

OPERATION, PARTS AND SAFETY MANUAL



SIGNODE®

AHP-34 AND AHP2-14

ALL-POWER COMBINATION STRAPPING TOOLS

**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.

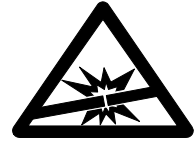
WARNING

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 of 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 severe 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 severe eye injury or blindness. Always wear safety glasses with side shields which conform to ANSI Standard Z87.1 or EN 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.

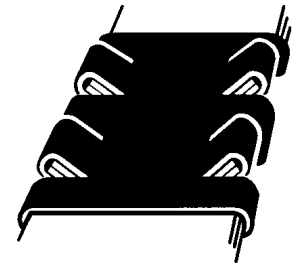
⚠ WARNING

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 severe personal injury.

JOINT FORMATION

- Before using this tool, read its Operation and Safety instructions contained in this manual.
- The AHP tools are 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

Use only cutters designed for cutting strap; never use claw hammers, crowbars, chisels, axes or similar tools. Such tools will cause the strap to fly apart with hazardous force. Before using any Signode product read its Operation and Safety Manual.

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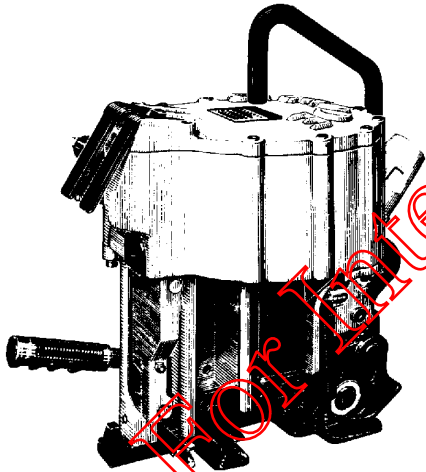
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⚠ WARNING

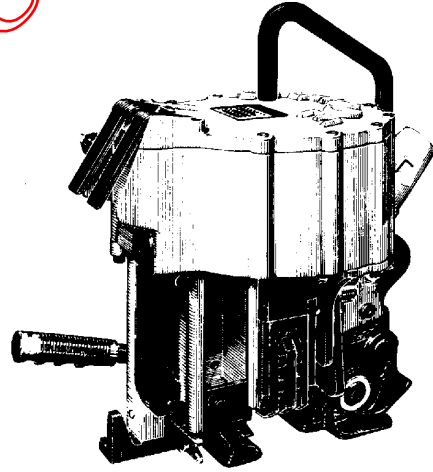
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TOOL INSTALLATION

To operate effectively, your tool must be installed properly. This installation includes proper suspension of the tool over the package to be strapped, correct placement of a strapping dispenser to provide a continuous easy supply of strap for the application, and a satisfactory air supply.



AHP2-114 - Part No. 015650



AHP-34 - Part No. 023700

SPECIFICATIONS

MODEL	STRAP			SEALS
	TYPE	WIDTH	THICKNESS	
AHP-34	Magnus	3/4" (19mm)	.031" to .035" (0.78mm - 0.88mm)	34-AHP
AHP2-114		1-1/4" (32mm)		114-A

PNEUMATIC INFORMATION

AIR PRESSURE REQUIREMENTS

The AHP tools are designed to operate at air pressures ranging between 70 and 90 psig (4.8 - 6.2 Bar). Operating these tools outside this pressure range could result in strap breakage due to over tensioning or poor quality strap joints.

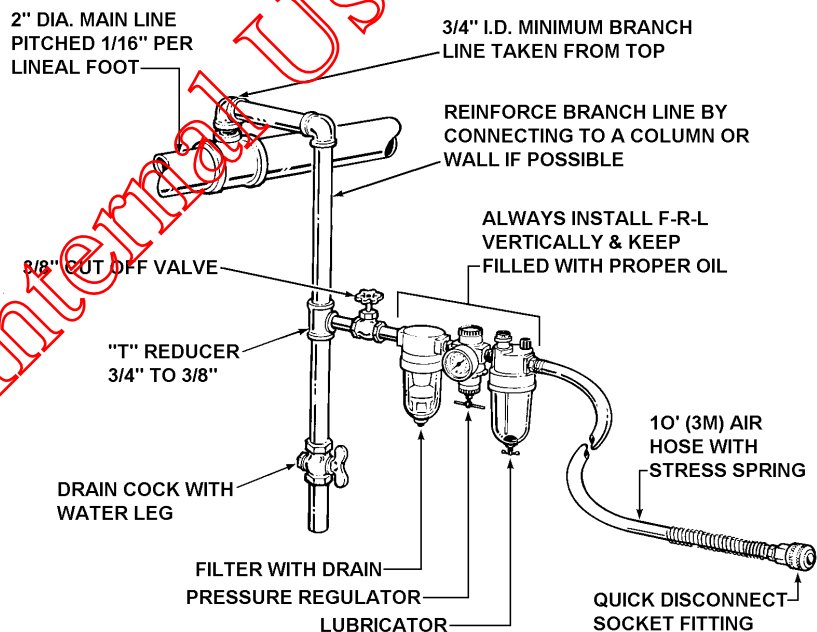
AIR SUPPLY INSTALLATION

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 severe personal injury.

A filter-regulator-lubricator unit (Signode P/N 008559) must be installed as close to the air tool as possible, preferably within 10 feet. It should be placed in a convenient location where it can easily be drained, adjusted, and filled with oil. The air hose (Signode P/N 008558) must have at least a 3/8" I.D. A quick-connect press-on socket (Signode P/N 008569) 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.

PNEUMATIC INFORMATION, Continued

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. 008559).

NOTE: Additional information is available in the Signode publication, "Air Supply Manual" (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 and be difficult to release from the strap.

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 1 to 4 drops per minute. This rate is 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 to 1 with kerosene.

NOTE: 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.

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.
- Do not exceed 90 psig inlet pressure. Doing so will result in strap breakage during tensioning.

Failure to follow the above could result in serious personal injury.

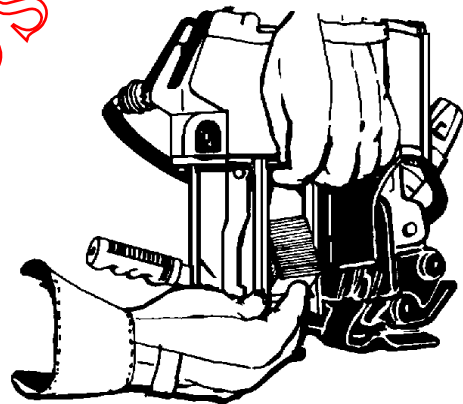
CONNECTING AIR TO TOOL

Strap tension is controlled by Air Pressure. Your air pressure gauge must be accurate, therefore, confirm its accuracy by comparing it to a calibrated master gauge. The following tools will operate between an air pressure range of 70 and 90 psig to draw the following tensions:

AHP-34: 2000 Lbs. AHP2-114: 3000 Lbs.

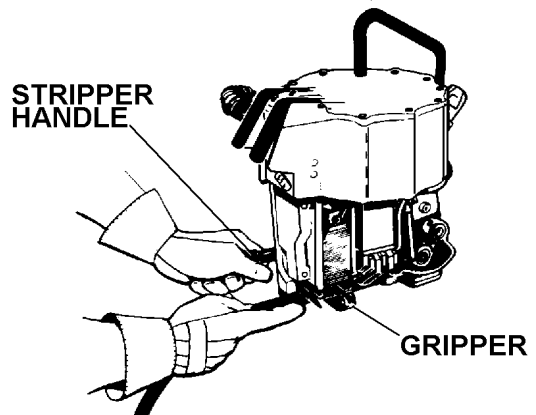
LOADING SEALS

Disconnect air to the tool before proceeding. Raise the seal follower and insert a stack of seals through the wide opening in the side of the magazine. Push the seal stack all the way in. You can load seals at any time without waiting for the seals to run out by separating the stack and loading as many or few as needed. An extension on the seal follower prevents the top strap from being loaded into a tool as a reminder to add seals.

