# OPERATION, PARTS AND SAFETY MANUAL

SIGNODE®

## PRHM-34

**PUSH TYPE POWER COMBINATION STRAPPING TOOL**

## IMPORTANT!

## DO NOT DESTROY

**It is the customer's responsibility to have all operators and servicemen read and understand this manual.**

Contact your local Signode representative for additional copies of this manual.

***READ ALL INSTRUCTIONS BEFORE OPERATING THIS SIGNODE PRODUCT***

**SIGNODE • 3620 WEST LAKE AVENUE • GLENVIEW, ILLINOIS 60025 U.S.A.**

# ⚠WARNING

**READ THESE INSTRUCTIONS CAREFULLY. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS PERSONAL INJURY.**

**STRAP BREAKAGE HAZARD**
**Improper operation of the tool or sharp corners on the load can result in strap breakage during tensioning, which could result in the following:**

- **A sudden loss of balance causing you to fall.**
- **Both tool and strap flying violently towards your face.**

**Failure to place the strap properly around the load or an unstable or shifted load could result in a sudden loss os strap tension during tensioning. This could result in a sudden loss of balance causing you to fall.**

- **If the load corners are sharp use edge protectors.**
- **Positioning yourself in-line with the strap, during tensioning and sealing, can result in serious personal injury from flying strap or tool. When tensioning or sealing, position yourself to one side of the strap and keep all bystanders away.**

**TRAINING**
**This tool must not be used by persons not properly trained in its use. Be certain that you receive proper training from your employer. If you have any questions contact your Signode Representative.**

**EYE INJURY HAZARD**
**Failure to wear safety glasses with side shields can result in serious eye injury or blindness. Always wear safety glasses with side shields which conform to American National Safety Institute standard Z87.1 or Euro Norm 166.**

**FALL HAZARD**
**Maintaining improper footing and/or balance when operating the tool can cause you to fall. Do not use the tool when you are in an awkward position.**

**CUT HAZARD**
**Handling strap or sharp parts could result in cut hands or fingers. Wear protective gloves.**

**TOOL CARE**

- **Inspect and clean the tool daily. Replace all worn or broken parts.**
- **Lubricate all moving parts weekly unless otherwise specified.**
- **On air powered tools, always disconnect the pneumatic connection to the tool when performing part removal and replacement procedures. NEVER connect a pneumatic source to a disassembled tool unless otherwise specified.**

**WORK AREAS**
**Keep work areas uncluttered and well lighted.**

# ⚠WARNING

**READ THESE INSTRUCTIONS CAREFULLY. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS PERSONAL INJURY.**

- **Use correct Signode products for your application. If you need help contact your Signode Representative.**
- **Signode tools and machines are designed and warranted to work together with Signode strapping and seals. Use of non-Signode strap and seals and/or manufactured or specified replacement parts may result in strap breakage or joint separation while applying strapping to a load or during normal shipping and handling. This could result in serious personal injury.**

## JOINT FORMATION

- **Before using this tool, read its Operation and Safety instructions contained in this manual.**
- **This tool is a double reverse notch-joint sealers. Each notch-joint must be inspected to make certain it has four (4) good notches. A properly formed notch-joint will appear as shown in the illustration. If the notch-joint does not appear as shown, then the operator must proceed as follows.**

1. **Make certain that the tool's operating instructions are being followed before applying another strap.**
2. **Cut the strap off and apply a new strap and seal.**
3. **An improper formed seal which does not have four (4) good notches, could result in strap separation. Before moving any package be certain that the seal is formed as shown. Inspect the joint to make certain it appears as shown in the illustration. If not, remove the broken strap and check the tool for worn or broken parts. Repair the tool for worn or broken parts. Repair the tool before applying another strap.**

## MOVING AND STACKING STRAPPED LOADS

**Before moving or stacking any strapped load, follow all standard industry practices regarding safe material handling procedures.**

## CUTTING TENSIONED STRAP

**Using claw hammers, crowbars, chisels, axes or simialr tools will cause tensioned strap to fly apart with hazardous force. Use only cutters designed for cutting strap. Read the instructions in the cutter's manual for proper procedures in cutting strap. Before using any Signode product read its Operation and Safety Manual.**

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**⚠ WARNING**

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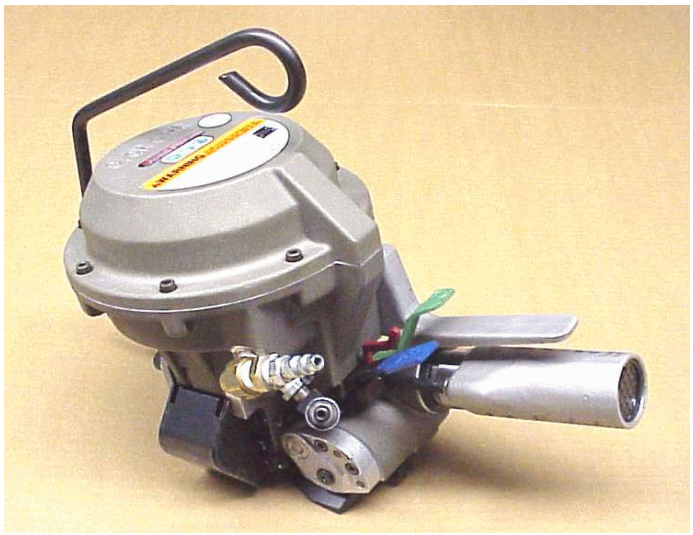
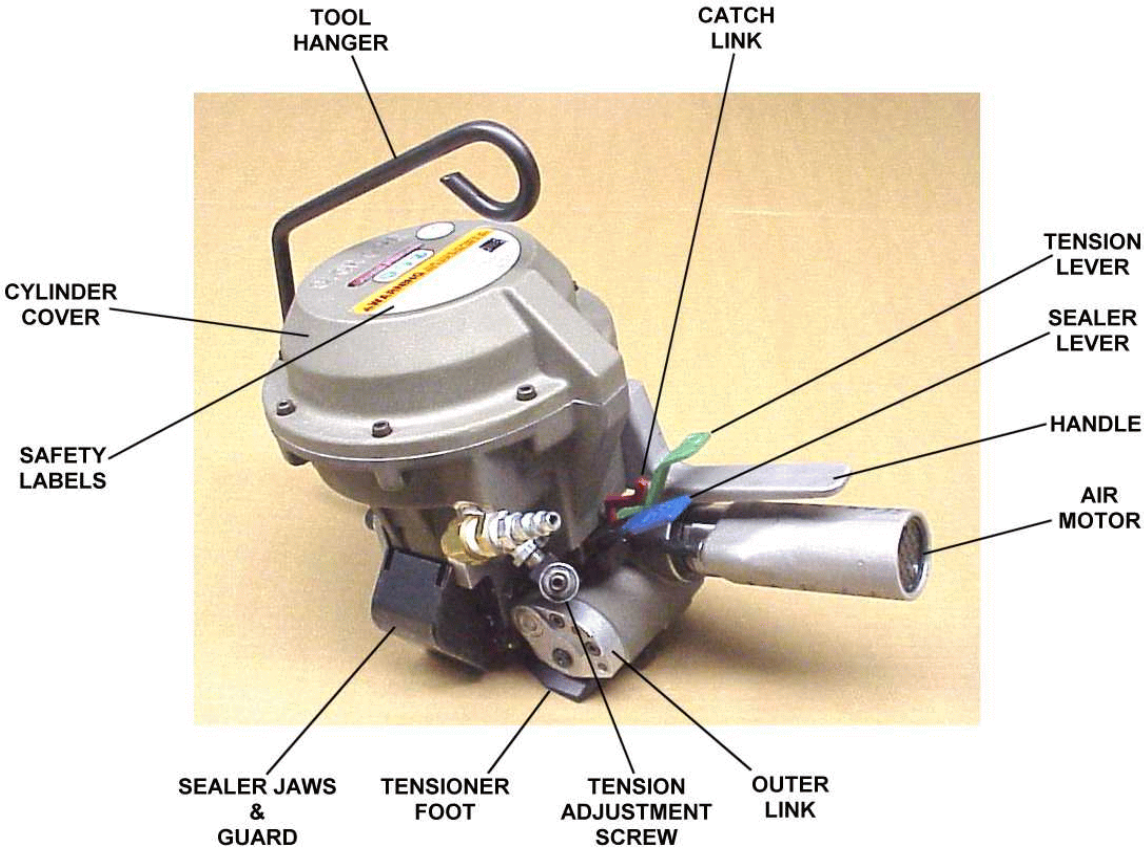
**PRHM-34**
**Part No. 306700**



## SPECIFICATIONS

| | STRAP | | | |
|---|---|---|---|---|
| MODEL | TYPE | WIDTH | THICKNESS | SEALS |
| PRHM-34 | MAGNUS, PAINT & WAX | 3/4" (19mm) | 0.025" (0.64mm) Minimum<br>0.031" (0.79mm) Maximum | 34HOC |

## MAJOR TOOL COMPONENTS



## PNEUMATIC INFORMATION

### AIR SUPPLY INSTALLATION

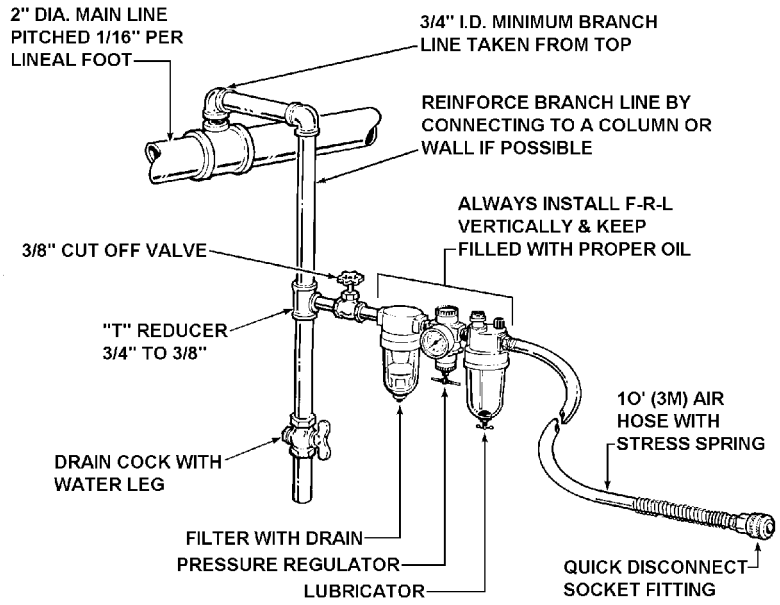
**If compressor has a good dryer unit, use black pickled pipe. When a dryer unit is not installed, use galvanized or copper pipe.**

**To perform reliably, a pneumatic tool requires a continuous source of clean, water-free air at adequate pressure.**

# ⚠WARNING

- **Never operate this tool using a bottled air or gas source.**
- **Bottled air/gas sources do not provide consistent operating pressure and could result in air pressures that exceed the maximum allowed for this tool.**
- **Exceeding the maximum allowable air pressure could result in serious personal injury.**

**A filter-regulator-lubricator unit (Signode Part No. 173111) must be installed as close to the air tool as possible, preferably within 10 feet (3M). It should be placed in a convenient location where it can easily be drained, adjusted, and filled with oil. The air hose must have at least a 1/4" (6.3mm) I.D. A quick-connect press-on socket is installed on the stress spring end of the hose for convenient hookup to the air tool.**




**Filter and lubricator bowls are made of polycarbonate material. Do not install where bowls may be exposed to materials incompatible with polycarbonate. Certain oils, solvents, and chemicals or their fumes can weaken these bowls and possibly cause them to burst. Clean only with warm water. A cut-off valve placed ahead of the filter will be useful when cleaning the filter or replenishing the lubricator.**

### MOISTURE

**Moisture is always present in air lines due to condensation within the lines as the air cools. Steps must be taken to remove this moisture and to keep it from the air tool. This is because water tends to wash away lubricants and cause corrosion, sticking and failure of internal parts.**

**The main line should be pitched so the far end terminates in a water leg. Branch lines are taken from the top of the main, never off the bottom. Every branch should have a water leg at its lowest point, with a drain cock which is drained daily.**

**If these precautions are taken and water is still present, an after cooler and a moisture separator are required between the compressor and the air receiver tank. A large air line separator can be installed in the air tool line, but precautions must be taken to insure that it will be drained daily, before the air tool is operated.**

**Water in air lines is a constant threat to the proper operation of air tools. Even near freezing operating conditions, a good refrigerant type dryer is essential. A good dryer will remove 95% or more of water right at the compressor. The remaining moisture is removed at the water leg in the piping system or in the filter, Signode Part No. 173111. Additional information is available in the Signode publication, "Air Supply Manual" p. 25, E-186038. If you have any questions, contact your local Signode Representative.**

## LUBRICATION

**The air motor must be properly lubricated. This is achieved by keeping the air line lubricator filled with oil and correctly adjusted. Without proper lubrication, the motor will become sticky and the tool will give low and erratic tension.**

