

OPERATION, PARTS AND SAFETY MANUAL



SIGNODE[®]

AH-114

COMBINATION STRAPPING TOOL

IMPORTANT!
DO NOT DESTROY

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

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

READ ALL INSTRUCTIONS BEFORE OPERATING THIS SIGNODE PRODUCT

SIGNODE • 3620 WEST LAKE AVENUE • GLENVIEW, ILLINOIS 60025

! 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.

- 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.

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.

- Inspect and clean the tool daily. Replace all worn or broken parts.
- Lubricate all moving parts daily.
- 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.

7. WORK AREA.

Keep work areas uncluttered and well lighted.

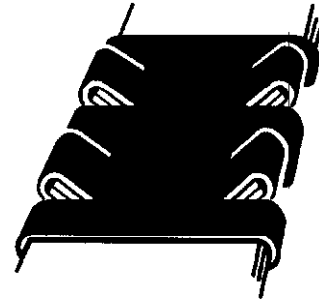
⚠ WARNING

Use the 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, 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

1. Before using this tool, read its Operation and Safety Instructions contained in this manual.
2. This tool is a double reverse notch type sealer. Each joint must be inspected to make certain it has four (4) good notches. 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. Cut the strap off and apply another.
3. An improperly 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 strap and check the tool for worn or broken parts. Repair the tool before applying another strap.



MOVING AND STACKING STRAPPED LOADS

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

CUTTING TENSIONED STRAP

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

TOOL CLEANING & LUBRICATION

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

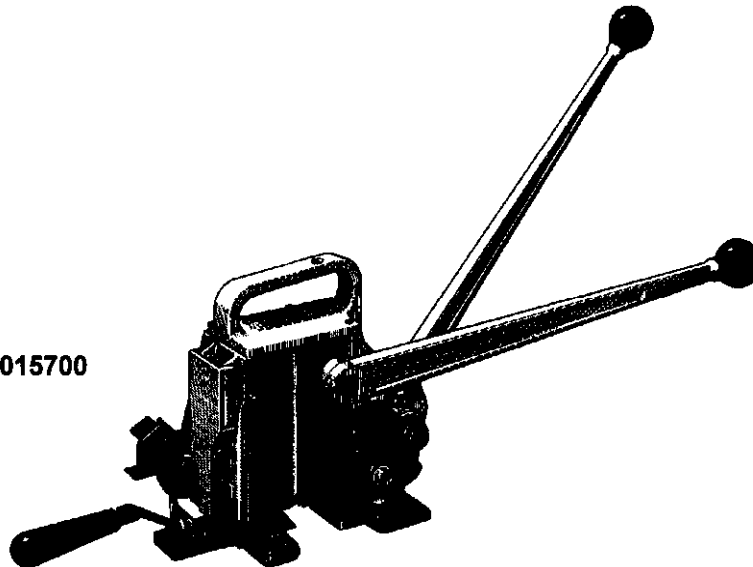
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AH-114
Part No. 015700



SPECIFICATIONS

| MODEL | STRAP | | | SEALS |
|--------|---------------|---------------|--|-------|
| | TYPE | WIDTH | THICKNESS | |
| AH-114 | Apex & Magnus | 1 1/4" (32mm) | 0.031" (0.78mm) Min. 0.035" (0.88mm) Max. | 114P |

TOOL INSTALLATION

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

OPERATING INSTRUCTIONS

⚠ WARNING

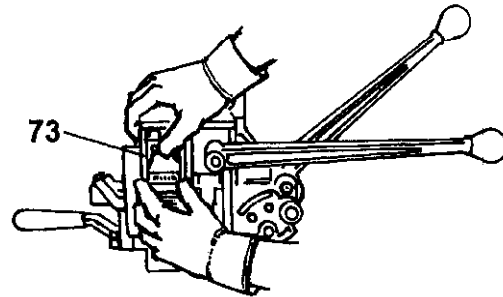
Wear safety glasses which conform to ANSI Standard Z87.1 or EN 166.

