



## 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.

# TABLE OF CONTENTS

|   | Page       |
|---|------------|
| NOTICE TO OWNERS AND OPERATORS .....      | 1          |
| SAFETY TIPS .....                         | 2          |
| INSTALLATION .....                        | 3          |
| OPERATION.....                            | 6          |
| TO PROCESS PRODUCT .....                  | 6          |
| CLEANING .....                            | 8          |
| MAINTENANCE .....                         | 9          |
| GENERAL .....                             | 9          |
| LUBRICATION .....                         | 10         |
| SAW GUIDE BAR AND SAW GUARD .....         | 11         |
| PARTS DIAGRAMS .....                      | 12         |
| SWITCH ASSEMBLIES AND SERVICE PARTS ..... | 20, 21, 22 |
| WIRING DIAGRAMS .....                     | 23         |
| PARTS LIST/ORDERING.....                  | 24, 25     |
| PARTS ASSEMBLIES LIST/ORDERING .....      | 25         |
| WEARABLE SAW PARTS .....                  | 26         |
| WARNING LABEL LOCATIONS ON MACHINE.....   | 27         |
| WALL CHART (PART NO. 671) .....           | 28         |
| OPERATOR'S SIGNATURE PAGE.....            | 29         |
| LIMITED WARRANTY .....                    | 30         |

## 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 SHARP MOVING BAND TYPE SAW BLADE. 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 are indicated by:



BIRO also has provided a wall chart to be posted near the equipment. If any warning label, wall chart, 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.

This Manual applies to machines with serial number 35301 and higher, except where noted.

### — NOTE —

**"A copy of this manual is included with each Model 22 Saw."**

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

## SAFETY TIPS



### **SHARP MOVING BAND TYPE SAW BLADE 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.*
- ALWAYS** Keep Hands Clear of Band Type Saw Blade and Other Moving Parts.*
- ONLY** Use a Qualified Electrician to Install According to Local Building Codes: Machine **MUST** Be Properly Grounded.*
- ONLY** Install on Level, Non-Skid Surface in a Clean, Well-Lighted Work Area Away From Children and Visitors.*
- DO NOT** Attempt to Operate This Machine Until it has Been Inspected and Demonstrated by the Seller – Recognized BIRO Representative.*
- DO NOT** Alter or Modify This Machine in any Way From its Original Form. This Machine in its Original Form Meets the Intent of O.S.H.A. Applicable Standards.*
- NEVER** Operate With 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.*
- ALWAYS** Use Safety End Cut Pusher Plate for Smaller Products or The Last Cuts of Product.*
- DO NOT** Use This Machine for Non-Food Products.*
- DO NOT** Use This Machine to Cut Pigs Feet.*
- DO NOT** Wear Gloves While Operating.*
- ALWAYS** Turn Off, Unplug From Power Source and Perform Lockout/Tagout Procedure to This Machine **BEFORE** Removing Shrouds, Removable Guards, Covers, Doors, Fences or Panels for Cleaning, Servicing or Any Other Reason.*
- NEVER** Leave Machine Unattended While The Saw is Running.*
- 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** 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.

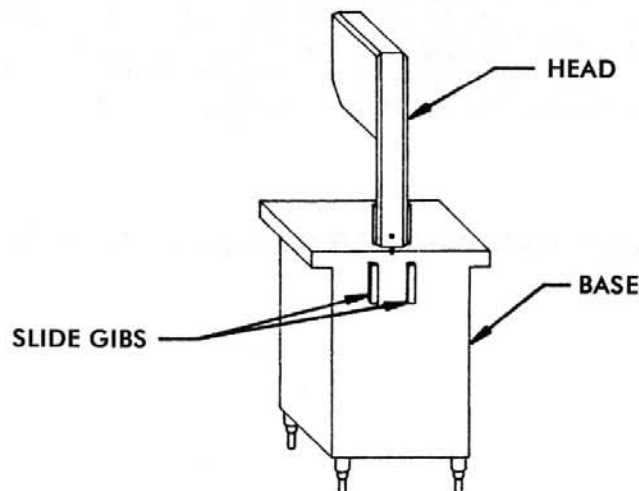
**NEVER** Operate Without all Warning Labels Attached and Wall Chart Posted.

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. S12272-3) 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. Post SAFETY TIPS wall chart within easy view of operator. Keep Manual available to operator.
13. 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**

14. Make sure saw guide bar with saw guard is in its lowest position. Close head and base doors.
15. Push start button and check for proper phasing of motor. Blade should be traveling down through saw guide.
16. 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.
17. Check Placement of all warning labels, wall chart and Manual. Machine is ready for trained operators to process product.
18. 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 FOR BIRO POWER CUTTERS SEE PAGE 27 FOR LOCATIONS ON MACHINE



# 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



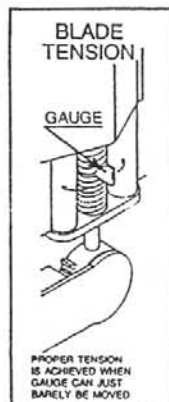
# MUCHO CUIDADO



**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 Adjustado el Guardasierra Para que Quede a 1/2" Por Encima del Producto que se Corta.  
**SIEMPRE** Haga Uso de la Place 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

# OPERATION



## **SHARP MOVING BAND TYPE SAW BLADE TO AVOID SERIOUS PERSONAL INJURY**

*ONLY Properly Trained Personnel Should Use This Equipment.*

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

*NEVER Operate With 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.*

*ALWAYS Use Safety End Cut Pusher Plate for Smaller Products or the Last Cuts of Product.*

*DO NOT Wear Gloves While Operating Machine.*

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

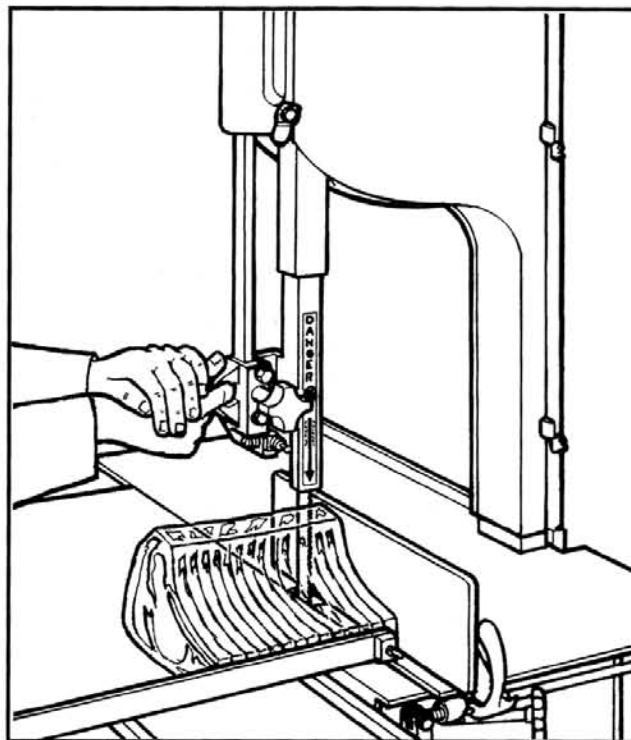
*NEVER Leave Unattended While The Saw is Running*

*NEVER Operate Without All Warnings Attached and Wall Chart Posted.*

*ALWAYS Check to have the proper blade tension before switching the power ON - the tension gauge (Part No. 197), located at the bottom rear of the head should be tight.*

### **A. TO PROCESS PRODUCT**

1. Before starting power cutter, adjust saw guide bar with saw guard down to within  $\frac{1}{2}$ " (13mm) of product to be cut.







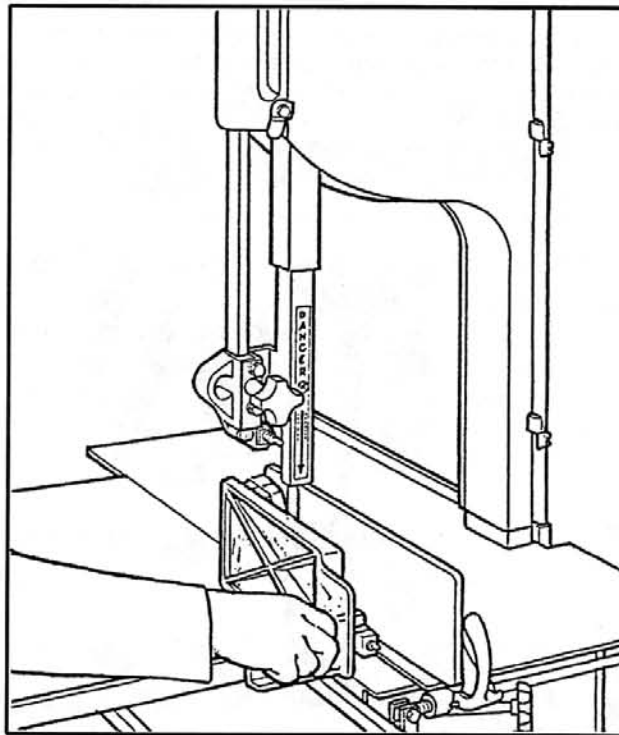
## DO NOT WEAR GLOVES WHILE OPERATING

2. Make sure all doors are closed and locked.
3. Adjust meat gauge plate forward to desired thickness of cut.
4. Push start button and watch blade for proper tracking.
5. Standing in front of the power cutter, place product on the meat carriage. Pay attention to position of your hands. Keep hands clear of moving band type saw blade. Leaning lightly against the scalloped front edge of meat carriage, hold the product firmly in right hand with product face flush against meat gauge plate. Move the meat carriage from right to left at a steady rate until fully past the saw blade. Use left hand to remove and stack cut product, **NEVER REACH IN FRONT OF BAND TYPE SAW BLADE**. On the return stroke, pull the product toward you, away from saw blade.



## NEVER REACH OR GRAB FOR PRODUCT IN FRONT OF MOVING BAND TYPE SAW BLADE

6. **ALWAYS** use the Safety End Cut Pusher Plate (Part No. 256P) for smaller products or the last cuts of product. The pusher plate is supplied as standard on all BIRO power cutters.



7. When finished cutting, push stop button. Perform lockout/tagout procedure.

# 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.

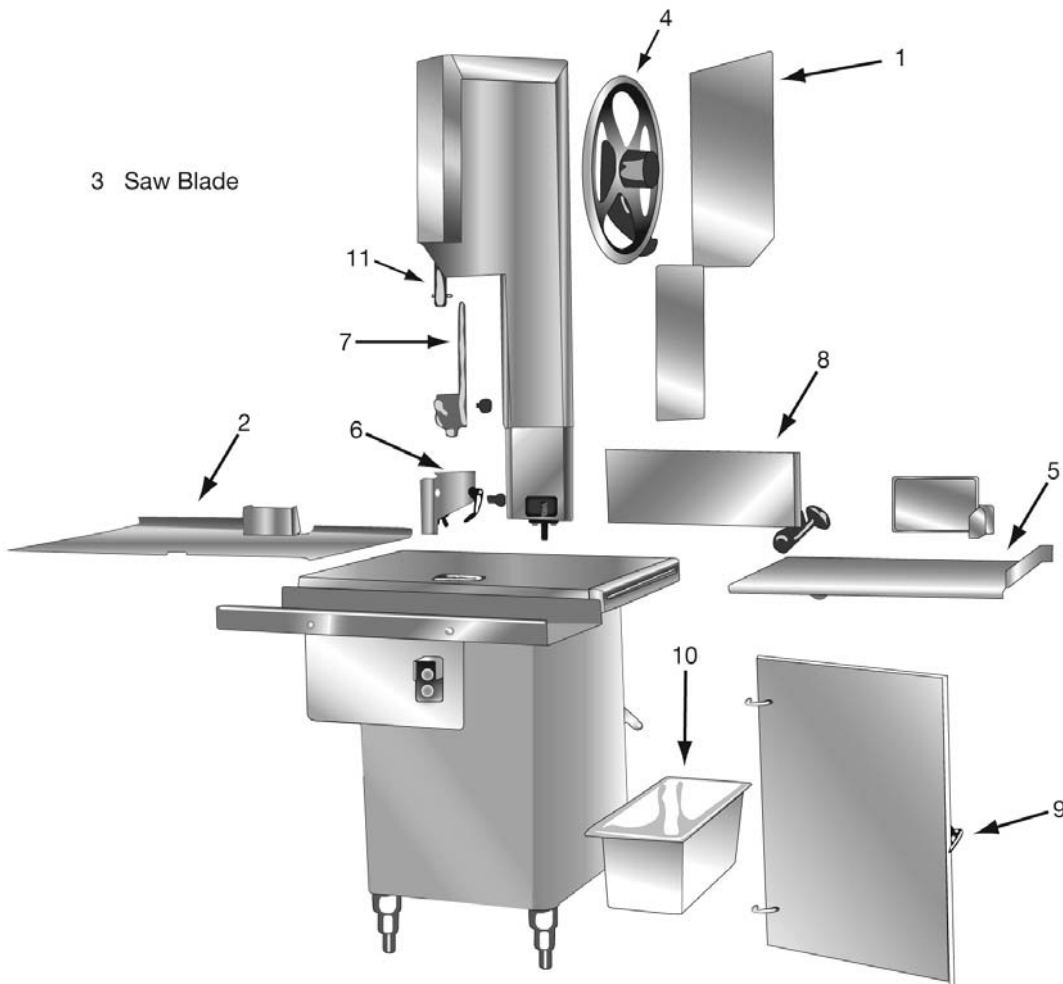
**ONLY** Use Recommended Cleaning Equipment, Materials and Procedures.