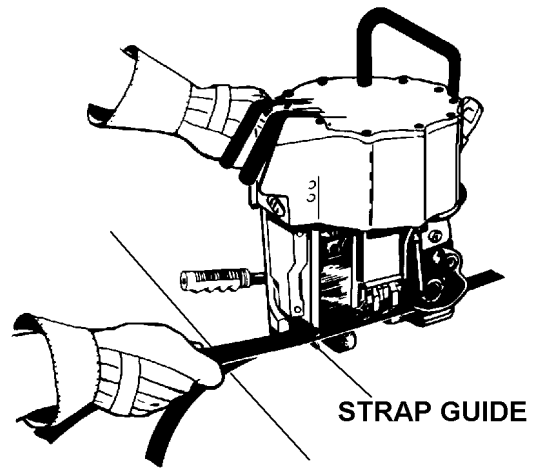


STRAPPING CYCLE

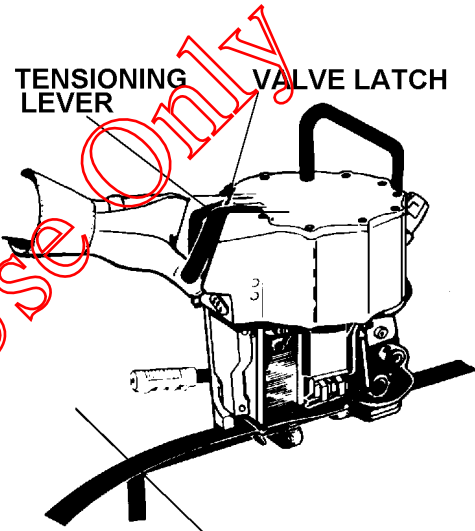
1. Encircle the package with strap. Press the stripper handle with your left hand and insert the free end of strap in the gripper, passing the strap under the feedwheel and just beyond the clutch plug.



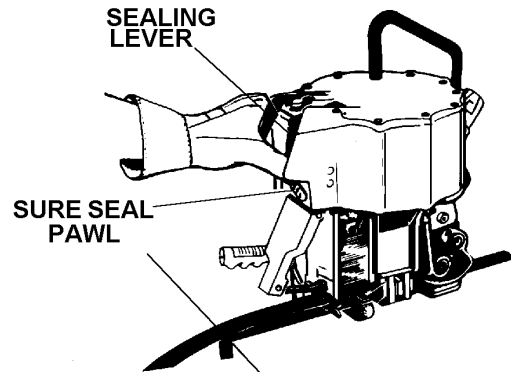
2. Grasp the handle at the air inlet as shown. Slide the top strap in from the side - under the feedwheel and into the strap guide. Both straps are now under the feedwheel. Pull out excess slack.



3. While standing to one side of the strap line, press the tensioning lever. This is a two position lever - the first position, half way down, clamps straps in the tool so that the corner protectors may be inserted; in the fully depressed position, the lever actuates tensioning. The lever may be released from either position by pushing the valve latch.

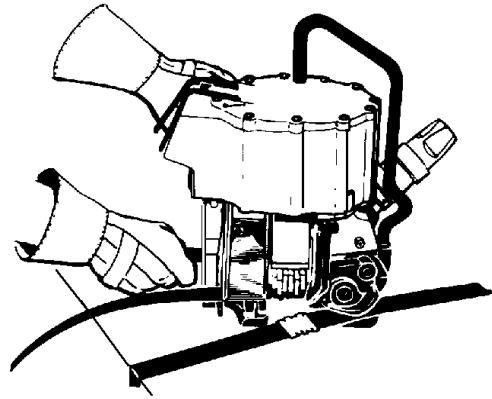


4. When tension has been drawn, and the air motor stalls, press the sealing lever to seal and cut the strap. A sure seal device prevents partial sealing. If the sealer jaws should lock in the down position, insert a screw driver in the slot of the sure seal pawl and gently turn clockwise.



5. Push the stripper handle down and swing the tool to the left to free the tool from the sealed strap. Inspect the seal to make sure a proper joint has been formed. Refer to the views below for details.

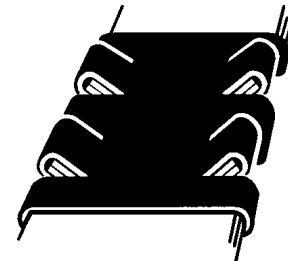
If the resulting tension level is not satisfactory for your strapping needs review "Strap Tension" in the Adjustments portion of this manual.



JOINT FORMATION

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For Internal Use Only

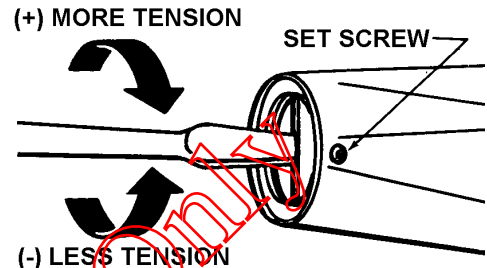
TOOL ADJUSTMENTS

ADJUSTING STRAP TENSION

! WARNING

1. Wear safety glasses with side shields that conform to ANSI Standard Z87.1 or EN-166.
2. Always wear properly fitting protective gloves when handling strap or sharp parts.
3. Stand to one side of the tool, making sure you have maintained proper balance.

1. Properly insert strap into the tool.
2. Do not exceed 90 PSIG.
3. Turn the tool on by pushing the tool's "Tensioning Lever". Loosen the set screw on the side of the air motor.
4. Turn the needle valve or pressure adjustment screw (see illustration) until the tool stops running.
5. Slowly adjust the needle valve or pressure adjustment screw (see illustration) in 1/4 turn increments until the desired tension has been achieved. Tighten the set screw.



! WARNING

Certain strap sizes could break when increasing tension. Stand to one side of the tool, out of the way of the strap path.

If the strap breaks before the desired tension for your application is achieved, turn the pressure adjustment screw or needle valve 1/4 turn increments (see illustration) until desired tension is reached. If the tension level you have achieved does not properly secure the load in your application, contact your Signode Sales Representative.

STRAP CUTTER ADJUSTMENT

To adjust the cutter blade, push and hold the sealer operating lever (10) to lower the sealing mechanism. Disconnect the air supply. Release the operating lever and loosen the magazine mounting screws, (36, sealer frame location) and the two cutter block mounting screws, (107, base location). Gently snug the cutter support screw, (43) to remove clearance between the cutter blade and the cutter block. Tighten all four mounting screws. Do not over tighten (43), as excessive tension can bind the sealing mechanism.

AIR CYLINDER

If air cylinder leaks occur, loosen the socket set screws (11), remove the operating lever pin (8), and operating levers (9 and 10). Remove the shoulder screw (1), valve latch (2), and valve latch spring (3). Remove the cover (7), by removing twelve screws (4, 5 and 6). Remove the valve parts, clean thoroughly and replace O-rings (17 and 19) and gasket (12). Pack O-ring grooves with grease; Lubriplate #GR-132 or equivalent.

BLANK

For Internal Use Only

PARTS LIST, BASE ASSEMBLY

KEY	QTY.	PART NO. <u>AHP-34</u>	PART NO. <u>AHP2-114</u>	DESCRIPTION
28A	1	023087	023087	Tru-seal, 1/4 NPT
28B	1	023524	023524	Elbow, 90 degree, 1/4 NSP x 3/8 hose
29	1	023653	023653	Air hose assembly
35	3	009074	009074	Roll pin, 3/16 x 1 1/8
36	3	003914	003914	Socket head cap screw, 5/16-18 x 3/4
95	1	023668	023668	Grip, stripper handle
96	1	023671	023671	Stripper handle
98	1	005197	005197	Roll pin, 5/32 x 11/16
99	1	023725	023725	Dowel pin
100	1	<u>023621</u>	<u>023621</u>	<u>Rear strap guide, fixed</u>
100A	1	<u>023689</u>	<u>023622</u>	<u>Rear strap guide, moveable</u>
101	1	<u>023620</u>	<u>023617</u>	<u>Cutter block</u>
102	3	012582	012582	Dowel pin, 3/16 x 1
103	1	<u>023640</u>	<u>023640</u>	<u>Strap gripper</u>
104	1	-	023709	Spring pin
105	1	023654	023654	Spring, strap guide
106	1	023667	023667	Spring, stripper handle
107	2	008152	008152	Socket head cap screw, 5/16-18 x 1 3/4
108	1	023608	023604	Base
109	1	023614	023614	Hanger
110	1	<u>023672</u>	<u>023672</u>	<u>Clutch plug assembly</u>
111	1	<u>005768</u>	<u>005768</u>	<u>Roll pin, 3/16 x 1/2</u>
112	1	<u>023610</u>	<u>023610</u>	<u>Feedwheel</u>
113	1	008805	008805	Bushing, outer link
114	1	422140	422141	Outer link
115	1	023625	023625	Pin, tensioner pivot
122	1	023760	023760	Pivot pin bushing
126	1	424033	424033	Roll pin, 3/32 x 1 1/8
127	1	176089	176089	Roll pin, 3/16 x 1 3/8
134	1	422134	422134	Retaining wire
135	1	032522	032522	Spiral roll pin, 3/16 x 1 1/8

- When ordering parts, please show model, part number and description.
- All recommended spare parts are underlined and should be stocked.
- Standard hardware parts may be obtained at any local hardware supply.