**Stand to one side of the strap while tensioning.
Make sure all bystanders are clear before proceeding.**

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

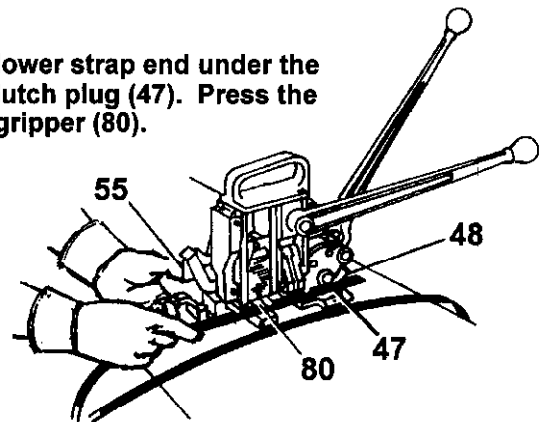
LOADING SEALS

To load seals, raise the seal follower (69) and insert a stack of seals through the opening in the side of the magazine (73). Make sure the seal stack is pushed all the way in. You can load seals at any time without waiting for the seal stack to run out by breaking a stack and loading as many or as few seals as you wish. A lower extension on the seal follower closes the top strap loading slot as a reminder to add seals.

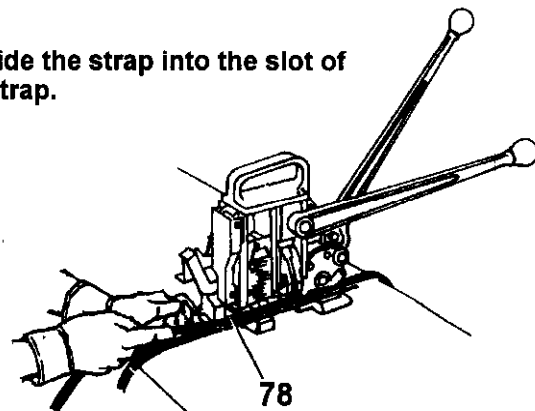


STRAPPING CYCLE

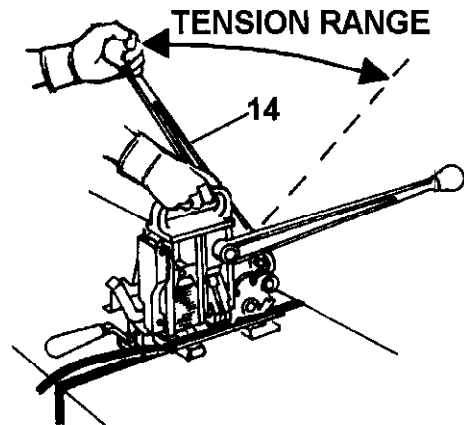
1. Encircle the package with the strap and insert the lower strap end under the feedwheel (48) and allow it to extend beyond the clutch plug (47). Press the gripper release assembly (55) to actuate the strap gripper (80).



2. Insert the top strap beneath the feedwheel and slide the strap into the slot of the strap guide (78). Pull excess slack from the strap.



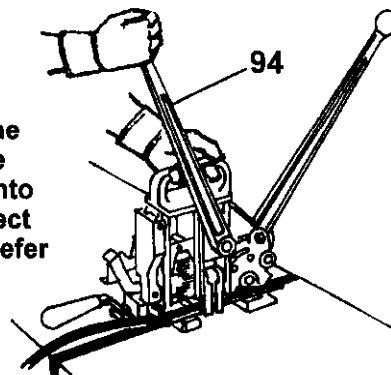
3. While standing to one side of the strap line, pull the tensioning handle (14) back and then forward to draw tension. Repeat this action until the desired strap tension is obtained.



