

**OPERATION, PARTS
AND SAFETY MANUAL**

SIGNODE®

SLP-38/12/58/34

PNEUMATIC 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

⚠️ WARNING

READ THESE INSTRUCTIONS CAREFULLY.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SEVERE PERSONAL INJURY.

GENERAL SAFETY CONSIDERATIONS

1. 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.

Read the tool's operating instructions. If the load corners are sharp use edge protectors. Place the strap correctly around a properly positioned load.

- 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.

2. 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.

3. 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.



4. 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.

5. CUT HAZARD.

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



6. TOOL CARE, MAINTENANCE & PARTS REPLACEMENT.

- Take good care of the tool. Inspect and clean it daily, lubricate it weekly and adjust when necessary. Replace any worn or broken parts.
- 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.

7. WORK AREA.

Keep work areas uncluttered and well lighted.

⚠ WARNING

8. OPERATING SEQUENCE.

Use the correct Signode products for your application. If you need help contact your Signode Representative. Before using this sealless tool, read the Operation and Safety Instructions contained in this manual.

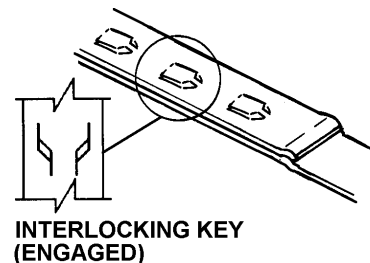
Signode tools and machines are designed and warranted to work together with Signode strapping and seals. Use of non-Signode strap, seals and/or manufactured or specified replacement parts may result in strap breakage or joint separation while applying strapping to a load or during normal shipping and handling. This could result in severe personal injury.

9. JOINT FORMATION

Sealless joints are formed when overlapping straps are punched simultaneously creating interlocking keys. However, the integrity of the joint is obtained when the keys punched in the upper strap move in relation to the keys on the bottom strap, allowing the straps to interlock. The movement necessary to create the interlock comes from the strap tension release where the top strap moves one direction and the bottom strap moves in the other direction. Therefore, never attempt to make a sealless joint without having the straps under tension - the joint may come apart easily.

This tool is a punch type sealer. A properly formed joint will appear as shown in the illustration. If the joint does not appear as shown, then the operator must proceed as follows:

- A. Ensure that the tool's operating instructions are being followed before applying another strap.
- B. Ensure that tension has been applied to the straps before the sealer handle is activated. Tension is necessary to ensure that the keys fully interlock.
- C. After confirming the above cut the strap off and apply another.



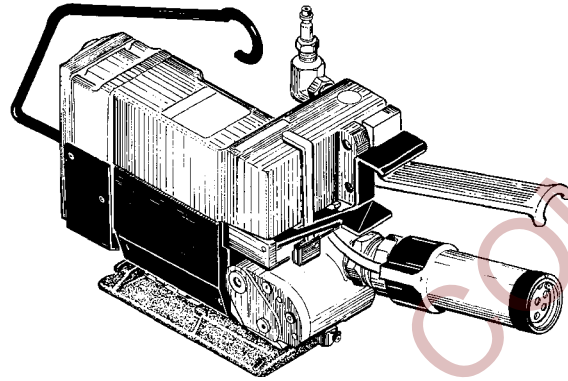
If the joint still does not appear as shown, then inspect the tool for worn and/or damaged parts. Replace tool parts as needed. **NEVER HANDLE OR SHIP ANY LOAD WITH IMPROPERLY FORMED JOINTS.** Misformed joints may not secure the load and could cause serious injury.

Always tuck the strap end back into the dispenser when not in use.

10. CUTTING TENSIONED STRAP

Using claw hammers, crowbars, chisels, axes or similar tools can 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 procedure in cutting strap. Before using any Signode product read its Operation and Safety Manual.

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SLP-12, Part No. 422350
 SLP-58, Part No. 422355
 SLP-34, Part No. 422360

SLP-38 Conversion Kit,
 Part No. 422399

INTRODUCTION

The SLP is a pneumatically operated hand tool intended for use only with Signode strapping. The tool is easy to load, tension and seal.

Once the strap has been placed around the package, the operator puts both layers of strap into the tool, lowers the feed wheel, removes any strap slack and tensions the strap. The keyed sealless joint is then created and the strap is cut free of the supply.

This manual provides the information necessary for the operation of the SLP hand tool and lists all of the parts in the event maintenance is needed. Therefore, it is valuable and should be saved.

Fasteners are metric. Pneumatic components are english.

WARNING

This tool was designed and tested using Signode strap. Using non-Signode strap may adversely affect the tool's tensioning capability and the strength of the joint

SPECIFICATIONS

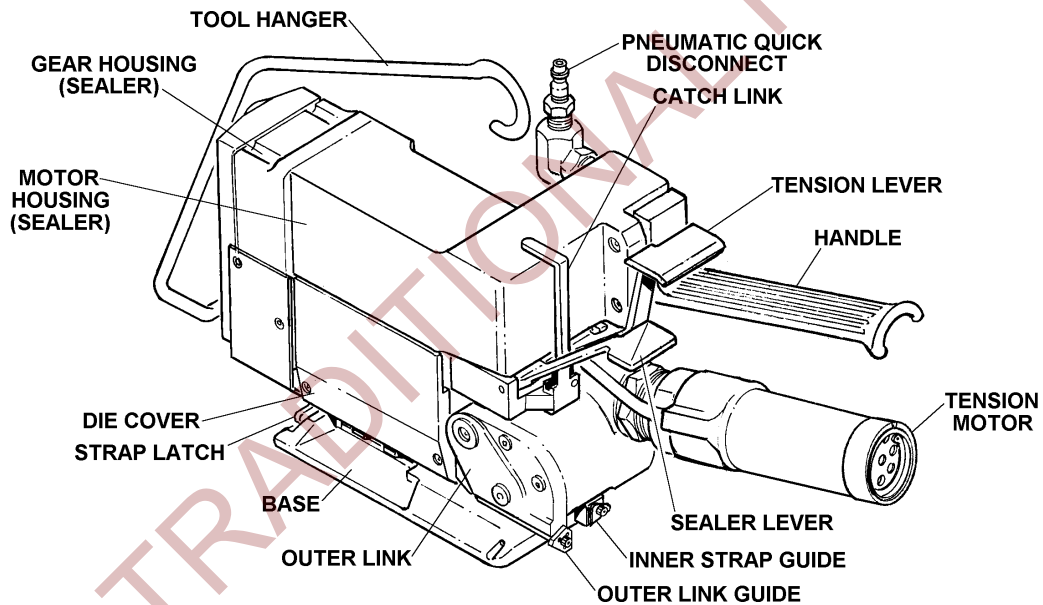
Operating air pressure: 70-90 PSI (4.8-6.2 BARS)

Physical Dimensions (w/o hanger):

Weight: 14 pounds (111N) w/ tool hanger.

MODEL	STRAP			STRAP TENSION @ 90 PSI
	TYPE	WIDTH	THICKNESS	
SLP-38	APEX & MAGNUS	3/8" (10mm)	.017" TO .025" (0.43-0.65mm)	400 LBS (1776N) / LOW TENSION
SLP-12		1/2" (12mm)		500 LBS (2220N) / LOW TENSION
SLP-58		5/8" (16mm)		1200 LBS (5328N) / STD. TENSION
SLP-34		3/4" (19mm)		1200 LBS (5328N) / STD. TENSION

MAJOR COMPONENTS



PNEUMATIC INFORMATION

AIR SUPPLY INSTALLATION

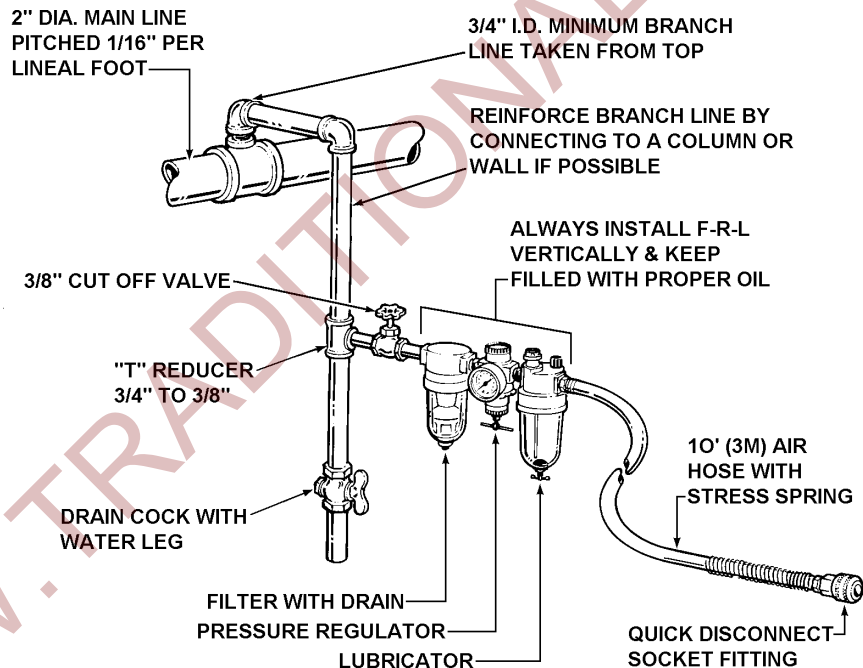
If compressor has a good dryer unit, use black pickled pipe. When a dryer unit is not installed, use galvanized or copper pipe.

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.

A filter-regulator-lubricator unit (P/N 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 (P/N 008558) must have at least a 3/8" (9.5mm) I.D. A quick-connect press-on socket (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.

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" Signode Part No. 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 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 cm²/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.

PNEUMATIC INFORMATION, Continued

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.

AIR CONSUMPTION

Air consumption in cubic feet per minute (cfm) for the SLP can be calculated as follows:

$$\text{cfm} = (a) \times (b) \times (0.40)$$

a = Number of straps applied per minute.

b = Number of seconds air motor is on per strap during tensioning, from start to finish sealing.

0.40 = SLP efficiency ratio.

Example calculation:

$$(a) \times (b) \times (0.40) = 4 \times 5 \times 0.40 = 8.0 \text{ cubic ft/min.}$$

Peak strapping load is 4 straps/minute, so a=4.

