

# **OPERATION, PARTS AND SAFETY MANUAL**

## **SIGNODE®**

**AL-12/38**  
**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***

# **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.

## **WORK AREAS**

Keep work areas uncluttered and well lighted.

# **! WARNING**

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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.
- This tool is a double notch type sealer. 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.



PACKAGE SURFACE

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

## **MOVING AND STACKING STRAPPED LOADS**

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

## **CUTTING TENSIONED STRAP**

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

## **MAINTENANCE**

Clean and apply a light weight machine oil to all moving parts on a weekly basis. Clean the feedwheel daily with a wire brush. Debris accumulated in the teeth of either the feedwheel or the clutch plug must be removed with a small wire brush. A need to clean the teeth will become apparent when either the feedwheel skids on the strap or the lower strap slips on the clutch plug during tensioning.

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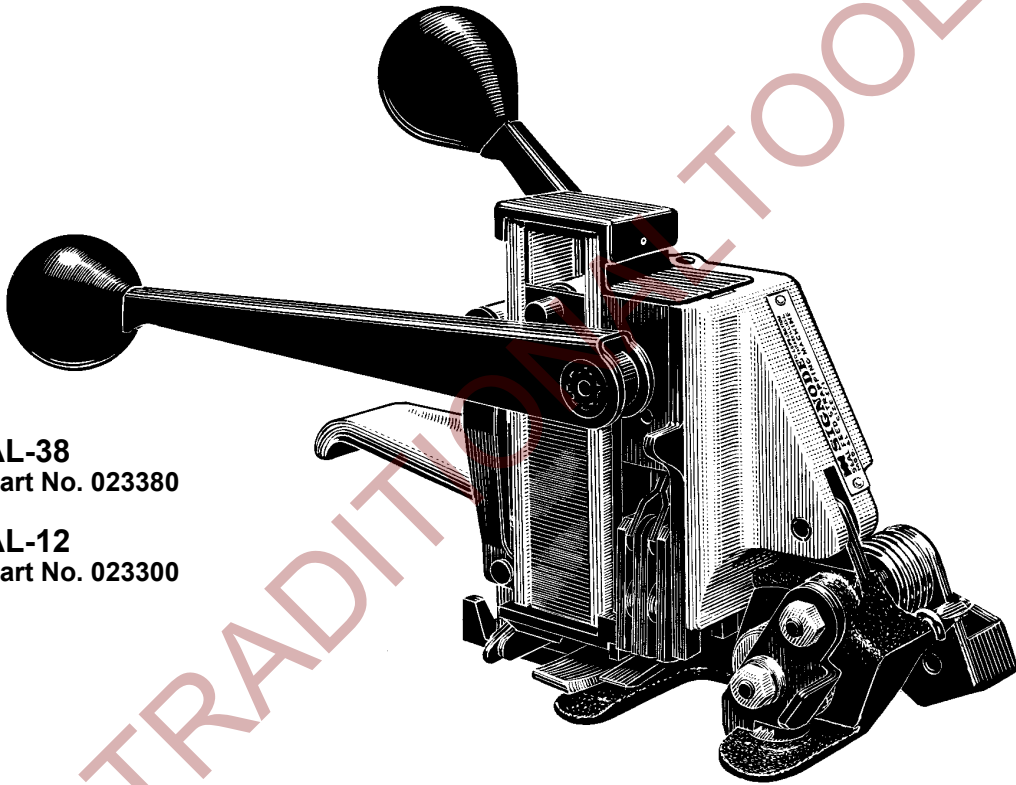
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## **! WARNING**

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.



**AL-38**  
Part No. 023380

**AL-12**  
Part No. 023300

### SPECIFICATIONS

MODEL	TYPE	STRAP		SEALS
		WIDTH	THICKNESS	
AL-38	APEX	3/8" (9.52mm)	0.017" (0.43mm) Minimum 0.020" (0.50mm) Maximum	38 AL
AL-12		1/2" (12.70mm)	0.017" (0.43mm) Minimum 0.023" (0.58mm) Maximum	12 AL

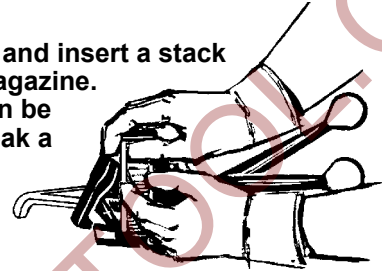
## OPERATING INSTRUCTIONS

# WARNING

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

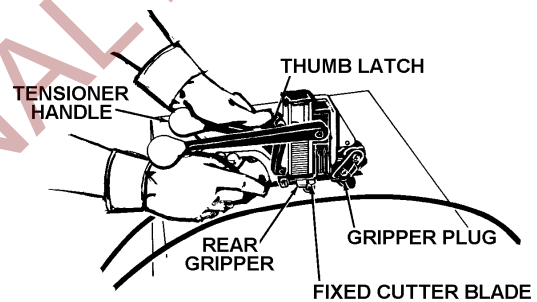
### LOADING SEALS

To load seals, raise the seal pad to the top of the magazine and insert a stack of seals through the wide opening in the side of the seal magazine. Make sure the seal stack is pushed all the way in. Seals can be loaded at any time without waiting for seals to run out. Break a stack and load as many or as few as needed.