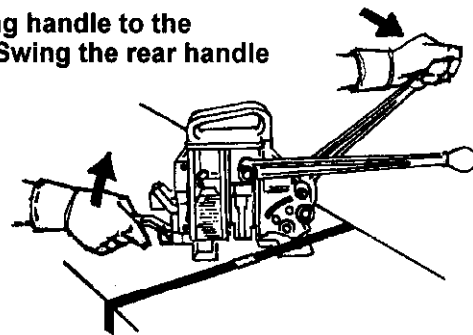
⚠ WARNING

Do not return the handle all the way to the detent position as this will release the tensioned strap.

4. When the desired tension has been reached, the sealing and cut-off cycle is completed by pulling back on the sealing handle (94), bringing it to its maximum position. This motion seals and cuts off the strap and also opens and cocks the strap gripper for the next cycle. Return the sealing handle to its forward position. This will raise the sealing mechanism off the strap and feed another seal into the jaws. The tool is now ready for the next cycle. Inspect the seal to make sure a proper joint has been formed. Refer to the view on page 4 for details.



5. To remove the tool from the strap, push the tensioning handle to the forward position, making sure it locks in the detent. Swing the rear handle to the left until the tool is free of the strap.



⚠ WARNING

NEVER HANDLE OR SHIP ANY LOAD WITH IMPROPERLY FORMED JOINTS. Misformed joints may not secure the load and could cause serious injury. Follow the joint inspection procedures in each sealer's manual.

PARTS LIST

| <u>KEY</u> | <u>QTY</u> | <u>PART NO</u> | <u>DESCRIPTION</u> |
|------------|------------|----------------|--|
| 1 | 4 | 009397 | Socket head screw, 10-24 x 1/2" lg. |
| 2 | 1 | 015749 | Handle |
| 3 | 1 | 015736 | Cam roller |
| 4 | 1 | 015730 | Cam roller pin |
| 5 | 1 | 026133 | Roll pin, 1/8" x 1" lg. |
| 6 | 2 | 008845 | Socket head screw, 5/16-18 x 7/8" lg. |
| 7 | 1 | 015771 | Sealer frame |
| 8 | 1 | 013631 | Socket head screw, 5/16"-18 x 1 1/4" lg. |
| 9 | 1 | 092175 | Roll pin, 5/32 x 3/4" lg. |
| 10 | 2 | 008901 | Roll pin, 1/8 x 3/4" lg. |
| 11 | 1 | 023710 | Long-Lok set screw, 5/16"-18 |
| 12 | 2 | 010057 | Roll pin 1/4" x 1 3/4" |
| 13 | 2 | 010054 | Knob |
| 14 | 1 | 015762 | Tensioning handle |
| 15 | 1 | 015719 | Driving pawl |
| 16 | 1 | 015725 | Driving pawl spring |
| 17 | 1 | 012546 | Roll pin, 3/32" x 1/2" lg. |
| 18 | 1 | 015723 | Pawl pin |
| 19 | 1 | 008148 | Roll pin, 1/8" x 7/16" lg. |
| 20 | 1 | 057118 | Bushing |
| 21 | 1 | 015715 | Top gear |
| 22 | 1 | 015716 | Bottom gear |
| 23 | 1 | 015724 | Support pin |
| 24 | 1 | 015721 | Holding pawl spring |
| 25 | 1 | 015717 | Holding pawl |
| 26 | 2 | 015745 | Bushing |
| 27 | 1 | 015766 | Gear housing |
| 28 | 1 | 015746 | Bushing |
| 29 | 1 | 008852 | Knob |
| 30 | 1 | 015789 | Reaction handle assembly |
| 31 | 1 | 015739 | Feedwheel shaft |
| 32 | 1 | 015782 | Detent plunger |
| 33 | 1 | 005165 | Detent spring |
| 34 | 1 | 005279 | Detent bushing |
| 35 | 1 | 015732 | Shoulder screw, 3/8" dia. x 3/4" lg. |
| 36 | 1 | 015764 | Base |
| 37 | 2 | 005211 | Flexloc nut, 5/16"-18 |
| 38 | 1 | 007707 | Detent washer |
| 39 | 2 | 005214 | Roll pin 1/4" x 3/4" lg. |
| 40 | 1 | 009336 | Flat point set screw, 1/4-28 x 3/4" lg. |
| 41 | 1 | 004526 | Flexloc nut thin, 1/4"-28 |
| 42 | 1 | 005768 | Roll pin, 3/16" x 1/2" lg. |
| 43 | 1 | 023709 | Spring pin |
| 44 | 1 | 023654 | Spring, strap guide |
| 45 | 2 | 009016 | Socket head screw, 5/16"-18 x 1" lg. |
| 46 | 2 | 008151 | Socket head screw, 5/16"-18 x 1 1/2" lg. |
| 47 | 1 | 023672 | Clutch plug assembly |
| 48 | 1 | 015740 | Feedwheel |
| 49 | 1 | 015722 | Energizing spring |