**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.



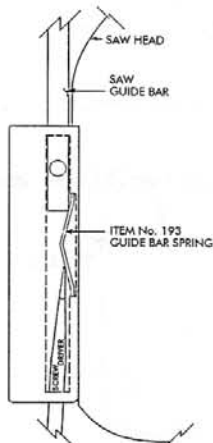
### DO NOT IMMERSE UPPER WHEEL ASSEMBLY IN WATER

- 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.



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 tolerance. 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 tolerance, 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.

— NOTE —  
USE SHELL CASSIDA  
GREASE EPS-2

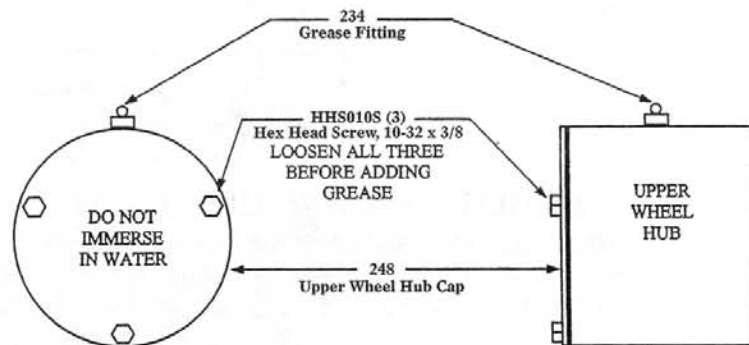
7. **MOTOR BEARINGS:** Bearing grease will lose its lubricating ability over time, not suddenly. The lubricating ability of a grease (over time) depends primarily on the type of grease, the size of the bearing, the speed at which the bearing operates and the severity of the operating conditions. Good results can be obtained if the following recommendations are used in your maintenance program.

A high grade ball or roller bearing grease should be used. Recommended grease for standard service conditions is Polyrex EM (Exxon Mobil).

Equivalent and compatible greases include: Texaco Polystar, Rykon Premium #2, Pennzoil Pen 2 Lube, and Chevron SRI.

Recommended lubrications intervals is every 9 months with the equivalent of two (2) teaspoons of grease.

### USE No. 374 GREASE FOR RE-GREASING SEE INSTRUCTIONS BELOW



When lubricating the upper wheel bearing it is important that the three hex head screws securing the upper wheel hub cap be loosened slightly before attempting to pump grease into the grease fitting. Loosening the screws allows for an escape of old broken down grease and air from the bearing cavity. Failure to loosen the screws before greasing the upper bearings can cause the upper shaft seal to be dislodged from the upper wheel allowing grease to escape and moisture to get into the cavity. When finished greasing the bearings, retighten the three screws. Take care to also clean off any grease that was pushed out of the cavity during greasing.

## 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)

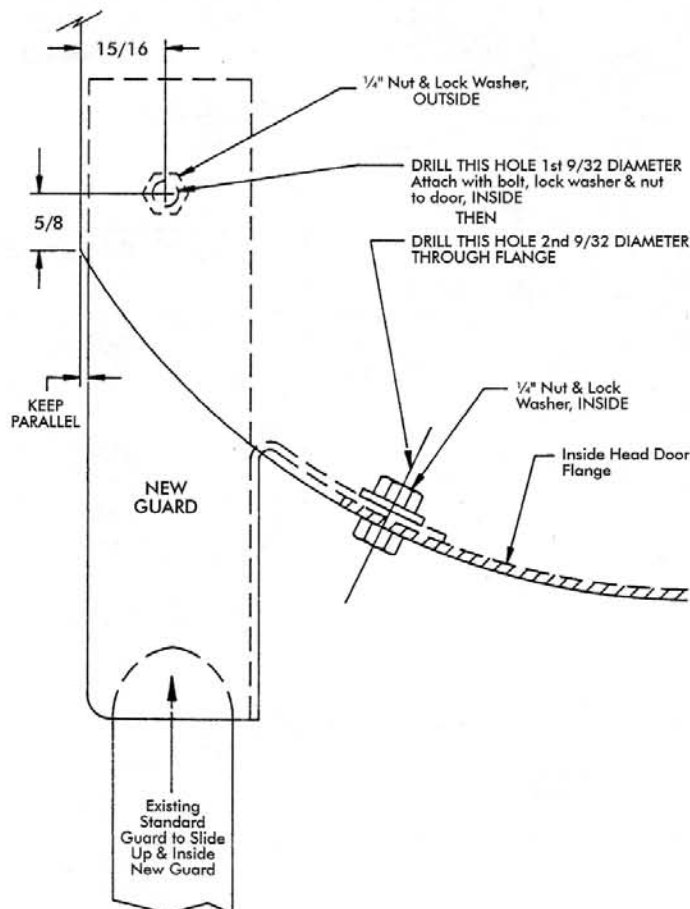
The SAW GUIDE BAR was not drilled across the width. The (Item #255MS) SAW GUARD was now attached to the (Item #211MS) FINGER LIFT. The (Item #17-0) SAW GUIDE BEARING BRACKET and (Item #228) SAW GUIDE BEARING were replaced by the (Item #601) SAW GUIDE BRACKET and the (Item #602B) UPPER SAW GUIDE. When 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 below) 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

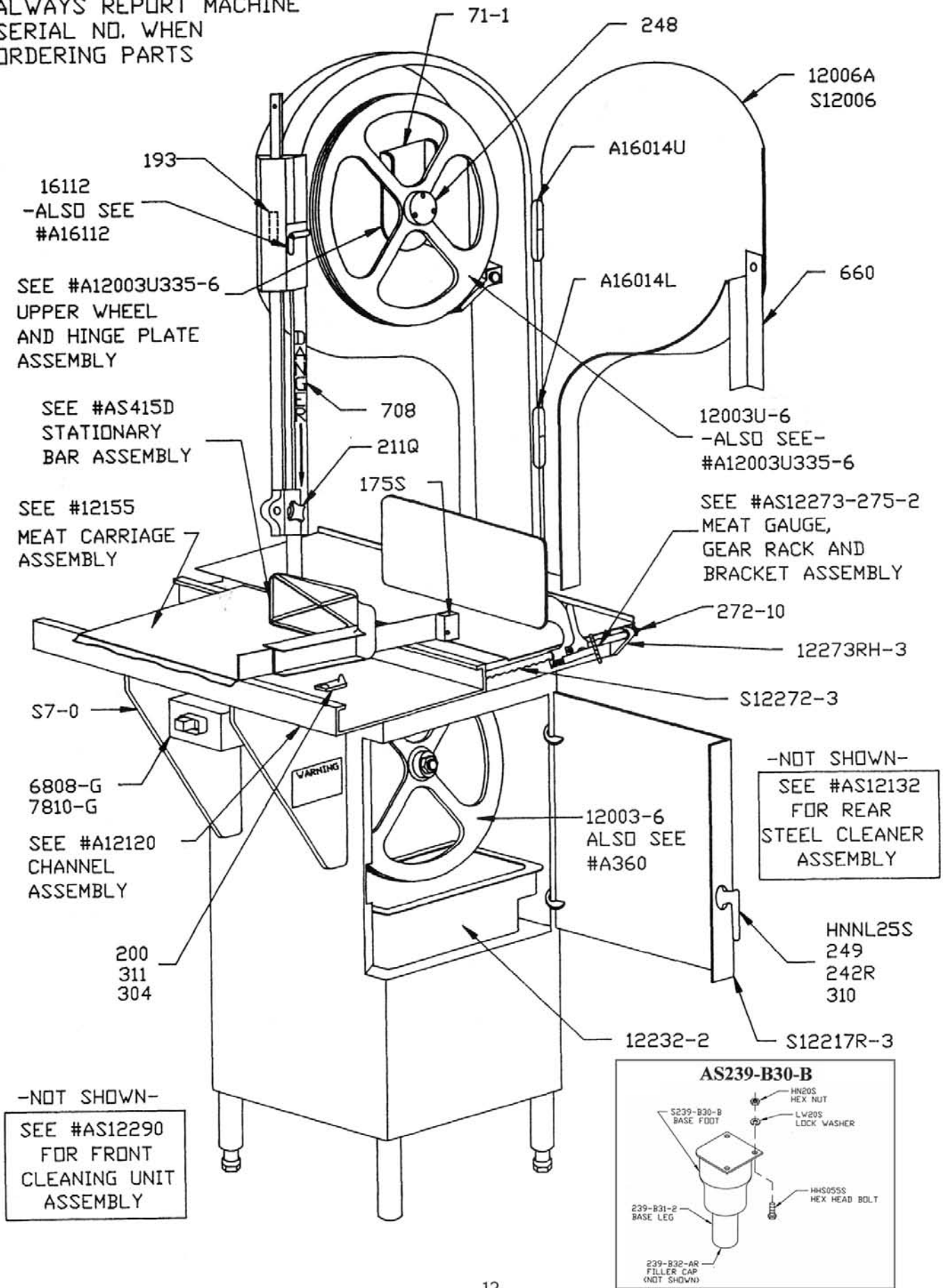
#### Instructions for Attaching New Guard for Use With Extended Saw Guide Bar on Older Machines

- 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.



