

**PEERLESS MACHINE & TOOL  
CORPORATION  
MARION – INDIANA – USA**

**SAFETY**

Peerless believes that the machinery covered in this manual represents the finest in design and construction available in the paper converting industry today.

With the proper care and maintenance, and careful attention to safety of operation, this equipment will give you years of safe and trouble free operation.

We at peerless have strived to meet the challenge of safety on every level of design, whether it be in electrics, pneumatics, or mechanical applications.

We state without reservation that every area of design, which could be hazardous to the physical well-being of the operators, or attending personnel, has been guarded to the best of our ability and the design knowledge available.

Under normal operation, no guards or safety-connected devices should be removed at any time, for any reason.

When normal servicing is performed, all power to the machinery should be shut down, and all safety stop switches should be set, or engaged.

Know your machinery thoroughly and understand the working parts as well as you can, as it will aid in safe operation.

Take all equipment serious, and always be alert for any abnormal operating conditions that might arise. Should this happen, immediately shut down the machine and engage all safety stop switches. Alert your supervisory personnel at once.

We are proud of the Peerless name and reputation gained over the past 75 years or more.

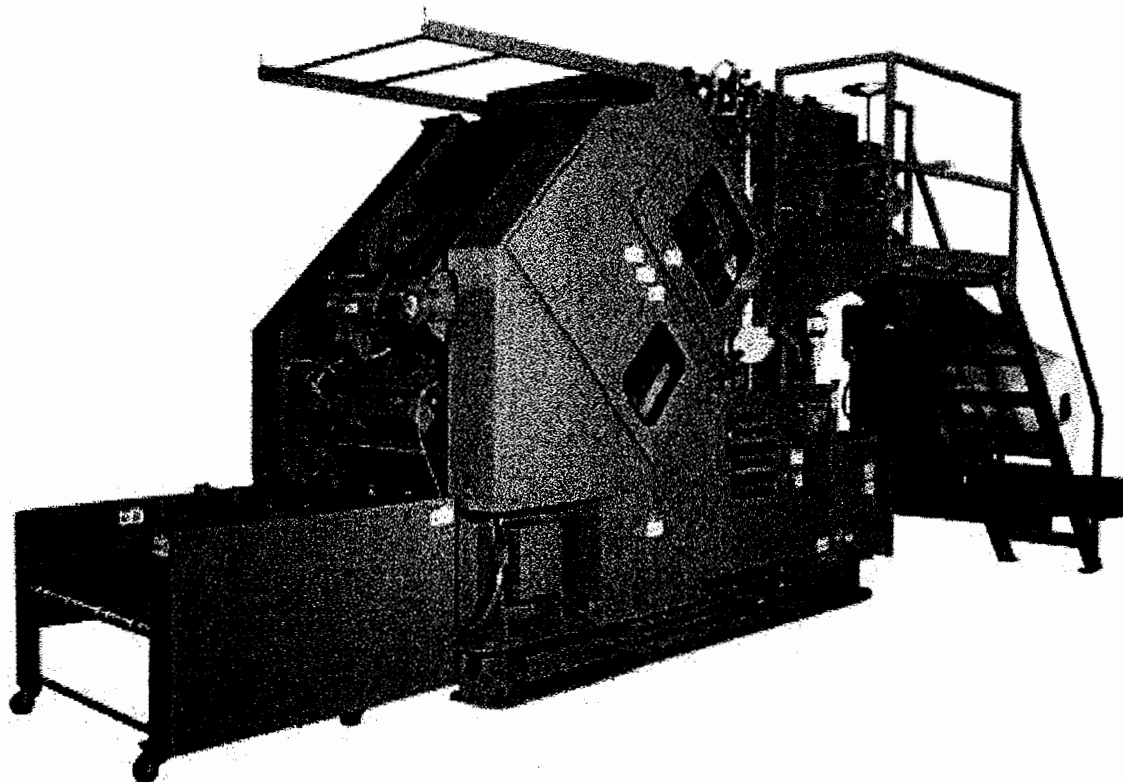
Our safety and reliability record are “without equal”, the very meaning of the word “Peerless”.

## DO'S AND DON'TS FOR OPERATION OF PEERLESS MACHINERY

1. Don't ever service, maintain, alter, adjust, or modify the equipment in any manner unless properly trained to do so, and unless the equipment is completely shut-down using all power disconnections and safety locks or interlocks. Follow current lockout/tag out regulations.
2. Don't ever allow ant personnel to operate or service machinery in any manner unless properly trained to do so.
3. Don't ever perform any operation on the machinery with the aid of any other person if that person is not properly trained in such operation or service procedure.
4. Don't ever allow service personnel or operating personnel to have any other person turn on the equipment while any maintenance, adjustment, or service is being performed on the machinery.
5. Do check regularly to insure that guards, safety decals, and features of the machinery are in place and operating properly.
6. Do replace safety guards, decals, and features with new updated guards, decals, and features as they are designed and made available.
7. Do report any safety problems or questionable operations to supervisory personnel.
8. Do properly train all personnel in the proper use and maintenance of the machinery.
9. Do require all personnel operating or maintaining the machinery to review each feature of the Parts, Service, and Operators Manual.
10. Do follow all national, state, regional, and local regulatory codes in the installation and operation of all machinery.
11. Don't use any machinery or feature of any machine which has had a guard removed, replaced, or modified, unless properly trained in such operation, and the replacement features have been properly approved by Peerless.
12. Don't permit any alteration, correction, addition, or maintenance of any machine unless done by personnel properly trained by Peerless, or unless performed by Peerless personnel.
13. Don't use the machinery for any purpose for which it was not designed and recommended by Peerless.
14. Don't do any maintenance or clear any machine jams or correct any malfunctions unless the machine is completely shut-off, and you are properly trained in such steps.

15. Do report any machine malfunctions to supervisory personnel. Report to Peerless any machine defect or design flaw.
16. Do routinely inspect all hydraulic and pneumatic hoses and fittings. Replace any component at the first sign of wear with an authorized Peerless replacement part.
17. Don't permit any item or material, such as new paint, to cover up or distort any safety feature or safety instruction. Particularly, do not cover up any safety decal. Replace any decal, which becomes unreadable.
18. Do routinely check all machinery to insure proper operation. Don't ever operate a machine that is malfunctioning or continually jamming.
19. Do provide adequate light, clean area, and a safe operating area for any machinery. Don't ever operate a machine that is not properly secured, connected, or in any way presents a dangerous operating condition due to the machine itself, or the working area around the machine.
20. Don't ever troubleshoot the equipment unless properly trained to do so, and only after fully reviewing the Operators Manual.
21. Do require all personnel around the machinery to wear proper clothing and equipment. Don't permit any employee to wear loose clothing, or any item, which would create an unsafe working condition.
22. Don't, Don't, Don't ever put hands, fingers, or any clothing or material in an area close to a moving part of the machinery.
23. Do use proper recommended tools for clearing of any and all jams. Never use hands, or fingers to clear jams or to correct malfunctions of the machinery.
24. Don't ever change dies or other auxiliary equipment parts or items unless the machine is completely shut down, and you are properly trained in the procedure.
25. Don't ever use old machinery acquired from someone other than Peerless, unless the machinery has been updated at the Peerless plant or at your plant with proper Peerless personnel providing new updated safety features and guards.

## INTRODUCTION



The following pages will introduce our Paper Plate and Tray Forming Machine to you, and give you advice regarding the Operation, Maintenance, and Servicing of this Machine. This booklet will also be valuable to you if any questions appear regarding our Machine later on. It should always be at hand in your workshop.

If any problems should arise which cannot be settled by you, please do not hesitate to contact our Service Department.

We wish you all success and pleasure with your Peerless Paper Plate and Tray Forming Equipment.

**PEERLESS MACHINE & TOOL  
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## **AUTOMATIC PAPER PLATE & TRAY FORMING EQUIPMENT**

### **RECEIVING MACHINE**

All Peerless Machines will arrive by truck transport, unless specified otherwise.

When a new machine arrives, care should be taken in removing the unit from the trailer so that no damage is incurred.

After the covering or crating is removed, clean the machine thoroughly with a nonflammable cleaning solvent.

The shipment should be carefully checked against the Packing List. If there is a shortage, or parts found damaged, this should be immediately reported to the representative from whom the machine was purchased, the report being accompanied by a Packing List.

### **PLACING MACHINE**

A Peerless Plate Machine is extremely rigid. The entire unit is constructed of steel weldments and semi-steel castings. Any machine does better when placed on a solid foundation, free from vibration.

If the machine is placed on an upper floor, select the position over a girder on near a wall or someplace where there is the least vibration. Careful attention to the placing of the machine will insure the best results.

Set the machine by leveling the steel runners, testing in both directions. After the machine is level, it is now ready for the electrical power hook-up to large control panel. An electrical diagram will be supplied with the machine to show proper procedure.

### **LUBRICATION**

All Peerless Plate / Tray Machines are lubricated completely prior to shipment to the customer. It is advisable, however, to check all lubrication points on the machine prior to starting.

Provided on Page 3 is a Lubrication Chart, showing the recommended lubricants and interval of lubrication for all component parts.

### **STARTING MACHINE**

When your machine has been properly installed and wired, it is now ready for operation. Start the machine to check rotation of the drive pulley. The drive pulley should rotate clock-wise. If it is not, reverse the main power leads in the large panel box to obtain proper rotation.

# LUBRICATION SCHEDULE FOR PEERLESS MACHINES WITH AN AUTOMATIC GREASE PUMP

LUBRICATION POINT	LUBE	ONE SHIFT	TWO SHIFT	THREE SHIFT	CODE
<b><u>ROLL STAND</u></b>					
Roller Bearings	823-0	3M	2M	M	GF
<b><u>FEED SECTION</u></b>					
Bearings	823-0	AUTOMATIC GREASE PUMP			
Chain	CO-22	3M	2M	M	HO
Chain Idler	823-0	3M	2M	M	GF
Roll Pull / Feed Rollers	823-0	3M	2M	M	GF
Decurl Unit – Gears	882H	3M	2M	M	HG
Paper Control Hub	30	3M	2M	M	HO
<b><u>MACHINE SECTION</u></b>					
<b><u>CUTTING HEAD SECTION</u></b>					
Bearings	823-0	AUTOMATIC GREASE PUMP			
Connecting Rods	823-0	AUTOMATIC GREASE PUMP			
Cutting Head Gibs	823-0	AUTOMATIC GREASE PUMP			
Gears	882H	3M	2M	M	HG
<b><u>FORMING HEAD SECTION</u></b>					
Bearings	823-0	AUTOMATIC GREASE PUMP			
Forming Head Gibs	823-0	AUTOMATIC GREASE PUMP			
Cam Rollers	823-0	AUTOMATIC GREASE PUMP			
Cam Roller Oiler	30	3M	2M	M	OR
Center Guide and Bearings	823-0	3M	2M	M	GF
Forming Head Lift Cylinder Oiler	ATO-100	CLW	CLW	CLW	OR
<b><u>PINION &amp; INTERMEDIATE SECTION</u></b>					
Bearings	823-0	AUTOMATIC GREASE PUMP			
Gears Open	882H	3M	2M	1M	HG
<b><u>CAM HOUSING SECTION</u></b>					
Cam Shaft Bearings	823-0	AUTOMATIC GREASE PUMP			
Bull Gears	882H	3M	2M	M	HG
Intermediate Shaft Bearings	823-0	3M	2M	M	HG
<b><u>DRIVE MOTOR SECTION</u></b>					
Motor Bearings	823-0	3M	2M	M	GF
Gear Box	1100-150	CL3M	CL2M	CLM	OR
<b><u>AIR LINE SECTION</u></b>					
Lubricator	ATO-100	CLW	CLW	CLW	OR

## LUBRICATION SCHEDULE FOR PEERLESS MACHINES WITH AN AUTOMATIC GREASE PUMP

LUBRICATION POINT	LUBE	ONE SHIFT	TWO SHIFT	THREE SHIFT	CODE
<b><u>COUNTER-STACKER SECTION</u></b>					
Gear Box	1100-150	CL3M	CL2M	CLM	OR
Jogger Linkage	823-0	3M	2M	M	GF
Jogger Linkage	30	3M	2M	M	HO
Gate Linkage	823-0	3M	2M	M	GF
Gate Linkage	30	3M	2M	M	HO
<b><u>BLANKING DIES</u></b>					
Guide Pins & Bushings	823-0	AUTOMATIC GREASE PUMP			

### **LUBRICATION SCHEDULE CODE**

CLW - Check Level Weekly	HG - Hand Grease
CLM - Check Level Monthly	
D - Daily	GF - Grease Fitting
W - Weekly	HO - Hand Oil
M - Monthly	OH - Oil Hole
2M - Every Two Months	OR - Oil Reservoir
3M - Every Three Months	

Almost all paper fibers are composed of three different materials, cellulose, hemicelluloses, and legnin. Along with many other additives, these three main substances have a tendency to be abrasive as well as having a drying effect on all oils and greases. Because of this, all bearings, gears, slides and all other moving parts should be kept free of all paper contamination.

### **TRIBOL MOLUB-ALLOY**

823-0	Food Machinery Grease NLGI #0
882H	Open Gear Grease, Heavy or Aerosol
30	General Purpose Oil SAE30 or ISO-VG-100
1100-150 or Mobil SHC 629	Synthetic Bearing And Gear Oil
CO-22	Chain Oil - Aerosol
ATO-100-LS	Air Line / Tool Oil

### **DESCRIPTION**

Peerless recommends using the above CASTROL / TRIBOL MOLUB-ALLOY lubrication products. Contact the Peerless Service Department if you need help locating a CASTROL / TRIBOL dealer in your area.

# LUBRICATION SCHEDULE FOR PEERLESS MACHINES WITH GREASE FITTINGS

LUBRICATION POINT	LUBE	ONE SHIFT	TWO SHIFT	THREE SHIFT	CODE
<b><u>ROLL STAND</u></b>					
Roller Bearings	823-0	3M	2M	M	GF
<b><u>FEED SECTION</u></b>					
Bearings	823-0	3M	2M	M	GF
Chain	CO-22	3M	2M	M	HO
Chain Idler	823-0	3M	2M	M	GF
Roll Pull / Feed Rollers	823-0	3M	2M	M	GF
Decurl Unit – Gears	882H	3M	2M	M	HG
Paper Control Hub	30	3M	2M	M	HO
<b><u>MACHINE SECTION</u></b>					
<b><u>CUTTING HEAD SECTION</u></b>					
Bearings	823-0	3M	2M	M	GF
Connecting Rods	823-0	M	2W	W	GF
Cutting Head Gibs	823-0	2W	W	D	GF
Gears	882H	3M	2M	M	HG
<b><u>FORMING HEAD SECTION</u></b>					
Bearings	823-0	3M	2M	M	GF
Forming Head Gibs	823-0	2W	W	D	GF
Cam Rollers	823-0	3M	2M	M	GF
Cam Roller Oiler	30	3M	2M	M	OR
Center Guide and Bearings	823-0	3M	2M	M	GF
Forming Head Lift Cylinder Oiler	ATO-100	CLW	CLW	CLW	OR
<b><u>PINION &amp; INTERMEDIATE SECTION</u></b>					
Bearings	823-0	3M	2M	M	GF
Gears Open	882H	3M	2M	M	HG
<b><u>CAM HOUSING SECTION</u></b>					
Cam Shaft Bearings	823-0	3M	2M	M	GF
Bull Gears	882H	3M	2M	M	HG
Intermediate Shaft Bearings	823-0	3M	2M	M	GF
<b><u>DRIVE MOTOR SECTION</u></b>					
Motor Bearings	823-0	3M	2M	M	GF
Gear Box	1100-150	CL3M	CL2M	CLM	OR
<b><u>AIR LINE SECTION</u></b>					
Lubricator	ATO-100	CLW	CLW	CLW	OR



## LUBRICATION SCHEDULE FOR PEERLESS MACHINES WITH GREASE FITTINGS

LUBRICATION POINT	LUBE	ONE SHIFT	TWO SHIFT	THREE SHIFT	CODE
<b><u>COUNTER-STACKER SECTION</u></b>					
Gear Box	1100-150	CL3M	CL2M	CLM	OR
Jogger Linkage	823-0	3M	2M	M	GF
Jogger Linkage	30	3M	2M	M	HO
Gate Linkage	823-0	3M	2M	M	GF
Gate Linkage	30	3M	2M	M	HO
<b><u>BLANKING DIES</u></b>					
Guide Pins & Bushings	823-0	2W	W	D	GF

### **LUBRICATION SCHEDULE CODE**

CLW – Check Level Weekly	HG – Hand Grease
CLM – Check Level Monthly	GF – Grease Fitting
D – Daily	HO – Hand Oil
W – Weekly	OH – Oil Hole
2W – Every Two Weeks	OR – Oil Reservoir
M – Monthly	
2M – Every Two Months	
3M – Every Three Months	

Almost all paper fibers are composed of three different materials, cellulose, hemicelluloses, and legnin. Along with many other additives, these three main substances have a tendency to be abrasive as well as having a drying effect on all oils and greases. Because of this, all bearings, gears, slides and all other moving parts should be kept free of all paper contamination.

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### **DESCRIPTION**

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## MACHINE OPERATION

The following paragraphs will describe the functions of a Peerless tray machine during the course of a normal revolution.

Paper is pulled from the roll stand by the two pull rollers in the center of the feed.

The purpose of the pull rollers is to unroll the paper roll stock and feed it into a reservoir of free paper behind the aluminum feed wheel. It is necessary to maintain this reservoir of paper at all times.

Since the pull rollers feed more paper than the machine feed requirements, the pull rollers are intermittent in their operation.

The moveable roller is raised and lowered by an air cylinder and electric air valve. The air cylinder will, upon demand from the pull roller control eye and air valve, raise the pull roller to stop the feeding of paper or lower the roller to resume feeding as the reservoir of paper is nearly used up.

From the reservoir, the paper is fed into the cutting die, in equal lengths, by a feed wheel driven by an electric clutch / brake assembly and stroke linkage.

The total feed length should be one blank length plus 3/16" trim.

The paper should start feeding when the die is half way open, and stop when the programmable limit switch signals the clutch / brake control to switch from clutch to brake.

Just before the blank is cut the intermediate blank stops should raise.

The blanks will be cut and slide to the intermediate blank stop position.

As soon as the waste paper is sheared and falls into the waste chute the "Waste Air" should blow it out the side of the machine.

After the forming dies are closed the intermediate stops are dropped. This allows the blanks to slide to the forming head stop position. The blanks will be held here until the dies are open the depth of a formed tray.

When the dies are open  $\frac{1}{2}$  to 1 inch the top die air should begin to blow. The top die air pressure should be kept very low. If the air pressure is too high it will prevent trays from being ejected and flat blanks from entering the dies.

As soon as the forming dies are open enough to allow a formed tray to escape the die plunger will raise to eject the tray.

Directly following the raising of the plunger the forming head stops should be high enough to allow the waiting blank to slide into the die.

As the top die closes to within an inch or so from the bottom the top die air should stop blowing.

Also at this point the plunger should retract.

The dies will close to form the tray before opening to the point where the tray can be ejected onto the stacker belts.

The stacker belts deliver trays, one at a time, to the stacker cans.

When the required amount of trays are in the stacker cans the stacker gate will open and the counter belts will move the stacked trays to a position accessible to the operator.

## **TROUBLE SHOOTING**

### **1. INSUFFICIENT AMOUNT OF PAPER BEHIND ALUMINUM FEED WHEEL**

Probable causes:

- A. Pull rollers "OPEN/AUTOMATIC FEED" switch in the wrong position.  
Select "OPEN" to hold the pull rollers apart while the feed is threaded.  
The switch should be in the "AUTOMATIC FEED" position under running conditions.  
This lets the pull roller control eye regulate the pull rollers.
- B. Excessive roll stand brake pressure.  
The air pressure on the roll stand brake can be enough to make the pull rollers slip or tear the paper.  
Since roll sizes and weights vary so much it is impossible to put a figure on the air pressure.  
However, the air pressure should never be to the point that the roll cannot be unwound by hand.
- C. Loose or broken air cylinder linkage.  
Inspect the linkage for wear and replace parts as necessary.

### **2. ERRATIC FEED LENGTH**

- A. Check the stroke wheels and linkage for bent, broken or loose parts.
- B. Be sure there is a sufficient reservoir of free paper behind the feed wheel to keep up with the machine feed requirements.  
The pull roller control operation is described on page 6.

C. Misalignment of upper and lower feed wheels.

The two feed rollers must be parallel.

The upper feed wheel shaft is fixed so all adjustment must be made with the lower shaft.

The lower feed wheel shaft can be adjusted by means of the large cylinder adjusting nut and jam nut on the lower end of the cylinder.

Using a 0.010 inches thick feeler gauge, adjust the lower shaft until the clearance between the rollers is 0.010 inches. This clearance should be checked at 90° intervals and set to the tightest spot.

D. If the machine is running register printing, refer to pages 15 thru 20, for set up and trouble shooting of the registration eye.

**3. BLANKS ARE NOT REACHING THE INTERMEDIATE BLANK STOPS**

Probable causes:

A. The paper web may be off-center.

If the paper web is off-center enough to allow a portion of the outside die position to be uncovered, a misformed blank will be cut and may jam in the cutting die.

B. Blanks may be too curly to slide in the blank chute.

The cut blanks should be either completely flat or have a very slight up-curl condition. Any amount of down-curl is a deterrent to the blanks sliding freely. Adjust the decurl mechanism until any down-curl of the blanks is eliminated.

- C. The cutting die knock-out springs may be adjusted wrong.  
The purpose of the springs is to push the cut blank partially thru the cutting plate to a point where the plate is relieved enough to allow the blank to free fall. Normally, the springs should be below the punch by about  $\frac{3}{4}$  of an inch. If the springs are not down far enough, the blank may never reach the cleared portion of the cutting plate and therefore, will not fall to the die slides. Bending the springs down too far will push the paper into the punch hole before it is cut. Since the paper is concave instead of flat, the cut blank will be oversize. If the blank is too much oversize, the blank cannot be discharged from the die plate. A more radical misadjustment can have the springs down so far that they interfere with the paper web as it is being fed across the die.
- D. Misalignment of the blank chute.  
The sides of the blank chute slides must be in line with the bridges in the cutting die. Also, the blank chute slides should be slightly lower than the slides in the cutting die. Proper blank chute alignment is described on page 29.

#### **4. BLANKS REACHING THE FORMING DIES AT THE WRONG TIME**

Probable causes:

- A. Interference in the blank chute.  
Clean blank chute. Remove any scrap paper or accumulation of paper dust.  
Repair any damage to the chute that may have occurred.
- B. Inspect the blanks to be sure they are flat and are not malformed.
- C. Improper operation of the intermediate blank stops.  
Before making timing changes, check to see that the linkage connecting the intermediate stops is working satisfactorily. If a timing adjustment is necessary, refer to the Electro Cam Programmable Limit Switch instructions on pages 12 thru 14.

#### **5. BLANKS NOT ENTERING THE FORMING DIES COMPLETELY**

Probable causes:

- A. Improper adjustment of the top die air.  
As described in "Machine Operation," page 6, and pages 12 thru 14, the top die air must blow at a very low pressure. Too much air pressure will blow the blank downward and it will bump into the bottom die plunger. Each top die air supply can be regulated by a petcock at the die air manifold.

**B. Down-Curl in the Blanks.**

The problem of down-curl plagues the machine operation in several places but nowhere as severe as the time the blank must enter the forming die. Any down-curl in the blanks will cause the leading edge to catch on the raised bottom die plunger.

If the down-curl absolutely can not be eliminated by adjustment of the decurl mechanism a temporary solution is to raise the blank chute a little higher than its' normal 3/8" to 1/2" above the bottom die flange.

**C. Improper adjustment of the forming head blank stops.**

The forming head blank stop must hold the flat blank behind the forming die until the formed tray has been discharged.

The blank should enter the forming die just behind the escaping formed tray.

The height of the blank stop is determined by the adjustment of the set collar on the end of the square stop.

**D. Misalignment of the Blank Chute.**

As described on page 29 the blank chute must be in line sideways with the die guides and in the proper height relationship to allow the blank to fall into the forming die without interference.

**E. Incorrect bottom die plunger timing.**

The die plunger gives support to the blank as it enters the forming die. Without the plunger to slide across, the blank may dive into the lower side of the die preventing it from entirely entering.

**6. FORMED TRAYS NOT BEING DISCHARGED FROM THE FORMING DIES**

Probable Causes:

**A. Top forming dies too hot.**

As described on page 6, the top die air is used to control the heat of the top dies. Normally a range of 130 to 160 degrees will be satisfactory.

If the dies become too hot, the tray can stick to the die preventing the tray from being discharged.

Re-check the timing of the top die air, see pages 12 thru 14, to assure the air is being used to its' fullest benefit.

If the machine is shut down for any length of time with the dies closed, a cooling off period for the top dies will have to be allowed.

**B. Improper ejector timing.**

The most frequent problem is that the plunger is set to raise before there is a sufficient gap between the upper and lower forming dies to allow the tray to escape.

If the plunger ejector is radically out of time, it may raise and drop before the tray has a chance to be discharged from the die.

The timing of the ejector will vary with each change of die depth.

## **7. STACKED TRAYS NOT BEING DISCHARGED FROM THE STACKER CANS**

Probable Causes:

- A. Adjustment of the stacker can opening or the jogger pad motion is incorrect.  
The opening between the stacker gate and the back of the stacker cans has to be great enough to allow the stacked trays to rock with the jogger pad.  
The motion of the jogger pad should rock the stacked trays toward the stacker gate rather than away from it.  
Further information on stacker-counter adjustments can be found on page 30.
- B. Check the electrical operation of the counter.  
The counter input is controlled by the Programmable Limit Switch. Make sure the Programmable Limit Switch is sending its' electrical signal to the counter with each stroke of the machine.  
Also be sure that, after the machine has cycled the number of revolutions preset on the counter, the counter is sending its' electrical signal to the air valve and stacker motor to open the stacker gate and start the counter belts in motion.

## **8. STACKER MOTOR STARTS BUT GATE DOESN'T OPEN**

Probable Causes:

- A. Inspect the air line and fitting to the air cylinder.
- B. Examine the linkage for loose or broken parts and replace as necessary.
- C. Check the electric air valve to be sure it is operating satisfactorily.

## **9. STACKER GATE OPENS BUT COUNTER MOTOR DOESN'T START**

Probable Causes:

- A. Check all electrical connections and fuses.
- B. Inspect the counter motor driver belt and pulley to be sure they are tight.



## **ELECTRO CAM PROGRAMMABLE LIMIT SWITCH**

The PLS is used to control the electrical timing functions of the press. The counter input, feed length control, and all solenoid operated air valves are triggered from the PLS outputs. Each output (channel) can be adjusted individually to control both the timing and dwell of the specified operation. Timing functions are described in the following pages.

The ELECTRO CAM PLS has the ability to store 8 individual, user defined, programs. Each program includes the values for all required "channels." Programs for different die sizes or production conditions can be stored for future use.

Generally, program 1 is factory set at average values for normal plate / tray production when we have the opportunity to test specific dies, actual production values are entered in one or more programs.

To change programs, turn the 8 position rotary switch on the operators' control panel face to the required program number.

### **CHANNEL FUNCTIONS**

#### **CHANNEL 1 – COUNTER**

An output from the PLS registers each press stroke to count stacked product. At the counters' preset value, the stacker gate opens, the plate / tray stop lowers, and the stacker motor starts to discharge counted product. The amount of time the gate remains in the open position is controlled by a timer in the "stack" counter. Changing the PLS value, affects the timing of the plate / tray striking the plate / tray stop as counted product is being discharged.

#### **CHANNEL 2 – PRINT REGISTER MARK "WINDOW"**

Refer to the feed length control instructions of this manual for the function and affect of the register mark "window" values.

#### **CHANNEL 3 – FEED LENGTH CONTROL**

Refer to the feed length control instructions on pages 15 thru 20 of this manual for the function and affect of the feed length control values.

#### **CHANNEL 4 – TOP DIE AIR**

Pressurized air in the top forming dies is used to free formed parts from the die and to control die temperature. The top die air output of the PLS signals the top die air valve on the press to open.

Generally, the top die air valve is opened just as the dies separate. The valve should close at approximately the time a formed part is escaping the dies.

#### **CHANNEL 5 – INTERMEDIATE BLANK STOPS**

Longer P57 and LB presses require stopping a blank along the length of the blank chute. The stops should rise as blanks are released from the cutting die and lower during the closed, “dwell” portion of the forming cycle.

#### **CHANNEL 6 – WASTE AIR**

Pressurized air is used to direct the waste paper through the waste chute and out of the machine. The waste air output of the PLS signals the waste air valve on the press to open.

Generally, the waste air valve is opened as the cutting die is opening. The valve should close at approximately the time the paper feed starts.

#### **CHANNEL 7 – AIR CYLINDER OPERATED EJECTOR MECHANISM – WHEN APPLICABLE**

The ejector mechanism should rise as the forming dies open and lower as the dies close.

#### **CHANNEL 8 – NOT USED**

#### **CHANNEL 9 – FORMING HEAD “TOP” STOP**

For convenience and smoother press operation, we recommend utilizing channel 9's output in the press drive stop circuit to stop the press motion with the forming head in its' completely open position. Press motion will not stop until the forming head is at, or near, its' completely open position when depressing the auto cycle stop button. Press motion will stop immediately when the emergency stop button is depressed, or any guard or safety device is opened.

Adjust channel 9 values to stop the press with the forming head at, or near, its' completely open position. Changing production or press conditions will require altering channel 9 values.

## **CHANGING OR CREATING CHANNEL SET-POINT VALUES**

Turn the keyed "PROGRAM / RUN" switch to the "PROGRAM" position.

Select the desired program with the 8 position rotary switch.

Press the "POS / RPM" button on the programmer face if the "POS" or "RPM" led display is not on, proceed to the next step if either led display is on.

Press the "CHN" button on the programmer face.

Enter the desired channel number by pressing the number buttons on the programmer face. The selected channel number will be displayed on the screen above the "CHN" button.

Press the "ON" button on the programmer face. The current value will be displayed on the screen above the "ON" button. The "ON" led display must be on to confirm "CHANNEL ON" has been selected.

Enter the desired "CHANNEL ON" value using the number buttons on the programmer face. The display will change to the selected value.

Press the "ENT" button on the programmer face. The display screen above the "ON" button will blink once to confirm the set-point value entry.

Follow the same procedure to change / create a "CHANNEL OFF" value, substituting "OFF" for "ON" in the instructions.

Turn the keyed "PROGRAM / RUN" switch to the "RUN" position. The key can be removed if desired to prevent any tampering with channel value selections.

Additional "output set-point programming" instructions can be found in the "ELECTRO CAM PLUS, PLS-5000 PROGRAMMABLE LIMIT SWITCH" manual included in the vendor catalogs supplied with your press.

Resume normal operation.

## **PEERLESS 300-88 PAPER FEED/REGISTRATION SET UP AND OPERATING INSTRUCTIONS**

Adjust decurl paper edge guides to paper width +1/8 inch (3 mm).

Adjust paper support guides to paper width. Scales are provided to ease adjustment. Align outside of guides and scales to paper width dimension.

Turn pull rollers switch to "open."

Shift feed roll air switch down.

Center the 5 inch (127 mm) decurl rollers in their travel.

Align paper roll and paper edge guides.

Thread paper between the two 5 inch (127 mm) decurl rollers. Through the decurl edge guides, Between the two small decurl rollers, Through the pull rollers, Under the pull roller control eye, Around the large paper support roll, Under the paper width scale mounting bar, Between the paper support guides, Through the feed rollers, Into and across the cutting die.

Shift the feed roll air switch to it's extreme up position.

Provide 2 feet (0.6 m) of paper below the pull roller control eye.

Turn pull rollers switch to "automatic feed".

Attach the paper hold-down roller.

ELECTRO CAM PLS channel number 3 controls the feed length.

Select and input the required "CHANNEL OFF" value for desired feed length using the enclosed chart. Refer to the "PROGRAMMING ELECTRO CAM PLS" instructions in this manual. The "CHANNEL ON" position always remains 2700.

Close all guards.

Turn "CLUTCH" switch on. "REGISTRATION EYE" switch off. (switches on main control panel).

Run machine to verify feed length. If required, small adjustments can be made with the machine running by altering the channel 3 "CHANNEL OFF" value.

## **SICK KT-10 REGISTRATION EYE**

The focal distance should be ½ inch (12.5 mm).

Turn the "registration eye" switch on. The green power on led should light up.

Set the program selector to Q.

Using a small piece or representative, printed, production paper, position the background under the light spot.

Press and hold the teach button on the top of the registraton eye.

Move the printed paper, so the light spot moves from the background, across the register mark, and onto the background again, while holding the teach button down. Release the teach button.

The yellow led signal strength indicator lights if the light reception is acceptable. If it does not light, check the focal distance, clean the lense, etc., and try again.

Refer to the following instructions for running registered print.

## **RUNNING REGISTERED PRINT**

Adjust and thread the paper web as for unprinted paper.

Select and input the required "CHANNEL OFF" value of channel number 3 for a feed length of one print repeat length plus 1/8 inch (3 mm). Run the press to verify the correct feed length. Adjust the channel 3 "CHANNEL OFF" value as required. The registration eye circuit is only capable of one-way correction. To function, it is imperative that the feed length is approximately 1/8 inch (3 mm) greater than the print repeat length.

Select and input values from the enclosed feed length charts for channel 2 "CHANNEL ON" and "CHANNEL OFF" to create an approximate 1 inch (25 mm) "VIEWING WINDOW" on each side of the register mark. The eye will only recognize a register mark in the length area defined by the "VIEWING WINDOW". Refer to the example below.

A 9 inch (228.6 mm) print repeat length would require:

Channel number 3 - input a "CHANNEL OFF" value of 216 to equal a 9 1/8 inch (231.8 mm) feed length. Again, verify the feed length as above. Assuming the feed length is correct proceed to create the "VIEWING WINDOW".

Channel number 2 - input a "CHANNEL ON" value of 100 to equal 8 inches (203.2 mm) and a "CHANNEL OFF" value of 320 for 10 inches (254 mm). (+/- 1 inch / 25.4 mm from the 9 inch (228.6 mm) print repeat length).

If it was necessary to adjust the feed length (from 216) in the above step to establish a length 1/8 inch (3 mm) greater than the print repeat length select and input the proper values from the feed chart to create an accurate (+/- 1 inch / 25.4 mm) "VIEWING WINDOW".

Open the cutting die.

Shift the feed roller air switch down to open the feed rollers.

Move the paper web to visually align the print and die plate cut outs.

Close the feed rollers.

Using the registration eye motor controls, center the registration eye in its' 2 inch (50.8 mm) travel.

Move the eye / adjustment motor assembly to visually align the print register mark and the registration eye light beam.

Close all guards.

Turn the "clutch" switch off.

Close the cutting die.

Turn the "clutch" switch on, and start the machine.

Print to cut register can be adjusted to the proper location as the press is running using the registration eye motor directional controls on the feed frame or stacker. Simply monitor the print position on formed parts to verify it is correct. Adjust as necessary. The registration eye motor can be run continuously without losing register control. Releasing the motor control switch stops the movement. Indicator lights indicate movement. The light will go out at the adjustment limit. If the adjustment limit is reached before the print is properly positioned, it is necessary to relocate the eye / adjustment motor assembly.

Contact the peerless service department if any questions arise.

## PLS VALUES FOR PEERLESS 388 FEED

4 Inches (101.6 mm) to 8 Inches (203.2 mm) Feed Length Adjustable Range

8 Inches (203.2 mm) to 9 Inches (228.6 mm) Viewing Window Values

4" = 3500 101.6 mm	5" = 35 127.0 mm	6" = 190 152.4 mm	7" = 355 177.8 mm	8" = 615 203.2 mm
4 1/16" = 3508 103.2 mm	5 1/16" = 45 128.6 mm	6 1/16" = 200 154.0 mm	7 1/16" = 365 179.4 mm	8 1/16" = 625 204.8 mm
4 1/8" = 3518 104.8 mm	5 1/8" = 55 130.2 mm	6 1/8" = 210 155.6 mm	7 1/8" = 380 181.0 mm	8 1/8" = 640 206.4 mm
4 3/16" = 3525 106.4 mm	5 3/16" = 65 131.8 mm	6 3/16" = 220 157.2 mm	7 3/16" = 395 182.6 mm	8 3/16" = 655 208.0 mm
4 1/4" = 3535 108.0 mm	5 1/4" = 75 133.1 mm	6 1/4" = 230 158.8 mm	7 1/4" = 410 184.2 mm	8 1/4" = 670 209.6 mm
4 5/16" = 3545 109.5 mm	5 5/16" = 85 134.9 mm	6 5/16" = 240 160.3 mm	7 5/16" = 420 185.7 mm	8 5/16" = 680 211.1 mm
4 3/8" = 3550 111.1 mm	5 3/8" = 95 136.5 mm	6 3/8" = 250 161.9 mm	7 3/8" = 430 187.3 mm	8 3/8" = 690 212.7 mm
4 7/16" = 3560 112.7 mm	5 7/16" = 105 138.1 mm	6 7/16" = 265 163.5 mm	7 7/16" = 440 188.9 mm	8 7/16" = 700 214.3 mm
4 1/2" = 3565 114.3 mm	5 1/2" = 110 139.7 mm	6 1/2" = 275 165.1 mm	7 1/2" = 460 190.5 mm	8 1/2" = 720 215.9 mm
4 9/16" = 3575 115.9 mm	5 9/16" = 120 141.3 mm	6 9/16" = 285 166.7 mm	7 9/16" = 475 192.1 mm	8 9/16" = 735 217.5 mm
4 5/8" = 3589 117.5 mm	5 5/8" = 130 142.9 mm	6 5/8" = 295 168.3 mm	7 5/8" = 495 193.7 mm	8 5/8" = 755 219.1 mm
4 11/16" = 3594 119.0 mm	5 11/16" = 140 144.4 mm	6 11/16" = 305 169.8 mm	7 11/16" = 520 195.2 mm	8 11/16" = 780 220.6 mm
4 3/4" = 3599 120.7 mm	5 3/4" = 150 146.1 mm	6 3/4" = 315 171.5 mm	7 3/4" = 530 196.9 mm	8 3/4" = 790 222.3 mm
4 13/16" = 10 122.3 mm	5 13/16" = 155 147.6 mm	6 13/16" = 325 173.0 mm	7 13/16" = 555 198.4 mm	8 13/16" = 815 223.8 mm
4 7/8" = 20 123.8 mm	5 7/8" = 170 149.2 mm	6 7/8" = 335 174.6 mm	7 7/8" = 575 200.0 mm	8 7/8" = 835 225.4 mm
4 15/16" = 30 125.4 mm	5 15/16" = 180 150.8 mm	6 15/16" = 345 176.2 mm	7 15/16" = 595 201.6 mm	8 15/16" = 855 227.0 mm
				9" = 875 228.6 mm

Values are based on a press speed of 30 strokes per minute and intended for an initial set point only. Final adjustments must be made with the press in production.

**USE INSIDE HOLE ON STROKE DISC.**

## PLS VALUES FOR PEERLESS 388 FEED

8 Inches (203.2 mm) to 12 Inches (304.8 mm) Feed Length Adjustable Range  
12 Inches (304.8 mm) to 13 Inches (330.2 mm) Viewing Window Values

8" = 100 203.2 mm	9" = 202 228.6 mm	10" = 320 254.0 mm	11" = 452 279.4 mm	12" = 680 304.8 mm
8 1/16" = 107 204.8 mm	9 1/16" = 209 230.2 mm	10 1/16" = 327 255.6 mm	11 1/16" = 462 281.0 mm	12 1/16" = 690 306.4 mm
8 1/8" = 114 206.4 mm	9 1/8" = 216 231.8 mm	10 1/8" = 334 257.2 mm	11 1/8" = 477 282.6 mm	12 1/8" = 705 308.0 mm
8 3/16" = 121 208.0 mm	9 3/16" = 223 233.4 mm	10 3/16" = 343 258.8 mm	11 3/16" = 484 284.2 mm	12 3/16" = 712 309.6 mm
8 1/4" = 128 209.6 mm	9 1/4" = 230 235.0 mm	10 1/4" = 350 260.4 mm	11 1/4" = 491 285.8 mm	12 1/4" = 719 311.2 mm
8 5/16" = 132 211.1 mm	9 5/16" = 237 236.5 mm	10 5/16" = 357 261.9 mm	11 5/16" = 498 287.3 mm	12 5/16" = 726 312.7 mm
8 3/8" = 137 212.7 mm	9 3/8" = 246 238.1 mm	10 3/8" = 364 263.5 mm	11 3/8" = 518 288.9 mm	12 3/8" = 746 314.3 mm
8 7/16" = 144 214.3 mm	9 7/16" = 251 239.7 mm	10 7/16" = 371 265.1 mm	11 7/16" = 530 290.5 mm	12 7/16" = 758 315.9 mm
8 1/2" = 151 215.9 mm	9 1/2" = 261 241.3 mm	10 1/2" = 380 266.7 mm	11 1/2" = 540 292.1 mm	12 1/2" = 768 317.5 mm
8 9/16" = 158 217.5 mm	9 9/16" = 268 242.9 mm	10 9/16" = 395 268.3 mm	11 9/16" = 555 293.7 mm	12 9/16" = 783 319.1 mm
8 5/8" = 165 219.1 mm	9 5/8" = 273 244.5 mm	10 5/8" = 402 269.9 mm	11 5/8" = 567 295.3 mm	12 5/8" = 795 320.7 mm
8 11/16" = 172 220.6 mm	9 11/16" = 280 246.0 mm	10 11/16" = 409 271.4 mm	11 11/16" = 579 296.8 mm	12 11/16" = 807 322.2 mm
8 3/4" = 177 222.3 mm	9 3/4" = 287 247.7 mm	10 3/4" = 416 273.1 mm	11 3/4" = 591 298.5 mm	12 3/4" = 819 323.9 mm
8 13/16" = 184 223.8 mm	9 13/16" = 294 249.2 mm	10 13/16" = 423 274.6 mm	11 13/16" = 607 300.0 mm	12 13/16" = 835 325.4 mm
8 7/8" = 191 225.4 mm	9 7/8" = 301 250.8 mm	10 7/8" = 430 276.2 mm	11 7/8" = 622 301.6 mm	12 7/8" = 850 327.0 mm
8 15/16" = 197 227.0 mm	9 15/16" = 308 252.4 mm	10 15/16" = 445 277.8 mm	11 15/16" = 650 303.2 mm	12 15/16" = 878 328.6 mm
				13" = 908 330.2 mm

Values are based on a press speed of 30 strokes per minute and intended for an initial set point only. Final adjustments must be made with the press in production.

**USE MIDDLE HOLE ON STROKE DISC.**



### PLS VALUES FOR PEERLESS 388 FEED

12 Inches (304.8 mm) to 16 Inches (406.4 mm) Feed Length Adjustable Range

16 Inches (406.4 mm) to 17 Inches (431.8 mm) Viewing Window Values

12" = 190 304.8 mm	13" = 269 330.2 mm	14" = 358 355.6 mm	15" = 456 381.0 mm	16" = 581 406.4 mm
12 1/16" = 193 306.4 mm	13 1/16" = 274 331.8 mm	14 1/16" = 363 357.2 mm	15 1/16" = 462 382.6 mm	16 1/16" = 587 408.0 mm
12 1/8" = 198 308.0 mm	13 1/8" = 279 333.4 mm	14 1/8" = 368 358.8 mm	15 1/8" = 468 384.2 mm	16 1/8" = 593 409.6 mm
12 3/16" = 204 309.6 mm	13 3/16" = 284 335.0 mm	14 3/16" = 373 360.4 mm	15 3/16" = 474 385.8 mm	16 3/16" = 599 411.1 mm
12 1/4" = 208 311.2 mm	13 1/4" = 289 336.6 mm	14 1/4" = 380 362.0 mm	15 1/4" = 484 387.4 mm	16 1/4" = 605 412.8 mm
12 5/16" = 212 312.7 mm	13 5/16" = 298 338.1 mm	14 5/16" = 387 363.5 mm	15 5/16" = 492 388.9 mm	16 5/16" = 613 414.3 mm
12 3/8" = 220 314.3 mm	13 3/8" = 303 339.7 mm	14 3/8" = 393 365.1 mm	15 3/8" = 499 390.5 mm	16 3/8" = 620 416.0 mm
12 7/16" = 225 315.9 mm	13 7/16" = 308 341.3 mm	14 7/16" = 398 366.7 mm	15 7/16" = 506 392.1 mm	16 7/16" = 627 417.5 mm
12 1/2" = 230 317.5 mm	13 1/2" = 313 342.9 mm	14 1/2" = 404 368.3 mm	15 1/2" = 513 393.7 mm	16 1/2" = 634 419.1 mm
12 9/16" = 233 319.1 mm	13 9/16" = 323 344.5 mm	14 9/16" = 411 369.9 mm	15 9/16" = 520 395.3 mm	16 9/16" = 641 420.7 mm
12 5/8" = 238 320.7 mm	13 5/8" = 326 346.1 mm	14 5/8" = 417 371.5 mm	15 5/8" = 533 396.9 mm	16 5/8" = 654 422.3 mm
12 11/16" = 244 322.2 mm	13 11/16" = 331 347.6 mm	14 11/16" = 423 373.0 mm	15 11/16" = 539 398.4 mm	16 11/16" = 660 423.8 mm
12 3/4" = 250 323.9 mm	13 3/4" = 336 349.3 mm	14 3/4" = 428 374.7 mm	15 3/4" = 547 400.1 mm	16 3/4" = 668 425.4 mm
12 13/16" = 253 325.4 mm	13 13/16" = 341 350.8 mm	14 13/16" = 436 376.2 mm	15 13/16" = 555 401.6 mm	16 13/16" = 676 427.0 mm
12 7/8" = 259 327.0 mm	13 7/8" = 348 352.4 mm	14 7/8" = 443 377.8 mm	15 7/8" = 563 403.2 mm	16 7/8" = 684 428.6 mm
12 15/16" = 264 328.6 mm	13 15/16" = 353 354.0 mm	14 15/16" = 450 379.4 mm	15 15/16" = 571 404.8 mm	16 15/16" = 692 430.2 mm
				17" = 702 431.8 mm

Values are based on a press speed of 30 strokes per minute and intended for an initial set point only. Final adjustments must be made with the press in production.

**USE OUTSIDE HOLE ON STROKE DISC.**

## **STACK COUNTER**

The stack counter acknowledges each press revolution by an output from the PLS. Product is counted by press revolutions. After reaching the programmed count number, products are discharged from the stacker cans. An internal timer controls the length of time that the discharge belts run to deliver product to the operator.

### **TO CHANGE / CREATE A STACK COUNT (PRESET) VALUE**

Repeatedly press the "-" button on the counter face until "C... / P1..." is displayed.

Repeatedly press the "SEL" button on the counter face until the number you want to change is flashing.

Repeatedly press the "+" or "-" button on the counter face until the desired number is displayed.

Repeat procedure to alter all digits necessary to correct the complete number.

Press the "ENT" button on the counter face to record the new value.

Resume normal operation.

### **TO CHANGE / CREATE A TIMED OUTPUT VALUE**

Press the "RUN/PGM" button on the counter face.

Press the "ENT" button on the programmer face.

Repeatedly press the "-" button on the programmer face until "program out mode" is displayed.

Repeatedly press the "SEL" button on the counter face until "RELAY 1 NORMAL" is displayed.

Repeatedly press the "-" button until "RELAY / PUL 0.00" is displayed.

Repeatedly press the "SEL" button until the number you want to change is flashing.

Repeatedly press the "+" or "-" button until the desired number is displayed.

Repeat procedure to alter all digits necessary to correct the complete number.

Press the "ENT" button.

Press the "RUN / PGM" button.

Further programming instructions can be found in the "DURANT AMBASSADOR SERIES COUNT CONTROL" manual included with your press information.

Resume normal operation.

## BASIC DIE ALIGNMENT PROCEDURES

After the Initial Installation of the forming dies, the following procedures and checklist will aid in proper die alignment.