Air motor is on 5 seconds/strap, so b=5.

SLP efficiency ratio is 0.40.

Air pressure is assumed to be 90 psig 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.

AIR LINE PRECAUTIONS

Too much air pressure can cause internal tool damage. The maximum operating air pressure for this tool is 90 psig.

WARNING

Strap breakage hazard. Strap breakage can result in severe personal injury. Strap can break during tensioning if inlet air pressure to tool exceeds 90 psig. Maximum operating air pressure is 90 psig.

OPERATING INSTRUCTIONS

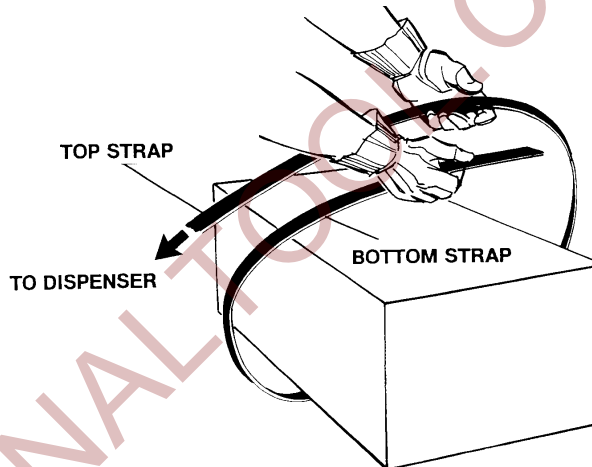
! WARNING

Wear safety glasses and gloves.
Always position yourself to one side of the strap.
Make sure all bystanders are clear before proceeding.

1. STRAP LOADING

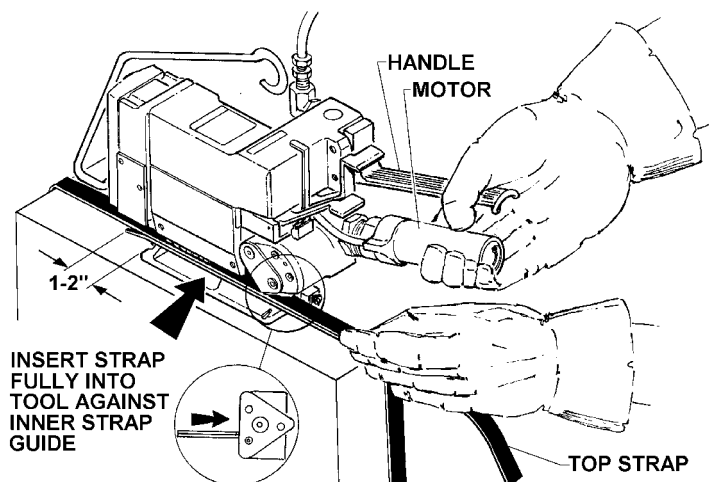
Make sure the strap being used is the proper size for the tool model being used. Refer to the Specifications section on page 5 of this manual.

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



2. POSITIONING THE TOOL

Squeeze the tension motor and the handle together to create an opening between the feedwheel and the clutch plug. Grasp the TOP STRAP and BOTTOM STRAP together and insert both straps sideways into the tool between the feedwheel and the clutch plug. Allow for the lead end of the strap to protrude 1" to 2" beyond the tool base. When the straps are properly loaded, the sealing mechanism will be in line with the strap. Release the tension motor.

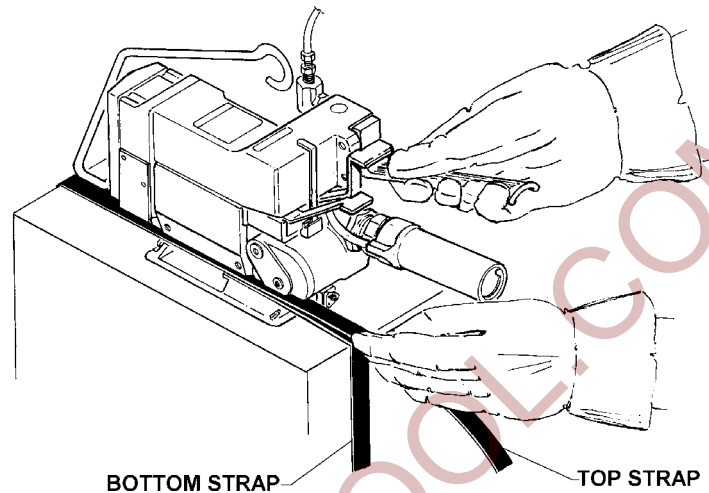


OPERATING INSTRUCTIONS, Continued

3. REMOVING THE STRAP SLACK

Pull back on the TOP STRAP to eliminate additional slack strap around the package. **NOTE: Do not push down on the handle or slack pull-out may become difficult. Do not lift tension motor or straps will slip.**

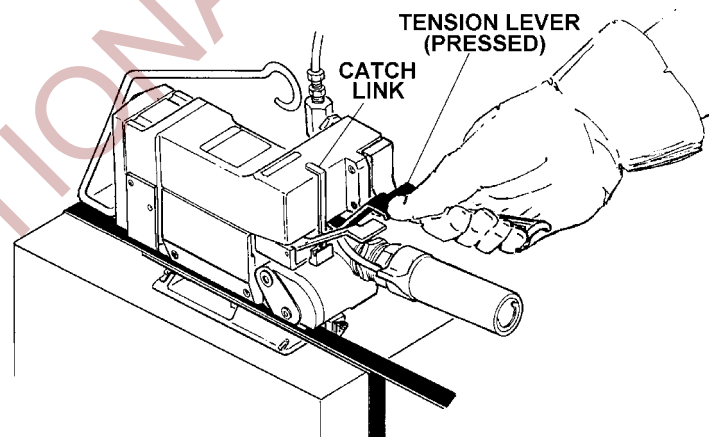
Before continuing, make sure the TOP STRAP is still in position, as described earlier. Make sure that both straps are also correctly aligned with each other in the tool.



4. TENSIONING THE STRAP

While standing to one side of the strap, press tension lever (#1) all the way down until it latches into place.

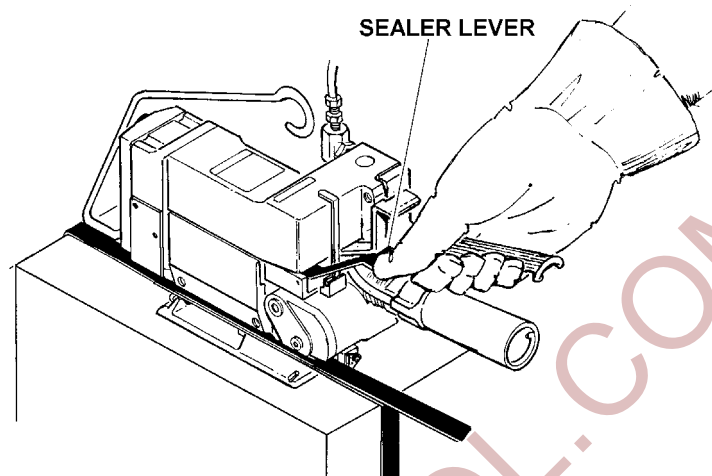
The strap will tension around the package until the proper tension level has been reached, at which time the motor will stall.



NOTE: If strap alignment on the package is unsatisfactory and it becomes necessary to shut off the tool during tensioning portion of the cycle, move the catch link to the left to allow the tension lever to release and stop tensioning. Cut the strap off and apply a new strap in a more favorable position.

5. FORMING THE STRAP JOINT

Press the sealer lever (#2) down and release (Do not hold sealer lever down during the entire sealing cycle). Air will be then routed to the second air motor enabling the sealer mechanism to punch the strap and cut-off the TOP STRAP. The sealer mechanism will disengage from the strap leaving the cut off end of the strap clamped under the feedwheel.

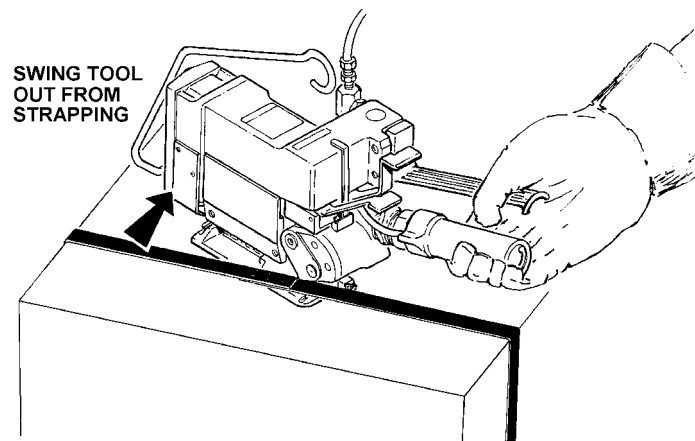


NOTES:

- Holding the sealing lever down will result in the tool attempting continuous sealing cycles.
- Never activate tension lever with a single strap under the feedwheel as this will cause the tool to lock up.
- If the tool does not fully cycle in making the strap joint, it cannot be removed from the strap.
- If the tool does not complete the strap cycle, check for proper operating pressure of 70-90 psi. (4.8-6.2 Bar).
- If the tool stalls using proper air pressure, disconnect air supply and cut strap off of package. Remove the side covers and inspect the tool for broken parts.

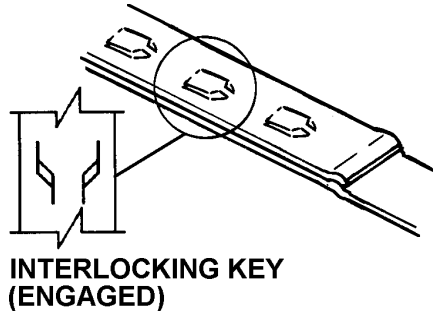
6. TOOL REMOVAL & JOINT INSPECTION

Squeeze the tension motor and the stationary handle together to release the cut off strap end. Swing the SLP tool out from under the strap. To make sure the tool has properly formed a joint, closely inspect the strap. Refer to Sealing Operation on the following page for details regarding an acceptably formed joint.



STRAP JOINT APPEARANCE & FORMATION

A properly formed joint will appear as shown in the illustration to the right.