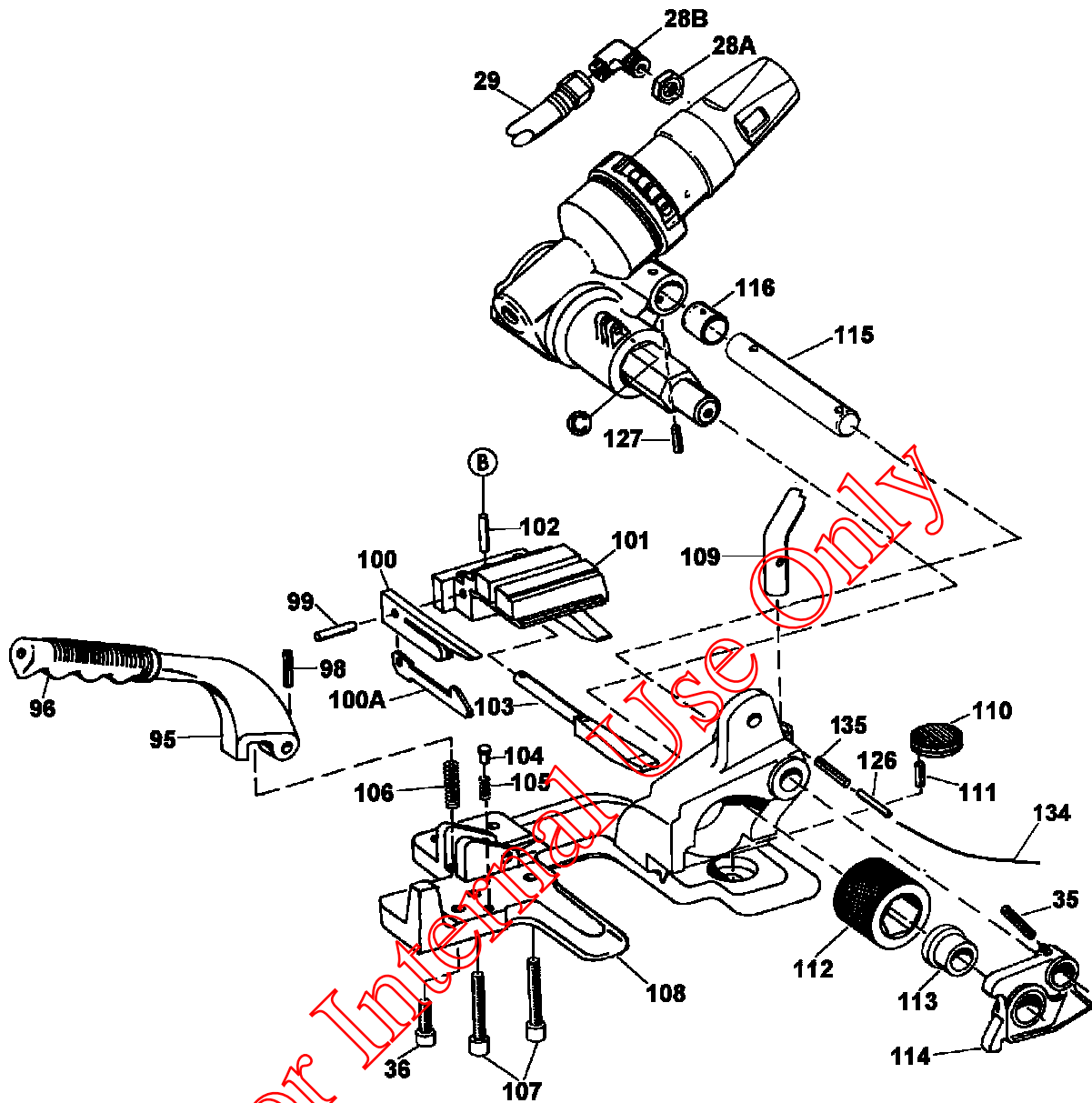
PART REMOVAL & REPLACEMENT

FEEDWHEEL

1. To change a dirty or worn feedwheel drive out the roll pin (35). Remove the outer link (114) and feedwheel (112).
2. Replace the feedwheel and reassemble the parts in reverse order.

CLUTCH PLUG

1. Turn the tool on its side. Remove the feedwheel as per the previous instructions. Using a punch, drive the plug (110) and roll pin (111) upward and out.
2. Make certain a roll pin is properly installed in the new clutch plug. Drop the new clutch plug with roll pin into the hole in the base, properly aligning the roll pin with its hole. Drive both downward with a brass rod or reinstall the feedwheel and use a strap under tension to set the plug. NOTE: Do not use a hardened drift or rod against the plug to set it since it will damage the teeth. Reinstall the feedwheel and outer link.



NOTES:

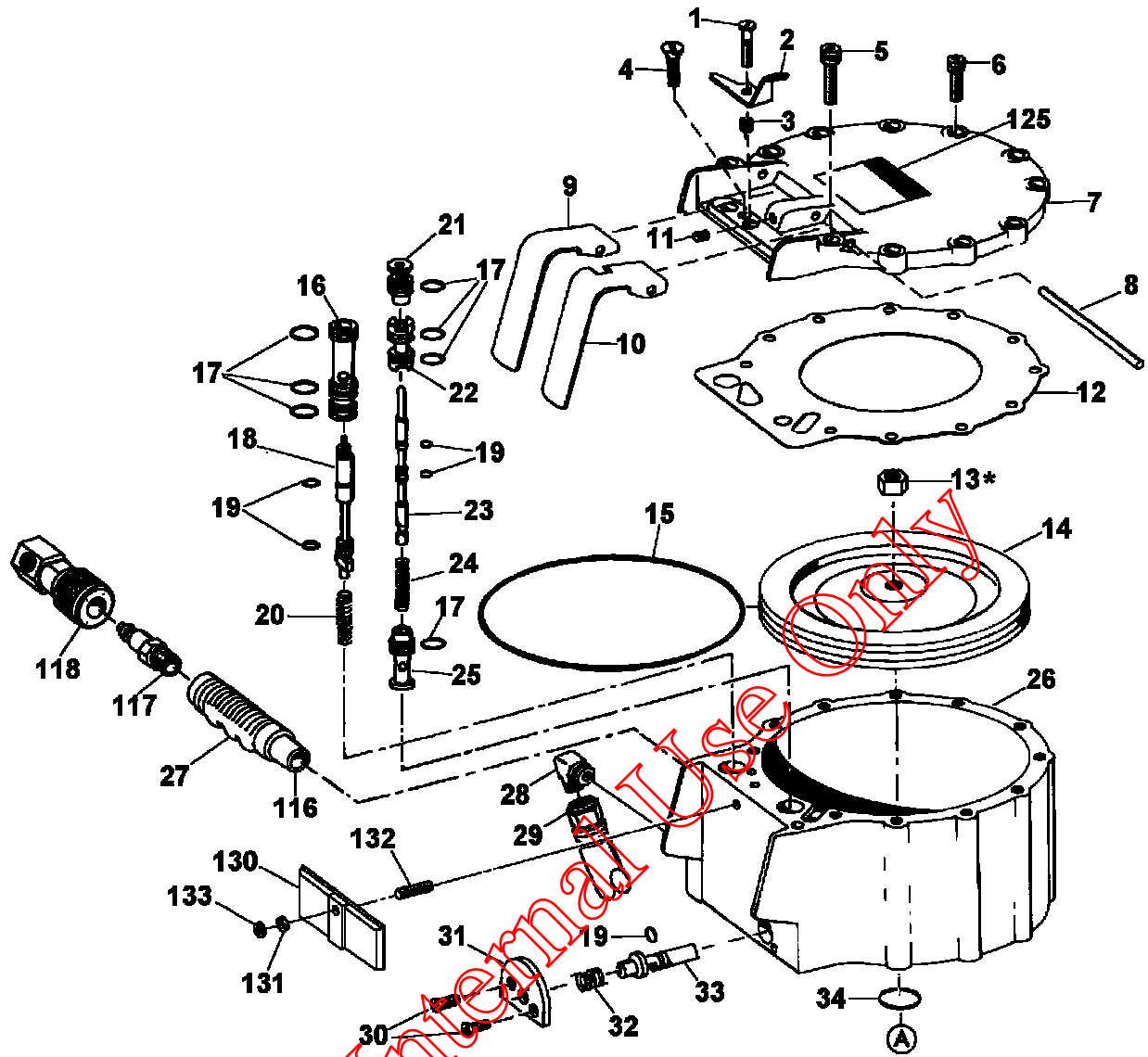
Install bushing (Key 122) into housing flush with holes in line using Loctite #271. Check assembly for proper size when replacing Keys 36 or 107.

