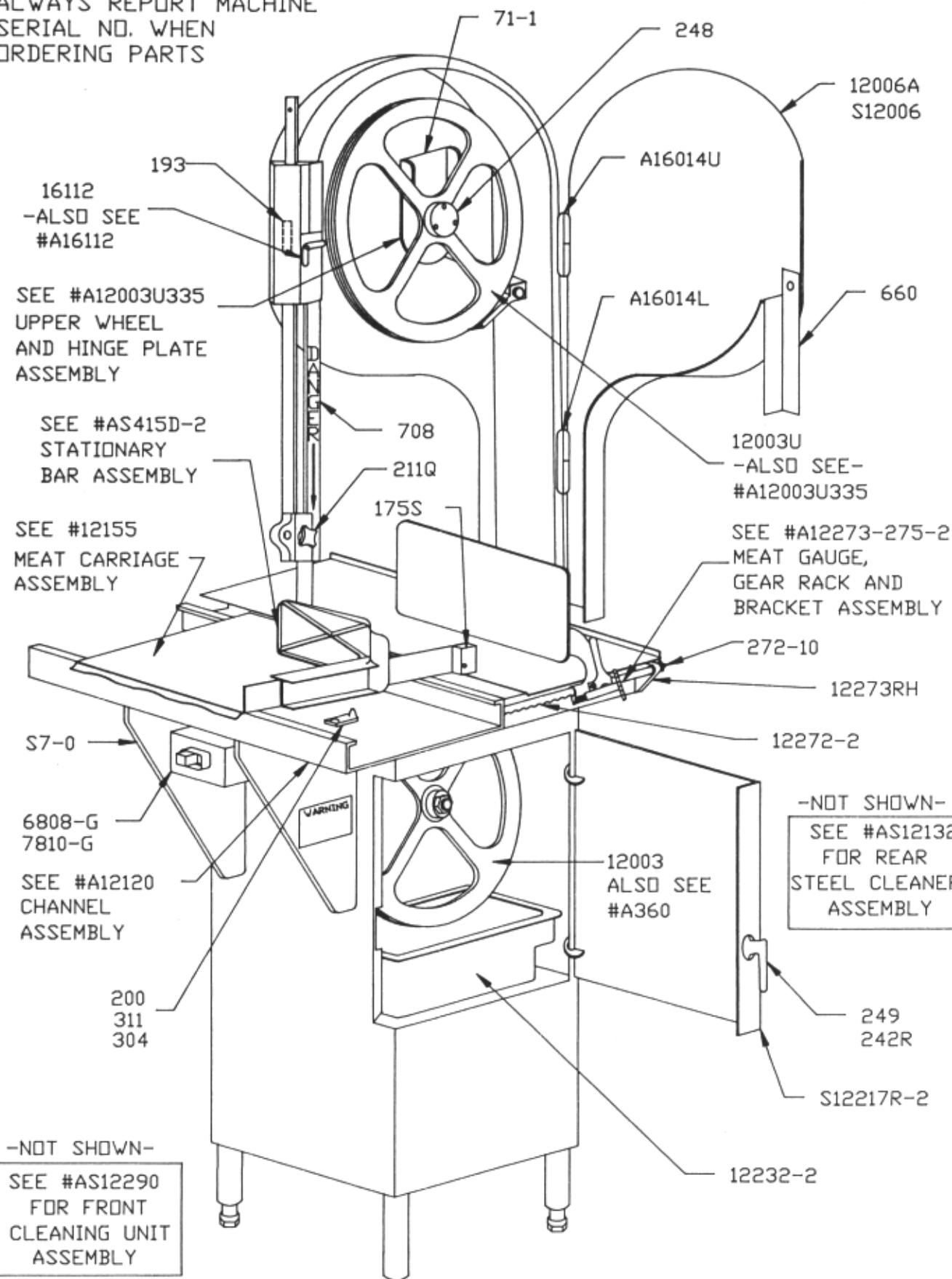
Instructions for Attaching New Guard For Use With Extended Saw Guide Bar On Older Machines

- Remove head door and lay inside up, placing new guard inside door face and flange as shown in diagram.
- Drill upper hole first; clamp guard tight against inside of door.
- Then drill lower flange hole, using hole in guard as a locator for the lower bolt.
- NOTICE: Care must be taken to position edges parallel so that the old standard guard will slide up inside the new guard.

NOTE:

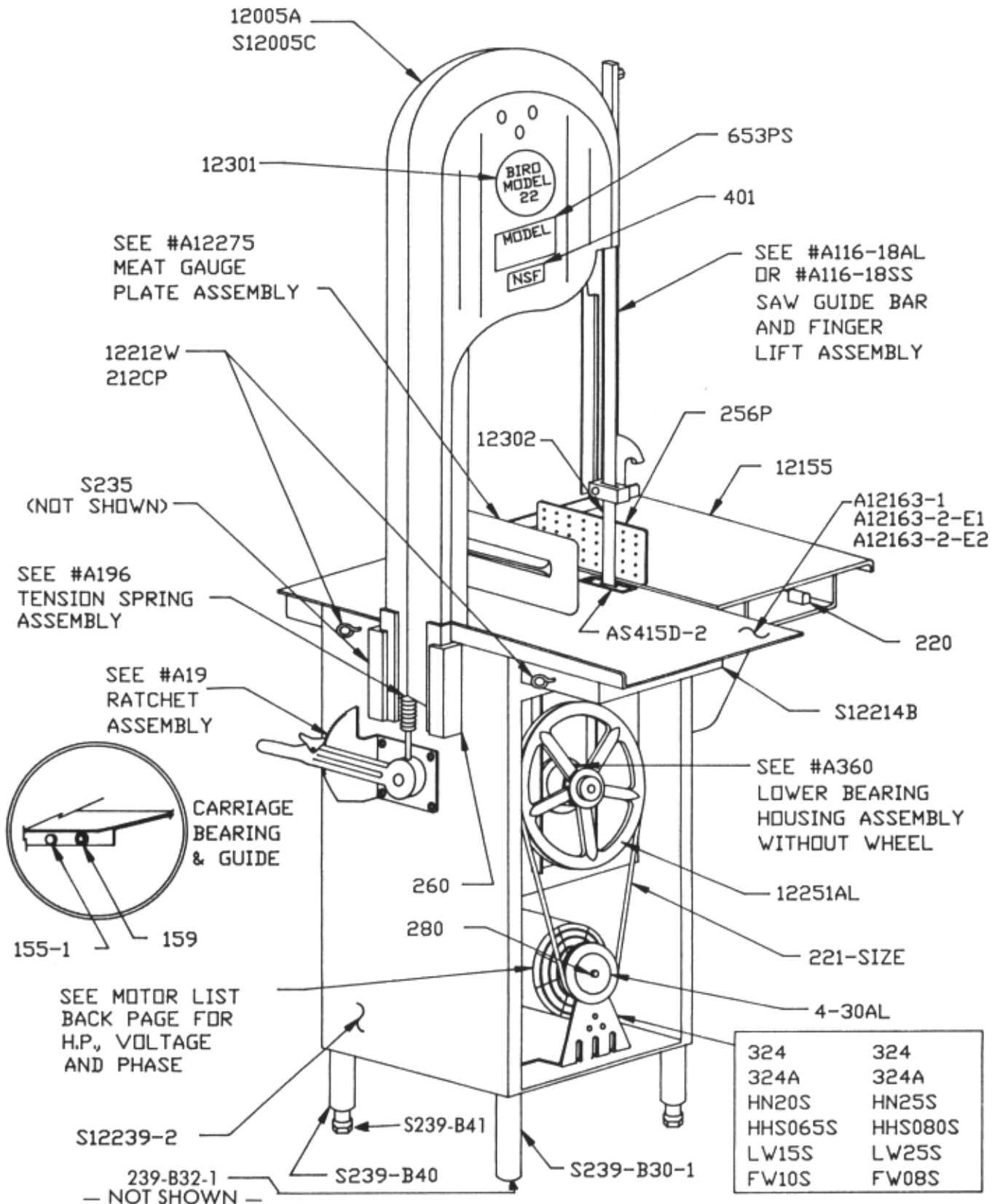
ALWAYS REPORT MACHINE
SERIAL NO. WHEN
ORDERING PARTS

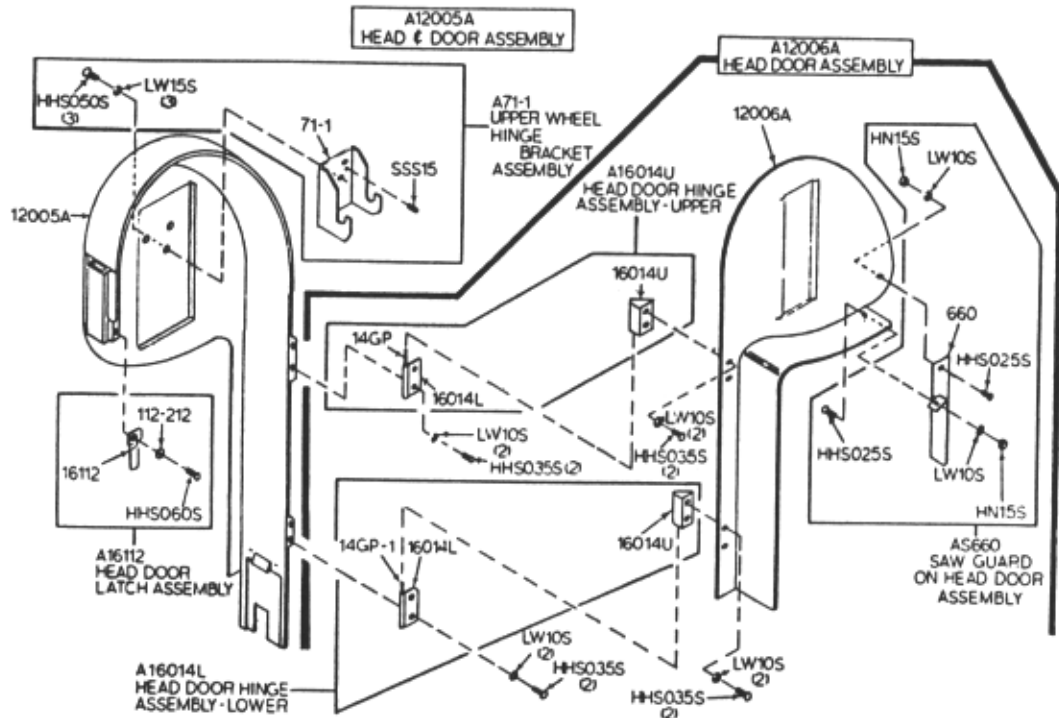
SERIAL NO. 36101 DN



SERIAL NO. 35301 ON

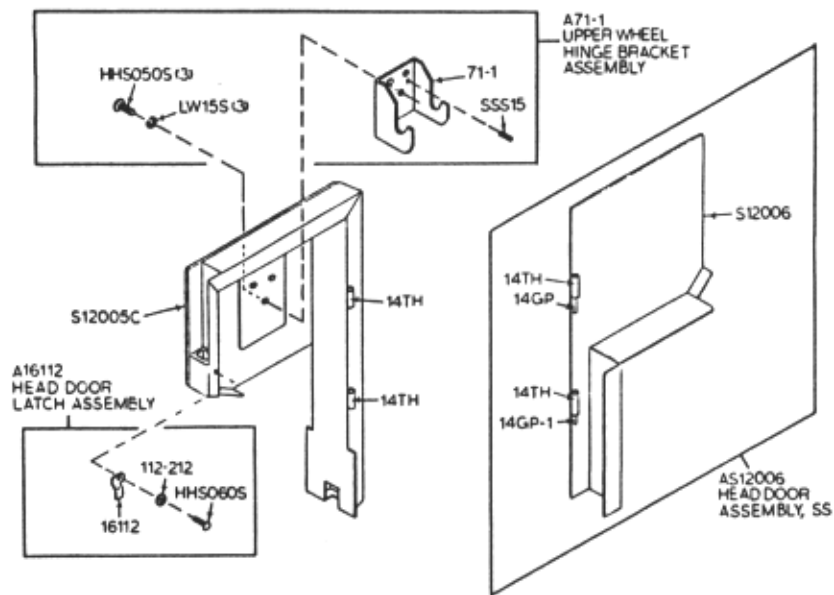
NOTE:
ALWAYS REPORT MACHINE SERIAL
NO. WHEN ORDERING PARTS.





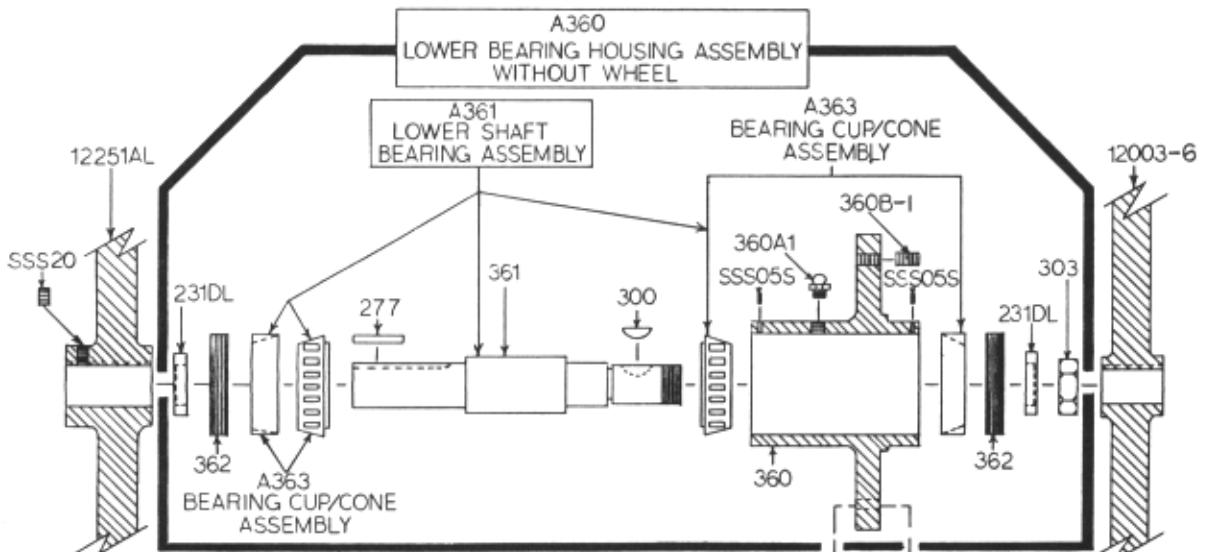
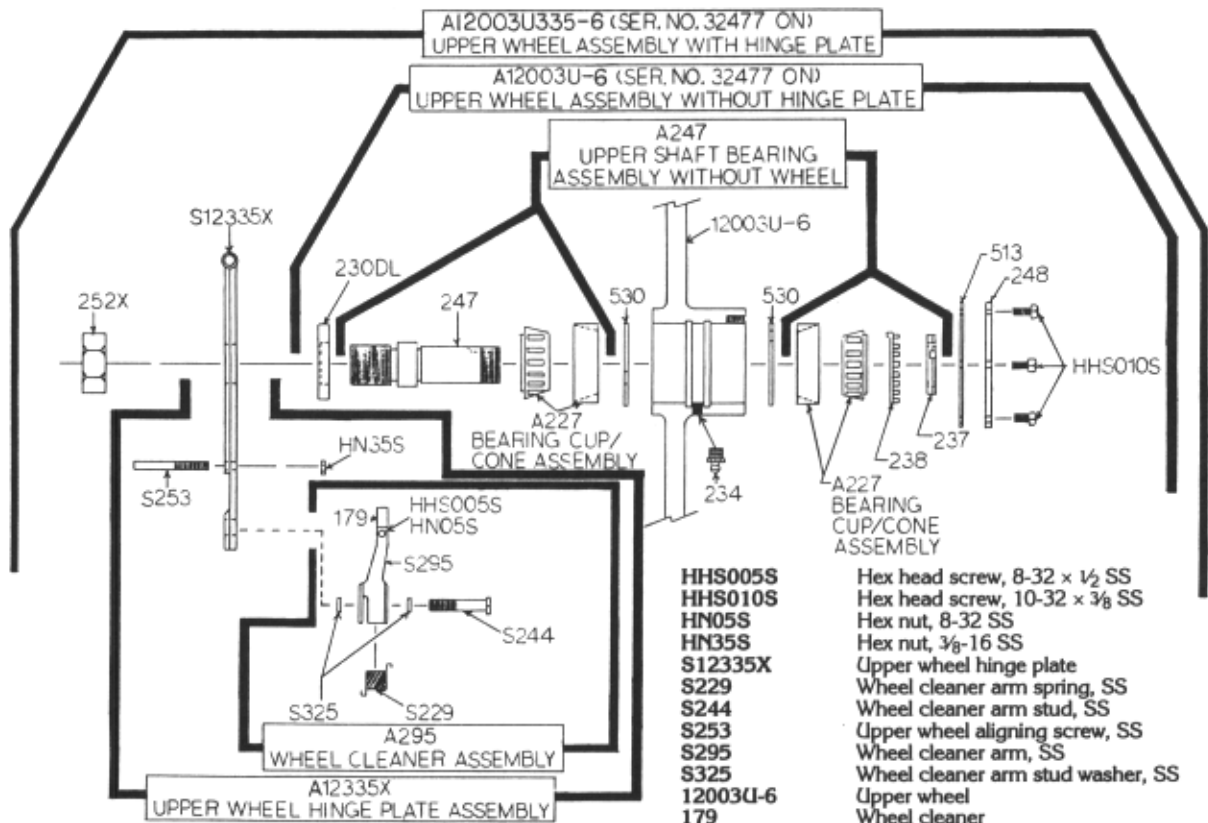
Item No.	Description
A12005A	Head & door assembly
A12006A	Head door assembly
A16014L	Head door hinge assembly, lower
A16014U	Head door hinge assembly, upper
A16112	Head door latch assembly
A71-1	Upper wheel hinge bracket assembly
AS660	Saw guard on head door assembly
HHS025S	Hex head screw, 1/4-20 x 1, SS
HHS035S	Hex head screw, 1/4-20 x 5/8, SS
HHS050S	Hex head screw, 5/16-18 x 5/8, SS
HHS060S	Hex head screw, 5/16-18 x 1, SS
HN15S	Hex nut, 1/4-20 SS
LW10S	Lock washer, 1/4 SS