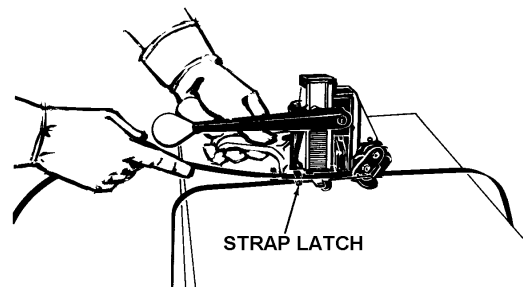


### APPLYING A STRAP

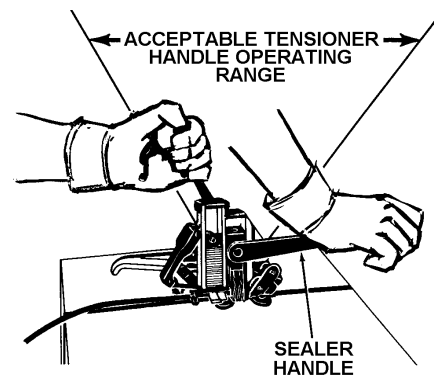
1. Encircle the package with the strap. Grasp the handle of the tool and the tensioner handle with your left hand. Squeeze the handles together to lift the feedwheel. Place the strap in the tool so that it is beneath the fixed cutter blade and the lead end of the strap covers the gripper plug. Press the thumb latch to release the rear gripper to hold the bottom strap in place.



2. Pull out excess slack in the strap. Insert the top strap above the fixed cutter blade and then insert it sideways into the strap latch.

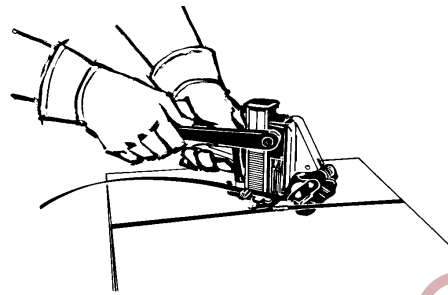


3. While standing to one side of the strap line, move the tensioner handle back and forth, as shown. Repeat this action until the desired tension is obtained. Complete the cut-off and sealing operation by pushing the sealer handle to its maximum forward position. The rear gripper automatically opens during this operation. **NOTE:** The tensioner handle can be used to help stabilize the tool during the sealing operation if its pulled back as the sealer handle is being pushed forward. The pin that protrudes from the tensioner handle contacts the sealer plate to prevent the tool from tipping forward and damaging soft packages.



## OPERATING INSTRUCTIONS, Continued

4. Return the sealer handle to its original position. At the same time pull the tensioner handle all the way back to disengage the feedwheel. The tool can be removed from the tensioned strap by swinging the rear of the tool to the operator's left. Inspect the seal to make sure a proper joint has been formed. Refer to the view, next page, for details.