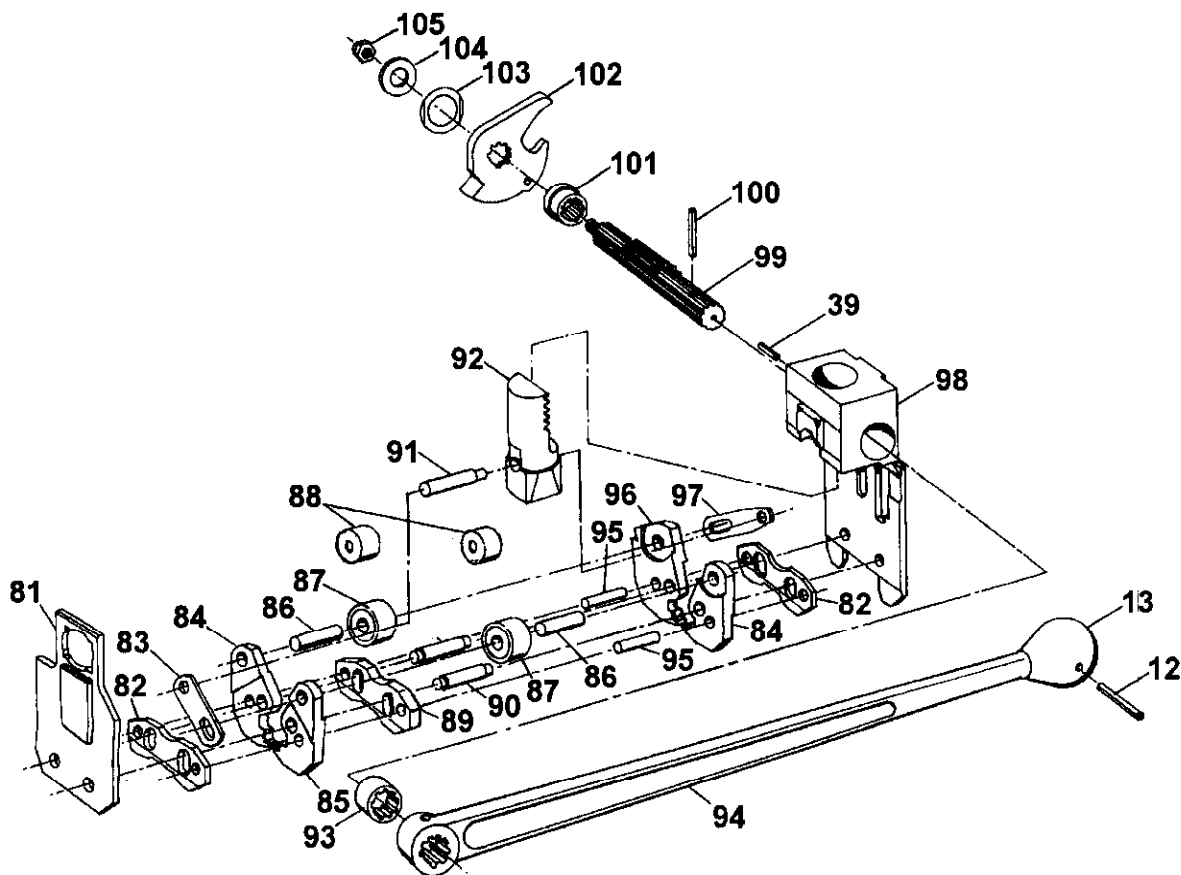
PARTS LIST, Continued

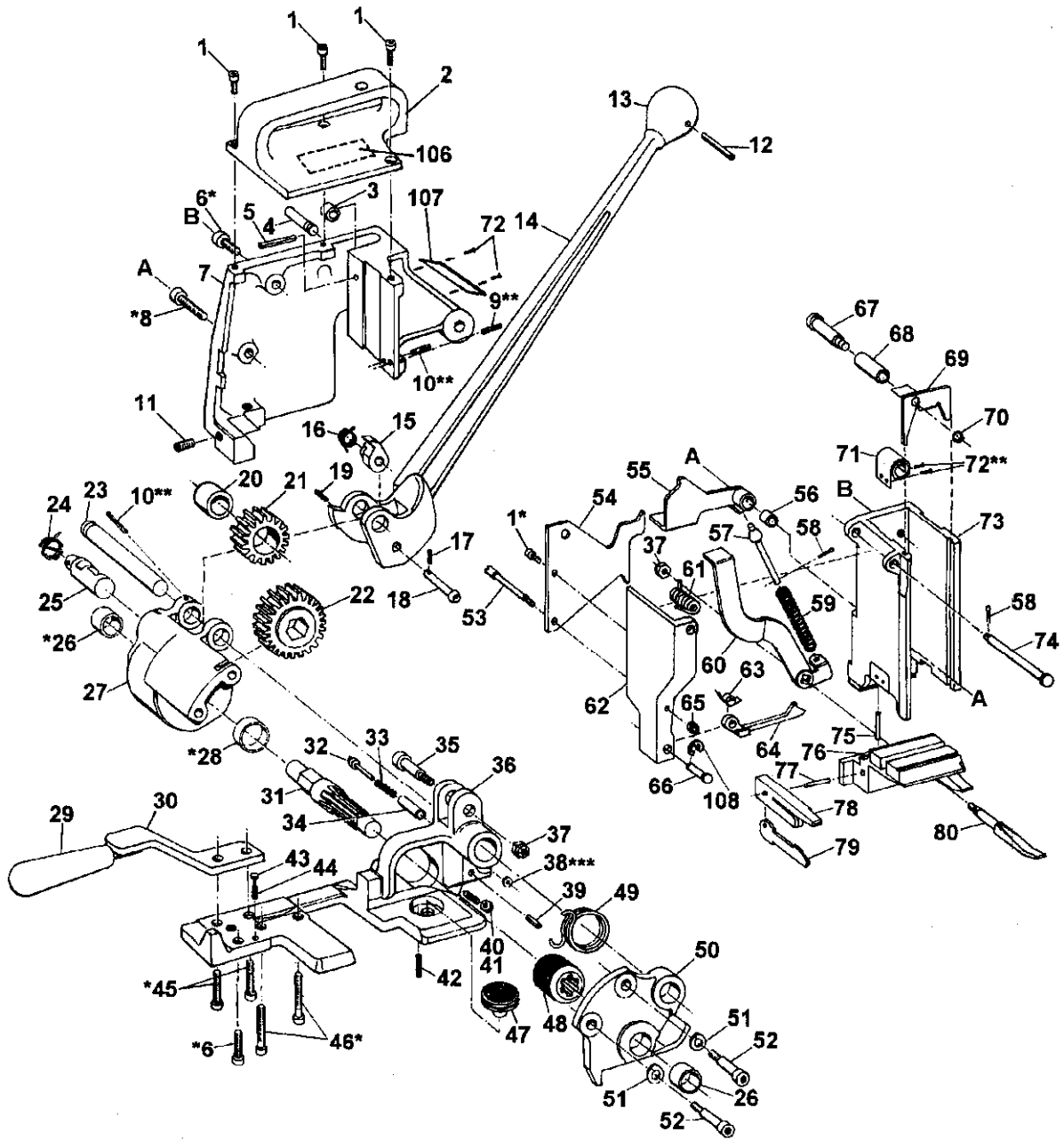
| <u>KEY</u> | <u>QTY</u> | <u>PART NO</u> | <u>DESCRIPTION</u> |
|------------|------------|----------------|---------------------------------------|
| 50 | 1 | 015760 | Outer link |
| 51 | 2 | 002188 | Split lockwasher, 5/16" I.D. |
| 52 | 2 | 015741 | Shoulder screw, 5/16" dia. x 3/4" lg. |
| 53 | 1 | 015711 | Gripper drive pin |
| 54 | 1 | 015710 | Ejector arm |
| 55 | 1 | 015708 | Gripper release assembly |
| 56 | 1 | 015709 | Gripper release bushing |
| 57 | 1 | 015734 | Spring spacer |
| 58 | 2 | 001621 | Cotter pin, 3/32" x 1/2" lg. |
| 59 | 1 | 006741 | Spring, strap gripper |
| 60 | 1 | 015735 | Gripper lever assembly |
| 61 | 1 | 023641 | Ejector lever spring |
| 62 | 1 | 015751 | Ejector frame |
| 63 | 1 | 020629 | Ejector spring |
| 64 | 1 | 023633 | Ejector |