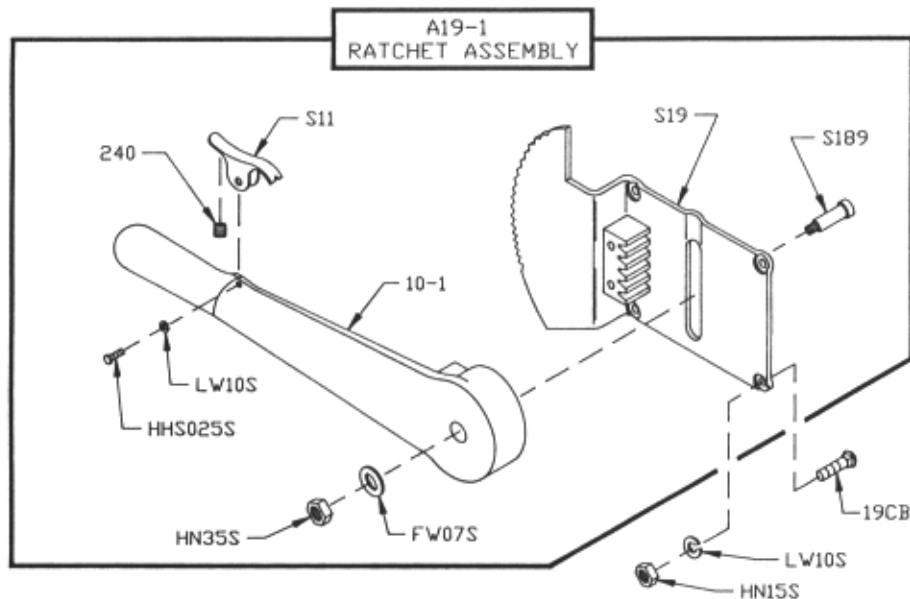
Item No.	Description
LW15S	Lock washer, 5/16 SS
SSS15	Set screw, 5/16-18 x 5/16, cup point, SS
112-212	Waved washer
12005A	Head, new style
12006A	Head door, new style
14GP	Head door hinge pin, 1 1/2"
14GP-1	Head door hinge pin, 1 1/4"
16014L	Head door hinge, lower half
16014U	Head door hinge, upper half
16112	Head door latch
660	Saw guard on head door
71-1	Upper wheel hinge bracket



Item No.	Description
A16112	Head door latch assembly
AS12005	Head & door assembly, SS
AS12006	Head door assembly, SS
A71-1	Upper wheel hinge bracket assembly
HHS050S	Hex head screw, 5/16-18 x 7/8, SS
HHS060S	Hex head screw, 5/16-18 x 5/8 SS
LW15S	Lock washer, 5/16, SS
S12005C	Head, SS

Item No.	Description
SSS15	Set screw, 5/16-18 x 5/16, cup point, SS
14TH	Head door hinge, welded
14GP	Head door hinge pin, 1 1/2"
14GP-1	Head door hinge pin, 1 1/4"
112-212	Waved washer
16112	Head door latch
71-1	Upper wheel hinge bracket



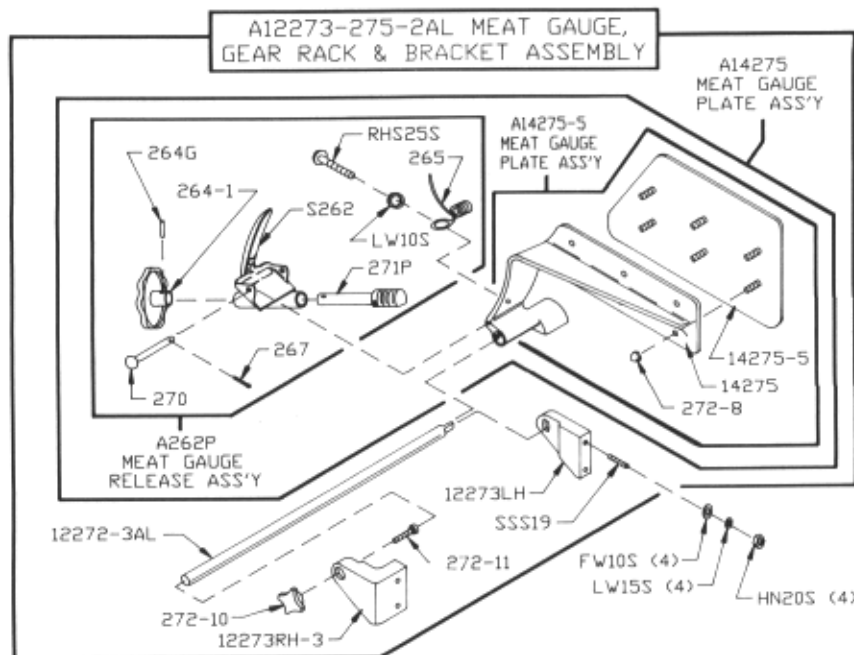


Item No.
A19-1
FW07S
HHS025S
HN15S
HN35S
LW10S

Description
 Ratchet assembly
 Flat washer, $\frac{3}{8}$ SS
 Hex head screw, $\frac{1}{4}$ -20 x $\frac{1}{2}$ SS
 Hex nut, $\frac{1}{4}$ -20 SS
 Hex nut, $\frac{3}{8}$ -16 SS
 Lock washer, $\frac{1}{4}$ SS

Item No.
S11
S189
S19
10-1
19CB
240

Description
 Ratchet trigger SS
 Ratchet arm stud SS
 ratchet base SS
 Ratchet arm
 Carriage bolt $\frac{1}{4}$ -20 x $\frac{3}{4}$ SS
 Ratchet trigger spring

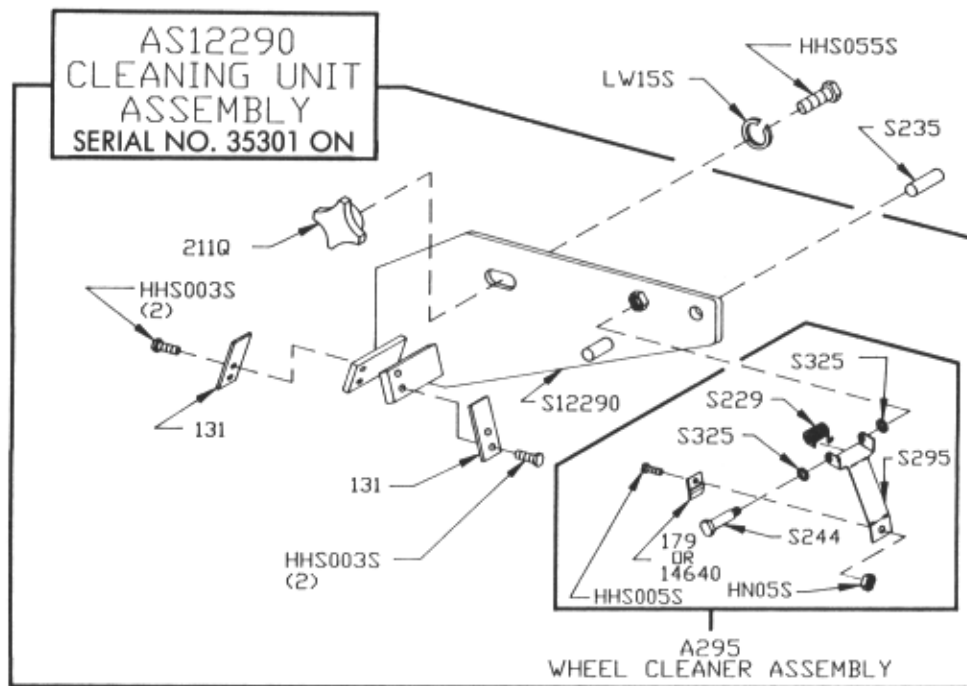


Item No.
A12273-275-2AL
A14275
A14275-5
A262P
FW10S
HN20S
LW10S
LW15S
RHS25S
SSS19
S235
S262
12272-3AL

Description
 Meat gauge assembly S/N 35301 on
 Meat gauge plate assembly w/release
 assembly
 Meat gauge plate assembly less release
 assembly
 Meat gauge release assembly
 Flat washer, $\frac{5}{16}$ SS
 Hex nut, $\frac{3}{16}$ -18 SS
 Lock washer, $\frac{1}{4}$ SS
 Lock washer, $\frac{5}{16}$ SS
 Round head screw, $\frac{1}{4}$ -20 x $\frac{3}{4}$ SS
 Set screw, cup point, $\frac{5}{16}$ -18 x $1\frac{1}{2}$, SS
 Taper pin, 4 x $\frac{3}{4}$ SS
 Meat gauge release handle, SS
 Meat gauge gear rack, S/N 35829 on

Item No.
12273LH
12273RH-3
14275
14275-5
264G
264-1
265
267
270
271P
272-8
272-9
272-10
272-11