⚠ DANGER

If the joint does not appear as shown, then the operator must proceed as follows:

- Make sure that the tool's operating instructions are being followed before applying another strap.
- Make sure that tension has been applied to the straps before the sealer handle has been actuated. Tension is necessary to ensure that the keys fully interlock.

After confirming the above, cut off the strap and apply another. If the joint still does not appear as shown, then inspect the tool for worn and/or damaged parts. Replace tool parts as needed. **NEVER HANDLE OR SHIP ANY LOAD WITH IMPROPERLY FORMED JOINTS.** Misformed joints may not secure the load and could cause serious injury.

PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS

The following procedures describe only the areas of the SLP which require specific maintenance instruction. Basic disassembly procedures are not covered within the context of this manual in order to avoid any unnecessary labor.

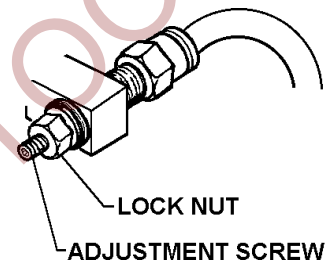
ADJUSTING STRAP TENSION

⚠ 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 lock nut.

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 lock nut.



NOTE: Review page 5 for tool specifications on regarding strap tension levels.

⚠ WARNING

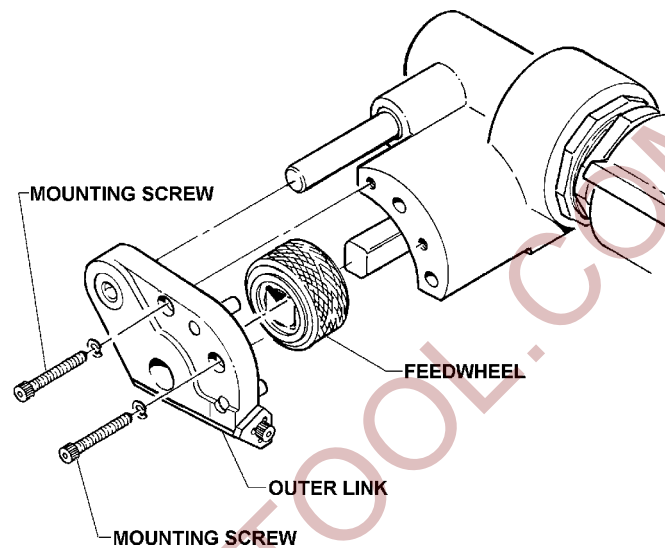
Certain strap sizes could break when increasing tension. Stand to one side of the tool, out of the way of the strap path.

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 Sale Representative.

PART REMOVAL, REPLACEMENT & TOOL ADJUSTMENTS, Continued

FEEDWHEEL

1. To replace the feedwheel, remove the two socket head cap screws which secure the outer link.
2. Remove the outer link from the gear housing.
3. 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.
4. 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 (See "Clutch Plug"). This clearance should be maintained to prevent the feedwheel from touching the Clutch Plug and encouraging early failure of these parts.

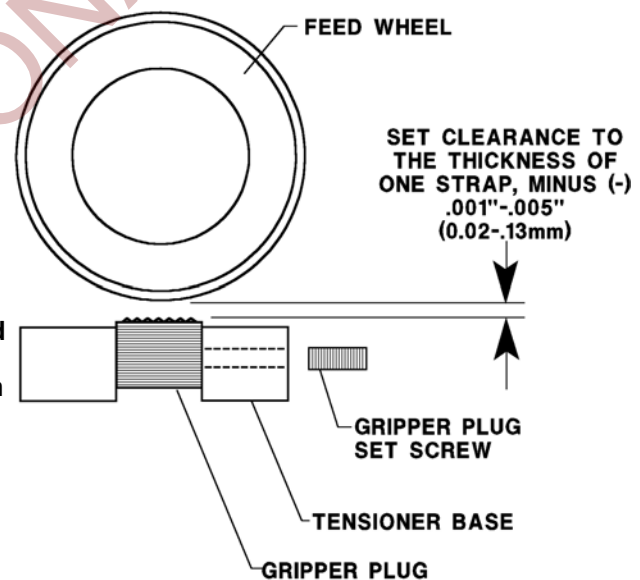


CLUTCH PLUG

The clutch plug holds the lower strap in the tool as the strap is being tensioned around the package. This means that the clutch plug must extend beyond the surface of the base if it is to work.

However, if the clutch plug extends too far it can interfere with the teeth of the feed wheel and both parts can be damaged if the feed wheel is turned without strap being present in the tool.

1. The position of the clutch plug is maintained by use of a small set screw that approaches at a right angle. Remove this set screw then place the tool on its back.
2. From the lower side of the base install the clutch plug. Turn the clutch plug inward as needed to obtain the proper clearance as shown in the view below.
4. When the proper clearance has been reached, install the set screw into the base to maintain the position of the clutch plug.

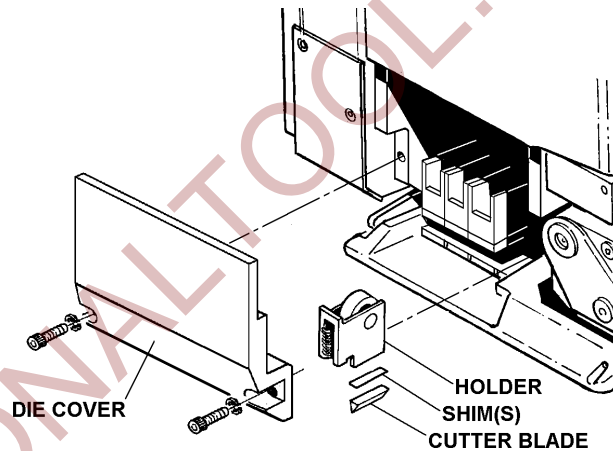


CUTTER

The cutter may have to be adjusted if the tool has been altered to accept a different width or thickness of strap or an adjustment may be needed if the cutter has been replaced due to wear or damage.

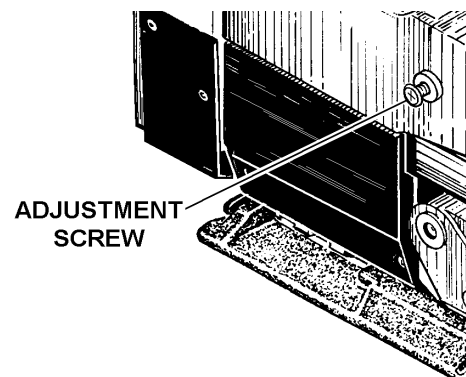
Run a cycle with strap of the size to be used. A properly adjusted cutter will sever the top strap completely but the lower strap will have a minimal impression, at the most. Excessive scoring of the lower strap is an indication of over cutting and this is not acceptable. A reducing adjustment must be made. If the cutter doesn't cut the top strap, an increasing adjustment must be made.

1. Lay the tool on its back. Remove the two socket head cap screws that secure the die cover to the sealer mechanism. Remove the cover to expose the three individual dies and the cutter.
2. Remove the cutter holder by sliding it straight out of the sealer assembly. Continue to remove the cutter blade and any installed shims from the holder.
3. Closely inspect the cutting surface. If it's acceptable, reinstall the cutter assembly and replace the cover. Otherwise if necessary, rotate the blade to one of the unused cutter surfaces. If the cutter is not worn or damaged, continue by making necessary cutter blade adjustments.
4. Add an additional shim (Part No. 422056) over the cutter blade and reinstall the cutter holder into the tool.
5. Run a cycle and closely inspect the bottom strap. If the top strap has been properly cut-off and there is no impression on the bottom strap, all is as it should be. However, if the top strap is not being cut-off, return back to step 4.
6. When strap cut-off appears to be functioning properly, make sure the die cover has been securely fastened to the tool.



SEALER MOTOR

If the sealer motor rotates too fast, the camshaft may "overrun" after the motor shuts off causing the dies to start downward as if going into the next sealing cycle. This action will make strap removal difficult or impossible. To correct this condition, slow down the sealer motor as follows: Hold the sealer lever down while turning the adjustment screw inward (clockwise) until a noticeable change in motor speed can be heard. Run a sample strap cycle to test the tool.



PART LIST, VALVE ASSEMBLY

<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	424467	Motor housing
2	1	424465	Sealer motor
3	1	422395	Handle
4	1	422181	Support block
5	1	422349	Catch pawl
6	1	422146	Valve lever (sealer)
7	1	422180	Valve lever (tension)
8	1	425377	Lever pin
9	1	422359	Catch link
10	1	306651	Valve stem (tension)
11	1	422147	Valve stem (sealer)
12	1	306650	Valve sleeve (tension)
13	1	422145	Valve sleeve (sealer)
14	1	306683	Catch pin
15	1	422351	Spring socket
16	1	256728	Needle bearing, INA #HK-1012
17	1	422655	Compression spring, LEE #LC-014A-13
18	1	306778	Compression spring, LEE #LC-016A-4
19	1	306776	Compression spring, LEE #LC-026D-3
20	1	306734	Rubber ball 3/8" dia.
21	2	092772	O-ring, #2-014
22	1	004164	O-ring, #2-011
23	1	306741	Compression spring, LEE #LC-042G-5
24	1	306733	Rubber ball 5/8" dia.
25	2	022789	O-ring, #2-016
26	1	097529	O-ring, #2-111
27	3	256970	SHCS, M4 x 25
28	7	165392	SHCS, M5 x 30
29	20	187415	Split lock washer - M5
30	1	286373	Information sign (3-icon)
31	1	422188	Warning sign
32	1	422183	Name plate (34)
	1	422184	Name plate (58)
	1	422185	Name plate (12)
	1	422652	Name plate (38)
33	1	422757	Screen
34	1	070433	Street elbow 1/4"
36	1	171661	Steel collar
37	1	020704	Hansen plug, 1/4 - 18
38	1	008798	Tag
54	1	016148	Pipe nipple, 1/8
75	1	171655	Nylon lockwasher
81	6	010028	SHCS, M5 x 12
82	3	293903	SHCS, M4 x 6
83	3	162382	Split lock washer, M4
117	1	422393	Tubing
118	1	422693	Adjustment block
119	1	024714	Adjustment screw
120	1	059918	Hex nut, 5/16-18
121	1	422396	Muffler
122	1	422357	Muffler cover
124	1	008477	Pipe plug, 1/4"
126	1	174458	Adjustment screw, slotted pan head, M4 x 20
127	2	423851	Plug
128	1	422696	Connector
129	1	425378	Truarc E-Ring, #5144-15