1. Open dies, loosen the four bolts on the bottom die, move the bottom die up and down to establish the amount of movement. Determine the center of this movement and tighten the bolts.  
A flat head socket cap screw installed in two opposite corner bolt holes will center the die about the clearance holes. Install hex head cap screws in the other two bolt holes. Remove the flat head socket cap screws and install hex head cap screws.
2. Loosen the bolts on the top die slightly, enough that the die will move with slight force.
3. Place two well-formed plates in the bottom die.
4. Bring the dies together to full compression, open the dies, and then bring the dies to full compression again. Tighten the bolts on the top die.
5. Adjust the bolster bolts so they are all even.
6. Remove the plates and heat the dies to running temperature.
7. Mark a blank with pen or pencil, place the blank in the die, with the mark in front, cycle the press one revolution.
8. Remove the plate and hold it up to a strong light. Tight places will show up as light places on the plate.
9. Check points to look for on plates:
  - A. Tight places – look at the plate with a light. Move the die until no tight places appear.
  - B. The angle of the plunger impression – it should be the same all around.
  - C. Rollover or outer edge of the plate should be the same all around. If not, check for curl in the paper or the blank stops not set properly.
  - D. Flutes should be round. If they appear oblong, the die needs to be turned.
  - E. The textures of the board should look the same around all radii. If one side appears smoother or more pressed, the die must be moved.

After looking at the plate, mark with a pen or pencil the direction you feel the die should be moved to achieve the desired results. After marking the plate, look again to make sure you are right, it is very easy to move opposite the desired direction.

Move the bottom die whenever possible, because the bottom die can be better controlled while moving.

After each move, put in another marked blank and start with procedure #7 again until the desired results are obtained.

## TEMPERATURE RANGES

Temperature settings vary due to the many types of paper, coatings, moisture content, and inks.

The following general facts may help.

Uncoated board with 6 to 12% moisture typically runs with the top die heat at 250 - 325 degrees F (120 - 160 degrees C), and the bottom die heat at 250 - 375 degrees F (120 - 190 degrees C).

Lacquer coatings usually have to be run at cooler temperatures. Top 125 - 250 degrees F (50 - 120 degrees C), bottom 200 - 350 degrees F (90 - 180 degrees C).

Nitro-Cellulose and water based coatings usually run better at higher temperatures. Top 200 - 300 degrees F (90 - 150 degrees C), bottom 250 - 375 degrees F (120 - 190 degrees C).

Poly coated boards are usually run with the top die heat at 75 - 150 degrees F (25 - 65 degrees C), and the bottom die heat at 200 - 375 degrees F (90 - 190 degrees C) depending on the poly coating material.

## **DIE HEAT TEMPERATURE CONTROL**

The die heat temperature controls have two displays. The upper displays the actual temperature of the die and is red in color. The lower displays the set point and is green in color.

Use the up / down keys on the temperature control to change the set point value.

The temperature control has a high temperature limit and output, which opens a mechanical relay in the die heat circuit to prevent overheating.

## INSTRUCTIONS FOR CHANGING DIES

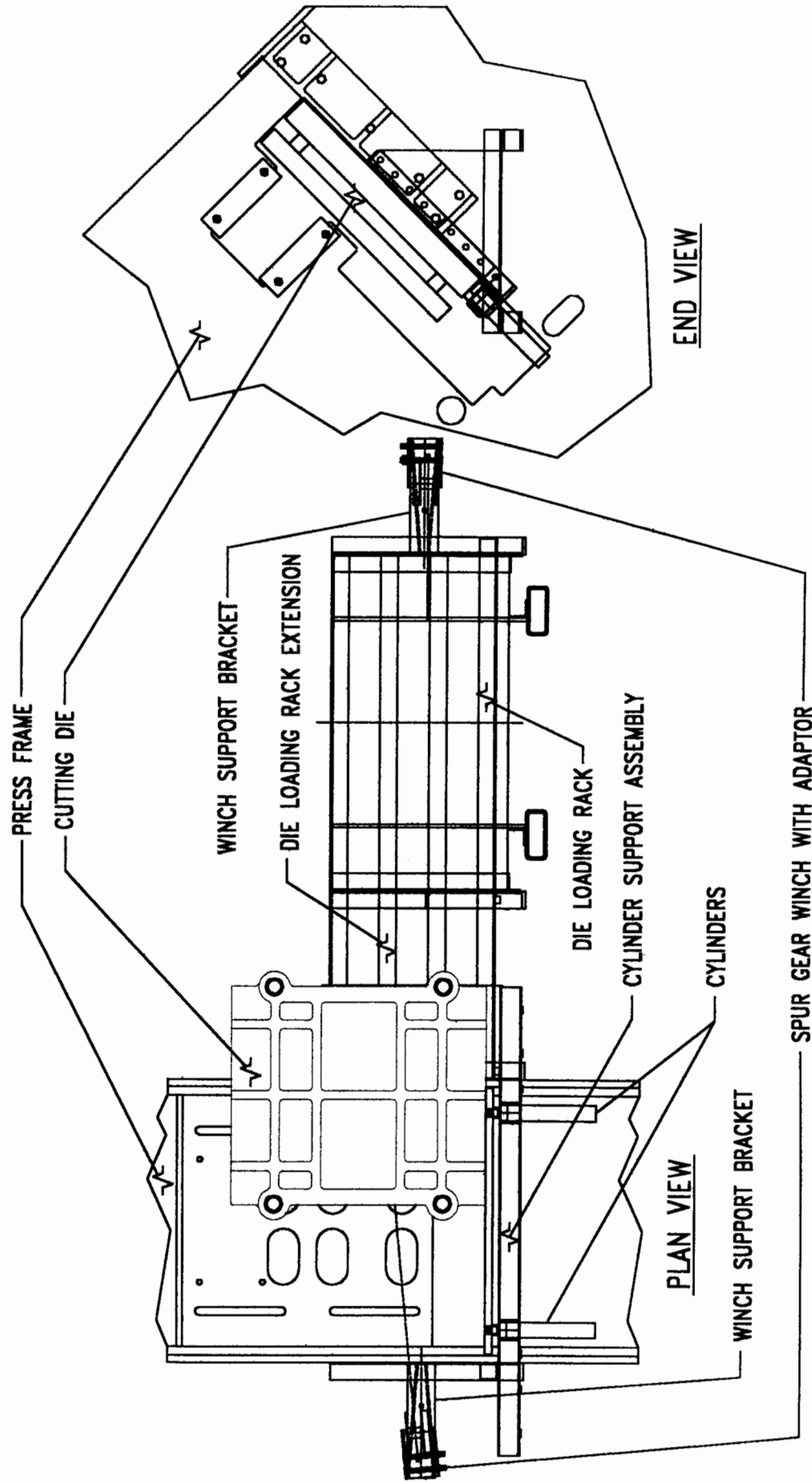
### CUTTING DIE REMOVAL

1. Disconnect the airline, and remove the two bolts on each side of waste chute. Remove the waste chute thru the side of the machine.
2. Remove the two bolts fastening the blank chute to its mounting angles, and the two bolts holding the blank chute to the cutting die. Remove the blank chute thru the side of the machine.
3. Rotate the machine until the cutting die is open about 1/4 inch.
4. Switch off and lock out all electrical power to the machine. Refer to the Do's and Don'ts For Operation Of Peerless Machinery, page B and C of this manual.
5. Remove the lower portion of both machine side guards.
6. As shown in the sketch on page 26, attach the die loading rack extension, and one winch support bracket to the machine sideframes. The parts are reversible and can be mounted to either machine sideframe, depending on the desired direction of cutting die installation / removal.

The parts have four possible mounting positions to accommodate the range of cutting die sizes. The first or lowest mounting position is for dies 33 to 36 inches long. The second position is for dies 27 to 33 inches long. The third position is for dies 21 to 27 inches long. The fourth or highest position is for dies 15 to 21 inches long.

7. As shown in the sketch on page 26, install the cylinder support assembly, centered across the machine width. This assembly is supported by the die loading rack extension and winch support bracket.
8. Connect both hand operated hydraulic oil pumps to the hydraulic cylinders. Pump the cylinders up until the cutting die is supported by the assembly.
9. Remove the top and bottom cutting die-mounting bolts.
10. Slowly retract the hydraulic cylinders, lowering the cutting die, by slowly rotating the release lever on the hydraulic oil pumps.
11. Clamp the die loading rack to the forks of a lift truck and position the rack at the side of the machine as shown in the sketch on page 26. The die loading rack must be lined up as close as possible with the die loading rack extension.
12. As shown in the sketch on page 26, attach the second winch support bracket to the die loading rack. Thread the eyebolt into the end of the cutting die. Attach the winch strap to the eyebolt and pull the die thru the side of the machine and onto the die rack.

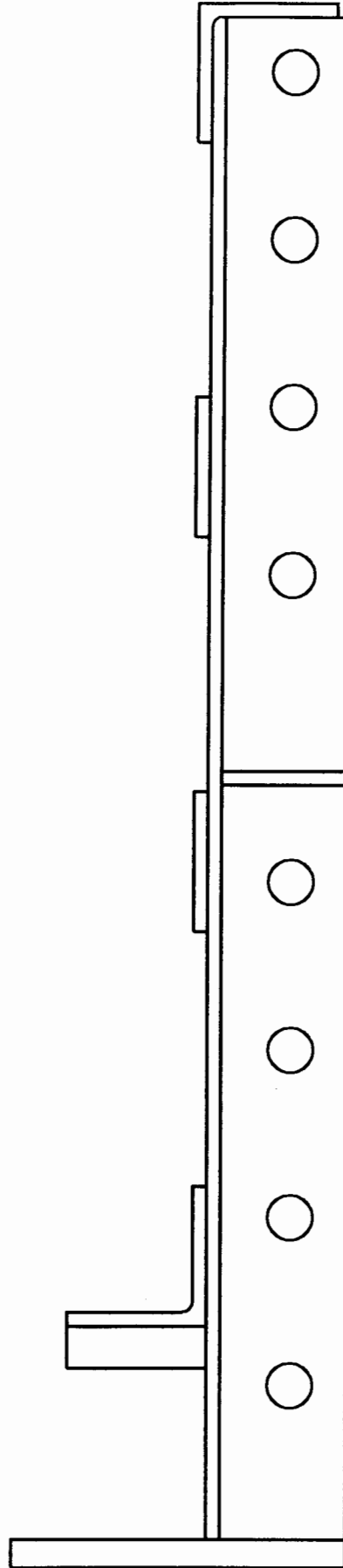
# PEERLESS CUTTING DIE INSTALLATION/REMOVAL SYSTEM



Q:\DWGS\CUSTOMER\DIELOAD.DWG  
SCALE - 22 : 1

MINIMUM AND MAXIMUM CUTTING DIE LENGTHS  
FOR EACH DIE LOADING RACK MOUNTING POSITION

DIMENSIONS SHOWN ARE FOR LONG BASE MACHINES.  
 SHORT BASE MACHINES USE THE HOLES LABELED 36 IN AND 915 MM.



15 IN	21 IN	27 IN	33 IN	381 MM	533.MM	686 MM	838 MM
27 IN	30 IN	33 IN	36 IN	686 MM	762 MM	838 MM	915 MM



## CUTTING DIE INSTALLATION

1. Install the die loading rack extension, winch support bracket, cylinder support assembly, and hand operated oil pumps as described in "Cutting Die Removal."
2. Place the cutting die on the die loading rack.
3. Position the die along the side the machine, attach the winch strap, and pull it into place.
4. Push the die up, into location, with the hand operated oil pumps. When die is in the proper location, all top die-mounting bolts should be easily installed by hand.
5. Tighten the bottom mounting bolts, do not tighten the top bolts until all installation steps are completed.
6. Remove the gib caps on both sides of the machine. Visually check to see if the head is centered across the width of the machine. The head ends should be flush with the outside of the gibs. If the head isn't properly centered, bump it into position with a plastic hammer.
7. Place a 0.004 / 0.005 inch shim between the cutting head and the top gib on both sides. Use a clamp on each side to pull the head up tightly against the shim.
8. If all top mounting bolts can still be turned with your fingers, the die is properly aligned and the bolts can all be tightened. If the bolts cannot be turned freely, shift the die, with the head still clamped in position, until all bolts are free and then tighten. Start by tightening the center bolt on both sides of the die, and work outward until all bolts are tight.
9. Remove the clamps and shims from the gibs. Check gib to head clearance. There should be at least 0.004-inch clearance on each side of the head. The cutting head should ride in the center of the gibs. The guide posts in the die should hold the head in position.
10. If applicable, place a sheet of paper in the scoring section of the die. Make sure the paper you use is big enough to cover the entire scoring section, and is representative of the paper you will be using in production. Run the press over one cycle and remove the sheet to examine the scores. Shim under the counter plate until the scoring is uniform. As a general rule, a good score will be 0.005 to 0.006 inches deep.

## **FORMING DIE REMOVAL**

1. Close the forming dies.
2. Remove the plunger / ejector mechanism.
3. After making sure the electrical power to the dies is switched off, disconnect all heater wires and thermostat probes.
4. Disconnect the top die air lines.
5. Remove the top and bottom die mounting bolts.
6. Raise the forming head slowly to the up position and remove the top dies. The plunger stems in the bottom dies will prevent them from sliding out.
7. Remove the bottom forming dies.
8. Remove the top die mounting plate.
9. Remove the bolster bolt nuts by using a jack to slightly compress the bolster springs, remove the nuts at the bottom side of forming base. Remove the bolster bolts and bolster plates.

## **FORMING DIE INSTALLATION**

1. Starting from one side of the machine, install the first bolster plate, or spacer if needed, using the required amount of bolster springs and bolts. Install the remaining bolster plates, bolts, spacers, and springs.
2. Using a jack to compress the springs, push the bolster plate down until the top of the plate is flush with the top of the forming base. Install the washers and nuts on the bolster bolts, and tighten against the bottom of the forming base. Repeat the procedure for each bolster plate.
3. Install the top die mounting plate. Be sure that the 3/8" tapped holes for the blank stops are turned toward the top of the machine.
4. Install the bottom dies. Try to center them in the clearance on the mounting holes before tightening the bolts.
5. Connect all bottom die wiring and install the heat probes. Switch the heat on, and set the controllers for the desired temperature.
6. Starting at one side, place a formed plate / tray in the bottom die. Place the top die on the bottom die, and bring the head down slowly to within 1/16 inch of closed position.

7. Install the top die mounting bolts, but do not tighten. Bring the forming head down to the closed position and tighten the bolts.
8. With the die closed, and the plate / tray still in position, adjust the bolster nuts to within 0.020 inch of the bottom of the forming base. Adjust all bolts evenly.
9. Open the dies, and following the "Basic Die Alignment Procedure," page 22, align the dies.
10. Repeat steps 6 thru 9 on each die.
11. Make any necessary electrical and air connections on the top dies.
12. Install the plunger / ejector mechanism.

## **AUXILIARY EQUIPMENT INSTALLATION**

1. Install the blank chute. Align the blank chute slides with the bridges in the cutting die. Adjust the lower end of the blank chute, 3/8 to 1/2 inch above the bottom forming dies. The lower end of the blank chute can be adjusted from side to side, by loosening the nut on the square head set screw, and sliding chute sideways in the slotted 1/4 x 1 bar.
2. Install the waste chute and connect the air line.

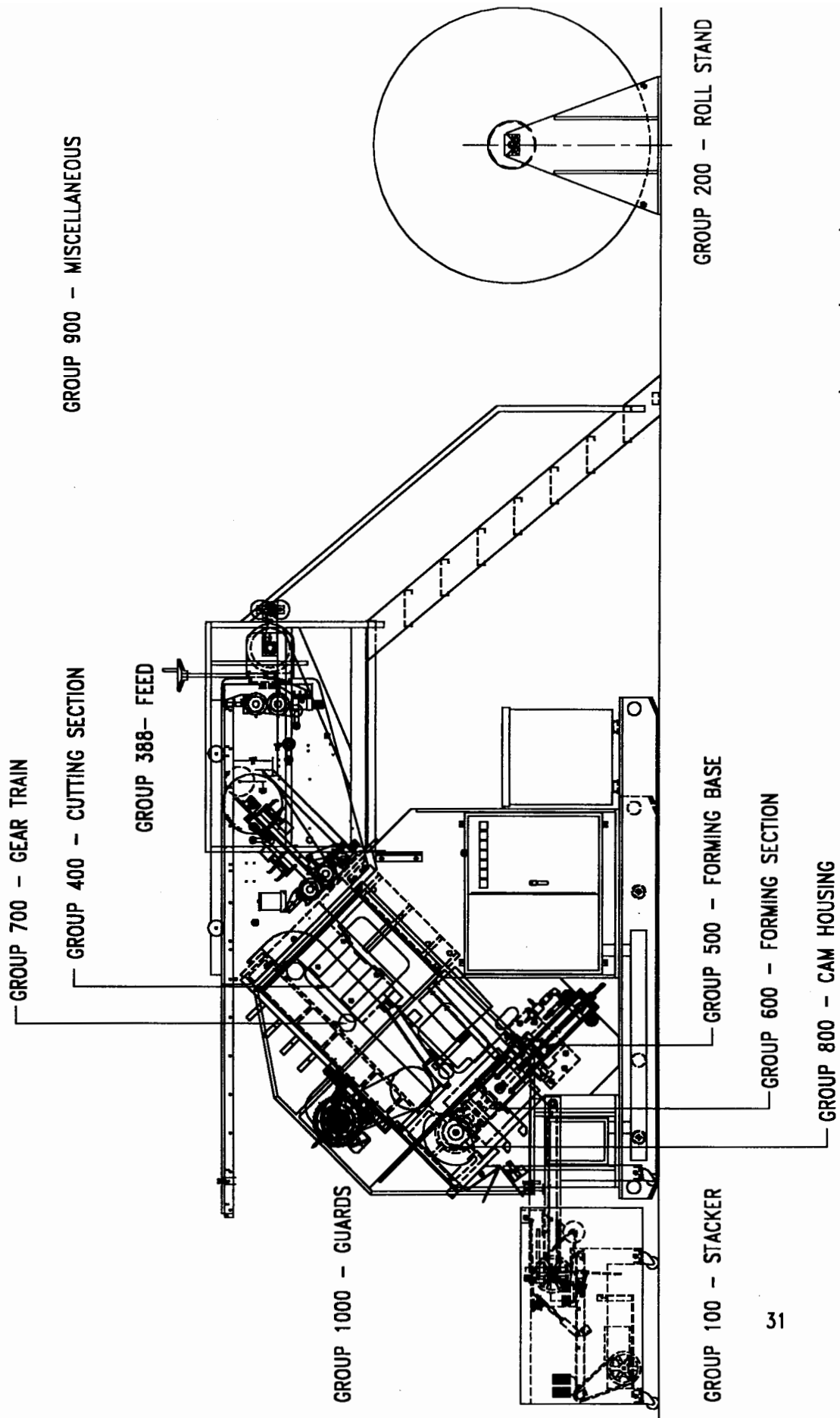
## **FEED AND STACKER ADJUSTMENTS**

1. Adjust the feed paper guides, and select the appropriate PLS program.
2. Install the stacker cans.
3. Adjust the opening between the stacker gate and the stacker cans to accommodate the plate / tray size. This can be done by loosening the lock bolt on each side of the counter section, and moving it lengthwise in the slots, toward or away from the conveyor section.
4. To position the 1-inch wide belts, remove the belt from the crowned pulley and loosen the setscrew in the pulley. Shift the pulley to the desired location and tighten the setscrew. Replace the belt on the pulley. Normally two belts per plate / tray are used.
5. The tray stop fingers can be moved by loosening the setscrew and sliding them on the square bar. One tray stop in the center of each pair of conveyor belts is standard.
6. The jogger pads, located on the square bar in the center of the stacker can, can be moved by loosening the setscrew. The pad should be in the center of the stacker can width.

This completes the normal procedure for changing the dies in all Peerless Tray and Plate Forming Machines.

The individual user may find methods, which suit his particular condition better. However, none of the above steps should be omitted. We feel all steps indicated are necessary to insure proper installation.

# MACHINE SECTION IDENTIFICATION NUMBERS



**PEERLESS PLATE AND TRAY PRESS MAINTENANCE**  
**SCHEDULE FOR MACHINES WITH 388 FEEDS**  
**FOR 24 HOURS / DAY - 5 DAYS / WEEK OPERATION**

**I. FEED SECTION**

- A. PULL ROLL SHAFT CYLINDER AND LINKAGE  
Worn linkage limits pull roll engagement.
  - 12 – 18 months normal life expectancy.
- B. FEED CLUTCH AND BRAKE  
Worn clutch causes erratic feed lengths.
  - 12 – 18 months normal life expectancy.
- C. FEED CLUTCH LINKAGE  
Worn linkage causes erratic feed lengths.
  - 9 – 12 months normal life expectancy.
- D. FEED AND PULL ROLLER IDLER SHAFTS AND BUSHINGS  
Worn shafts and bushings affect paper feed control.
  - Lubricate weekly with friction type bearing grease.
  - 12 – 18 months normal life expectancy.
- E. FEED GEARS  
Worn gears affect feed length.
  - Lubricate monthly with open gear grease.
  - 3 – 5 years normal life expectancy.

**II. CUTTING SECTION**

- A. CUTTING HEAD WEAR PADS AND GIBS  
Worn pads dramatically increase cutting die wear.
  - Monitor adjustment / wear monthly. Maintain 0.008 inch head pad / gib clearance.
  - Lubricate every 8 hours with friction type bearing grease.
  - 12 – 18 months normal life expectancy.
- B. CONNECTING ROD BUSHINGS AND ECCENTRICS  
Worn components increase cutting die wear.
  - Lubricate every 8 hours with friction type bearing grease.
  - Properly maintain cutting die.
  - 12 – 18 months normal life expectancy.

**C. ECCENTRIC SHAFT BEARINGS**

Worn bearings increase cutting die wear.

- Lubricate daily with friction type bearing grease.
- Properly maintain cutting die.
- 18 – 24 months normal life expectancy.

**III. CUTTING DIE**

**A. ALIGNMENT PINS AND BUSHINGS**

Worn components increase die wear. Galled components increase connecting rod bushing wear, or in extreme cases, cause permanent die or press damage.

- Lubricate every 2 – 4 hours with heavy oil (STP) or light viscosity friction type bearing grease.
- 9 – 12 months normal life expectancy.

**B. CUTTING PLATE / CUTTING PLATE INSERTS**

Cutting plates must remain sharp to produce cleanly cut blanks.

- Properly maintain press cutting section, die pins, and punches.
- Peen and sharpen every 9 – 12 months.
- Expect to replace every 3 – 4 years.

**C. CUTTING PUNCHES**

Punches must remain sharp to “shear” the die plate in its’ “Peen and Sharpen” maintenance service. A sharp cutting edge is also required to produce cleanly cut blanks.

- Properly maintain press cutting section, die pins, and punches.
- Regrind to sharpen every 9 – 12 months.
- Expect to replace every 3 – 4 years.

**IV. FORMING SECTION**

**A. FORMING HEAD WEAR PADS AND GIBS**

Worn pads increase forming die wear. In more extreme cases die alignment cannot be retained.

- Monitor adjustment / wear monthly. Maintain 0.012 inch head pad / gib clearance.
- Check head position every 6 months. Forming head and forming base center lines (in feed direction) must be aligned. Adjust as necessary.
- Lubricate every 2 - 4 hours with friction type bearing grease.
- 9 – 12 months normal life expectancy.

**B. FORMING CAMS**

Worn cams cause erratic head travel.

- Properly maintain forming head wear pads and gibs.
- Insure a continuous, clean supply of motor oil from the cam roller oiler to lubricate the cam / cam roller contact surface.
- Properly maintain the cam roller wipers to prevent contaminants from contacting the cam / cam roller surface.
- 2 – 3 years normal life expectancy.

**C. CAM ROLLERS**

Worn cam rollers increase forming cam wear.

- Properly maintain forming head wear pads and gibs.
- Insure a continuous, clean supply of motor oil from the cam roller oiler to lubricate the cam / cam roller contact surface.
- Properly maintain the cam roller wipers to prevent contaminants from contacting the cam / cam roller surface.
- 12 – 18 months normal life expectancy.

**D. CAM ROLLER BEARINGS**

Worn cam roller bearings increase forming cam and roller wear.

- Lubricate every 8 hours with friction type bearing grease.
- Properly maintain bearing seals to prevent lubricant contamination.
- 12 – 18 months normal life expectancy.

**V. FORMING DIES**

**A. PLUNGERS AND DIE RING**

Worn components adversely affect formed plate / tray quality.

- Properly maintain press-forming section.
- Maintain correct die alignment.
- Expect to refurbish dies every 2 – 3 years to maintain quality production.

**VI. GEARS**

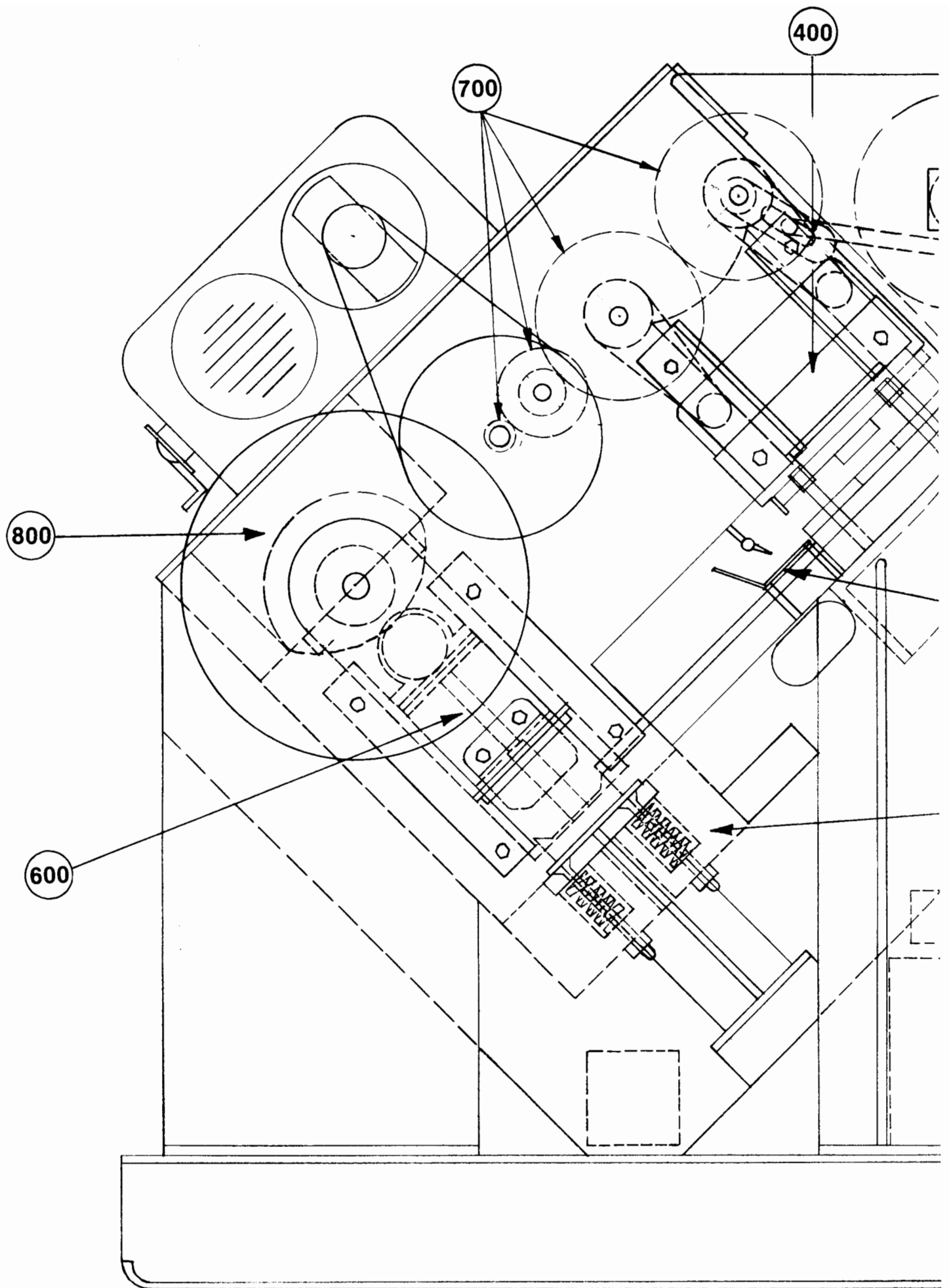
**A. ALL INTERIOR GEARS AND PINION GEARS**

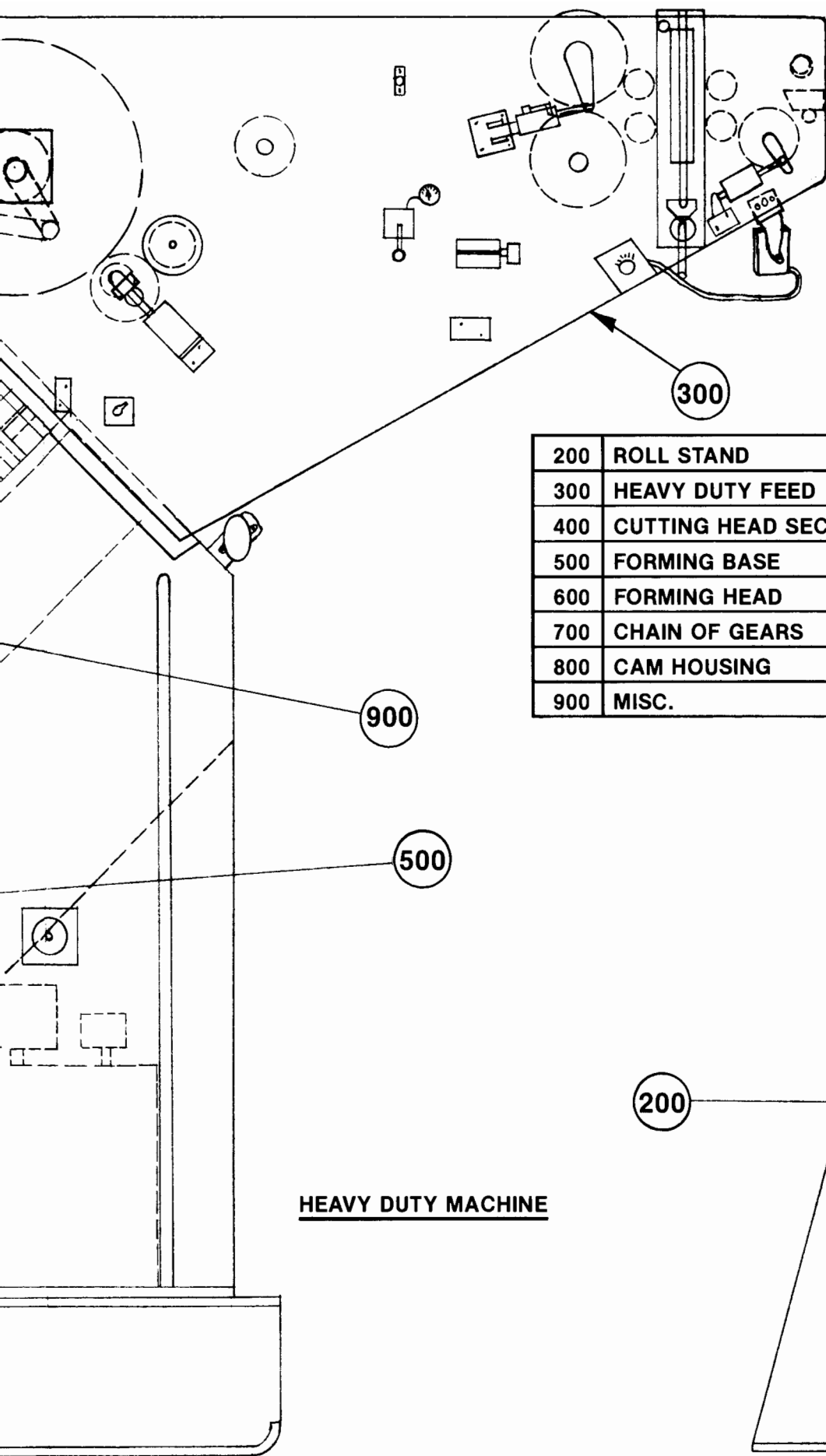
- Lubricate monthly with open gear grease.
- Avoid grease contamination.
- Properly maintain press cutting and forming sections.
- 18 – 24 months normal life expectancy.

**B. BULL GEARS**

- Lubricate monthly with open gear grease.
- Avoid grease contamination.
- Properly maintain press cutting and forming sections.
- 3 – 5 years normal life expectancy.

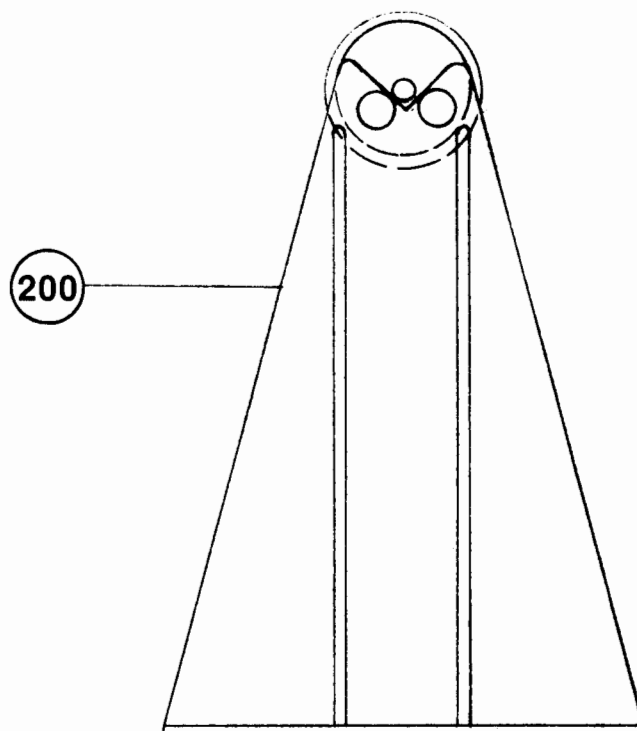






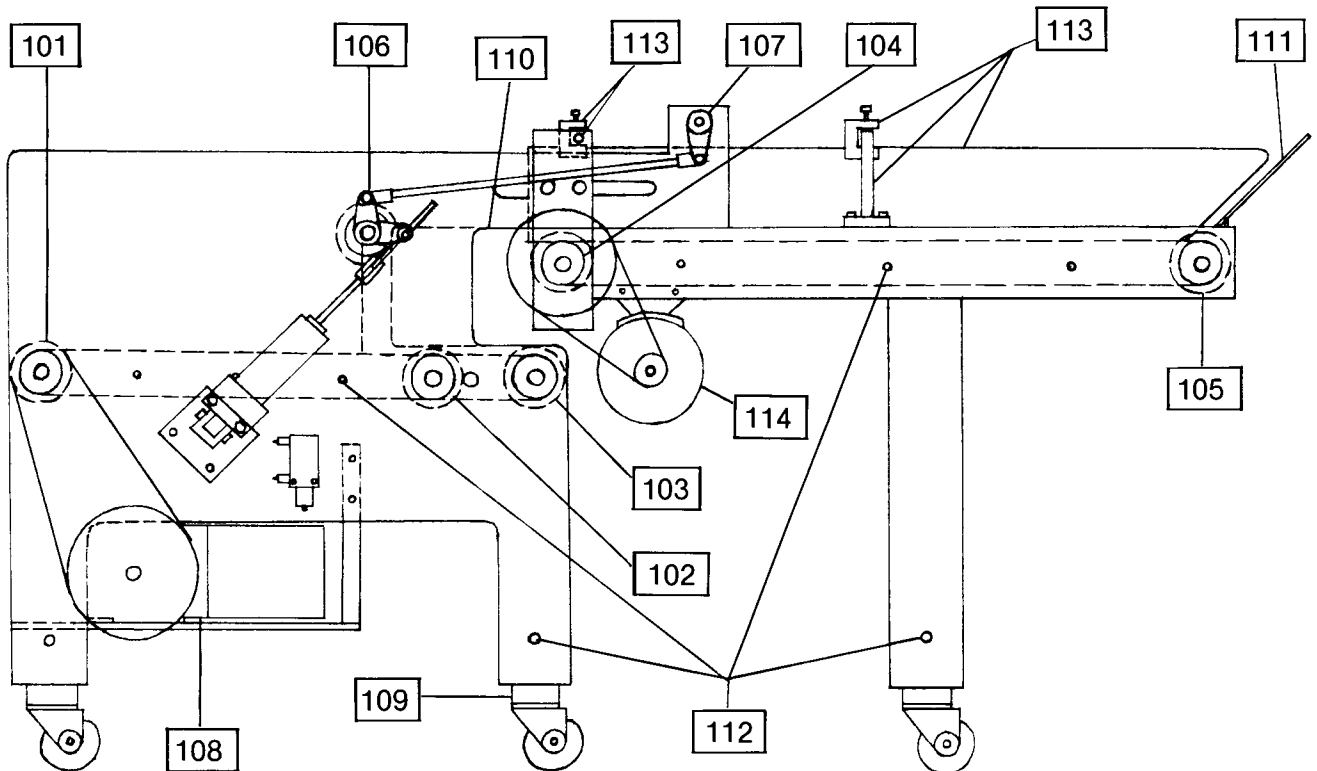
200	ROLL STAND
300	HEAVY DUTY FEED
400	CUTTING HEAD SECTION
500	FORMING BASE
600	FORMING HEAD
700	CHAIN OF GEARS
800	CAM HOUSING
900	MISC.

**HEAVY DUTY MACHINE**



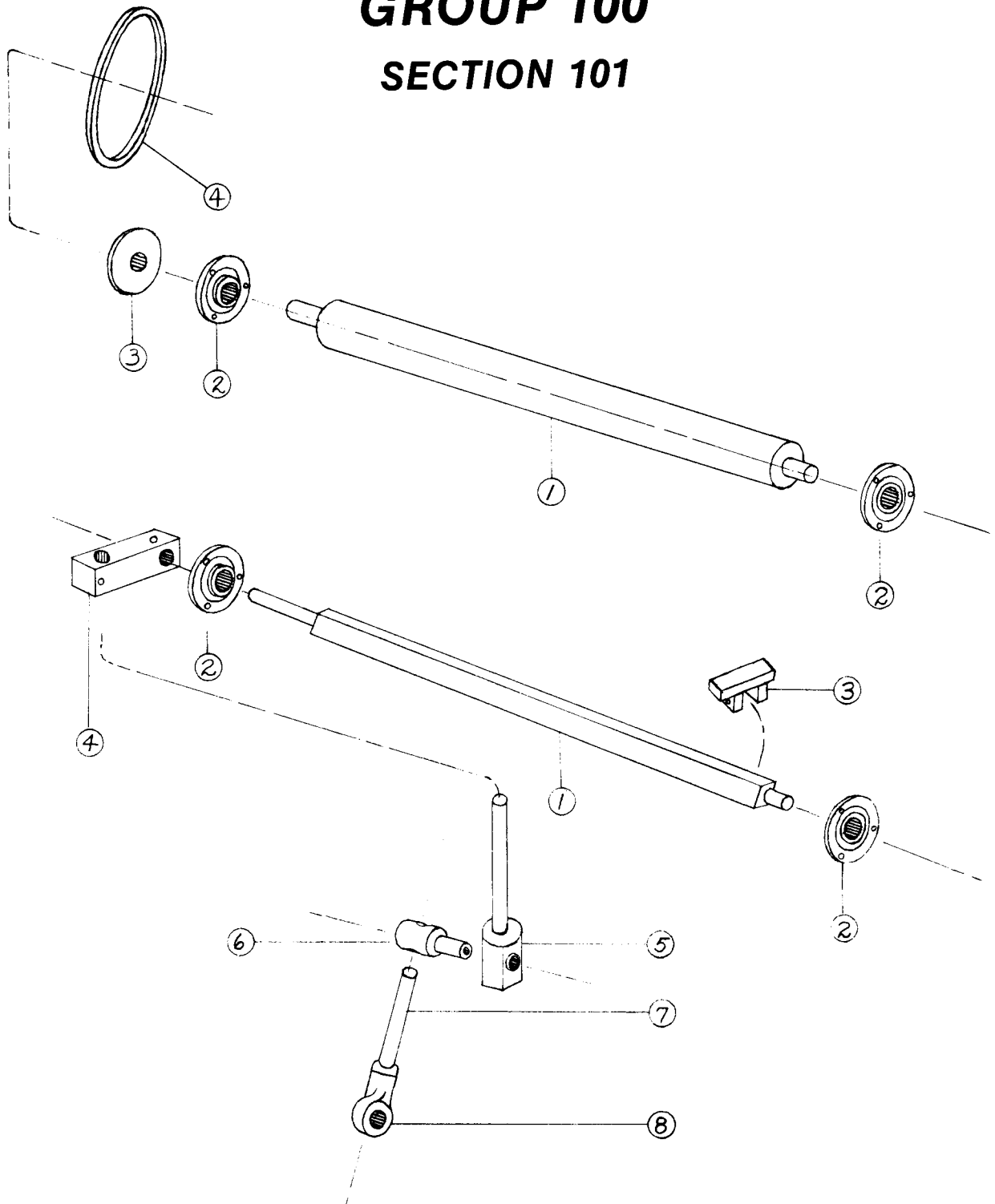
# COUNTER STACKER

## GROUP 100



# GROUP 100

## SECTION 101



## SECTION 102

# **GROUP 100**

## **SECTION 101**

INDEX NO.	PART DESCRIPTION
1	COUNTER DRIVE SHAFT
2	FLANGET BEARING
3	PULLEY
4	GRIP NOTCH BELT

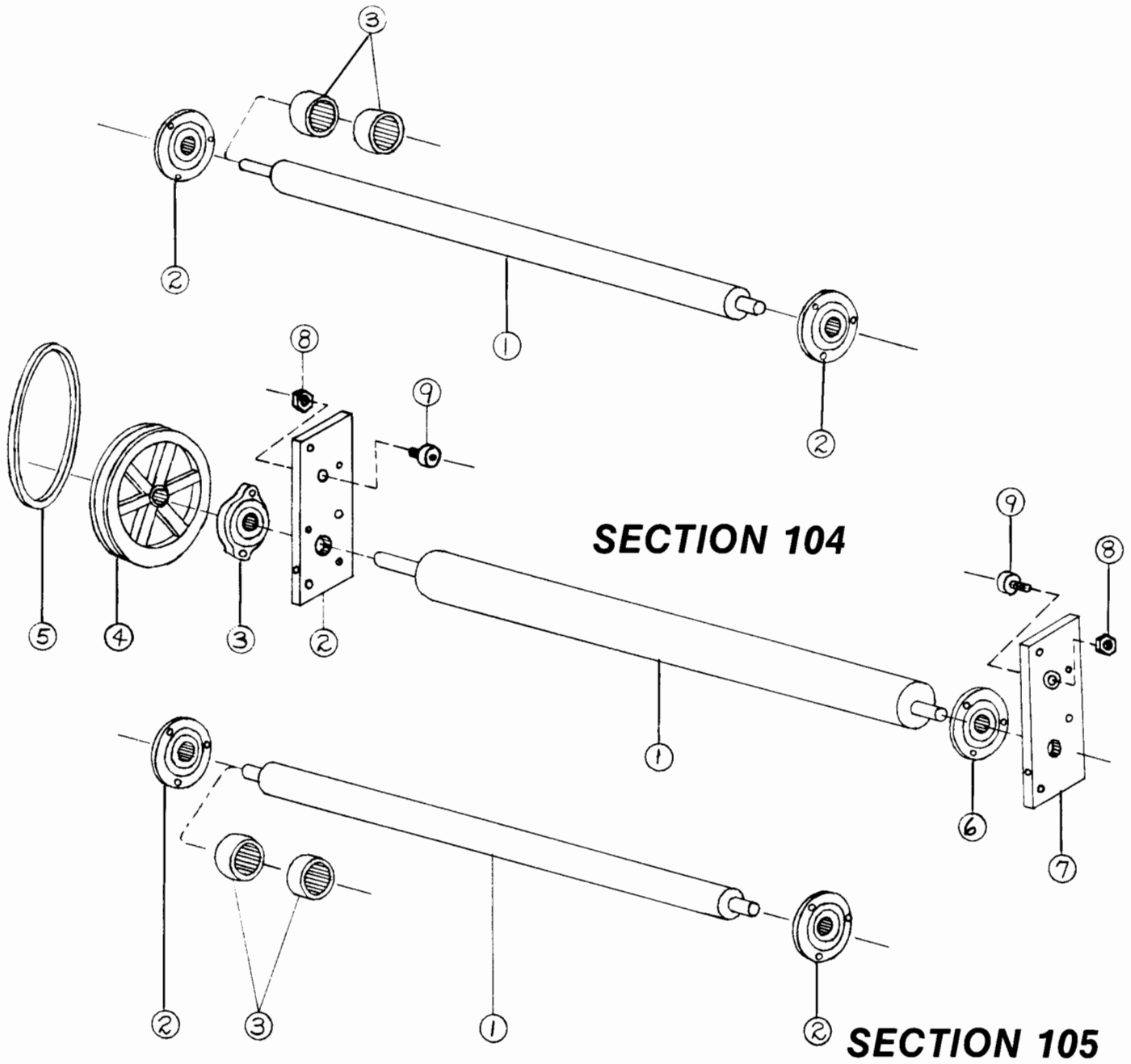
## **SECTION 102**

INDEX NO.	PART DESCRIPTION
1	JOGGER SHAFT
2	FLANGET BEARING
3	JOGGER PAD
4	JOGGER LINK
5	JOGGER ARM WITH OILITE BEARING
6	CONNECTING PIN
7	JOGGER ROD
8	HIEM UNIBAL ROD END

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 100

## SECTION 103



# **GROUP 100**

## **SECTION 103**

INDEX NO.	PART DESCRIPTION
1	COUNTER CROWN PULLEY SHAFT
2	FLANGET BEARING
3	CROWN PULLEY

## **SECTION 104**

INDEX NO.	PART DESCRIPTION
1	CONVEYOR DRIVE SHAFT
2	CONVEYOR END BAR
3	FLANGE BEARING
4	PULLEY
5	BROWNING BELT
6	FLANGET BEARING
7	CONVEYOR END BAR
8	CAM FOLLOWER NUT
9	McGILL CAM FOLLOWER