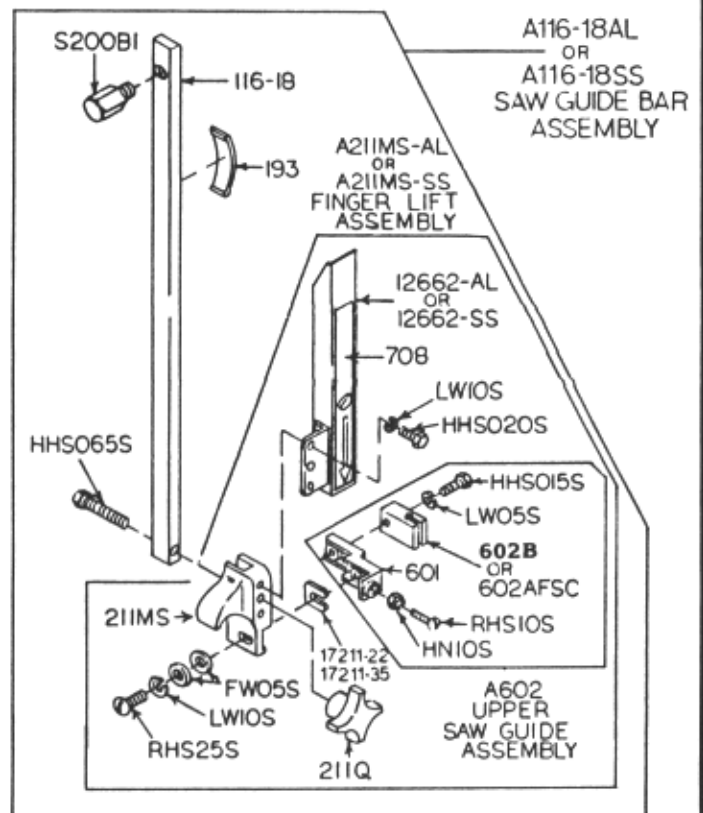
Description
 Meat gauge brkt. - LH, S/N 35301 on
 Meat gauge brkt. - RH, S/N 35829 on
 Meat gauge arm
 Meat gauge plate, SS
 Meat gauge hand wheel groove pin
 Meat gauge hand wheel
 Meat gauge release spring
 Meat gauge release cotter key
 Meat gauge release pin
 Meat gauge worm gear, plastic
 Cap nut, $\frac{3}{16}$ -18 SS
 Hex head screw, $\frac{5}{16}$ -18 x 2 SS
 Lock knob $\frac{3}{8}$ -16, 4 point
 Allen head cap screw $\frac{3}{8}$ -16 x $1\frac{1}{2}$ lg.



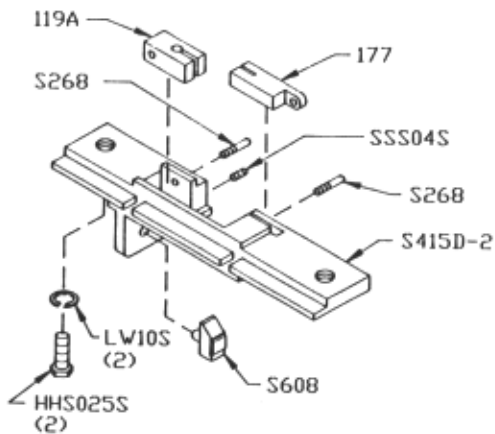
Item No.	Description
AS12290	Cleaning unit assembly, 35301 on
A295	Wheel cleaner assembly
HHS005S	Hex head screw, 8-32 x 1/2 SS
HHS055S	Hex head screw, 5/16-18 x 3/4 SS
HN05S	Hex nut, 8-32 SS
LW15S	Lock washer, 5/16 SS
S12290	Cleaning unit, 35301 on
S229	Wheel cleaner arm spring, SS

Item No.	Description
S244	Wheel cleaner arm stud, SS
S235	Taper, pin, #4 x 3/4 SS
S295	Wheel cleaner arm, SS
S325	Wheel cleaner arm stud washer, SS
131	Saw cleaner, SS
179	Wheel cleaner
211Q	Lock knob, 5/16-18, 4 point
14640	Wheel cleaner, Rulon

Item No.	Description
A116-18AL	Saw guide bar assembly for aluminum head
A116-18SS	Saw guide bar assembly for stainless head
A211MS-AL	Finger lift assembly for aluminum head
A211MS-SS	Finger lift assembly for stainless head
A602	Saw guide assembly upper
FW05S	Flat washer, 1/4 SS
HHS015S	Hex head screw, 10-32 x 7/8 SS
HHS020S	Hex head screw, 1/4-20 x 7/8 SS
HHS065S	Hex head screw, 5/16-18 x 1 1/2 SS
HN10S	Hex nut, 10-32 SS
LW05S	Lock washer, #10 SS
RHS10S	Round head screw, 10-32 x 3/4 SS
RHS25S	Round head screw, 1/4-20 x 3/4 SS
S200B1	Stop stud guide bar
116-18	Saw guide bar, 18"
12662-AL	Saw guard for aluminum head
12662-SS	Saw guard for stainless head
17211-22	Finger lift shim, .022
17211-35	Finger lift shim, .035
193	Saw guide bar spring
211MS	Finger lift
211Q	Finger lift fastener knob, 4 point
601	Upper saw guide bracket
602AFSC	Upper saw guide, fish
602B	Upper saw guide
708	Decal, danger exposed blade

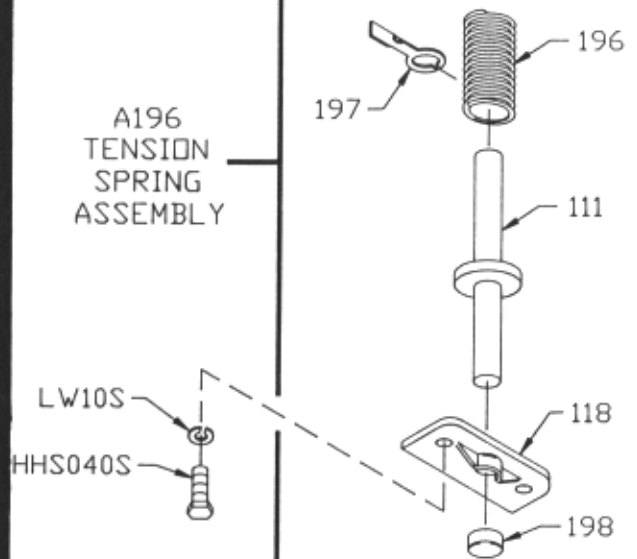


AS415D-2
STATIONARY BAR ASSEMBLY
SERIAL NO. 35301 ON



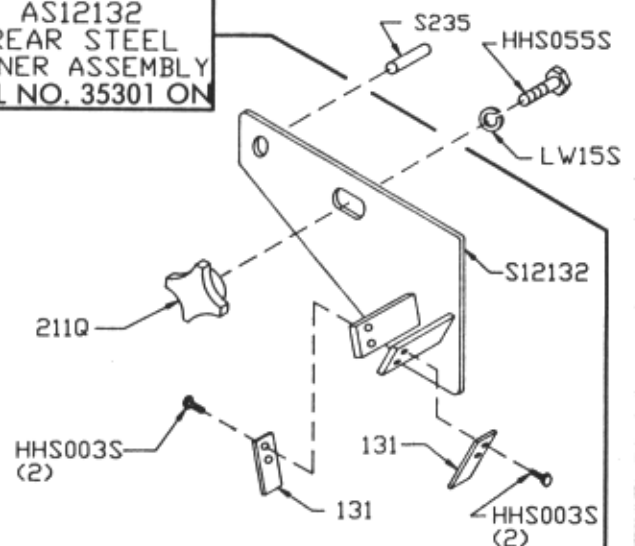
Item No.	Description
AS415D-2	Stationary bar assembly, 35301 on
HHS025S	Hex head screw, 1/4-20 x 1, SS
LW10S	Lock washer, 1/4 SS
S268	Stationary bar headless screw
119A	Saw guide in stationary bar
177	Nylon filler
S415D-2	Stationary bar, 35301 on
S608	Back-up guide, carbide, 35301 on
SSS04S	Set screw, 10-24 x 1/4 SS, cone point

A196
TENSION
SPRING
ASSEMBLY



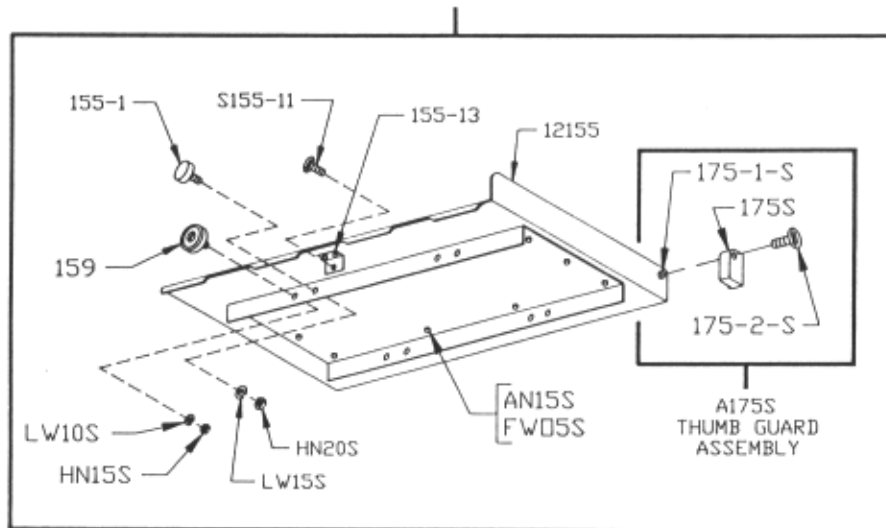
Item No.	Description
A196	Tension spring assembly
HHS040S	Hex head screw, 1/4-20 x 3/4 SS
LW10S	Lock washer, 1/4 SS
111	Tension spring pin
118	Tension spring plate
196	Saw tension spring
197	Tension spring gauge
198	Tension pin cap