PARTS LIST, GEAR HOUSING ASSEMBLY

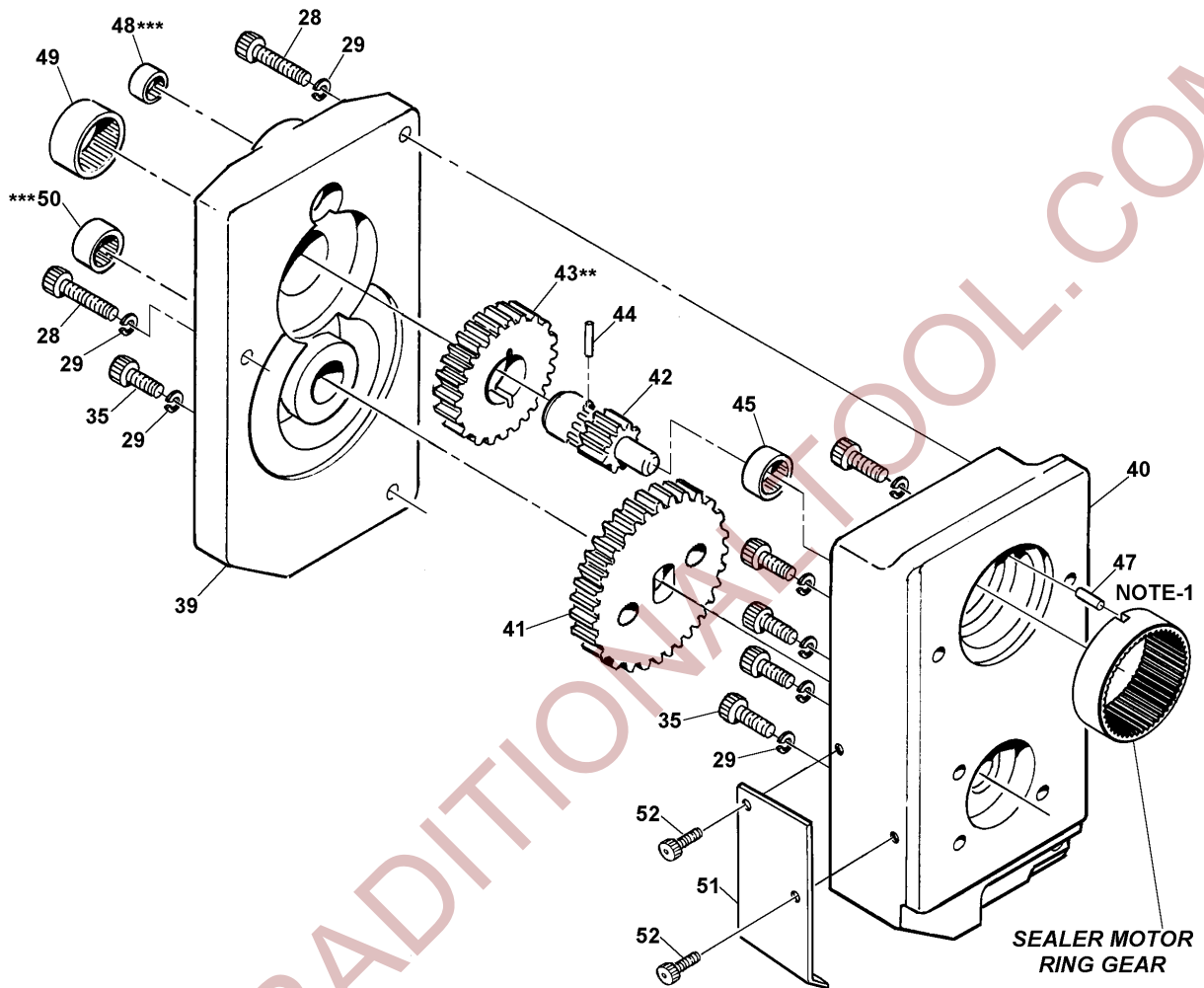
<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
28	7	165392	SHCS, M5 x 30
29	20	187415	Split lock washer, M5
35	7	171689	SHCS, M5 x 18
39	1	422154	Gear case cover
40	1	424466	Sealer gear case
41	1	422156	Gear, drive
42	1	306443	Pinion
43	1	306442	Gear
44	1	306429	Dowel pin, N 3 x 22mm
45	1	422656	Needle bearing, INA #HK-0810
47	1	090065	Shear pin
48	1	306328	Needle bearing, INA #BK-0810
49	1	306329	Needle bearing, INA #BK-1512
50	1	422657	Needle bearing, INA #BK-1015
51	1	422354	Bumper
52	2	165317	SHCS, M4 x 12

- When ordering parts, please show tool model, part number and description.
- Standard hardware parts may be obtained from any local hardware supply.

** Secure with Loctite #609.

*** Lubricate with Molith No. 2 or Lubriplate 3000W.

NOTE-1: Orient Ring Gear (from Sealer Motor) as shown to align notch with Dowel pin (Key 47) during assembly of the gear housing to the motor housing.



▲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.

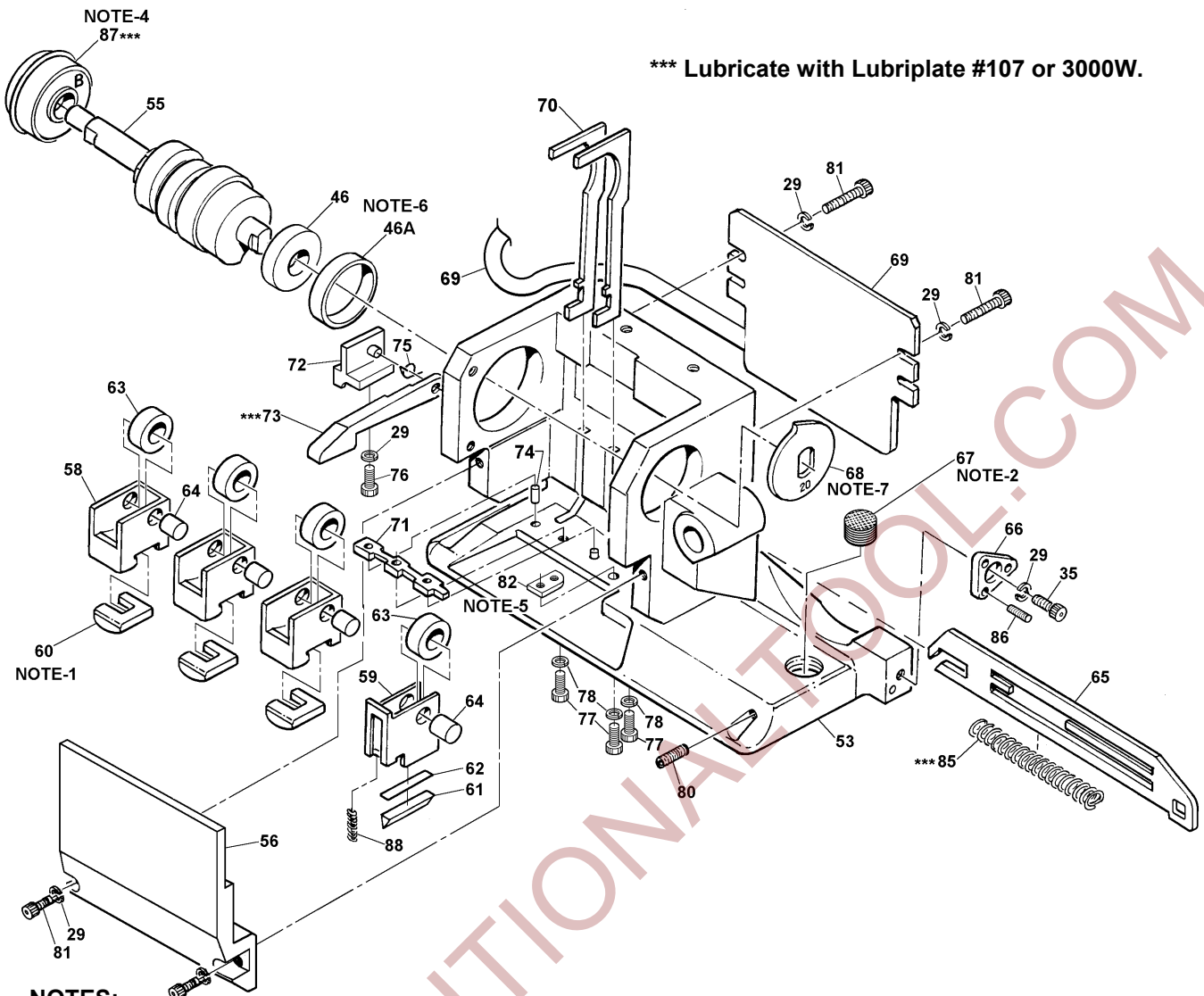
PARTS LIST, SEALER MECHANISM ASSEMBLY

<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
29	20	187415	Splitlock washer, M5
35	7	171689	SHCS, M5 x 18
46	1	424064	Inner bearing
46A	1	424065	DU Bushing, #16DU06
53	1	424031	Base assembly
55	1	422664	Cam shaft
56	1	422688	Die cover
58	3	423364	Die holder
59	1	306056	Cutter holder
60	3	422749	Cutting insert 34,58,12
	3	422059	Cutting insert 38
61	1	306057	Cutter blade
62	A/R	422056	Cutter blade shim
63	4	422144	Follower cam
64	4	306030	Pin
65	1	422167	Guide plate
66	1	422353	Strap guide, inner 12,58,34
	1	422653	Strap guide inner 38
67	1	261384	Clutch plug
68	1	424261	Cam
69	1	422187	Hanger assembly
70	2	306033	Die lifter
71	1	422748	Punch, 34,58,12
	1	422058	Punch 38
72	1	422175	Strap guide, front, 34
	1	422176	Strap guide, front, 58
	1	422177	Strap guide, front, 12
	1	422392	Strap guide, front, 38
73	1	422768	Strap latch, 34
	1	422683	Strap latch, 58
	1	422684	Strap latch, 12
	1	422771	Strap latch, 38
74	2	274931	Dowel pin, N 3 x 12
75	1	423776	Latch spring
76	1	424051	SHCS, M5 (Special)
77	3	262456	SHCS, M3 x 6
78	3	162568	Split lock washer, M3
80	1	423813	SHSS, M5 x 5, (Nylon tip)
81	6	423288	SHCS, M5 x 12
82	1	423366	Cut-off pad
85	1	306616	Die spring
86	1	256769	SHSS, M4 x 20, flat point
87	1	422641	Bearing
88	1	306624	Compression spring, LEE #LC029B-12

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

⚠ 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.