## JOINT FORMATION

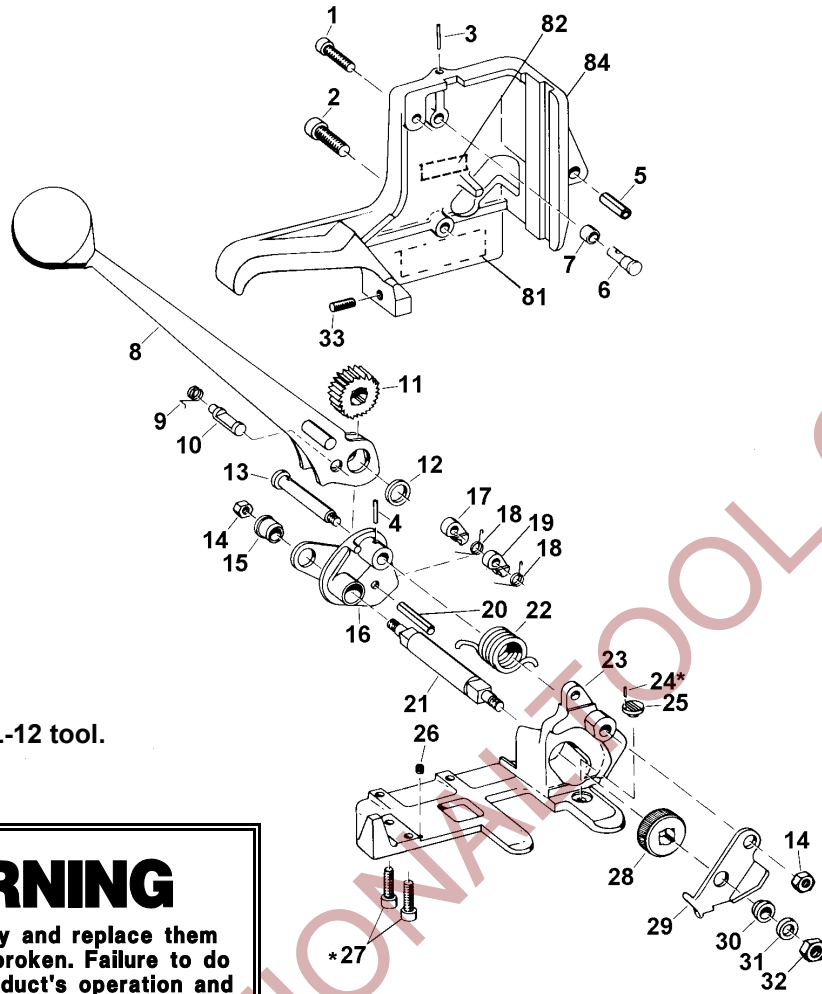
- Before using this tool, read its Operation and Safety instructions contained in this manual.
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  1. Make certain that the tool's operating instructions are being followed before applying another strap.
  2. Cut the strap off and apply a new strap and seal.
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## PARTS LIST

KEY	QTY.	PART #	DESCRIPTION	KEY	QTY.	PART #	DESCRIPTION
1	1	009041	SHCS, 1/4-20 x 3/4	44	1	006787	Roll pin, 3/16 x 1
2	1	008845	SHCS, 5/16-18 x 7/8	45	1	023347	Ejector arm spring
3	3	005197	Roll pin, 5/32 x 11/16	46	1	023343	Ejector lever
4	1	007631	Roll pin, 1/8 x 5/8	47	1	023348	Ejector spring
5	1	006667	Roll pin, 5/16 x 7/8	48	1	023344	Ejector
6	1	023337	Roller pin	49	1	014782	Truarc, #5133-18
7	1	023336	Cam roller	50	1	023346	Ejector pin
8	1	023317	Tensioner handle assembly	51	1	008148	Roll pin, 1/8 x 7/16
9	1	023316	Drive pawl spring	52	1	023365	Cutter block, AL-38
10	1	023314	Driving pawl	53	1	023364	Cutter block, AL-12
11	1	023309	Ratchet gear	54	1	020662	Strap latch support
12	1	023356	Thrust washer	55	1	023349	Strap latch pin
13	1	023381	Support shaft	56	2	009042	Strap latch
14	2	004526	Lock nut, 1/4-28	57	1	023355	SHCS, 1/4-20 X 1
15	1	023307	Gear housing bushing	58	2	023330	Holding gripper
16	1	023379	Gear housing	59	1	023389	Cutter blade pin
17	1	023312	Long holding pawl	60	1	023323	Cutter blade, AL-38
18	2	023311	Holding pawl spring	60	4	023359	Cutter blade, AL-12
19	1	023313	Short holding pawl	61	2	023321	Outer jaw, AL-38
20	1	010023	Roll pin, 1/4 x 1	61	2	023332	Outer jaw, AL-12
21	1	023308	Feedwheel shaft	62	2	023361	Notcher, AL-38
22	1	023315	Gear housing spring	62	2	023328	Notcher, AL-12
23	1	023367	Tensioner frame, AL-38	63	2	023329	Flat toggle link
	1	023366	Tensioner frame, AL-12	64	4	023360	Toggle link
24*	2	008624	Roll pin, 1/8 x 1/4, AL-38	64	4	023360	Center jaw, AL-38
	1	008624	Roll pin, 1/8 x 1/4, AL-12	65	2	023322	Center jaw, AL-12
25	1	023303	Gripper plug	66	2	023324	Notcher pin
26	1	023353	Strap latch spring	66	2	023326	Toggle link pin
27	2	009053	SHCS, 1/4-20 x 5/8	67	2	023325	Jaw pin
28	1	023304	Feedwheel	68	1	023320	Sealer plate, AL-38
29	1	023302	Side plate, AL-38	69	1	023319	Sealer plate, AL-12
	1	023301	Side plate, AL-12	70	1	006924	Roll pin, 3/16 x 7/16
30	1	024444	Guide bushing	71	1	023335	Cam
31	1	008428	Feedwheel shaft washer	72	1	023331	Sealer pinion
32	1	008409	L.H. hex nut, 1/4-28	73	1	023327	Toggle pin
33	1	023352	Set screw, 1/4-20 x 1/2	74	2	023334	Rack
34	1	023374	Gripper trigger	75	1	004500	Steel ball, 1/4 dia.
35	1	023354	Gripper lever	76	1	004485	Rack lock spring
36	1	023371	Gripper spring	77	1	023318	Jaw support
37	1	005211	Flexloc nut, 5/16-18	79	1	023339	Sealer handle ass'y.
38	1	023376	Seal pad assembly	79	1	257669	Magazine cap
39	1	020640	Magazine spring	80	2	004998	Roll pin, 3/32 x 3/8
40*	2	004939	Drive screw, #2 x 3/16	81	1	171639	Nameplate, AL-38
41	1	023375	Magazine, AL-38	81	1	171638	Nameplate, AL-12
	1	023363	Magazine, AL-12	82	1	003132	Warning sign
42	1	023345	Ejector arm pin	84	1	023368	Sealer frame
43	2	005054	Truarc, #5100-31				