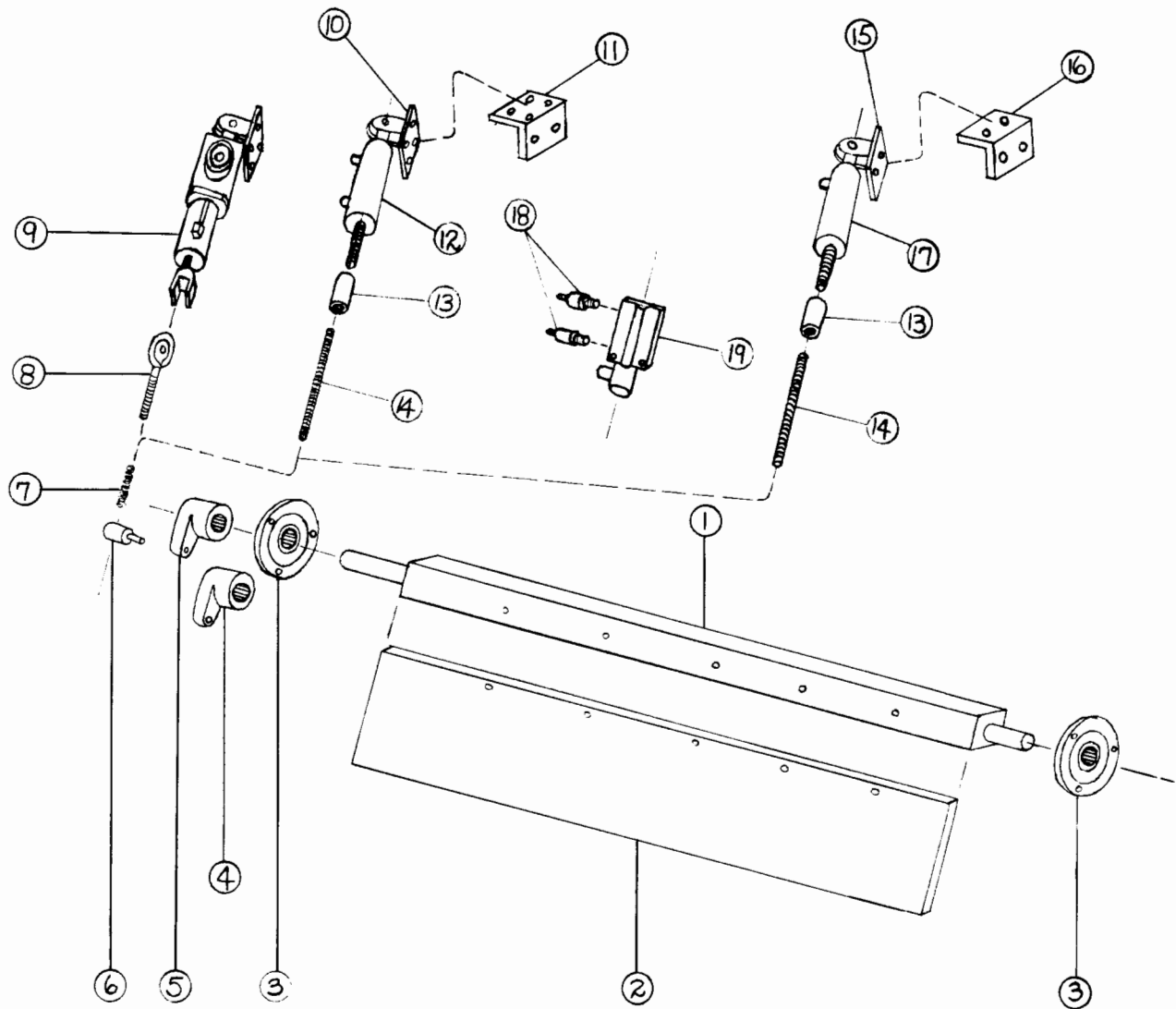
## **SECTION 105**

INDEX NO.	PART DESCRIPTION
1	CONVEYOR CROWN PULLEY SHAFT
2	FLANGET BEARING
3	CROWN PULLEY

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

# GROUP 100

## SECTION 106





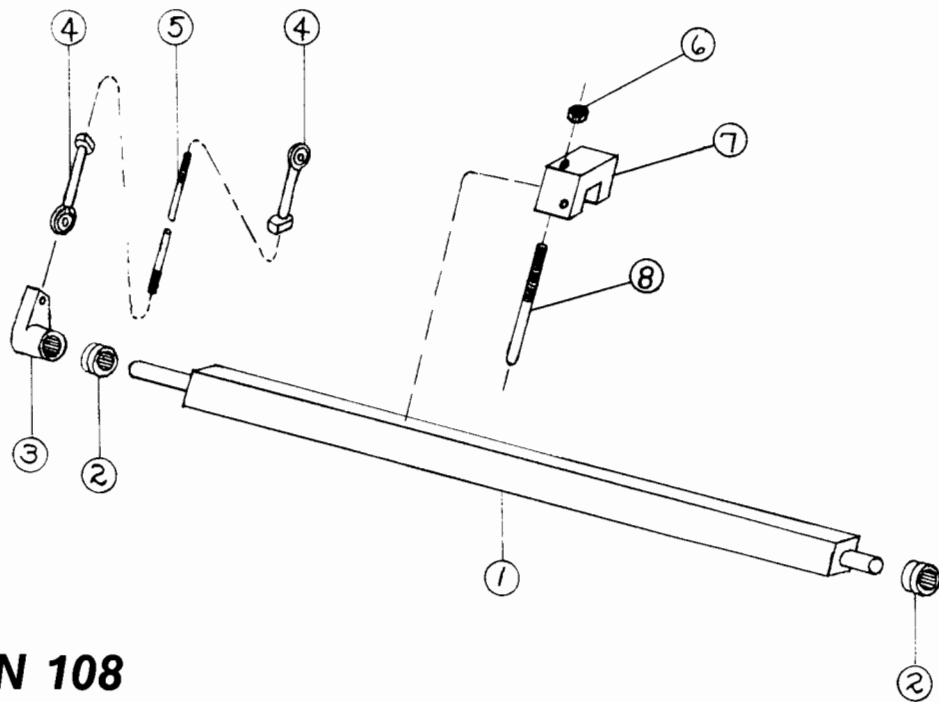
# **GROUP 100**

## **SECTION 106**

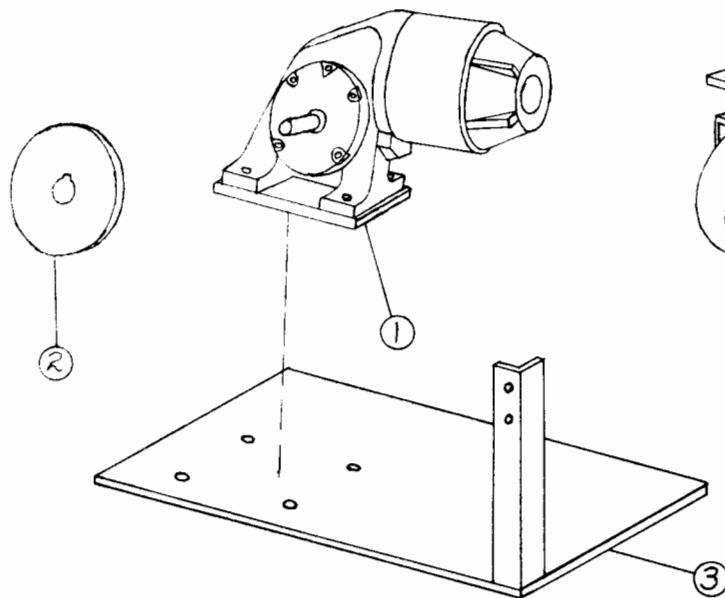
<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	GATE SHAFT
2	GATE (Specify 7" or 10" Width)
3	FLANGET BEARING
4	PLATE STOP LEVER
5	GATE ARM
6	ARM CONNECTING PIN
7	SPRING (9-1012-11)
8	GATE ARM Connecting Rod With AA628-10 Oilite Bushing
9	SCHRADER AIR CYLINDER
10	CYLINDER PIVOT
11	CYLINDER PIVOT MOUNT
12	BIMBA AIR CYLINDER
13	SLEEVE
14	GATE ARM CONNECTING ROD
15	CYLINDER PIVOT
16	CYLINDER PIVOT MOUNT
17	HUMPHREY AIR CYLINDER
18	SPEED CONTROL MUFFLER
19	SKINNER AIR VALVE

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

**GROUP 100**  
**SECTION 107**



**SECTION 108**



**SECTION 109**



# **GROUP 100**

## **SECTION 107**

INDEX NO.	PART DESCRIPTION
1	PLATE STOP BAR
2	BEARING (1/2")
3	LEVER
4	HIEM UNIBAL ROD END
5	CONNECTING ROD
6	JAM NUT
7	PLATE STOP CLAMP
8	PLATE STOP FINGER

## **SECTION 108**

INDEX NO.	PART DESCRIPTION
1	GEAR MOTOR (Specify Dresser or Reliance)
2	PULLEY
3	GEAR MOTOR MOUNTING PLATE (Specify Dresser or Reliance)

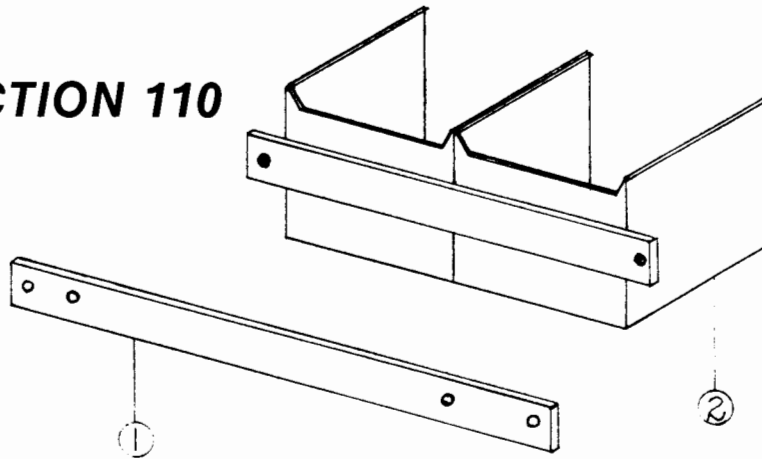
## **SECTION 109**

INDEX NO.	PART DESCRIPTION
1	PAYSON CASTOR

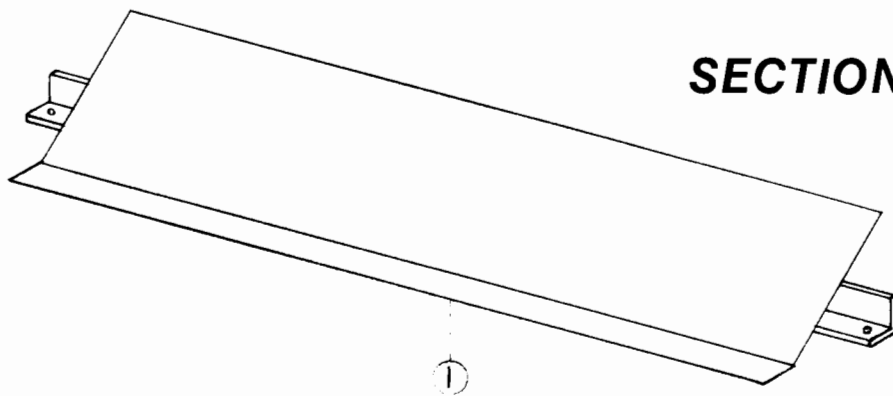
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

# GROUP 100

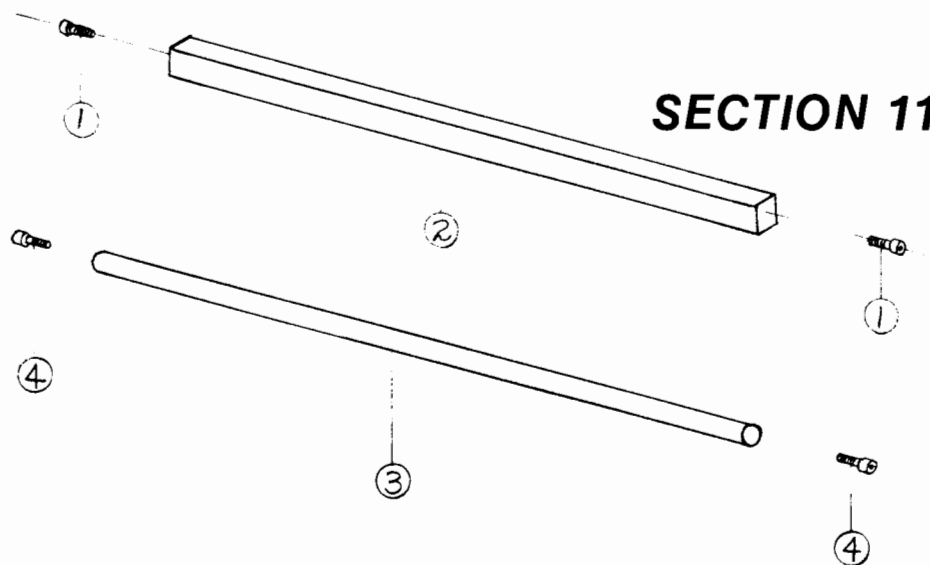
## SECTION 110



## SECTION 111



## SECTION 112



# **GROUP 100**

## **SECTION 110**

INDEX NO.	PART DESCRIPTION
1	STACKER CAN MOUNTING BAR
2	STACKER CANS

## **SECTION 111**

INDEX NO.	PART DESCRIPTION
1	PLATE DEFLECTOR

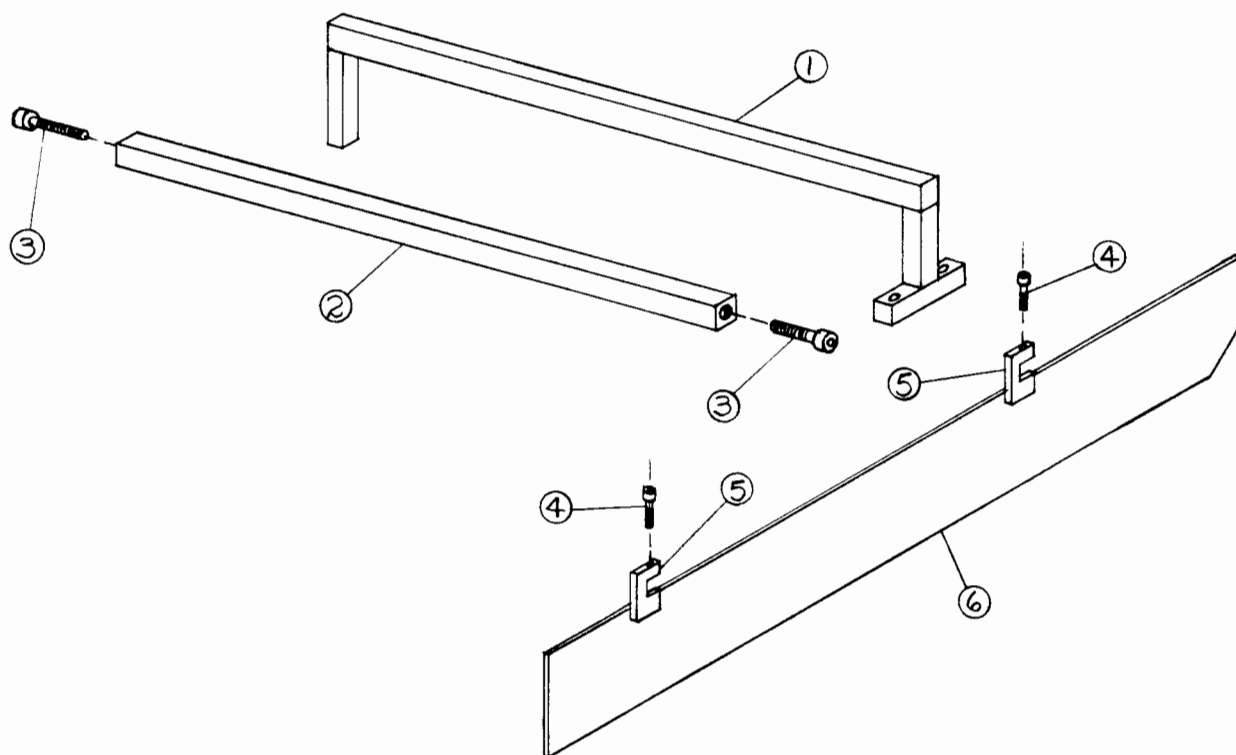
## **SECTION 112**

INDEX NO.	PART DESCRIPTION
1	SQUARE SPACER BOLTS
2	SQUARE SPACER BARS
3	ROUND SPACER BARS
4	ROUND SPACER BOLTS

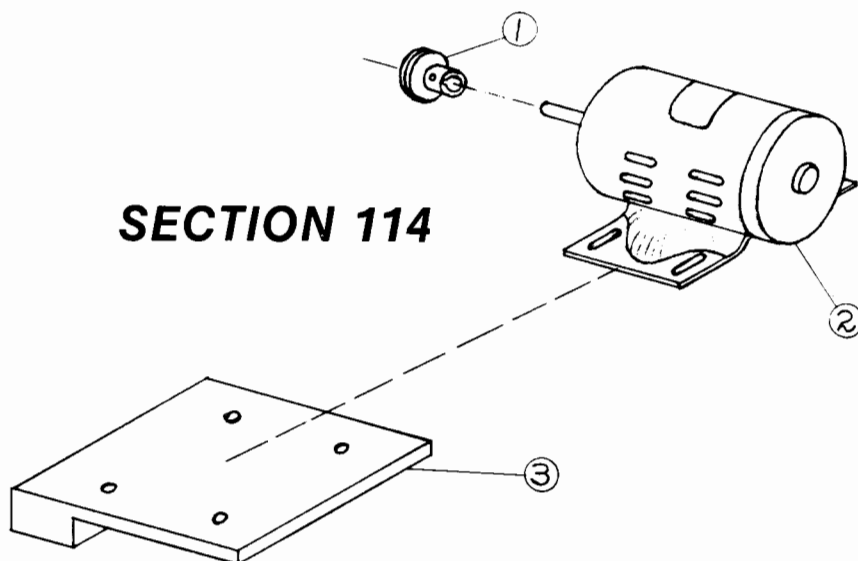
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

# GROUP 100

## SECTION 113



## SECTION 114



# **GROUP 100**

## **SECTION 113**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	BACK PLATE DIVIDER BAR
2	FRONT PLATE DIVIDER BAR
3	PLATE DIVIDER BAR BOLT
4	PLATE DIVIDER CLAMP BOLT
5	PLATE DIVIDER CLAMP
6	PLATE DIVIDER

## **SECTION 114**

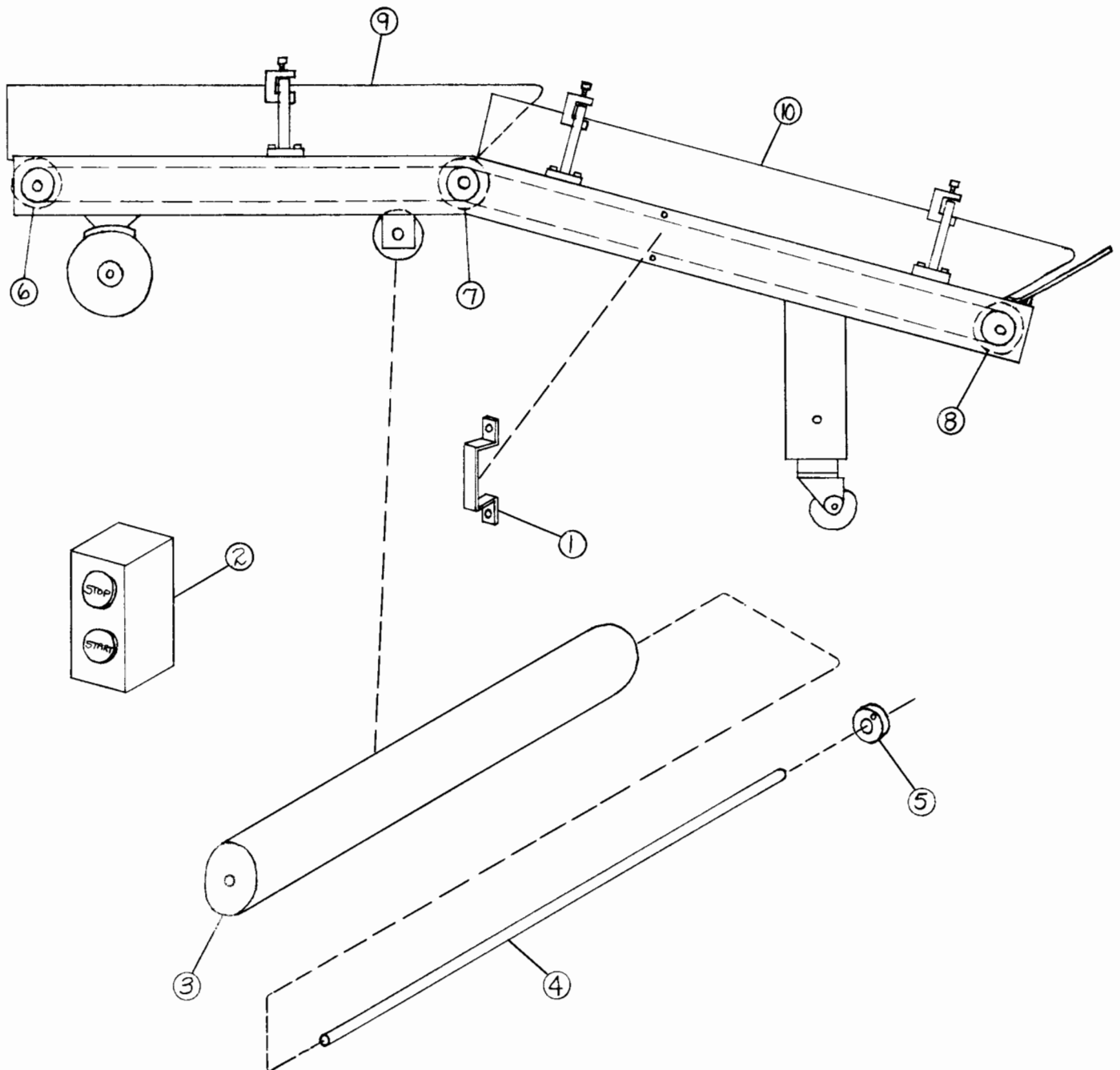
<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	BROWNING PULLEY
2	JOGGER MOTOR
3	JOGGER MOTOR MOUNTING PLATE

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# **GROUP 100**

## **EXTENDED CONVEYOR**

### **SECTION 115**





# **GROUP 100**

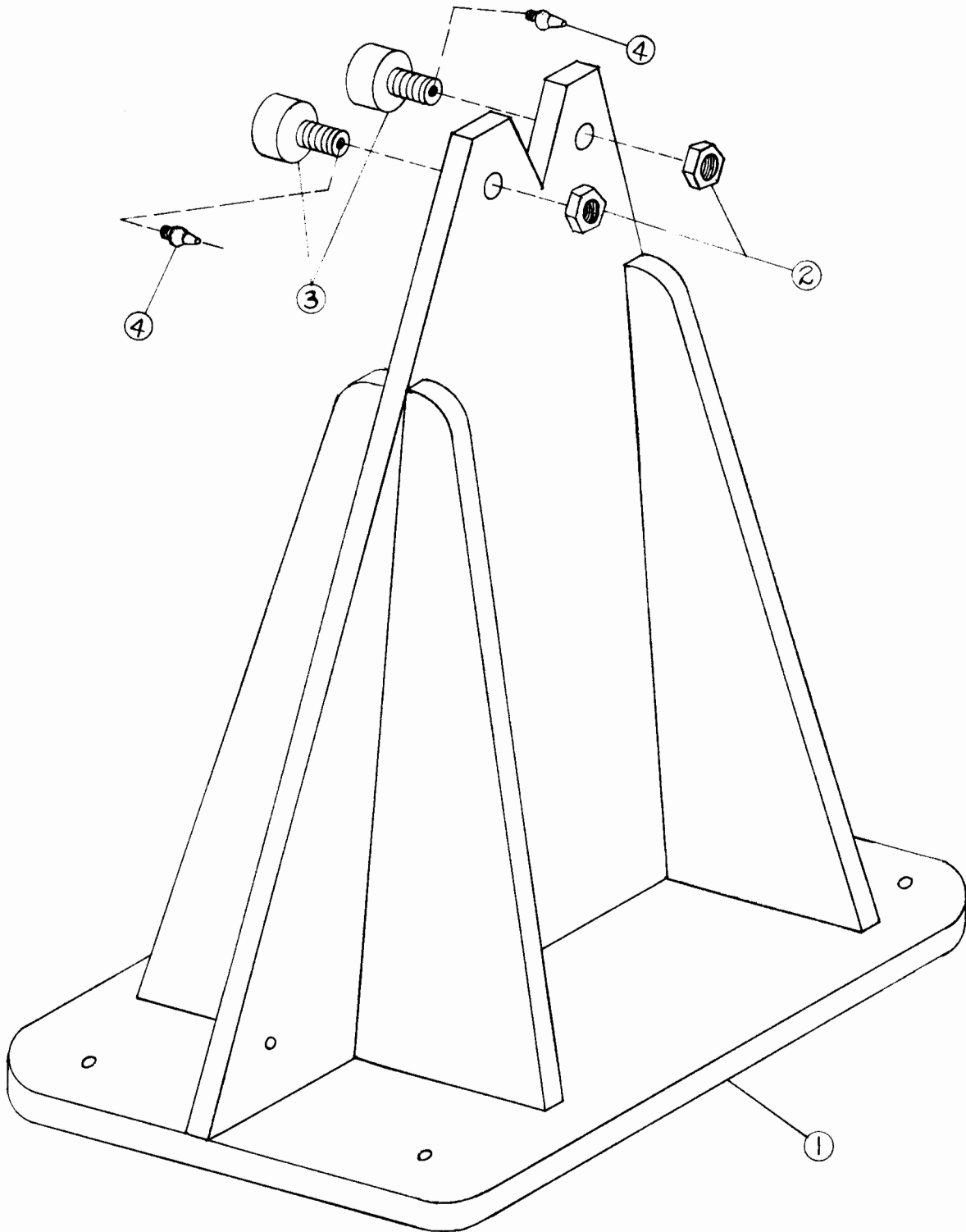
## **SECTION 115**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	WIRE BRACKETS
2	START-STOP BUTTONS IN HOFFMAN ENCLOSURE (Mounted on Counter)
3	IDLER ROLLER
4	IDLER ROLLER SHAFT
5	SHAFT END LOCK
6	CONVEYOR DRIVE SHAFT
7	EXTENDED CONVEYOR SHAFT
8	CONVEYOR CROWN PULLEY SHAFT
9	PLATE DIVIDER
10	PLATE DIVIDER (Extended Conveyor)

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 200

## SECTION 201



# **GROUP 200**

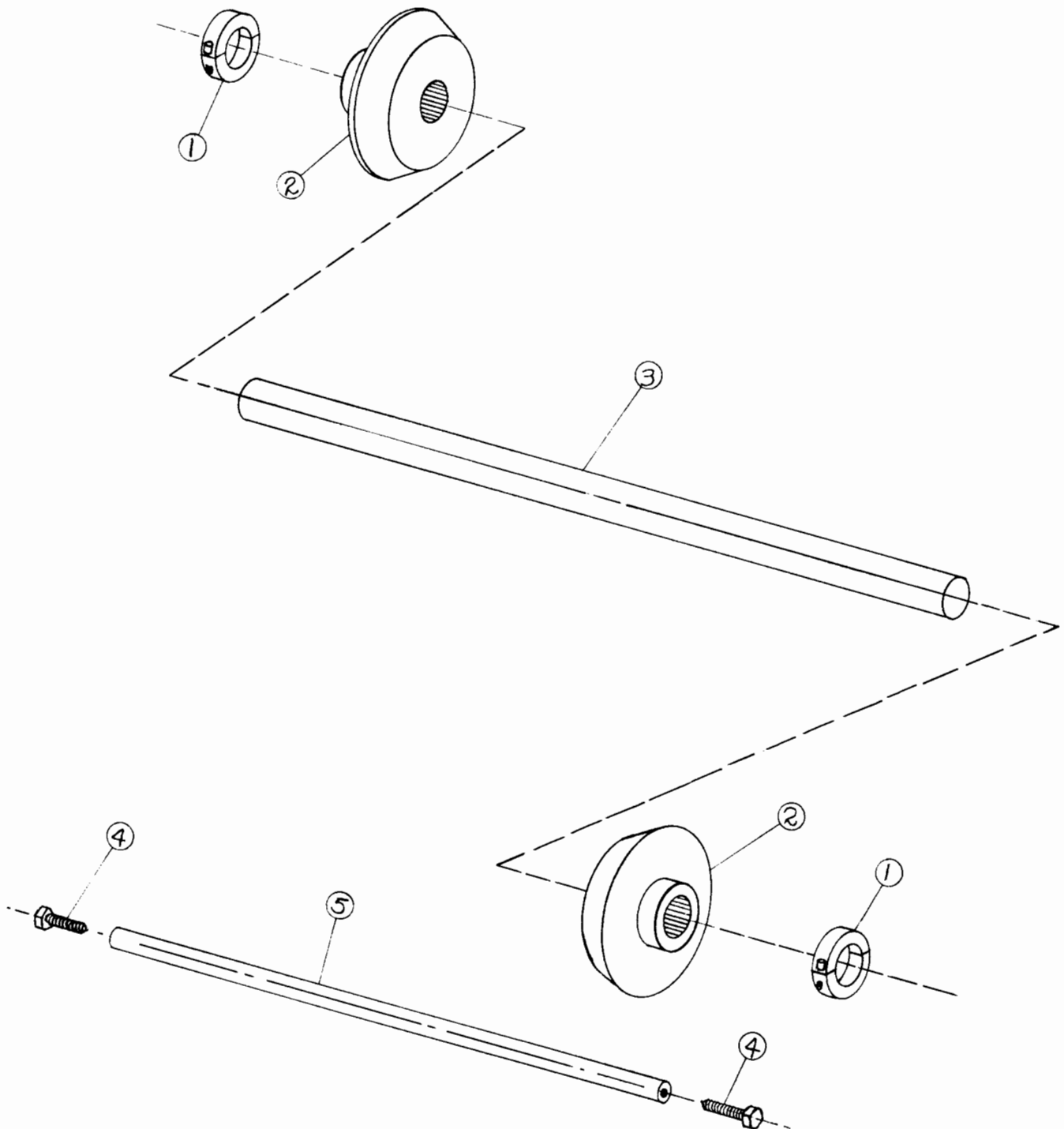
## **SECTION 201**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	HEAVY DUTY ROLL STAND
2	CAM FOLLOWER NUT
3	CAM FOLLOWER
4	GREASE FITTING

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# **GROUP 200**

## **SECTION 202**

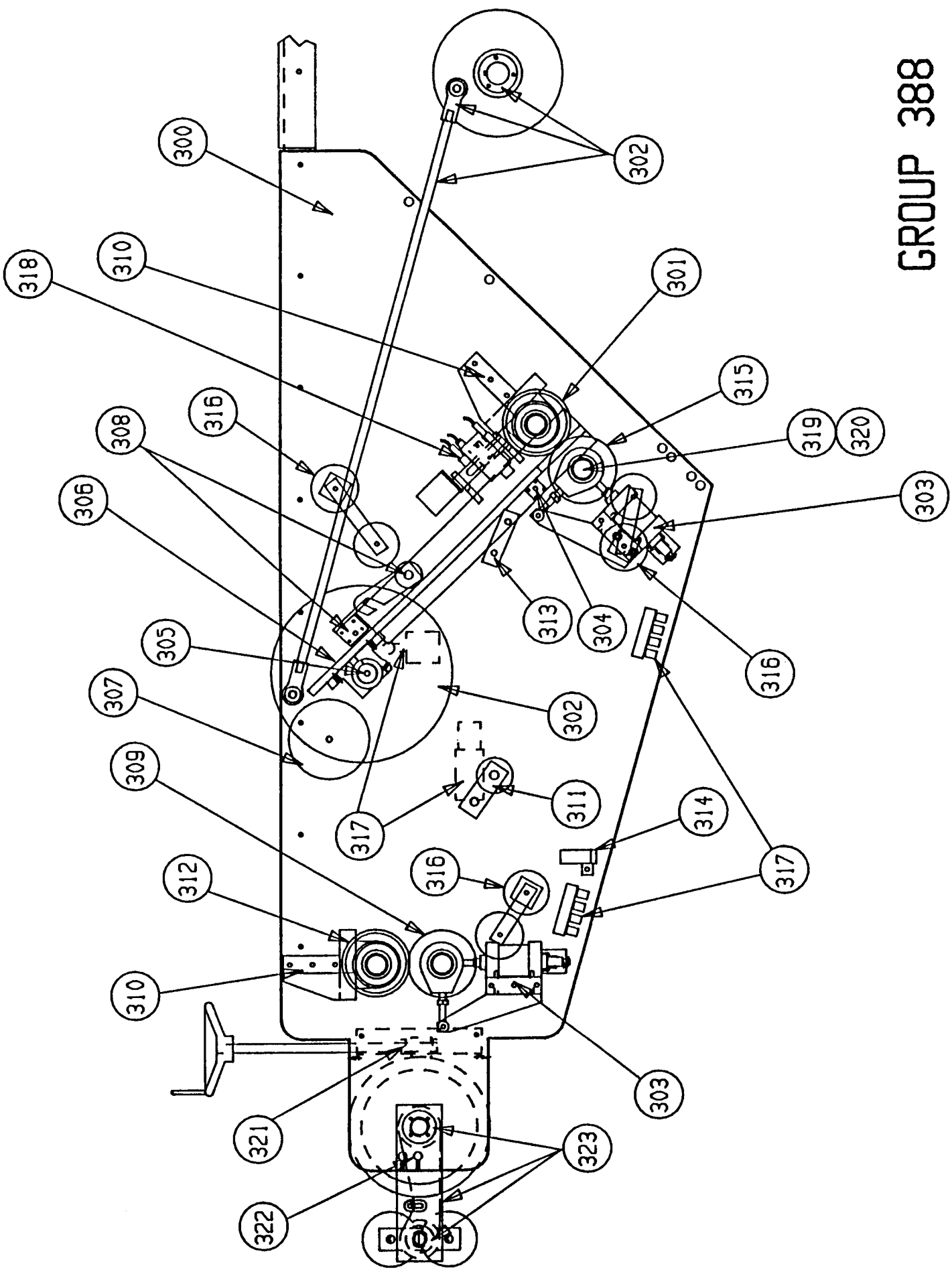


# **GROUP 200**

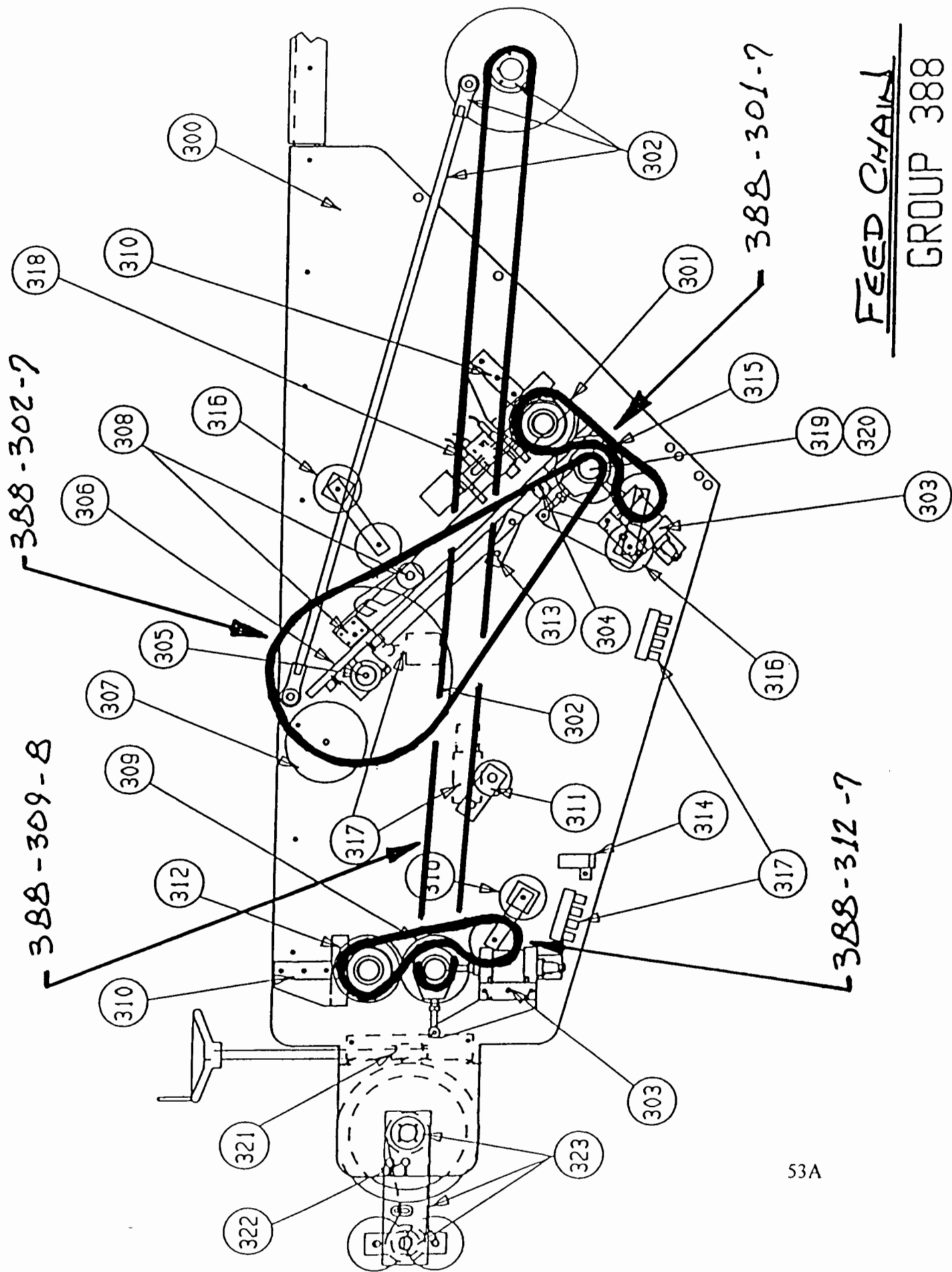
## **SECTION 202**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	SPLIT COLLAR
2	CORE ENDS
3	ROLL STAND SHAFT (Specify Length When Ordering)
4	SPACER BOLTS
5	ROLL STAND SPACER (Specify Length When Ordering)

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**



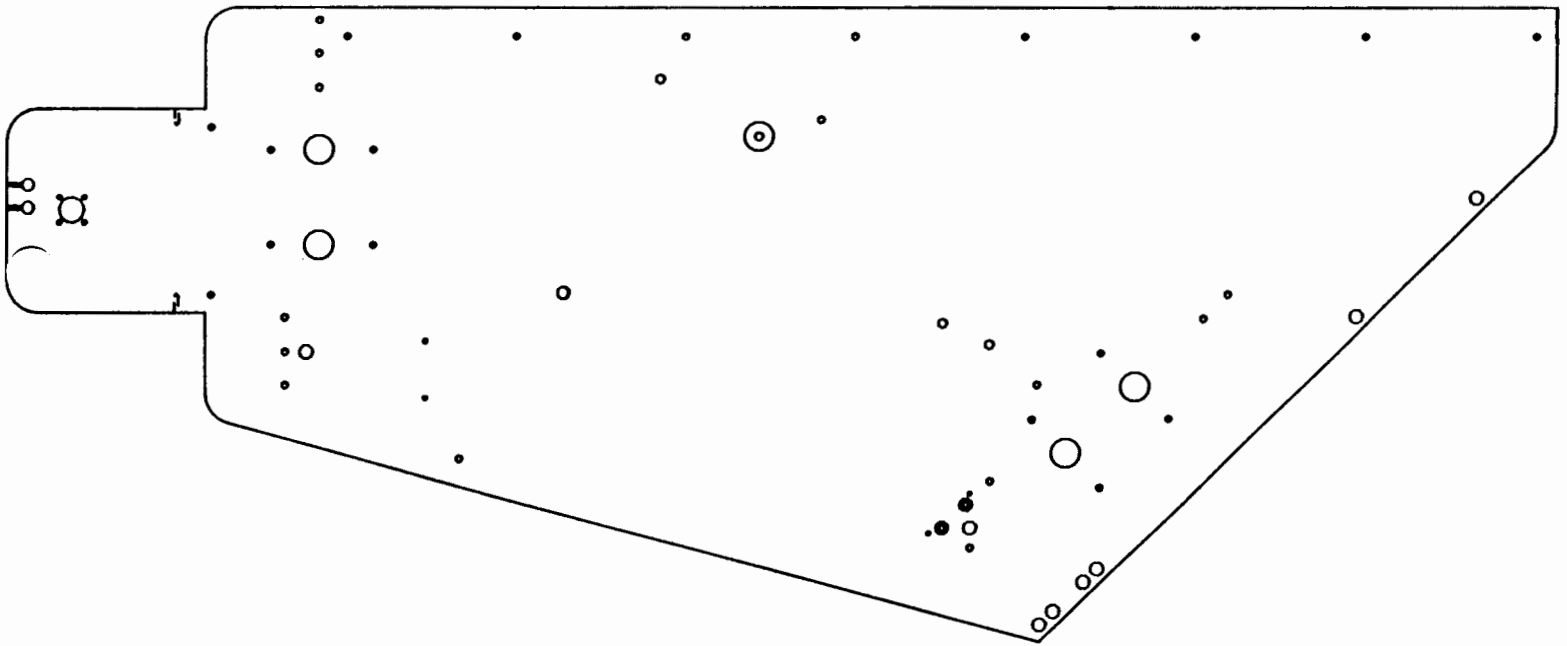
GROUP 388



FEED CHAIN  
GROUP 388

GROUP 388

SECTION 300





GROUP 388

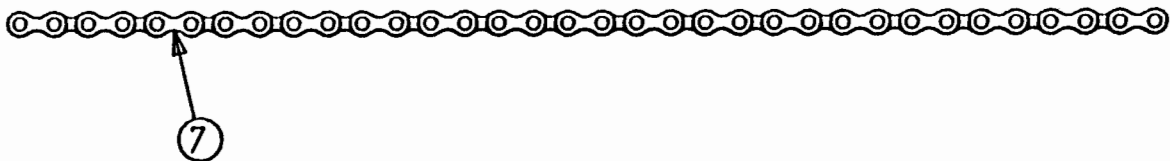
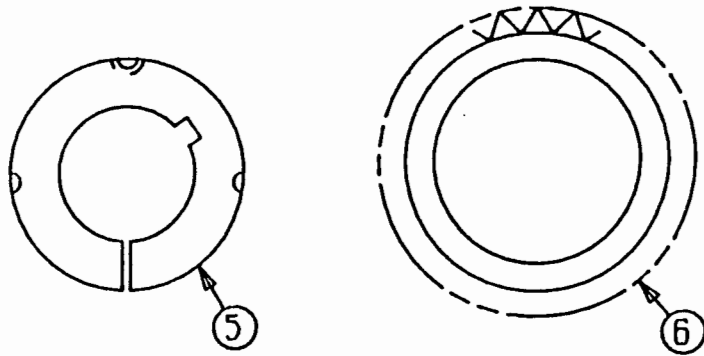
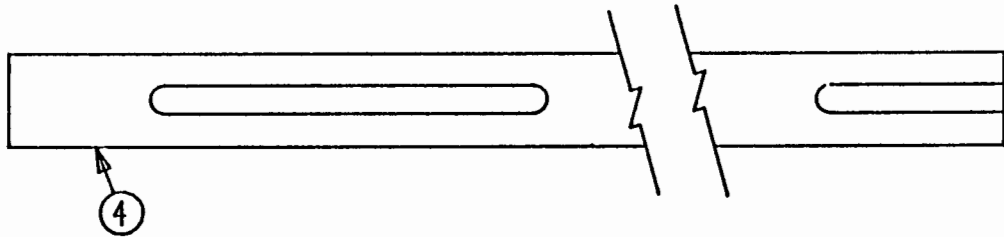
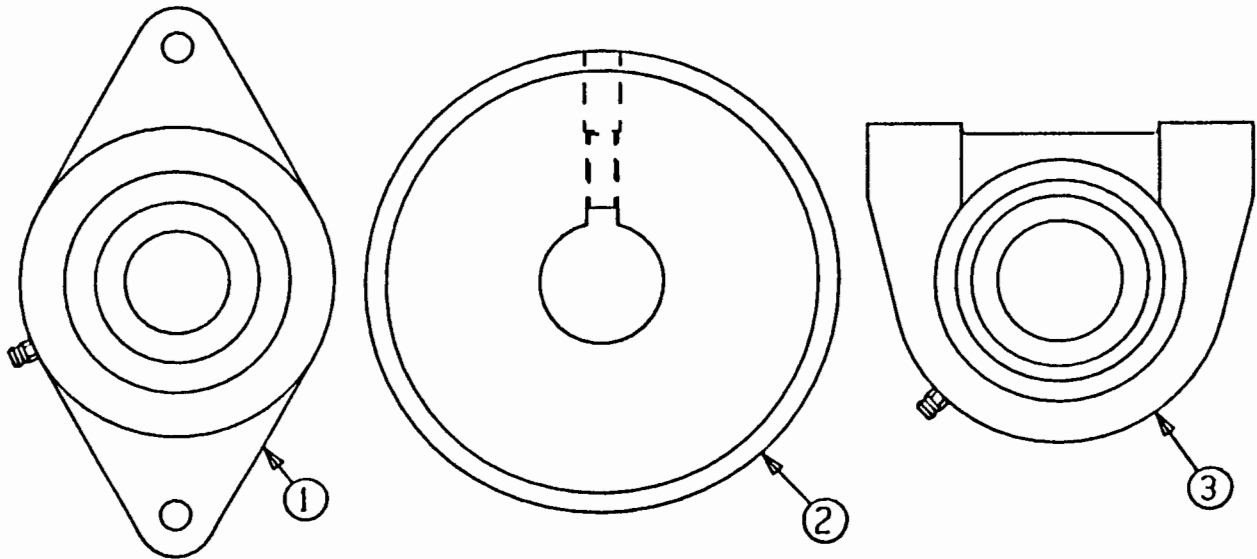
SECTION 300

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FEED SIDE FRAME (2 Req'd.)