*** Lubricate with Lubriplate #107 or 3000W.

NOTES:

1. For improved tool performance, replace punch (Key 71) and cutting inserts (Key 60) every 20,000 cycles.
2. For a longer wearing clutch plug (Key 67), a double sided version is available from Signode as Part Number 422747. (Replace Key 80 with 422750 screw, M5 x 10 long cone point set screw.)
3. Use Mobil vactra Oil No. 4 (V-4) on internal surfaces of tool base (Key 53) including die lifter slots, cam followers, cam and die holders. After assembling the tool, operate the sealer mechanism several times to distribute the oil throughout the sealer mechanism.
1. Install bearing with "B" in direction as shown facing base. Pack grease grooves with Lubriplate #107 or 3000W.
2. Cut-off pad (Key 82), M3x6 SHCS (Key 77) and M3 lock washer (Key 78) mounting hardware are components of the base assembly (Key 53) but may be purchased separately for repair purposes.
3. Mount inner bearing (Key 46) to camshaft (Key 55) using Loctite Bearing Mount #609 or equivalent. Press DU bushing (Key 46A) into base (Key 53).
4. Replacement cams are stamped with number "20" on one side. Install cam (Key 68) as shown with number "20" facing away from cam shaft (Key 55).

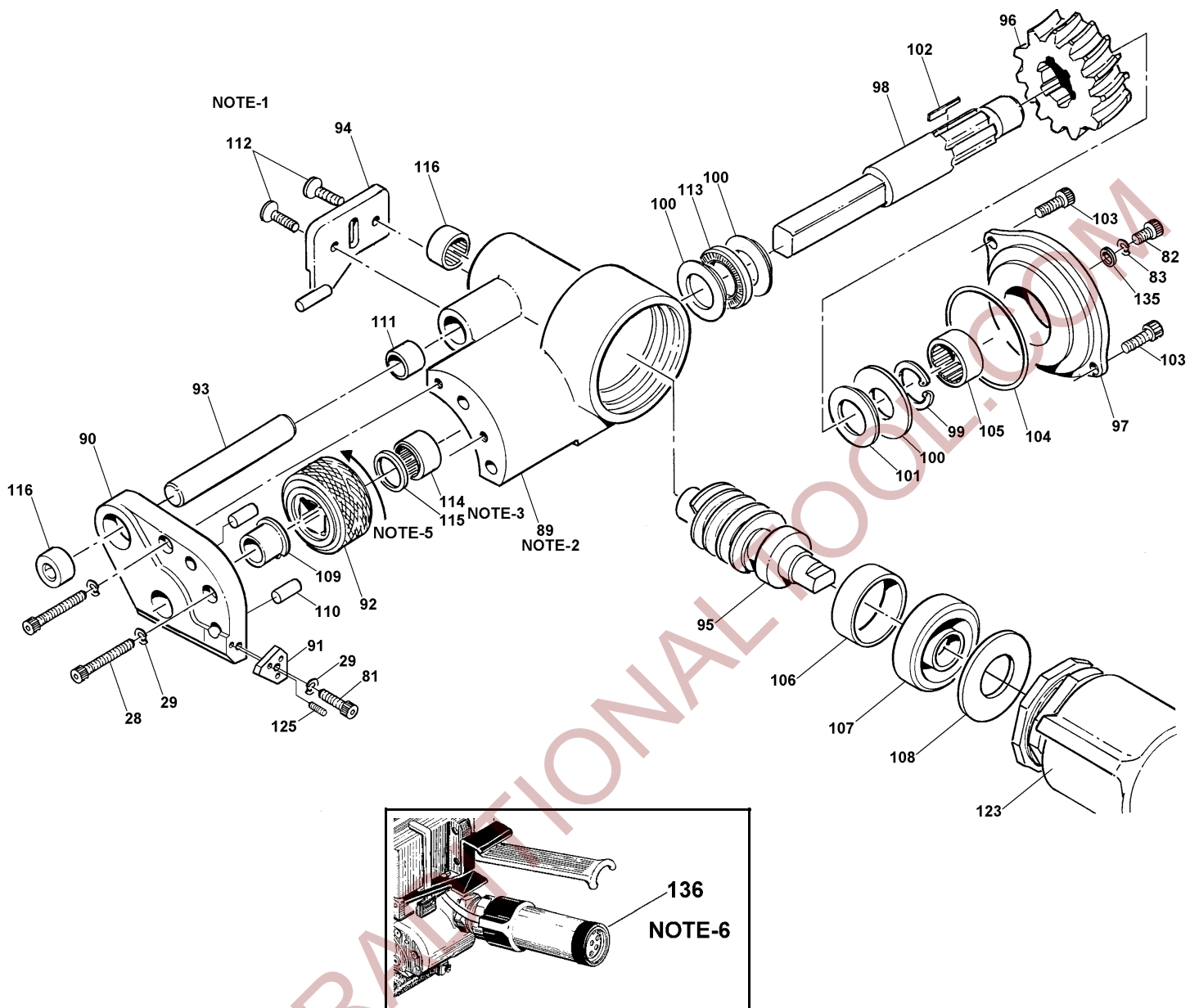
PARTS LIST, TENSIONER ASSEMBLY

<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
28	7	165392	SHCS, M5 x 30
29	20	187415	Split lockwasher, M5
82	3	293903	SHCS, M4 x 6
83	3	162382	Split Lockwasher, M4
89	1	422160	Gear Housing
90	1	422764	Outer link
91	<u>1</u>	<u>422746</u>	<u>Guide, outer link, 34 58 12</u>
	<u>1</u>	<u>422776</u>	<u>Guide, outer link, 38</u>
92	<u>1</u>	<u>423566</u>	<u>Feedwheel</u>
93	1	306694	Pivot shaft
94	1	422151	Drive plate
95	1	422772	Worm
96	<u>1</u>	<u>422162</u>	<u>Worm wheel</u>
97	1	306692	Bearing cover
98	1	422161	Feedwheel shaft
99	1	171549	Retaining ring, Truarc #5160-66
100	3	306704	Thrust washer, INA #AS1730
101	1	422658	Quad ring
102	5	422189	Pawl
103	2	256747	SHCS, M4 x 16
104	1	256755	O-ring, # 2-030
105	1	306770	Needle bearing, INA #BK1712
106	1	306656	Bearing sleeve
107	1	020158	Ball bearing, Fafnir #7201K
108	1	164969	Retaining ring
109	<u>1</u>	<u>306767</u>	<u>DU Flange bearing, FMB #1217-DU</u>
110	2	162404	Dowel Pin, N6 x 28mm
111	1	306768	Inner ring, INA #IR12X16X16
112	2	176601	Flat head socket cap screw, M5 x 10
113	1	306766	Thrust needle cage
114	1	306769	Needle bearing, INA #HK1712
115	1	306782	Seal, INA # GR17X23X3
116	2	306772	Needle bearing, INA #BK1212
123	1	424150	Tension motor (58, 34)
	1	424170	Tension motor, high-speed (12)
125	1	422765	SHSS, cup point, M3 x 12
135	1	425379	Washer
136	1	424756	Wear ring

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

▲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. Use Teflon tape.
2. Fill the gear housing 1/3 full with Non-Fluid Oil #55 (Non-Fluid Oil company or equivalent).
3. Install Key numbers 114 & 115 into gear housing (Key 89) using Loctite Bearing Mount #609.
4. Install needle bearing (Key 105) into bearing cover (Key 97) using Loctite Bearing Mount #609.
5. Install feedwheel (Key 92) with counterbore towards outer link (Key 90) and arrow in direction shown.
6. Install wear ring (Key 136) with slot facing up.

PARTS LIST, TENSIONER MOTOR (STD 424150, HIGH-SPEED 424170)

KEY	QTY	STANDARD	HIGH-SPEED	DESCRIPTION
		MOTOR 424150	MOTOR 424170	
<u>PART NO.</u>	<u>PART NO.</u>			
401	1	424166	424166	Lock nut
402	1	164969	164969	Retaining ring, N5000-118
403	1	023547	023547	Ball bearing
404	1	424159	424159	Idler carrier
405	3	422869	~	Idler gear
406	1	424153	424153	Motor gear housing
407	1	090079	090079	Lock pin
408	1	422870	422870	Ring gear
409	1		424169	Adapter plate
410	2	423151	423151	Washer
411	2	014541	014541	Belleville spring washer, B1250-062
412	1	424157	424157	Spacer
413	1	306396	306396	Ball bearing
414	1	424158	~	Idler carrier
415	1	~	424168	Idler carrier
416	3	024604	024604	Idler gear assembly
417	1	024608	024608	Ring gear
418	1	023481	023481	Ball bearing
419	1	424155	424155	Front end plate
420	1	424156	424156	Rotor
421	5	422818	422818	Vane
422	1	422815	422815	Cylinder
423	2	424164	424164	Spring pin, 2.5 x 10
424	1	424154	424154	Back end plate
425	1	424161	424161	Ball bearing
426	2	424172	424172	O-Ring, SAE 125
427	1	424173	424173	Motor housing assembly
428	1	424167	424167	Muffler insert
429	1	424165	424165	Muffler plate
430	1	424162	424162	Truarc, N5000-145
431	1	090065	090065	Lock pin