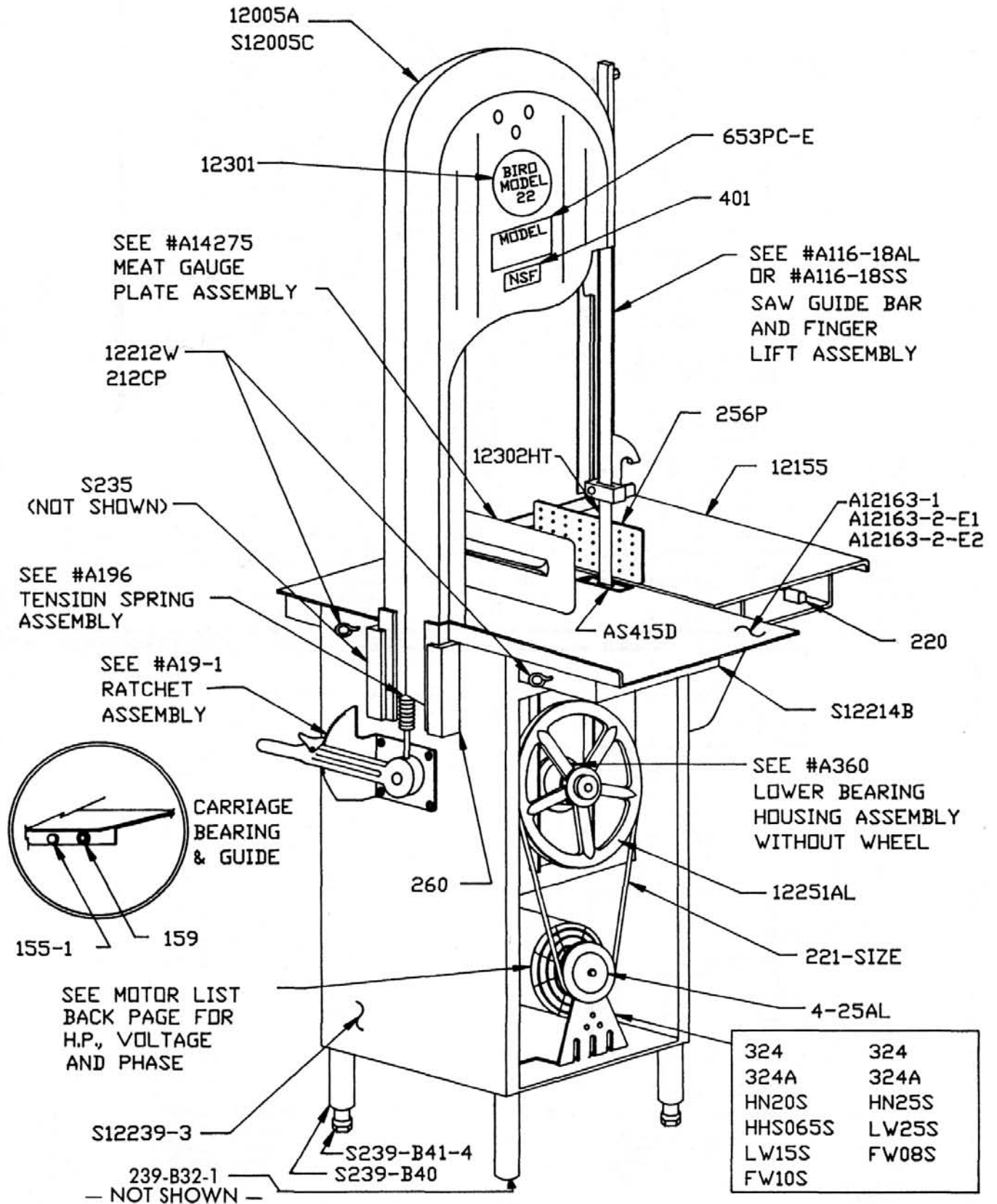
NOTE:  
 ALWAYS REPORT MACHINE  
 SERIAL NO. WHEN  
 ORDERING PARTS

SERIAL NO. 36101 DN

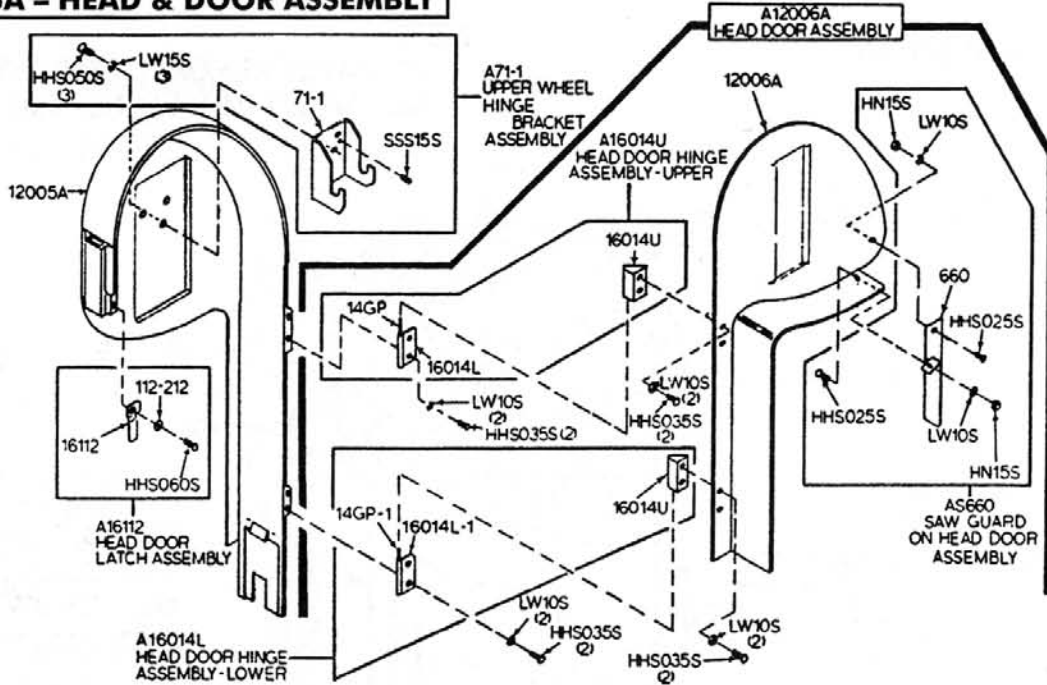


SERIAL NO. 35301 ON

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

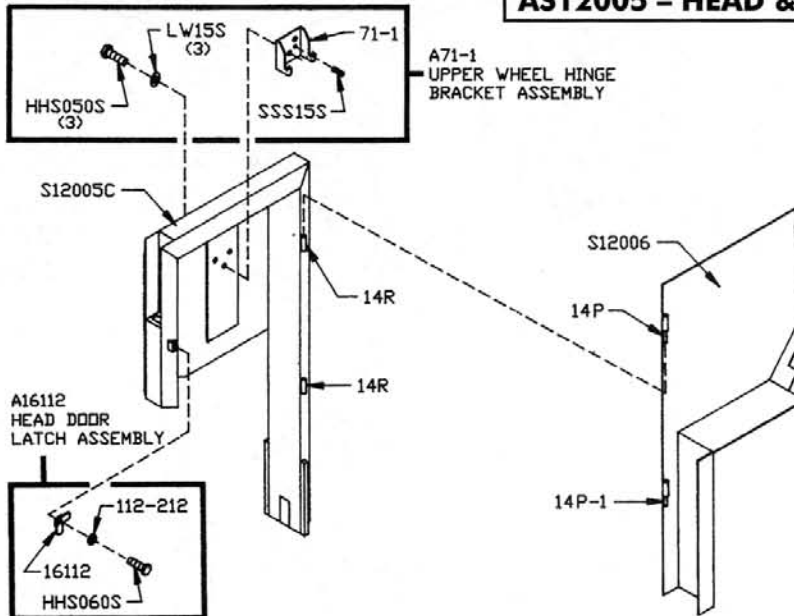


## A12005A - HEAD & DOOR ASSEMBLY

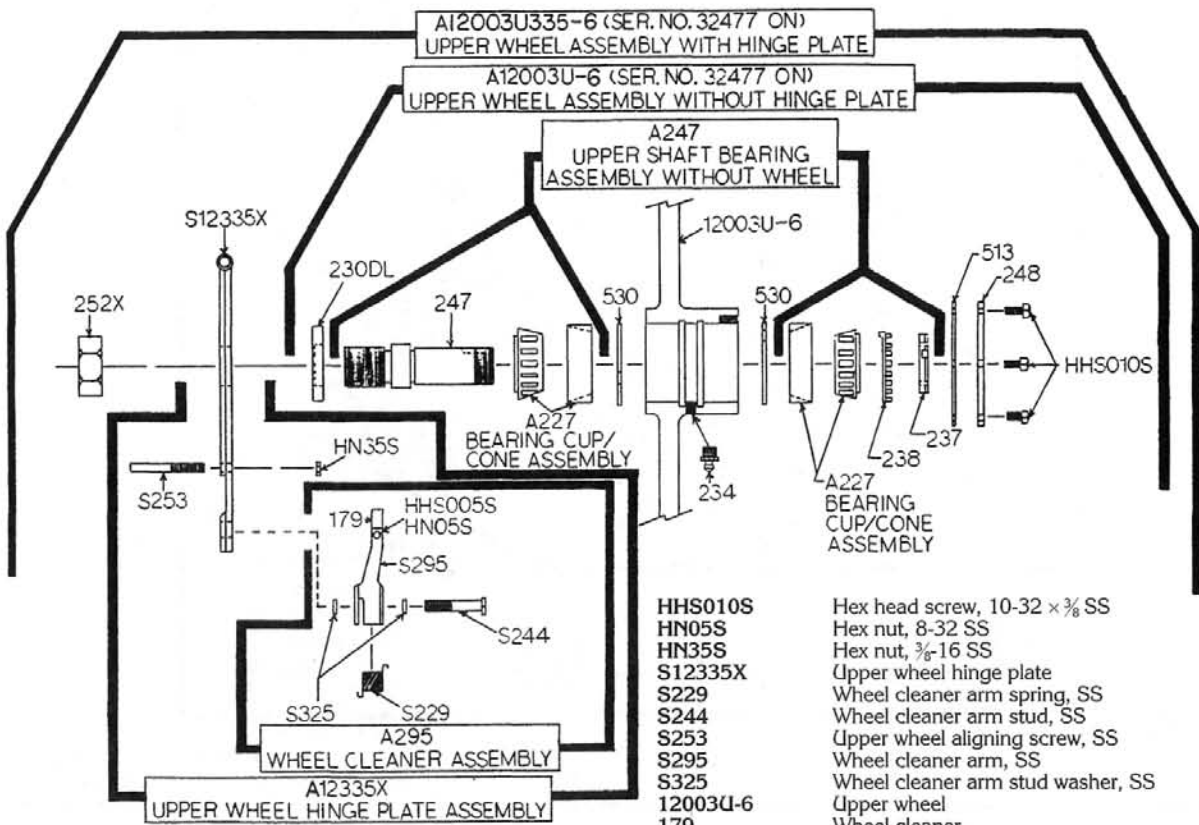


| Item No. | Description  | Item No. | Description   |
|----------|--|----------|---|
| A12005A  | Head & door assembly   | LW15S    | Lock washer, $\frac{5}{16}$ SS  |
| A12006A  | Head door assembly   | SSS15S   | Set screw, $\frac{5}{16}$ -18 $\times$ $\frac{5}{16}$ , cup point, SS |
| A16014L  | Head door hinge assembly, lower                                | 112-212  | Waved washer  |
| A16014U  | Head door hinge assembly, upper                                | 12005A   | Head, new style   |
| A16112   | Head door latch assembly                                       | 12006A   | Head door, new style (not sold separately)                            |
| A71-1    | Upper wheel hinge bracket assembly                             | 14GP     | Head door hinge pin, $1\frac{1}{2}$ "                                 |
| AS660    | Saw guard on head door assembly                                | 14GP-1   | Head door hinge pin, $1\frac{1}{4}$ "                                 |
| HHS025S  | Hex head screw, $\frac{1}{4}$ -20 $\times$ 1, SS               | 16014L   | Head door hinge, lower half (not sold separately)                     |
| HHS035S  | Hex head screw, $\frac{1}{4}$ -20 $\times$ $\frac{5}{8}$ , SS  | 16014L-1 | Head door hinge lower - short pin                                     |
| HHS050S  | Hex head screw, $\frac{5}{16}$ -18 $\times$ $\frac{5}{8}$ , SS | 16014U   | Head door hinge, upper half (not sold separately)                     |
| HHS060S  | Hex head screw, $\frac{5}{16}$ -18 $\times$ 1, SS              | 16112    | Head door latch   |
| HN15S    | Hex nut, $\frac{1}{4}$ -20 SS                                  | 660      | Saw guard on head door  |
| LW10S    | Lock washer, $\frac{1}{4}$ SS                                  | 71-1     | Upper wheel hinge bracket   |

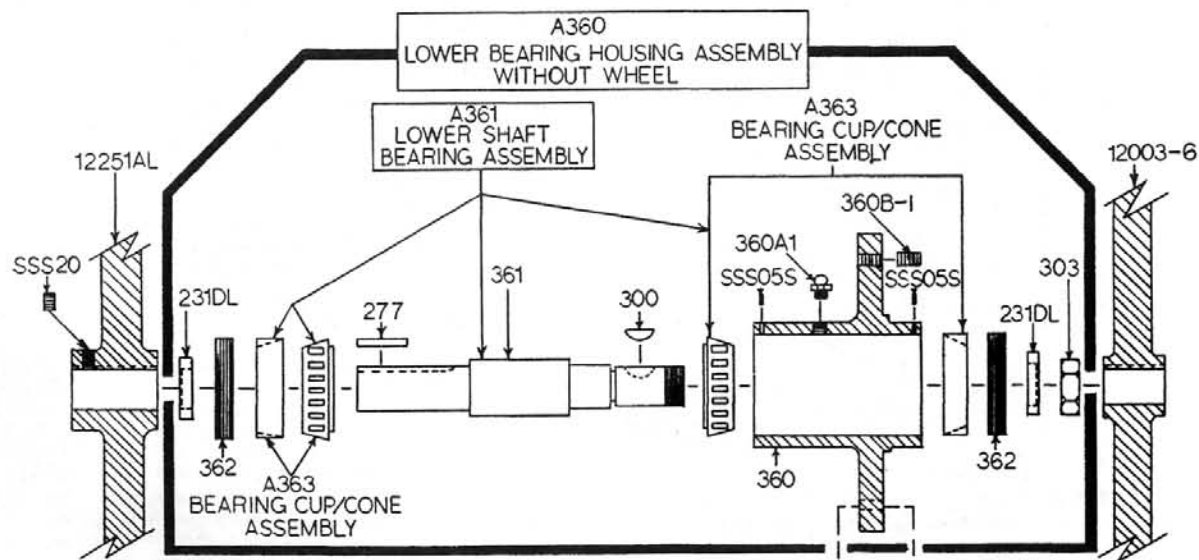
## AS12005 - HEAD & DOOR ASSEMBLY, SS



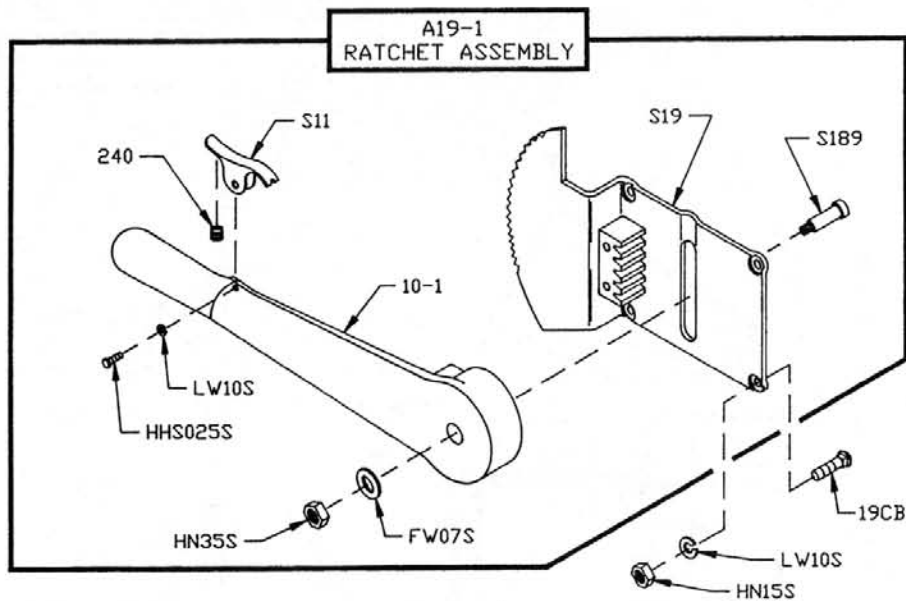
| Item No. | Description  | Item No. | Description   |
|----------|--|----------|---|
| A16112   | Head door latch assembly                                       | SSS15S   | Set screw, $\frac{5}{16}$ -18 $\times$ $\frac{5}{16}$ , cup point, SS |
| AS12005  | Head & door assembly, SS                                       | 14P      | Door hinge pin, long  |
| A71-1    | Upper wheel hinge bracket assembly                             | 14P-1    | Door hinge pin, short   |
| HHS050S  | Hex head screw, $\frac{5}{16}$ -18 $\times$ $\frac{7}{8}$ , SS | 14R      | Hinge receiver (not sold separately)                                  |
| HHS060S  | Hex head screw, $\frac{5}{16}$ -18 $\times$ $\frac{5}{8}$ SS   | 112-212  | Waved washer  |
| LW15S    | Lock washer, $\frac{5}{16}$ , SS                               | 16112    | Head door latch   |
| S12005C  | Head, SS   | 71-1     | Upper wheel hinge bracket   |
| S12006   | Head door, SS  |          |   |