**Install the lubricator as close to the air tool as possible. The arrow on the lubricator's top surface must point in the direction of air flow.**

**For proper operation, oil must drop through the lubricator sight glass at a rate of 4 to 10 drops per minute. This rate is to be checked while the air tool is running free. Only 20% of this oil is actually delivered to the tool. The remaining oil drops back into the oil reservoir. The unit is factory set and should require no adjustment. If an adjustment is required, the adjusting screw on top of the lubricator may be turned as marked to reduce or increase the flow of oil.**

**The correct grade of oil must be used in the lubricator; too heavy an oil will not provide sufficient lubrication and will cause sticking and sluggish operation of the air tool. Recommended oils are any good grade of rust and oxidation inhibiting oil with a viscosity of 80-120 S.U.S. at 100 degrees Fahrenheit. (0.15 to 0.25 $cm^2$ /sec. at 38 degrees Celsius), such as:**

**Non Fluid Oil Co., grade #LS-1236**
**Signode oil - Part No. 008556**

**If necessary, use SAE #5 or SAE #10, non-detergent, cut 1:1 with kerosene. Some oils contain anti-wear additives which may disable the air motor. Be certain to use recommended oil.**

**Several drops of lubricator oil added to the inlet of the air motor or into the air line each day will help insure good operation. A noticeable reduction of air motor performance can usually be corrected by squirting a few drops of oil into the air line.**

## AIR CONSUMPTION

**Air consumption in cubic feet per minute (cfm) for the PRHM-34 can be calculated as follows: cfm = (a)x(b)x(0.23)**

**a = Number of straps applied per minute.**
**b = Number of seconds air motor is on per strap during tensioning, from start to deceleration to stall.**
**0.23 = PRHM-34 efficiency ratio.**

**Example calculation:**
**Peak strapping load is 4 straps/minute, so a = 4. Air motor is on 5 seconds/strap, so b = 5. PRHM-34 efficiency ratio is 0.23.**

**(a)x(b)x(0.23)=4x5x0.23=4.6 cubic ft/min.**

**4x5x0.39=7.8 cubic meters/hr. (7.8$M^3$/hr.)**

**Air pressure is assumed to be 90 psig (6.2 bar) with the recommended size and length of air hose. Volume of air at room temperature and sea level pressure, or so-called `free air' conditions. For more detailed information about air supply systems, refer to Signode manual Part No. 186038.**

## PNEUMATIC INFORMATION, Continued

### AIR PRESSURE vs. STRAP TENSION

**Strap tension is controlled by air pressure. Use the proper air line piping and lubrication as specified in this manual. Your air pressure gauge must be accurate, therefore, confirm its accuracy by comparing it to a calibrated master gauge.**

**⚠WARNING**

**Strap breakage hazard. 3/4" (19mm) strap can break during tensioning if inlet air pressure to the tool exceeds 70 psig. Strap breakage can result in serious personal injury. Maximum operating pressure is 90 psig.**

### COLD WEATHER OPERATION

**If a tool does not operate satisfactorily in freezing temperatures, certain steps can correct the problem. The following steps can be taken to improve cold weather operation of the tool:**

**a. An air line dryer adjacent to the compressor.**

**b. Use lubricant recommended by Signode. Signode has tested the use of anti-freezes, none work well in air tools; the tool will gum up when anti-freezes are introduced and will not function properly. The best lubricant for freezing weather is the 1 to 1 oil and kerosene combination.**

**c. If possible, run the air supply line to a indoor located Filter-Regulator-Lubricator or relocate the F-L-R to a warmer operating area.**

## TOOL MAINTENANCE, CLEANING & LUBRICATION

**Clean and apply a light weight machine oil to all moving parts on a weekly basis. Clean the feedwheel daily with a wire brush. Refer to the Pneumatic Instructions for lubricant recommendations with regard to the air motor.**

**⚠WARNING**

**Inspect all parts daily and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**

## SET-UP FOR TOOL OPERATION

### STRAP TENSION

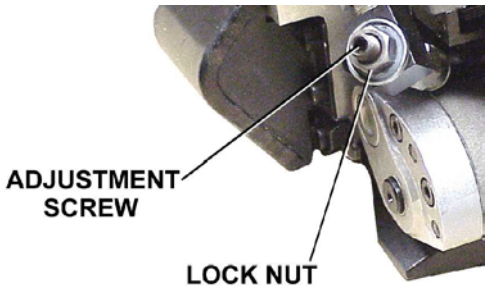
**The PRHM-34 has been factory adjusted to draw at least 1400 lbs. (6230N) of tension at 90 psig (6.2 bar). A minimum of 70 psig (4.8 bar) is required to ensure that the tool will seal properly.**

**Strap tension is accurately controlled by air pressure to the tool and the setting of the adjusting screw. Use proper air line piping and lubricant as specified in this manual. Air pressure gauge must be accurate. Confirm calibration at tool gauge by comparing it to a master gauge.**

**Adjust strap tension as follows:**

1. **Make sure the air pressure is set between 70 and 90 psig (4.8 - 6.2 bar).**

2. **Loosen the lock nut and turn the adjusting screw clockwise to decrease tension and counterclockwise to increase tension.**




**⚠WARNING**

**Strap breakage hazard. Increasing the tension can result in strap breakage and could cause personal injury.**

**Never remove the adjusting screw from the tool with the air connected. The screw could become a flying projectile.**

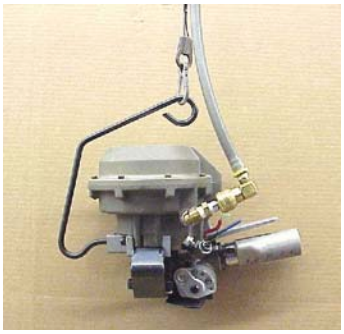
### OPERATION POSITIONS

**To work effectively, the PRHM-34 must be properly oriented to the package. This installation includes, in some cases, proper suspension of the tool over the container to be strapped and the proper placement of a strapping dispenser to provide a continuous easy supply of strapping for the application.**

**A spring loaded detent in the tool hanger allows the tool to be rotated into several different operating positions shown below.**

**To adjust the tool position, apply a steady amount of force to the end of the hanger bracket. The spring lock will then release allowing the bracket to be moved to the next position.**

**Three of the PRHM's most popular operating positions are shown below:**



TOP SEALING

VERTICAL SEALING

HORIZONTAL SEALING

## OPERATING INSTRUCTIONS

# ⚠WARNING

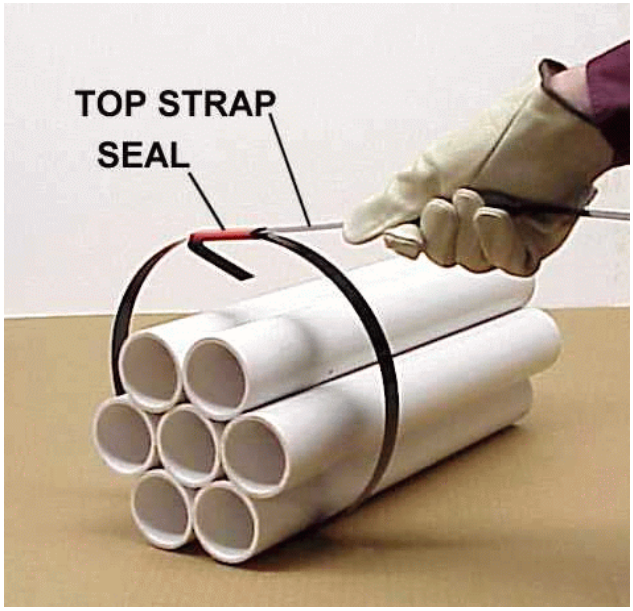
- **Wear safety glasses which conform to ANSI Standard Z87.1 or EN 166.**
- **Stand to one side of the strap while tensioning. Make sure all bystanders are clear before proceeding.**
- **Failure to follow the above could result in serious personal injury.**

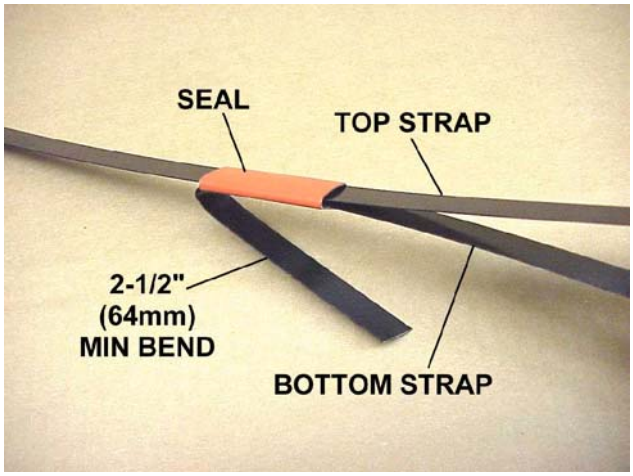
### 1. STRAP AND SEAL LOADING

**Refer to the Specifications section on page 4 to make sure the correct strap and seal have been chosen. Insert the lead end of the strap into the seal.**

**Pass the strap over the top of the package then bring the lead end around and up and rethread it into the seal. This will result in creating a TOP STRAP and a BOTTOM STRAP. They will be referred to later in these instructions.**

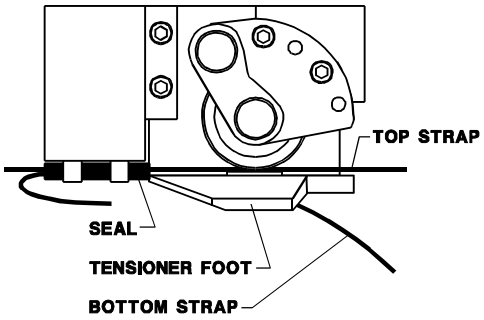
**Bend a minimum of 2 1/2" (64mm) of the lead end of the BOTTOM STRAP back beneath the seal to maintain the loop. Refer to Figure 1 to make sure the loop has been properly formed. Hold the BOTTOM STRAP and pull back on the TOP STRAP to draw the loop loosely around the package. A gentle upward bend on the TOP STRAP will hold the loop in place while the PRHM-34 tool is being positioned.**

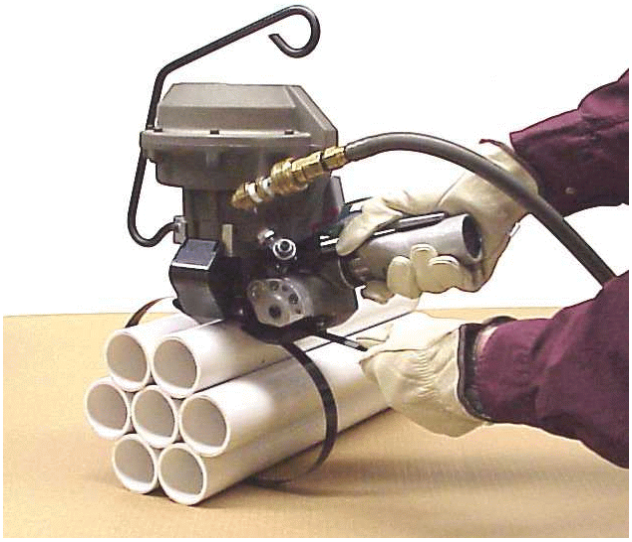


## 2. POSITIONING THE TOOL

**Squeeze the handle and the air motor together to create an opening between the feedwheel and the tensioner foot. Grasp the TOP STRAP and insert it sideways into the tool between the feedwheel and the tensioner foot. Make sure the strap end is in contact with the inside surface of the tensioner foot. When the TOP STRAP is properly loaded, the sealing mechanism will be in line with the seal.**



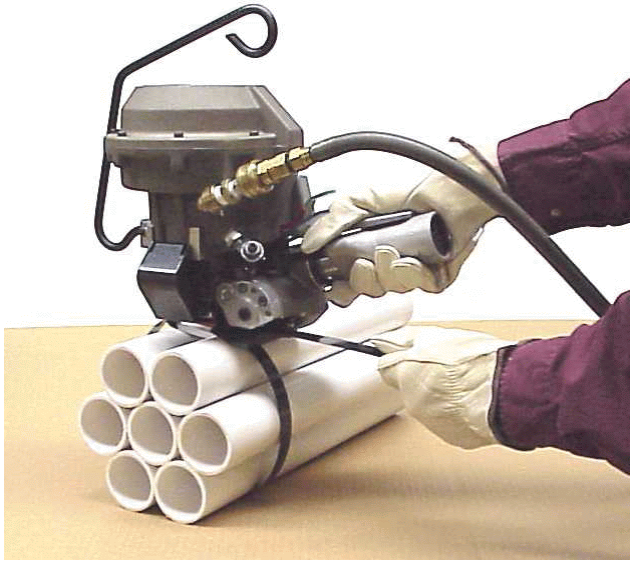



**Push the tool forward until the nose of the tensioner foot contacts the end of the seal.**

## 3. REMOVING THE STRAP SLACK

**Pull back on the TOP STRAP to eliminate additional slack strap around the package.**

***NOTE: Before continuing, make sure the TOP STRAP and the seal are still in position, as described above. Note that the BOTTOM STRAP will be positioned in the channel on the bottom surface of the breaker foot. This too, is necessary to maintain strap alignment during tension.***