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

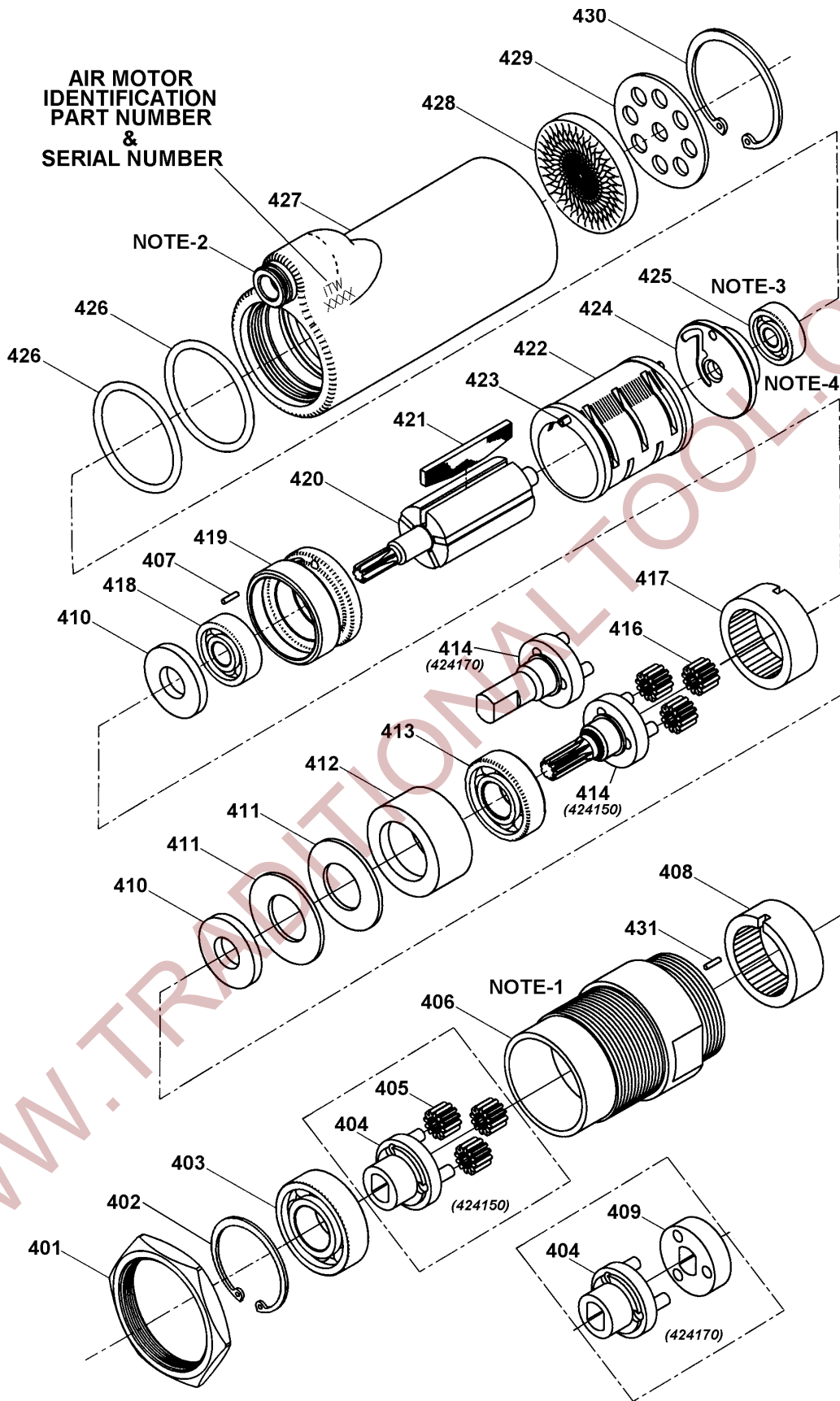
NOTES:

1. Thread Gear Case (Key 406) into Motor Housing (Key 427) and torque to 10-12 foot-pounds (14-16Nm).
2. Replacement Collet and O-Ring can be purchased from Signode Service Parts as Cartridge Repair Kit (Part Number 424048).
3. Apply high strength retaining compound to inner diameter and outer diameter of ball bearing (Key 425).
4. Maintain a .002" clearance between back end plate (Key 424) and rotor (Key 420).

▲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**



PARTS LIST, TENSIONER MOTOR (STD 422394, HIGH-SPEED 422398)

PLEASE NOTE: This air motor information is for service parts only. Complete replacement air motor assemblies may not be available.

KEY	QTY	STANDARD	HIGH-SPEED	DESCRIPTION
		MOTOR 422394	MOTOR 422398	
		<u>PART NO.</u>	<u>PART NO.</u>	
201	1	422634	422634	Retaining ring,Truarc #N5000-150-S-PP
202	1	422612	422612	Cover
203	1	422397	422397	Muffler
205	1	422614	422614	Motor housing
206	2	092043	092043	O-ring, #2-125
207	1	250300	250300	Bearing,Fafnir #36KDD
208	1	422615	422615	Rear end plate
209	1	422616	422616	Cylinder assembly
210	5	422617	422617	Vane
211	1	422618	422618	Rotor
212	1	422619	422619	Front end plate
213	1	006554	006554	Bearing, Fafnir #38KDD
214	1	422620	422620	Spacer
215	3	023097	023097	Bearing, Fafnir #9101K-FS118
216	2	422621	422621	Shaft
217	2	422622	422622	Planet assembly
218	1	422623	422623	Spindle
219	1	422624	422624	Spacer
220	1	422625	422625	Gear case
221	1	422635	422635	Retaining ring,Truarc #N5000-131-S-PP
222	1	422626	422626	Spacer
223	3	422627	~	Pin
224	1	422628	~	Gear
225	3	422637	~	Planet gear assembly
227	1	422631	422631	Spindle
228	1	422632	422632	Spacer
229	1	422633	422633	Gear case
230	1	264313	264313	Bearing, Fafnir #9102K-FS118
231	1	422150	422150	Lock nut
232	1	~	422639	Drive adapter

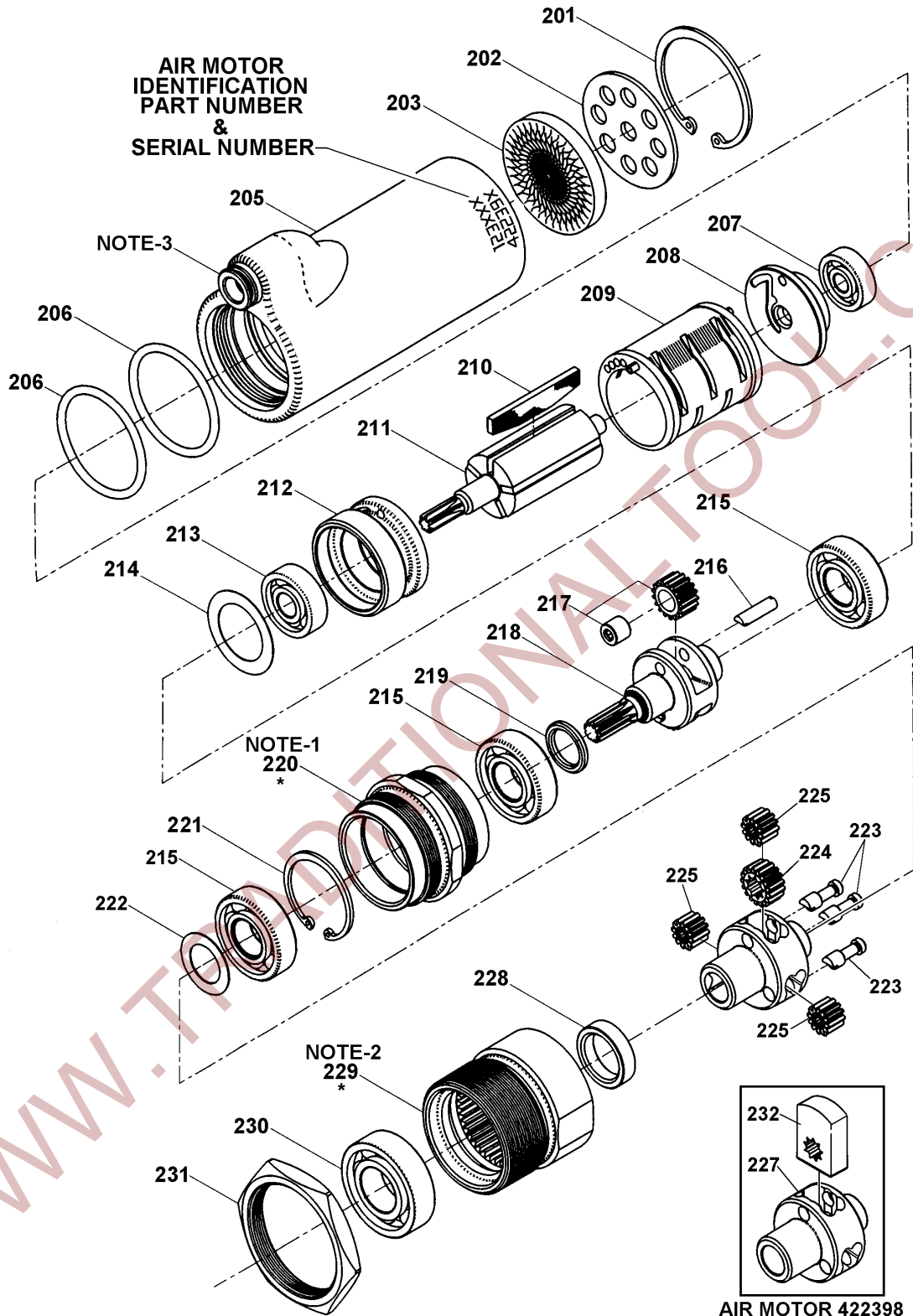
- When ordering parts, please show tool model, part number and description.
- Standard hardware parts may be obtained from any local hardware supply.
- Wearing parts are usually limited to those underlined and should be stocked.

NOTES:

1. Thread Gear Case (Key 220) into Motor Housing (Key 205) and torque to 10-12 foot-pounds (14-16Nm).
2. Thread Gear Case (Key 229) onto Gear Case (Key 220) and torque to 35-40 foot-pounds (47-54Nm).
5. Replacement Collet and O-Ring can be purchased from Signode Service Parts as Cartridge Repair Kit (Part Number 424048).

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.



* Use Loctite #271.