<p>⚠ WARNING</p> <p>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.</p>
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PARTS LIST, CYLINDER ASSEMBLY

<u>KEY</u>	<u>QTY.</u>	<u>PART NO.</u> <u>AHP-34</u>	<u>PART NO.</u> <u>AHP2-114</u>	<u>DESCRIPTION</u>
1	1	023670	023670	Shoulder screw
2	1	<u>023692</u>	<u>023692</u>	Valve latch
3	1	020654	020654	Valve latch spring
4	1	008757	008757	Flat head cap screw, #10-24 x 3/4
5	2	009042	009042	Socket head cap screw, 1/4-20 x 1
6	9	009041	009041	Socket head cap screw, 1/4-20 x 3/4
7	1	023605	023605	Cover
8	1	020671	020671	Operating lever pin
9	1	023696	023696	Operating lever
10	1	023697	023697	Operating lever, notched
11	2	003465	003465	Socket set screw, 1/4-28 x 1/4
12	1	023613	023613	Cylinder gasket
13	1	003868	003868	Flexloc nut, 3/8-24
14	1	023616	023616	Piston
15	1	023714	023714	O-ring
16	1	023666	023666	Tensioner valve sleeve
17	7	020699	020699	O-ring
18	1	023665	023665	Tensioner valve stem
19	5	020701	020701	O-ring
20	1	020665	020665	Valve spring
21	1	020660	020660	Sealer valve sleeve, top
22	1	020657	020657	Valve sleeve, middle
23	1	023661	023661	Sealer valve stem
24	1	023663	023663	Sealer valve spring
25	1	023659	023659	Sealer valve sleeve, bottom
26	1	023723	023723	Cylinder
27	1	023669	023669	Grip, hand rest
28	1	020710	020710	Elbow, 90 degree, 1/4 NPT x 3/8 hose
29	1	023653	023653	Air hose assembly
30	2	023705	023705	Flat head socket cap screw, #10-24 x 3/8
31	1	023662	023662	Cover plate
32	1	023675	023675	Sure seal spring
33	1	023660	023660	Pawl, sure seal
34	1	006594	006594	O-ring
116	1	023674	023674	Hand rest
117	1	020704	015293	Hansen plug
118	1	023677	015294	Hansen 90 degree socket
125	1	433439	433439	Warning sign
130	1	262209	262209	Upper muffler assembly
131	1	092757	092757	Washer, 1/4 SAE
132	1	268967	268967	Socket head set screw, 1/4-28 x 7/8
133	1	004526	004526	Nut, flexloc, 1/4-28

- When ordering parts, please show model, part number and description.
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* Secure with Loctite #242.

NOTE: Check assembly for proper size when replacing Key 11.

⚠ 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, SEAL MAGAZINE

KEY	QTY.	PART NO. AHP-34	PART NO. AHP2-114	DESCRIPTION
35	4	009074	009074	Roll pin, 3/16 x 1 1/8
36	3	003914	003914	Socket head cap screw, 5/16-18 x 3/4
37	1	015773	015773	Pin, magazine spring
38	1	023631	023631	Sleeve, magazine spring
39	1	020640	020640	Magazine spring
40	2	004939	004939	Drive screw, #2 x 3/16
41	1	023704	023646	Seal follower
42	1	006747	006747	Retaining ring
43	1	023710	023710	Cutter support screw, 5/16-18 x 5/8
44	1	001621	001621	Cotter pin, 3/32 x 1/2
45	1	023636	015712	Ejector lever pin
46	1	023609	023607	Magazine
47	1	023641	023641	Ejector lever spring
48	1	023612	015751	Ejector lever
49	1	026866	026866	Truarc
50	1	020621	015713	Ejector pin
51	1	<u>020629</u>	<u>020629</u>	<u>Ejector spring</u>
52	1	023686	023633	Ejector
53	1	023602	023727	Sealer frame
54	1	023708	023708	Shoulder screw
55	1	005211	005211	Lock nut, 5/16-18
56	1	023639	023728	Jaw support stop
57	1	023726	023726	O-ring
58	1	023713	023713	O-ring
59	1	023649	023649	Piston assembly
60	2	023721	023721	Spirol pin, 5/32 x 11/16
61	1	023658	023658	Return spring
62	1	023648	023648	Link
63	1	-	015654	Ejector arm
65	1	-	015660	Button head screw, #10-24 x 1/2
65A	1	-	004594	Slotted machine screw, #12-24 x 2
66	1	-	004595	Flexloc, #12-24
102	3	012582	012582	Dowel pin, 3/16 x 1
119	1	014546	014546	Socket head cap screw, #8-32 x 1/4
120	1	023499	015662	Finger guard
121	8	007828	007828	Socket head cap screw, 1/4-20 x 7/8
128	1	286287	286287	Nameplate