**Continued . . .**

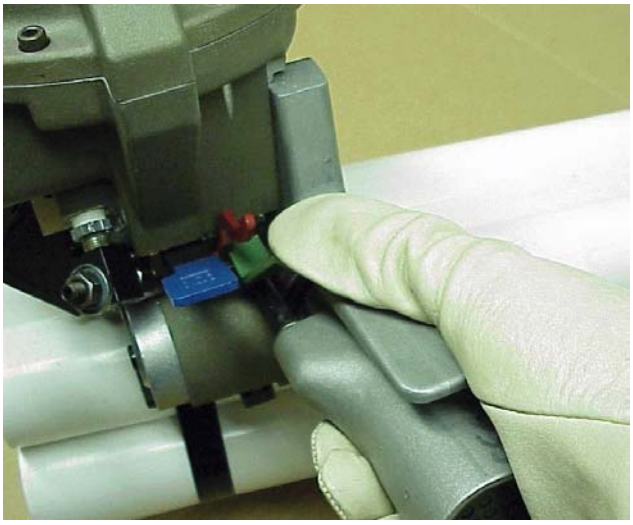
## OPERATING INSTRUCTIONS, Continued

### 4. TENSIONING THE STRAP

**While standing to one side of the strap, press the tension lever (Green lever) all the way down. The catch link will then engage the tension lever holding it in the down position.**

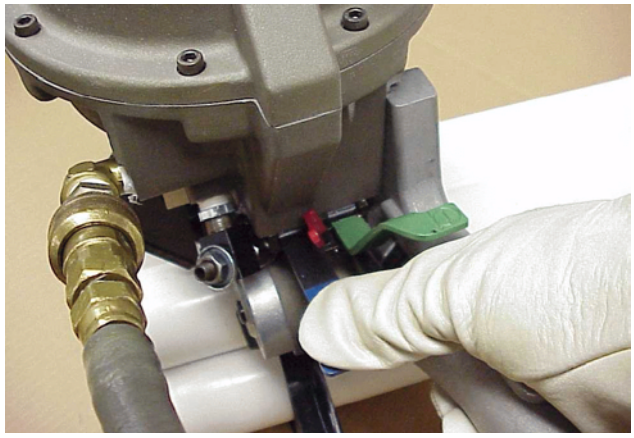
**The strap will tension around the package until the proper tension level has been reached, at which time the air motor will stall. Refer to page 9 for detailed information about adjusting strap tension.**

***NOTE: If strap alignment is unsatisfactory and it becomes necessary to shut off the tool during the tensioning portion of the cycle, push the catch link (Red lever) over to the left, releasing the tension lever. Cut off the strap and apply a new strap in a more favorable position.***



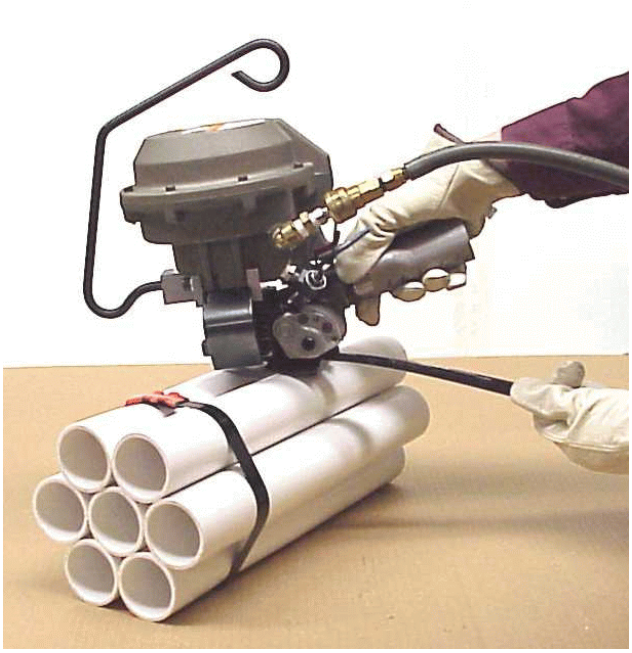
### 5. FORMING THE STRAP JOINT

**Press down and hold the sealer lever (Blue lever). Air will be then routed to the top of the cylinder enabling the sealer mechanism to notch the seal/strap and cut-off the TOP STRAP. The tool will disengage from the seal and strapped package leaving the cut off end of the strap clamped under the feedwheel.**



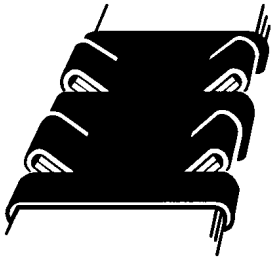
## 6. TOOL REMOVAL & JOINT INSPECTION

**Squeeze the handle and the air motor together to release the cut off strap end. Lift the PRHM-34 tool from the tie and closely inspect the joint to make sure the tool has properly notched the seal. Refer to Sealing Operation on the following page for details regarding an acceptably notched joint.**



## ⚠ WARNING

**This tool is a double reverse notch-joint sealers. Each notch-joint must be inspected to make certain it has four (4) good notches. A properly formed notch-joint will appear as shown in the illustration. If the notch-joint does not appear as shown, then the operator must proceed as follows.**



1. **Make certain that the tool's operating instructions are being followed before applying another strap.**
2. **Cut the strap off and apply a new strap and seal.**
3. **An improper formed seal which does not have four (4) good notches, could result in strap separation. Before moving any package be certain that the seal is formed as shown. Inspect the joint to make certain it appears as shown in the illustration. If not, remove the broken strap and check the tool for worn or broken parts. Repair the tool for worn or broken parts. Repair the tool before applying another strap.**

## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS

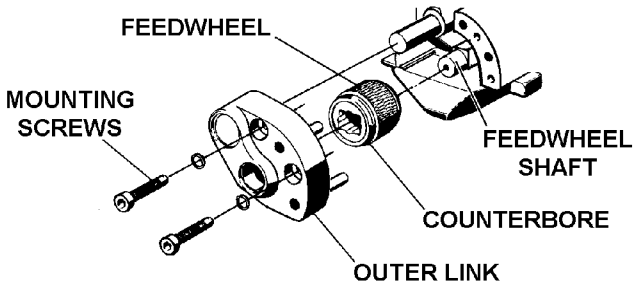
**The following procedure fully describes the disassembly of the PRHM-34. The instructions can be reversed to assemble the tool. Please note that areas of the tool which require specific adjustments for reassembly will be explained as well.**

**The disassembly instructions begin at a logical point for fully disassembling the tool, yet this is not always necessary. Some disassembly procedures may be appropriately skipped in order to avoid unnecessary labor.**

**Use the following instructions to disassemble the PRHM-34:**

### STEP 1 - FEEDWHEEL (For additional part information see pages 22 & 23)

1. **To replace the feedwheel, remove the two socket head cap screws which secure the outer link. Remove the outer link from the gear housing. Slide the feedwheel off the feedwheel shaft. The counterbore face of the feedwheel must face the outer link in order to match up with the flange bushing in the outer link.**

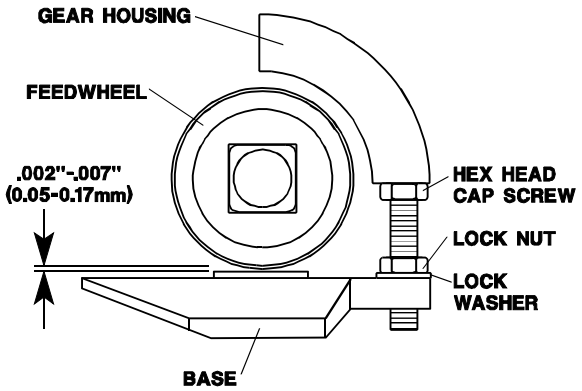



2. **Replace the feedwheel in the same manner in which it was removed. Feedwheel clearance should be checked after replacing any parts associated with the tensioning system. This clearance should be maintained to prevent the feedwheel from touching the wear pad and encouraging early failure of these parts.**

   **Feedwheel clearance can be set as follows:**

   a. **Loosen the lock nut which secures the hex head adjustment screw which controls feedwheel clearance.**

   b. **Feedwheel clearance should be adjusted to .002"-.007" (0.05mm-0.17mm) clearance. Place an appropriate feeler gauge between the feedwheel and the wear plug, turn the hex head screw until the proper feedwheel clearance has been reached.**




   c. **When the clearance has been set, secure the hex head screw with the lock nut. Recheck feedwheel clearance and adjust if necessary.**

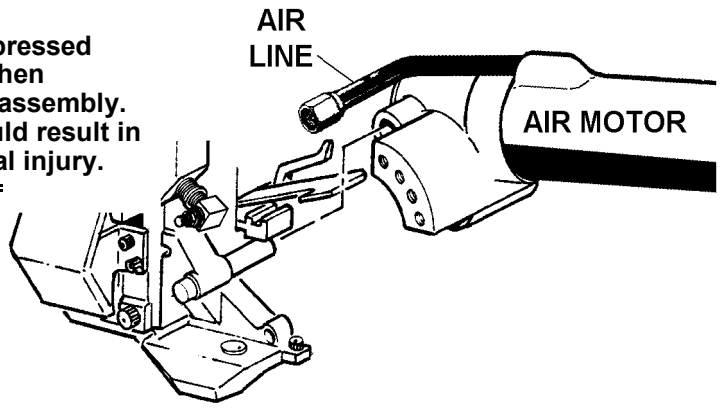
## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

### STEP 2 - MOTOR/HOUSING ASSEMBLY (For additional part information see pages 26 & 27)

1. **To remove the motor/gear housing assembly, first, disconnect the air line tubing at the adjustment block. Push the motor/gear housing off the pivot shaft which goes through the tensioner foot.**

**⚠WARNING**

**Spring socket (Key 18) is compressed and under tension. Use care when removing motor/gear housing assembly. Failure to follow the above could result in serious injury to avoid personal injury.**



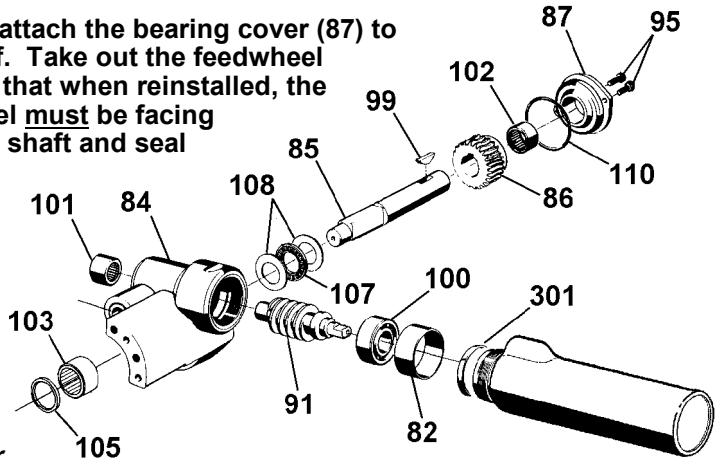

**Note that resistance may occur due to the spring loaded spring socket imbedded in the handle which pushes on the gear housing. This resistance may be overcome by moving the motor/gear housing up and down against the spring socket while pushing away from the tensioner foot.**

### STEP 3 - GEAR HOUSING (For additional part information see pages 28 & 29)

1. **Remove the air motor from the gear housing (84) by clamping the gear housing in a vise, and using a 44.5mm (1-3/4 inch) wrench, loosen the lock nut (301) and remove the motor by turning clockwise (left hand thread).**

2. **Remove the worm (91), bearing (100), and bearing sleeve (82). Note that the bearing is pressed into the bearing sleeve with the heavy race away from the worm.**

3. **Remove the two cap screws (95) that attach the bearing cover (87) to the gear housing and carefully pry off. Take out the feedwheel shaft (85) and worm wheel (86). Note that when reinstalled, the small diameter hub on the worm wheel must be facing the bearing cover. Inspect feedwheel shaft and seal (105) for damage. Parts and housing must be free of metallic particles. Clean and regrease using K-55 non-fluid oil. Fill the gear housing 1/3 to 1/2 full.**




***NOTE: If replacing an older PRHM motor (423700 or 306710) with the newer style motor (424160) the Air Motor Conversion Kit, Part No. 424195 must be used. See page 37 for additional details.***