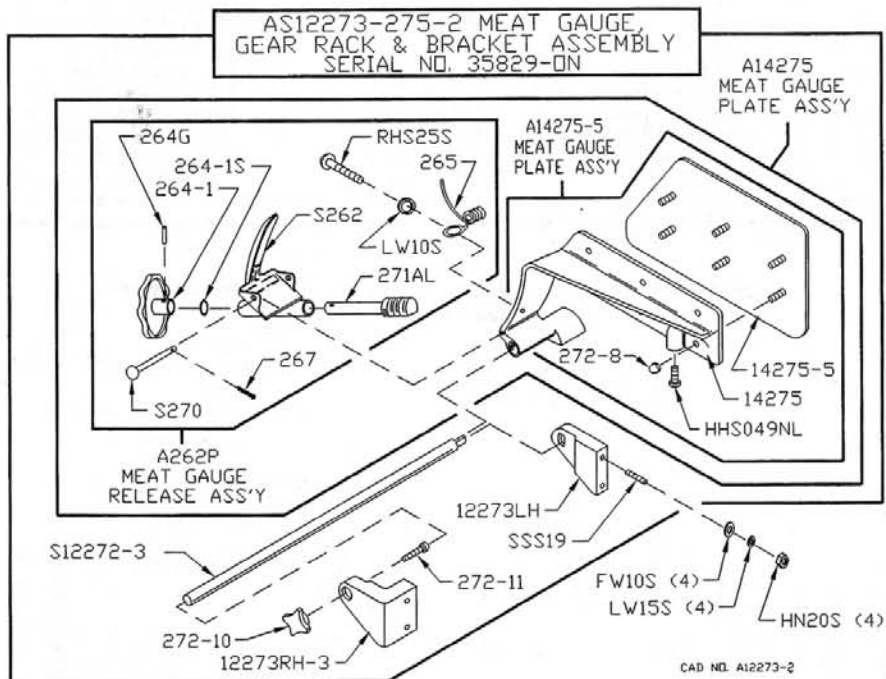
| Item No.     | Description                          | Item No. | Description                         |
|--------------|--------------------------------------|----------|-------------------------------------|
| A12003U335-6 | Upper wheel assembly w/hinge plate   | 230DL    | Upper shaft seal, double lip        |
| A12003U-6    | Upper wheel assembly w/o hinge plate | 234      | Grease fitting                      |
| A12335X      | Upper wheel hinge plate assembly     | 237      | Upper shaft castellated lock nut    |
| A227         | Upper bearing cup/cone assembly      | 238      | Upper shaft castellated lock washer |
| A247         | Upper shaft bearing assembly         | 247      | Upper shaft                         |
| A295         | Wheel cleaner assembly               | 248      | Upper wheel hub cap                 |
| HHS005S      | Hex head screw, 8-32 x 1/2 SS        | 252X     | Upper shaft nut                     |
|              |                                      | 513      | Upper wheel hub gasket              |
|              |                                      | 530      | Retaining ring (2 req.)             |
|              |                                      | HHS010S  | Hex head screw, 10-32 x 3/8 SS      |
|              |                                      | HN05S    | Hex nut, 8-32 SS                    |
|              |                                      | HN35S    | Hex nut, 3/8-16 SS                  |
|              |                                      | S12335X  | Upper wheel hinge plate             |
|              |                                      | S229     | Wheel cleaner arm spring, SS        |
|              |                                      | S244     | Wheel cleaner arm stud, SS          |
|              |                                      | S253     | Upper wheel aligning screw, SS      |
|              |                                      | S295     | Wheel cleaner arm, SS               |
|              |                                      | S325     | Wheel cleaner arm stud washer, SS   |
|              |                                      | 12003U-6 | Upper wheel                         |
|              |                                      | 179      | Wheel cleaner                       |
|              |                                      | 230DL    | Upper shaft seal, double lip        |
|              |                                      | 234      | Grease fitting                      |
|              |                                      | 237      | Upper shaft castellated lock nut    |
|              |                                      | 238      | Upper shaft castellated lock washer |
|              |                                      | 247      | Upper shaft                         |
|              |                                      | 248      | Upper wheel hub cap                 |
|              |                                      | 252X     | Upper shaft nut                     |
|              |                                      | 513      | Upper wheel hub gasket              |
|              |                                      | 530      | Retaining ring (2 req.)             |



| Item No. | Description                              | Item No. | Description                        |
|----------|--|----------|------------------------------------|
| A360     | Lower bearing housing assembly w/o wheel | 277      | Lower shaft pulley key             |
| A361     | Lower shaft bearing assembly             | 300      | Woodruff key                       |
| A363     | Lower bearing cup/cone assembly          | 303      | Lower shaft nut                    |
| HN25S    | Hex nut, 3/8-16 SS                       | 360      | Lower bearing housing              |
| LW25S    | Lock washer, 3/8 SS                      | 360A1    | Grease fitting                     |
| SSS05S   | Set screw, 10-24 x 3/8 SS, cup point     | 360B-1   | Set screw, 1/2-13 x 1/2 flat point |
| SSS20    | Set screw, 3/8-16 x 1/4 cup point        | 361      | Lower shaft                        |
| S360CB-1 | Carriage bolt, 3/8-16 x 1 1/4 SS         | 362      | Lower bearing housing adj. cap     |
| 12003-6  | Lower wheel                              |          |                                    |
| 12251AL  | Upper V-belt pulley, 9 x 1               |          |                                    |
| 231DL    | Lower shaft seal, double lip             |          |                                    |



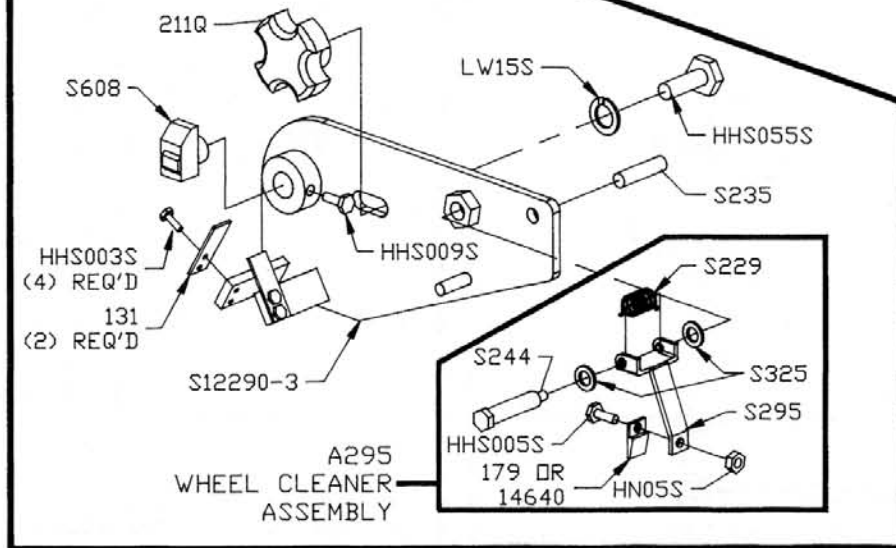
| Item No. | Description                     | Item No. | Description                   |
|----------|---------------------------------|----------|-------------------------------|
| A19-1    | Ratchet assembly                | S11      | Ratchet trigger SS            |
| FW07S    | Flat washer, 3/8 SS             | S189     | Ratchet arm stud SS           |
| HHS025S  | Hex head screw, 1/4-20 x 1/2 SS | S19      | ratchet base SS               |
| HN15S    | Hex nut, 1/4-20 SS              | 10-1     | Ratchet arm                   |
| HN35S    | Hex nut, 3/8-16 SS              | 19CB     | Carriage bolt 1/4-20 x 3/4 SS |
| LW10S    | Lock washer, 1/4 SS             | 240      | Ratchet trigger spring        |



| Item No.      | Description                                     | Item No.  | Description                             |
|---------------|---|-----------|---|
| AS12273-275-2 | Meat gauge assembly S/N 35301 on                | S265      | Meat gauge release spring, SS           |
| A14275        | Meat gauge plate assembly w/release assembly    | S270      | Meat gauge release pin w/whole, SS      |
| A14275-5      | Meat gauge plate assembly less release assembly | 12273LH   | Meat gauge brkt. - LH, S/N 35301 on     |
| A262          | Meat gauge release assembly                     | 12273RH-3 | Meat gauge brkt. - RH, S/N 35829 on     |
| FW10S         | Flat washer, 5/16 SS                            | 14275     | Meat gauge arm                          |
| HHS035S       | Hex head screw 1/4-20 x 5/8, SS                 | 14275-5   | Meat gauge plate, SS                    |
| HN20S         | Hex nut, 5/16-18 SS                             | 264G      | Meat gauge hand wheel groove pin        |
| HHS049NL      | Hex screw - Nylox 5/16-18 x 1/2                 | 264-1     | Meat gauge hand wheel                   |
| LW10S         | Lock washer, 1/4 SS                             | 264-1S    | Hand wheel shim                         |
| LW15S         | Lock washer, 5/16 SS                            | 267       | Meat gauge release cotter key           |
| SSS19         | Set screw, cup point, 5/16-18 x 1 1/2, SS       | 271AL     | Meat gauge worm gear, aluminum          |
| S12272-3      | Meat gauge gear rack, S/N 35829 on              | 272-8     | Cap nut, 5/16-18 SS                     |
| S262          | Meat gauge release handle, SS                   | 272-9     | Hex head screw, 5/16-18 x 2 SS          |
|               |   | 272-10    | Lock knob 3/8-16, 4 point               |
|               |   | 272-11    | Allen head cap screw 3/8-16 x 1 1/2 lg. |



AS12290-3  
CLEANING UNIT  
ASSEMBLY  
SERIAL NO. 36101 ON

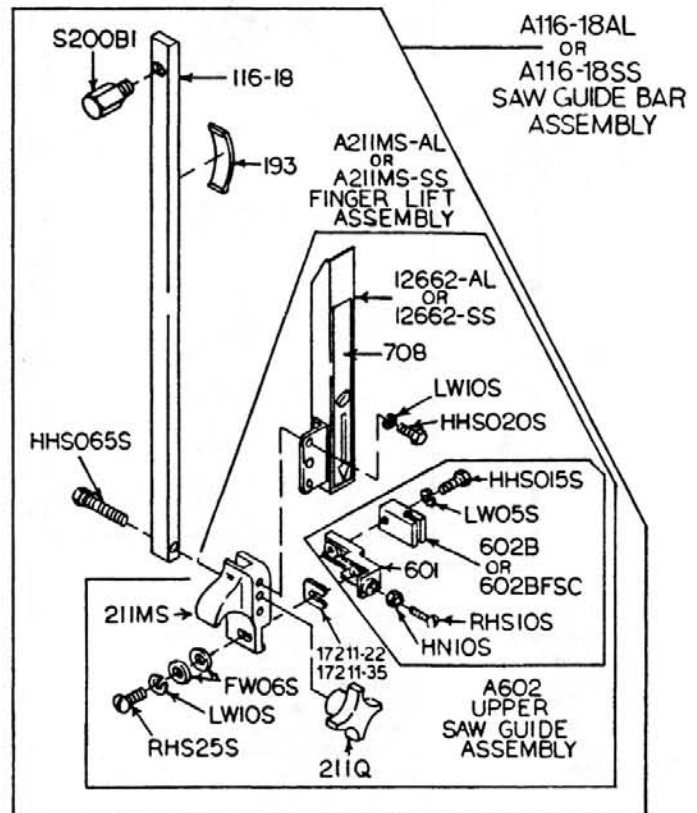


| Item No.  | Description                           |
|-----------|---------------------------------------|
| AS12290-3 | Cleaning unit assembly                |
| A295      | Wheel cleaner assembly                |
| HHS003S   | Hex head screw, 8-32 x 1/4 trimmed SS |
| HHS005S   | Hex head screw, 8-32 x 1/2 SS         |
| HHS009S   | Hex head screw, 10-24 x 1/4 SS        |
| HHS055S   | Hex head screw, 5/16-18 x 3/4 SS      |
| HN05S     | Hex nut, 8-32 SS                      |
| LW15S     | Lock washer, 5/16 SS                  |
| S12290-3  | Cleaning unit                         |
| S229      | Wheel cleaner arm spring, SS          |
| S235      | Taper pin, #4 x 3/4 SS                |