| 65 | 1 | 004963 | Flexloc nut, 10-32 |
| 66 | 1 | 015713 | Lower ejector pin |
| 67 | 1 | 015773 | Magazine spring pin |
| 68 | 1 | 023631 | Sleeve, magazine spring |
| 69 | 1 | 023646 | Seal follower |
| 70 | 1 | 006747 | Retaining ring |
| 71 | 1 | 020640 | Magazine spring |
| 72 | 4 | 004939 | Drive screw |
| 73 | 1 | 023607 | Magazine |
| 74 | 1 | 015712 | Ejector pin |
| 75 | 1 | 012582 | Dowel pin, 3/16" x 1" lg. |
| 76 | 1 | 023617 | Cutter block |
| 77 | 1 | 023725 | Strap guide pin |
| 78 | 1 | 023621 | Fixed rear strap guide |
| 79 | 1 | 023622 | Movable rear strap guide |
| 80 | 1 | 015706 | Strap gripper |
| 81 | 1 | 015754 | Cutter blade |
| 82 | 2 | 015701 | Outside notcher |
| 83 | 1 | 015718 | Front link |
| 84 | 2 | 015655 | Jaw |
| 85 | 1 | 015758 | Narrow jaw |
| 86 | 2 | 015775 | Follower pin |
| 88 | 2 | 160320 | Roller |
| 89 | 1 | 015727 | Inside notcher |
| 90 | 2 | 015705 | Jaw pin |
| 91 | 1 | 015731 | Ram pin |
| 92 | 1 | 015752 | Ram |
| 93 | 1 | 015729 | Short pinion bearing |
| 94 | 1 | 015767 | Sealer handle |
| 95 | 2 | 015703 | Notcher pin |
| 96 | 1 | 015756 | Locking jaw |
| 97 | 1 | 015707 | Rear link |

| <u>KEY</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|------------|------------|-----------------|-----------------------------------|
| 98 | 1 | 015769 | Jaw support |
| 99 | 1 | 015753 | Pinion |
| 100 | 1 | 014810 | Roll pin, 1/4" x 1 1/4" lg. |
| 101 | 1 | 015728 | Sealer pinion bearing |
| 102 | 1 | 015761 | Sealer cam |
| 103 | 1 | 014549 | Brake spring |
| 104 | 1 | 015774 | Flat washer, 7/16" I.D. X 1" O.D. |
| 105 | 1 | 003868 | Flexloc nut, 3/8"-24 |
| 106 | 1 | 003132 | Caution plate |
| 107 | 1 | 002495 | Nameplate |
| 108 | 1 | 026866 | Truarc |

⚠ 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 #242 or equivalent.