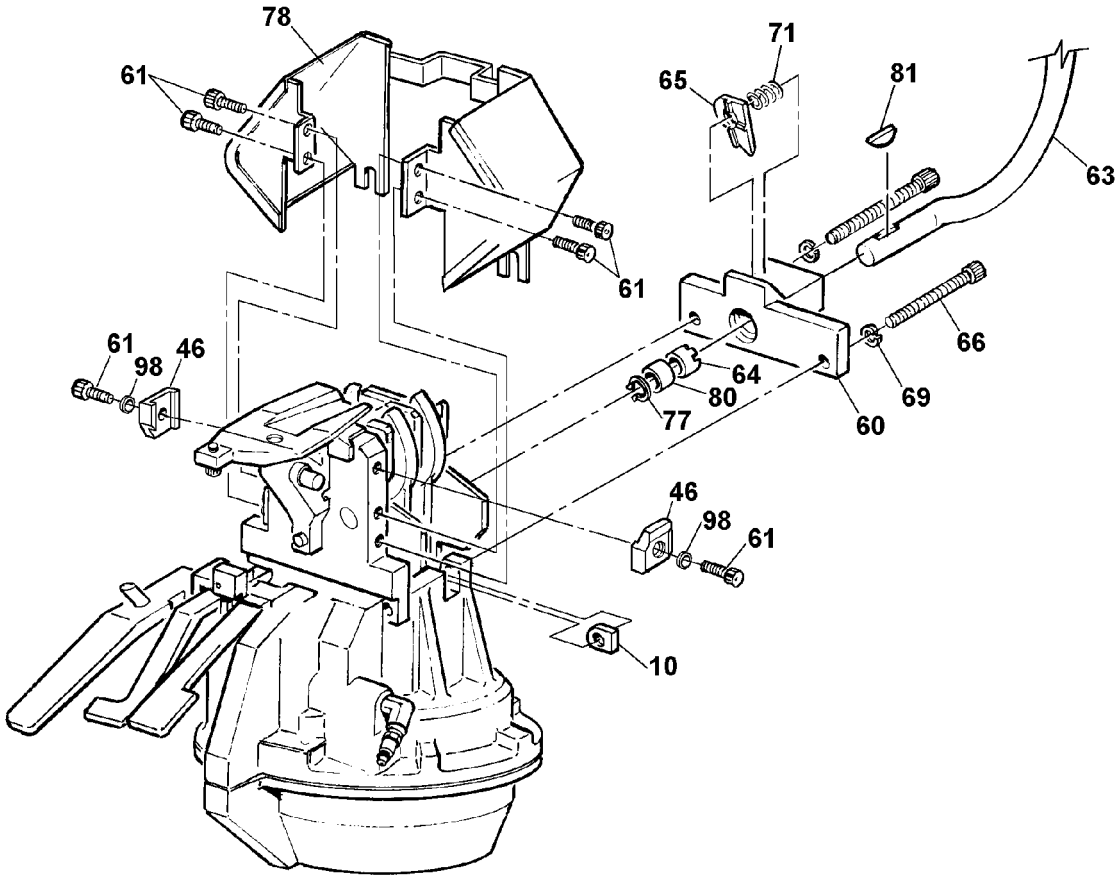
## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

### STEP 4 - TOOL HANGER & GUARD ASSEMBLY

(For additional part information see pages 24 & 25)

1. With the hanger (63) detented to one side, turn the tool over and place it on its cover. Loosen the four cap screws (61) holding the guard assembly (78) and remove the two large cap screws (66) that attach the hanger mount (60) to the cylinder.

2. Remove the Truarc ring (77) and remove the sleeve (80), spring (71), and clutch (64). Remove the Woodruff key (81) before removing the detent (65). Inspect the hanger, key, and teeth on the clutch and detent. Replace as necessary using a liberal amount of Molith #1 or Lubriplate #3000W grease when reassembling.




3. When reinstalling the hanger to the cylinder, slide the whole mechanism toward the Truarc putting a little pressure on the spring to make sure the clutch and key stay engaged. When putting the screws into the cylinder bottom be sure the jaw guides are positioned properly.

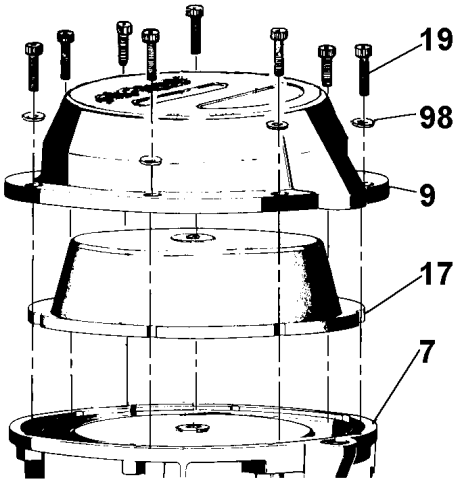
4. Install the two cap screws tighten evenly. Install the four guard assembly mounting screws. Check the detenting action by rotating the hanger to its four positions.

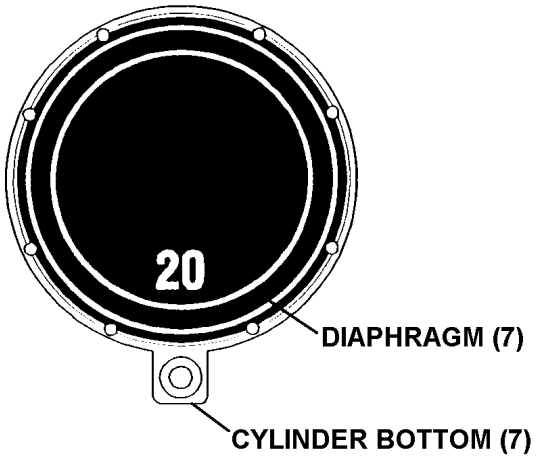
5. In order to completely remove the guard assembly, remove the four socket head cap screws (61) which secure the guard. Loosen and back out approximately 3mm (1/8") the two large socket head cap screws which attach the hanger assembly to the tool. Continue to remove the two socket head cap screws, lock washers (98) and guides (46) from the tool. Lift the guard assembly straight up.

## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

### STEP 5 - SEALER MECHANISM (For additional part information see pages 22, 23, 24, 25)

1. With the hanger and guard assembly removed from the tool, turn the tool upright and remove the eight cap screws (19) and washers (98) from the cover (9). Remove the cover and note the position of the diaphragm (17) with the number "20" centered at the rear of the tool. This positioning matches the screw holes in the cover and cylinder bottom with the cutouts in the diaphragm.

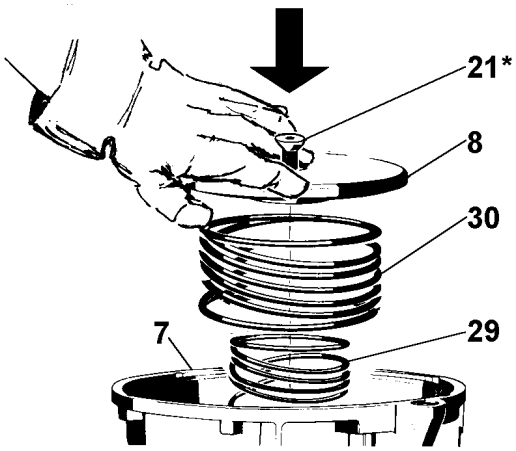



2. Grip the cylinder bottom (7) and loosen the cap screw (21) that attaches the piston (8) to the piston rod (39). Grip the piston firmly with one hand while removing the cap screw because the two large springs (29,30) are compressed.

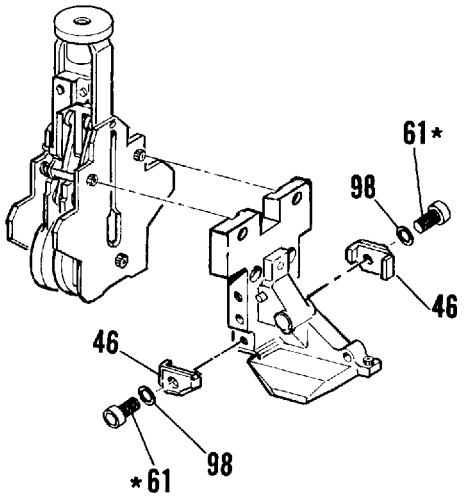
**⚠WARNING**

**Compression springs (Keys 29 & 30) are compressed and under tension. Use care when removing the piston (Key 8). Failure to follow the above could result in serious injury to avoid personal injury.**




3. Once the piston and springs have been removed, the sealer mechanism along with the tensioner foot, support plate, and cutter will drop out from the bottom of cylinder. The tensioner foot and cutter assembly will also separate from the sealer assembly at this time. Set these aside for later inspection.

*** Secure with Loctite #242.**

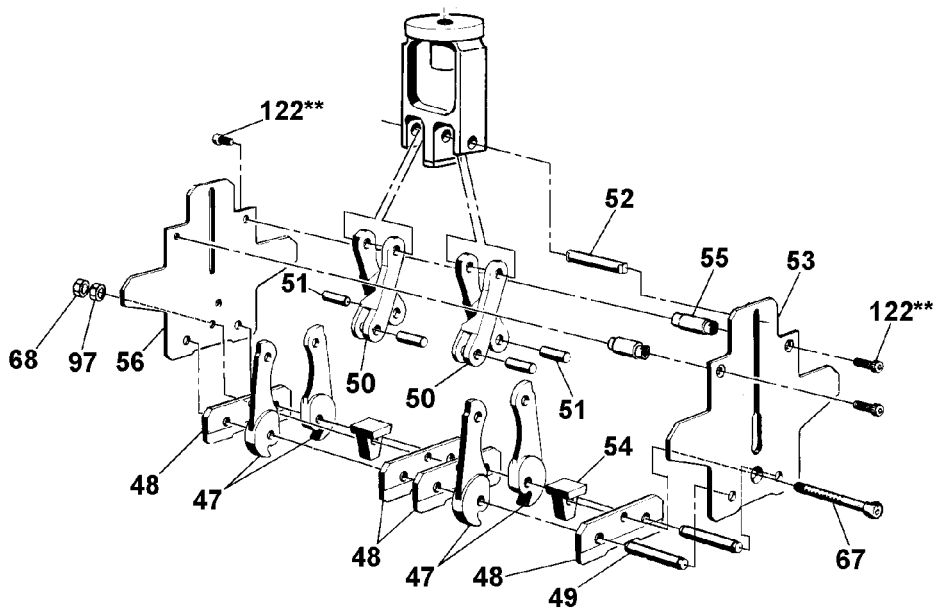


## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

### STEP 5 - SEALER MECHANISM, Continued

4. **To disassemble the sealer mechanism first remove the nuts (68,97) from the screw (67) at the bottom of the mechanism. Push the long cap (67) screw out with a similar screw or 5mm (.196 inch) pin leaving the pin in place. Lay the sealer mechanism on the front side plate (56) and remove the two cap screws (122) from the spacer sleeves (55). Flats are provided on the spacer sleeves for placing a small wrench. Remove the rear side plate (53). Remove, inspect, and replace jaws (47), notchers (48), pins (49,51,52,72) and links (50,72) as required.**

   **NOTE: Assemble the notcher closest to the rear side plate (53) with the countersunk hole facing the rear side plate.**

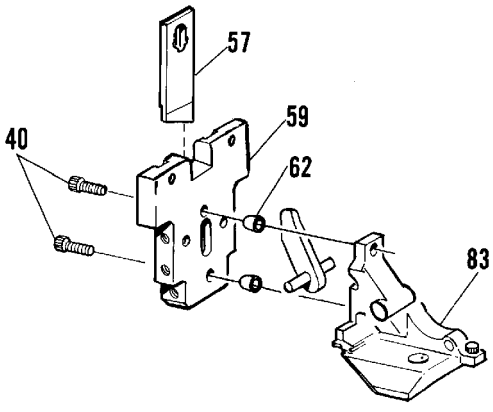



****Secure with Loctite #272**

5. **When reassembling the sealer mechanism it is sometimes easier to assemble the entire mechanism without the spacer sleeves (55). These parts will slide into place between the two side plates after the other screws are in place. Be sure to replace the long cap screw through the notchers into its original position so the nuts are on the side with the front side plate.**

6. **The four screws and two spacer sleeves should be tight and have Loctite #272 applied. The bottom screw should be snug. The sealer mechanism must move freely when the piston rod is pushed up and down. If the mechanism does not move freely, loosen the nut (97) 1/2 turn at a time until this condition occurs. Lock the locknut (68) against the hex nut (97).**

7. **Inspect the cutter blade (57) and cutting edge of the tensioner foot (83) for wear and replace if necessary. If it is necessary to replace the tensioner foot, remove the two cap screws (40) that attach the support plate (59) to the foot. Gently tap the support plate until the two parts separate. Note the two small bushings (62) that locate the support plate onto the tensioner foot. If they are stuck in the tensioner foot it is advisable to replace them when replacing the tensioner foot. When reassembling these parts be sure to grease the groove that the cutter slides in with Molith #2 or Lubriplate #3000 W grease.**