AS12132
REAR STEEL
CLEANER ASSEMBLY
SERIAL NO. 35301 ON

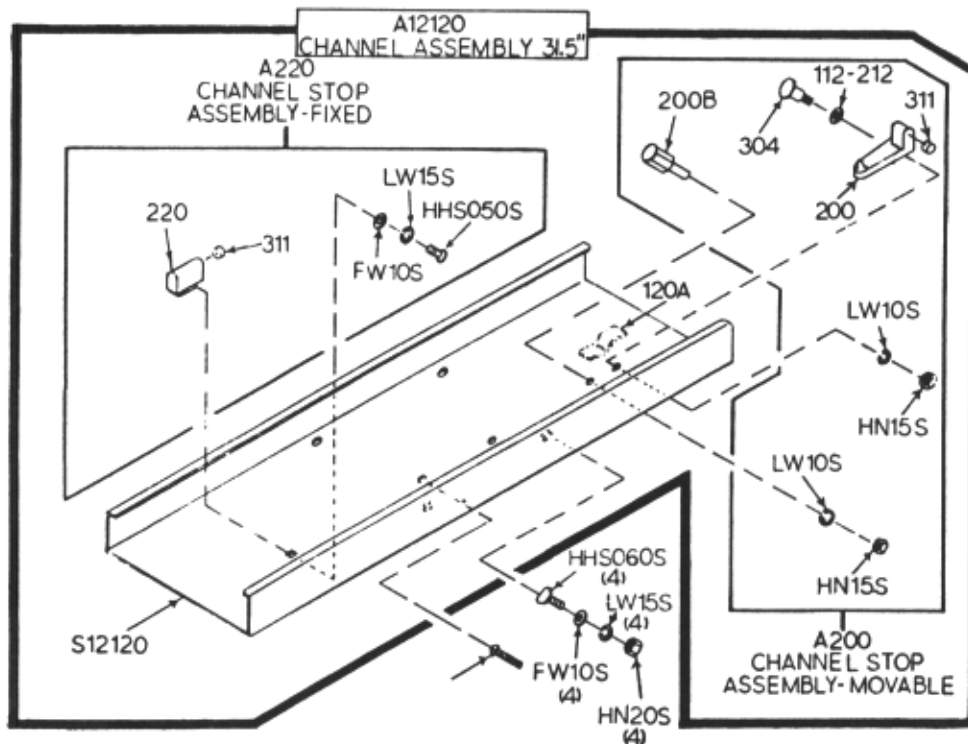


Item No.	Description
AS12132	Steel cleaner assembly, rear, 35301 on
HHS003S	Hex head screw, 8-32 x 1/4 SS
HHS0055S	Hex head screw, 5/16-18 x 3/4 SS
LW15S	Lock washer, 5/16 SS
S12132	Cleaning unit, rear
S235	Taper pin, #4 x 3/4 SS
131	Saw cleaner, SS, 35301 on
211Q	Lock knob, 5/16-18, 4 point

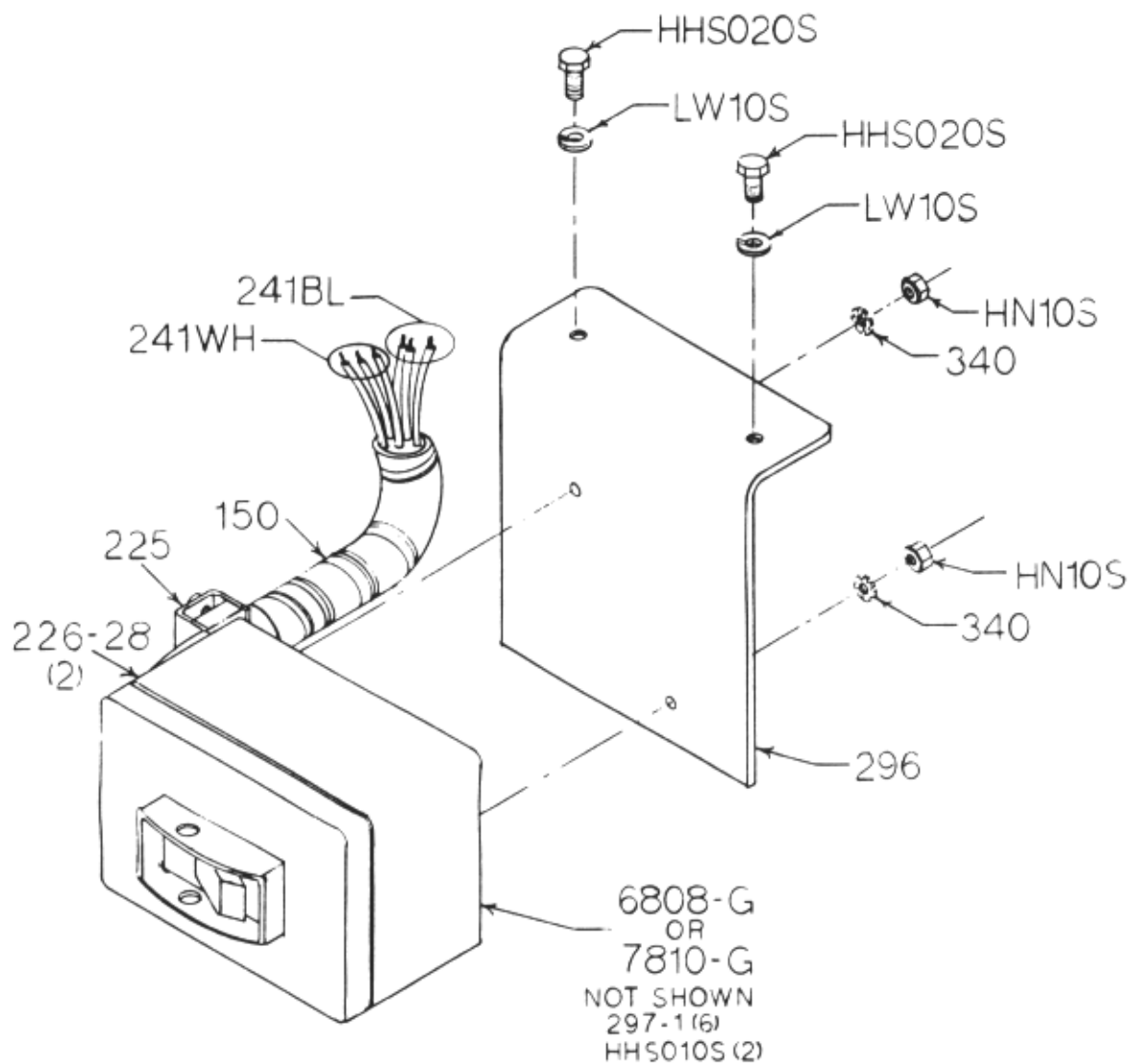
A12155
MEAT CARRIAGE ASSEMBLY



Item No.	Description	Item No.	Description
A12155	Meat carriage assembly	155-1	Meat carriage guide
A175S	Thumb guard assembly	155-3	Meat carriage guide spacer, .025
HN15S	Hex nut, 1/4-20 SS	155-4	Meat carriage guide spacer, .040
HN20S	Hex nut, 5/16-18 SS	155-13	Carriage stop angle, welded
LW10S	Lock washer, 1/4 SS	159	Meat carriage bearing
LW15S	Lock washer, 5/16 SS	175S	Thumb guard, nylon
S155-11	Meat carriage stop thumb screw	175-1-S	Thumb guard nut SS
12155	Meat carriage top & angle	175-2-S	Thumb screw, 1/4-20 x 1/2