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 301



GROUP 388

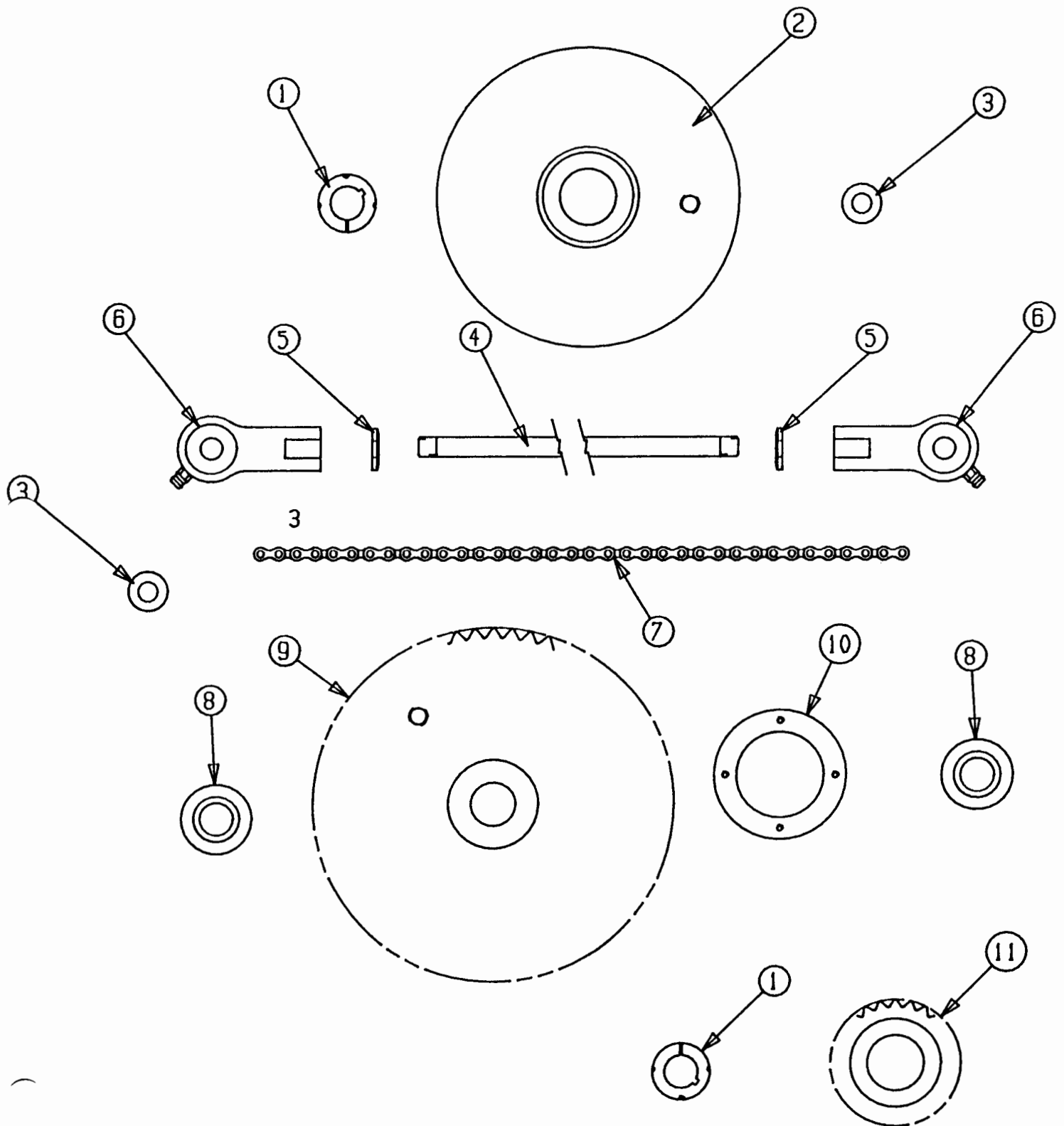
SECTION 301

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FLANGE BEARING
2	UPPER FEED ROLLER
3	PILLOW BLOCK BEARING
4	UPPER FEED ROLLER SHAFT
5	TAPER LOCK BUSHING
6	FEED SHAFT SPROCKET
7	FEED ROLLER CHAIN

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 302



GROUP 388

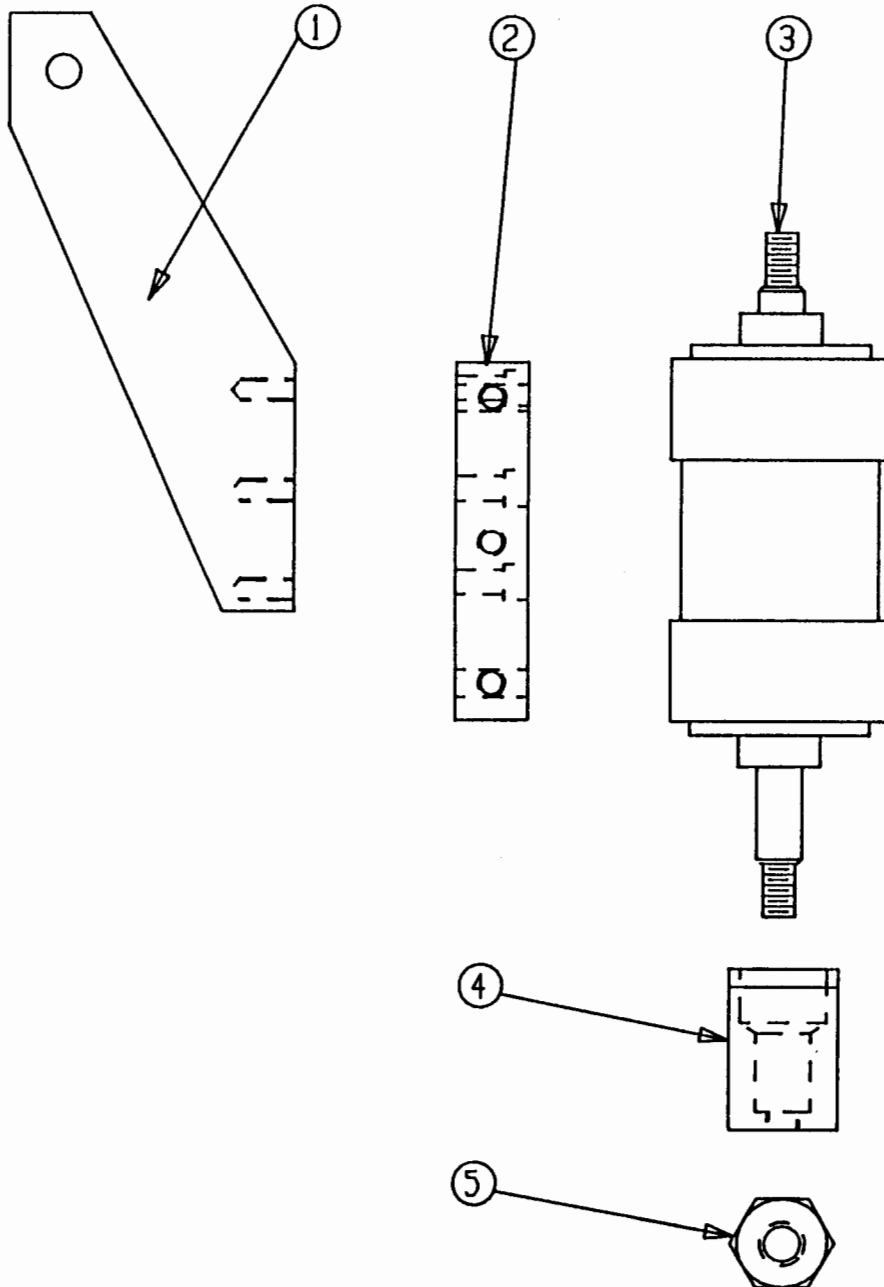
SECTION 302

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	TAPER LOCK BUSHING
2	STROKE WHEEL
3	CONNECTING LINK SPACER
4	CONNECTING LINK
5	NUT
6	ROD END
7	FEED ROLLER DRIVE CHAIN
8	BEARING
9	ECCENTRIC DRIVE SPROCKET
10	ECCENTRIC DRIVE SPROCKET MOUNT
11	SPROCKET

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 303



GROUP 388

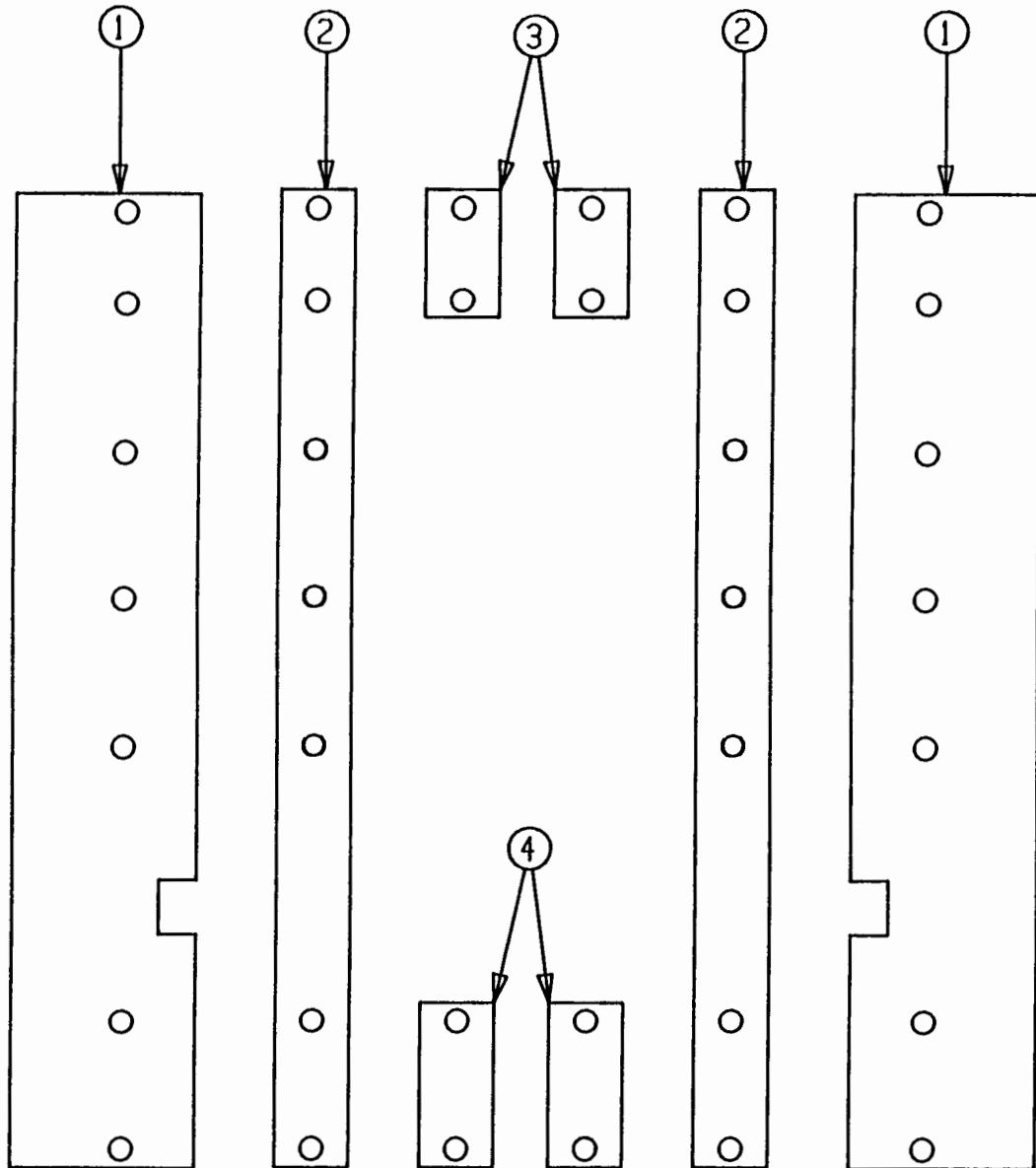
SECTION 303

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	LOWER PULL/FEED ROLLER SHAFT BEARING MOUNT GUSSET.
2	LOWER PULL/FEED ROLLER SHAFT SUPPORT
3	AIR CYLINDER
4	LOWER PULL/FEED ROLLER CYLINDER ADJUSTER
5	JAM NUT

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 304





GROUP 388

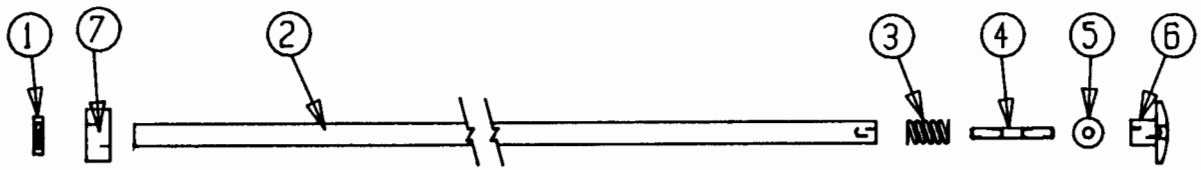
SECTION 304

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	PAPER SIDE GUIDES
2	1/2" SQ. PAPER SUPPORTS
3	UPPER PAPER SIDE GUIDES SPACERS
4	LOWER PAPER SIDE GUIDES SPACERS
5	PAPER SUPPORT BRACKET

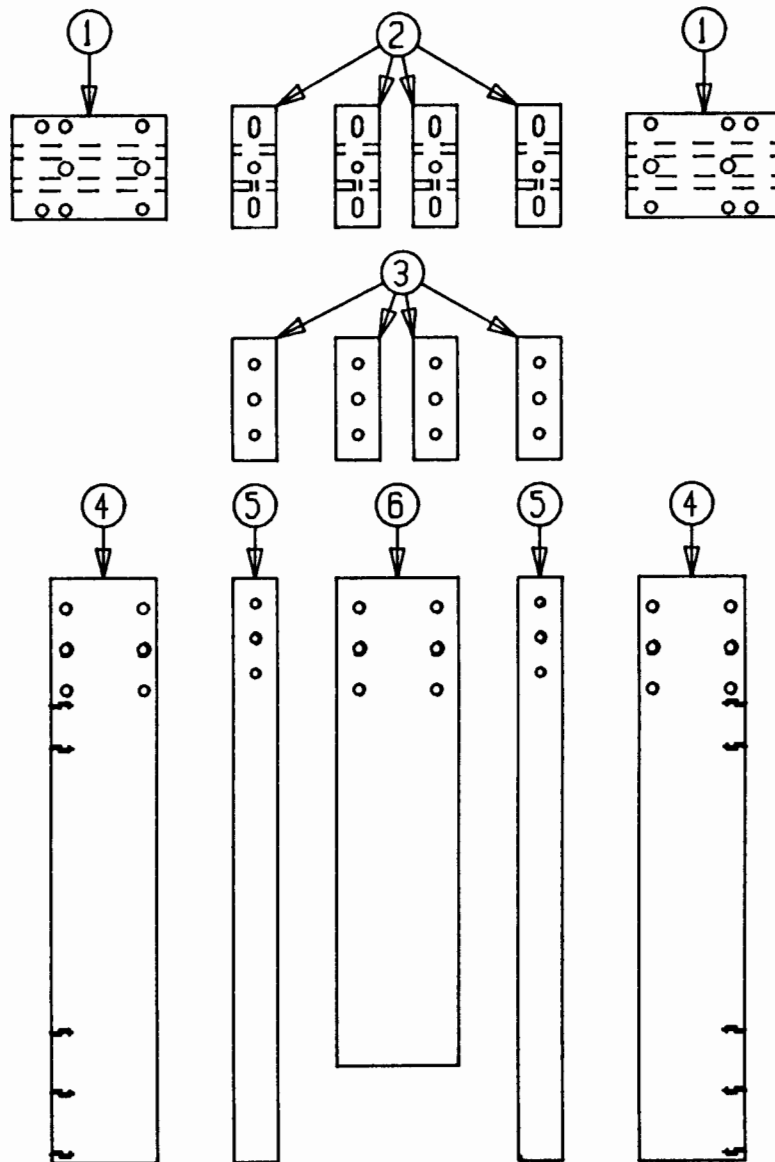
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 305



## SECTION 306



GROUP 388

SECTION 305

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	PAPER SUPPORT SHAFT CLAMP
2	PAPER SUPPORT SHAFT
3	SPRING
4	STUD
5	THRUST WASHER
6	HAND KNOB FOR PAPER SUPPORT SHAFT
7	BUSHING

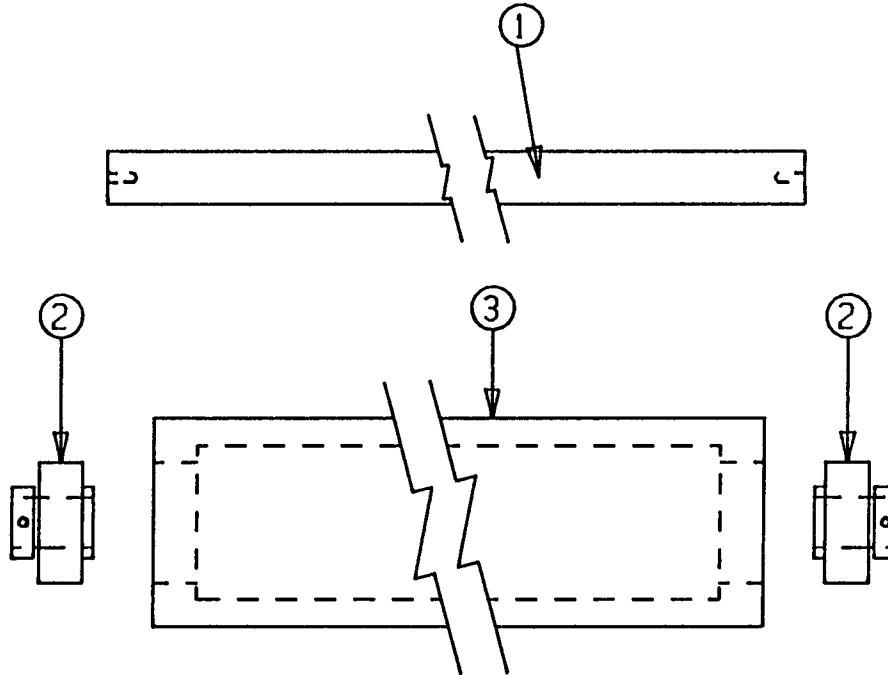
SECTION 306

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	OUTER SUPPORT BEARINGS
2	INNER SUPPORT BEARINGS
3	INNER SUPPORT BEARING SPACERS
4	OUTER PAPER SUPPORT
5	INNER PAPER SUPPORT
6	CENTER PAPER SUPPORT

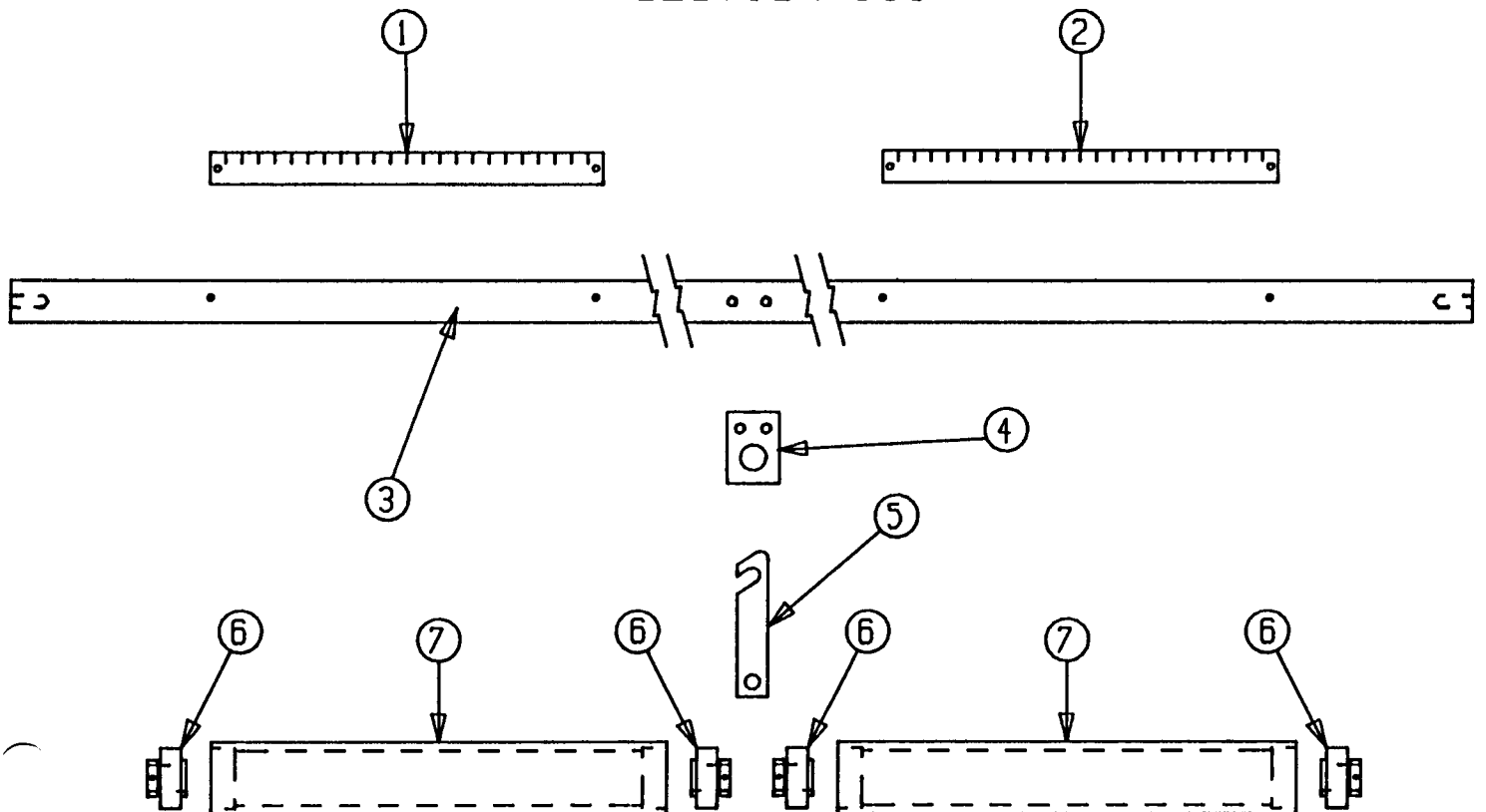
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 307



## SECTION 308



GROUP 388

SECTION 307

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	PAPER ROLLER SHAFT
2	ROLLER BEARINGS
3	ROLLER

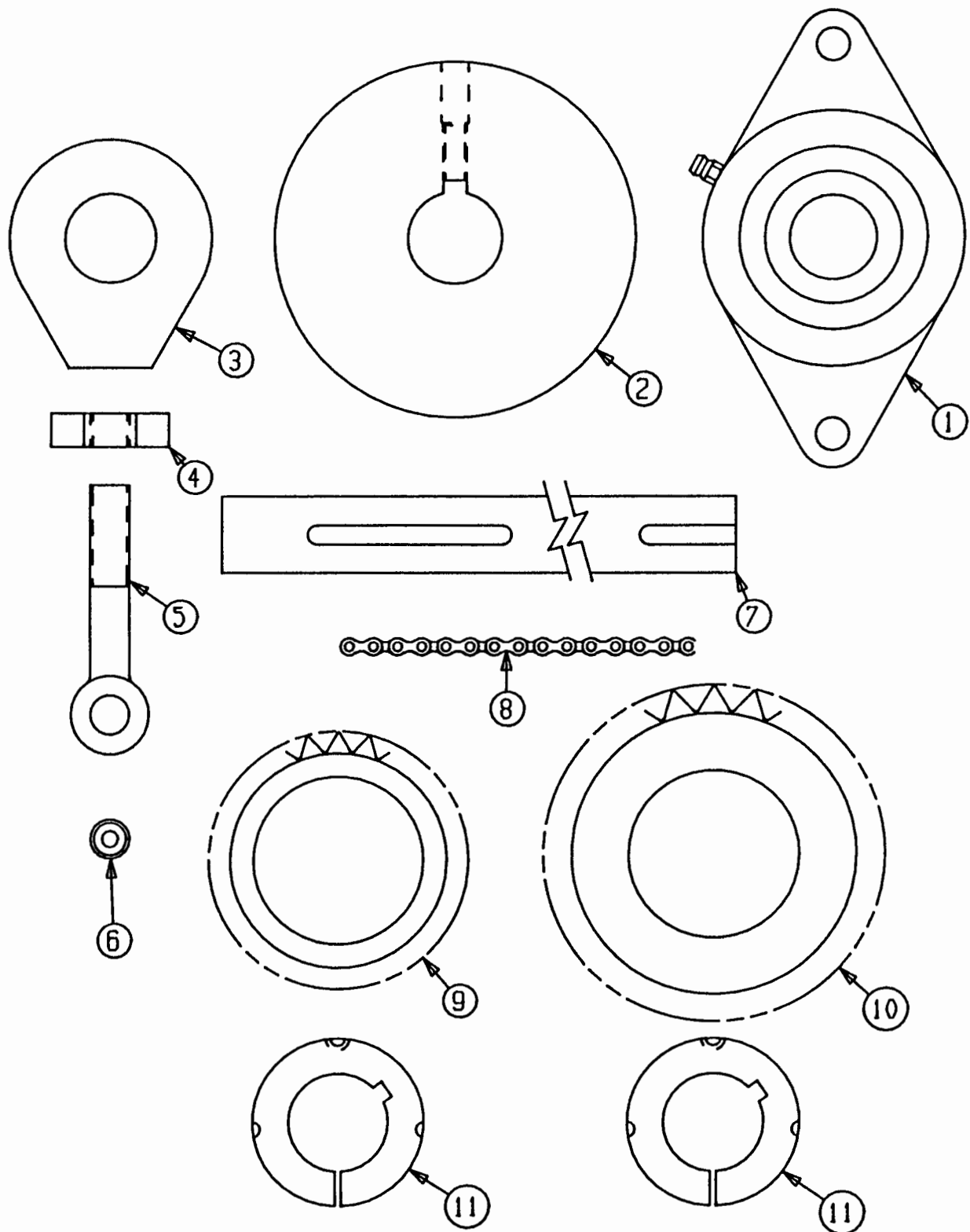
SECTION 308

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	SCALE (OPPOSITE MOTOR SIDE)
2	SCALE (MOTOR SIDE)
3	HOLD-DOWN ROLLER MOUNTING BAR
4	HOLD-DOWN ROLLER MOUNTING BRACKET
5	HOLD DOWN ROLLER ARM
6	ROLLER BEARINGS
7	HOLD DOWN ROLLER

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 309



GROUP 388

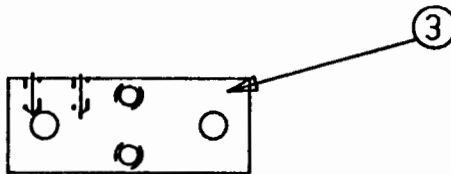
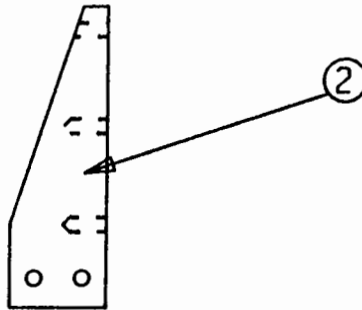
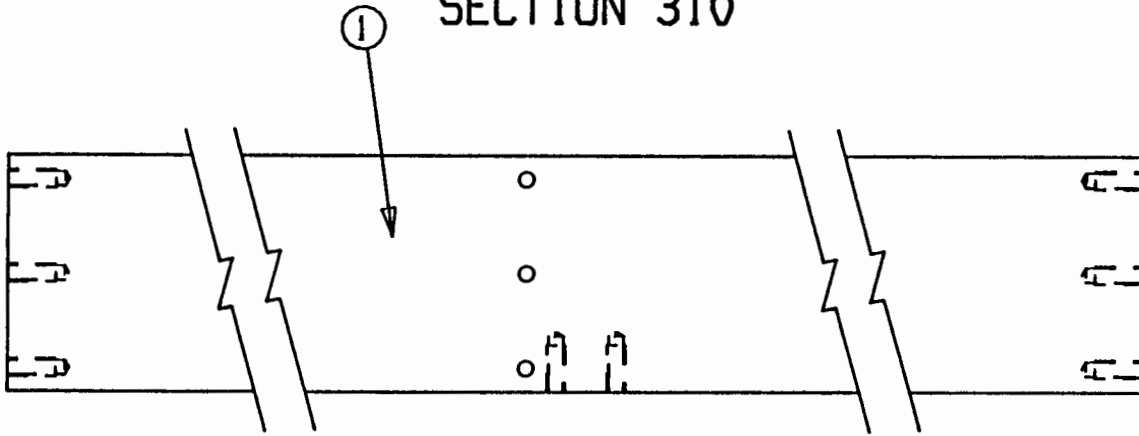
SECTION 309

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FLANGE BEARING
2	LOWER ROLL ROLLER
3	HANGER BEARING
4	JAM NUT
5	LOWER PULL ROLLER EYE BOLT
6	CAM FOLLOWER
7	LOWER PULL ROLLER SHAFT
8	PULL ROLLER DRIVE CHAIN
9	SPROCKET
10	PULL ROLLER DRIVE SPROCKET
11	TAPER LOCK BUSHING

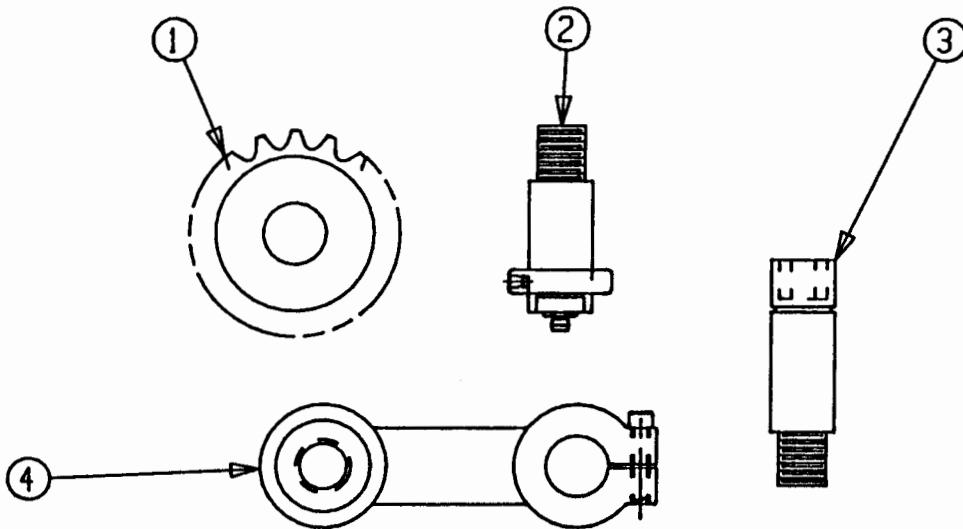
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 310



## SECTION 311





GROUP 388

SECTION 310

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	UPPER FEED ROLLER SHAFT SUPPORT
2	UPPER FEED ROLLER SHAFT BEARING MOUNT GUSSET
3	UPPER FEED ROLLER SHAFT BEARING MOUNT

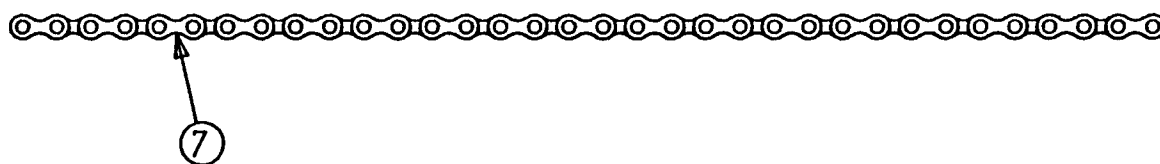
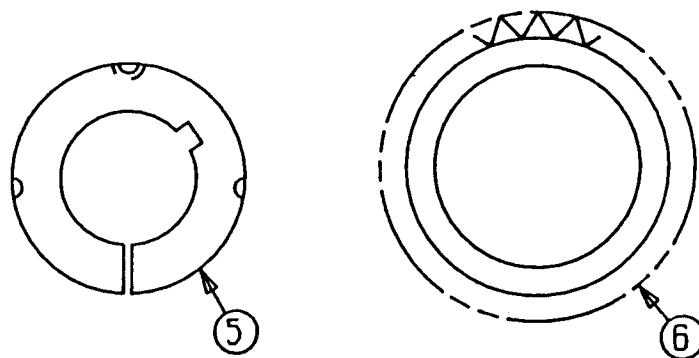
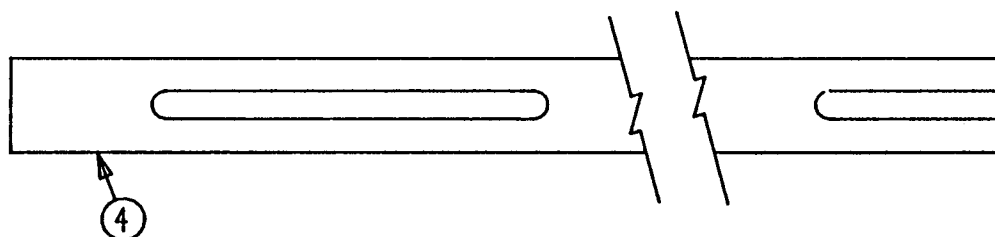
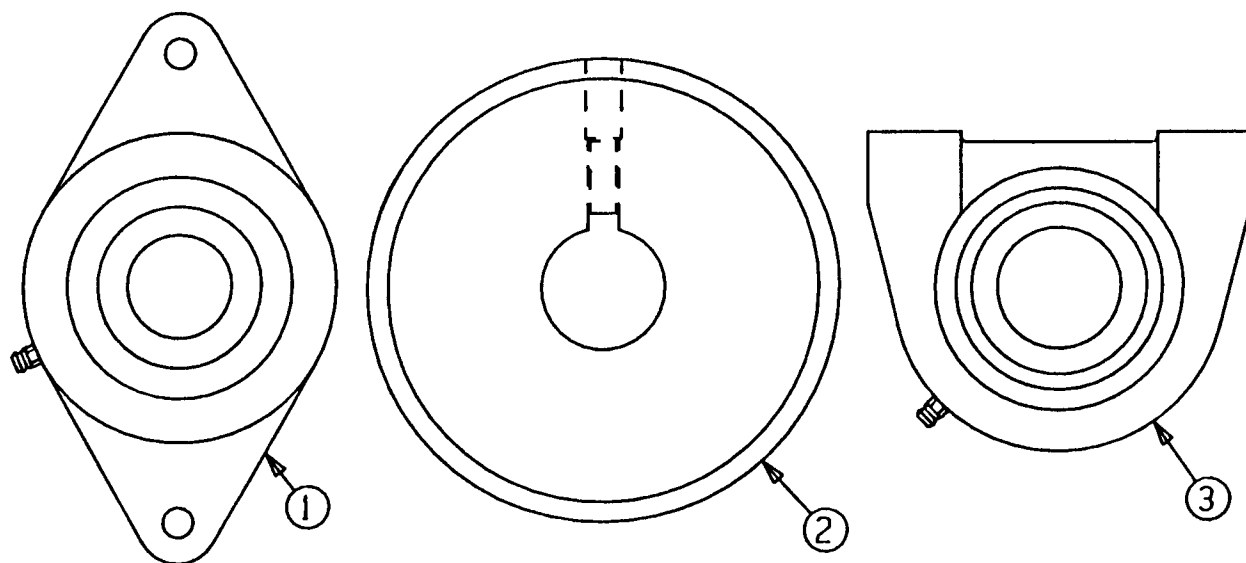
SECTION 311

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	SPROCKET IDLER
2	TIGHTNER SHAFT AND COLLAR
3	SHOULDER BOLT
4	IDLER ARM

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 312



GROUP 388

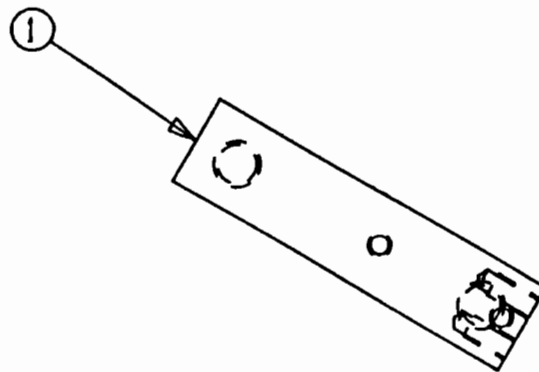
SECTION 312

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FLANGE BEARING
2	UPPER PULL ROLLER
3	PILLOW BLOCK BEARING
4	UPPER PULL ROLLER SHAFT
5	TAPER LOCK BUSHING
6	PULL ROLLER SHAFT SPROCKET
7	PULL ROLLER CHAIN

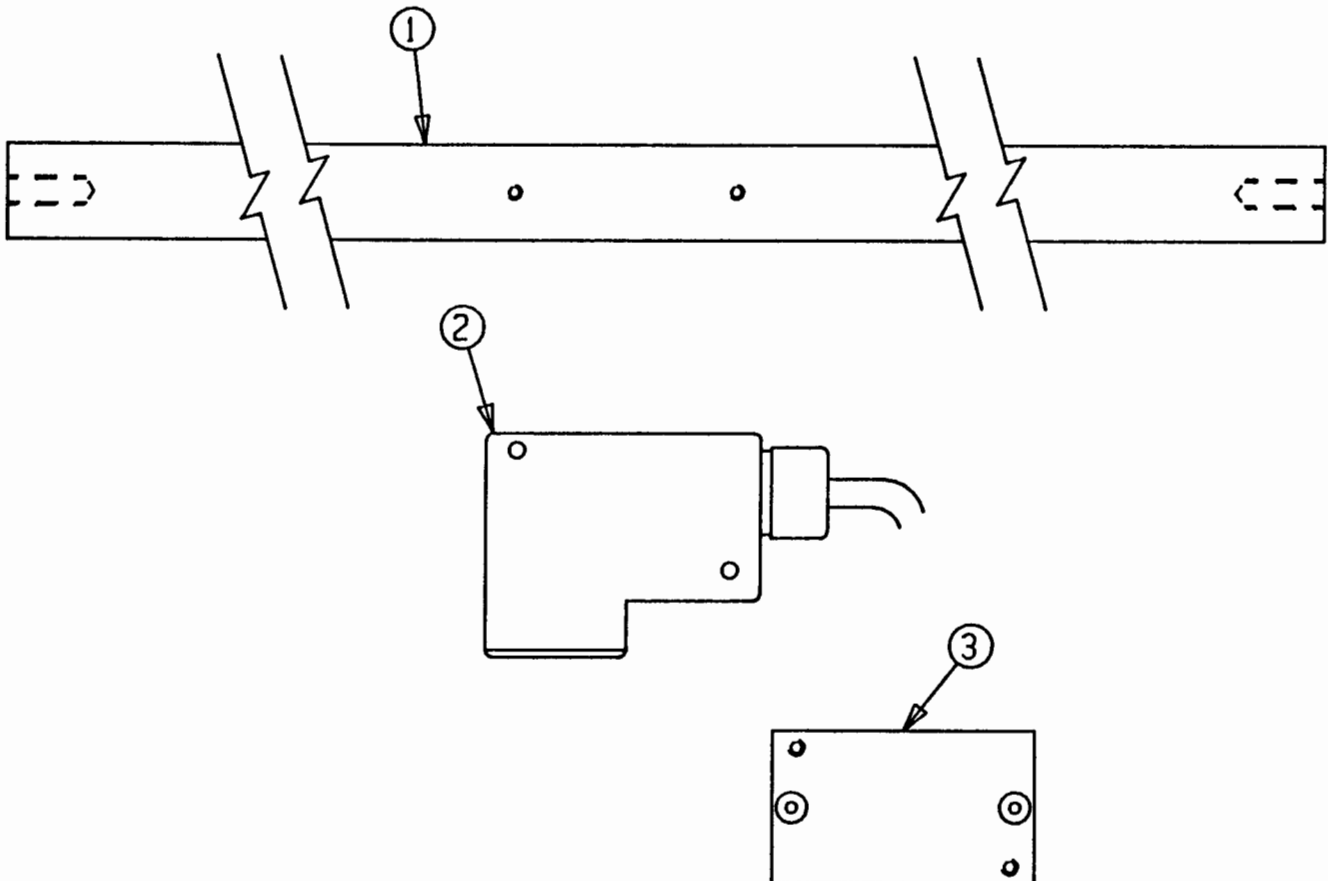
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 313



## SECTION 314



GROUP 388

SECTION 313

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	TORQUE ARM BRACKET

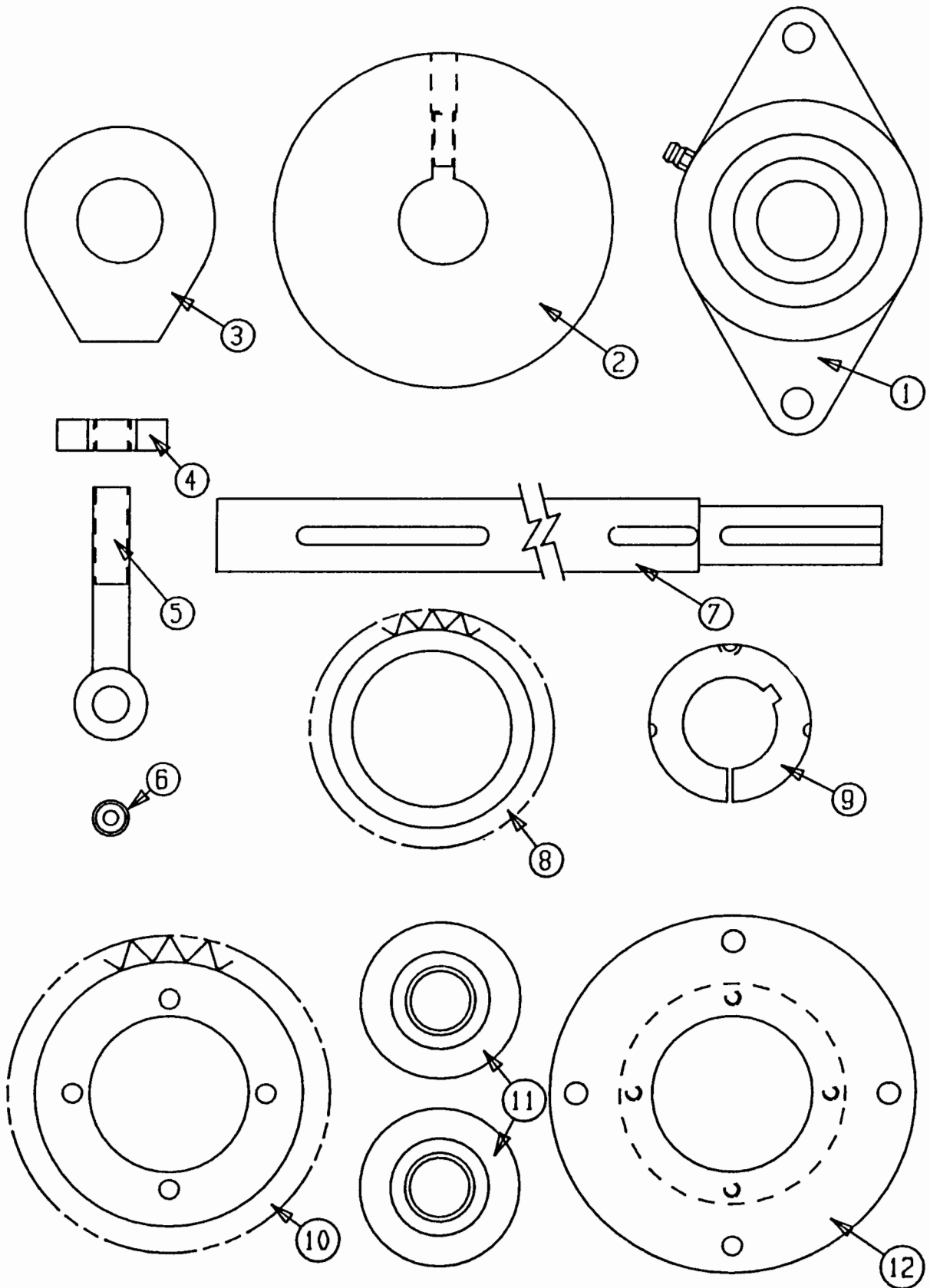
SECTION 314

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	LOOP CONTROL SCANNER SPACER
2	LOOP CONTROL SCANNER EYE
3	LOOP CONTROL SCANNER EYE MOUNTING BRACKET

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 315



GROUP 388

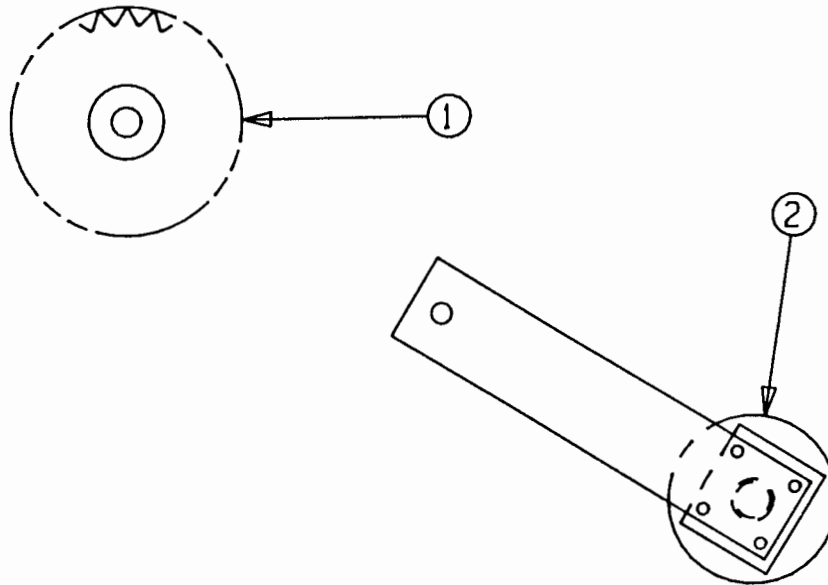
SECTION 315

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FLANGE BEARING
2	LOWER FEED ROLLER
3	HANGER BEARING
4	JAM NUT
5	LOWER FEED ROLLER EYE BOLT
6	CAM FOLLOWER
7	LOWER FEED ROLLER SHAFT
8	SPROCKET
9	TAPER LOCK BUSHING
10	FEED CLUTCH SPROCKET
11	BEARING
12	FEED CLUTCH SPROCKET ADAPTER

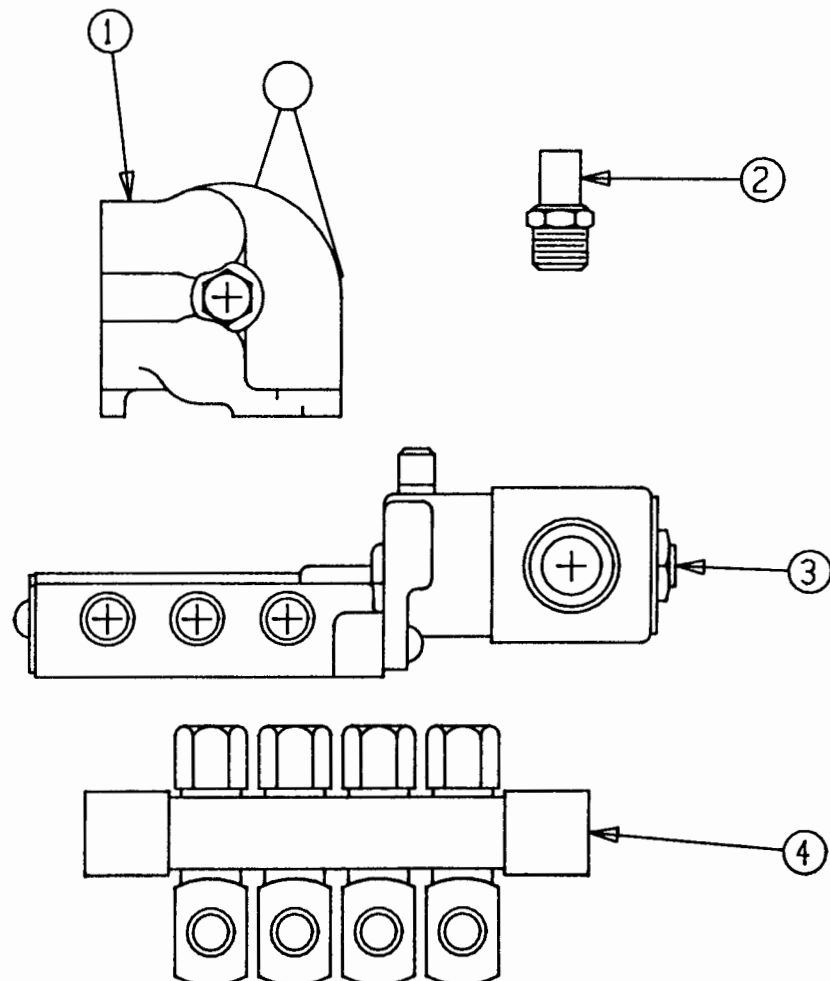
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 316



## SECTION 317





GROUP 388

SECTION 316

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	CHAIN SPROCKET
2	CHAIN TENSIONER

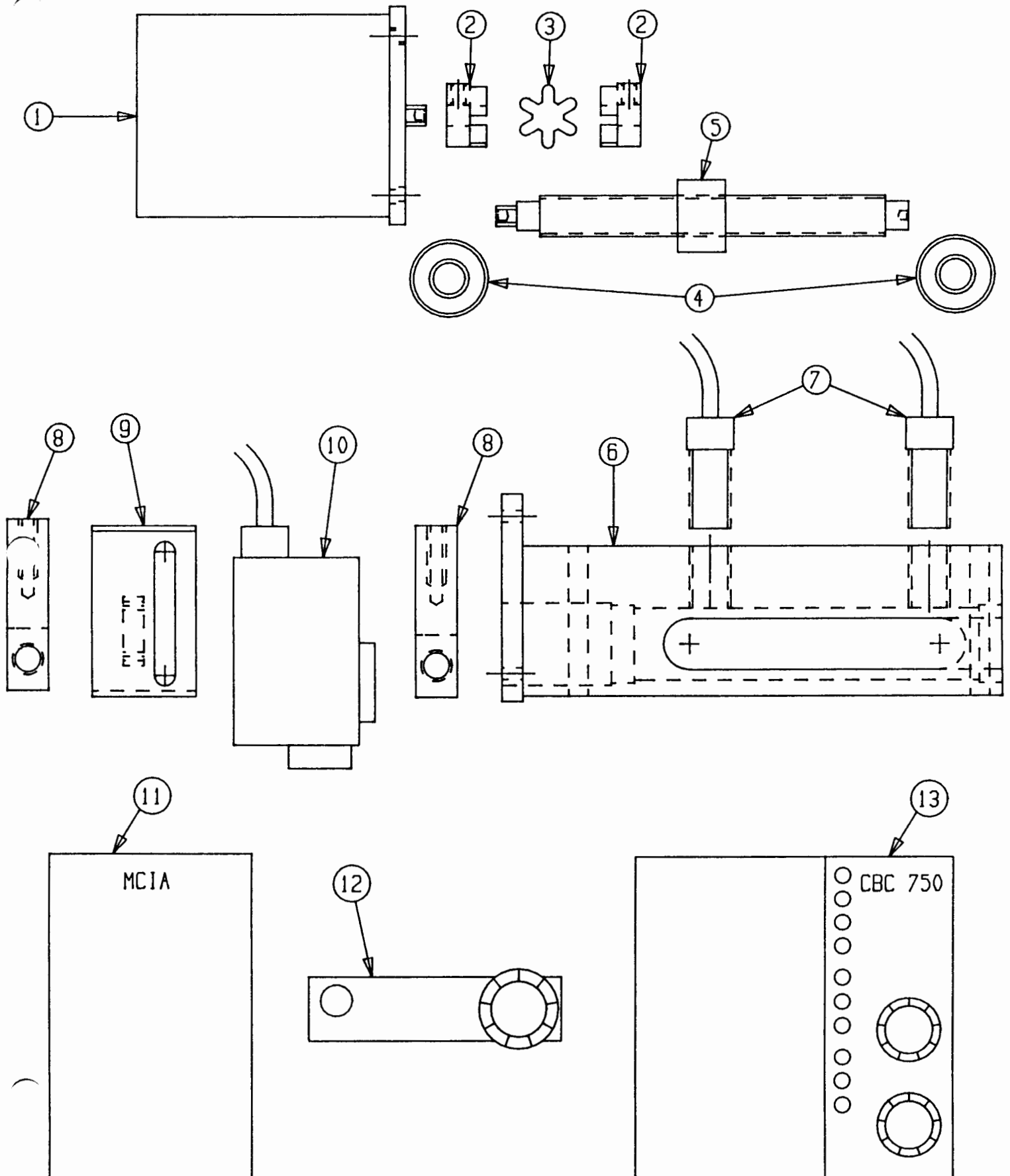
SECTION 317

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FEED ROLLER AIR VALVE
2	MUFFLER
3	PULL ROLLER AIR VALVE
4	GREASE INJECTOR