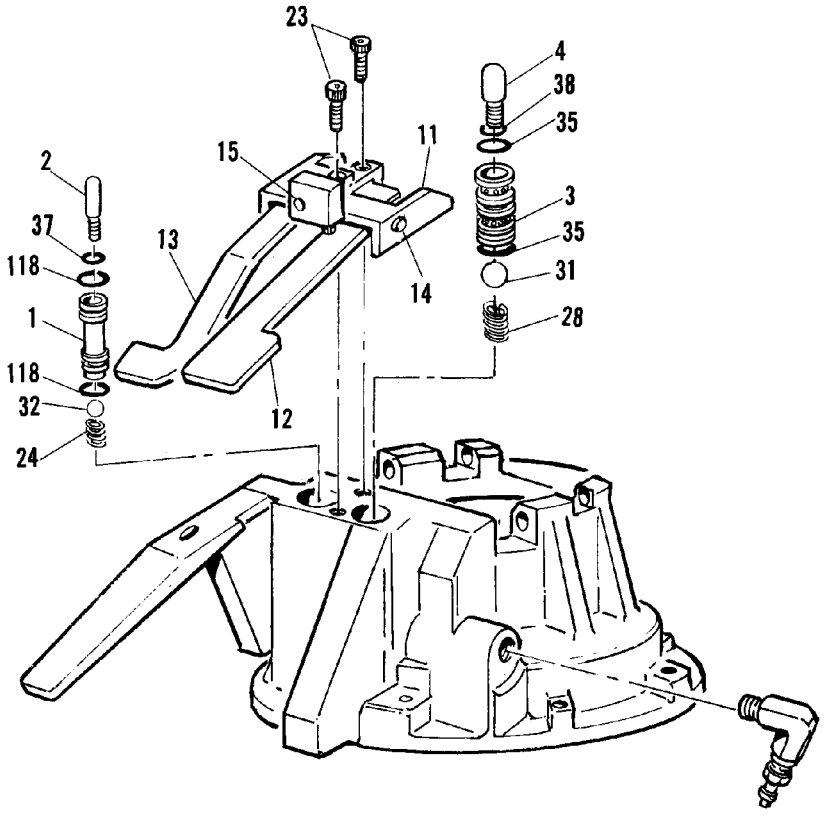


## PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

### STEP 6 - PNEUMATIC VALVES AND LEVER ASSEMBLY
**(For additional part information see pages 22 & 23)**

1. **Remove the two cap screws (23) that attach the support block (11) and operating levers (12,13) to the cylinder bottom. The catch link pin (15) and lever pin (14) should be lubricated with oil or grease and the small compression spring (26) under the catch link should not be bent. Replace and lubricate if necessary.**

2. **Remove the valve stems (2,4). Small pliers may be needed to pull out the tension valve stem. Using a hook or bent wire pull the valve sleeves (1,3) out. Check condition of o-rings (35,37,38,118) on inner and outer diameters of both sleeves and check rubber balls (31,32) for wear. Replace as necessary.**




3. **Before reinstalling the sealer valve sleeve, be sure that the large compression spring (28) is pushed down and seated all the way in the hole. Failure to do this will cause the spring to become skewed and the ball will not seal.**

4. **Liberally grease o-rings with Lubriplate high temperature grease. When installing valve sleeves, slowly push them into the holes so the o-rings will not be cut by the air passages in the housing.**

5. **This completes the disassembly and repair of the tool. Reassembly should be done in reverse order. Check the parts list section of this manual for replacement part numbers and lubrication and Loctite notes.**

## PARTS LIST, PRESSURE CYLINDER

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 1 | 306650 | Valve sleeve (tension) |
| 2 | 1 | 306651 | Valve stem (tension) |
| 3 | 1 | 306652 | Valve sleeve (seal) |
| 4 | 1 | 306653 | Valve stem (seal) |
| 5 | 1 | 306657 | Catch link |
| 6 | 1 | 306658 | Screen |
| 7 | 1 | 306671 | Cylinder bottom |
| 8 | 1 | 306672 | Piston |
| 9 | 1 | 306673 | Cylinder cover |
| 10 | 2 | 306677 | Jaw guide |
| 11 | 1 | 306679 | Lever support |
| 12 | 1 | 306680 | Valve lever (sealer) |
| 13 | 1 | 306681 | Valve lever (tension) |
| 14 | 1 | 306682 | Lever pin |
| 15 | 1 | 306683 | Catch pin |
| 16 | 1 | 306684 | Handle |
| 17 | 1 | 306685 | Diaphragm |
| 18 | 1 | 306701 | Spring socket |
| 19 | 10 | 165392 | SHCS, M5 x 30 |
| 20 | 2 | 010037 | SHCS, M6 x 20 |
| 21 | 1 | 306729 | FHSCS, M8 x 30 |
| 23 | 2 | 256970 | SHCS, M4 x 25 |
| 24 | 1 | 306776 | Compression spring, Lee #LC-026D-3 |
| 25 | 1 | 306777 | Compression spring, Lee #LC-045D-19 |
| 26 | 1 | 306778 | Compression spring, Lee #LC-016A-4 |
| 27 | 1 | 306779 | Compression spring, Lee #LC-022D-6 |
| 28 | 1 | 306741 | Compression spring, Lee #LC-042G-5 |
| 29 | 1 | 306721 | Compression spring, inner |
| 30 | 1 | 306722 | Compression spring, outer |
| 31 | 1 | 306733 | Rubber ball, 5/8" Dia. |
| 32 | 1 | 306734 | Rubber ball, 3/8" Dia. |
| 33 | 1 | 008478 | Reducing bushing, 3/8 x 1/4" |
| 34 | 1 | 020704 | Hansen plug, 1/4-18 |
| 35 | 2 | 022789 | O ring, #2-016 |
| 36 | 1 | 008798 | Tag |
| 37 | 1 | 004164 | O ring, #2-011 |
| 38 | 2 | 097529 | O ring, #2-111 |
| 39 | 1 | 306665 | Piston rod |
| 41 | 1 | 016148 | Pipe nipple |
| 42 | 1 | 306660 | Wear plate |
| 43 | 2 | 150589 | BHCS, M3 x 8 |
| 44 | 1 | 306707 | Nameplate |
| 45 | 1 | 286385 | Warning sign |
| 98 | 14 | 187415 | Split lockwasher, 5mm |
| 109 | 1 | 422693 | Adjustment block |
| 112 | 1 | 059918 | Hex nut, 5/16-18 |
| 113 | 1 | 171655 | Nylon lockwasher |
| 114 | 1 | 171661 | Steel collar |
| 115 | 1 | 024714 | Screw |
| 117 | 1 | 015219 | Pipe plug, 1/8" |
| 118 | 2 | 092772 | O ring, #2-014 |
| 120 | 1 | 004190 | Street elbow, 3/8 |
| 123 | 1 | 286373 | 3-Icon information sign |
| 125 | 1 | 250907 | Reducing Bushing, 1/8 x 1/4 |

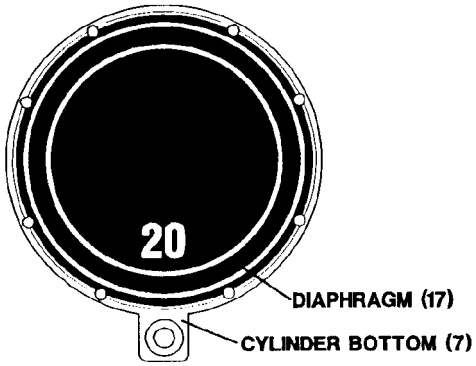
† Install using Teflon pipe tape.
* Secure with Loctite #242.
** Lubricate with Molith #2 or Lubriplate #3000W grease.

- When ordering parts, please show tool model, part number and description.
- Wearing parts are usually limited to those underlined and should be stocked.
- Standard hardware may be obtained at any local hardware supply.

**NOTES:**

**Lubricate valve parts with Lubriplate grease.**

**To align holes properly, assemble Diaphragm (Key 17) with the numeral "20" pointing to the rear of the tool as shown.**




## ⚠WARNING

**Compression springs Keys 25, 26, 29, 30) are compressed under tension.**

**Use care when removing the piston (Key 8) to avoid personal injury.**

**Inspect all parts daily and replace then if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**

## PARTS LIST, JAW STACK

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 40 | 2 | 010036 | FHSCS, M6 x 16 |
| 46 | 2 | 306654 | Guide |
| 47 | 4 | 306659 | Jaw |
| 48 | 4 | 306661 | Notcher |
| 49 | 2 | 306662 | Jaw pin |
| 50 | 4 | 306663 | Jaw link |
| 51 | 4 | 306664 | Link pin |
| 52 | 1 | 306666 | Rod pin |
| 53 | 1 | 306667 | Side plate, rear |
| 54 | 2 | 306668 | Spreader |
| 55 | 2 | 306764 | Spacer sleeve |
| 56 | 1 | 306670 | Side plate, front |
| 57 | 1 | 306674 | Cutter |
| 58 | 1 | 306675 | Cutter lever |
| 59 | 1 | 306676 | Support plate |
| 60 | 1 | 306678 | Hanger mount |
| 61 | 6 | 010028 | SHCS, M5 x 12 |
| 62 | 2 | 424042 | Bushing |
| 63 | 1 | 306698 | Hanger |
| 64 | 1 | 306702 | Clutch |
| 65 | 1 | 306703 | Detent |
| 66 | 2 | 186983 | SHCS, M8 x 60 |
| 67 | 1 | 306738 | Flat head socket cap screw, M5 x 50, partial thread |
| 68 | 1 | 306755 | Lock nut, M5, poly insert |
| 69 | 2 | 162381 | Split lock washer, 8mm |
| 71 | 1 | 306732 | Compression spring, Lee #LC-067GH-1 |
| 72 | 2 | 424041 | Serrated lock washer, 6mm |
| 77 | 1 | 086190 | Truarc, Klipring #5304-37 |
| 78 | 1 | 423286 | Guard assembly |
| 80 | 1 | 306706 | Hanger sleeve |
| 81 | 1 | 007334 | Woodruff key |
| 97 | 2 | 169440 | Hex nut, M5 |
| 98 | 13 | 187415 | Split lockwasher, 5mm |
| 122 | 4 | 171689 | SHCS, M5 x 18 |
| 124 | 1 | 306737 | Dowel pin, 6 x 34mm |

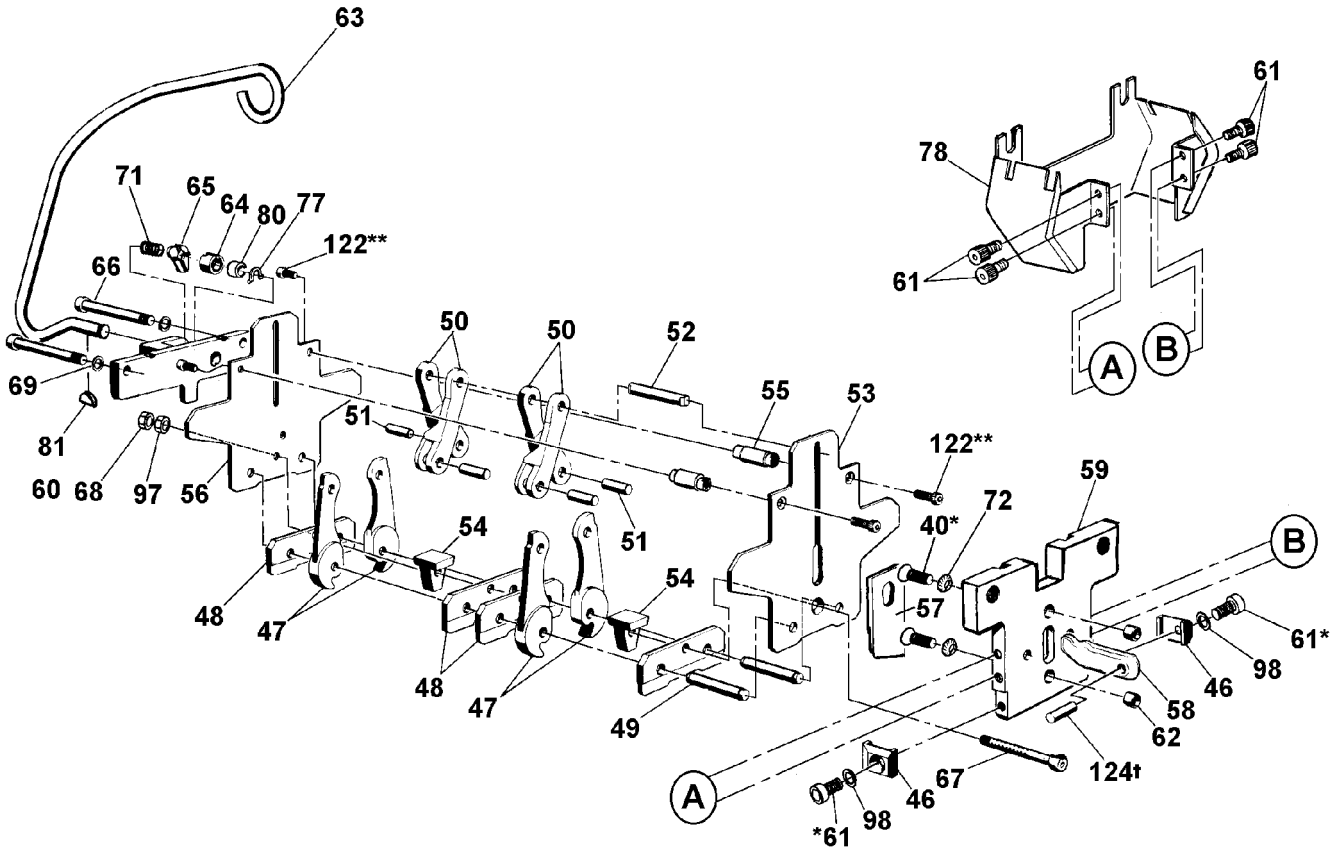
- When ordering parts, please show tool model, part number and description.
- Wearing parts are usually limited to those underlined and should be stocked.
- Standard hardware may be obtained at any local hardware supply.