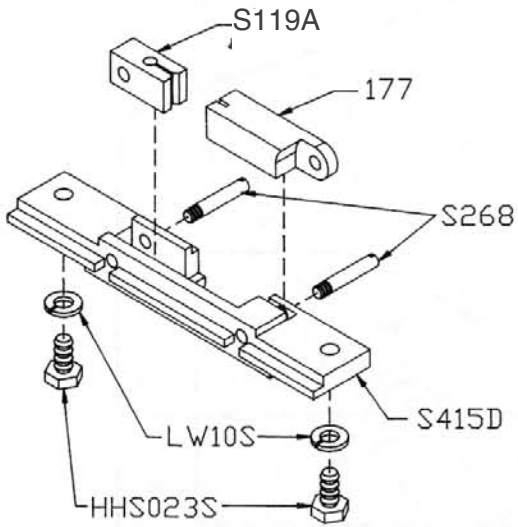
| Item No.  | Description                                |
|-----------|--|
| S244      | Wheel cleaner arm stud, SS                 |
| S295      | Wheel cleaner arm, SS                      |
| S325      | Wheel cleaner arm stud washer, SS          |
| S608      | Saw back up guide w/607 carbide            |
| 131       | Blade cleaner, SS                          |
| 131N      | Blade cleaner, nyleen                      |
| 131SHORT  | Blade cleaner, SHORT SS, 1 1/16 LG         |
| 131SS/NYL | Blade cleaner combo, short, SS, STD Nyleen |
| 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                  |
| FW06S     | Flat washer, 1/4 SS                       |
| HHS015S   | Hex head screw, 10-32 x 7/8 SS            |
| HHS020S   | Hex head screw, 1/4-20 x 3/8 SS           |
| HHS065S   | Hex head screw, 5/16-18 x 1 1/2 SS        |
| HN10S     | Hex nut, 10-32 SS                         |
| LW05S     | Lock washer, #10 SS                       |
| LW10S     | Lock washer, 1/4 regular, 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                   |
| 602BFSC   | Upper saw guide, fish                     |
| 602B      | Upper saw guide                           |
| 708       | Decal, danger exposed blade               |

| 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                  |
| FW06S     | Flat washer, 1/4 SS                       |
| HHS015S   | Hex head screw, 10-32 x 7/8 SS            |
| HHS020S   | Hex head screw, 1/4-20 x 3/8 SS           |
| HHS065S   | Hex head screw, 5/16-18 x 1 1/2 SS        |
| HN10S     | Hex nut, 10-32 SS                         |
| LW05S     | Lock washer, #10 SS                       |
| LW10S     | Lock washer, 1/4 regular, 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                   |
| 602BFSC   | Upper saw guide, fish                     |
| 602B      | Upper saw guide                           |
| 708       | Decal, danger exposed blade               |

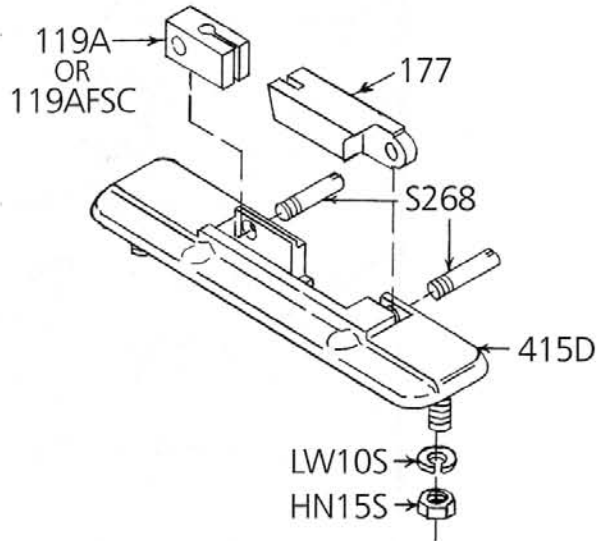


**AS415D  
STATIONARY BAR ASSEMBLY**



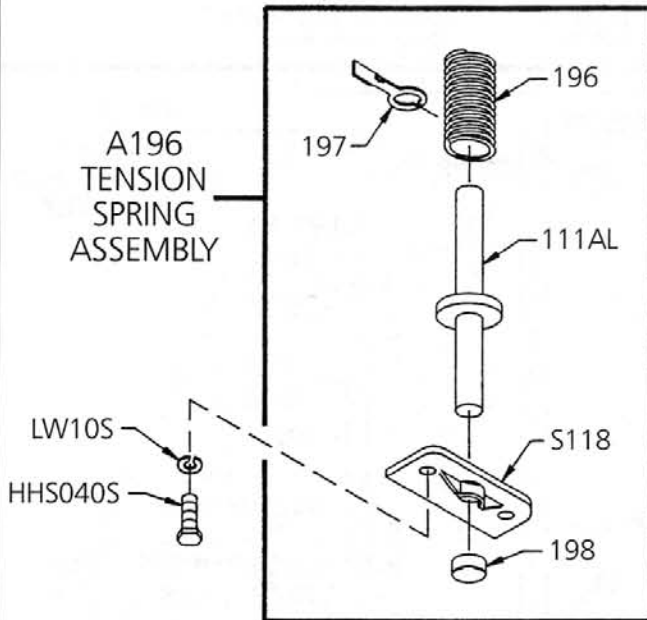
| Item No. | Description                       |
|----------|-----------------------------------|
| AS415D   | Stationary bar assembly, 35301 on |
| HHS023S  | Hex head screw, ¼-20 x ¾, SS      |
| LW10S    | Lock washer, ¼ SS                 |
| S268     | Stationary bar headless screw     |
| S119A    | Saw guide-stainless               |
| 177      | Nylon filler                      |
| S415D    | Stationary bar, 35301 on          |

**A415D  
STATIONARY BAR ASSEMBLY**



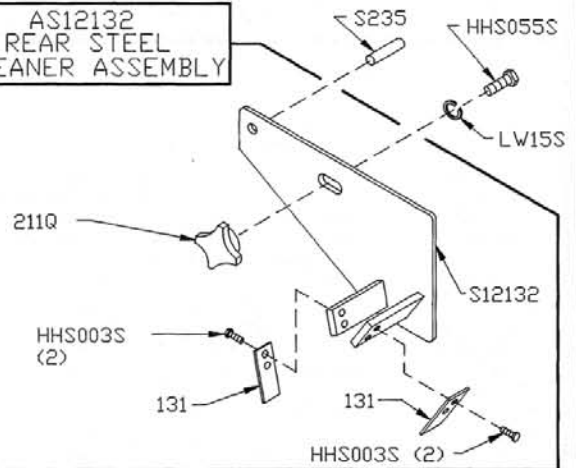
| Item No. | Description                   |
|----------|-------------------------------|
| A415D    | Stationary bar assembly       |
| AS415D   | Stationary bar assembly SS    |
| HN15S    | Hex nut, ¼-20 SS              |
| LW10S    | Lock washer, ¼ SS             |
| S268     | Stationary bar headless screw |
| S415D    | Stationary bar SS             |
| 119A     | Saw guide in stationary bar   |
| 177      | Nylon filler                  |
| 415D     | Stationary bar                |

**A196  
TENSION  
SPRING  
ASSEMBLY**



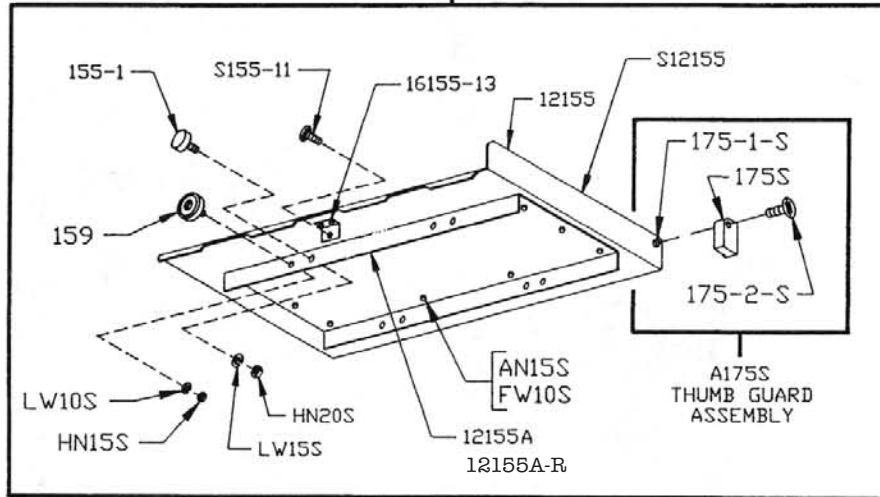
| Item No. | Description                 |
|----------|-----------------------------|
| A196     | Tension spring assembly     |
| HHS040S  | Hex head screw, ¼-20 x ¾ SS |
| LW10S    | Lock washer, ¼ SS           |
| S118     | Tension spring plate, SS    |
| 111AL    | Tension spring pin, al.     |
| 196      | Saw tension spring          |
| 197      | Tension spring gauge        |
| 198      | Tension pin cap             |

**AS12132  
REAR STEEL  
CLEANER ASSEMBLY**



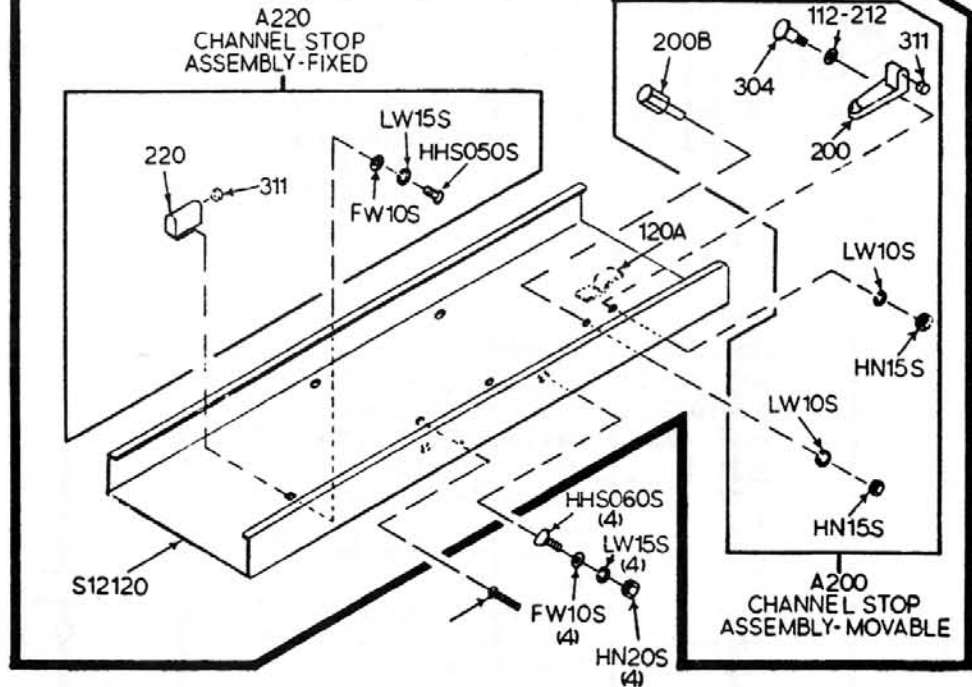
| Item No. | Description                            |
|----------|--|
| AS12132  | Steel cleaner assembly, rear, 35301 on |
| HHS003S  | Hex head screw, 8-32 x ¼ SS            |
| HHS055S  | Hex head screw, ¾-18 x ¾ SS            |
| LW15S    | Lock washer, ¾ SS                      |
| S12132   | Cleaning unit, rear                    |
| S235     | Taper pin, #4 x ¾ SS                   |
| 131      | Saw cleaner, SS, 35301 on              |
| 211Q     | Lock knob, ¾-18, 4 point               |