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PART REMOVAL & REPLACEMENT

EJECTOR, EJECTOR ARM AND FRAME

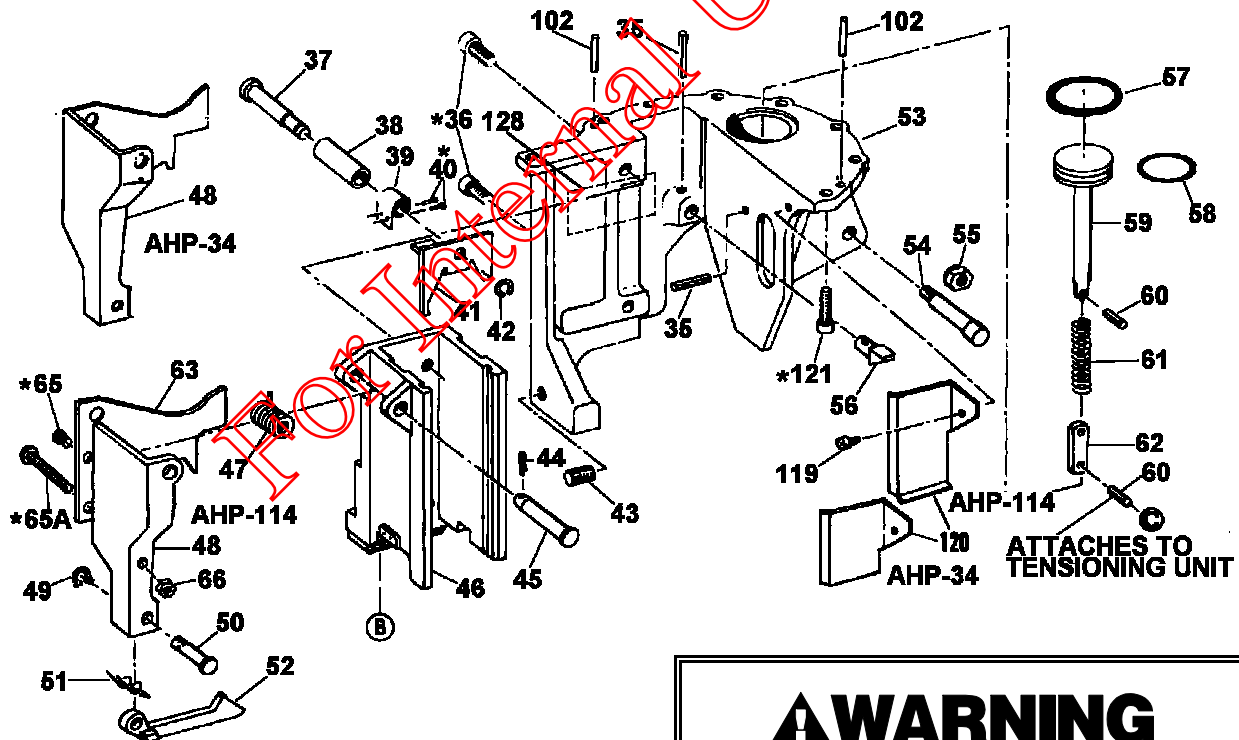
1. The magazine unit must be removed as described in the prior procedure.
2. With the magazine separated from the tool, remove the cotter pin (44) from the ejector lever pin (45).
3. Drive out the ejector lever pin (45) from the left side of the magazine.
4. Remove the ejector lever spring (47), ejector arm and lever.
5. Remove the Truarc (49) from the lower ejector pin (50).

6. Remove the lower ejector pin (50), ejector (52), and spring (51). Replace the ejector arm or lever as necessary.
7. Reassemble with the new ejector by following these steps in reverse order.

NOTE: If the ejector needs to be replaced, it can be removed without removing the magazine or ejector arm and lever by following steps 5, 6 and 7.

8. Insert the ejector (52) into the cutter block slot (101).
9. Start the ejector lever pin (45) through the right side of the ejector lever and magazine.
10. Insert the ejector lever spring (47).
11. Insert a punch from the left side to hold the spring in alignment.
12. Tap the ejector lever pin (45) in while removing the aligning punch at the same time.
13. Push on the lower part of the ejector lever (48) to align holes on the left side of the tool. Finish tapping in the ejector lever pin (45).
14. Replace cotter pin (44).
15. Reinstall the ejector arm and lever as described in the reassembly procedure.
16. Insert seals in the magazine. Operate the sealer mechanism through 3 or 4 cycles to check that seals feed properly. Next, apply a strap under tension to be sure that all elements of the tool operate properly.

* Use Loctite #242.



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.

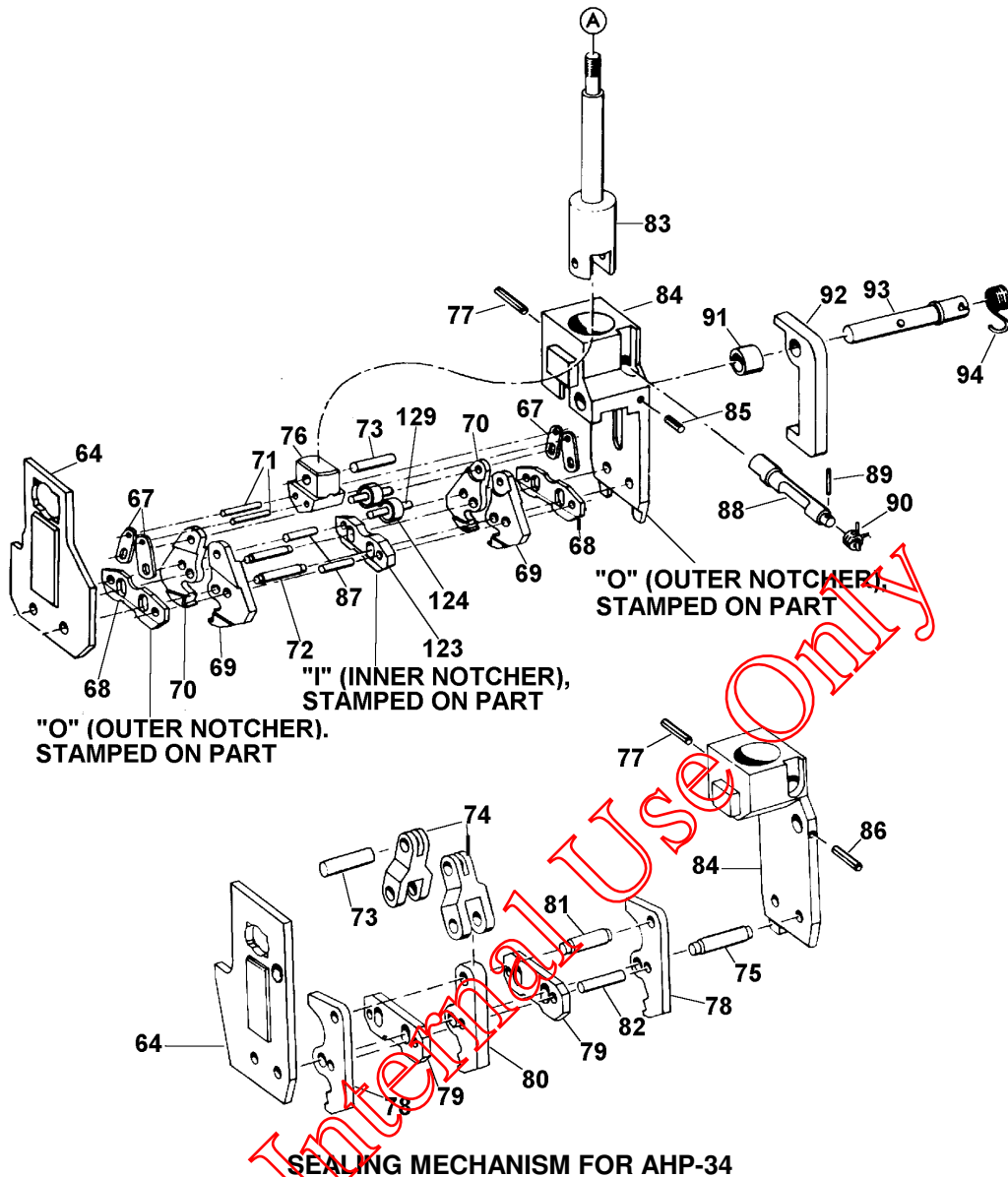
PARTS LIST, JAW STACK ASSEMBLY

<u>KEY</u>	<u>QTY.</u>	<u>PART NO.</u> <u>AHP-34</u>	<u>PART NO.</u> <u>AHP2-114</u>	<u>DESCRIPTION</u>
64	1	<u>023693</u>	<u>015653</u>	<u>Cutter blade</u>
67	4	-	<u>015658</u>	<u>Return link</u>
68	2	-	<u>015701</u>	<u>Notcher, outside</u>
69	2	-	<u>015655</u>	<u>Jaw</u>
70	2	-	<u>015758</u>	<u>Narrow jaw</u>
71	2	-	<u>015659</u>	<u>Return link pin</u>
72	2	-	<u>015705</u>	<u>Jaw pivot pin</u>
73	1	<u>023637</u>	<u>023651</u>	<u>Ram link pin</u>
74	2	<u>023699</u>	-	<u>Link, sealer</u>
75	2	<u>023634</u>	-	<u>Pivot pin</u>
76	1	-	<u>015657</u>	<u>Ram insert</u>
77	1	<u>010023</u>	<u>010023</u>	<u>Roll pin, 1/4 x 1</u>
78	4	<u>023695</u>	-	<u>Outer jaw</u>
79	2	<u>023698</u>	-	<u>Notcher</u>
80	2	<u>023694</u>	-	<u>Center jaw</u>
81	2	<u>023691</u>	-	<u>Pin, jaw link</u>
82	2	<u>023688</u>	-	<u>Notcher pin</u>
83	1	<u>023656</u>	<u>023656</u>	<u>Ram</u>
84	1	<u>023619</u>	<u>015652</u>	<u>Jaw support</u>
85	1	-	<u>009063</u>	<u>Set screw, 1/4-20 x 1/4</u>
86	1	<u>005779</u>	-	<u>Roll pin, 5/32 x 15/16</u>
87	2	-	<u>015703</u>	<u>Pin, notcher pivot</u>
88	1	<u>023638</u>	<u>023638</u>	<u>Pawl, ram release</u>
89	1	<u>005709</u>	<u>005709</u>	<u>Roll pin, 3/32 x 11/16</u>
90	1	<u>020646</u>	<u>020646</u>	<u>Ram release spring</u>
91	1	<u>023655</u>	<u>023655</u>	<u>Bushing</u>
92	1	<u>023643</u>	<u>023643</u>	<u>Pick-up latch</u>
93	1	<u>023703</u>	<u>023644</u>	<u>Shaft, pick-up latch</u>
94	1	<u>023642</u>	<u>023642</u>	<u>Spring, pick-up latch</u>
123	1	-	<u>015727</u>	<u>Notcher, inside</u>
124	2	-	<u>160320</u>	<u>Roller</u>
129	2	-	<u>015775</u>	<u>Follower pin</u>