** Use Loctite #271 or equivalent.

*** Rivet in place

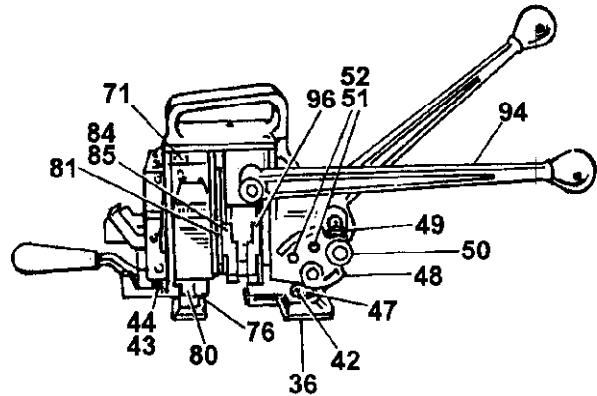
WARNING

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PARTS REPLACEMENT

To replace the strap gripper (80), the cutter block (76), magazine spring (71), cutter blade (81), or any parts of the sealing mechanism, follow this procedure:

1. Remove the three cap screws (1) and the handle (2).
2. Remove the two cap screws (6 and 8) from the side of the tool and the 5 screws from the bottom (6, 45 and 46).
3. Lay the tool on its left side and pull the top of the magazine to the rear to lift out.



When reassembling the tool, first insert a pin into the tapped hole in the magazine at point "A". Secondly, replace screw (6) at point "B", and the five bottom screws.

Insert the screw (8) at point "A" by sliding the screw in while pushing out the pin.

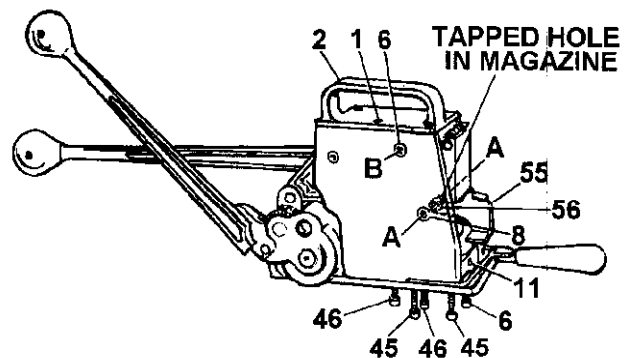
When replacing the sealing mechanism, the sealing jaws (84, 85 and 96) must be in the upper position with the sealing handle (94) forward. The strap guide spring (44) and pin (43) must be in the proper position.

To replace the feedwheel, (48), remove the two shoulder screws (52) and lockwashers (51). Pull the outer link (50) off the tool. Be careful of the energizing spring (49) which may slip off of the gear housing (27). Pull off the feedwheel and replace with a new one.

To replace the clutch plug (47), tap the center of the plug through the hole in the bottom of the base (36). If the roll pin (42) does not come out with the clutch plug, drive it out also. Press the roll pin into the hole in the new plug. Tensioning a strap will properly seat the plug and pin if the holes are aligned.

ADJUSTMENTS

If the cutter blade (81) does not cut properly, pull the sealing handle (94) to the rear position, loosen the two screws on the side (6 and 8) and the two screw on the bottom (46). Adjust the set screw (11) to take up the clearance between the cutter blade and the cutter block (76). The sealer mechanism must not bind after adjustment. Retighten all screws.



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**