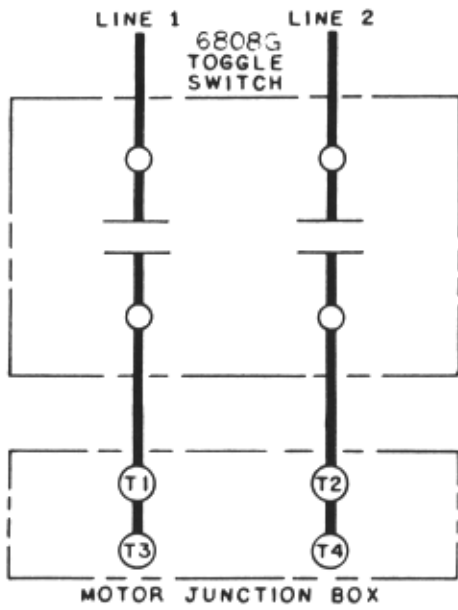


Item No.	Description	Item No.	Description
A12120	Channel assembly, 31.5"	LW15S	Lock washer, 5/16 SS
A200	Carriage stop assembly, movable	S12120	Channel, 31.5", SS
A220	Carriage stop assembly, fixed	112-212	Waved washer
FW10S	Flat washer, 5/16 SS	120A	Pusher plate clamp, welded
HHS050S	Hex head screw, 5/16-18 x 5/8, SS	200	Carriage stop, movable
HHS060S	Hex head screw, 5/16-18 x 1, SS	200B	Stop stud carriage stop
HN15S	Hex nut, 1/4-20 SS	220	Carriage stop, fixed
HN20S	Hex nut, 5/16-18 SS	304	Shoulder screw carriage stop
LW10S	Lock washer, 1/4 SS	311	Carriage stop rubber bumper

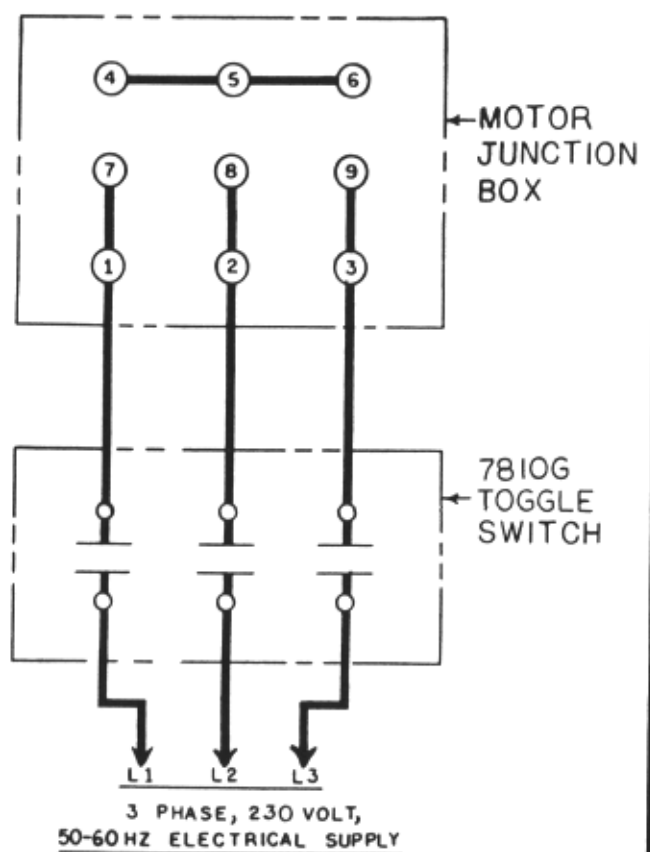
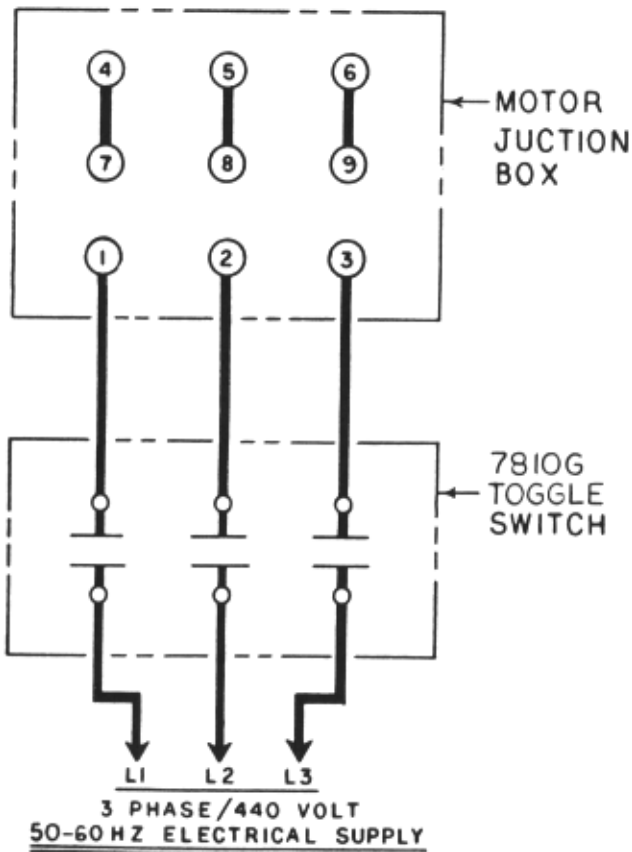
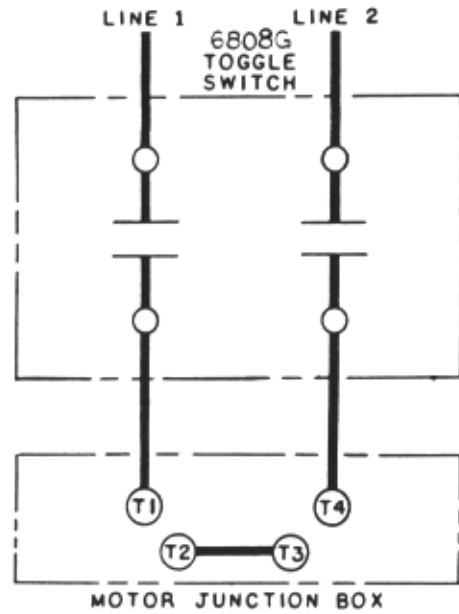


Item No.	Description
A6808-G-12	Toggle switch assembly, 1PH
A7810-G-12	Toggle switch assembly, 3PH
HHS010S	Hex head screw, 10-32 x 3/8 SS
HHS020S	Hex head screw, 1/4-20 x 3/8 SS
HN10S	Hex nut, 10-32 SS
LW10S	Lock washer, 1/4 SS
150	Conduit, 1/2"
225	Conduit connector, 90°
226-28	Washer, SS
241BL	Wire, black, 12GA, CSA & UL
241WH	Wire, white, 12GA, CSA & UL
296	Switch bracket SS
297-1	Wire terminal eyelet
340	Star lock washer
6808-G	Toggle switch, 1 phase
7810-G	Toggle switch, 3 phase