- When ordering parts, please show model, part number and description.
- All recommended spare parts are underlined and should be stocked.
- Standard hardware parts 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.



PARTS REMOVAL AND REPLACEMENT

SEALER (AND MAGAZINE) DISASSEMBLY

1. Disconnect the air supply from the tool and remove the seals from the magazine and the sealer mechanism.
2. Remove the hanger (109) by removing the roll pin (35).
3. Drive out the roll pin (98) from the stripper handle (96).
4. Remove the strap gripper (103) and the stripper handle (96) and the stripper handle spring (106).
5. Loosen the cutter adjustment set screw (43).
6. Remove the two magazine screws (36) on the side of the sealer frame.
7. With the tool lying on its left side, remove the three socket head cap screws (36 and 107) from the bottom of the base (108).

DISASSEMBLY, Continued

8. Swing the rear of the base down and away from the sealer frame.
9. Tilt the top of the magazine away from the sealer mechanism and lift the magazine assembly out.
10. The magazine and sealer mechanisms are now accessible for examination and replacement of worn or broken parts. The sealer mechanism is serviced by removing the cutter blade. Clean the parts. Jaws and notchers are replaced as required. Note that the outside notchers can be reversed front to back to provide new cutting edges, doubling the life of the parts. After the necessary repairs have been made, grease the parts or apply light machine oil. The tool is now ready for reassembly.

SEALER (AND MAGAZINE) - REASSEMBLY

1. With the sealer mechanism fully assembled and in place, insert the magazine by placing the lower portion of the magazine between the sealer mechanism and sealer frame. Tilt the top forward to align properly with the sealer mechanism.
2. Swing the base up against the sealer frame. Be sure the strap guide spring (105) and pin (104) are in their proper position in the base.
3. Insert the socket head cap screws (36 and 107) through the base into the magazine and sealer frame. Snug - do not tighten (107).
4. Insert the top and bottom screws (36) through the sealer frame and into the magazine. Snug - do not tighten.
5. Insert the stripper handle (96) and the strap gripper (103). Be sure the stripper handle spring (106) is in position. See Figure 1. Align roll pin hole through strap gripper and stripper handle. Drive in roll pin (98).
6. Install hanger (109) by reinstalling roll pin (35).
7. Connect the air supply and hold in the sealer lever (10). With jaws in the full downward position, adjust the cutter adjustment set screw (43). Tighten both magazine screws (36) through the sealer frame and socket head screws (107) through base. See Figure 2.

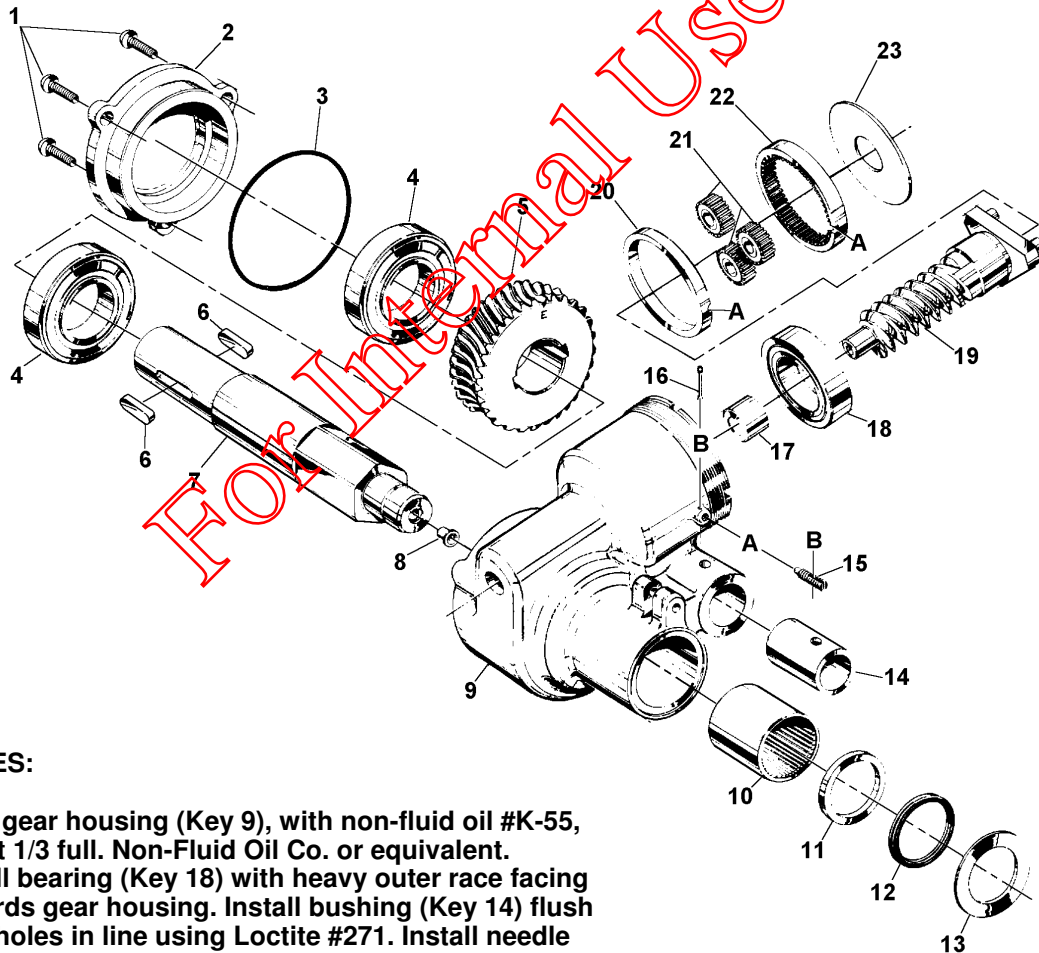
Insert a stack of seals in the magazine. Operate the sealer mechanism at its prescribed psig through 3 or 4 cycles to check tightness of the cutter adjustment screw and see that seals feed properly. If the sealer mechanism is excessively tight, back off the cutter adjustment set screw slightly. Next, apply a strap under tension to be sure all elements of the tool operate properly.

PARTS LIST, GEAR HOUSING

KEY	QTY.	PART NO.	DESCRIPTION
1	3	023707	Button head cap screw, 1/4-20 x 5/8
2	1	023628	Housing cover
3	1	007027	O-ring
4	2	007031	Bearing, Fafnir KP16A
5	1	023748	Worm wheel
6	2	007023	Key
7	1	023615	Feedwheel shaft
8	1	008844	Alemite fitting
9	1	023749	Gear housing
10	1	008843	Bearing
11	1	023623	Washer
12	1	023715	Quad ring
13	1	023624	Stepped washer
14	1	023760	Pivot pin bushing
15	1	008581	Key screw
16	1	181482	Cotter pin, 1/16 D x 5/8 Lg
17	1	008751	Bearing, Torr M781
18	1	023754	Bearing
19	1	023747	Worm assembly
20	1	008534	Ring gear
21	3	008815	Idler gear assembly
22	1	008524	Ring gear
23	1	008536	Washer

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:

Pack gear housing (Key 9), with non-fluid oil #K-55, about 1/3 full. Non-Fluid Oil Co. or equivalent. Install bearing (Key 18) with heavy outer race facing towards gear housing. Install bushing (Key 14) flush with holes in line using Loctite #271. Install needle bearing (Key 10) firmly against shoulder.