### A12155 MEAT CARRIAGE ASSEMBLY

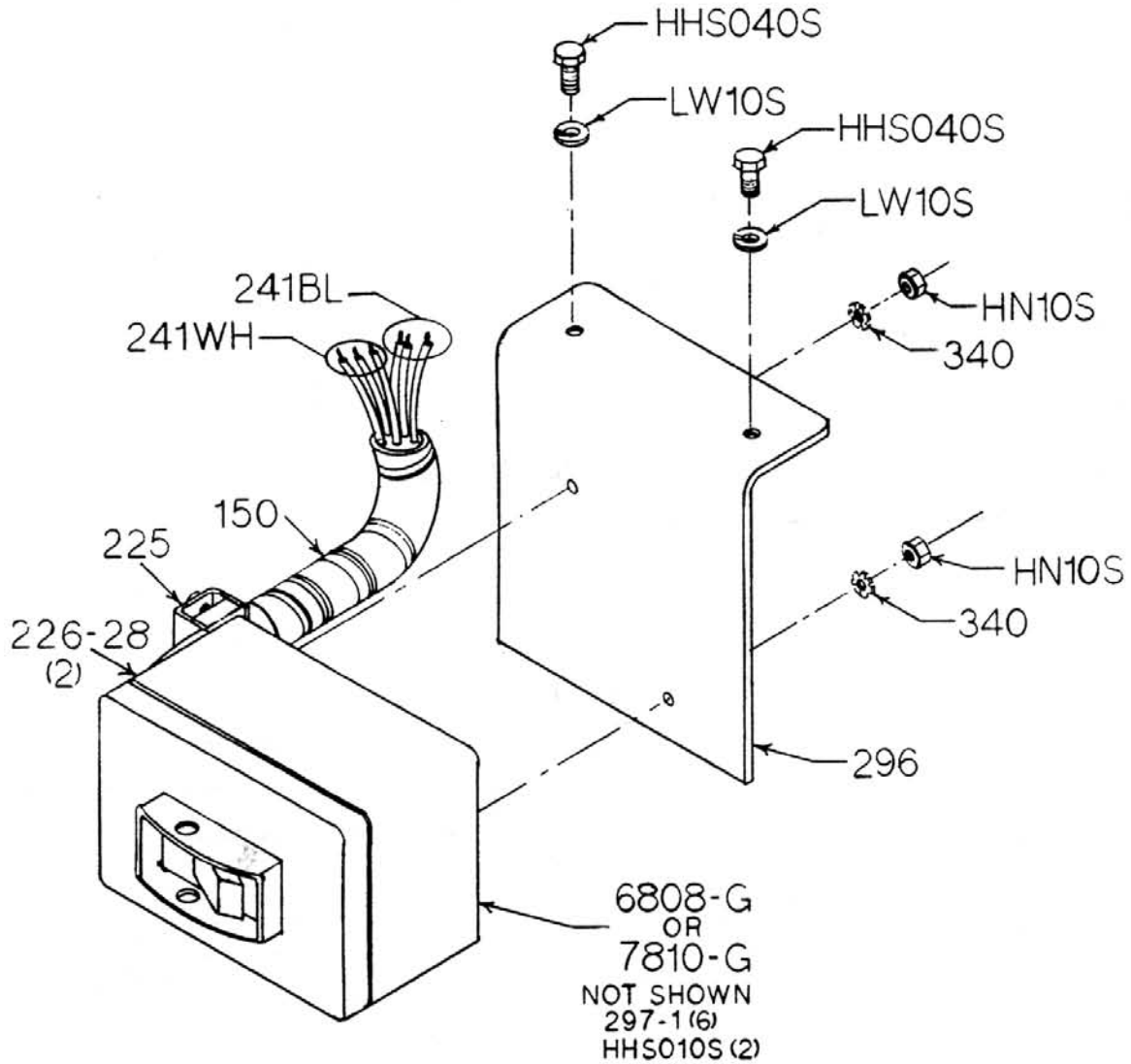


| Item No. | Description                    | Item No. | Description                           |
|----------|--------------------------------|----------|---------------------------------------|
| A12155   | Meat carriage assembly         | 12155    | Meat carriage top & angle + stop      |
| A175S    | Thumb guard assembly           | 12155A   | Meat carriage guide only with stop    |
| AN15S    | Acorn nut, SS, 1/4-20          | 12155A-R | Meat carriage angle only without stop |
| FW10S    | Flat washer, 3/16 SS           | 155-1    | Meat carriage guide                   |
| HN15S    | Hex nut, 1/4-20 SS             | 155-3    | Meat carriage guide spacer, .025      |
| HN20S    | Hex nut, 3/16-18 SS            | 155-4    | Meat carriage guide spacer, .040      |
| LW10S    | Lock washer, 1/4 SS            | 159      | Meat carriage bearing                 |
| LW15S    | Lock washer, 3/16 SS           | 16155-13 | Carriage stop angle                   |
| S12155   | Meat carriage top only         | 175S     | Thumb guard, nylon                    |
| S155-11  | Meat carriage stop thumb screw | 175-1-S  | Thumb guard nut SS                    |
|          |                                | 175-2-S  | Thumb screw, 1/4-20 x 1/2             |

### A12120 CHANNEL ASSEMBLY 31.5"

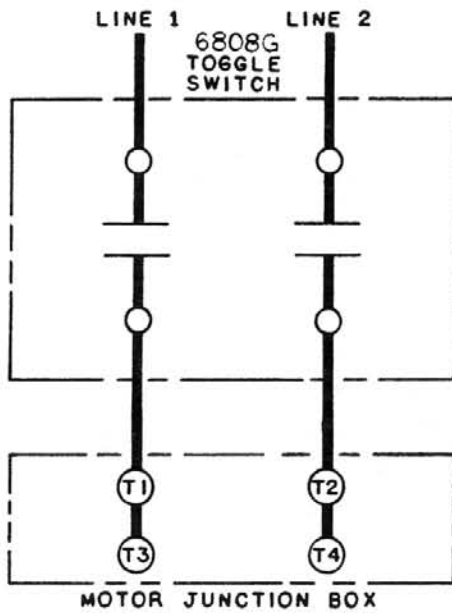


| Item No. | Description                       | Item No. | Description                  |
|----------|-----------------------------------|----------|------------------------------|
| A12120   | Channel assembly, 31.5"           | LW15S    | Lock washer, 3/16 SS         |
| A200     | Carriage stop assembly, movable   | S12120   | Channel, 31.5", SS           |
| A220     | Carriage stop assembly, fixed     | 112-212  | Waved washer                 |
| FW10S    | Flat washer, 3/16 SS              | 120A     | Pusher plate clamp, welded   |
| HHS050S  | Hex head screw, 3/16-18 x 3/8, SS | 200      | Carriage stop, movable       |
| HHS060S  | Hex head screw, 3/16-18 x 1, SS   | 200B     | Stop stud carriage stop      |
| HN15S    | Hex nut, 1/4-20 SS                | 220      | Carriage stop, fixed         |
| HN20S    | Hex nut, 3/16-18 SS               | 304      | Shoulder screw carriage stop |
| LW10S    | Lock washer, 1/4 SS               | 311      | Carriage stop rubber bumper  |

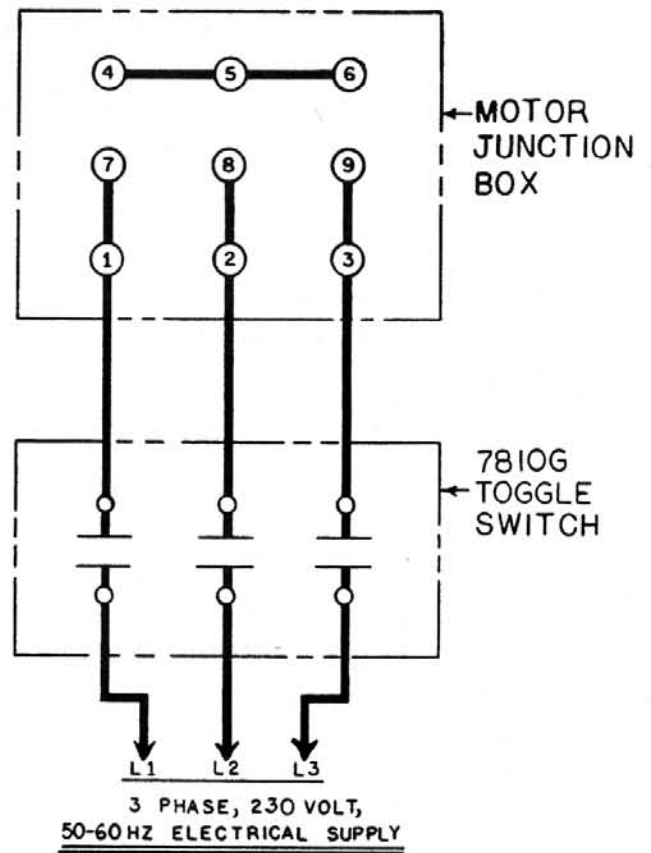
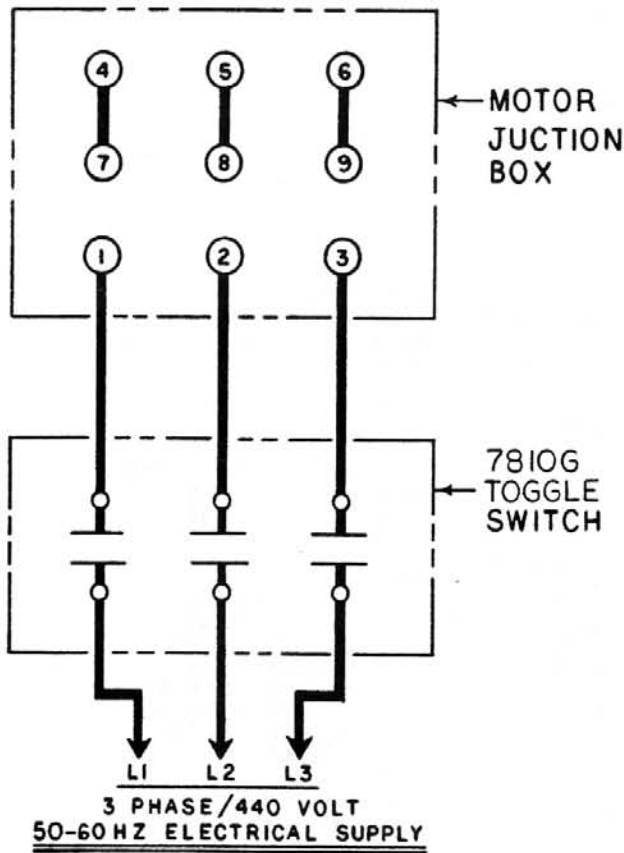
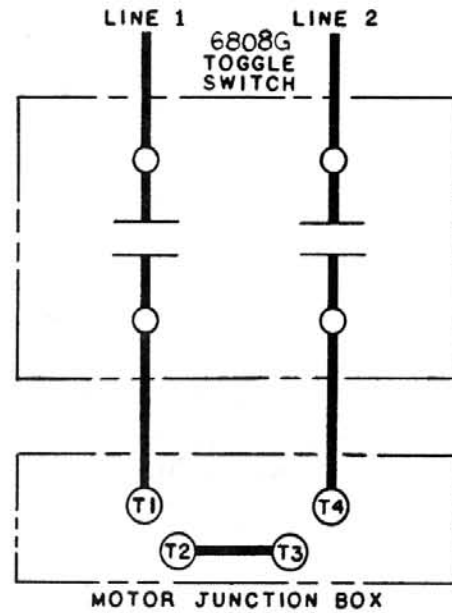


| Item No.   | Description                     |
|------------|---------------------------------|
| A6808-G-12 | Toggle switch assembly, 1PH     |
| A7810-G-12 | Toggle switch assembly, 3PH     |
| HHS040S    | Hex head screw, 1/4-20 x 3/4 SS |
| HN10S      | Hex nut, 10-32 SS               |
| LW10S      | 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



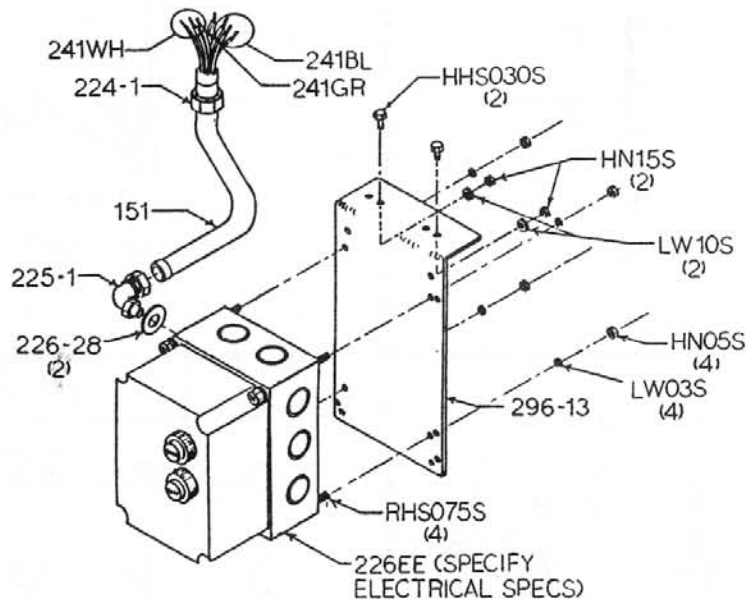
220-230 VOLTS





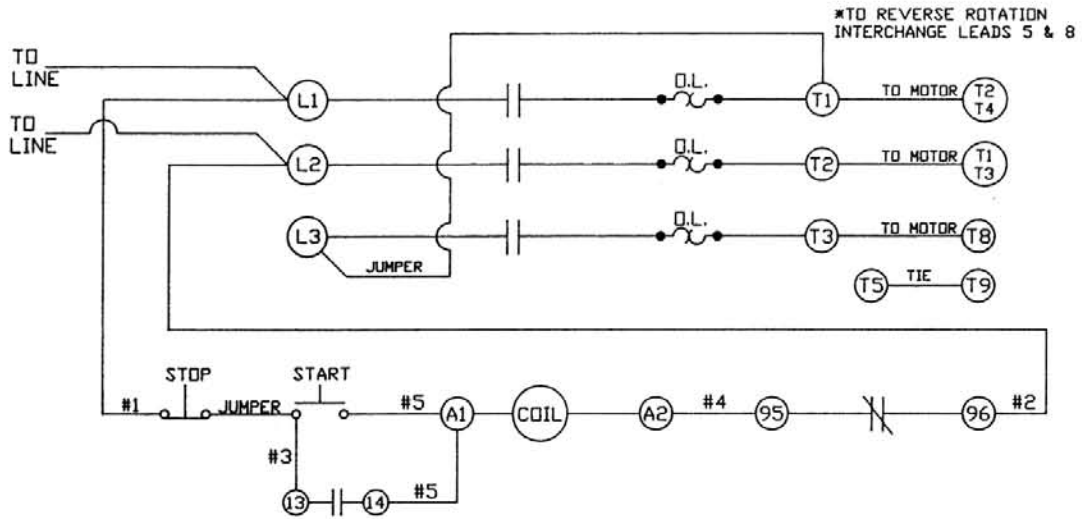
**WATERTIGHT MAGNETIC SWITCH ASSEMBLIES  
(AEG)  
INCLUDES MOUNTING BRACKET AND WIRES**

| Item No.      | Description  |
|---------------|--|
| A22612EE-5021 | BAEG/MS-PBF/A18, 1HP, 104/115-50/60-1              |
| A22612EE-506  | BAEG/MS-PBF/05-C6.3, 1HP,<br>208/220/230-50/60-3   |
| A22612EE-508  | BAEG/MS-PBF/05-E2.4, 1HP, 440/460-60-3             |
| A22612EE-510  | BAEG/MS-PBF/05-D3.2, 1HP, 380/415-50-3             |
| A22612EE-5141 | BAEG/MS-PBF/05-CS10.5, 1HP,<br>208/220/230-50/60-1 |
| A22612EE-514F | BAEG/MS-PBF/05-C8, 1.5-2HP,<br>208/220/230-60-3    |
| A22612EE-516F | BAEG/MS-PBF/05-E4.7, 1.5-2HP, 440/460-3            |
| A22612EE-518F | BAEG/MS-PBF/05-D4.7, 1.5-2HP, 380-3                |
| A22612EE-5201 | BAEG/MS-PBF/A26, 1.5-2HP, 104/115-50/60-1          |
| A22612EE-5221 | BAEG/MS-PS/05-CS14, 1.5HP, /230-50/60-1            |