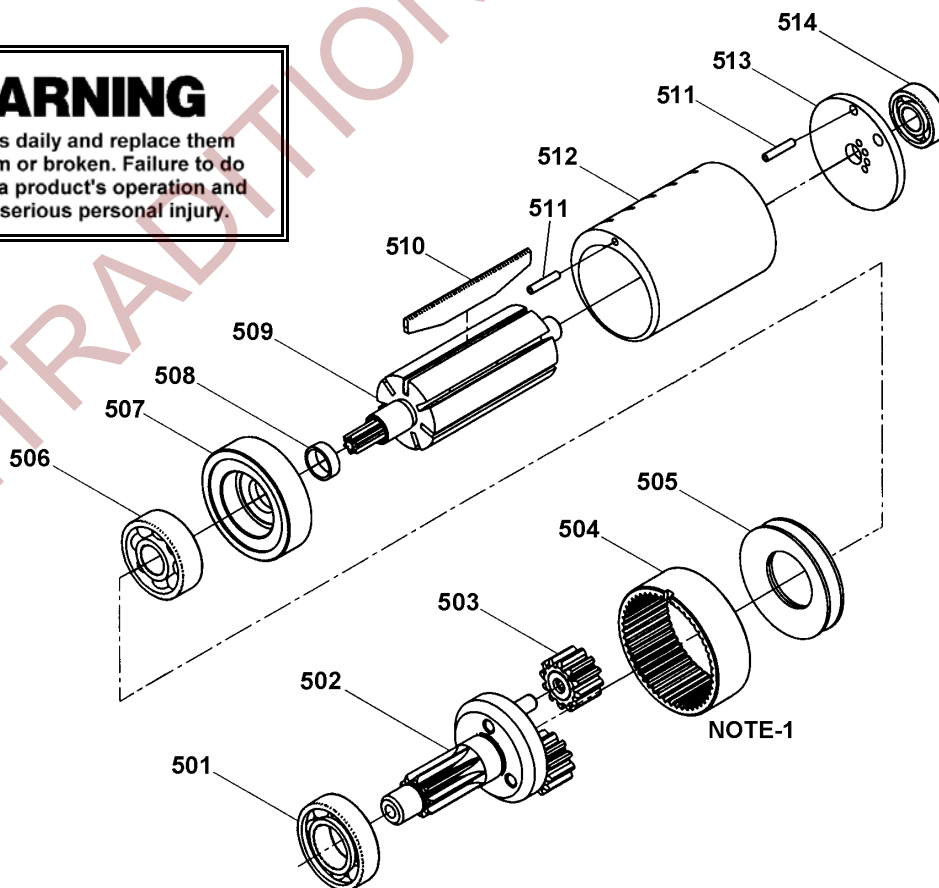
PARTS LIST, SEALER MOTOR (424465)

<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
501	1	306396	Ball bearing
502	1	424474	Idler carrier assembly
503	3	424473	Idler gear
504	1	424472	Ring Gear
505	2	014730	Belleville washer
506	1	023481	Ball bearing
507	<u>1</u>	<u>424470</u>	<u>Front end plate</u>
508	<u>1</u>	<u>024602</u>	<u>Spacer</u>
509	1	424471	Rotor assembly
510	<u>5</u>	<u>424177</u>	<u>Vane</u>
511	2	004998	Roll pin
512	1	424469	Cylinder
513	<u>1</u>	<u>424468</u>	<u>Back end plate</u>
514	1	024633	Ball bearing

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

NOTES

1. Refer to page 19 of this manual for proper orientation of the ring gear (Key 404) to the gear housing during tool assembly.
2. Use with motor housing 424467 (Key 1, Page 16) and sealer gear case 424466 (Key 40, Page 19) both marked "ITW" and shear pin 090065 (Key 47, page 19).



PARTS LIST, SEALER MOTOR (422391)

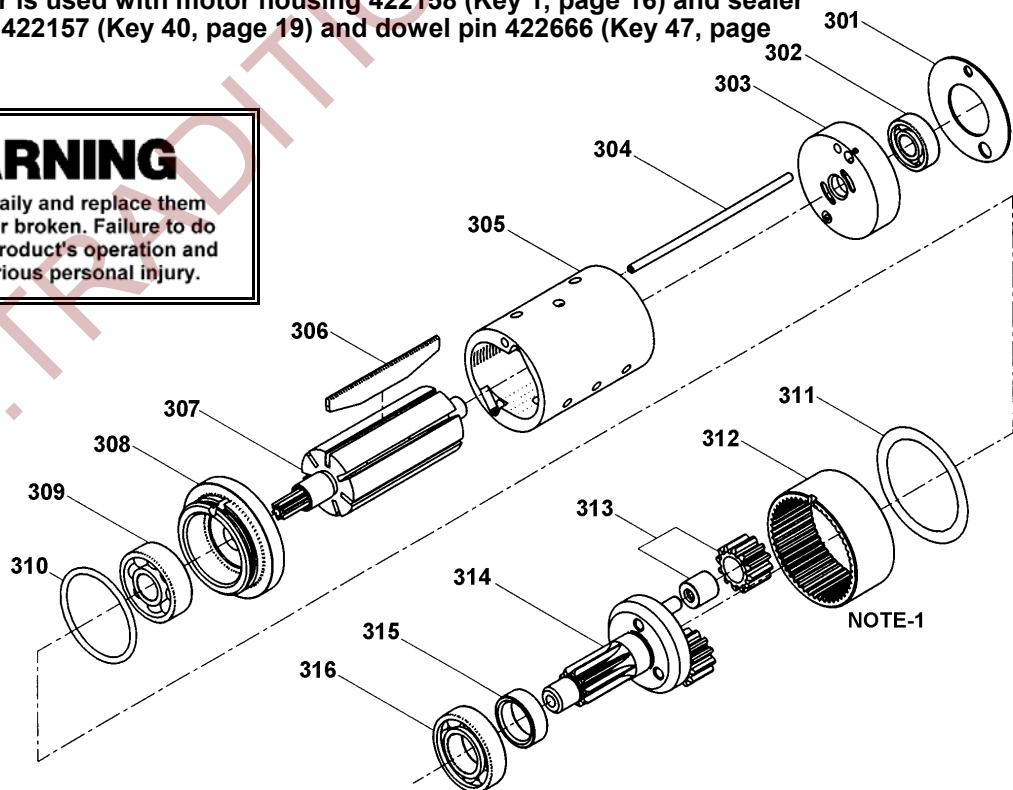
PLEASE NOTE: This air motor information is for service parts only. Complete replacement air motor assemblies may not be available.

KEY	QTY	PART NO.	DESCRIPTION
301	1	422601	Gasket
302	1	042114	Bearing, Fafnir #S1PP7
303	1	422602	Rear end plate
304	1	422603	Motor dowel
305	1	422604	Cylinder
306	7	422605	Vane
307	1	422606	Rotor assembly
308	1	422607	Front end plate
309	1	006554	Bearing, Fafnir #38KDD
310	1	002679	O-ring, #2-022
311	1	092042	O-ring, #2-124
312	1	422608	Ring gear
313	3	422611	Planet gear assembly
314	1	422609	Spindle assembly
315	1	422610	Spacer
316	1	422636	Bearing, Fafnir #9301K

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

NOTES:

1. Refer to page 19 of this manual for proper orientation of the ring gear (Key 312) to the gear housing during tool assembly.
2. This motor is used with motor housing 422158 (Key 1, page 16) and sealer gear case 422157 (Key 40, page 19) and dowel pin 422666 (Key 47, page 19).



TROUBLESHOOTING

The following items are the most common tool symptoms if problems 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 - Difficult strap slack removal.
- #2 - Bottom strap pulls out while loading strap.
- #3 - Tool does not tension when tension lever is pressed.
- #4 - Strap tension is too low or too high
- #5 - Tool does not complete sealing cycle.
- #6 - Strap does not cut after sealing cycle.
- #7 - Bottom strap breaks during sealing.
- #8 - Tool cannot be removed from strap after completion of strap cycle.

#1 SYMPTOM: Difficult strap slack removal.	
CAUSE	REMEDY
1. Improper strap being used.	1. Check that waxed strapping of the correct width is being used.
2. Worm wheel mechanism worn or broken.	2. Repair or replace worm wheel components.

#2 SYMPTOM: Bottom strap pulls out while loading strap.	
CAUSE	REMEDY
1. Improper strap being used.	1. Check that waxed strapping of the correct width is being used.
2. Feedwheel clearance incorrectly set.	2. Check feedwheel clearance, adjust if necessary.
3. Dirty or worn clutch plug.	3. Clean or replace clutch plug as required.

#3 SYMPTOM: Tool does not tension when tension lever is pressed.	
CAUSE	REMEDY
1. Improper strap being used.	1. Check that waxed strapping of the correct width is being used.
2. Feedwheel clearance incorrectly set.	2. Check feedwheel clearance, adjust if necessary.
3. Dirty or worn feedwheel.	3. Clean or replace feedwheel as required.
4. Straps improperly aligned.	4. Reload and realign straps.
5. Feedwheel not rotating.	5. Inspect gear housing for broken parts.

#4 SYMPTOM: Strap tension is too low or too high.	
CAUSE	REMEDY
Strap tension incorrectly set.	Adjust strap tension per instructions on page 13 of this manual.

#5 SYMPTOM: Tool does not complete sealing cycle.	
CAUSE	REMEDY
1. Improper strap being used.	1. Check that waxed strapping of the correct width and thickness is being used.
2. Worn or broken dies and/or punch.	2. Inspect dies and punch replace as required.
3. Insufficient air pressure.	3. Check that air supply available is at least 60 psi (4.0 bar).

#6 SYMPTOM: Strap does not cut after sealing cycle.	
CAUSE	REMEDY
1. Improper cutter clearance.	1. Inspect strap for proper cut-off, adjust cutter clearance if necessary.
2. Worn or broken cutter blade.	2. Inspect cutter blade, replace or rotate as required.

#7 SYMPTOM: Bottom strap breaks during sealing.	
CAUSE	REMEDY
1. Improper cutter clearance. (Strap breaks at cutter.)	1. Inspect strap for proper cut-off, adjust cutter clearance if necessary.
2. Tension set too high. (Strap breaks at the joint area.)	2. Reduce strap tension.
3. Worn or broken dies and/or punch. (Strap breaks at the joint area.)	3. Inspect dies and punch replace as required.
4. Package has sharp corners. (Strap breaks at package corner.)	4. Lower strap tension or use package corner protectors.