**⚠WARNING**

**Inspect all parts daily and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**

*** Secure with Loctite #242.**
**** Secure with Loctite #272.**
**† Press fit.**

**NOTE: Lubricate all moving parts with Molith #2 or Lubriplate #3000W grease.**



## PARTS LIST, TENSIONER FOOT

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 19 | 2 | 165392 | SHCS, M5 x 30 |
| 70 | 2 | 162404 | Dowel pin, 6 x 28mm |
| 73 | 1 | 422696 | Fitting |
| 83 | 1 | 306687 | Tensioner foot |
| 88 | 1 | 423566 | Feedwheel |
| 89 | 1 | 306694 | Pivot shaft |
| 90 | 1 | 306695 | Outer link |
| 92 | 1 | 424271 | Air line tubing |
| 93 | 1 | 424160 | Air motor |
| 94 | 1 | 180145 | HHCS, M5 x 16 |
| 96 | 1 | 306728 | SHCS, M5 x 6 |
| 97 | 2 | 169440 | Hex nut, M5 |
| 98 | 14 | 187415 | Split lock washer, M5 |
| 101 | 2 | 306772 | Needle bearing, INA-BK1212 |
| 106 | 1 | 306767 | DU flange bearing, FMB# 1217-DU |
| 111 | 1 | 306655 | Wear plug |
| 116 | 1 | 306699 | Guide pin |

- When ordering parts, please show tool model, part number and description.
- Wearing parts are usually limited to those underlined and should be stocked.
- Standard hardware may be obtained at any local hardware supply.

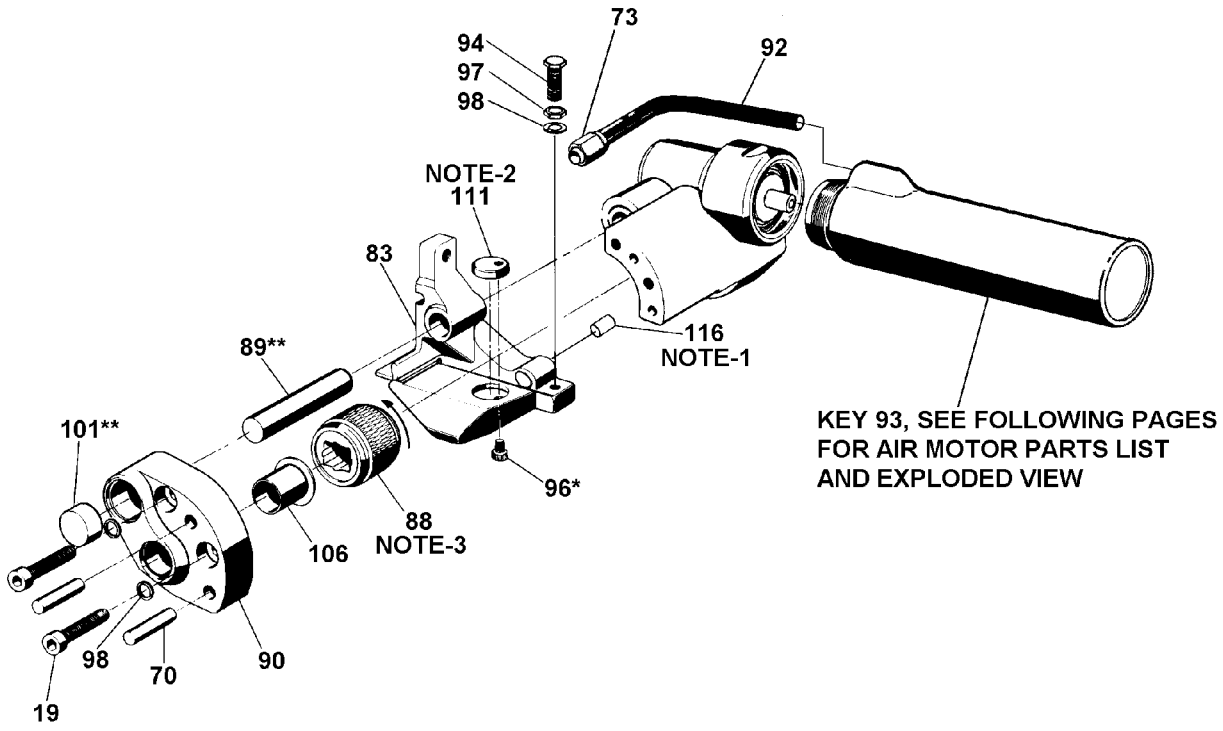
**⚠WARNING**

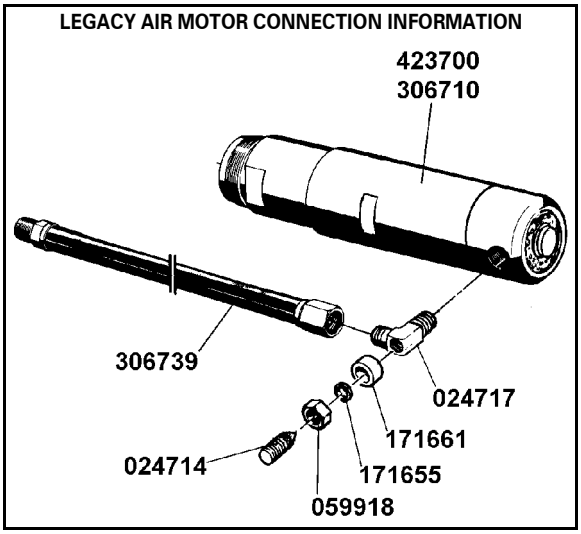
**Inspect all parts dally and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**

*** Secure with Loctite #242.**
**** Lubricate with Molith #2 or Lubriplate 3000W grease.**

**NOTES:**

1. **Press pin in flush with the back surface of the tensioner foot.**
2. **Install with polished side facing up.**
3. **Install feedwheel with counterbore facing towards outer link with arrow in direction shown.**




***NOTE: If replacing an older PRHM motor (423700 or 306710) with the newer style motor (424160) the Air Motor Conversion Kit, Part No. 424195 must be used. See page 37 for additional details.***

## PARTS LIST, GEAR HOUSING

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 82 | 1 | 306656 | Bearing sleeve |
| 84 | 1 | 306689 | Gear housing |
| 85 | 1 | 306690 | Feedwheel shaft |
| 86 | 1 | 306691 | Worm wheel |
| 87 | 1 | 306692 | Bearing cover |
| 91 | 1 | 306696 | Worm |
| 95 | 2 | 256747 | SHCS, M4 x 16 |
| 99 | 1 | 000884 | Woodruff key, 5 x 7.5 x 18.57 |
| 100 | 1 | 306771 | Ball bearing, INA# 7201BE |
| 101 | 2 | 306772 | Needle bearing, INA# BK1212 |
| 102 | 1 | 306770 | Needle bearing, INA# BK1712 |
| 103 | 1 | 306769 | Needle bearing, INA# HK1712 |
| 104 | 1 | 306768 | Inner ring, INA# IR12X16X16 |
| 105 | 1 | 306782 | Seal, INA# GR17X23X3 |
| 107 | 1 | 306766 | Thrust needle cage, INA# AXK1730 |
| 108 | 2 | 306704 | Thrust washer, INA# AS1730 |
| 110 | 1 | 256755 | O ring, #2-030 |

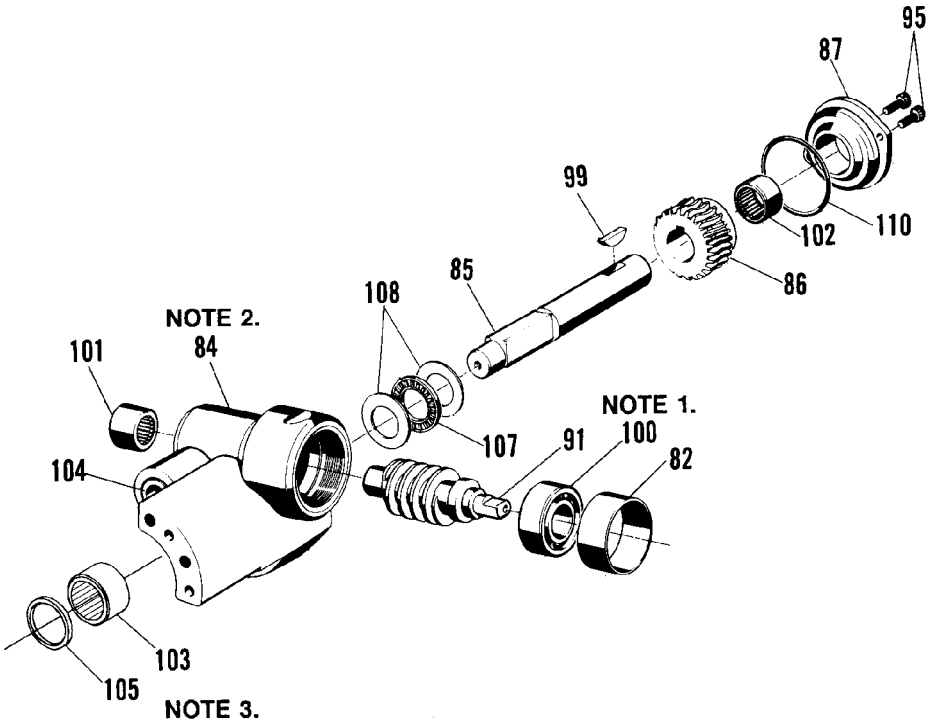
- When ordering parts, please show tool model, part number and description.
- Wearing parts are usually limited to those underlined and should be stocked.
- Standard hardware may be obtained at any local hardware supply.

**⚠WARNING**

**Inspect all parts daily and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**

**NOTES**

1. **Bearing must be installed with the wide shoulder away from the worm gear.**
2. **Fill the gear housing 1/3 full with Non Fluid Oil #55 (Non Fluid Oil Company or equivalent).**
3. **Install Key Numbers 103 & 105 in gear housing (Key 84) using Loctite Bearing Mount #609.**