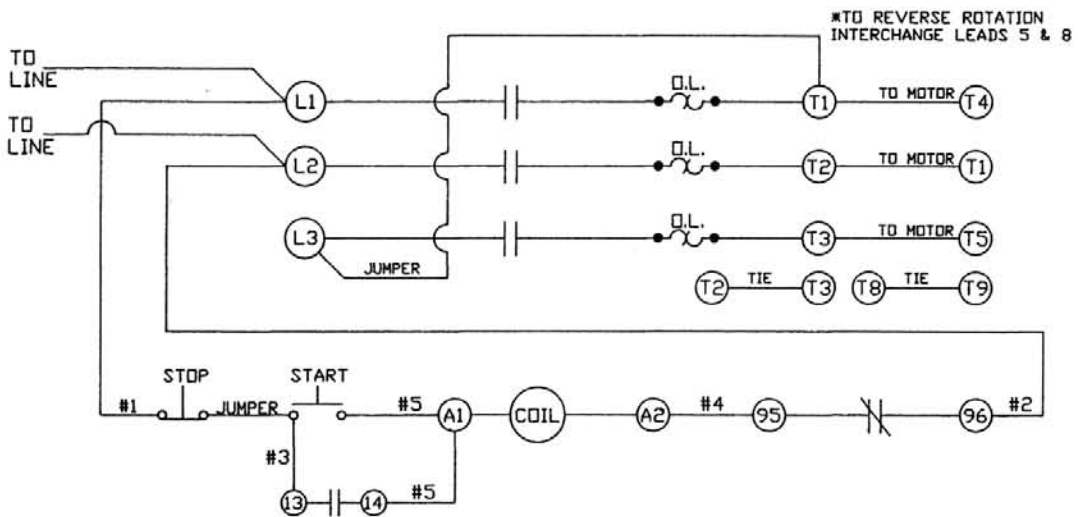


| Item No.      | Description                                       | Item No.        | Description                      |
|---------------|---|-----------------|----------------------------------|
| 151           | Watertight conduit                                | 226EE-A011K     | Contactors, LS11K.11S-AO, 120V   |
| 225-1         | Conduit connector, WT, 90°                        | 226EE-C0        | Contactors, LS05.10-CO, 208-230V |
| 226-28        | Washer, 1½ × 27/32 SS                             | 226EE-D0        | Contactors, LS05.10-DO, 380-415V |
| 226EE-22PB-GF | Start pushbutton, 22MM flush w/no contact block   | 226EE-ENCL-PB22 | Enclosure with 22MM button holes |
| 226EE-22PB-RE | Stop pushbutton, 22MM extended w/no contact block | 226EE-ENCL-PB30 | Enclosure with 30MM button holes |
| 226EE-5021    | BAEG/MS-PBF/A18, 1HP, 104/115-50/60-1             | 226EE-EO        | Contactors, LS05.10-EO 440-480V  |
| 226EE-506     | BAEG/MS-PBF/05-C6.3 1HP, 220-50/60-3              | 226EE-OL02.4H   | Overload, B05-H, 1.7-2.4A        |
| 226EE-508     | BAEG/MS-PBF/05-E2.4, 1HP, 440/460-60-3            | 226EE-OL03.2IN  | Overload, B05-IN, 2.2-3.2A       |
| 226EE-510     | BAEG/MS-PBF/05-D3.2, 1HP, 380/415-50-3            | 226EE-OL04.7JN  | Overload, B05-JN, 3-4.7A         |
| 226EE-5141    | BAEG/MS-PBF/05-CS10.5, 1HP, 208/220/230-50/60-1   | 226EE-OL06.3K   | Overload, B05-K, 4-6.3A          |
| 226EE-514F    | BAEG/MS-PBF/05-C8 1½-2hp, 220/50/60-3             | 226EE-OL08L     | Overload, B05-L, 5.5-8A          |
| 226EE-516F    | BAEG/MS-PBF/05-E4.7, 1.5-2HP, 440/60-3            | 226EE-OL10.5M   | Overload, B05-M, 7.5-10.5A       |
| 226EE-518F    | BAEG/MS-PBF/05-D4.7, 1.5-2HP, 380/50-3            | 226EE-OL14NN    | Overload, B05-NN, 10-14A         |
| 226EE-5201    | BAEG/MS-PBF/A26, 1.5-2HP, 104/115-50/60-1         | 226EE-OL18O     | Overload, B18K-O, 14.5-18A       |
| 226EE-5221    | BAEG/MS-PS/05-CS14, 1.5HP, 208/220/230-50/60-1    | 226EE-OL26ON    | Overload B18K-ON, 21-26A         |
|               |   | 241BL           | Wire, black, 12 GA., CSA & UL    |
|               |   | 241GR           | Wire, green, 12 GA., CSA & UL    |
|               |   | 241WH           | Wire, white, 12 GA., CSA & UL    |
|               |   | 296-13          | Switch bracket SS                |
|               |   | HN05S           | Hex nut, 8-32 SS                 |
|               |   | LW03S           | Lock washer, #8 SS               |
|               |   | RHS075S         | Round head screw, 8-32 × ¾ SS    |

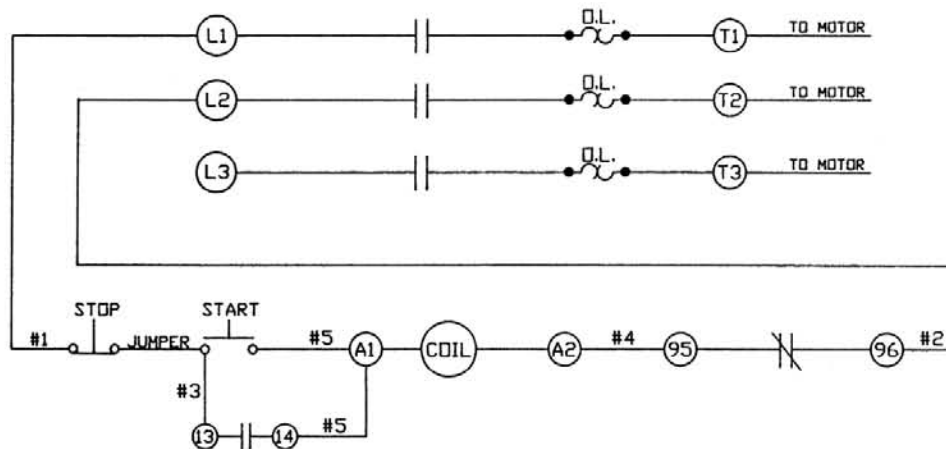
MODEL 22 SCHEMATIC USING 1 PH AEG W.T. SWITCH  
 FOR 115 VOLTS, SINGLE PHASE, 60 CYCLE BALDOR TOTALLY ENCLOSED MOTOR  
 TO ELIMINATE BRAKING EFFECT OF MOTOR AFTER STOP IS ENGAGED



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



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



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

| Item No.          | Description   | Item No.  | Description                           |
|-------------------|---|-----------|---------------------------------------|
| M34-35U022X232G1B | Motor, 1½HP, 220/440-50/60-3, TE                    | 14P-1     | Door hinge pin, short                 |
| M39-35L51-3534-B  | Motor, 1½HP, 110/220-50-1, open                     | 150       | Conduit, flexible, metal, per inch    |
| M40-158ES1BF56W   | Motor, 1½HP, 115/208-230-60-1 TEFC                  | 151       | Conduit, watertight, per inch         |
| M47-M3154T-B      | Motor, 1½HP, 208/440-50/60-3 open                   | 155-1     | Meat carriage guide                   |
| M68-M3558T-B      | Motor, 2HP, 208/220/230/440-60-3                    | 155-3     | Meat carriage guide spacer .025       |
| S11               | Ratchet trigger, SS                                 | 155-4     | Meat carriage guide spacer .040       |
| S118              | Tension spring plate, SS                            | 159       | Meat carriage bearing                 |
| S19               | Ratchet base, SS                                    | 16112     | Head door latch                       |
| S12005C           | Head, SS  | 16155-13  | Carriage stop, SS                     |
| S12006            | Head door, 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-3         | Base door right, SS, hinged,                        | 175S      | Thumb guard, nylon                    |
| S12239-3          | Base, SS, square, closed top, (not sold separately) | 177       | Stationary bar nylon filler           |
| S12272-3          | Meat gauge gear rack, SS                            | 179       | Wheel cleaner                         |
| S12290-3          | Lower cleaning unit with carbide holder             | 19CB      | Ratchet base carriage bolt ¼-20 x ¾"  |
| S12335X           | Upper wheel hinge plate, SS                         | 193       | Saw guide bar spring                  |
| S155-11           | Meat carriage stop thumb screw, SS                  | 196       | Saw tension spring                    |
| S155B-1           | Meat carriage stop welded                           | 197       | Tension spring gauge                  |
| S163F             | Platter spacer weld button, SS                      | 198       | Tension pin cap                       |
| S189              | Ratchet arm stud, stainless                         | 200       | Carriage stop, movable                |
| S200B1            | Stop stud on saw guide bar                          | 200B      | Stop stud carriage stop               |
| S229              | Wheel cleaner arm torsion spring, SS                | 211MS     | Finger lift bracket                   |
| S235              | Taper pin, SS, 4 x ¾"                               | 211Q      | Finger lift fastener knob, 4 point    |
| S239-B40          | Base foot welded, short, SS, 35301 on               | 212CP     | Platter rod cotter pin                |
| S239-B41-4        | Hex leg, adjustable, ¾-9 x 4", SS                   | 212W-E    | Platter rod, England                  |
| S240              | Ratchet trigger spring, SS                          | 220       | Carriage stop, fixed                  |
| S244              | Wheel cleaner arm stud, SS                          | 221-52    | V-belt, 52"                           |
| S253              | Upper wheel aligning screw, SS                      | 221-53    | V-belt, 53"                           |
| S262              | Meat gauge release handle, SS                       | 221-54    | V-belt, 54"                           |
| S265              | Meat gauge release spring, SS                       | 224       | Conduit connector, straight           |
| S268              | Stationary bar hdless screw SS                      | 224-1     | Conduit connector, WT, straight       |
| S270              | Meat gauge release pin, SS, with hole               | 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             | Stationary bar, SS                                  | 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          |
| 10-1              | Ratchet arm   | 238       | Up shaft castld locknut washer        |
| 111AL             | Tension spring pin                                  | 239-B32-1 | Base foot plug, plastic, #35301 on    |
| 112-212           | Waved washer  | 242R      | Base door lock, right                 |
| 116-18            | Saw guide bar, 18"                                  | 247       | Upper shaft                           |
| 119A              | Saw guide in stationary bar                         | 248       | Upper wheel hub cap                   |
| 119FSC            | Saw guide in stationary bar, fish                   | 249       | Base door handle                      |
| 120A              | Pusher plate clamp, welded                          | 252X      | Upper shaft lock nut                  |
| 12003-6           | Lower wheel, 12"                                    | 256P      | Safety pusher plate, composition      |
| 12003U-6          | Upper wheel, 12"                                    | 256PM     | Safety pusher plate, aluminum         |
| 12005A            | Head, aluminum                                      | 259       | Conduit anti-short bushing            |
| 12006A            | Head door, aluminum (not sold separately)           | 260       | Aluminum 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                                  | 267       | Meat gauge release cotter key         |
| 12163B-1          | Platter neck guard, Europe, Al. head                | 272-8     | Cap nut, ¾-18, SS                     |
| 12163B-2          | Platter neck guard, Europe, SS head                 | 272-9     | Hex head screw, 2", SS                |
| 12212W            | Platter rod   | 272-10    | Meat gauge lock knob, 4 pt, #35301 on |
| 12232-2           | Scrap bucket, #35301 on                             | 272-11    | Lock knob socket screw, #35301 on     |
| 12251AL           | Upper v-belt pulley 9 x 1, aluminum                 | 277       | Lower shaft key, v-belt side          |
| 12273LH           | Meat gauge brkt, LH, #35301 on                      | 280       | Motor shaft key                       |
| 12273RH-3         | Meat gauge brkt, RH, #35301 on                      | 300       | Lower shaft Woodruff key, blade side  |
| 12275             | Meat gauge plate, order A14275-5                    | 303       | Lower shaft nut                       |
| 12301-B           | Serial number plate (ser. no. required)             | 304       | Carriage stop shoulder screw          |
| 12302HT           | Saw blade, 91", hard tooth                          | 311       | Rubber bumper for carriage stops      |
| 12313-251         | Operating and service manual, #35301 on             | 324       | Motor shim, 1/16"                     |
| 12662-AL          | Safety saw guard, w/708, AL head                    | 324A      | Motor shim 1/8"                       |
| 12662-SS          | Saw guard, w/708, SS head                           | 331K      | Platter bracket rubber bumper kit     |
| 12700-2           | Wearable parts replacement kit, #35301 on           | 340       | Star lock washer                      |
| 131               | Saw cleaner, SS, #35301 on                          | 360       | Lower bearing housing                 |
| 14275             | Meat gauge arm                                      | 360A1     | Bearing housing angled grease fitting |
| 14275-5           | Meat gauge plate, SS                                | 360B-1    | Brg hngng tilt set screw, ½-13        |
| 14640             | Wheel cleaner, Rulon                                | 361       | Lower shaft                           |
| 14GP              | Head door hinge pin, long, 1½"                      | 362       | Lower bearing housing cap             |
| 14GP-1            | Head door hinge pin, short, 1¼"                     | 374       | Grease, Penzoi #7072, 1 lb. tub       |
| 14P               | Door hinge pin, long                                | 375       | Drive screw, for name plate           |
|                   |   | 376       | Drive screw, SS, #10 x ½"             |
|                   |   | 4-25AL    | Motor pulley, AL, 60cy, 5 x ¾"        |
|                   |   | 4-30AL    | Motor pulley, AL, 60cy, 5 x ¾"        |