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 318



GROUP 388

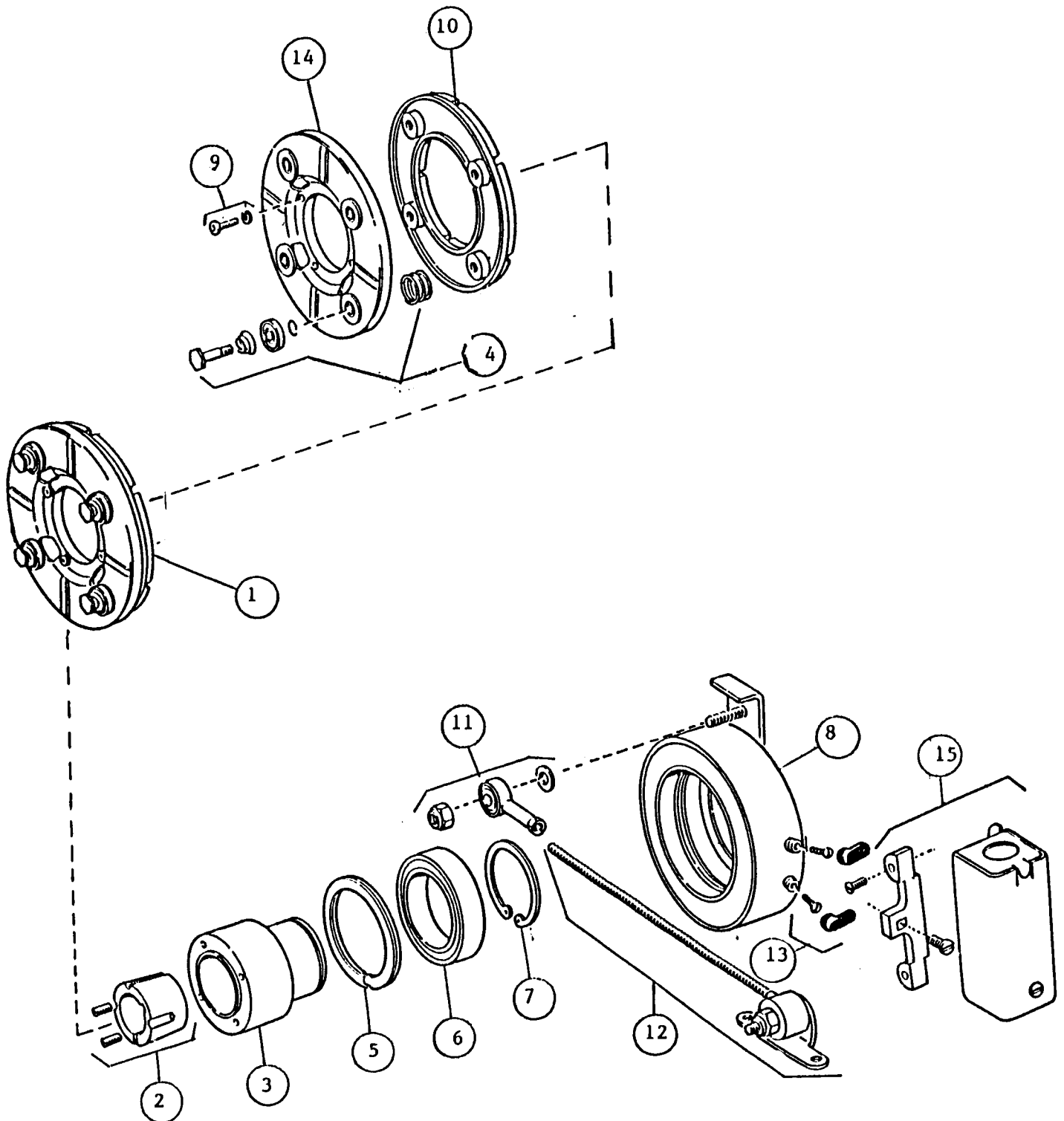
SECTION 318

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	SCANNER SCREW MOTOR
2	SCANNER SCREW MOTOR COUPLING
3	SCANNER SCREW MOTOR COUPLING SPIDER
4	SCANNER SCREW BEARING
5	SCANNER SCREW
6	SCANNER MOTOR/SCREW MOUNT
7	SCANNER MOTOR SAFETY SWITCH
8	SCANNER MOTOR/SCREW CLAMP
9	SCANNER EYE MOUNTING BRACKET
10	SCANNER EYE
11	SCANNER EYE CONTROL
12	SCANNER EYE CONTROL MODULE
13	CLUTCH/BRAKE CONTROL

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 319



GROUP 388

WARNER BRAKE

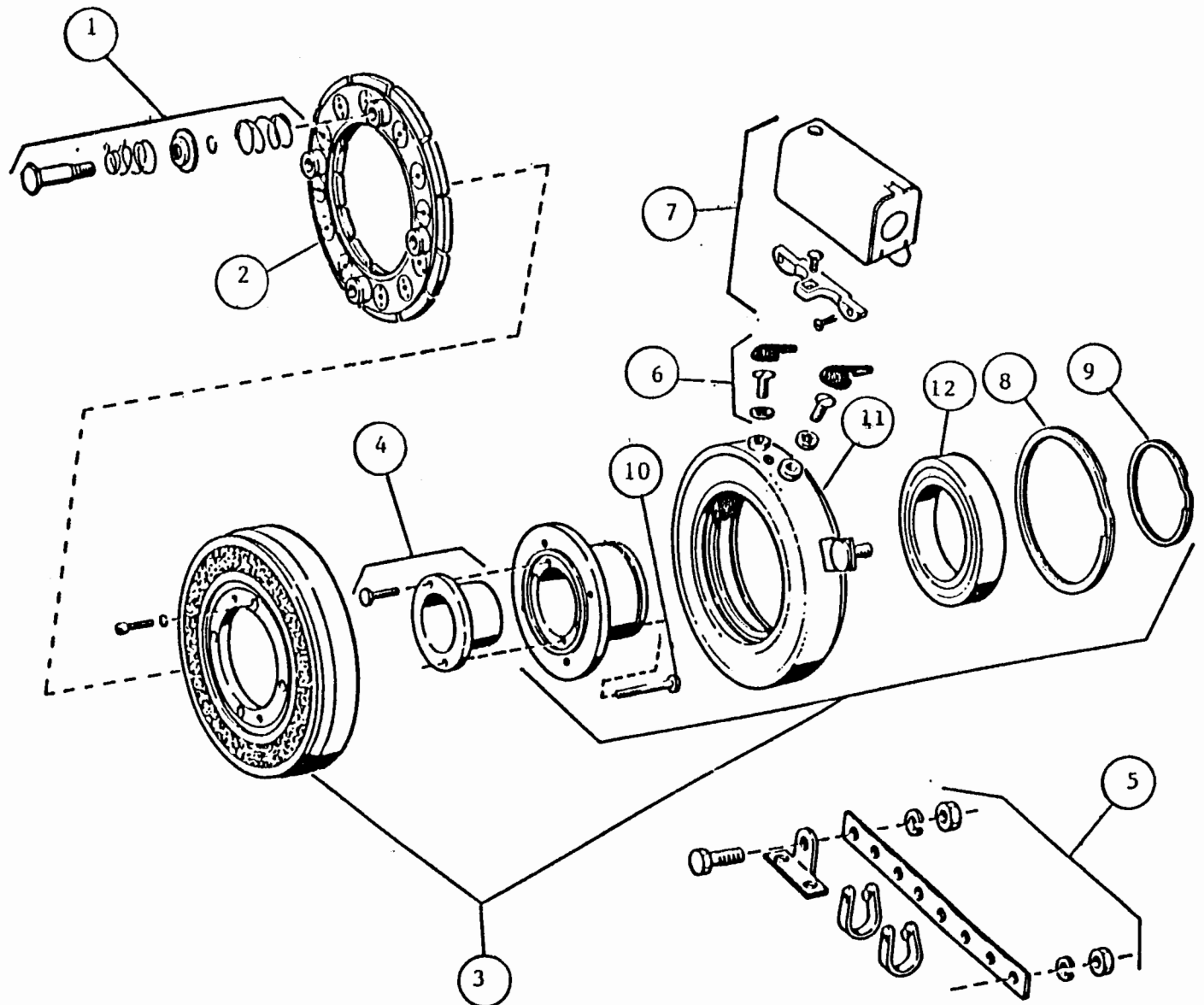
SECTION 319

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	ARMATURE & CARRIER ASSEMBLY
2	TAPER LOCK BUSHING
3	HUB
4	AUTOGAP ACCESSORY
5	RETAINER RING
6	BALL BEARING
7	RETAINER RING
8	MAGNET
9	SCREW W/LW
10	ARMATURE
11	ROD END
12	TORQUE ARM ROD ASSEMBLY
13	TERMINAL ACCESSORY
14	CARRIER
15	CONDUIT BOX

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 320



GROUP 388

WARNER CLUTCH

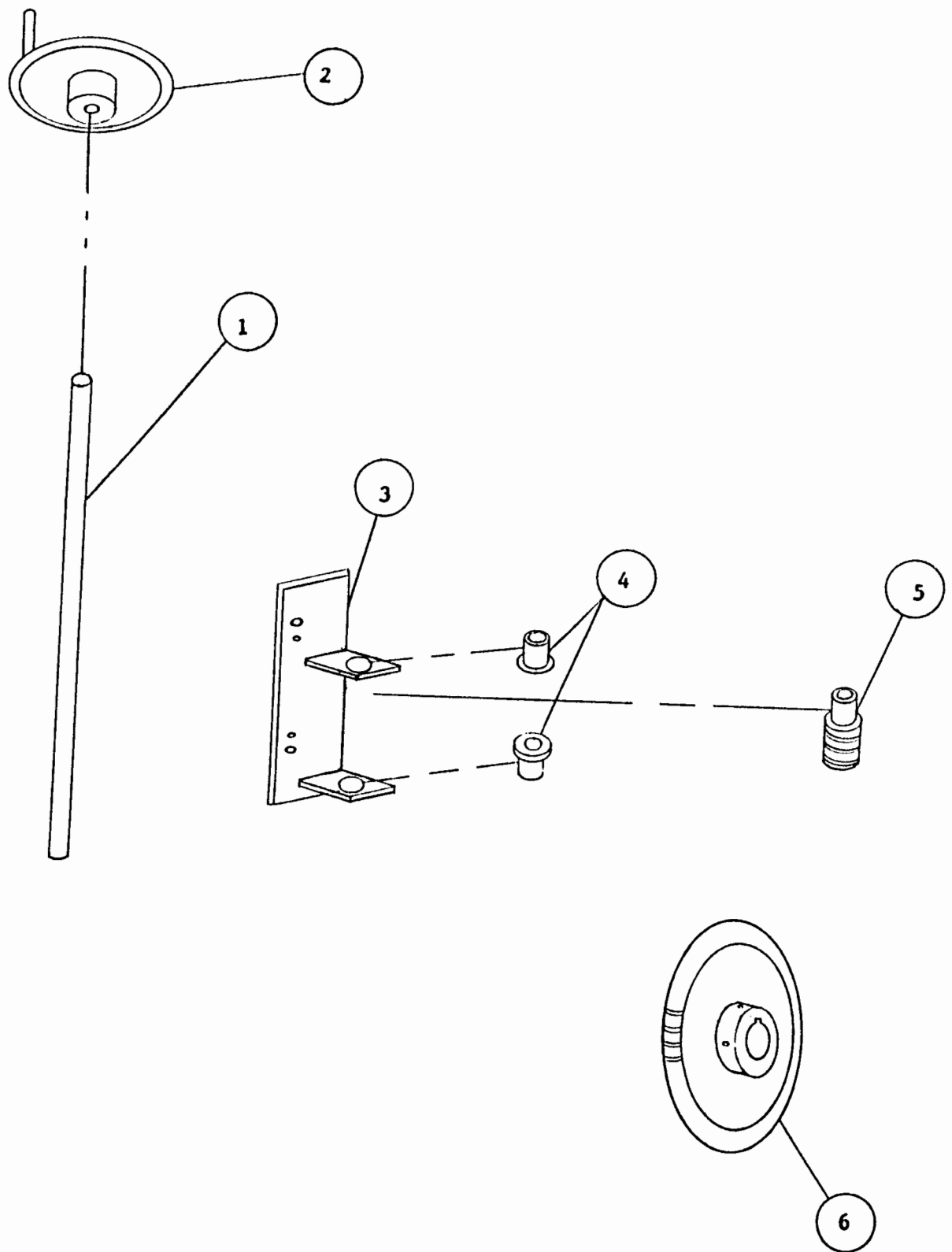
SECTION 320

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	AUTOGAP ACCESSORY
2	ARMATURE
3	FIELD & ROTOR ASSEMBLY
4	TAPER LOCK BUSHING
5	TORQUE ARM ACCESSORY
6	TERMINAL ACCESSORY
7	CONDUIT BOX
8	RETAINER RING - EXTERNAL
9	RETAINER RING - INTERNAL
10	REVERSE MOUNTING SCREW
11	FIELD
12	BALL BEARING

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 321





GROUP 388

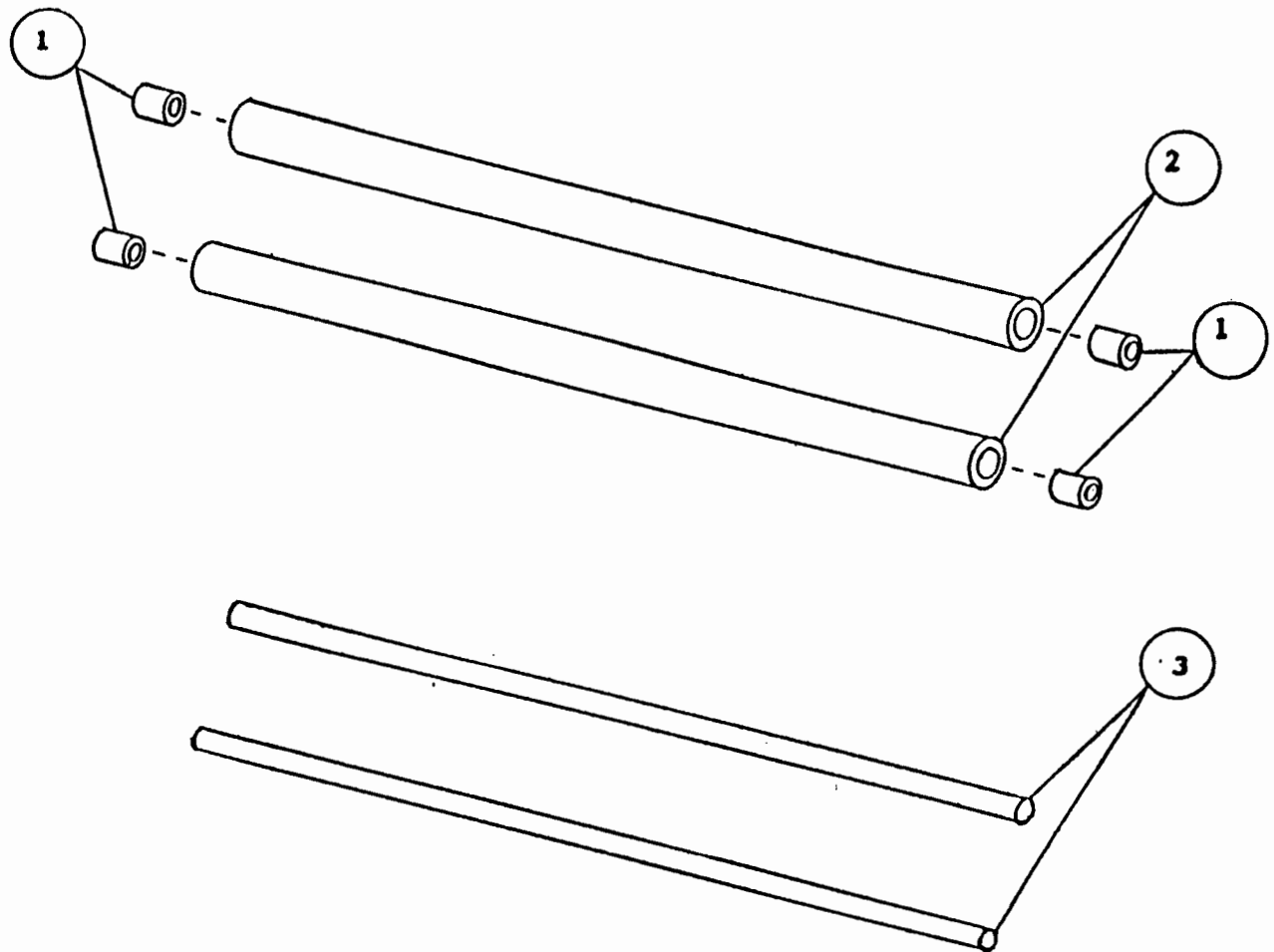
SECTION 321

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	WORM GEAR SHAFT
2	ALUMINUM HAND WHEEL
3	WORM GEAR BRACKET
4	FLANGED BUSHING
5	WORM GEAR
6	ADJUSTMENT ARM SHAFT GEAR

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO.,  
INDEX NO. AND PRESS MODEL & SERIAL NO. WHEN ORDERING  
PARTS.

# GROUP 388

## SECTION 322



GROUP 388

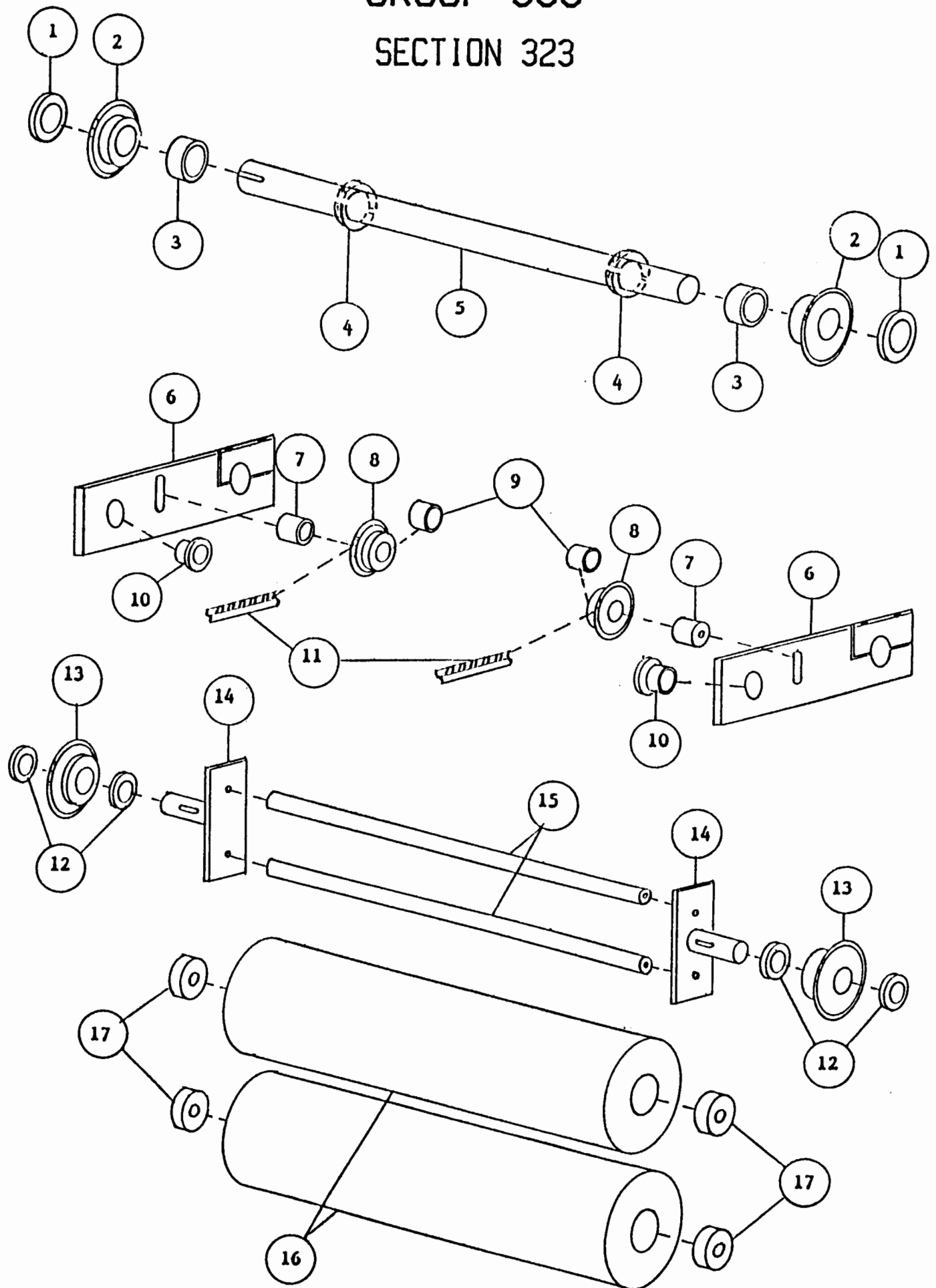
SECTION 322

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	BUSHING
2	1 1/4" DIA. DECURL ROLLER
3	SMALL DECURL ROLLER SHAFT

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND PRESS  
MODEL & SERIAL NO. WHEN ORDERING PARTS.

# GROUP 388

## SECTION 323



GROUP 388

SECTION 323

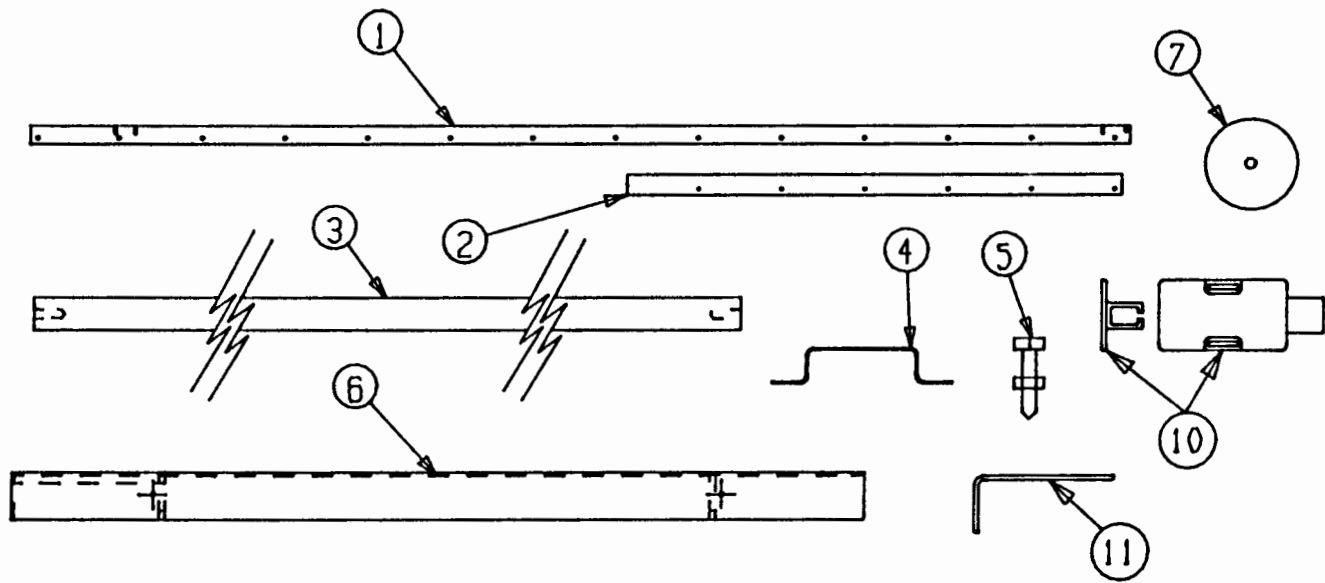
<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	THRUST WASHER
2	ADJUSTMENT ARM SPROCKET
3	BUSHING
4	PAPER GUIDE
5	ADJUSTMENT ARM SHAFT
6	ADJUSTMENT ARM
7	IDLER SPROCKET SHAFT
8	IDLER SPROCKET
9	IDLER SPROCKET BUSHING
10	FLANGED BUSHING
11	CHAIN
12	THRUST WASHER
13	5" ROLLER ARM SPROCKET
14	5" ROLLER ARM
15	5" DIA. ROLLER SHAFT
16	5" ROLLER
17	ROLLER BEARINGS

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND PRESS  
MODEL & SERIAL NO. WHEN ORDERING PARTS.

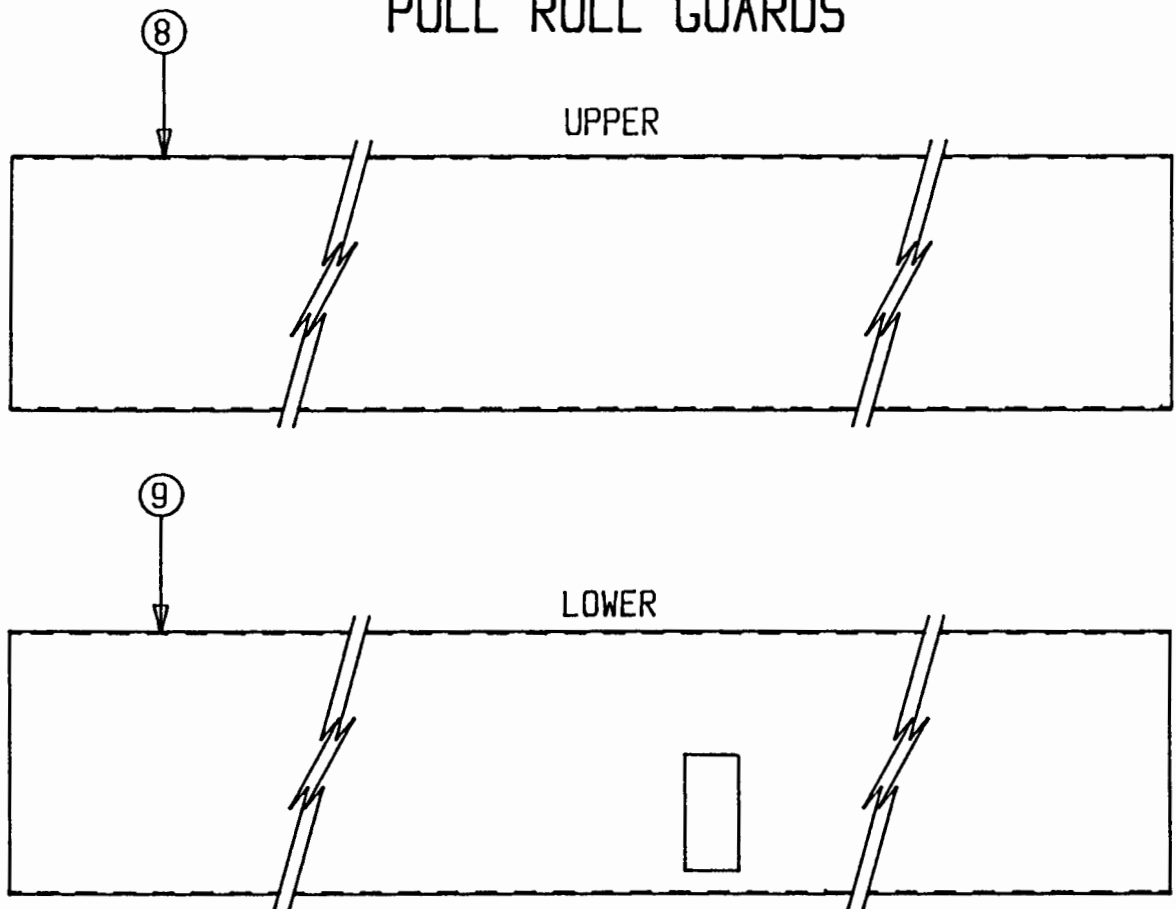
# GROUP 1088

## SECTION 703

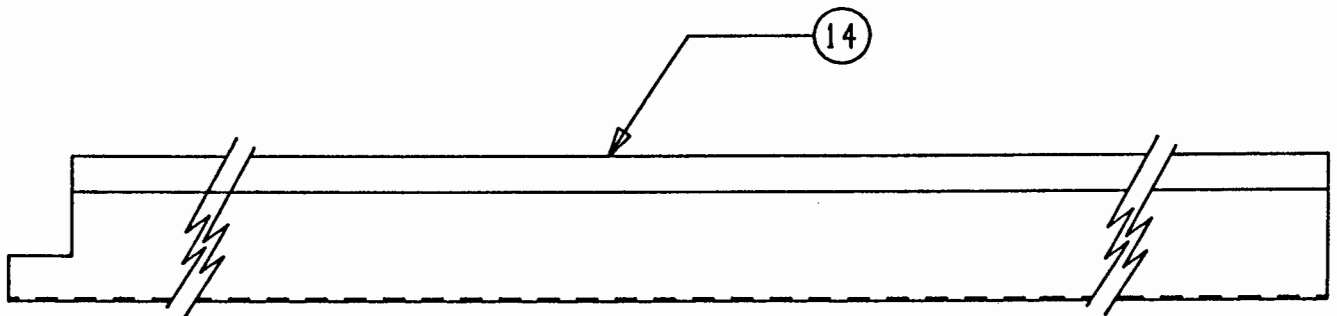
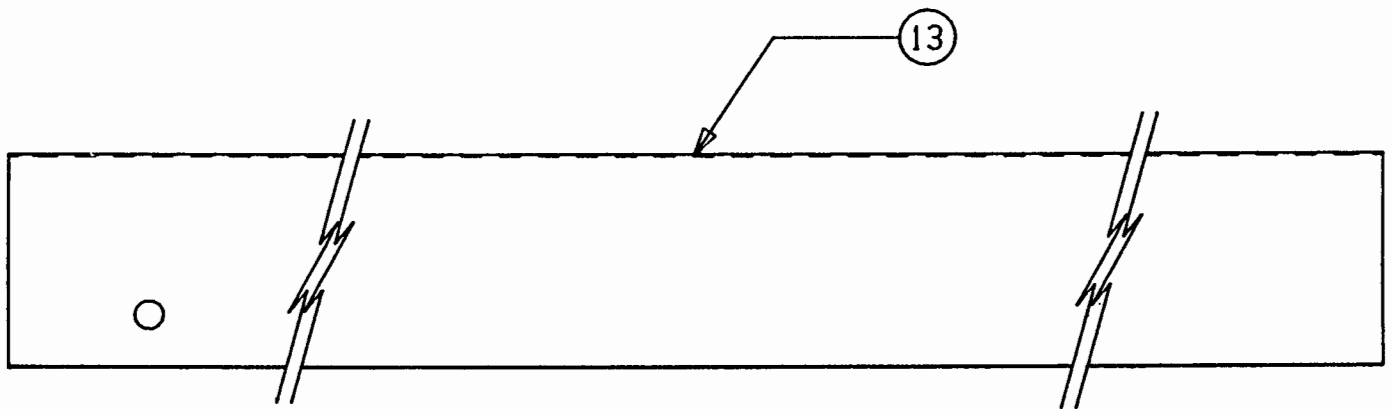
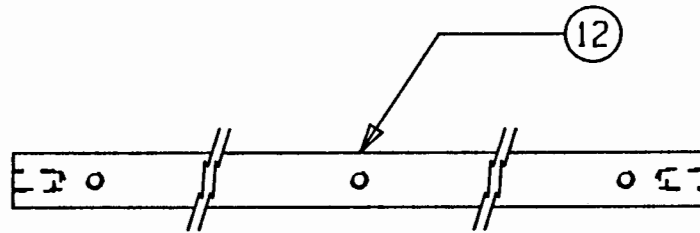
### TOP FEED GUARD



### PULL ROLL GUARDS



GROUP 1088  
SECTION 703  
ADDITIONAL GUARDS FOR P-60



GROUP 1088

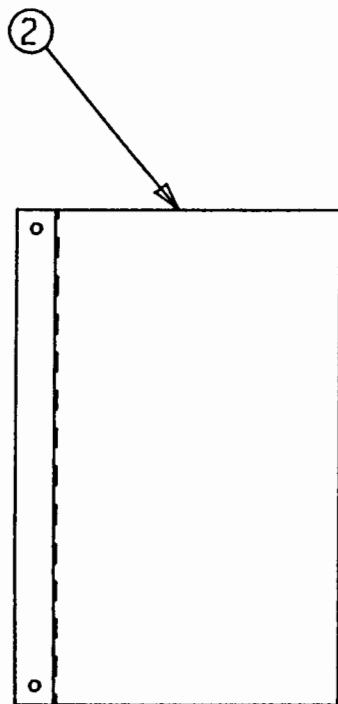
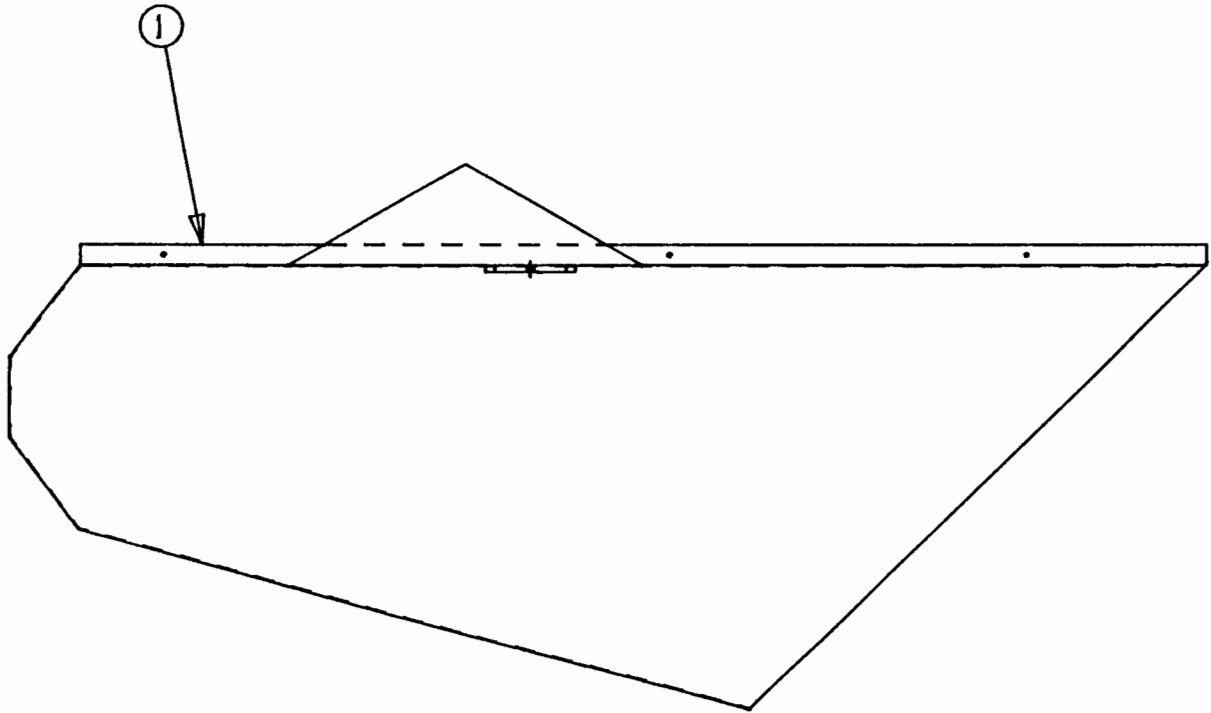
SECTION 703

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	TOP FEED GUARD ROLLER BAR
2	TOP FEED GUARD ROLLER GUIDE
3	TOP FEED GUARD ROLLER BAR SPACER
4	TOP FEED GUARD HANDLE
5	TOP FEED GUARD STOP
6	TOP FEED GUARD
7	TOP FEED GUARD ROLLER & AXLE
8	UPPER PULL ROLLER GUARD
9	LOWER PULL ROLLER GUARD
10	SAFETY INTERLOCK SWITCH
11	SAFETY SWITCH MOUNTING BRACKET
12	FRONT GUARD SUPPORT
13	FRONT FEED GUARD
14	REAR FEED GUARD

ATTENTION: ALWAYS INDICATE GROUP NO. SECTION NO., INDEX NO. AND PRESS  
MODEL & SERIAL NO. WHEN ORDERING PARTS.



GROUP 1088  
SECTION 704  
SIDE FEED GUARDS



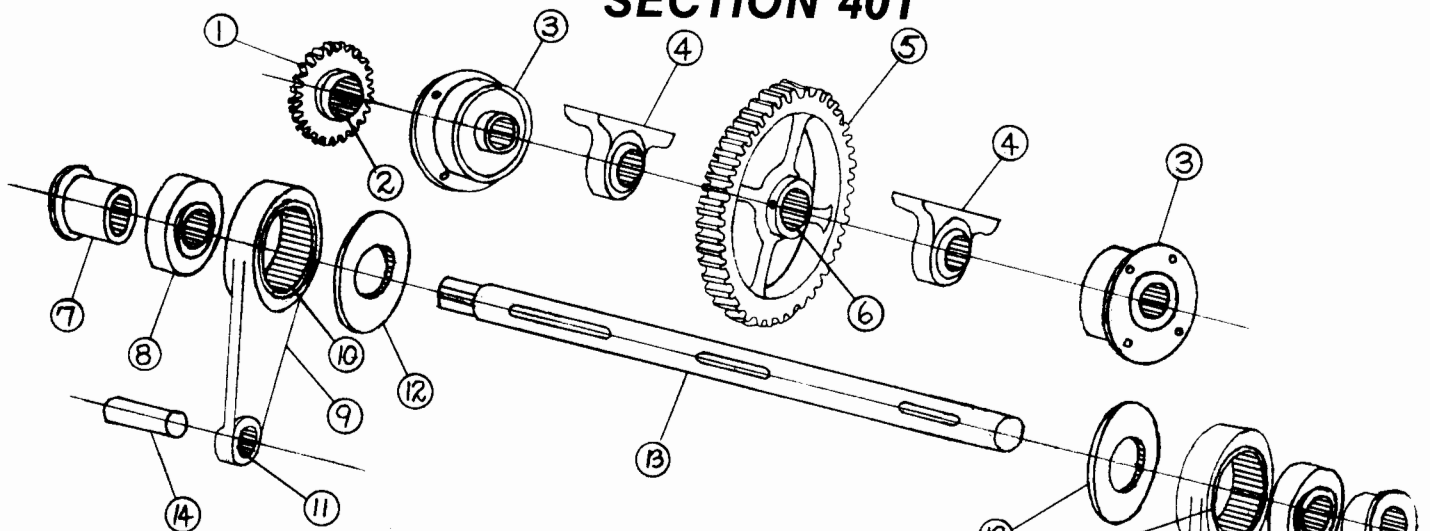
GROUP 1088

SECTION 704

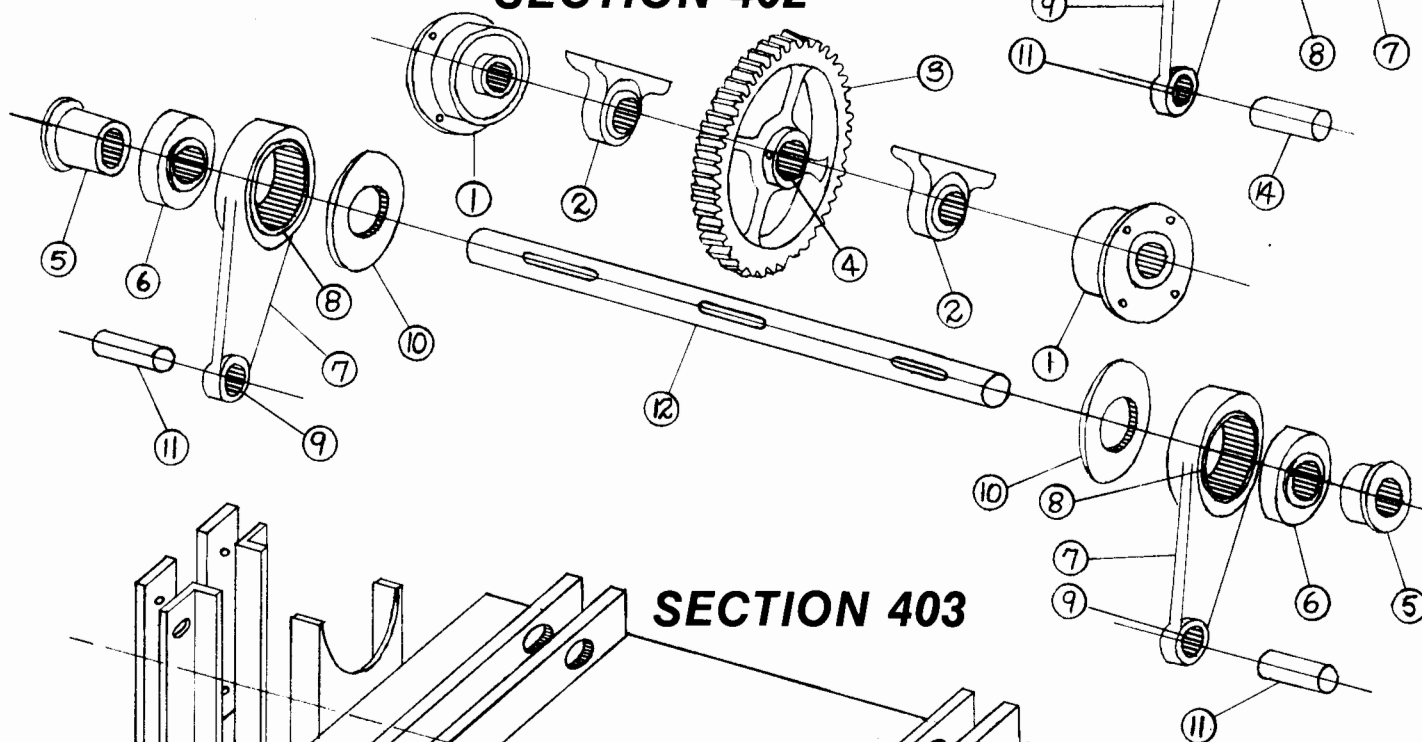
<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	FEED SIDE GUARD
2	DECURL WORM GEAR GUARD

# GROUP 400

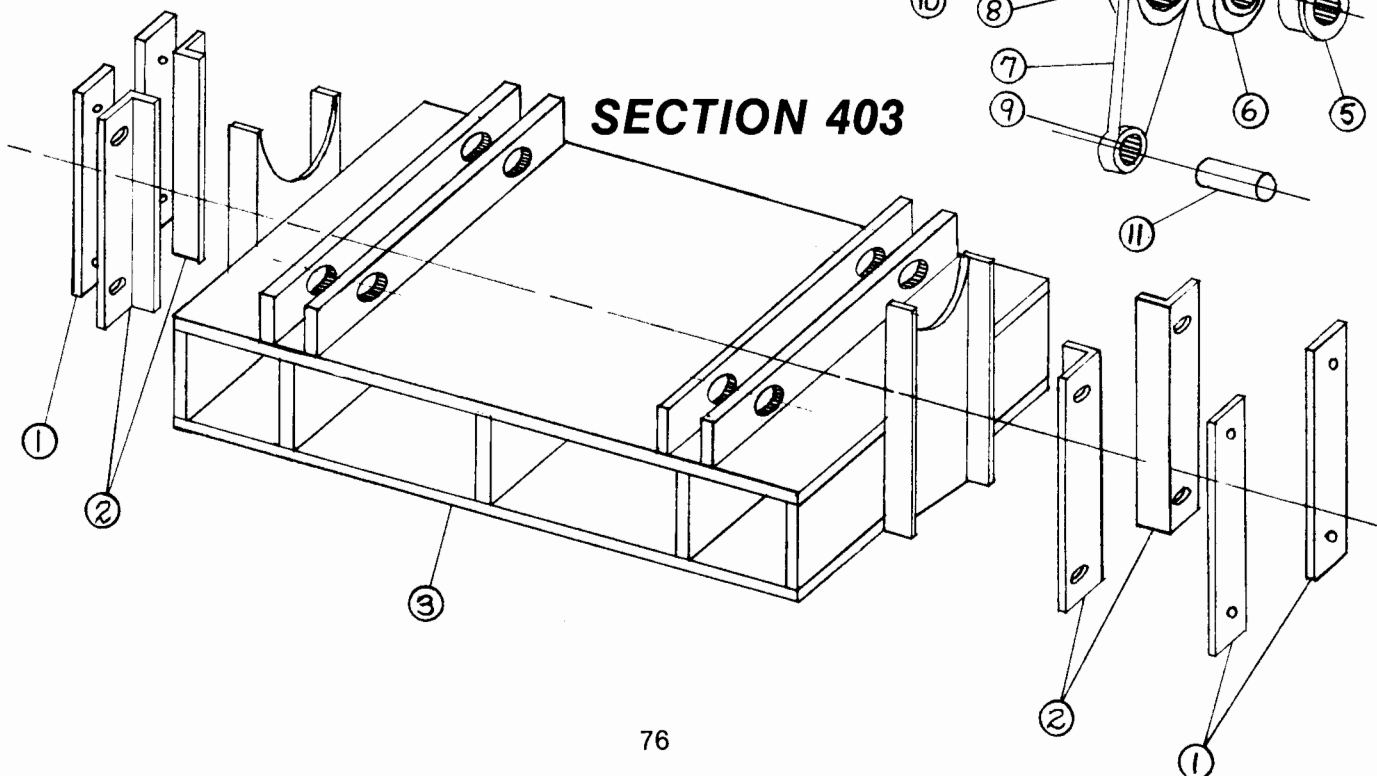
## SECTION 401



## SECTION 402



## SECTION 403



## **GROUP 400**

### **SECTION 401**

INDEX NO.	PART DESCRIPTION
1	SPLIT SPROCKET
2	HUB FOR SPLIT SPROCKET
3	PILOTED FLANGE BEARING
4	PILLOW BLOCK BEARING
5	GEAR
6	TAPER LOCK BUSHING
7	TAPER LOCK BUSHING (Modified)
8	CUTTING HEAD ECCENTRIC
9	CONNECTING ROD (Complete)
10	UPPER CONNECTING ROD BUSHING
11	LOWER CONNECTING ROD BUSHING
12	ECCENTRIC CAP
13	UPPER ECCENTRIC SHAFT
14	CONNECTING ROD LOWER PIN

### **SECTION 402**

INDEX NO.	PART DESCRIPTION
1	PILOTED FLANGE BEARING
2	PILLOW BLOCK BEARING
3	GEAR
4	TAPER LOCK BUSHING
5	TAPER LOCK BUSHING (Modified)
6	CUTTING HEAD ECCENTRIC
7	CONNECTING ROD (Complete)
8	UPPER CONNECTING ROD BUSHING
9	LOWER CONNECTING ROD BUSHING
10	ECCENTRIC CAP
11	CONNECTING ROD LOWER PIN
12	LOWER ECCENTRIC SHAFT

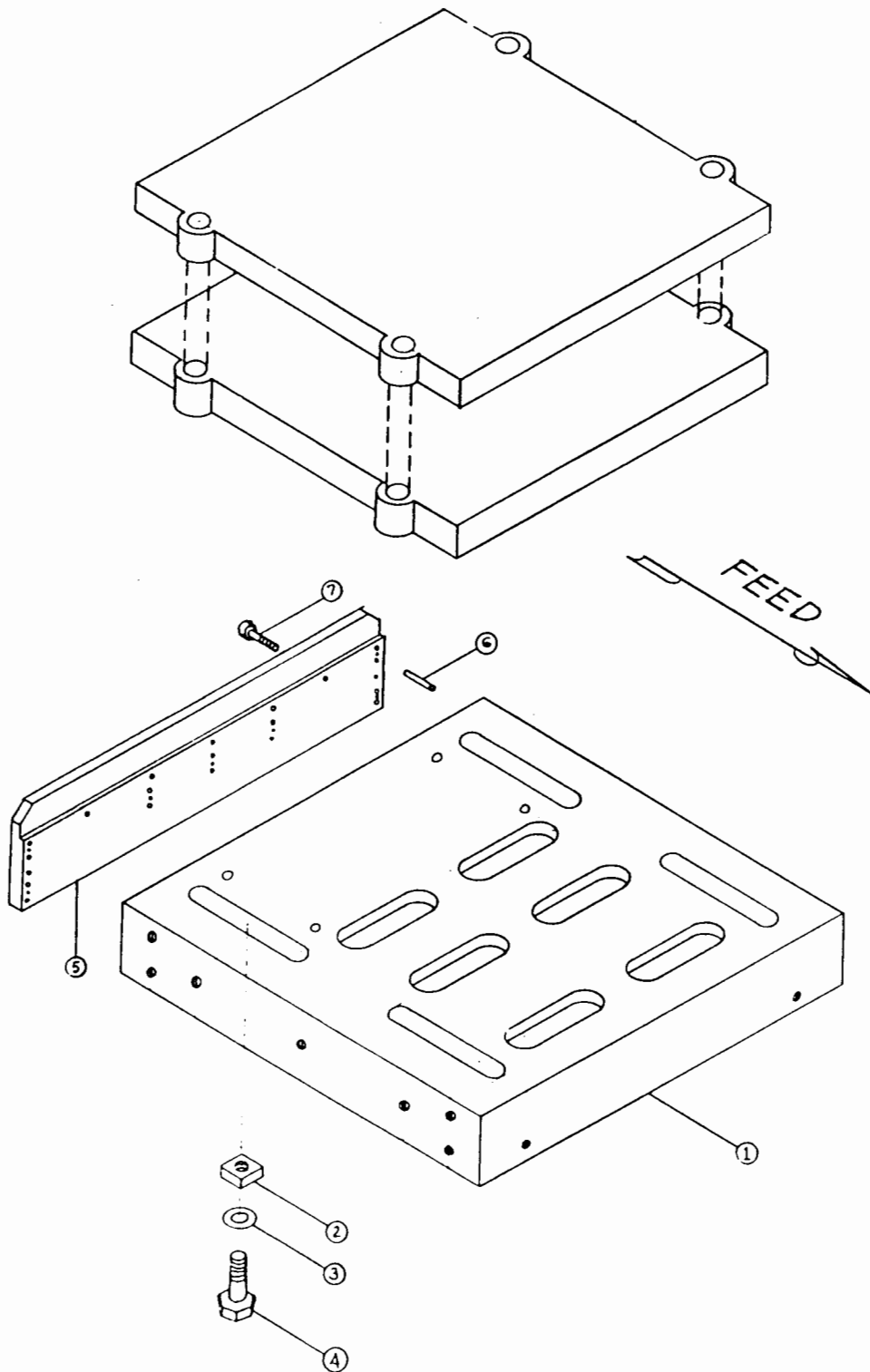
### **SECTION 403**

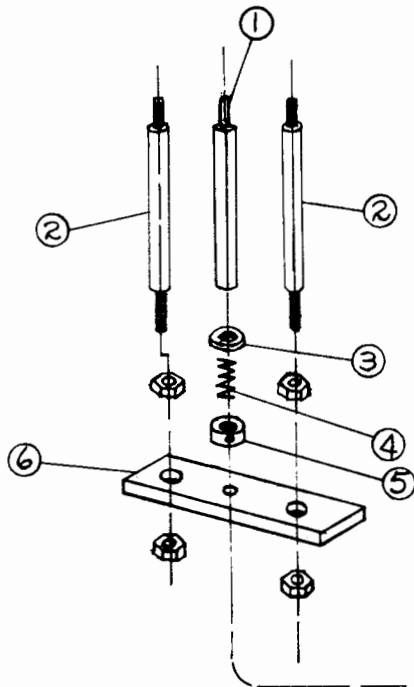
INDEX NO.	PART DESCRIPTION
1	GIB CAPS
2	CUTTING HEAD GIBS
3	CUTTING HEAD

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

# GROUP 400

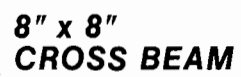
## CUTTING BASE – SECTION 404





**AIR SECTION**

The diagram illustrates the assembly of the Air Section. It shows a vertical assembly with a central tube. Component 7 is a small circular part at the top. Component 8 is a larger, more complex part below it. Component 9 is a large cylindrical tank with a side valve. Component 10 is a smaller cylindrical tank. A dashed line connects the top of component 9 to the top of component 10, indicating a connection point.