#8 SYMPTOM: Tool cannot be removed from strap after completion of strap cycle.	
CAUSE	REMEDY
1. Punches & Dies worn.	1. Inspect parts, replace punches and dies as needed.
2. Sealer motor running too fast.	2. See Sealer Motor adjustment on page 15 of this manual.

CHANGING SLP STRAP SIZE

The following table illustrates the unique parts to a particular strap size for the SLP tool. If the strap size of the tool is to be changed, this table must be used to coordinate all the respective parts which must be replaced.

WARNING

Do not attempt to convert a tools strap size without replacing all of the specified parts for the conversion. Failure to replace all required parts may cause severe personal injury.

UNIQUE PARTS TO SLP STRAP SIZES

KEY	QTY	DESCRIPTION	SLP-38	SLP-12	SLP-58	SLP-34
32	1	Nameplate	422652	422185	422184	422183
60	3	Cutting Insert	422059	422749		
66	1	Inner Guide	422653	422353 (Rotate as required.)		
71	1	Punch	422058	422748		
72	1	Strap Guide, Front	422392	422177	422176	422175
73	1	Strap Latch	422771	422684	422683	422768
91	1	Strap Guide	422776	422746 (Rotate as required.)		
119 & 120	STRAP TENSION Adjust as required, review page 12.		LOW (400 Lbs.)	LOW (500 Lbs.)	STANDARD (1200 Lbs.)	
123	1	Tension Motor	424170		424150	

NOTE: An SLP-38 Tool can be converted from any standard SLP-12 by ordering the SLP-38 Conversion Kit (Part No. 422399).

TOOL MAINTENANCE

The most common reason for poor tool performance and incorrectly formed straps joints is improper tool maintenance. The easiest way to determine if a tool is performing correctly is by inspecting the strap joint. Having a tool maintenance program is a simple task which consists of three parts. First, a quick daily inspection of the tool for any worn or broken parts. Secondly, keep each tool on a schedule of service intervals for cleaning and lubrication. Third, when problems do occur, use the troubleshooting guide to properly determine and fix problems before they lead to more serious tool conditions. Each of these three tasks have been outlined for this particular tool, read and understand all information for improving the life and performance of the tool.

TOOL INSPECTION

Visually inspect the exterior of the tool on a daily basis. Decreased tool life can be prevented by early detection of broken parts. Replace all broken parts with new parts. Review the Parts Removal, Replacement & Adjustments portion of this manual for information and details.

SERVICE INTERVALS

This tool, like most Signode tools, can be used with various sizes of strap which cause different rates of component wear. Also, wear is affected by the environment and tension that the tool applies. In the worst case, heavy gauge wide strapping. All critical moving components of the tool should be inspected at particular intervals, some more often than others. Broken parts can decrease sealing effort, leading to additional component wear and produce lower joint strength.

Inspect the components of the sealing mechanism when:

- A. Joint does not appear as shown in this manual or visually it is detected that the joint is not all formed or formed improperly.
- B. Sealing effort requires higher air pressure or tool is difficult to remove from strap.
- C. When scheduled.

⚠ DANGER If there is any question that joint formation is not as shown or is suspect, it is important that you contact your tool representative immediately.

The feed wheel and the clutch plug teeth are also subject to wear and chipping. A daily cleaning of these parts by brushing off debris will be important to maintaining long life. The first indication of wear will be strap slippage during tensioning. The operator of the tool should be instructed on how to determine when the strap slips during tensioning. Sometimes the teeth need to be cleaned with a wire brush, but if slipping is allowed to continue, the parts will need to be replaced. Using the tool in a dirty environment will increase feedwheel and clutch plug wear.

NOTE: On some Signode tools the feedwheel can be cleaned by holding the tool open in the strap loading position while the tool runs without strap and using a wire brush to clean the feedwheel as it rotates.

Inspect the components of the tensioner mechanism when:

- A. Strap slips when being tensioned.
- B. Evidence of feedwheel milling on the strap face.
- C. When scheduled.

TOOL LUBRICATION

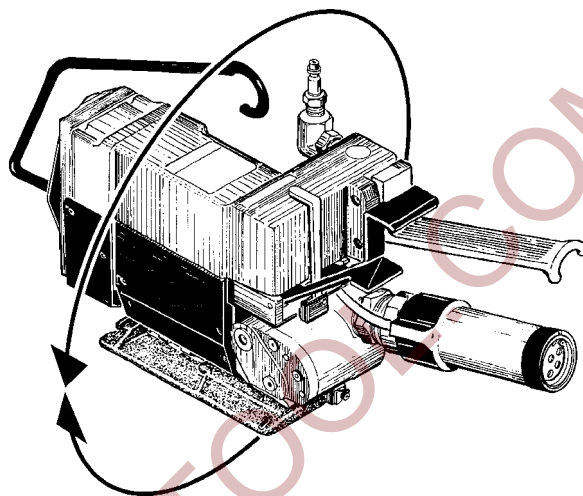
Signode tools use a variety of greases and oils, all of which can be ordered through Signode. When ordering indicate tool model, part number and name.

OPTIONAL TOOL HANGERS

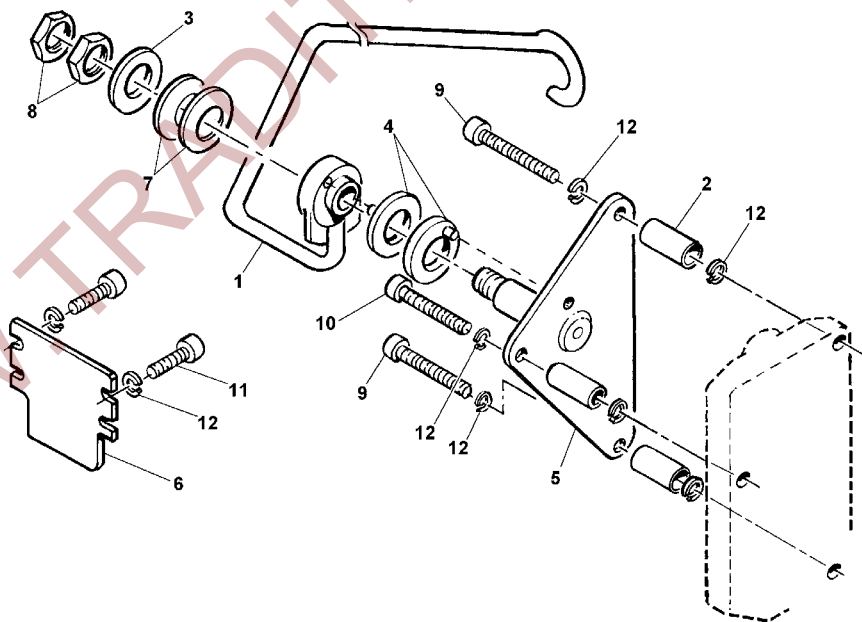
The SLP can be equipped with two types of optional tool hangers. Consult your Signode Sales Representative to see which optional hanger may be more suited for your application than the standard hanger.

SWIVEL HANGER, Part No. 422760

The Swivel Hanger allows the SLP to be pivoted 360°. This feature allows the tool to strap horizontally around loads which do not have square sides. The force that is needed to rotate the tool can be adjusted by loosening or tightening the two hex nuts on the end of the pivot shaft. This hanger mounts to the front of the tool. The standard hanger is replaced by the Mounting plate (Key 6).



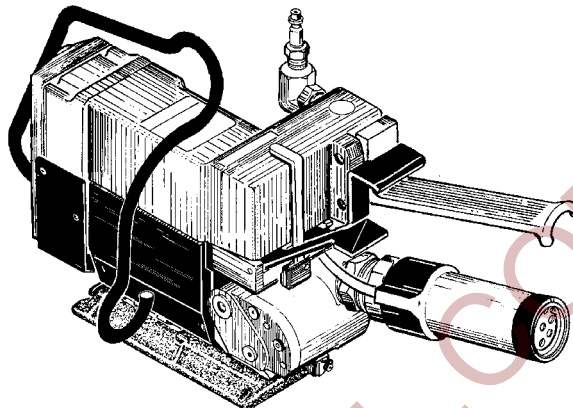
<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	422758	Hanger weldment
2	3	422674	Spacer
3	1	422673	Cap
4	2	422761	Pressure plate assembly
5	1	422677	Weldment mounting plate
6	1	422215	Mounting plate
7	2	422763	Belleville spring washer, B1250-51
8	2	422759	Hex nut, low profile, M10
9	2	010072	SHCS, M5 x 50
10	1	185666	SHCS, M5 x 40
11	2	010028	SHCS, M5 x 8
12	8	187415	Splitlock washer



OPTIONAL TOOL HANGERS, Continued

THREE-WAY HANGER, Part No. 422667

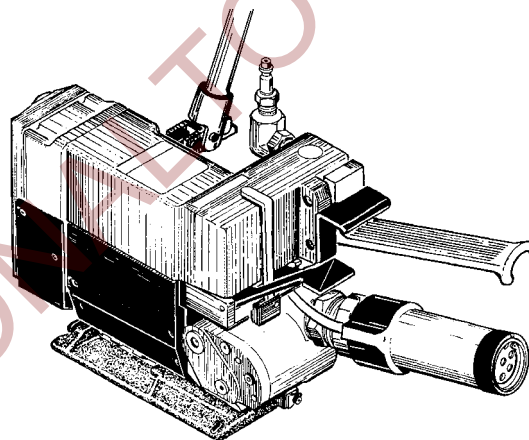
This Three-Way Hanger allows the SLP to be suspended from the top, vertical and side positions. This feature allows the tool to strap loads from a variety of operating positions. This hanger mounts to the tool replacing the standard hanger.



BALANCE ARM ADAPTER KIT, Part No. 422770

The Balance Arm Adapter allows the SLP to be mounted to any one of the Signode balance arms and tool stands. Using a tool stand and balance arm frees the operator from having to hold/lift the tool for each package being strapped. This hanger mounts to the tool replacing the standard hanger.

NOTE: This adapter is recommend for use with the Signode Balance Arm, Model BA-16 (P/N 005705).



<u>KEY</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	008692	Swivel base
2	1	422669	Weldment, adapter
3	1	008683	Shoulder bolt, 3/8 x 1 1/4
4	1	002188	Lock washer, 5/16
5	1	034976	Flexlock nut (full), 5/16-18
6	2	010028	SHCS, M5 x 12
7	2	187415	Split lock washer, M5