PARTS LIST, SIGNODE AIR MOTOR NO. 85R15-3

(Part No. 424440)

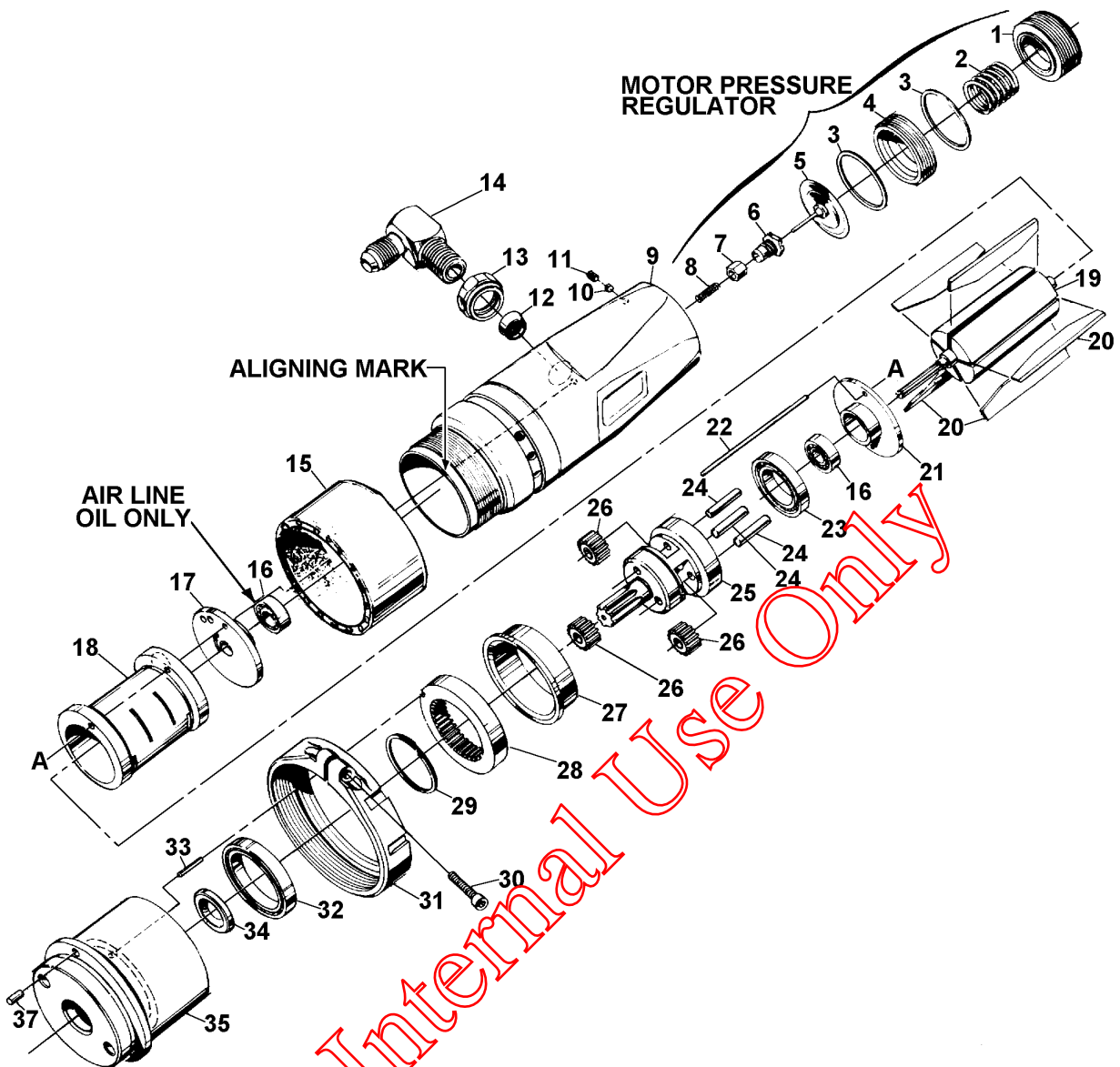
<u>KEY</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	023512	Pressure adjusting screw
2	1	020166	Regulator spring
3	2	<u>023543</u>	<u>Slip ring</u>
4	1	023511	Diaphragm nut
5	1	<u>023570</u>	<u>Pressure regulator diaphragm assembly</u>
6	1	<u>023537</u>	<u>Valve seat</u>
7	1	023572	Pressure regulator valve
8	1	023536	Valve spring
9	1	023501	Motor housing
10	1	<u>023540</u>	<u>Lock plug</u>
11	1	020173	Socket set screw, 10-24 x 3/16 flat point
12	1	024630	Filter
13	1	023087	Tru-seal, Miller 1/4-18 NPT
14	1	023524	Elbow, 90 degree, 1/4 tube x 1/4-18 NPS
15	1	161171	Rubber deflector assembly
16	2	<u>024633</u>	<u>Ball bearing, Fafnir #ASIK7 SRI #2</u>
17	1	<u>023515</u>	<u>Back end plate</u>
18	1	023507	Cylinder
19	1	<u>423158</u>	<u>Rotor</u>
20	5	<u>024651</u>	<u>Vane</u>
21	1	<u>023514</u>	<u>Front end plate</u>
22	1	023510	Align pin
23	1	023521	Ball bearing, Fafnir #8533
24	3	023518	Pin, 3/16 x 3/4 Torr #Q8320, Spherical ends
25	1	<u>424439</u>	<u>Gear case</u>
26	3	<u>423159</u>	<u>Idler assembly</u>
27	1	023506	Thrust spacer
28	1	023504	Ring gear
29	1	023532	Retaining ring, Spirolox RS 106
30	1	008731	Cap screw
31	1	023534	Ring nut
32	1	023520	Ball bearing, Fafnir #8541
33	1	012543	Roll pin, 1/16 x 1/2
34	1	023519	Seal
35	1	023502	Gear housing
37	1	023533	Pin, 7/64 x 1/4, Drive-Lok, type A3

- When ordering parts, please show air motor number, part number and description.
- Standard hardware parts may be obtained at any local hardware supply.
- All recommended spare parts are underlined and should be stocked.

NOTES:

Check to make certain that air motor number 85R15 is stamped on the tool. Advise your salesman if a different model is present. Idler assemblies (Key 26) and Vanes (Key 20) must soak in air line oil overnight before assembling air motor. Idler assemblies and bearings, except for Key 16 as indicated, are to be lubricated with non-fluid oil #K-55 Non-fluid Oil Company or equivalent.

Considerable care must be used when an air motor is disassembled. Lack of lubrication and dirty unfiltered air are the main causes of malfunctions which are corrected by proper maintenance of the filter, regulator and lubricator unit.



PART REMOVAL AND REPLACEMENT

REGULATOR

1. Remove the motor pressure regulator parts. Clean and replace if necessary.
2. Reassemble and test tool before proceeding with the motor disassembly.
3. At 90 psig, the motor pressure regulator must be adjustable to control the rotational speed of the air motor from 0 to 1500 RPM, free running.

MOTOR

1. Loosen the cap screw (30). Loosen the ring nut (31) and remove the motor from the tool gear housing.
2. Hold the motor housing (9) lightly in a vise and remove the gear housing (35) by rotating clockwise when facing the gearing end.

Continued . . .