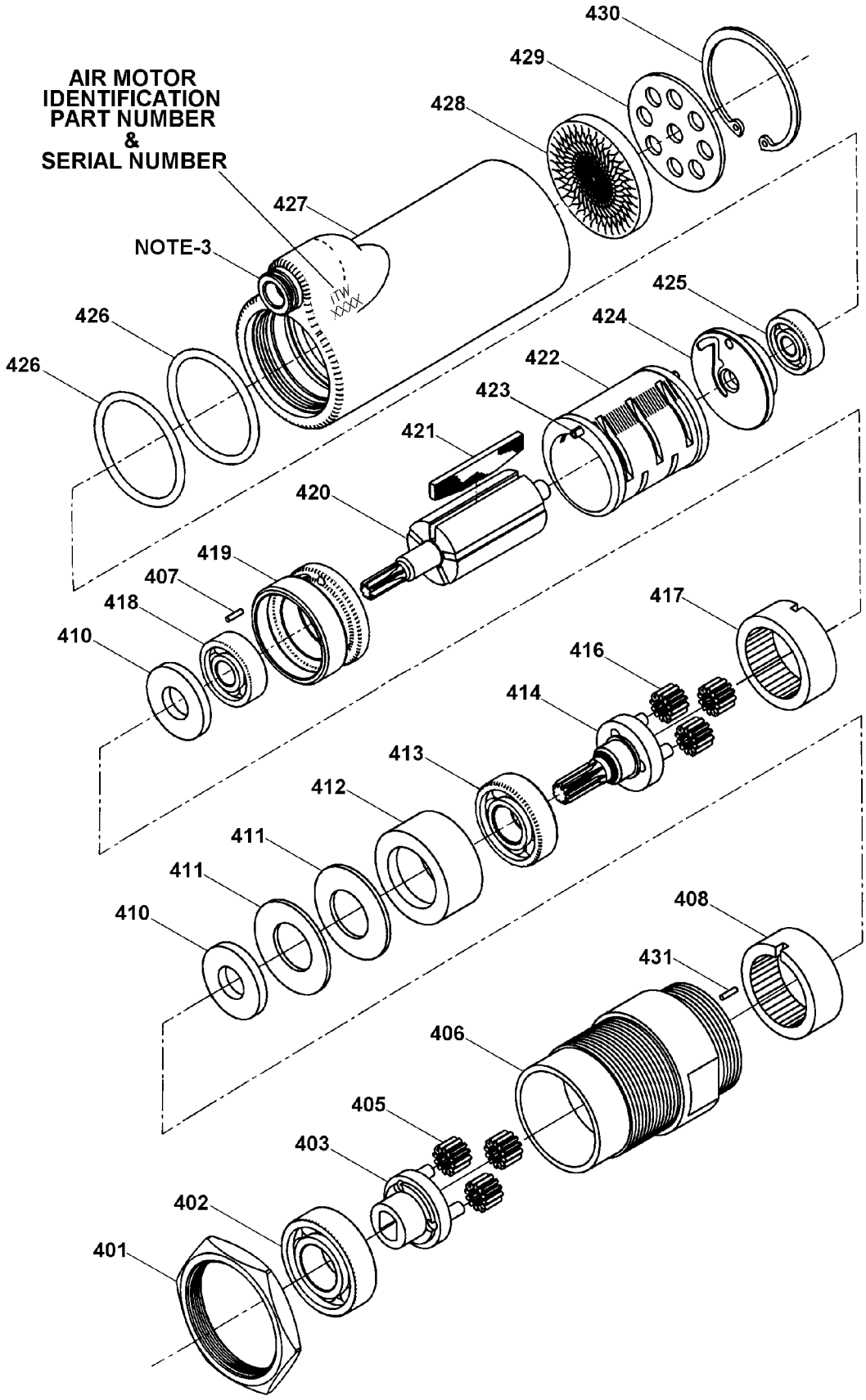
## PARTS LIST, AIR MOTOR

**Part No. 424150**

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 401 | 1 | 424166 | Lock nut |
| 402 | 1 | 164969 | Retaining ring, N5000-118 |
| 403 | 1 | 023547 | Ball bearing |
| 404 | 1 | 424159 | Idler carrier |
| 405 | 3 | 422869 | Idler gear |
| 406 | 1 | 424153 | Motor gear housing |
| 407 | 1 | 090079 | Lock pin |
| 408 | 1 | 422870 | Ring gear |
| 410 | 2 | 423151 | Adapter plate |
| 411 | 2 | 014541 | Belleville spring washer, B1250-062 |
| 412 | 1 | 424157 | Spacer |
| 413 | 1 | 306396 | Ball bearing |
| 414 | 1 | 424158 | Idler carrier |
| 416 | 3 | 024605 | Idler gear assembly |
| 417 | 1 | 024608 | Ring gear |
| 418 | 1 | 023481 | Ball bearing |
| 419 | 1 | 424155 | Front end plate |
| 420 | 1 | 424156 | Rotor |
| 421 | 5 | 422818 | Vane |
| 422 | 1 | 422815 | Cylinder |
| 423 | 2 | 424164 | Spring pin, 2.5 x 10 |
| 424 | 1 | 424154 | Back end plate |
| 425 | 1 | 424161 | Ball bearing |
| 426 | 2 | 424172 | O-Ring, SAE 125 |
| 427 | 1 | 424173 | Motor housing assembly |
| 428 | 1 | 424167 | Muffler insert |
| 429 | 1 | 424165 | Muffler plate |
| 430 | 1 | 424162 | Truarc, N5000-145 |
| 431 | 1 | 090065 | Lock pin |

**⚠WARNING**

**Inspect all parts daily and replace them If they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**


AIR MOTOR
IDENTIFICATION
PART NUMBER
&
SERIAL NUMBER
NOTE-3
ITW
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## PARTS LIST, AIR MOTOR

***NOTE: For repair parts only. No longer available as a new assembly!***

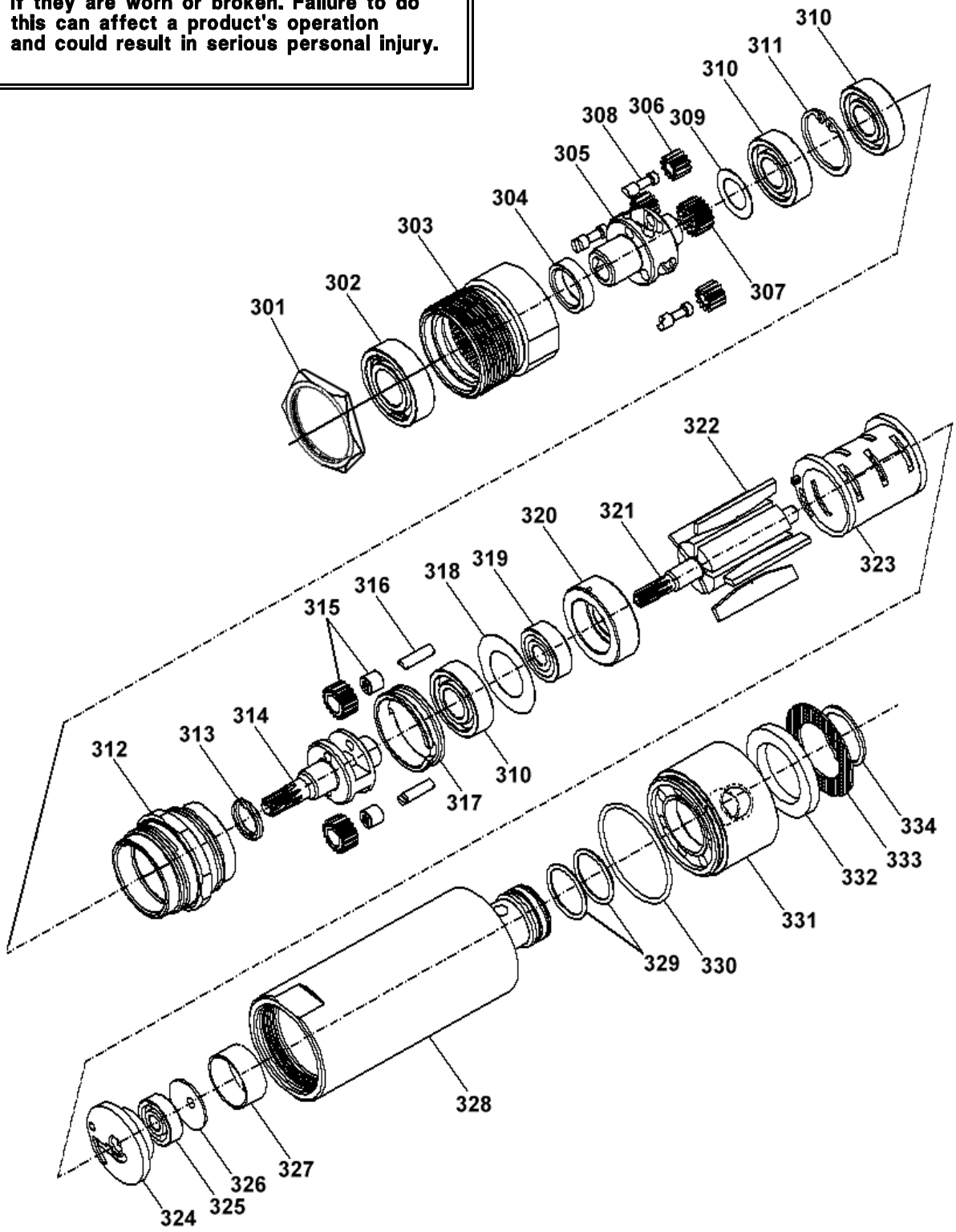
**Part No. 423700**

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 301 | 1 | 422150 | LOCK NUT |
| 302 | 1 | 264313 | BEARING, FAFNIR #9102K-FS118 |
| 303 | 1 | 422633 | GEAR CASE |
| 304 | 1 | 422632 | SPACER |
| 305 | 1 | 422631 | SPINDLE |
| 306 | 3 | 422637 | PLANET GEAR ASSEMBLY |
| 307 | 1 | 422628 | GEAR |
| 308 | 3 | 422627 | PIN |
| 309 | 1 | 422626 | SPACER |
| 310 | 3 | 023097 | BEARING, FAFNIR #9101K-FS118 |
| 311 | 1 | 423701 | RETAINGIN RING, TRUARC #N5000-106 |
| 312 | 1 | 422625 | GEAR CASE |
| 313 | 1 | 422624 | SPACER |
| 314 | 1 | 422623 | SPINDLE |
| 315 | 2 | 422622 | PLANET ASSEMBLY |
| 316 | 2 | 422621 | SHAFT |
| 317 | 1 | 423702 | SPACER |
| 318 | 1 | 423703 | SPACER |
| 319 | 1 | 006554 | BEARING, FAFNIR #38KDD |
| 320 | 1 | 423704 | FRONT END PLATE |
| 321 | 1 | 422618 | ROTOR |
| 322 | 5 | 422617 | VANE |
| 323 | 1 | 422616 | CYLINDER ASSEMBLY |
| 324 | 1 | 423705 | REAR END PLATE |
| 325 | 1 | 250300 | BEARING, FAFNIR #36KDD |
| 326 | 1 | 423825 | SHIELD |
| 327 | 1 | 423826 | CAP |
| 328 | 1 | 423827 | HOUSING |
| 329 | 2 | 092747 | O-RING SAE #18 |
| 330 | 1 | 092044 | O-RING SAE #29 |
| 331 | 1 | 423828 | CAP |
| 332 | 1 | 423829 | FILLER |
| 333 | 1 | 423830 | SCREEN |
| 334 | 1 | 185765 | RETAINING RING, TRUARC #5100-87 |

- **When ordering parts, please show tool model, part number and description.**

# ⚠WARNING

**Inspect all parts daily and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**



## PARTS LIST, AIR MOTOR, MODEL LZB-33A-007-58 (AC)

***NOTE: For repair parts only. No longer available as a new assembly!***

**Part No. 306710 (AC)**

| KEY | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 201 | 1 | 306941 | Ball Bearing |
| 202 | 1 | 306942 | Pin |
| 203 | 1 | 306943 | Cylinder |
| 204 | 1 | 306944 | Rotor |
| 205 | 5 | 306945 | Vane |
| 206 | 1 | 306946 | Key |
| 207 | 1 | 306947 | End plate |
| 208 | 1 | 306948 | Ball bearing |
| 209 | 1 | 306949 | End plate |
| 210 | 1 | 306950 | Spacer |
| 211 | 4 | 306951 | Ball bearing |
| 212 | 1 | 306952 | Gear rim |
| 213 | 2 | 306953 | Spring washer |
| 214 | 1 | 306711 | Gear rim |
| 215 | 1 | 306713 | Planet shaft |
| 216 | 2 | 306954 | Axle pin |
| 217 | 2 | 306955 | Gear wheel assembly (Both must be replaced at same time.) |
| 219 | 1 | 306957 | Planet shaft |
| 220 | 2 | 306958 | Axle pin |
| 221 | 2 | 306959 | Gear wheel assembly (Both must be replaced at same time.) |
| 223 | 1 | 306961 | Motor housing |
| 224 | 1 | 306962 | Backhead |
| 225 | 1 | 306963 | O-Ring |
| 226 | 2 | 092747 | O-Ring, SAE #2-018 |
| 227 | 1 | 306964 | Circlip |
| 228 | 1 | 306965 | Silencer |
| 229 | 1 | 306966 | Filter |

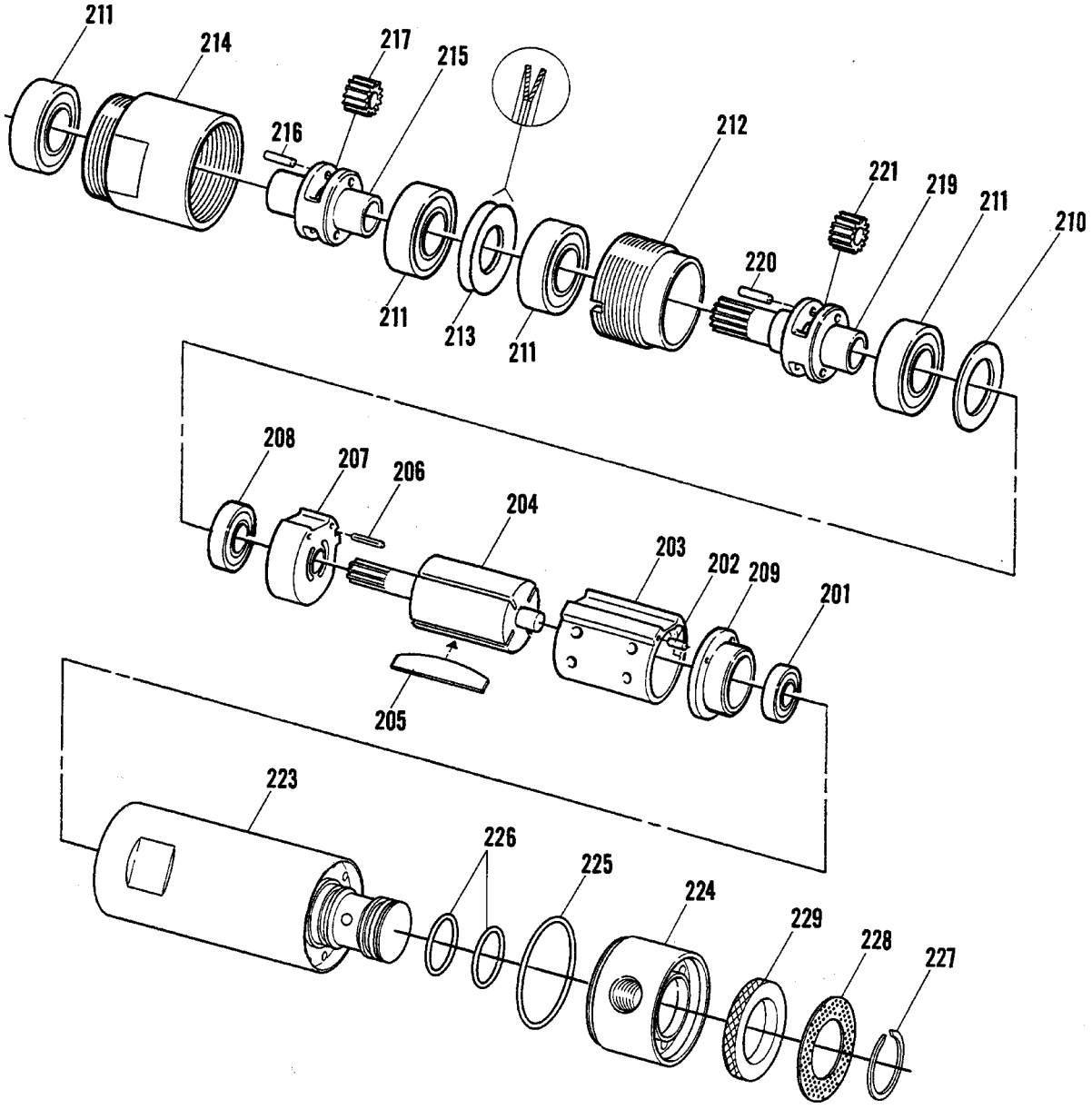
- **When ordering parts, please show tool model, part number and description.**
- **Wearing parts are usually limited to those underlined and should be stocked.**