## **GROUP 500**

### **SECTION 501**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	FORMING HEAD SPRING (Specify Length When Ordering)
2	SPRING ADJUSTMENT WASHER
3	SPRING CANS
4	BOLSTER BOLT
5	BOLSTER SPRING
6	BOLSTER SPACERS (Order By Size)
7	11" BOLSTER PLATE (Include Number of Dies & Die Size When Ordering)
8	13" BOLSTER PLATE (Include Number of Dies & Die Size When Ordering)
9	15" BOLSTER PLATE (Include Number of Dies & Die Size When Ordering)
10	DIE HEATER TERMINAL BOX
11	BLANK CHUTE REST
12	FORMING DIE BASE
13	BOLSTER NUT
14	BOLSTER WASHER

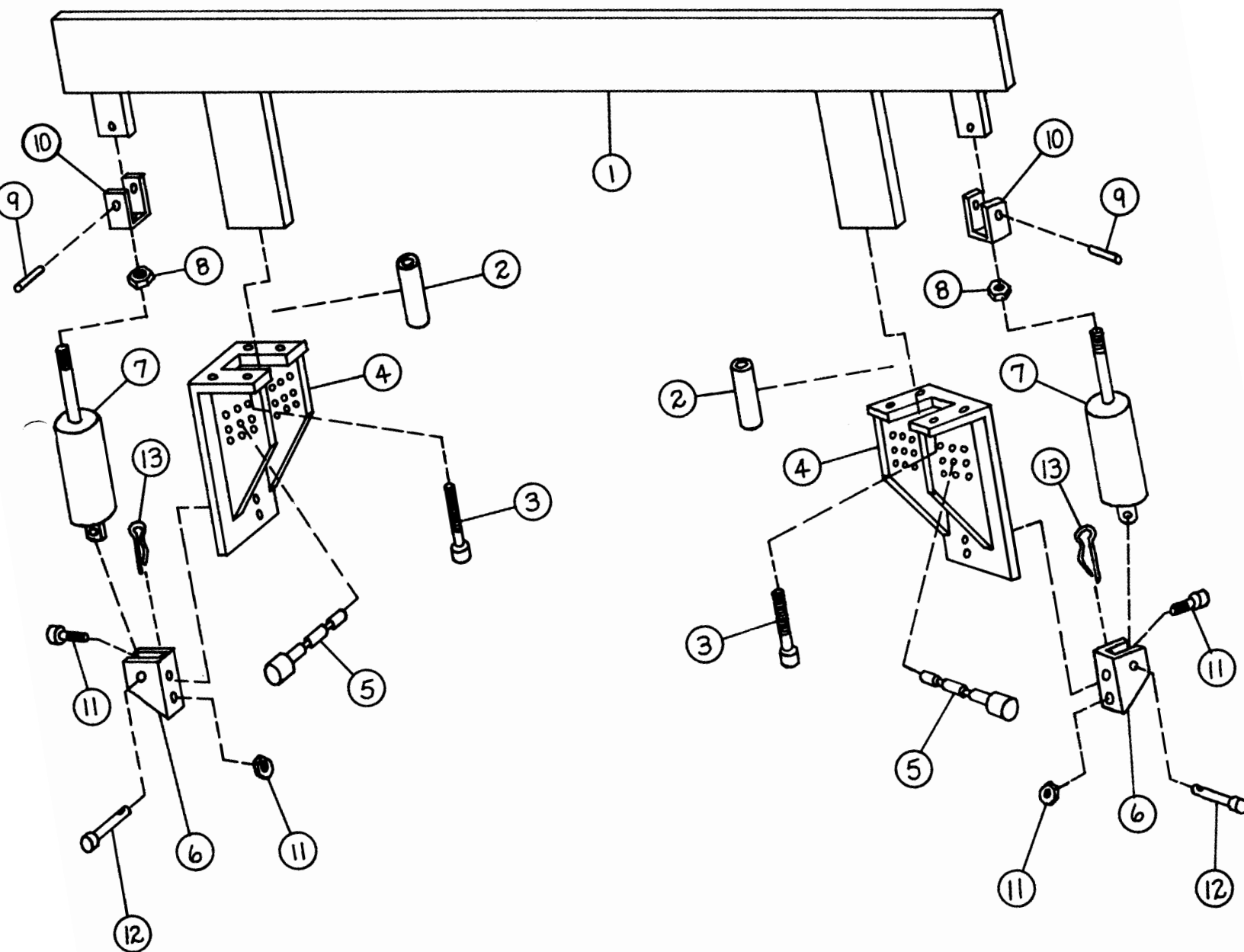
### **SECTION 502**

<b>INDEX NO.</b>	<b>AIR EJECTOR</b>
1	EJECTOR ROD
2	KICK—OUT STUD
3	FLAT WASHER
4	SPRING
5	SET COLLAR
6	EJECTOR CYLINDER MOUNTING PLATE
7	EYE BOLT
8	PISTON ROD CLEVIS
9	HUMPHREY AIR CYLINDER (Double Action)
10	HUMPHREY AIR CYLINDER (Single Action)
11	EJECTOR MANIFOLD
12	SKINNER VALVE

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 500

## SECTION 503





GROUP 500

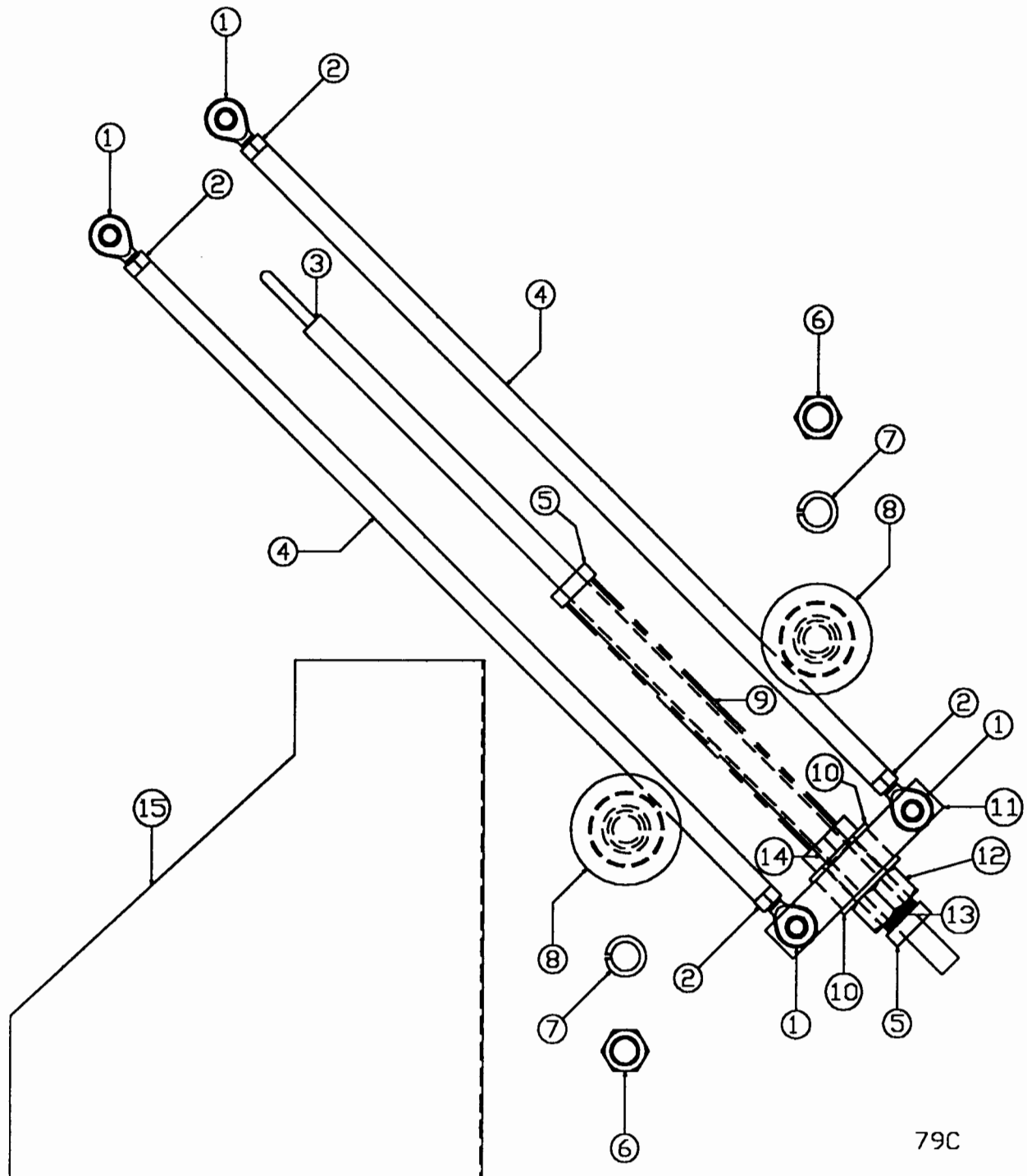
SECTION 503

<u>INDEX NO.</u>	<u>PART DESCRIPTION</u>
1	EJECTOR BAR
○ 2	CYLINDER MOUNT SPACERS
○○ 3	SOCKET HEAD CAP SCREWS
4	CYLINDER MOUNT
5	3/8 SHEAR PIN
6	CYLINDER PIVOT BRACKET
7	AIR CYLINDER (HUMPHREY)
8	JAM NUT
9	CLEVIS PIN
10	ROD CLEVIS
11	3/8-16 x 1" LG. S.H.C.S. & NUT
12	CLEVIS PIN
13	COTTER PIN

NOTE:

- SPACERS ARE REQUIRED ON THE 7-3/4" THICK FORMING BASES ONLY
- 3/8-16 x 4" LG. S.H.C.S. USED WITH 7-3/4" THICK FORMING BASE  
3/8-16 x 1-1/2" LG. S.H.C.S. USED WITH 10-3/4" THICK FORMING BASE

GROUP 500  
ADJUSTABLE SPRING EJECTOR  
SECTION 504



# GROUP 500

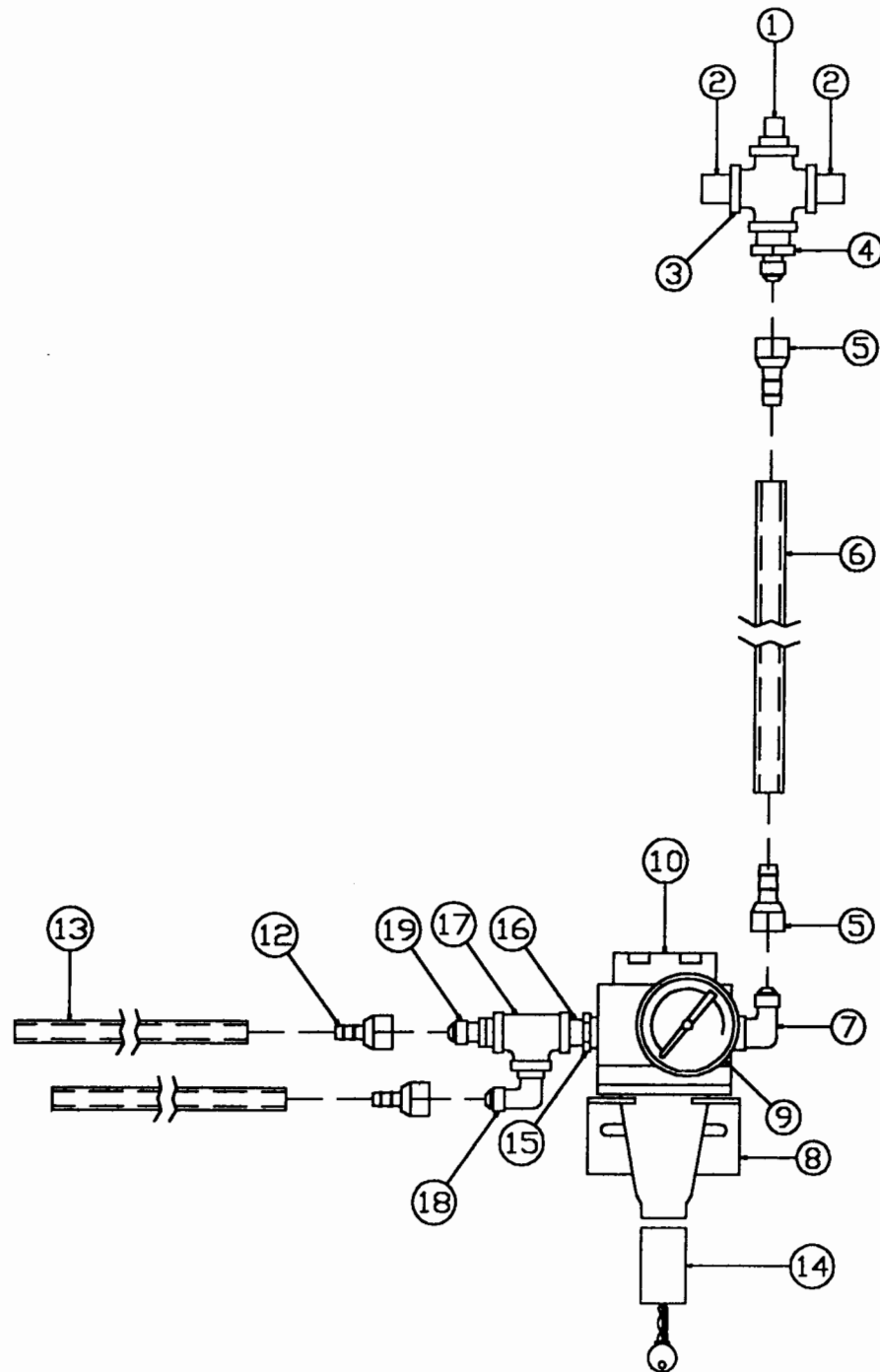
## SECTION 504

INDEX NO.	PART DESCRIPTION	QUANTITY
1	ROD END	8
2	JAM NUT	8
3	EJECTOR ROD	*7
4	CONNECTING ROD	4
5	ROD COLLAR	**14
6	JAM NUT	4
7	LOCK WASHER	4
8	CAMFOLLOWER	4
9	EJECTOR SPRING	*7
10	FLAT WASHER	**14
11	EJECTOR SUPPORT BAR	1
12	GUIDE BOLT NUT	*7
13	GUIDE BOLT	*7
14	GUIDE BOLT BUSHING	*7
15	ADJUSTABLE SPRING EJECTOR GUARD MOTOR SIDE SHOWN	1 EA.SIDE

(\* DENOTES NUMBER OF DIES)  
(\*\* DENOTES NUMBER OF DIES X 2)

79D

GROUP 500  
FORMING HEAD LIFT CYLINDER REGULATOR  
SECTION 506



## GROUP 500

### SECTION 506

INDEX NO.	PART DESCRIPTION	QUANTITY
1	PIPE PLUG	1
2	PIPE NIPPLE	2
3	PIPE CROSS	1
4	MALE CONNECTOR	1
5	SWIVEL BARB	2
6	HOSE	*
7	90^ MALE ELBOW	1
8	MOUNTING BRACKET	1
9	REGULATOR GAUGE	1
10	CYLINDER REGULATOR	1
11	NOT USED	
12	SWIVEL BARB	2
13	HOSE	*
14	CYLINDER REGULATOR KEY LOCK	1
15	REDUCING BUSHING	1
16	PIPE NIPPLE	1
17	PIPE TEE	1
18	90^ MALE ELBOW	1
19	MALE CONNECTOR	1

\* ORDER BY THE FOOT

15

16

17

18

19

20

21

22

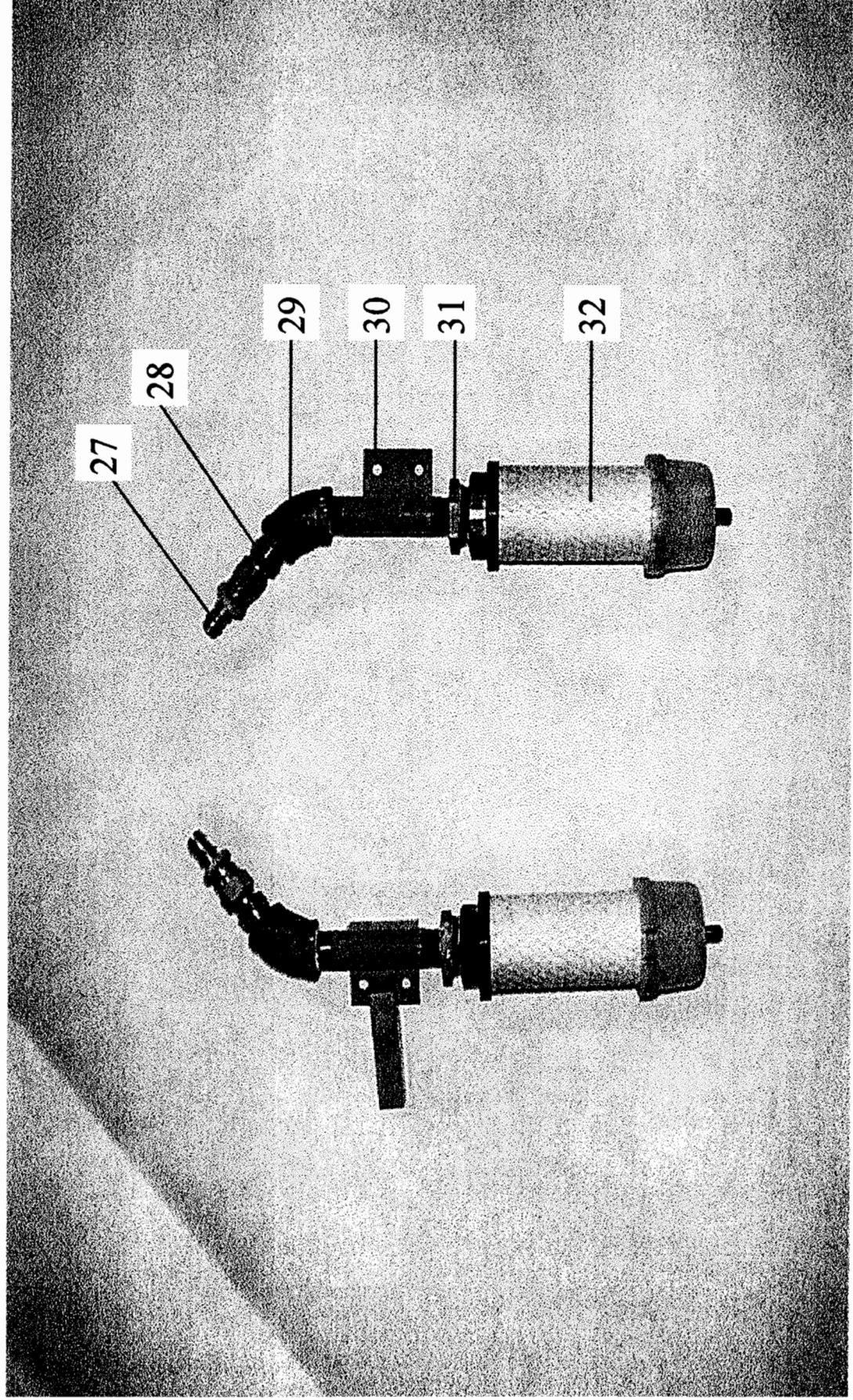
23

24

25

26

GROUP 500 - SECTION 507  
FORMING HEAD LIFT CYLINDER OILER  
EXHAUST ASSEMBLY



507-2-01

79H

## GROUP 500 - SECTION 507

### FORMING HEAD LIFT CYLINDER OILER

ITEM	QTY.	DESCRIPTION
15	1	MASTER PNEUMATIC SERVOIL RESERVOIR, M570-6R
16	1	MASTER PNEUMATIC SERVOIL MULTIPLE POINT LUBRICATOR, 71002104B-C
17	2	PARKER MALE CONNECTOR, 48F-4-4
18	2	PARKER 1/4" SAE 45° SWIVEL, 30882-4-4B
19	1	PARKER PUSH-LOK HOSE, 14 3/4" LONG, 801-4
20	3	PARKER MALE CONNECTOR, 68PL-4-4
21	3	1/4" NPT SOCKET HEAD PIPE PLUG
22	2	ALLIED WOTAN AIR MUFFLER, P-38
23	1	SKINNER 4 WAY AIR VALVE, 24 VDC COIL, 73419AN2NNOONOD100C2
24	1	PARKER POLYETHYLENE HOSE, 7" LONG, E-43
25	2	MASTER PNEUMATIC FITTING, 1/4" NPT TO 1/8" PLASTIC LINE, 00142W
26	30 FT	MASTER PNEUMATIC 1/8" OD OIL FILLED TUBING, (NOT SHOWN) A00942M
27	2	PARKER SAE 45° SWIVEL, 30882-8-8B
28	2	PARKER MALE CONNECTOR, 48F-8-8
29	2	1/2" NPT 45° ELBOW
30	2	1/2" X 4" NPT NIPPLE WITH MOUNTING BRACKET
31	2	1" X 1/2" NPT REDUCING BUSHING
32	2	PARKER RECLASSIFIER, ECS5A



[illegible]

## GROUP 500 - SECTION 508

### FORMING HEAD LIFT CYLINDER

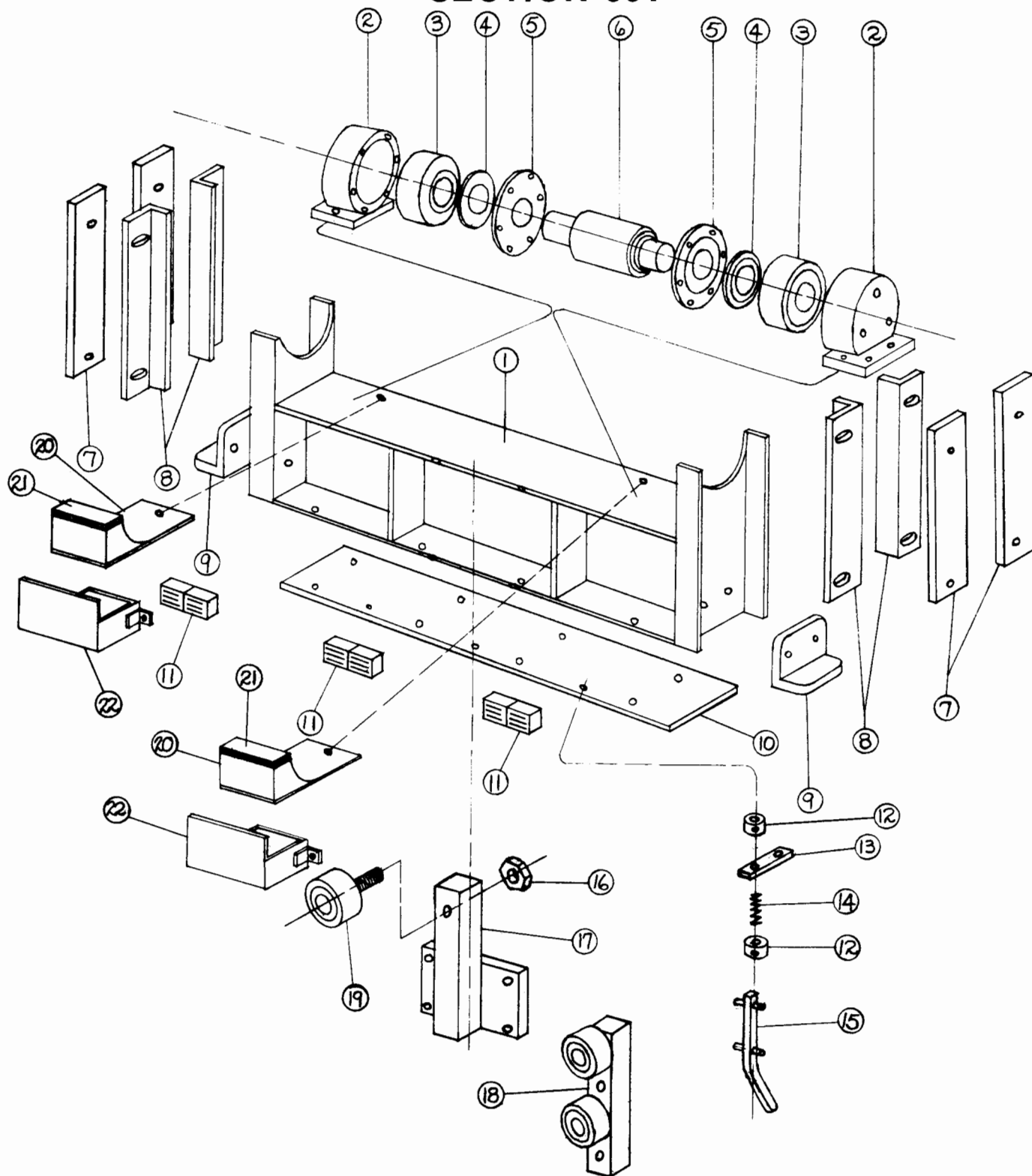
ITEM	QTY.	DESCRIPTION
1	2	ROD END BOLT (NOT SHOWN)
2	2	PARKER 1/4" PUSH-LOK HOSE, 10" LONG, 801-4
4	2	SPHERICAL ROD END
5	4	CLAMP
6	2	ROD BOOT
7	2	HEAD LIFT CYLINDER
8	2	SPHERICAL BEARING
9	2	MOUNTING BLOCK (NOT SHOWN)
10	2	CAP END BOLT AND LOCK WASHER (NOT SHOWN)
15	2	PARKER 3/8" SAE 45° SWIVEL, 30882-6-6B
16	2	PARKER 3/8" MALE ELBOW, 149F-6-6
18	2	PARKER 1/4" SWIVEL TO 3/8" NPT MALE CONNECTOR, 48F-4-6
19	4	PARKER 1/4" SAE 45° SWIVEL, 30882-4-4B
20	2	PARKER 1/4" SWIVEL TO 1/4" NPT MALE CONNECTOR, 48F-4-2
21	4	3/8" X CLOSE PIPE NIPPLE, GALVANIZED
22	2	PARKER 3/8" PISTON OPERATED VALVE, CW1037
23	2	3/8" NPT SOCKET HEAD PIPE PLUG
24	2	1/2" X 3/8" NPT REDUCING BUSHING, GALVANIZED
25	2	1/2" NPT CHECK VALVE, MODIFIED, 1/16" HOLE, 3600-12
26	6	1/2" X CLOSE NPT NIPPLE
27	2	1/2" NPT PIPE ELBOW, GALVANIZED
28	2	1/2" X 1 1/2" NPT PIPE NIPPLE, GALVANIZED
29	4	1/2" NPT TEE, GALVANIZED
30	2	KEPNER PRESSURE RELIEF VALVE, 2300C-400

31	2	ALLIED WOTAN AIR MUFFLER, P-48
32	2	3/8" NPT TEE, GALVANIZED
38	2	PARKER 1/2" SAE 45^ SWIVEL, 30882-8-8B
39	2	PARKER 1/2" MALE ELBOW, 149F-8-8
40	2	1/2" X 1/4" NPT REDUCING BUSHING, GALVANIZED
41	2	PARKER STREET ELBOW, 2202P-4-4
42	2	MASTER PNEUMATIC CHECK VALVE, A012445
43	2	MASTER PNEUMATIC 1/8" LINE FITTING, 00142W
44	2	PARKER PUSH LOK HOSE, 801-8, SOLD BY THE FOOT

# GROUP 600

## FORMING HEAD

### SECTION 601



# **GROUP 600**

## **SECTION 601**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	FORMING HEAD
2	CAM ROLLER HOUSING
3	LINK BELT BEARING
4	GREASE SEAL
5	SEAL RETAINER
6	CAM ROLLER
7	GIB CAPS
8	FORMING GIBS
9	HEAD SPRING BRACKET
10	FORMING DIE MOUNTING PLATE (Include Number of Dies & Die Size When Ordering)
11	ELECTRICAL TERMINAL STRIP ASSEMBLY
12	SET COLLAR
13	BLANK STOP BRACKET
14	BLANK STOP SPRING
15	BLANK STOP FINGER
16	CAM FOLLOWER NUT
17	GUIDE BAR
18	GUIDE BAR (Old Style)
19	CAM FOLLOWER
20	CAM ROLLER OILER
21	FELT PAD
22	CAM ROLLER DRIP PAN

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

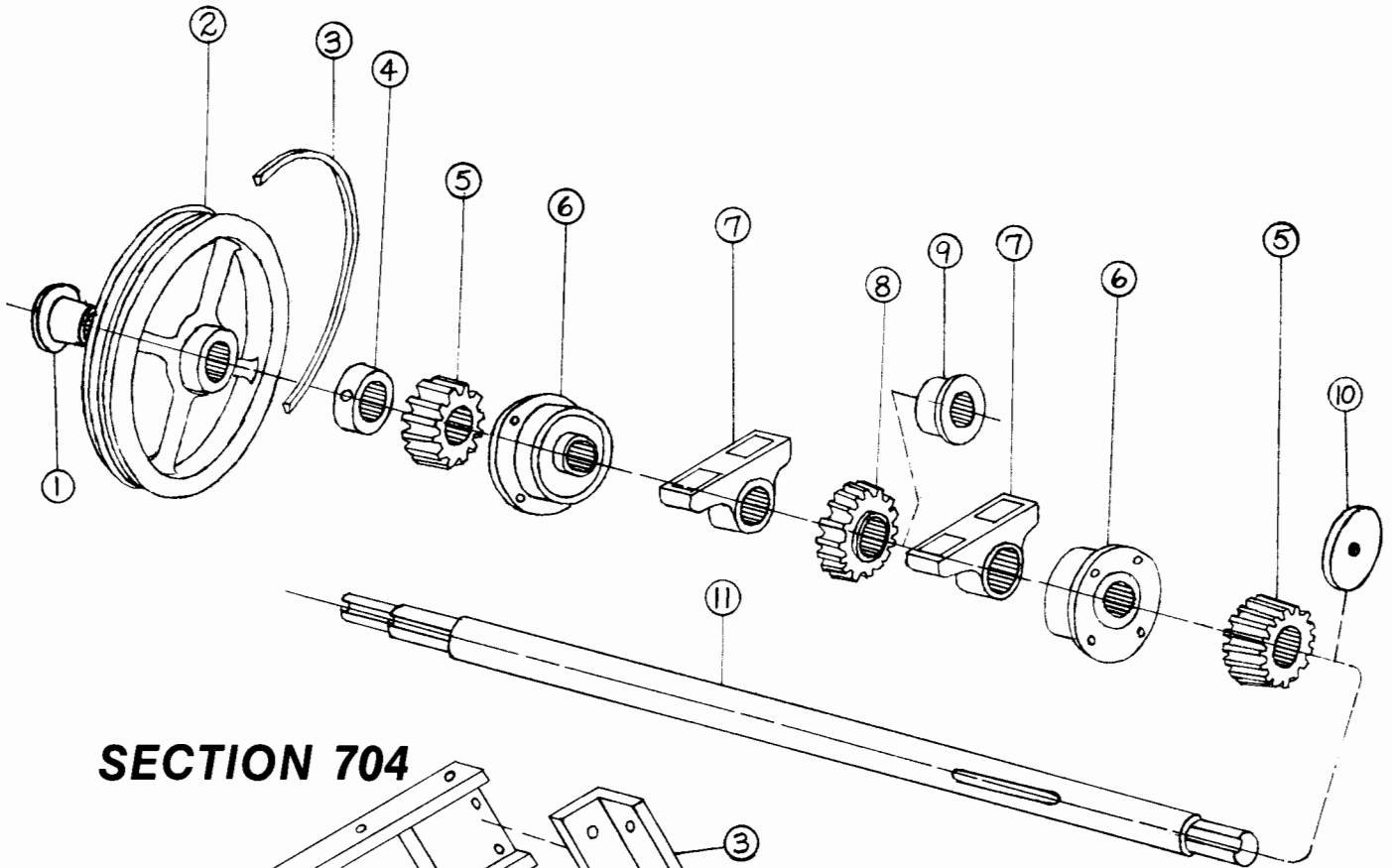
**PAGES 82, 83, 84, AND 85 NOT USED**

# GROUP 700

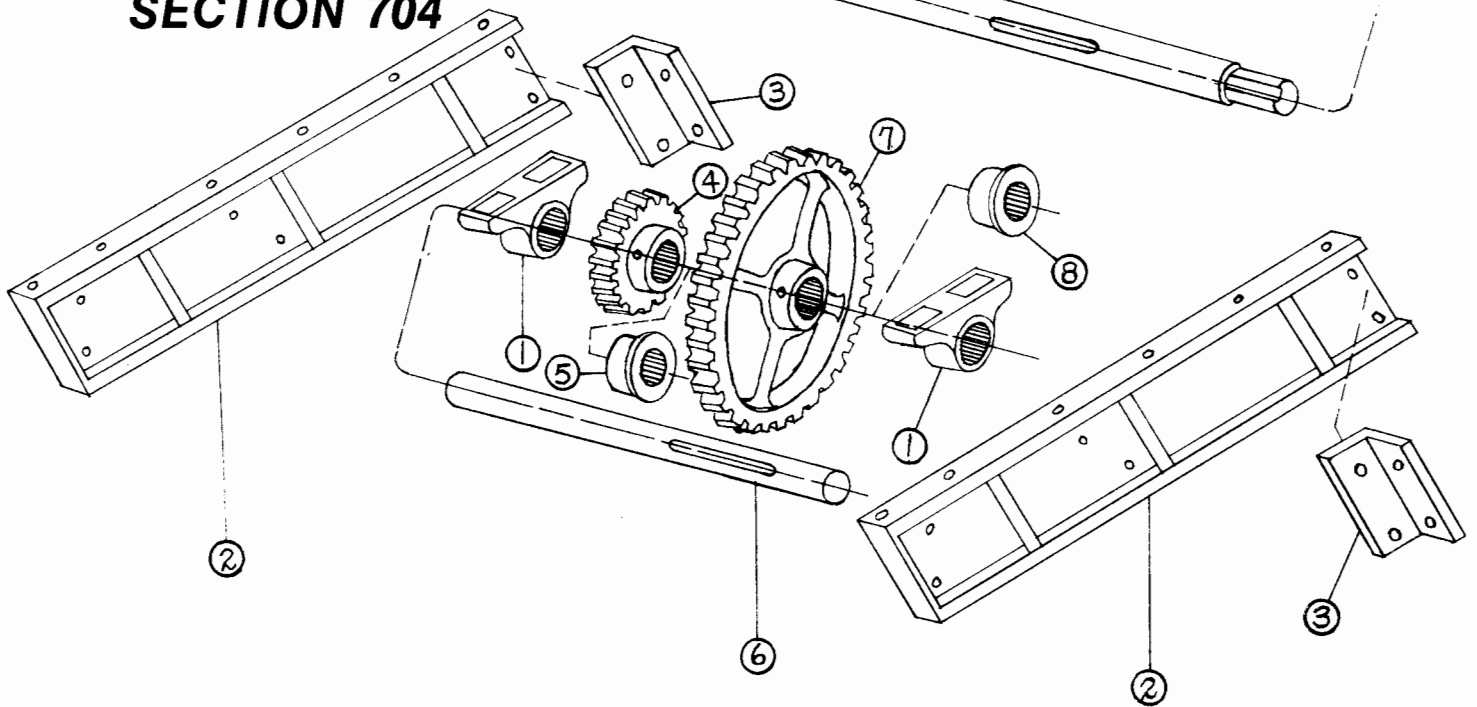
## SECTION 703

### PINION & INTERMEDIATE SHAFTS

P46-HD & P57-HD



## SECTION 704



# **GROUP 700**

## **SECTION 703**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	TAPER LOCK BUSHING
2	SHEAVE
3	BELTS
4	SPACER COLLAR
5	PINION GEAR
6	PILOTED FLANGE BEARING
7	PILLOW BLOCK BEARING
8	GEAR
9	TAPER LOCK BUSHING
10	PINION SHAFT END CAP
11	PINION SHAFT

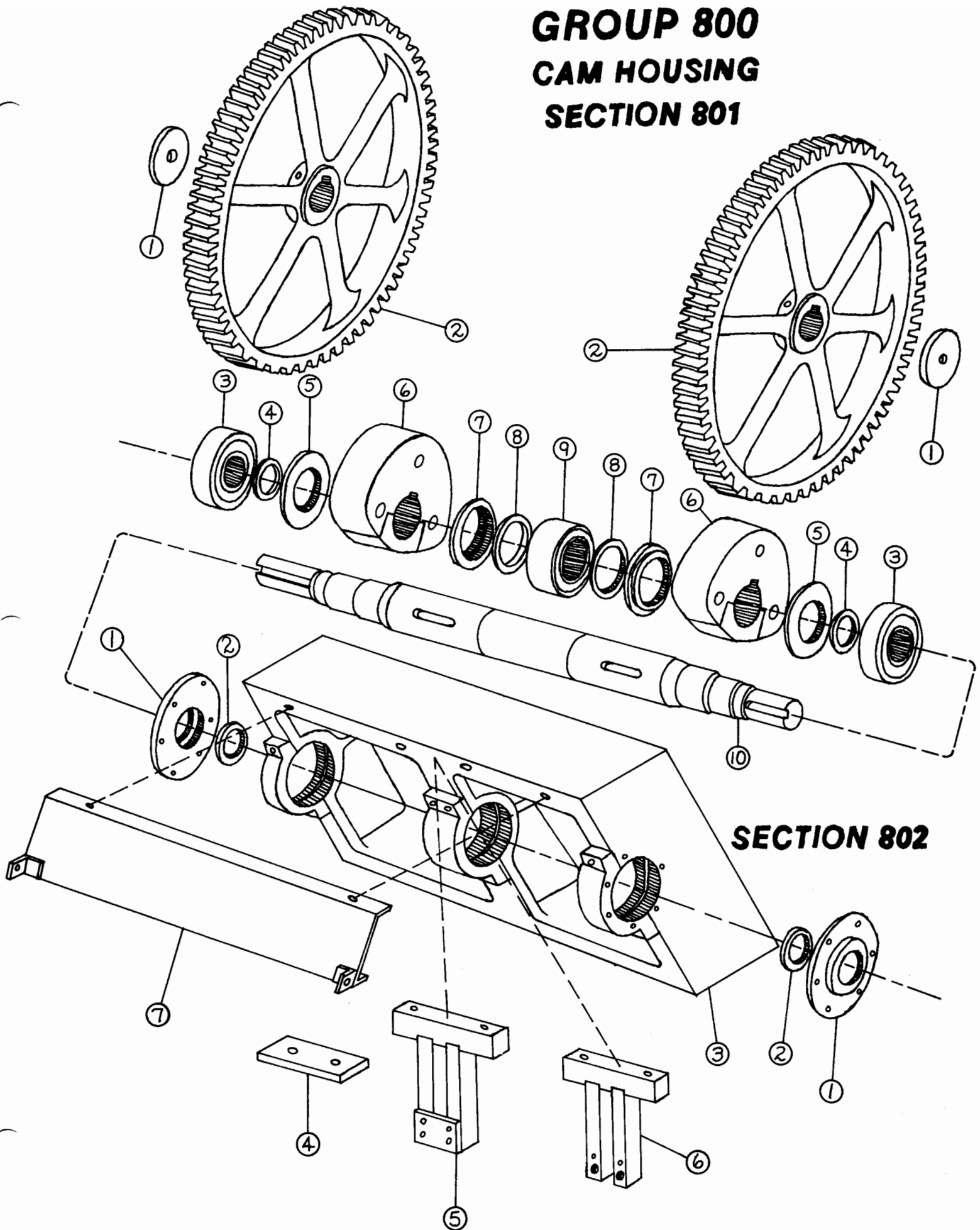
## **SECTION 704**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	PILLOW BLOCK BEARING
2	CENTER RAIL
3	CENTER RAIL MOUNTING ANGLE
4	GEAR
5	TAPER LOCK BUSHING
6	INTERMEDIATE SHAFT
7	GEAR
8	TAPER LOCK BUSHING

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**



# **GROUP 800** **CAM HOUSING** **SECTION 801**



## GROUP 800

### SECTION 801

INDEX NO.	PART DESCRIPTION
-----------	------------------

1	CAM SHAFT END CAP
2	BULLGEAR
3	SKF BEARING
4	GREASE SEAL
5	SEAL RETAINER
6	FORMING CAMS (SPECIFY STROKE WHEN ORDERING)
7	SEAL RETAINER
8	GREASE SEAL
9	MIDDLE BEARING
10	CAM SHAFT

### SECTION 802

INDEX NO.	PART DESCRIPTION
-----------	------------------

1	SEAL RETAINER
2	GREASE SEAL
3	CAM SHAFT HOUSING
4	HEAD GUIDE T-BAR SRACER (3 WIDE HD ONLY)
5	HEAD GUIDE T-BAR
6	HEAD GUIDE T-BAR (OLD STYLE)
7	FORMING HEAD GUARD

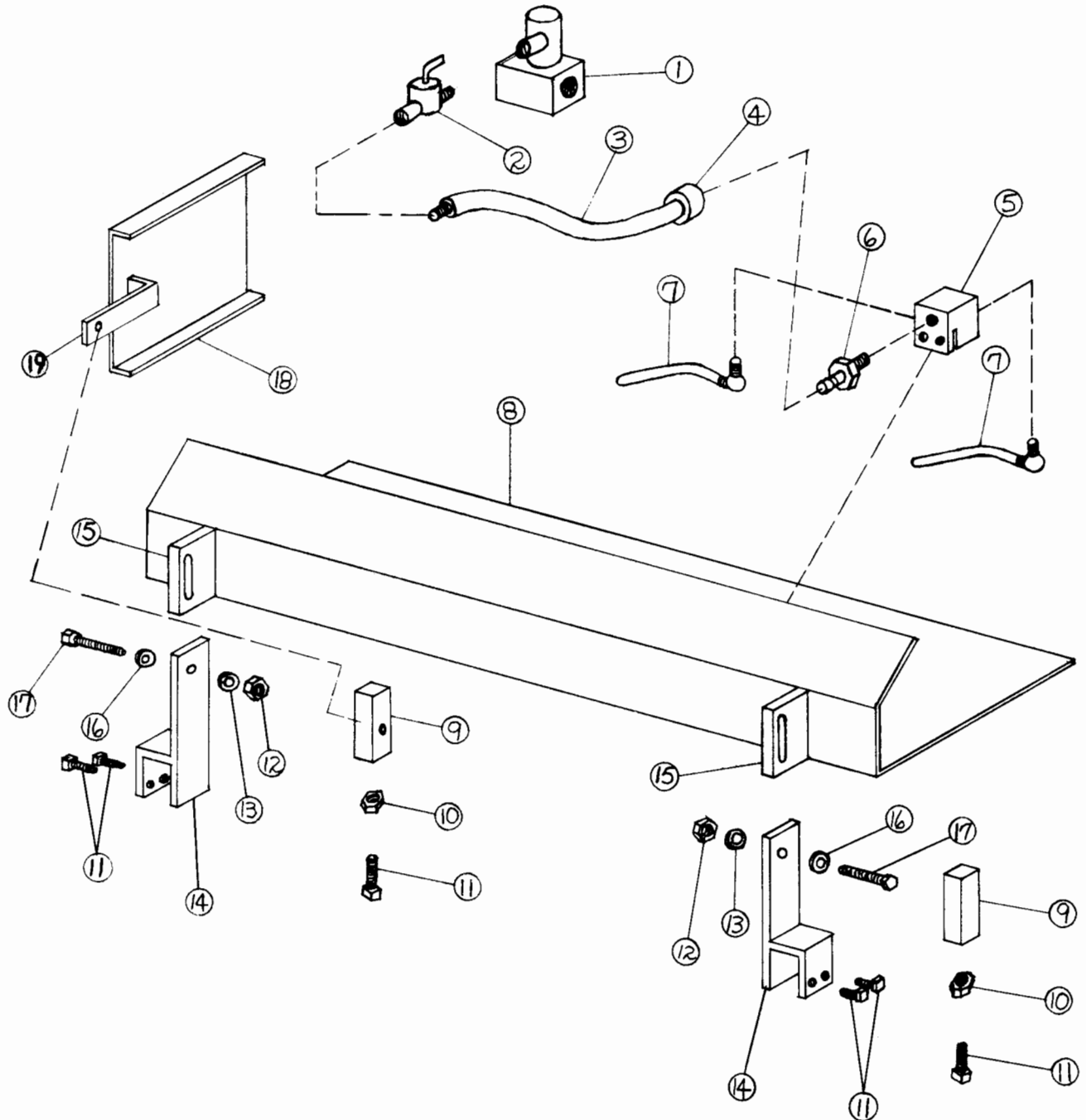
ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