3. **Keep groups of parts together without separating bearings unless their replacement is necessary.**
4. **Wash out any dirty parts using a fresh clean oil base type solvent.**
5. **Rotate the bearings to make certain parts are clean. Apply a light coating of grease, #K-55, New York and New Jersey Lub. Co. or an equivalent light cup grease. Do not apply grease to rotor (19), since this will cause sticking of vanes (20). Do not grease bearing (16) located in the back end plate (17). Lubricate rotor, vanes and end bearing with air line oil only.**
6. **Replace worn gearing (24, 25 and 19) and replace vanes (20) if worn or cracked. Apply a light coating of grease to gearing and air line oil to rotor and vanes.**
7. **Reassemble parts making certain that the alignment pin (22) is correctly positioned to align the back end plate (17), the cylinder (18) and the front end plate (21) with hole in the motor housing (9).**
8. **Assemble parts (23 through 29) and place in gear housing (35) with bearing (32). Make certain roll pin (33) locates into the slot of ring gear (28).**
9. **Assemble gear housing (35), ring nut (31) and motor housing (9) hand tight and rotate pinion of gear case (25) by hand clockwise to be certain of freedom of parts. If parts are not free, gears are not in proper mesh.**
10. **Pour approximately 1 teaspoon of air line oil into the air motor at the inlet port. Then, with the air motor vertically positioned, lightly clamp the gear housing in a vise. Adjust the air pressure regulator to approximately 20 psig and connect it to the tool. With the air motor rotating, slowly tighten the motor housing and the gear housing assemblies by turning the motor housing in a counterclockwise direction. As the two assemblies are tightened there will be an increase in rotational speed. Maximum rotational speed will be reached at approximately 600-650 inch pounds torque. Do not over tighten as this will reduce the speed of the motor. Disconnect the air supply and attach the air motor to the tool.**

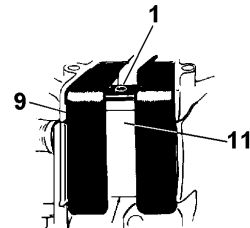
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TROUBLESHOOTING

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:

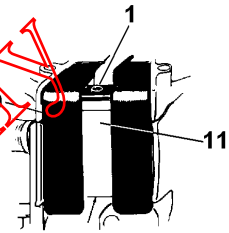
- #1 - Inadequate tension.
- #2 - Feedwheel milling or slipping.
- #3 - Off center and ruptured seals.
- #4 - Sealing incomplete.
- #5 - Low joint strength.
- #6 - The sealer actuation error.
- #7 - Bottom strap slippage.
- #8 - Partial ejection.

#1 SYMPTOM: Inadequate tension.	
CAUSE	REMEDY
1. Improper strap being used with tool.	1. Check that Signode lubricated strap is being used.
2. Improper pneumatic supply pressure.	2. Check that air gauge setting is between 70-90 psig.
3. Tool is being operated without proper lubrication.	3. Add approximately one tablespoon of lubricating oil to tool inlet.
4. Wrong application for tool or tool set-up.	4. Check operation of the tool on the application.
5. Strap tension in need of adjustment.	5. Review instructions on page 10 of this manual regarding strap tension adjustment.
6. Motor valve lever's latch screw may need adjustment.	6. Press the motor valve lever (9) to stop against the cylinder housing (26). If the air motor audibly slows down upon releasing, the latch screw must be adjusted. Remove excessive looseness by tightening screw (1) and lock with set screw (11).
7. Restricted (or unreliable) pneumatic supply connection.	7. Check for restrictions or deterioration of air supply hose.
8. Worn air motor pressure regulator.	8. Check to make sure that the pressure regulator diaphragm assembly (5) is not worn or cocked, thus preventing proper operation.



TROUBLESHOOTING, Continued

#2 SYMPTOM: Feedwheel milling or slipping.	
CAUSE	REMEDY
1. Feedwheel packed with dirt.	1. Clean feedwheel.
2. Tool is being operated without proper lubrication.	2. Add approximately one tablespoon of lubricating oil to tool inlet.
3. Wrong application for tool or tool set-up.	3. Check operation of the tool on the application.
4. Strap tension in need of adjustment.	4. Review instructions on page 10 of this manual regarding strap tension adjustment.
5. Motor valve lever's latch screw may need adjustment.	5. Press the motor valve lever (9) to stop against the cylinder housing (26). If the air motor audibly slows down upon releasing, the latch screw must be adjusted. Remove excessive looseness by tightening screw (1) and lock with set screw (11).



#4 SYMPTOM: Off center and ruptured seals.	
CAUSE	REMEDY
1. Improperly aligned top and bottom straps.	1. Check strap alignment prior to sealing.
2. Rear strap guide (100A) not operating properly.	2. Check to see that the rear strap guide is functioning properly. Strap should be retained during tensioning cycle. Free up or replace as required.
3. Seal magazine (46) loose or damaged.	3. Check that the magazine and base cap screws (107) are tight.

#3 SYMPTOM: Sealing incomplete.	
CAUSE	REMEDY
1. Pneumatic supply pressure is too low.	1. A minimum of 70 psig is required to complete the sealing cycle. The sealer mechanism may be returned to starting position by releasing the sure seal device as explained in Operating Instructions.
2. Bound, worn or broken sealer mechanism.	2. Lower the air pressure gauge to 20 psig. Actuate the sealer mechanism without strap or seals. The mechanism should go through a full cycle. If not check for dirt or obstruction in jaw linkage. Also check to make sure the cutter support screw (43) is not too tight.
3. Tool is being operated without proper lubrication.	3. Put a tablespoon of lubricator oil into the tool inlet and actuate the sealer valve several times.
4. Worn or broken sealer jaws.	4. Check jaws and notchers. Replace as required, noting that jaws have chamfered tip towards the seal magazine.

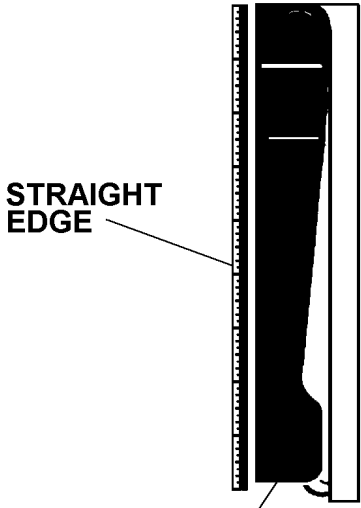
#5 SYMPTOM: Low joint strength.	
CAUSE	REMEDY
1. Worn or broken sealer jaws.	1. Replace obviously worn jaws or notchers.
2. Bound, worn or broken sealer mechanism.	2. Check for worn (or broken) pins or bearings in linkage.

#6 SYMPTOM: The sealing portion of the tool was actuated without strap in tool.	
REMEDY	
Seals notched without strap must be removed with a screwdriver or pliers before cycling the sealing mechanism again. Remove seals from magazine to prevent new seal from being injected when the old one is removed.	

TROUBLESHOOTING, Continued

#7 SYMPTOM: Bottom strap slippage.	
CAUSE	REMEDY
1. Strap not inserted into tool properly.	1. Check that the bottom strap is extended slightly beyond the gripper at the feedwheel.
2. Stripper handle (96) sticking or bound.	2. If the bottom strap slips during the loading of the tool check freedom of the stripper handle. Lubricate and free if necessary.
3. Strap gripper (103) packed with dirt or worn.	3. Clean strap gripper with wire brush. Replace strap gripper if the teeth are worn.

#8 SYMPTOM: Partial ejection.	
CAUSE	REMEDY
1. Improperly installed sealer jaws.	1. Check that jaws are correctly installed. That is, chamfer on lips must be towards the seal magazine.
2. Bound, worn or broken sealer mechanism.	2. Seal may be cut in two if it is not fully sealed in the jaw mechanism. Check for obstruction. Check for broken ejector (52) tip and replace if required. Determine that the seal follower (41) is free throughout its travel.
3. Ejector lever (48) malfunctioning.	3. Check that the ejector lever is straight and that the ejector cannot be pulled out of its slot when the sealer is down. A straight edge may be used at the back of the ejector arm to determine if it has been bent. Replace if necessary.



The diagram shows a vertical black component, the ejector lever (48), with a white straight edge placed against its left side. A line points from the text 'STRAIGHT EDGE' to the white bar. Another line points from the number '48' to the bottom of the lever. A large red watermark 'For Internal Use Only' is overlaid diagonally across the page.

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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 89/392/EEC

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

Machine Description: AHP-34, AHP2-114

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: 
(Peter Oseland)

Date: 1 JULY 2000

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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 been 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