**The following sub-assemblies may be purchased complete:**

**Planet shaft assembly (Key numbers 215-217), Part No. 306969.**
**Rotor assembly (Key numbers 201-209), Part No. 306970.**
**Planet shaft assembly (Key numbers 219-221), Part No. 422089.**

# ⚠WARNING

**Inspect all parts daily and replace them if they are worn or broken. Failure to do this can affect a product's operation and could result in serious personal injury.**



## TROUBLESHOOTING

**The following items are the most common tool symptoms if problems should occur. For symptoms or remedies not shown, contact your Signode service representative for additional information and details. The following tool symptoms are shown in this manual:**

**#1 SYMPTOM: Inadequate strap tension.**
**#2 SYMPTOM: Feedwheel milling or slipping.**
**#3 SYMPTOM: Sealing & cut-off incomplete.**
**#4 SYMPTOM: Strap slips through seal.**
**#5 SYMPTOM: Low joint strength.**
**#6 SYMPTOM: Seal buckles w/ strap slipping.**
**#7 SYMPTOM: Seal slipping into nose of tool.**

| #1 SYMPTOM: INADEQUATE STRAP TENSION | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper strap being used. | 1. Check that Signode lubricated strap is used. |
| 2. Incorrect tool operating pressure. | 2. Check that air pressure is set between 70-90 psig (4.8-6.2 bar). |
| 3. Tension regulator set too low. | 3. Adjust tension regulator of tool. |
| 4. Clogged air supply components. | 4. Check for particles restricting air flow in the regulator and filter (6). |
| 5. Tool operating too dry. | 5. Check lubricator operation and pour one tablespoon of lubricating oil into tool inlet. |
| 6. Poor air delivery supply. | 6. Check for restrictions or deterioration of supply hose. |
| 7. Wear plug interfeering with strap. | 7. Check that wear plug (111) is not gouging strap. |

| #2 SYMPTOM: FEEDWHEEL MILLING OR SLIPPING | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Feedwheel teeth packed with dirt or grit. | 1. Clean feedwheel teeth. |
| 2. Feedwheel teeth worn or chipped. | 2. Check feedwheel (88). Replace if teeth are broken or blunt. |
| 3. Feedwheel clearance is excessive. | 3. Check feedwheel clearance. |
| 4. Inspect feedwheel shaft DU bearing (106) for extreme elongation. | 4. Replace DU bearing if necessary. |
| 5. Feedwheel mechanism does not pivot freely. | 5. Check feedwheel pivoting for freedom of movement by squeezing the handle and air motor together. |

| #3 SYMPTOM: SEALING AND CUT-OFF IS INCOMPLETE | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper seals being used. | 1. Check that the proper Signode seals are being used (See page 4 of this manual). |
| 2. Incorrect tool operation pressure or tension regulator set too low. | 2. A minimum of 70 psig (4.8 bar) is required to complete the sealing and cut off cycle. See the illustration on page 3 for the appearance of a properly notched seal. |
| 3. Worn or broken sealer mechanism. | 3. Check jaws (47), side plates (53, 56), notcher (48), cutter (57), or leading edge of tensioner foot (83). They should be reasonably sharp. Replace as required. |
| 4. Worn or broken diaphragm (17). | 4. Check diaphragm (17) for holes or tears. Replace if damaged. |

| #4 SYMPTOM: LOWER STRAP SLIPPING THROUGH SEAL | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper seals being used. | 1. Check that the proper Signode seals are being used (See page 4 of this manual). |
| 2. Incorrect tool operating pressure or tension regulator set too high. | 2. Decrease tension by adjusting regulator of air motor. |
| 3. Strap tail is too short. | 3. Increase length of tail strap under seal. |

| #5 SYMPTOM: LOW JOINT STRENGTH | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper seals being used. | 1. Check that the proper Signode seals are being used (See page 4 of this manual). |
| 2. Worn or broken sealer mechanism. | 2. Replace worn or broken jaws, notchers, side plates or pins. |

| #6 SYMPTOM: LOWER STRAP SLIPPING THROUGH SEAL AND SEAL BUCKLES | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper seals being used. | 1. Check that the proper Signode seals are being used (See page 4 of this manual). |
| 2. Incorrect tool operating pressure or tension regulator set too high. | 2. Decrease tension by adjusting regulator on the air motor. |

| #7 SYMPTOM: SEAL SLIPPING INTO THE NOSE OF TOOL. | |
|---|---|
| **CAUSE** | **REMEDY** |
| 1. Improper seals being used. | 1. Check that the proper Signode seals are being used (See page 4 of this manual). |
| 2. Worn tensioner foot. | 2. Check slot in tensioner foot (83). Slot width should be .045" to .053" (1.15mm - 1.35mm). If opening exceeds this, check and replace if necessary. |

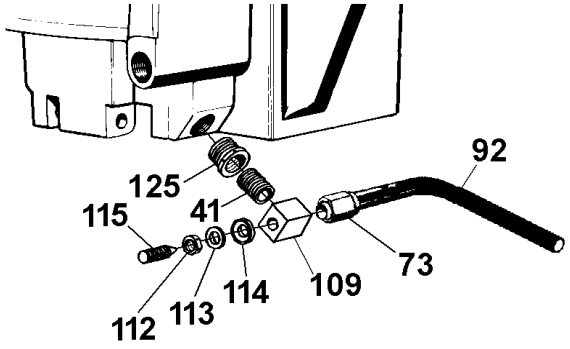
## TOOL OPTIONS

### AIR MOTOR CONVERSION KIT, 424195

**For use when replacing an older style PRHM motor (423700 or 306710) with the newer style motor (424160). This kit must be used to connect the motor to the cylinder.**

**The following parts are included in this kit:**

| KEY | QTY | PART # | DESCRIPTION |
|---|---|---|---|
| 125 | 1 | 250907 | Reducing bushing, hex, 1/8 x 1/4 |
| 41 | 1 | 016148 | Pipe nipple |
| 73 | 1 | 422696 | Fitting |
| 92 | 1 | 424271 | Air line tubing |
| 112 | 1 | 059918 | Hex nut, 5/16-18 |
| 113 | 1 | 171655 | Nylon lockwasher |
| 114 | 1 | 171661 | Steel collar |
| 115 | 1 | 024714 | Screw |



SIGNODE®

# EU Declaration of Conformity

**The Supply of Machinery (safety) Regulations 1992 (S.I. 1992/3073)**

**It is hereby declared that the undermentioned machinery has been designed and constructed to comply with the health and safety requirements defined in EC Directive 89/292/EEC**

**Machine Supplier:** Signode, Division of ITW Ltd.
Queensway, Fforestfach
Swansea SA5 4ED

**Machine Description:** PRHM-34

**Machine Type:** Pneumatic Combination Hand Strapping tool.

**Provisions with which machine complies:**

89/392/EEC, 91/368/EEC

**Harmonized EuroNorms with which machine complies:**

EN 292:1, EN 292:2, EN 294, EN 349

**Technical Standards with which machine complies:**

NA

**Signature:**  **Date:** 8 NOV 1994

(Peter Oseland)

## SIGNODE
## NEW TOOL WARRANTY

**Signode Engineered Products Warrants that a new Signode strapping tool will operate per functional specifications for a period of sixty (60) days after the date of shipment to the owner's place of business. Normal wearing parts, as outlined in the Operation, Parts & Safety manual, are covered by a thirty (30) day warranty unless, in Signode's judgement, these parts have been subjected to abnormal or extreme usage. Signode's sole liability hereunder will be to repair or replace, without charge, F.O.B. Signode's Glenview, Illinois plant, any tool which proves to not operate per functional specifications within the stated period. Signode reserves the right to replace any tool which proves not to operate per functional specifications with a new or like-new tool of the same model if in Signode's judgement such replacement is appropriate. Any new replacement tool provided to an owner will carry a full sixty (60) day warranty. Any warranty repaired tool or like-new replacement tool will carry a warranty for the balance of the time remaining on the initial sixty (60) day warranty. This warranty will be extended to compensate for the time the tool is in Signode's possession for warranty repairs.**

**This warranty is void as to any tool which has been: (I) subjected to mis-use, misapplication, accident, damage, or repaired with other than genuine Signode replacement parts, (II) improperly maintained, or adjusted, or damaged in transit or handling; (III) used with improperly filtered, unlubricated air or improper strapping material, (IV) in Signode's opinion, altered or repaired in a way that affects or detracts from the performance of the tool.**

**SIGNODE MAKES NO WARRANTY, EXPRESSED OR IMPLIED, RELATING TO MERCHANTABILITY, FITNESS OR OTHERWISE EXCEPT AS STATED ABOVE AND SIGNODE'S LIABILITY AS ASSUMED ABOVE IS IN LIEU OF ALL OTHERS ARISING OUT OF OR IN CONNECTION WITH THE USE AND PERFORMANCE OF THE TOOL. IT IS EXPRESSLY UNDERSTOOD THAT SIGNODE SHALL IN NO EVENT BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES WHICH MAY ARISE FROM LOSS OF ANTICIPATED PROFITS OR PRODUCTION, SPOILAGE OF MATERIALS, INCREASED COSTS OF OPERATION OR OTHERWISE.**

**Considerable effort has be made to ensure that this product conforms to our high quality standards. However, should you experience any difficulties, please contact your Sales Representative providing samples and the manufacturing code specified on the tool.**

**Thank you for your help.**

**SIGNODE ENGINEERED PRODUCTS**
**Hand Tool Division**
**3620 W. Lake Avenue, Glenview, Illinois 60025**

| PART # | DESCRIPTION | AREA OF USE |
|---|---|---|
| **LUBRICANTS** | | |
| 177029 | BROWN K-55 GREASE | CLUTCH DRIVES, INTERNAL GEARS, GEAR SETS |
| 422792 | WHITE LUBRIPLATE GR-132 GREASE | PNEUMATIC PARTS, AIR CYLINDERS, AIR VALVES, O-RINGS |
| 422793 | BLACK LUBRIPLATE 3000W GREASE | MOVING INTERNAL PARTS, JAWS, LINKS |
| 432322 | EP ACCROLUBE GREASE | HIGH FRICTION CONTACT PARTS |
| 008556 | LS-1236 AIR LINE OIL | AIR MOTORS, AIR VALVES |
| **ADHESIVES** | | |
| 422794 | LOCTITE #222, PURPLE | LOW STRENGTH, SCREWS 1/4" (6MM) OR SMALLER SIZES |
| 422795 | LOCTITE #242, BLUE | MEDIUM STRENGTH, SCREWS 5/16" (8MM) OR LARGER SIZES |
| 422796 | LOCTITE #271, RED | HIGH STRENGTH, SEMI-PERMANENT SCREW APPLICATION |
| 422797 | LOCTITE #609, GREEN | PERMANENT, CURVED SURFACE PART CONTACT |
| 274111 | LOCTITE #380, BLACK MAX | PERMANENT, FLAT SURFACE PART CONTACT |
| **CLEANING BRUSHES** | | |
| 023963 | SMALL BRUSH | FEEDWHEEL & GRIPPER TEETH |
| 269589 | LARGE BRUSH | FEEDWHEEL & GRIPPER TEETH |