EFFECTIVE DATE SEPT. 1984

# GROUP 900

## AIR SCRAP CHUTE

### SECTION 901



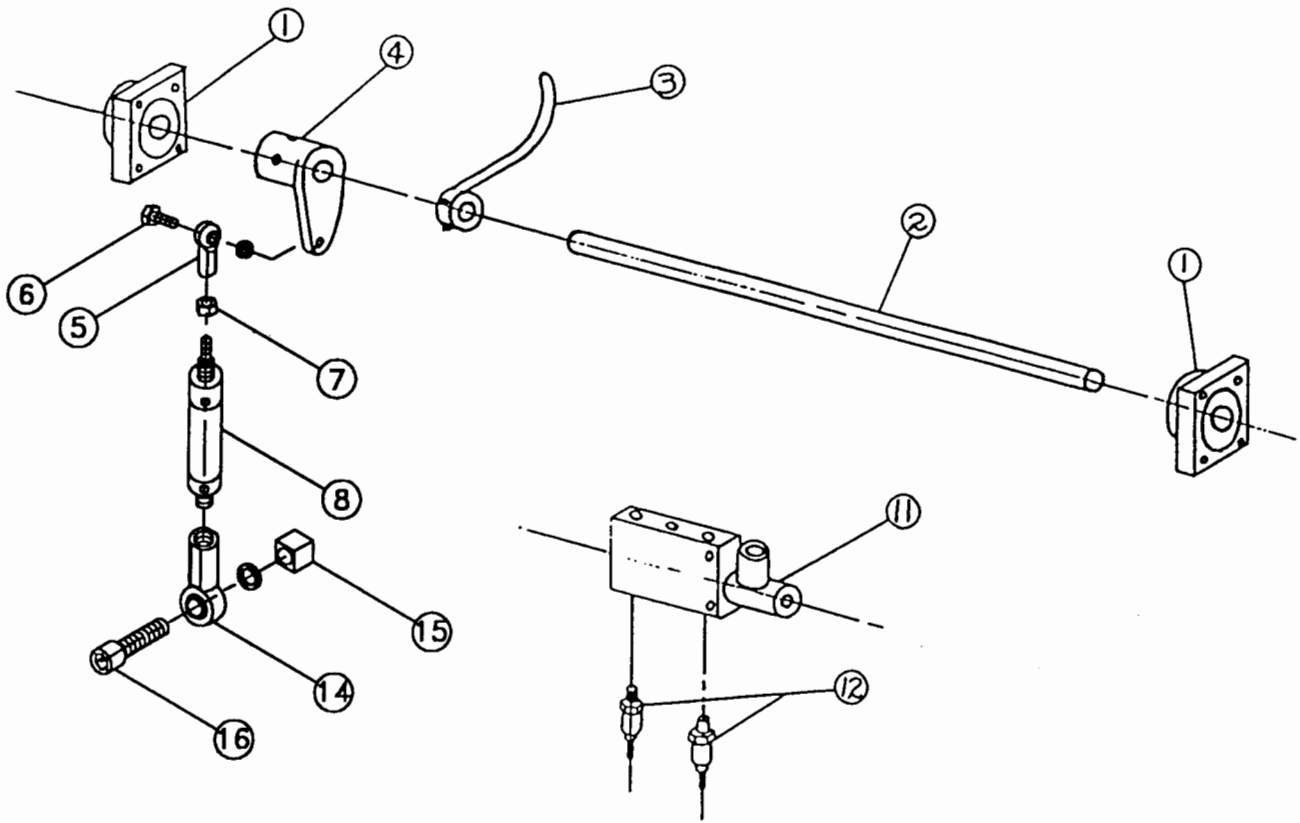
# GROUP 900

## SECTION 901

INDEX NO.	PART DESCRIPTION
1	TWO WAY AIR VALVE
2	AIR COCK (Female To Male)
3	FLEXIBLE AIR <del>HOSE</del> <i>HOSE</i>
4	<del>FEMALE SNAP</del> TITE DISCONNECT <i>Snap</i>
5	AIR SCRAP EJECTOR BLOCK
6	<del>MALE</del> MALE QUICK DISCONNECT
7	AIR DIRECTOR (Specify Length of Copper Tubing)
8	AIR SCRAP CHUTE
9	AIR SCRAP CHUTE POST
10	NUT
11	SQUARE HEAD SET SCREW
12	NUT
13	LOCK WASHER
14	AIR SCRAP EJECTOR PLATE BRACKET
15	AIR SCRAP CHUTE MOUNTING PLATE
16	WASHER
17	HEX HEAD BOLT
18	INSIDE CUTTING DIE GUARD
19	INSIDE CUTTING DIE GUARD MOUNTING ANGLE

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

**GROUP 900**  
**INTERMEDIATE BLANK STOP SHAFT**  
NOT USED ON P-34 AND P-46 STD MACHINES



**SECTION 902**

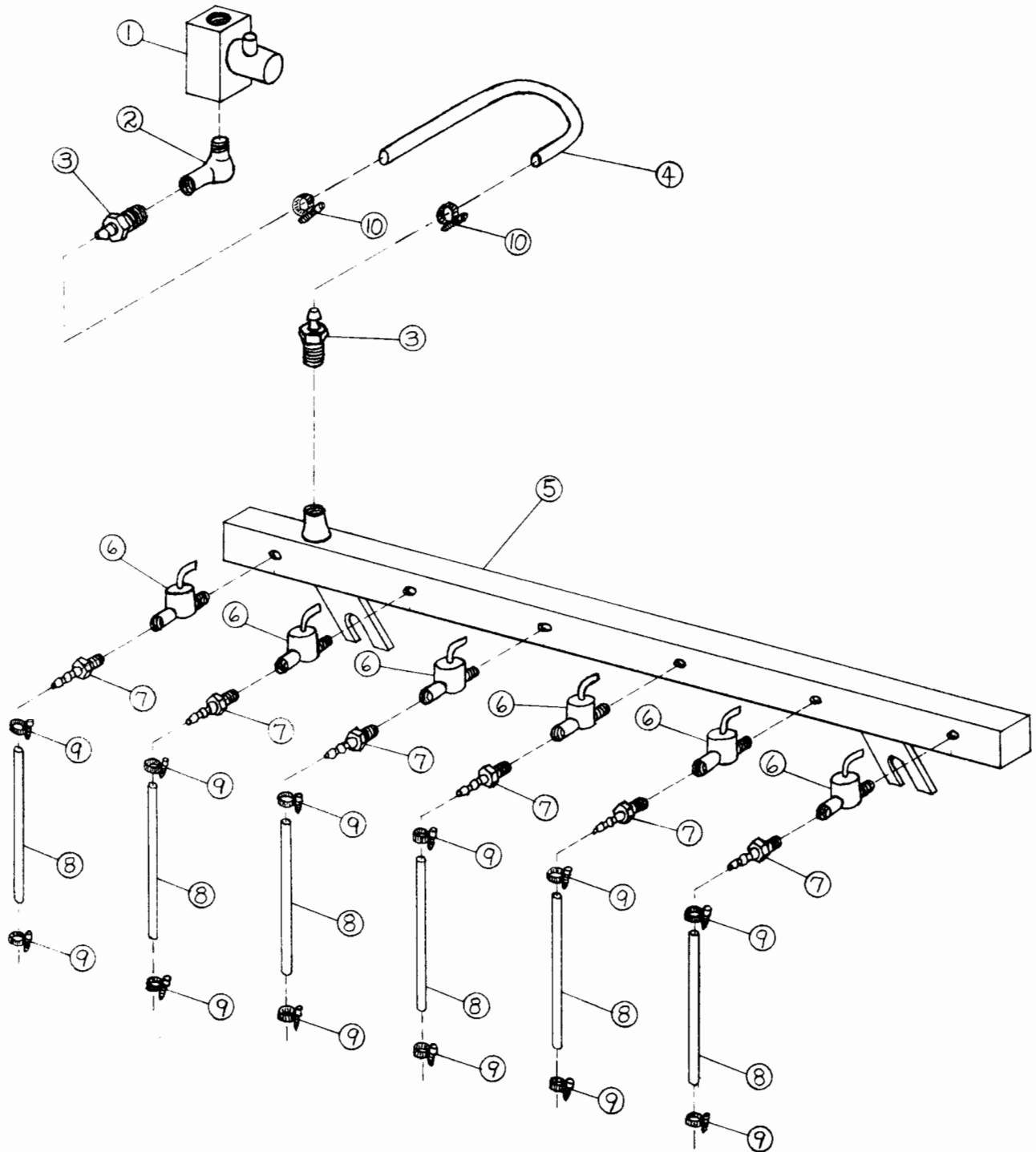
# GROUP 900

## SECTION 902

INDEX NO.	PART DESCRIPTION
1	LINK BELT BEARING
2	INTERMEDIATE BLANK STOP SHAFT
3	SPLIT COLLAR INTERMEDIATE STOP FINGER
4	BLANK STOP LEVER
5	ROD END
6	HEX HEAD CAP SCREW AND LOCK WASHER
7	JAM NUT
8	AIR CYLINDER
11	FOUR WAY VALVE
12	SPEED CONTROL MUFFLER
14	CYLINDER PIVOT
15	CYLINDER PIVOT SPACER
16	SOCKET HEAD CAP SCREW AND LOCK WASHER

# GROUP 900

## DIE AIR MANIFOLD



## SECTION 903

# **GROUP 900**

## **SECTION 903**

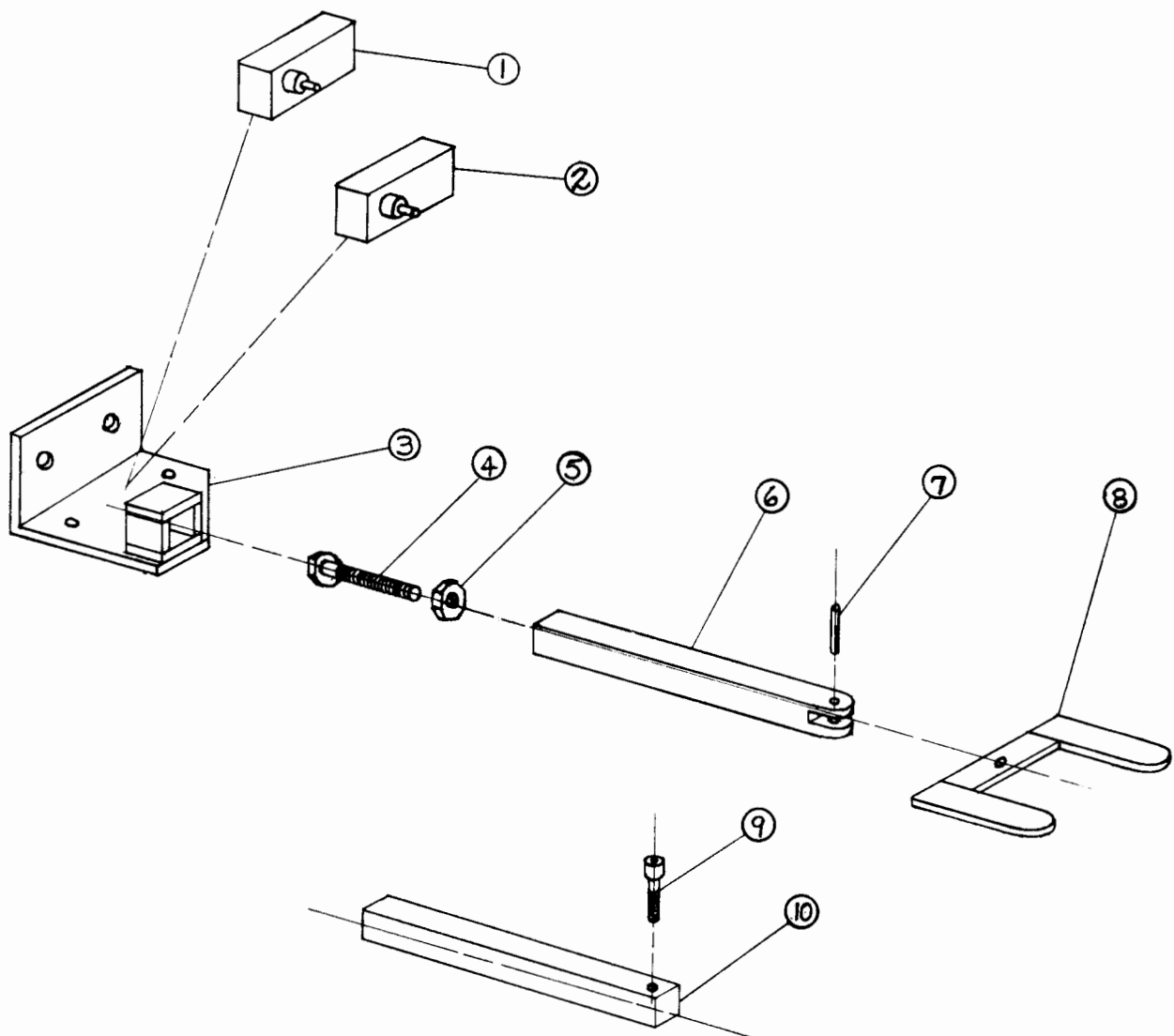
<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	TWO WAY AIR VALVE
2	STREET L
3	BARBED FITTING
4	FLEXIBLE AIR HOSE
5	DIE AIR MANIFOLD
6	SHUT OFF VALVE
7	BARBED FITTING
8	FLEXIBLE AIR HOSE
9	METAL HOSE CLAMP
10	METAL HOSE CLAMP

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**



# **GROUP 900**

## **DOOR SAFETY SHUTOFF SWITCH**



**SECTION 904**

# **GROUP 900**

## **SECTION 904**

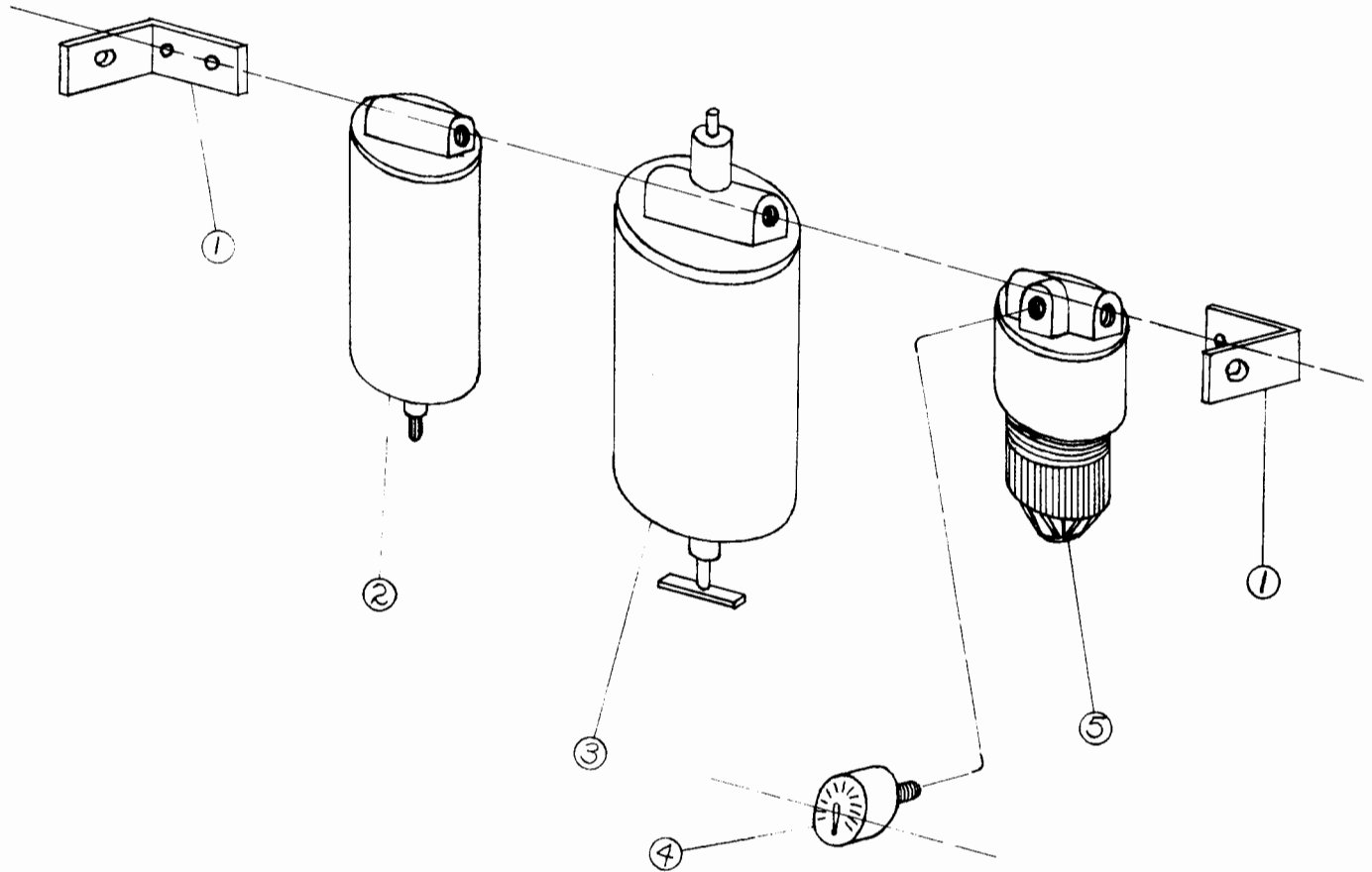
<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	MICRO SWITCH LIMIT SWITCH
2	ALLEN-BRADLEY LIMIT SWITCH
3	SWITCH MOUNTING BRACKET (Specify Which Switch To Be Used With)
4	BOLT
5	JAM NUT
6	SWITCH BAR (Slotted—Specify Length Of Bar)
7	ROLL PIN
8	DOOR CONTACTOR
9	SHOULDER BOLT
10	SWITCH BAR (Not Slotted—Specify Length Of Bar)

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# **GROUP 900**

## **OILER COMBO UNIT**

### **MAIN COMPONENTS**



### **SECTION 905**

# **GROUP 900**

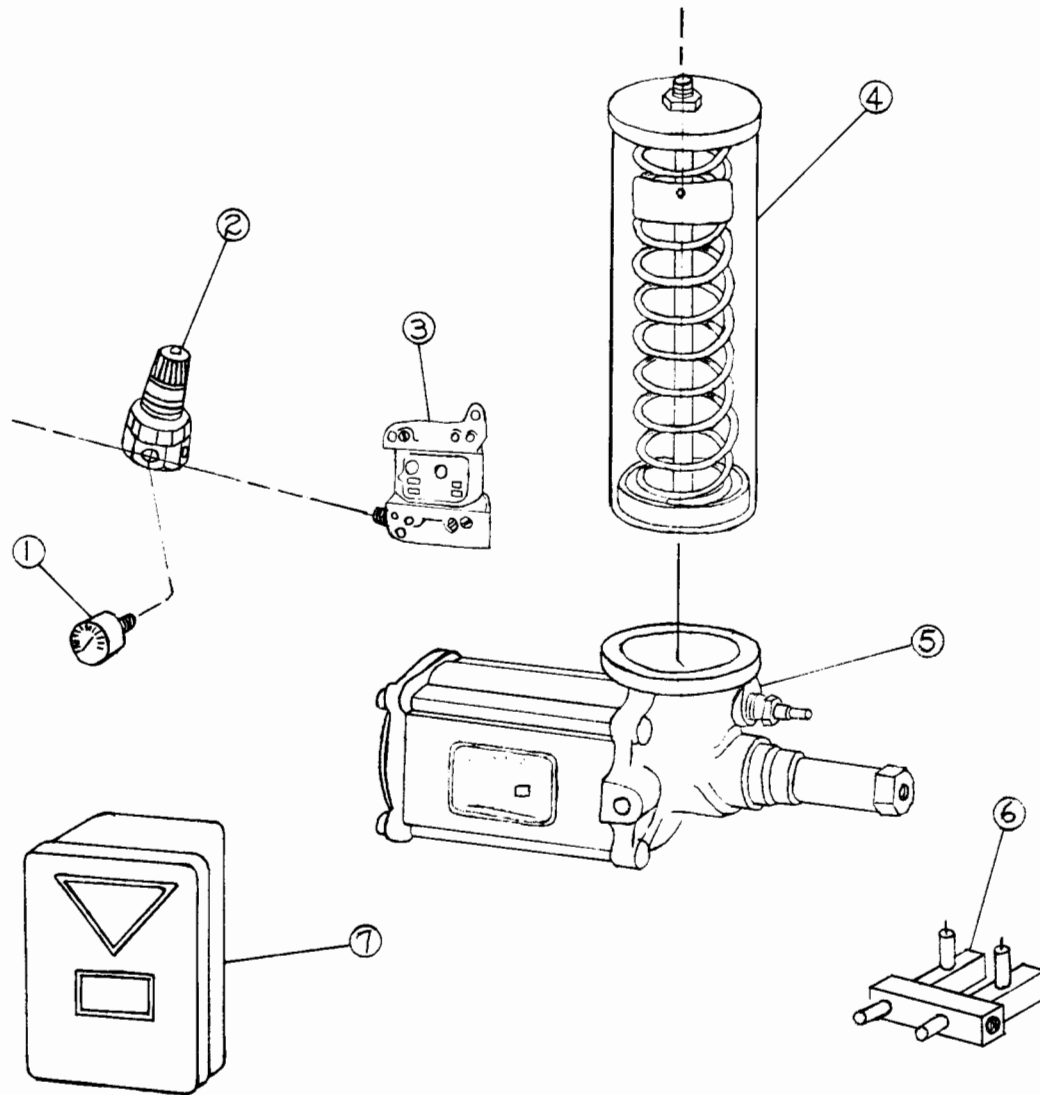
## **SECTION 905**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	OILER COMBO MOUNTING BRACKET
2	FILTER
3	LUBRICATOR
4	PRESSURE GAUGE
5	REGULATOR

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# **GROUP 900**

## **GREASE SYSTEM**



## **SECTION 906**

# **GROUP 900**

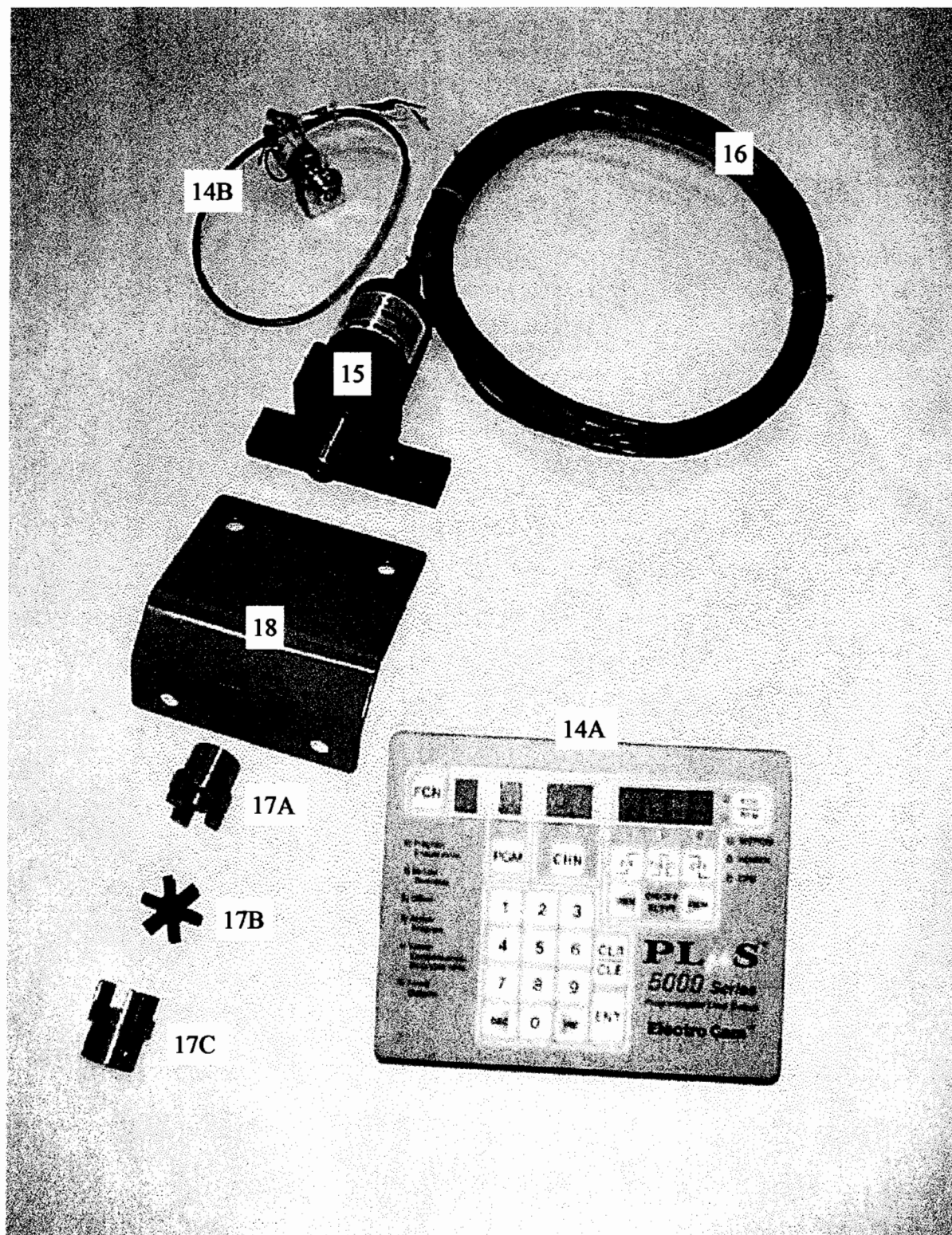
## **SECTION 906**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	GAUGE
2	REGULATOR
3	4 WAY SOLENOID AIR VALVE
4	LUBRICANT RESERVOIR
5	GREASE LUBRICANT RAM PUMP
6	INJECTORS WITH MOUNTING BRACKETS (Specify Number Of Injectors Per Unit)
7	CONTROLLER

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 900 - SECTION 907

## ELECTRO CAM PROGRAMMABLE LIMIT SWITCH



## **GROUP 900 - SECTION 907**

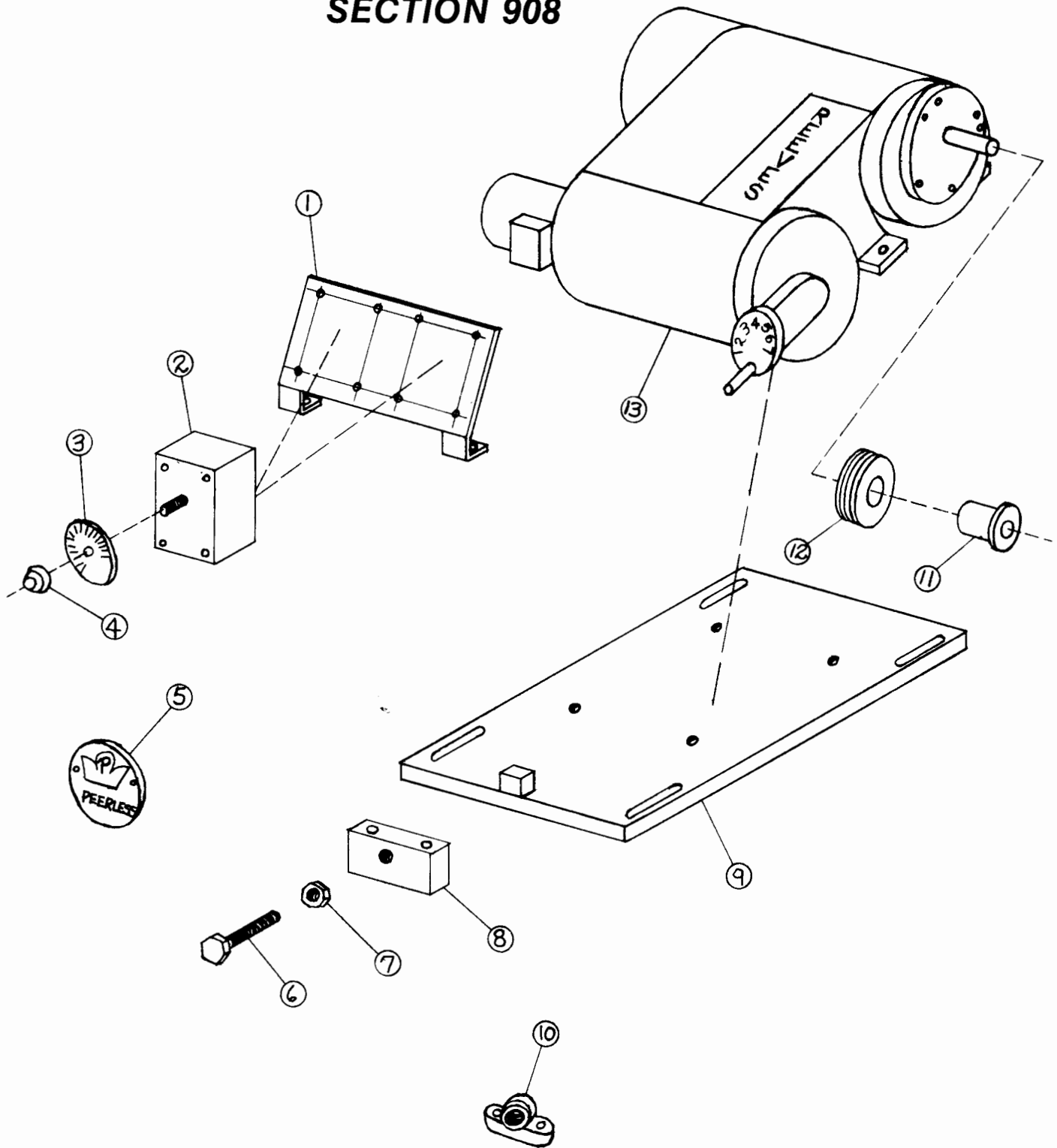
### **ELECTRO CAM PROGRAMMABLE LIMIT SWITCH**

<b>ITEM</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
14	1	PROGRAMMABLE LIMIT SWITCH
14A	1	PROGRAM SELECTOR SWITCH
15	1	RESOLVER
16	1	RESOLVER CABLE
17A	1	COUPLING HALF – 3/4” BORE
17B	1	COUPLING INSERT
17C	1	COUPLING HALF – 1/2” BORE
18	1	RESOLVER MOUNTING BRACKET



# GROUP 900

## SECTION 908



**NOTE:**  
THESE PARTS ARE ALL MOUNTED ON THE  
MACHINE TOP PLATE

# **GROUP 900**

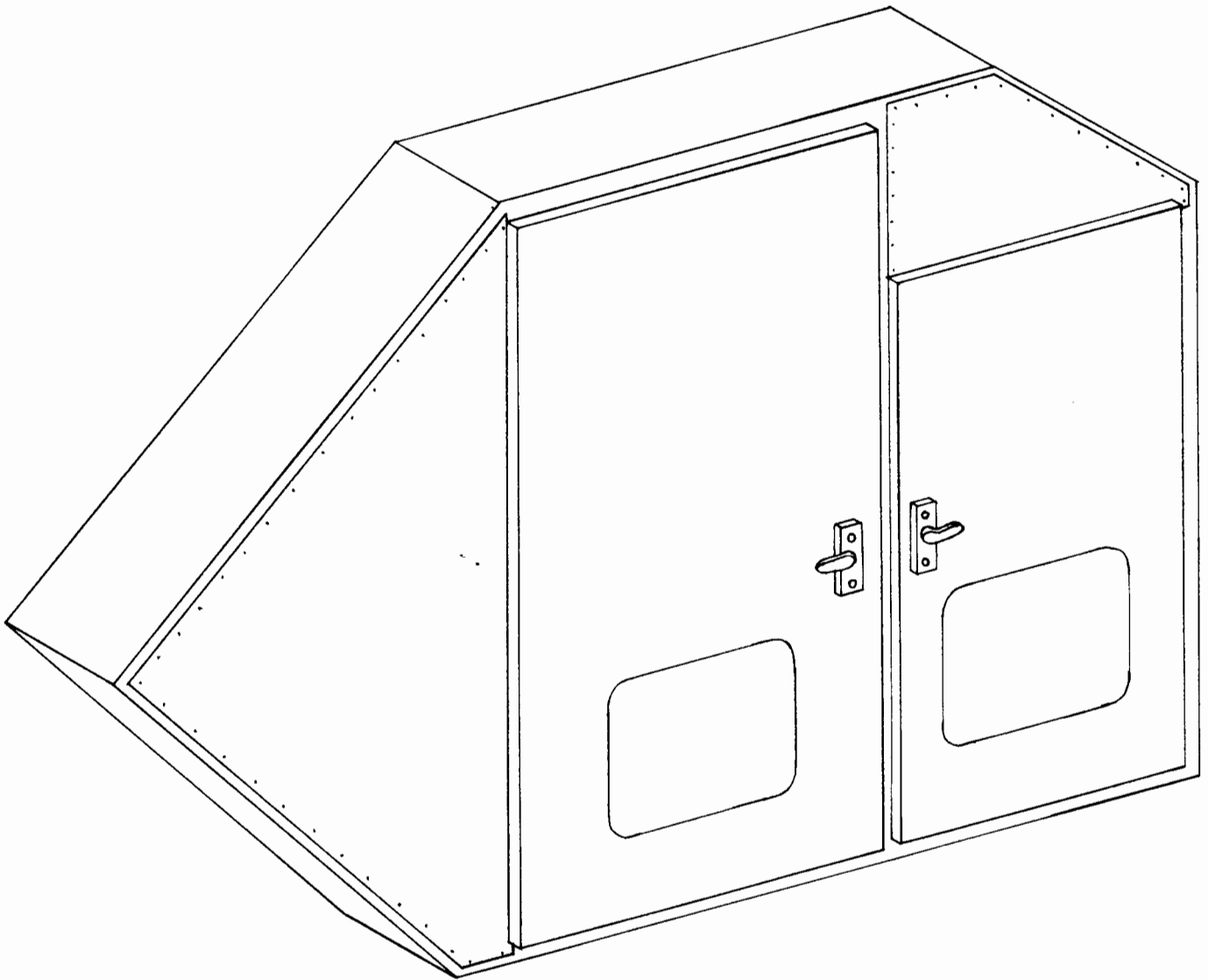
## **SECTION 908**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	FENWALL CONTROL MOUNTING BRACKET
2	FENWALL TEMPERATURE CONTROLLER
3	TEMPERATURE CONTROLLER DIAL
4	TEMPERATURE CONTROLLER KNOB
5	PEERLESS EMBLEM
6	ADJUSTMENT SCREW
7	ADJUSTMENT SCREW NUT
8	MOTOR MOUNT BLOCK
9	MOTOR MOUNTING PLATE
10	MANIFOLD
11	TAPER LOCK BUSHING
12	SHEAVE
13	MOTOR DRIVE

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# **GROUP 1000 GUARDS**

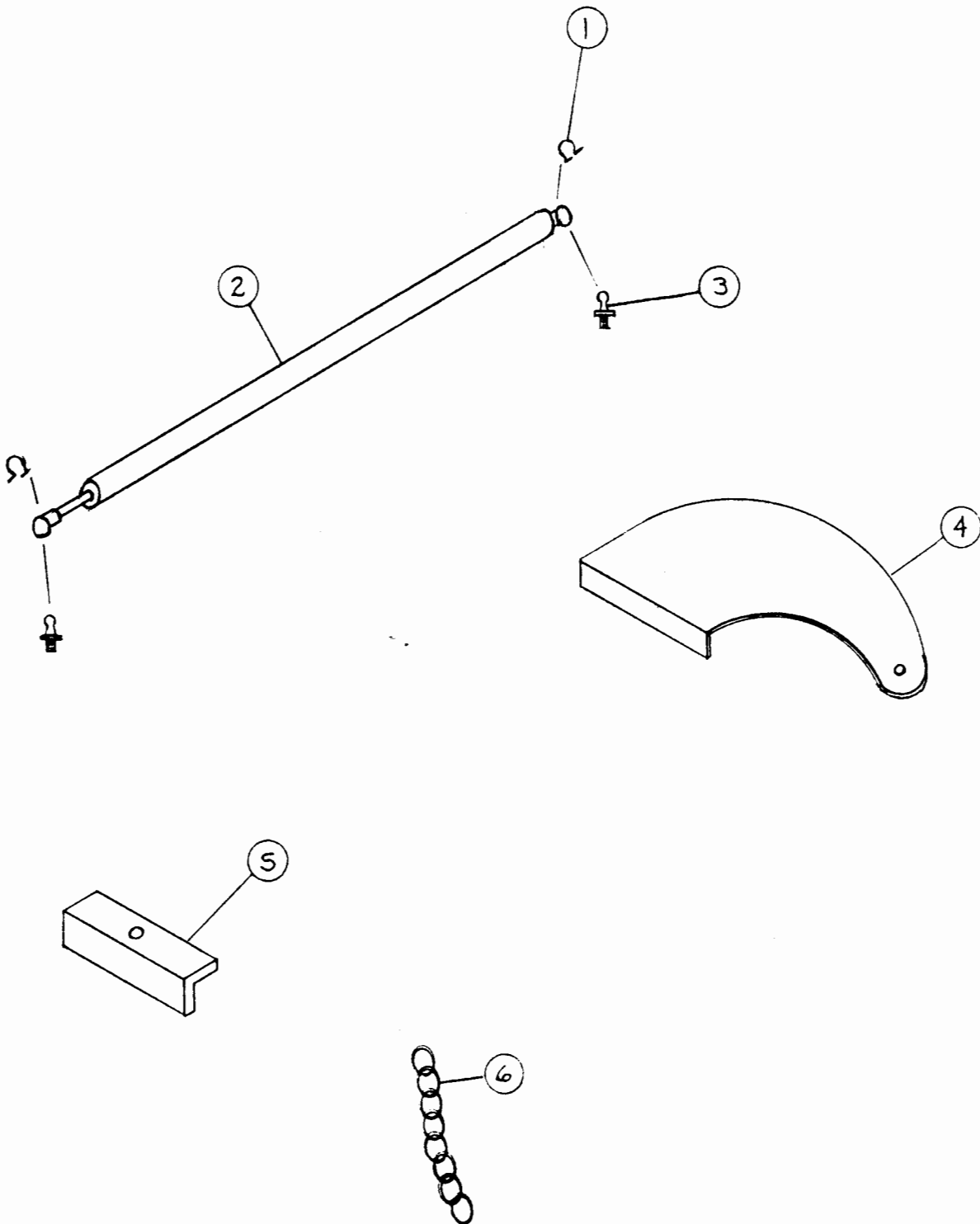
## **1000-700 GUARD**



**OPERATORS SIDE MACHINE GUARD**

**\* STATE MACHINE SIZE WHEN ORDERING**

GROUP 1000  
GUARDS  
1000-700 GUARD

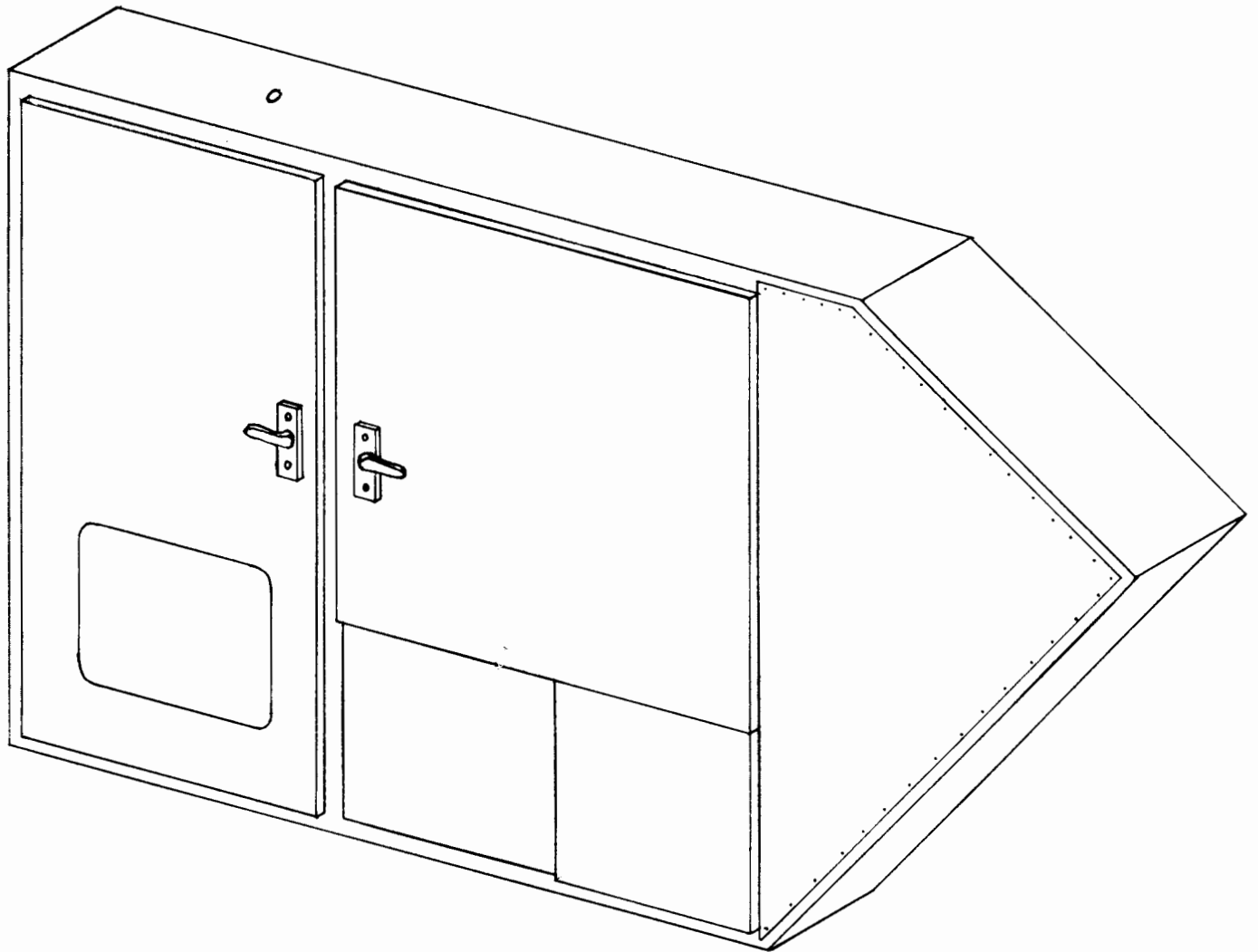


GROUP 1000

SECTION 700

INDEX NO.	PART DESCRIPTION
1	SAFETY CLIP
2	GAS CYLINDER
3	BALL STUD
4	LOWER DOOR BRACKET
5	UPPER DOOR BRACKET
6	SAFETY CHAIN

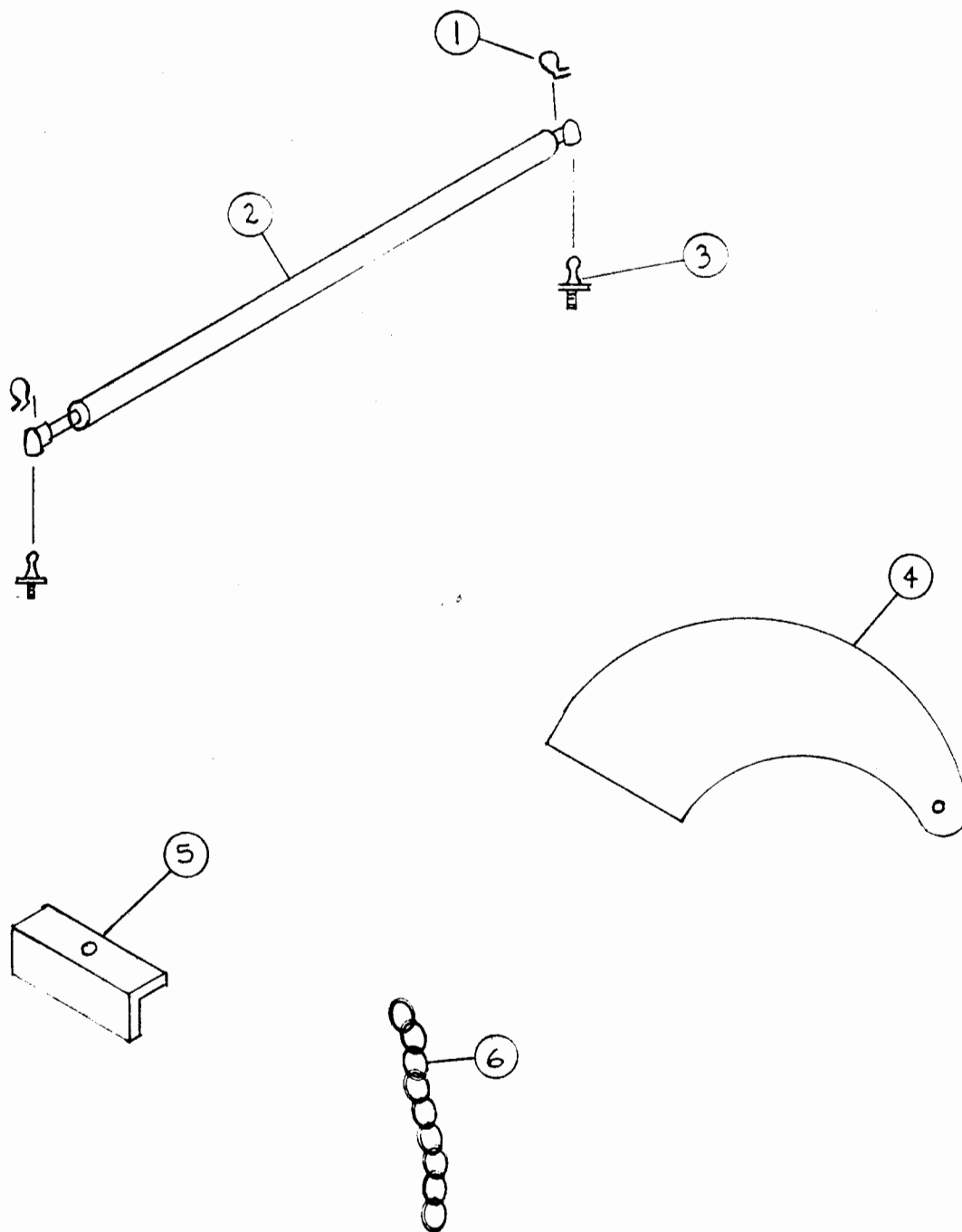
## **1000-700 2 GUARD**



**SIDE OPPOSITE OPERATOR MACHINE GUARD**

**\* STATE MACHINE SIZE WHEN ORDERING**

GROUP 1000  
GUARDS  
1000-700-2 GUARD



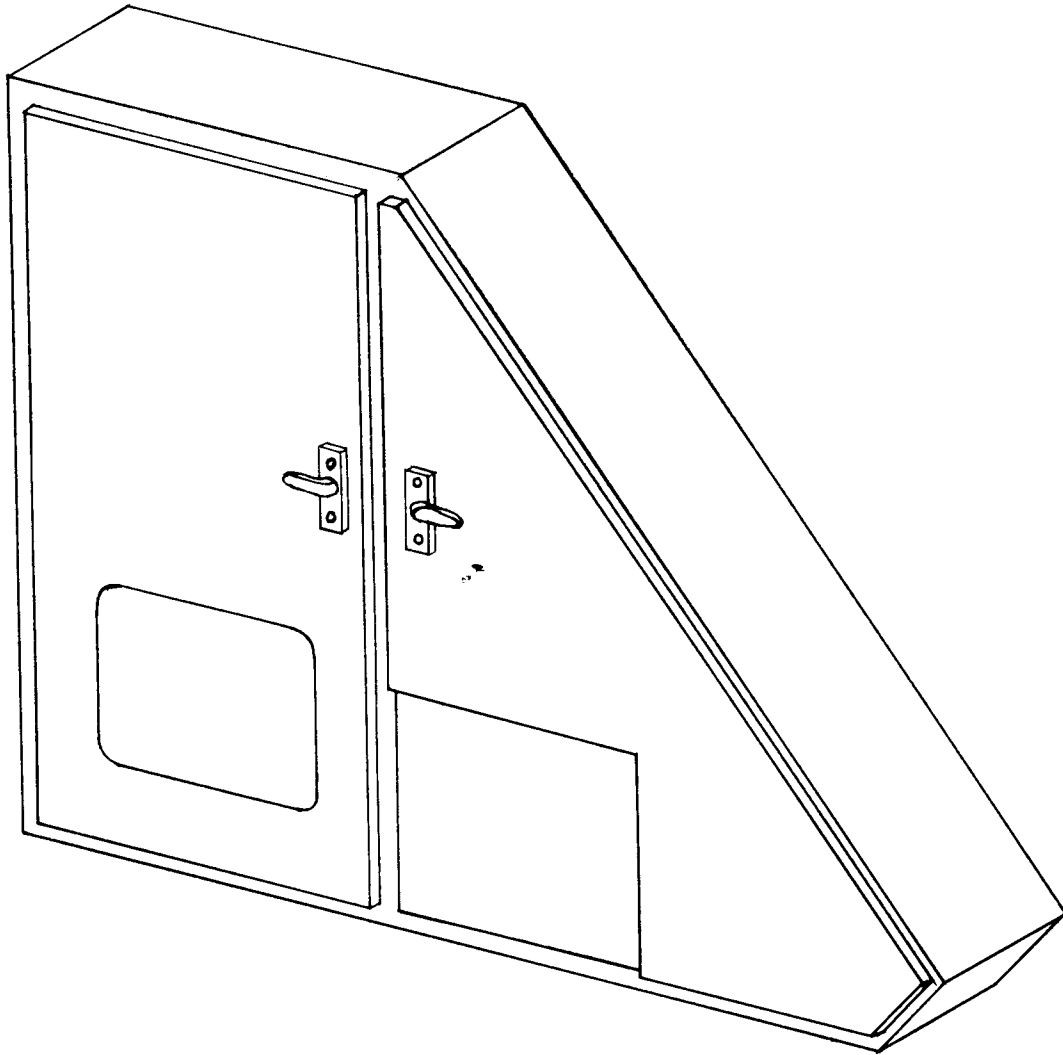
GROUP 1000

SECTION 700 - 2

INDEX NO.	PART DESCRIPTION
1	SAFETY CLIP
2	GAS CYLINDER
3	BALL STUD
4	LOWER DOOR BRACKET
5	UPPER DOOR BRACKET
6	SAFETY CHAIN