110-115 VOLTS

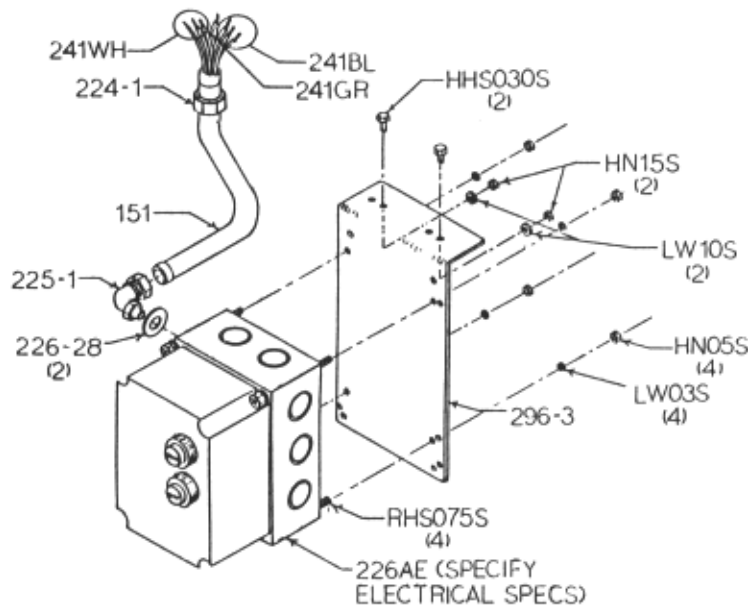


220-230 VOLTS



**WATERTIGHT MAGNETIC SWITCH ASSEMBLIES
(AEG)
INCLUDES MOUNTING BRACKET AND WIRES**

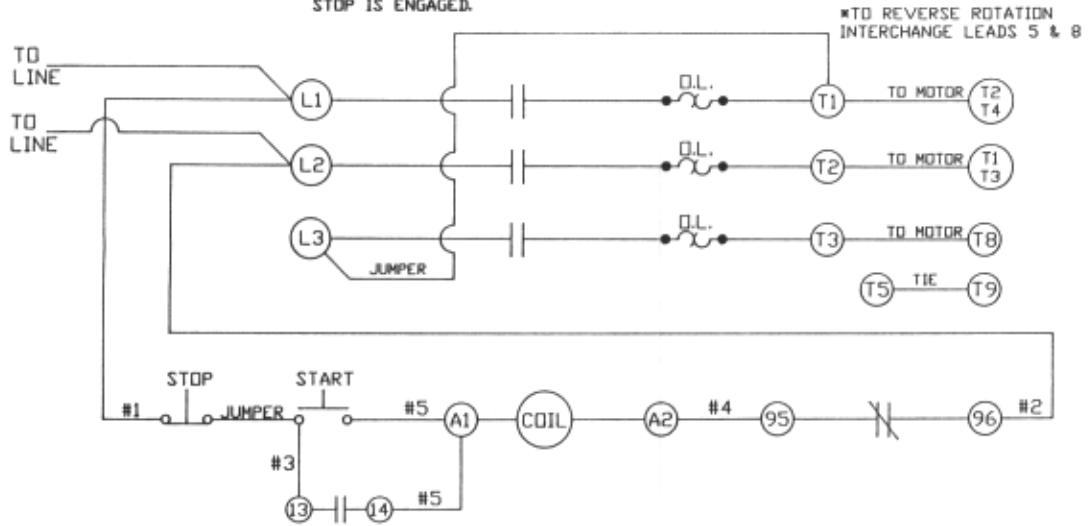
Item No.	Description
A22612AE-502	BAEG/PC-PB/A17, 1HP, 104/115-50/60-1
A22616AE-506	BAEG/PC-PB/C6, 1½HP, 208/220/230-50/60-3
A22612AE-508	BAEG/PC-PB/E2.8, 1HP, 440/460-60-3
A22612AE-510	BAEG/PC-PB/D2.8, 1HP, 380/415-50-3
A22616AE-514	BAEG/PC-PB/C8, 2HP, 208/220/230-50/60-3
A22616AE-516	BAEG/PC-PB/E4, 1½HP, 440/460-3
A22616AE-518	BAEG/PC-PB/D6, 1½HP, 380/415-50-3
A22616AE-520	BAEG/PC-PB/A23, 1½HP, 104/115-50/60-1
A22616AE-522	BAEG/PC-PB/C12, 1½HP, 208/220/230-50/60-1



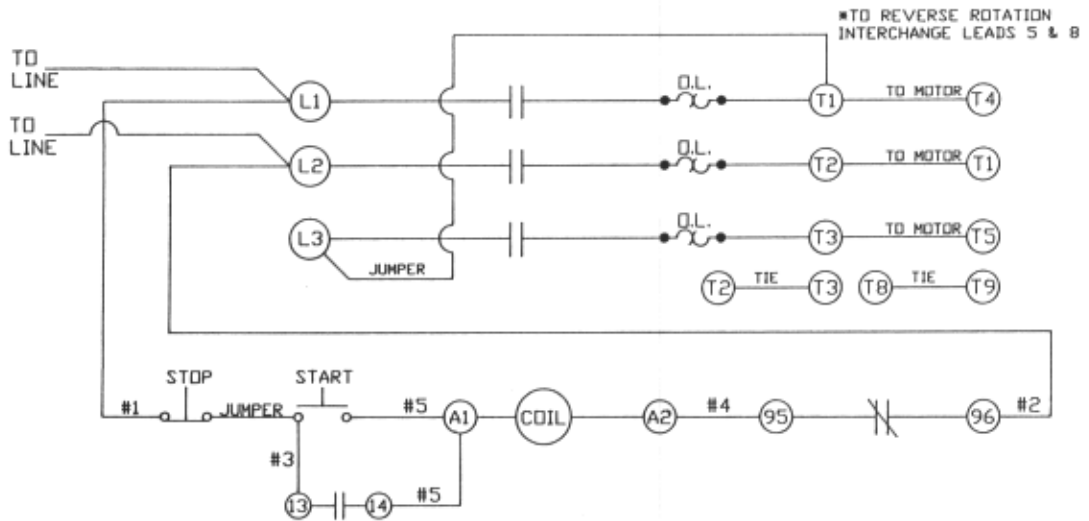
Item No.	Description	Item No.	Description
HHS025S	Hex head screw, ¼-20 x ½ SS	226AE-502	BAEG/PC-PB/A17
HNS05S	Hex nut, 8-32 SS	226AE-506	BAEG/PC-PB/C6
LW03S	Lock washer, #8 SS	226AE-508	BAEG/PC-PB/E2.8
LW10S	Lock washer, ¼ SS	226AE-510	BAEG/PC-PB/D2.8
RHS075S	Round head screw, 8-32 x ¾ SS	226AE-514	BAEG/PC-PB/C8
296-3	Switch bracket SS	226AE-516	BAEG/PC-PB/E4
151	Watertight conduit	226AE-518	BAEG/PC-PB/D6
225-1	Conduit connector, WT, 90°	226AE-520	BAEG/PC-PB/A23
H482-1	Green push button	226AE-522	BAEG/PC-PB/C12
H482-2	Red push button	226AE-524	BAEG/PC-PB/A32
226AE-ENCL-PB	Enclosure with button holes	226AE-526	BAEG/PC-PB/C17
226AE-OL02H	Overload, B17S-H (1.8-2.8)	226AE-530	BAEG/PC-PB/F.28
226AE-OL04I	Overload, B17S-I (2.8-4)	226AE-534	BAEG/PC-PB/E6
226AE-OL06K	Overload, B17S-K (4.6)	226AE-536	BAEG/PC-PB/D8
226AE-OL08L	Overload, B17S-L (5.6-8)	226AE-538	BAEG/PC-PB/F4
226AE-OL12M	Overload, B17S-M (8-12)	226AE-540	BAEG/PC-PB/C23
226AE-OL17N	Overload, B17S-N (11-17)	226AE-543	BAEG/PC-PB/E8
226AE-OL23O	Overload, B17S-O (15-23)	226AE-546	BAEG/PC-PB/D12
226AE-OL32P	Overload, B17S-P (22-32)	226AE-548	BAEG/PC-PB/F8
226AE-A0	Contact, SP17.10-A0, 110V	226-28	Washer, 1½ x 27/32 SS
226AE-C0	Contact, SP17.10-C0, 208/220/230V	241BL	Wire, black, 12 GA., CSA & UL
226AE-D0	Contact, SP17.10-D0, 380/415V	241GR	Wire, green, 12 GA., CSA & UL
226AE-E0	Contact, SP17.10-E0, 440V	241RD	Wire, red, 12 GA., CSA & UL
226AE-F0	Contact, SP17.10-F0, 550V	241WH	Wire, white, 12 GA., CSA & UL

MODEL 22 SCHEMATIC USING 1PH AEG W.T. SWITCH
 FOR 115 VOLTS, SINGLE PHASE, 60 CYCLE BALDOR TOTALLY ENCLOSED MOTOR
 TO ELIMINATE BREAKING EFFECT OF MOTOR AFTER STOP IS ENGAGED.

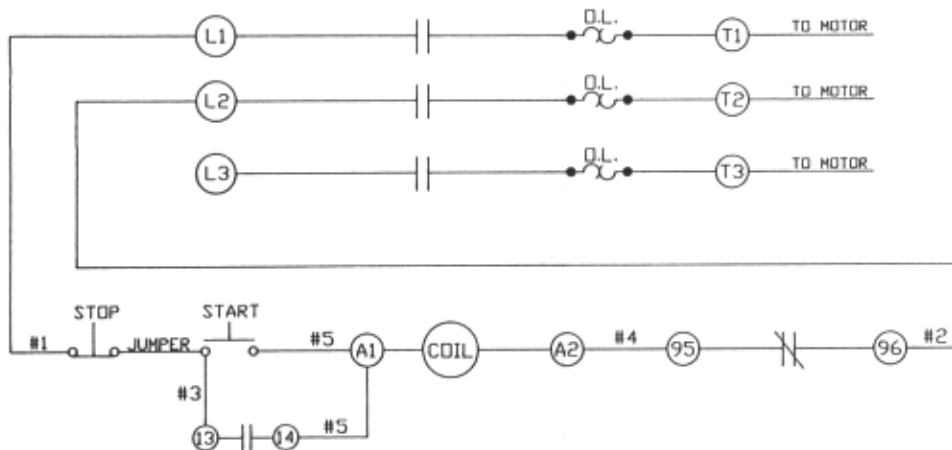
STOP IS ENGAGED.



MODEL 22 SCHEMATIC USING 1PH AEG W.T. SWITCH
 FOR 230 VOLTS, SINGLE PHASE, 60 CYCLE BALDOR TOTALLY ENCLOSED MOTOR
 TO ELIMINATE BREAKING EFFECT OF MOTOR AFTER STOP IS ENGAGED.