## MODEL 22 PARTS NUMBERS AND DESCRIPTIONS (Cont.)

| Item No. | Description                     | Item No. | Description                  |
|----------|---------------------------------|----------|------------------------------|
| 4-35AL   | Motor pulley, AL, 60cy, 5 × 7/8 | 602BFSC  | Saw guide, upper, fish       |
| 4-45AL   | Motor pulley, AL, 50cy, 6 × 3/4 | 653PC-E  | Warning decal, English       |
| 4-49AL   | Motor pulley, AL, 50cy, 6 × 7/8 | 653PC-SP | Warning decal, Spanish       |
| 513      | Upper wheel hub gasket          | 660      | Saw guard on head door       |
| 530      | Retaining snap ring             | 71-1     | Upper wheel hinge bracket    |
| 601      | Upper saw guide bracket         | 708      | Decal "DANGER EXPOSED BLADE" |
| 602B     | Saw guide, upper                |          |                              |

## COMPLETE ASSEMBLIES FOR MODEL 22

| Item No.      | Description                                       | Item No.  | Description                                |
|---------------|---|-----------|--|
| AS12005       | 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  |
| AS12273-275-2 | Meat gauge assembly, w/SS rack & al. bracket      | A16112    | Head door latch assembly                   |
| AS12290       | Front cleaning unit assembly, #35301 on           | A175S     | Thumb guard assembly                       |
| AS415D-2      | Stationary bar assembly, #35301 on                | A19-1     | Ratchet assembly                           |
| AS660         | Saw guard on head door assembly                   | A196      | Tension spring assembly                    |
| A116-18AL     | Saw guide bar assembly, AL head                   | A200      | Carriage stop assembly, movable            |
| A116-18SS     | Saw guide bar assembly, SS head                   | A211MS-AL | Finger lift assembly, AL head              |
| A12003U-6     | Upper wheel assembly w/o hinge plate              | A211MS-SS | Finger lift assembly, SS head              |
| A12003U335-6  | Upper wheel assembly w/hinge plate                | A220      | Channel stop assembly, fixed               |
| A12005A       | Head and door assembly                            | A227      | Upper bearing cup/cone assembly            |
| A12006A       | Head door assembly                                | A247      | Upper shaft brg assem w/o wheel            |
| A12120        | Channel assembly 31"                              | A249R     | Base door lock handle assembly, right      |
| A12155        | Meat carriage assembly, #24613 on                 | A262      | Meat gauge release assembly                |
| A12163-2      | Sta. platter assembly, #35301 on                  | A295      | Wheel cleaner assembly                     |
| A12163-2-E1   | Sta. platter assembly, Europe, AL head, #35301 on | A360      | Lower bearing housing assembly             |
| A12163-2-E2   | Sta. platter assembly, Europe, SS head, #35301 on | A361      | Lower shaft & bearing assembly             |
| A12335X       | Upper wheel hinge plate assembly                  | A363      | Lower bearing cup/cone assembly            |
| A14275        | Meat ga. plate assembly w/release assembly        | A602      | Saw guide assembly, upper                  |
|               |   | A71-1     | Upper wheel hinge brkt. assembly           |

**WEARABLE SAW PARTS THAT WILL FIT BIRO POWER CUTTERS  
MODELS**

**11-22-1433-33-34-3334-44-4436-55**

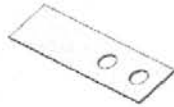
**— EXCEPT WHERE NOTED OTHERWISE —**

**CONTACT YOUR NEAREST BIRO AUTHORIZED DISTRIBUTOR  
OR CONTACT BIRO MANUFACTURING**

**Ph.: 419-798-4451 E.Mail: [service@birosaw.com](mailto:service@birosaw.com)**



**Item No. 130  
SAW CLEANER BRACKET  
ALL SAWS**



**Item No. 131  
STEEL BLADE CLEANER  
ALL SAWS**



**Item No. 159  
CARRIAGE BEARING  
11-22-33**



**Item No. 16159  
CARRIAGE BEARING  
1433-34-3334-44-55**



**Item No. 601  
UPPER SAW GUIDE BRACKET  
ALL SAWS**



**Item No. 602B  
UPPER SAW GUIDE  
W/BEVELED CARBIDE  
ALL SAWS**



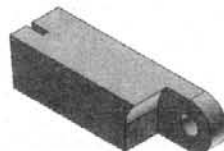
**Item No. S265  
MEAT GAUGE SPRING  
ALL SAWS**



**Item No. S608  
LOWER BLADE BACKUP  
W/CARBIDE  
22 (after S/N 35301)-1433-55**



**Item No. 119A  
LOWER SAW GUIDE  
ALL SAWS**



**Item No. 177  
NYLON FILLER  
ALL SAWS**



**Item No. 604  
LOWER BLADE BACKUP  
W/CARBIDE  
11-22 (before S/N 35300)**



**Item No. 605  
LOWER BLADE BACKUP  
W/CARBIDE  
34-3334-44-4436**



**Item No. S295  
WHEEL CLEANER ARM  
ALL SAWS**



**Item No. 179  
WHEEL CLEANER  
ALL SAWS**



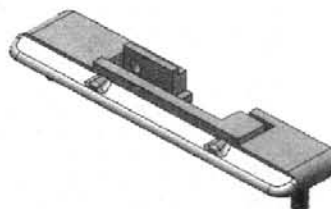
**Item No. S244  
WHEEL CLEANER ARM STUD  
ALL SAWS**



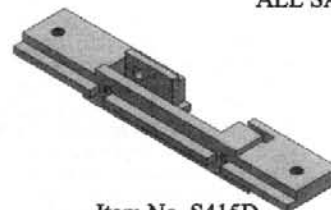
**Item No. S229  
WHEEL CLEANER  
ARM SPRING  
ALL SAWS**



**Item No. S268  
FILLER & GUIDE STUD  
ALL SAWS**



**Item No. 415D  
STATIONARY BAR  
ALL SAWS**



**Item No. S415D  
STAINLESS STATIONARY BAR  
STD: 22 (after S/N 35301)-1433-55  
OPT: 3334-44**

**— USE PARTS REPAIR KIT PART NO. 16700 —**



# WARNING LABEL LOCATIONS ON MACHINE



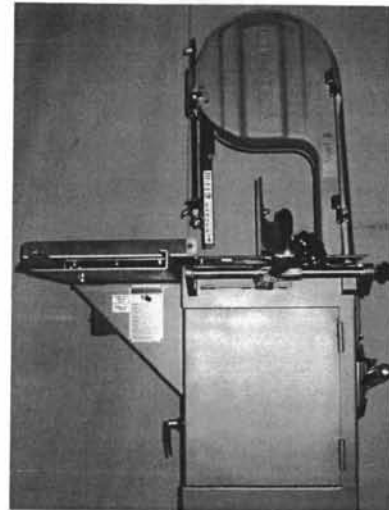
PART NO. 653PS  
ENGLISH WARNING LABEL



PART NO. 653SP  
SPANISH WARNING LABEL



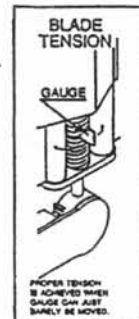
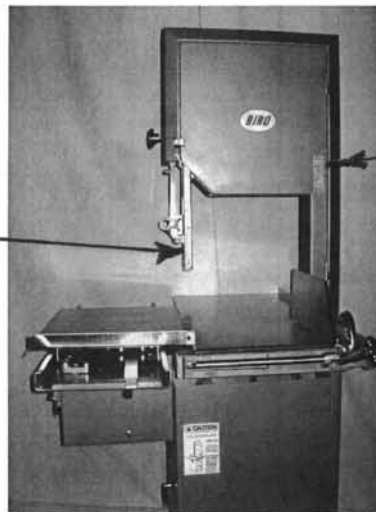
ATTACH ON HEAD STRUCTURE BELOW  
MODEL/SERIAL NUMBER



ATTACH TO CHANNEL BRACKET NEXT TO  
SWITCH CONTROL BUTTONS



P/N 708 "DANGER EXPOSED  
BLADE" DECAL  
ATTACHED TO SAW GUARD  
ON SAW GUIDE BAR



P/N 710 "BLADE  
TENSION" DECAL  
ATTACH TO HEAD  
DOOR AS SHOWN

ITEM NUMBER 671  
WALL CHART "BAND SAW SAFETY GUIDELINES"  
ATTACH TO WALL IN VICINITY OF MACHINE IN EASY VIEW OF OPERATOR

**! WARNING**

**ONLY PROPERLY TRAINED PERSONNEL  
SHOULD USE THIS EQUIPMENT**

**This Saw Contains A Sharp Blade.  
To Reduce Risk of Injury:**

**1. Before Using, Make Sure:**

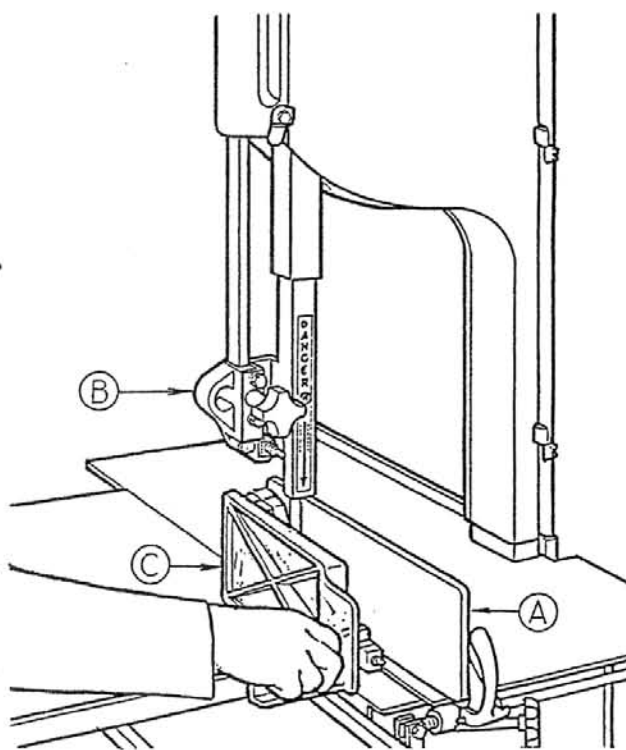
- Gauge Plate (A) And Other Components Are Secure.
- All Warning Labels And Guards Are In Place.
- The Guide Bar (B) Is Adjusted To  $\frac{1}{2}$  Inch Above The Product To Be Cut

**2. While Cutting:**

- Keep Hands and Fingers Away From Blade.
- Keep Product Securely Against Gauge Plate.
- Use End Cut Pusher (C) When Making Final Cuts. Item No. 256P.

**3. Before Cleaning:**

- Turn Off Power and Unplug.
- Remove Saw Blade.
- Use Extra Care When Handling The Saw Blade.



**USE YOUR  
MEAT SAW SAFELY!**

SEE PARTS AND SERVICE MANUAL SUPPLIED WITH MACHINE FOR ADDITIONAL SAFETY INFORMATION.



## **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: steel saw cleaners, item number 131; wheel cleaners, item number 179; steel guide, item number 119A; upper saw guide, item number 602B; lower back guide, item number S608; nylon filler, item number 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 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 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 (250 plus worldwide) in your area.

## **THE BIRO MANUFACTURING COMPANY**

1114 Main Street  
Marblehead, Ohio 43440-2099  
Ph. 419-798-4451  
Fax 419-798-9106  
E-mail: [Service@biro\\_saw.com](mailto:Service@biro_saw.com)  
Web: <http://www.birosaw.com>