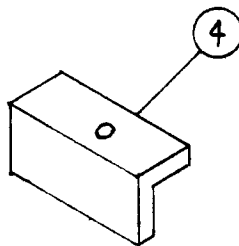
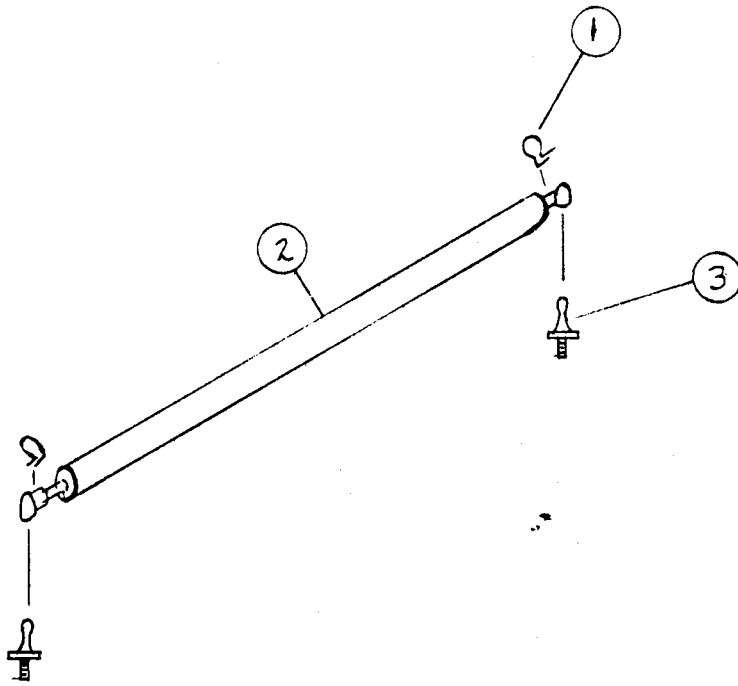


**1000-700-3**



**SIDE OPPOSITE OPERATOR MACHINE GUARD  
WITH GEAR BOX FOR TRIM MACHINE ATTACHMENT**

GROUP 1000  
GUARDS  
1000-700-3 GUARD

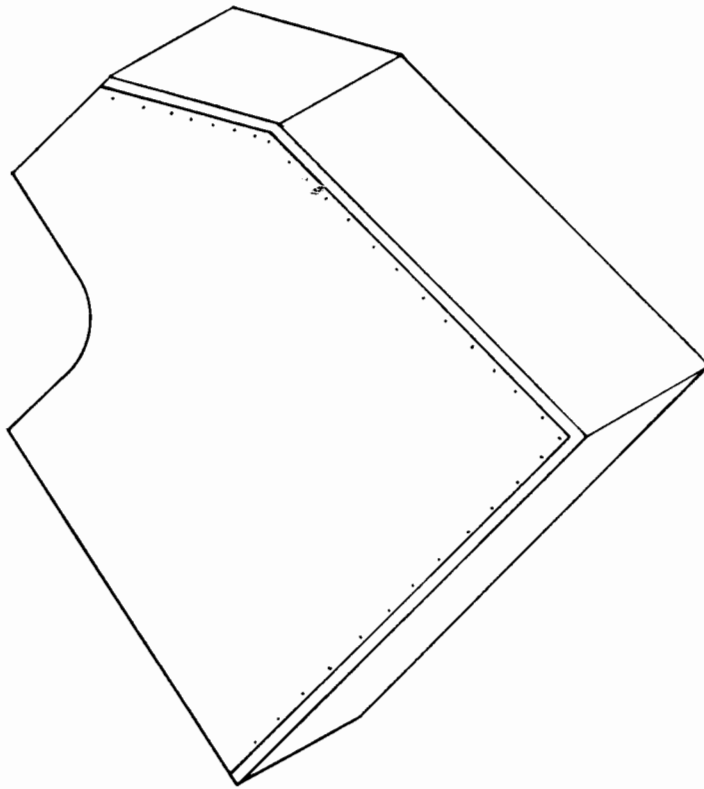


GROUP 1000

SECTION 700 - 3

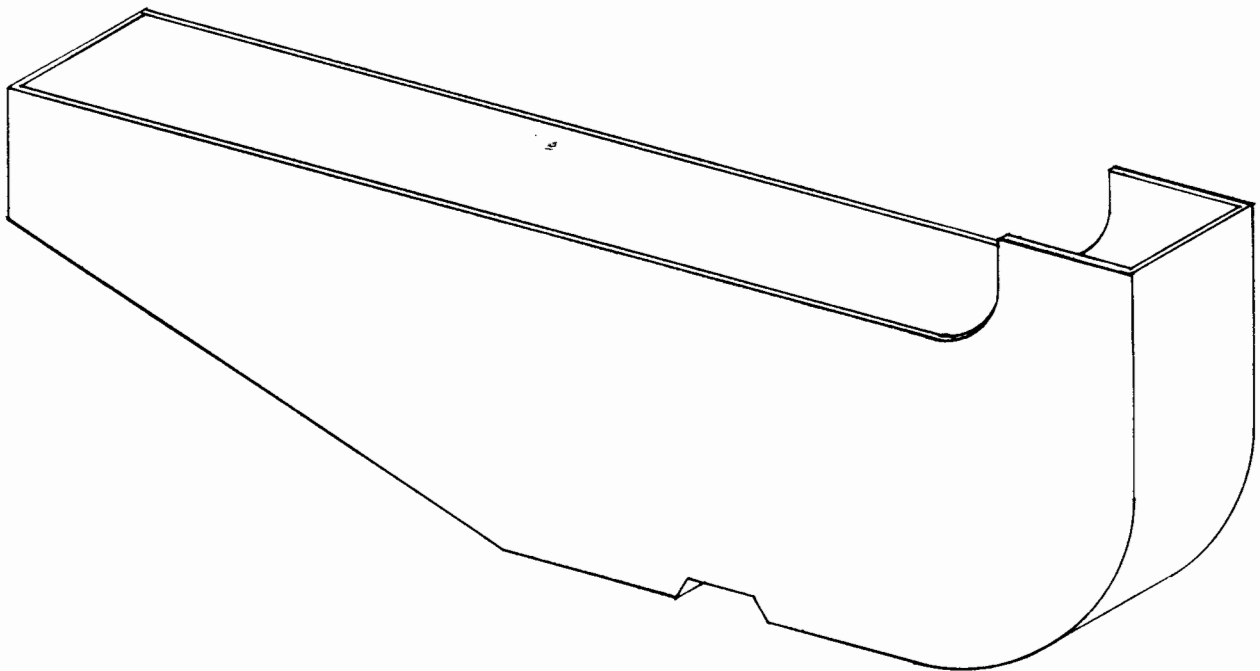
INDEX NO.	PART DESCRIPTION
1	SAFETY CLIPS
2	GAS CYLINDER
3	BALL STUD
4	UPPER DOOR BRACKET

**1000-700-4**



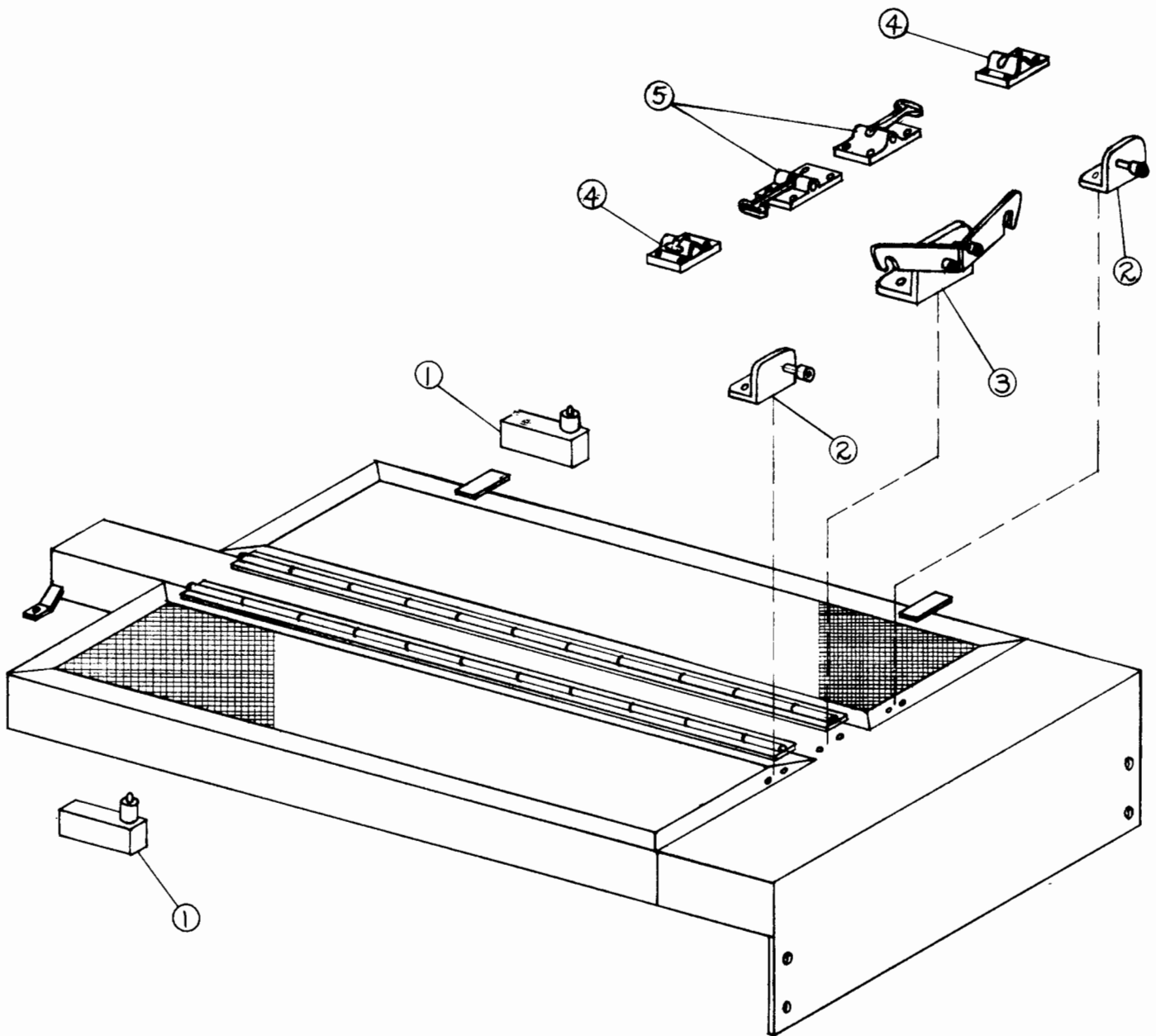
**SIDE OPPOSITE OPERATOR MACHINE GUARD  
WITH GEAR BOX FOR TRIM MACHINE ATTACHMENT**

## **1000-702 GEAR TRAIN GUARD**



**\* STATE MACHINE SIZE WHEN ORDERING**

## 1000-703 TOP FEED GUARD



**\* STATE MACHINE SIZE WHEN ORDERING**

# **GROUP 1000**

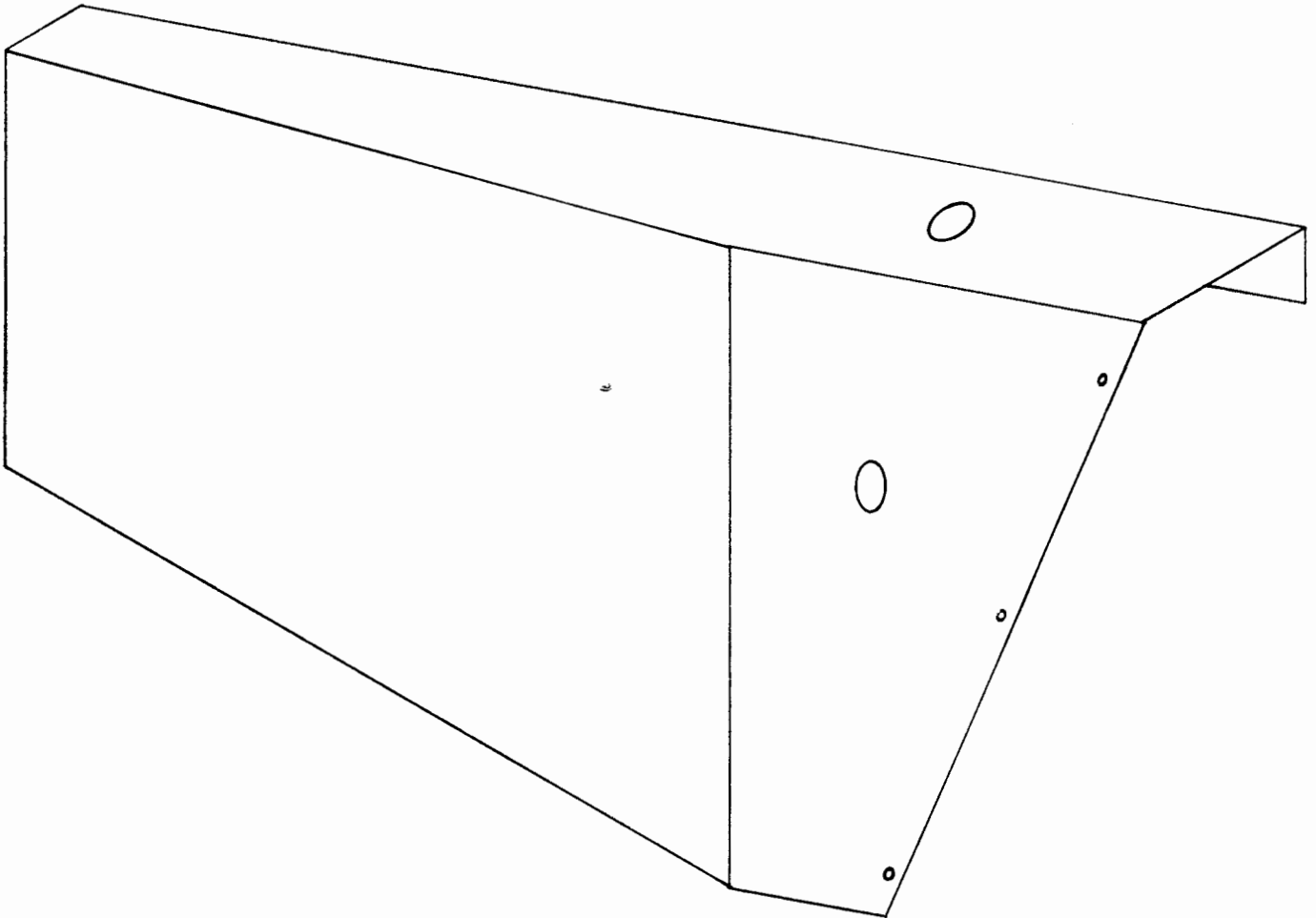
## **TOP FEED GUARD**

*Section 703*

INDEX NO.	PART DESCRIPTION
1	LIMIT SWITCH
2	TOP FEED GUARD LATCH HOLDER (Old Style)
3	TOP FEED GUARD LATCH (Old Style)
4	TOP FEED GUARD LATCH HOLDER
5	TOP FEED GUARD LATCH

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

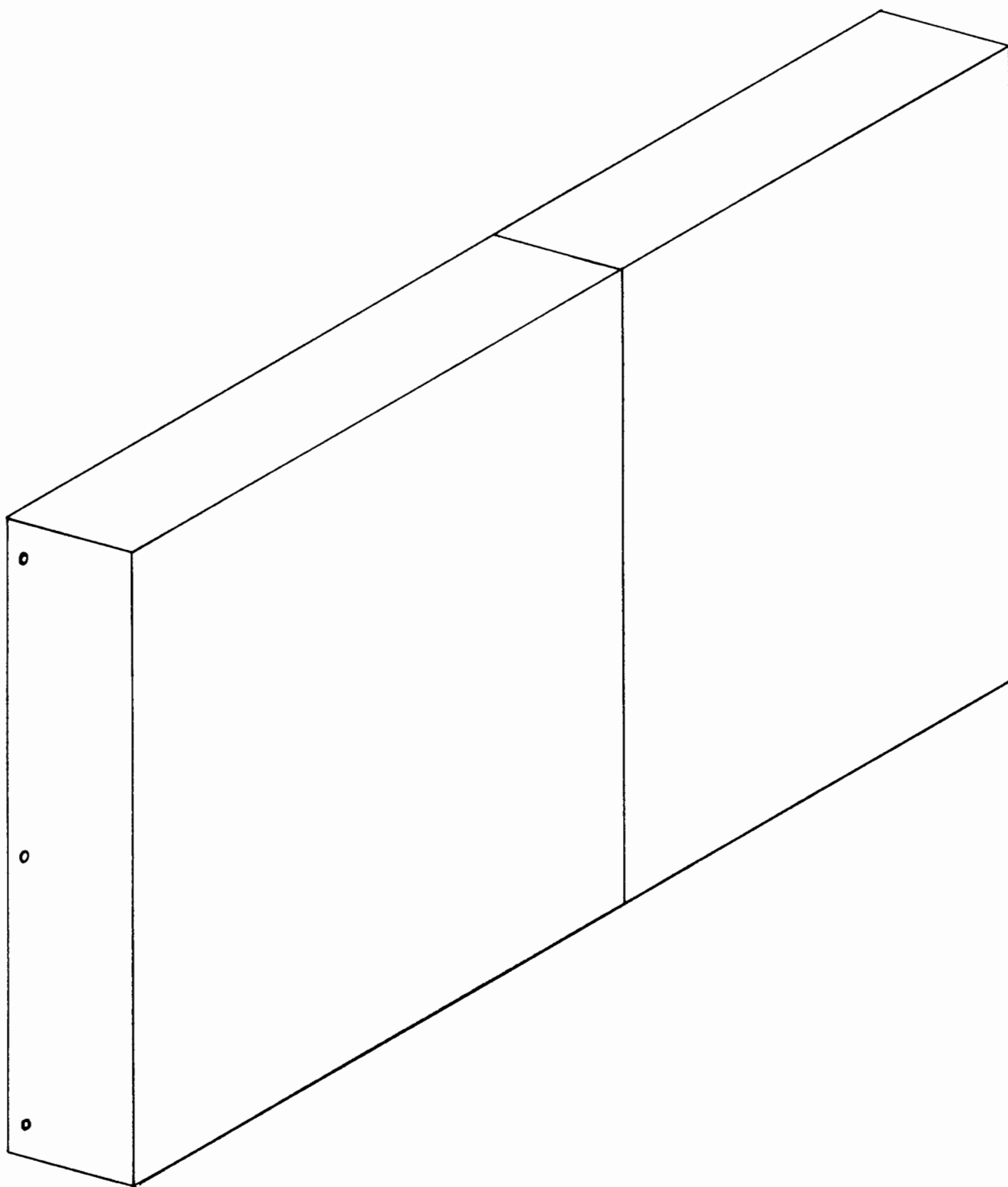
## **1000-704 SIDE FEED GUARD**



**\* STATE MACHINE SIZE WHEN ORDERING**

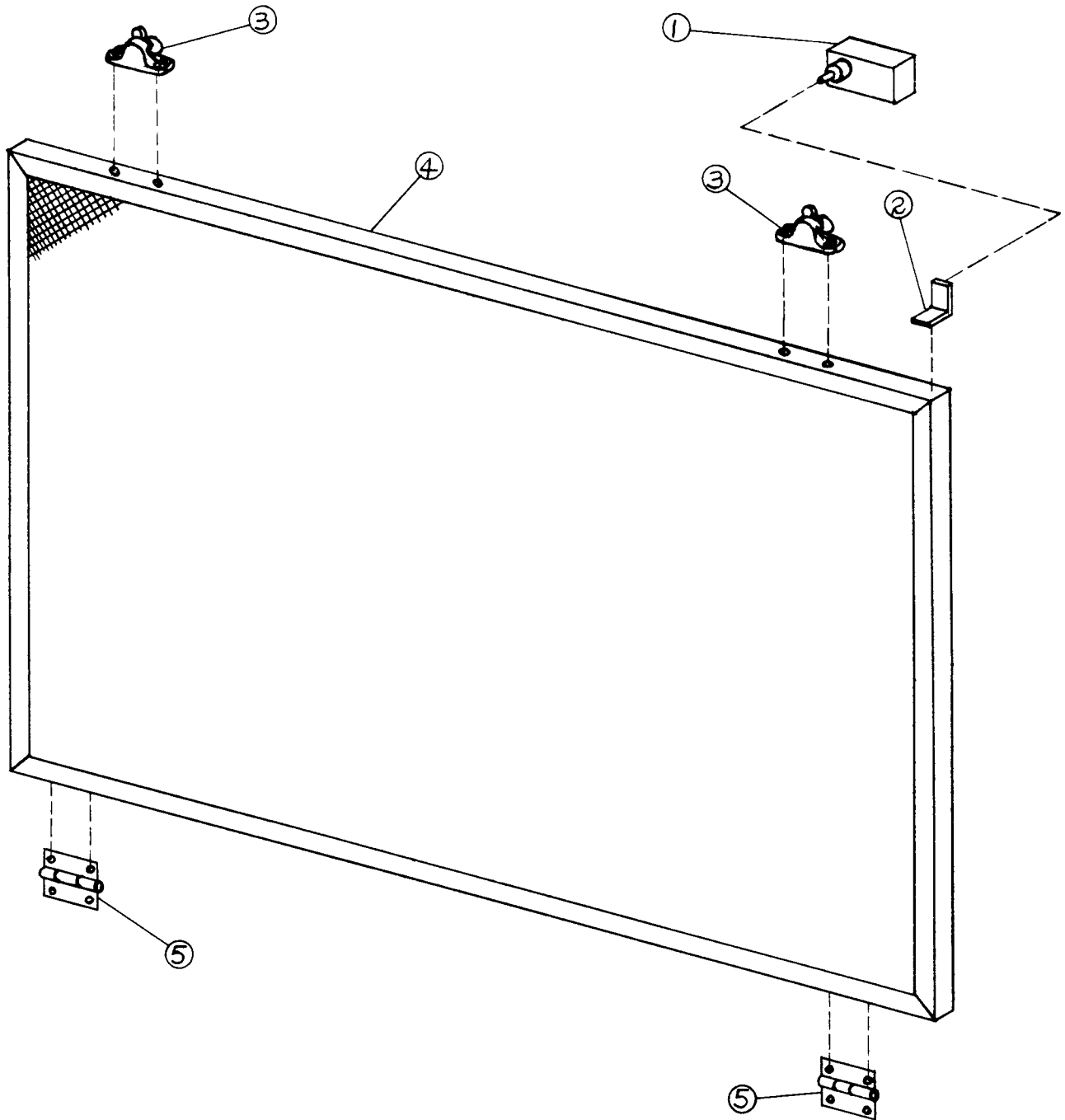


## **1000-705 COUNTER STACKER SIDE GUARD**



# CUTTING DIE GUARD

1000-706



\* STATE MACHINE SIZE WHEN ORDERING

**GROUP 1000**  
**CUTTING DIE GUARD**  
**1000-706**

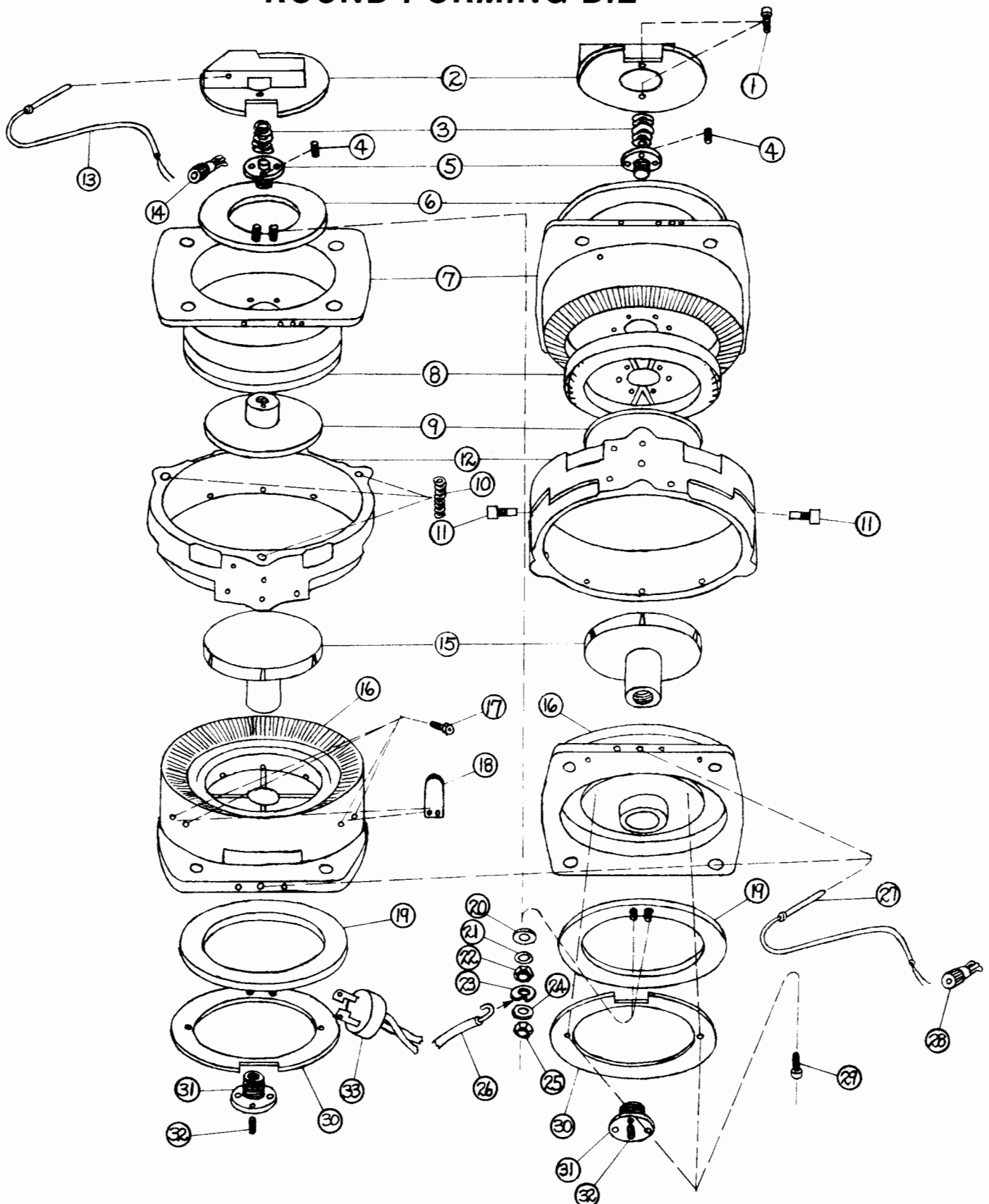
INDEX NO.	PART DESCRIPTION
1	LIMIT SWITCH
2	LIMIT SWITCH CONTACTOR
3	CAST ALUMINUM SASH FASTENER
4	CUTTING DIE GUARD
5	CUTTING DIE GUARD HINGES

ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.

**PAGES 117 AND 118 NOT USED**

# GROUP 150

## ROUND FORMING DIE

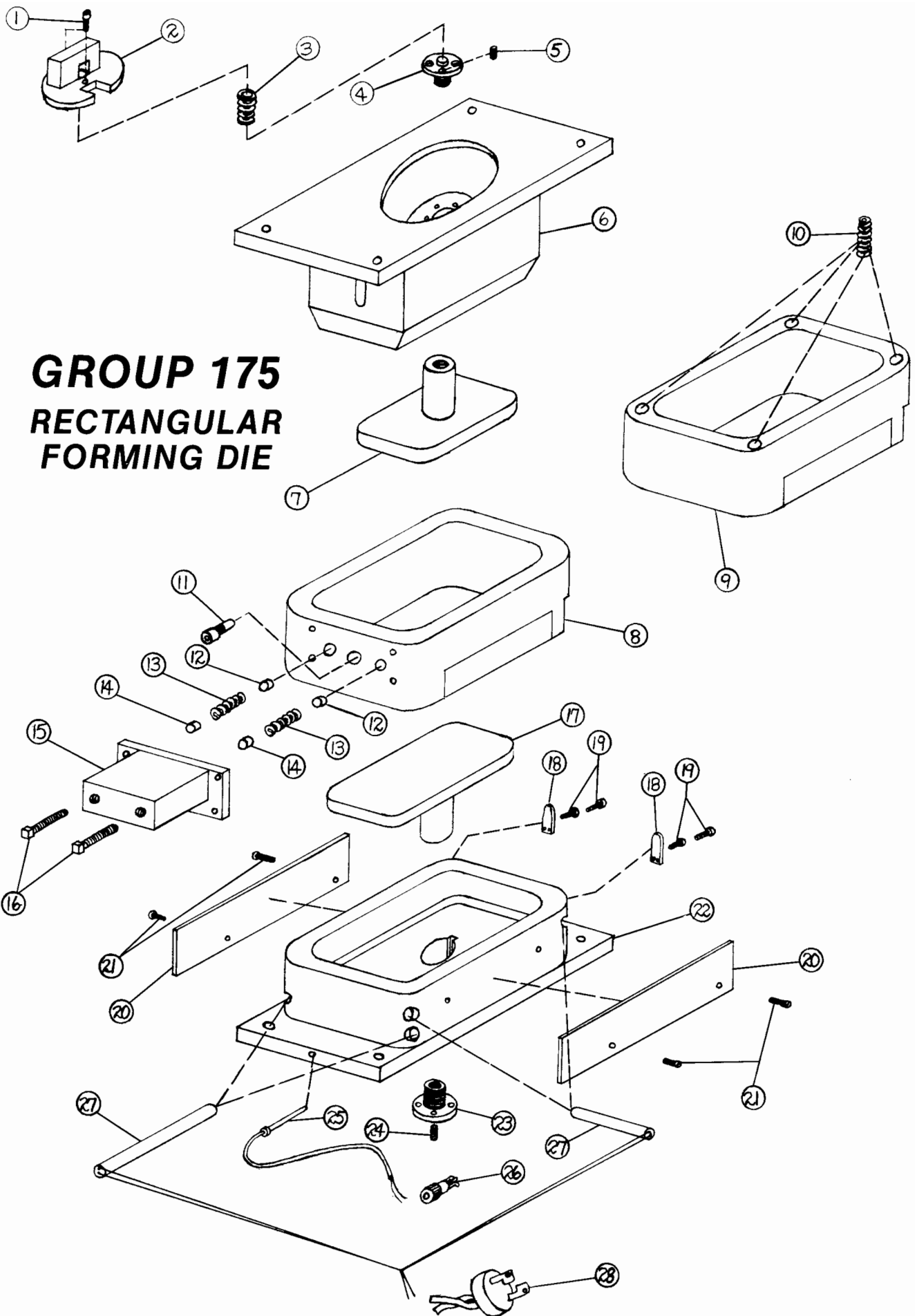


# **GROUP 150**

## **ROUND FORMING DIE**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	HEATER CLAMP BOLT (Top)
2	TOP HEATER CLAMP
3	TOP PLUNGER SPRING
4	TOP PLUNGER CAP SET SCREW
5	TOP PLUNGER CAP
6	HEATER ELEMENT (Top)
7	TOP DIE MEMBER
8	TOP DIE INSERT
9	TOP PLUNGER
10	DRAW RING SPRING
11	RING STRIPPER BOLT
12	DRAW RING
13	THERMISTOR OR THERMOCOUPLE PROBE
14	THERMISTOR OR THERMOCOUPLE PLUG
15	BOTTOM PLUNGER
16	BOTTOM DIE MEMBER
17	BLANK STOP BOLT
18	DIE BLANK STOP
19	HEATER ELEMENT (Bottom)
20	INSULATING WASHER
21	HEATER WASHER
22	HEATER NUT
23	CUPPED WASHER
24	HEATER WASHER
25	HEATER NUT
26	HEATER ELEMENT WIRE
27	THERMISTOR OR THERMOCOUPLE PROBE
28	THERMISTOR OR THERMOCOUPLE PLUG
29	HEATER CLAMP BOLT (Bottom)
30	BOTTOM HEATER CLAMP
31	BOTTOM PLUNGER CAP
32	BOTTOM PLUNGER CAP SET SCREW
33	TWIST LOCK CAP

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**



# **GROUP 175** **RECTANGULAR** **FORMING DIE**

# **GROUP 175**

## **RECTANGULAR FORMING DIE**

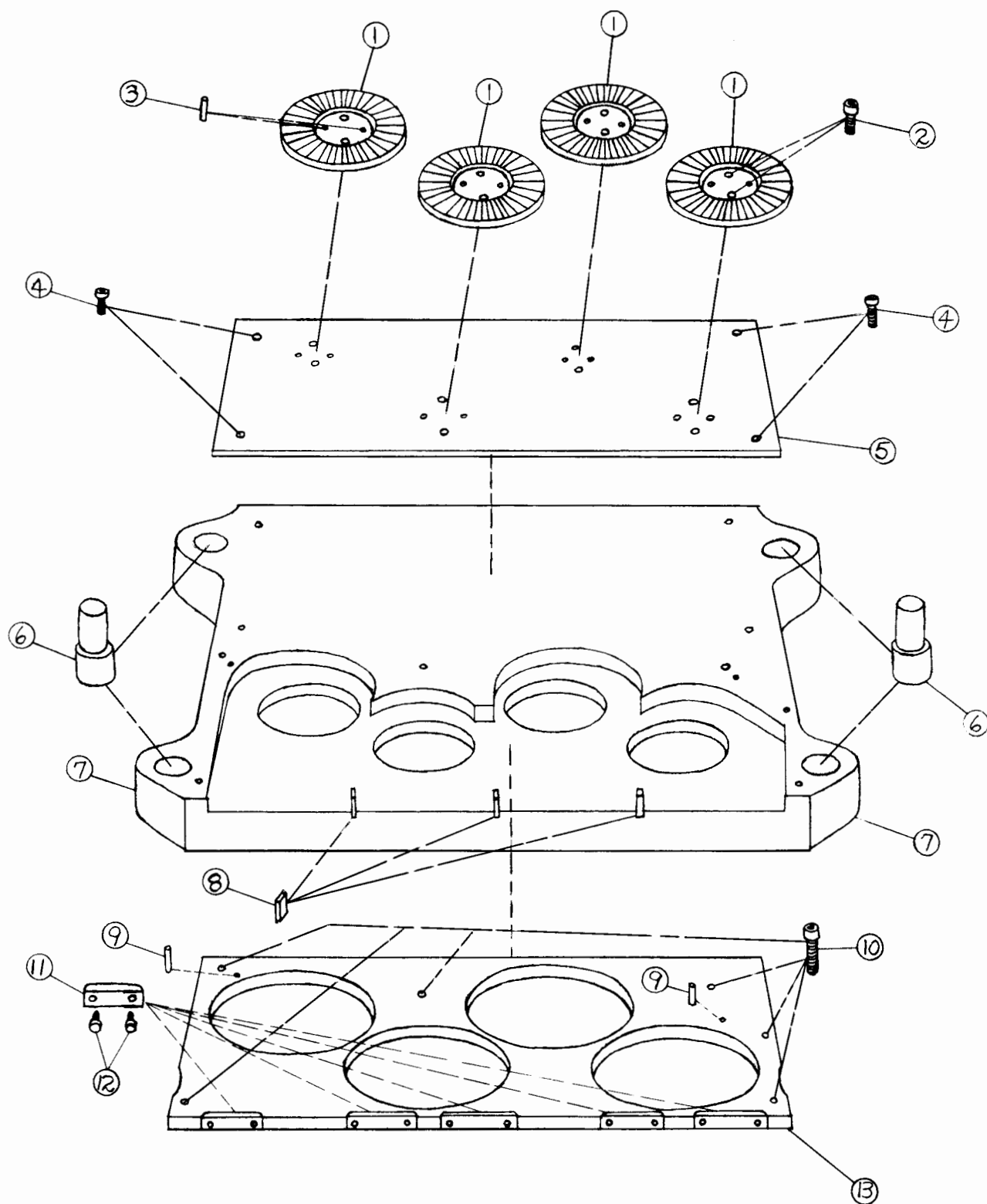
<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	HEATER CLAMP BOLT
2	HEATER CLAMP
3	TOP PLUNGER SPRING
4	TOP PLUNGER CAP
5	TOP PLUNGER CAP SET SCREW
6	TOP DIE HALF
7	TOP PLUNGER
8	DRAW RING (Brake Band Type)
9	DRAW RING (Spring Loaded Type)
10	DRAW RING SPRING
11	RING STRIPPER BOLT
12	BRAKE PADS
13	BRAKE BAND SPRING
14	BRAKE BAND INSERTS
15	KNOCKDOWN EAR
16	BRAKE BAND ADJUSTMENT BOLT
17	BOTTOM PLUNGER
18	BLANK STOP
19	BLANK STOP BOLT
20	BLANK SIDE GUIDE
21	BLANK SIDE GUIDE SCREW
22	BOTTOM DIE HALF
23	BOTTOM PLUNGER CAP
24	BOTTOM PLUNGER CAP SET SCREW
25	THERMISTER OR THERMOCOUPLE PROBE
26	THERMISTER OR THERMOCOUPLE PLUG
27	HEATER ELEMENT
28	TWIST LOCK CAP

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**



# GROUP 250

## BOTTOM BLANKING & SCORING DIE



# **GROUP 250**

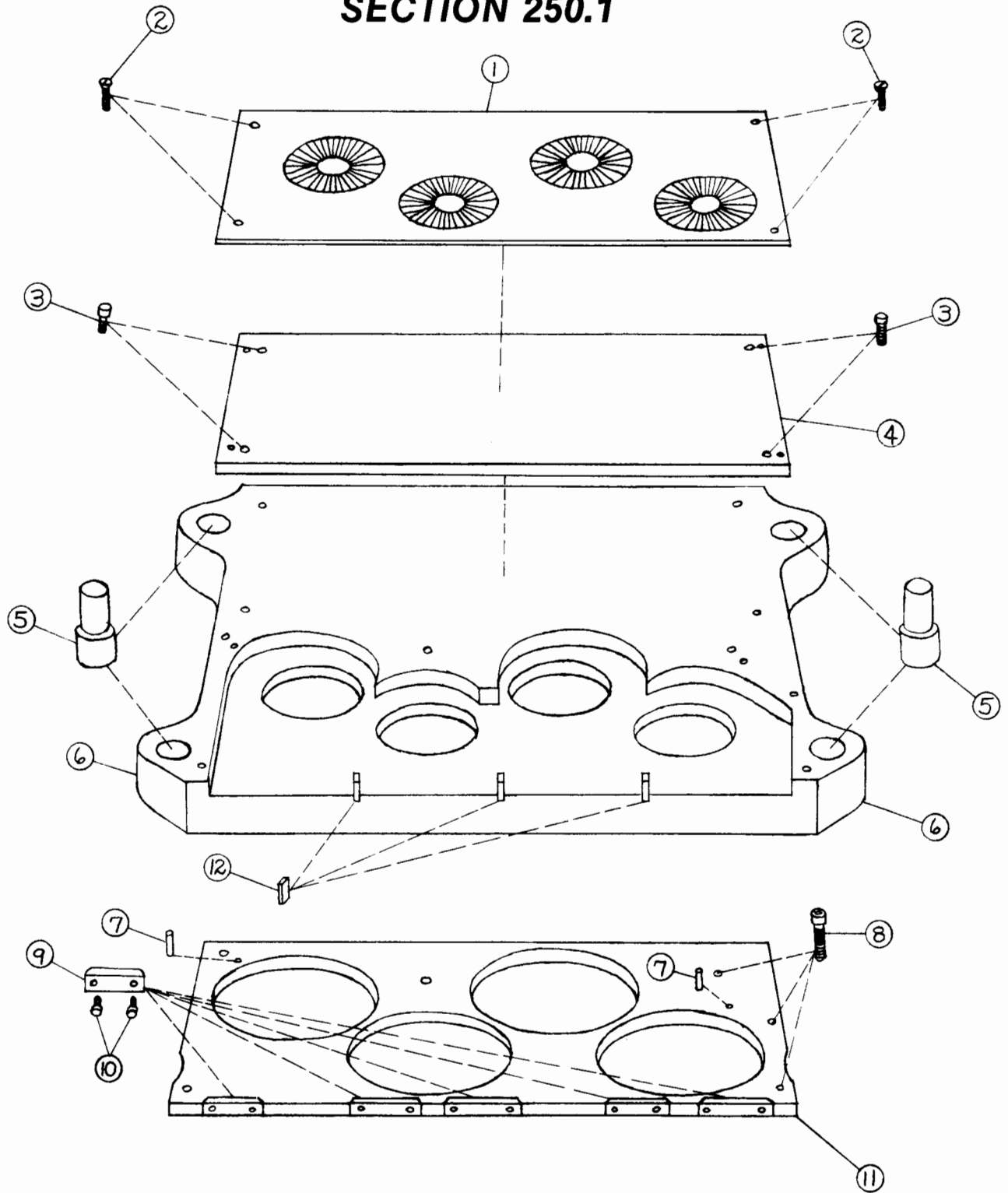
## ***BOTTOM BLANKING & SCORING DIE***

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	SCORING BLOCKS
2	SCORING BLOCK BOLTS
3	SCORING BLOCK DOWEL PINS
4	SPACER PLATE BOLTS
5	SCORING BLOCK SPACER PLATE
6	LINER PINS
7	BOTTOM DIE SHOE
8	BRIDGES
9	DIE PLATE DOWEL PINS
10	DIE PLATE BOLTS
11	CUT OFF INSERTS (Specify Length When Ordering)
12	CUT OFF INSERT BOLTS
13	DIE PLATE

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 250

## SECTION 250.1



# **GROUP 250**

## **SECTION 250.1**

Bottom

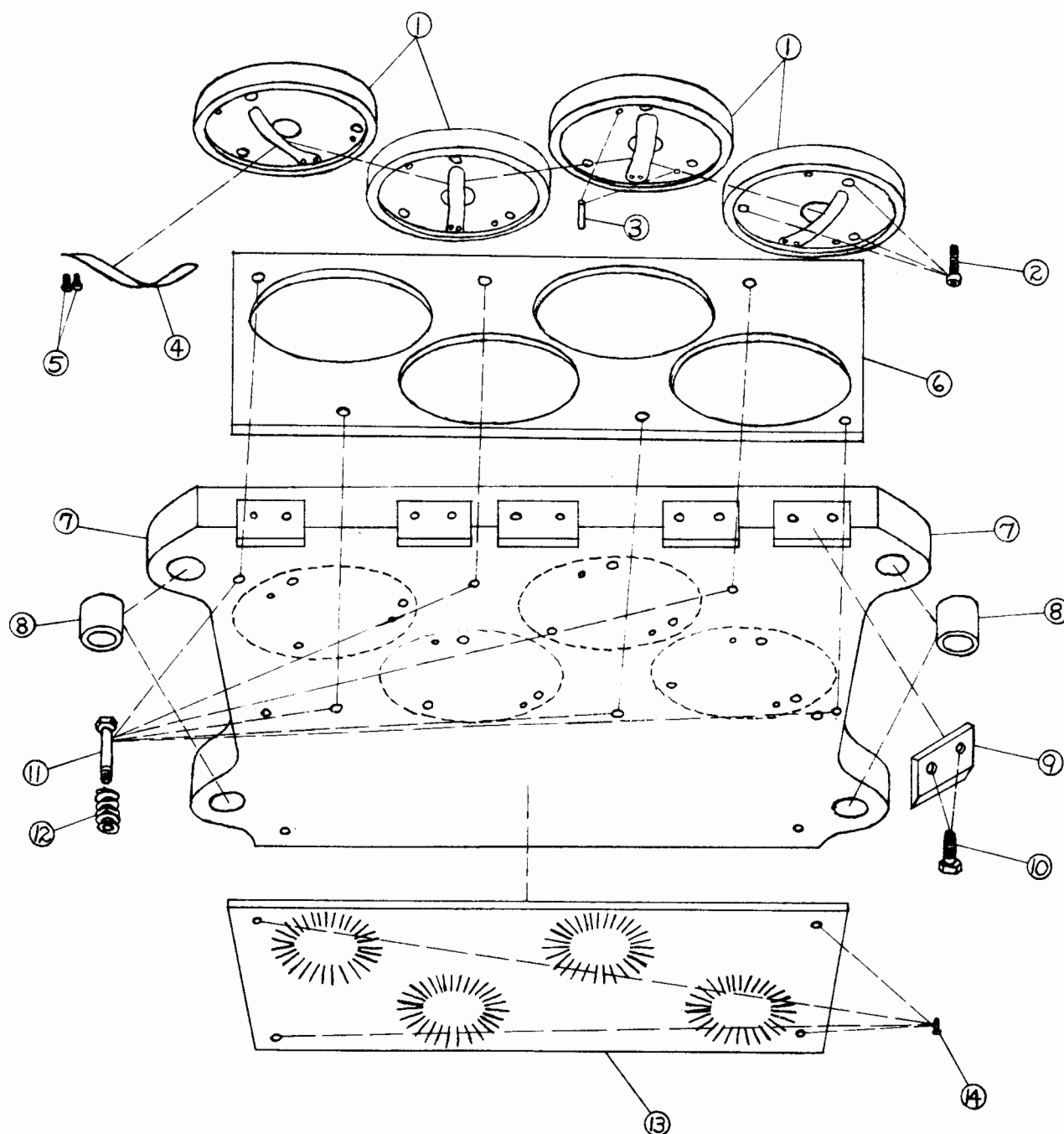
### **~~TOP~~ BLANKING & SCORING DIE WITH COUNTER PLATE**

INDEX NO.	PART DESCRIPTION
1	SCORING COUNTER PLATE
2	COUNTER PLATE MOUNTING SCREWS
3	FILLER PLATE MOUNTING BOLTS
4	FILLER PLATE
5	LINER PINS
6	BOTTOM DIE SHOE
7	DIE PLATE DOWEL PINS
8	DIE PLATE BOLTS
9	CUT OFF INSERTS (Specify Length When Ordering)
10	CUT OFF INSERT BOLTS
11	DIE PLATE
12	BRIDGES

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**

# GROUP 251

## TOP BLANKING & SCORING DIE



# **GROUP 251**

## **TOP BLANKING & SCORING DIE**

<b>INDEX NO.</b>	<b>PART DESCRIPTION</b>
1	DIE PUNCH
2	PUNCH BOLTS
3	PUNCH DOWEL PINS
4	KNOCKOUT SPRING
5	KNOCKOUT SPRING SCREWS
6	STRIPPER PLATE
7	TOP DIE SHOE
8	LINER PIN BUSHING
9	CUT OFF KNIFE (Specify Length When Ordering)
10	CUT OFF KNIFE BOLT
11	STRIPPER BOLT
12	STRIPPER SPRING
13	SCORING BOARD
14	SCORING BOARD SCREWS

**ATTENTION: ALWAYS INDICATE GROUP NO., SECTION NO., INDEX NO. AND  
PRESS MODEL & SERIAL NO. WHEN ORDERING PARTS.**