MODEL 22 SCHEMATIC USING 3PH AEG W.T. SWITCH
 FOR 220/440 VOLTS, THREE PHASE, 60 CYCLE BALDOR MOTOR



MODEL 22 PART NUMBERS AND DESCRIPTIONS
MODEL NO. AND SERIAL NO. REQUIRED WHEN ORDERING PARTS

Item No.	Description	Item No.	Description
M21-604994-D	Mtr, 1½HP, 115/230-60-1, open	150	Conduit, flexible, metal, per inch
M24-67242-D	Mtr 1½HP, 208/220/440-50/60-3	151	Conduit, watertight, per inch
M27-605376-D	Mtr, 1½HP, 115/230-50-1, open	155-1	Meat carriage guide
M31-35J3561274B	Motor, 1½HP, 115/230-60-1, TE	155-3	Meat carriage guide spacer .025
M34-35G494X232B	Mtr, 1½HP, 220/440-50/60-3, TE	155-4	Meat carriage guide spacer .040
S11	Ratchet trigger, SS	155-13	Carriage stop, welded
S19	Ratchet base, SS	159	Meat carriage bearing
S12005C	Head, SS	16112	Head door latch
S12006	Headdoor, SS	163A	Platter rod clip
S12120	Channel, 31½", SS, #24613 on	17211-22	Finger lift shim .022
S12132	Cleaning unit, rear, ser. #35301 on	17211-35	Finger lift shim .035
S12214B	Side platter bracket, SS	175-1-S	Thumb guard nut, SS
S12217L-2	Base door left, SS, bolt on, #35301 on	175-2-S	Thumb screw ¼D x ½
S12217R-2	Base door right, SS, hinged, #35301 on	175S	Thumb guard, nylon
S12239-2	Base, SS, square, closed top, #35301 on	177	Stationary bar nylon filler
S12290	Front blade, wheel cleaning unit, #35301 on	179	Wheel cleaner
S12335X	Upper wheel hinge plate, SS	19CB	Ratchet base carriage bolt ¼-20 x ¾
S155-11	Meat carriage stop thumb screw, SS	193	Saw guide bar spring
S155B-1	Meat carriage stop welded	196	Saw tension spring
S163F	Platter spacer weld button, SS	197	Tension spring gauge
S189	Ratchet arm stud, stainless	198	Tension pin cap
S200B1	Stop stud on saw guide bar	200	Carriage stop, movable
S217C	Base door hinge pin, long, SS	200B	Stop stud carriage stop
S217E	Base door hinge pin, short, SS	211MS	Finger lift bracket
S229	Wheel cleaner arm torsion spring, SS	211Q	Finger lift fastener knob, 4 point
S235	Taper pin, SS, 4 x ¾	212CP	Platter rod cotter pin
S239-B30-1	Base foot welded, long, SS, #35301 on	212W-E	Platter rod, England
S239-B40	Base foot welded, short, SS, 35301 on	220	Carriage stop, fixed
S239-B41	Adjustable leg bolt, SS, #35301 on	221-52	V-belt, 52"
S244	Wheel cleaner arm stud, SS	221-53	V-belt, 53"
S253	Upper wheel aligning screw, SS	224	Conduit connector, straight
S262	Meat gauge release handle, SS	224-1	Conduit connector, WT, straight
S268	Stationary bar hdless screw SS	225	Conduit connector, 90°
S295	Wheel cleaner arm, SS	225-1	Conduit connector, WT, 90°
S325	Wheel cleaner arm washer, SS	225-2	Conduit connector, 45°
S360CB-1	Carriage bolt ¾-16 x 1½, SS	226-28	Conduit connector washer
S415D-2	Stationary bar, SS, #35301 on	230DL	Upper shaft seal, double lip
S416	Platter locator weld pin, SS	231DL	Lower shaft seal, double lip
S608	Lower blade back up guide w/carbide, #35301 on	234	Grease fitting, upper wheel
S7-0	Channel bracket, SS	237	Up shaft castellated locknut
SSS04S	Set screw, 10-24 x ¼ cone pt, SS	238	Up shaft castid locknut washer
10-1	Ratchet arm	239-B32-1	Base foot plug, plastic, #35301 on
111	Tension spring pin	240	Ratchet trigger spring
112-212	Waved washer	242R	Base door lock, right
116-18	Saw guide bar, 18"	247	Upper shaft
118	Tension spring plate	248	Upper wheel hub cap
119A	Saw guide in stationary bar	249	Base door handle
119FSC	Saw guide in stationary bar, fish	252X	Upper shaft lock nut
120A	Pusher plate clamp, welded	256P	Safety pusher plate, composition
12003-6	Lower wheel, 12"	256PM	Safety pusher plate, aluminum
12003U-6	Upper wheel, 12"	259	Conduit anti-short bushing
12005A	Head, aluminum	260	Aluminum slide gib
12006A	Head door, aluminum	260ALS	Shim for slide gib
12154	Table extension, SS	264-1	Meat gauge release hand wheel
12155	Meat carriage, top & angle, SS	264G	Hand wheel groove pin
12163B	Platter neck guard	265	Meat gauge release spring
12163B-1	Platter neck guard, Europe, AL head	267	Meat gauge release cotter key
12163B-2	Platter neck guard, Europe, SS head	270	Meat gauge release pin
12212W	Platter rod	271P	Meat gauge worm gear, plastic
12232-2	Scrap bucket, #35301 on	272-8	Cap nut, 5/16-18, SS
12251AL	Upper v-belt pulley 9 x 1, aluminum	272-9	Hex head screw, 2", SS
12272-3AL	Meat gauge gear rack, #35301 on	272-10	Meat gauge lock knob, 4 pt, #35301 on
12273LH	Meat gauge brkt, LH, #35301 on	272-11	Lock knob socket screw, #35301 on
12273RH-3	Meat gauge brkt, RH, #35301 on	277	Lower shaft key, v-belt side
12275	Meat gauge plate, order A14275-5	280	Motor shaft key
12301	Serial number plate (ser. no. required)	300	Lower shaft Woodruff key, blade side
12302	Saw blade, 91"	303	Lower shaft nut
12313-251	Operating and service manual, #35301 on	304	Carriage stop shoulder screw
12662-AL	Safety saw guard, w/708, AL head	310	Waved washer
12662-SS	Saw guard, w/708, SS head	311	Rubber bumper for carriage stops
12700-2	Wearable parts replacement kit, #35301 on	324	Motor shim, 1/16"
131	Saw cleaner, SS, #35301 on	324A	Motor shim 1/8"
14275	Meat gauge arm	331K	Platter bracket rubber bumper kit
14275-5	Meat gauge plate, SS	340	Star lock washer
14640	Wheel cleaner, Rulon	360	Lower bearing housing
14GP	Head door hinge pin, long, 1½"	360A1	Bearing housing angled grease fitting
14GP-1	Head door hinge pin, short, 1¼"	360B-1	Brg hsg tilt set screw, ½-13
14TH	Head door hinge, welded	361	Lower shaft
		362	Lower bearing housing cap
		374	Grease, Penzoil #7072, 1 lb. tub

MODEL 22 PARTS NUMBERS AND DESCRIPTIONS (Cont.)

Item No.	Description	Item No.	Description
375	Drive screw, for name plate	601	Upper saw guide bracket
376	Drive screw, SS, #10 x 1/2	602B	Saw guide, upper
4-30AL	Motor pulley, AL, 60cy, 5 x 3/4	602AFSC	Saw guide, upper, fish
4-35AL	Motor pulley, AL, 60cy, 5 x 7/8	653PS	Warning decal, English
4-45AL	Motor pulley, AL, 50cy, 6 x 3/4	653SP	Warning decal, Spanish
4-49AL	Motor pulley, AL, 50cy, 6 x 7/8	660	Saw guard on head door
513	Upper wheel hub gasket	71-1	Upper wheel hinge bracket
530	Retaining snap ring	708	Decal "DANGER EXPOSED BLADE"

COMPLETE ASSEMBLIES FOR MODEL 22

Item No.	Description	Item No.	Description
AS12005	Head & door assembly, SS	A14275	Meat ga. plate assembly w/release assembly
AS12006	Head door assembly, SS	A14275-5	Meat ga. plate & arm assembly
AS12132	Rear cleaner assembly, #35301 on	A16014L	Head door hinge assembly, lower, short pin
AS12217R-2	Base door assembly, right hinged, #35301 on	A16014U	Head door hinge assembly, upper, long pin
AS12290	Front cleaning unit assembly, #35301 on	A16112	Head door latch assembly
AS415D-2	Stationary bar assembly, #35301 on	A175S	Thumb guard assembly
AS660	Saw guard on head door assembly	A19-1	Ratchet assembly
A116-18AL	Saw guide bar assembly, AL head	A196	Tension spring assembly
A116-18SS	Saw guide bar assembly, SS head	A200	Carriage stop assembly, movable
A12003U-6	Upper wheel assembly w/o hinge plate	A211MS-AL	Finger lift assembly, AL head
A12003U335-6	Upper wheel assembly w/hinge plate	A211MS-SS	Finger lift assembly, SS head
A12005A	Head and door assembly	A220	Channel stop assembly, fixed
A12006A	Head door assembly	A227	Upper bearing cup/cone assembly
A12120	Channel assembly 31"	A247	Upper shaft brg assem w/o wheel
A12155	Meat carriage assembly, #24613 on	A249R	Base door lock handle assembly, right
A12163-2	Sta. platter assembly, #35301 on	A262P	Meat gauge release assembly
A12163-2-E1	Sta. platter assembly, Europe, AL head, #35301 on	A295	Wheel cleaner assembly
A12163-2-E2	Sta. platter assembly, Europe, SS head, #35301 on	A360	Lower bearing housing assembly
A12273-275-2AL	Meat gauge assembly, #35301 on	A361	Lower shaft & bearing assembly
A12335X	Upper wheel hinge plate assembly	A363	Lower bearing cup/cone assembly
		A602	Saw guide assembly, upper
		A71-1	Upper wheel hinge brkt. assembly

LIMITED WARRANTY:

WARRANTY: The BIRO Manufacturing Company warrants that Model 22 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 on the cleaning system such as Wheel Cleaners, (Part No. 179); Saw Cleaners (Part No. 602B); Lower Blade Backup Guide, (Part No. S608); and Nylon Filler (Part No. 177). 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 gear 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 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.