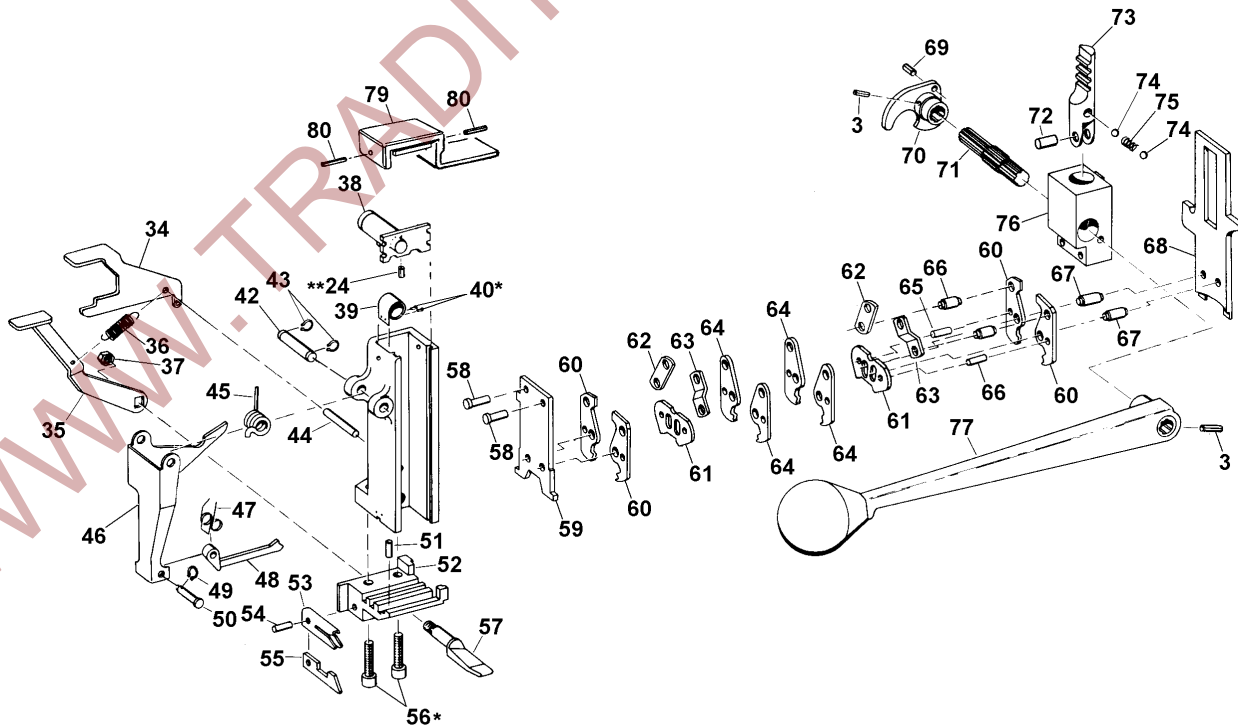
- When ordering parts, please show model, part number and description.
- Standard hardware parts may be obtained at any local hardware supply.
- Recommended spare parts are underlined and should be stocked.



\* Use Loctite #242.

\*\* Not required for AL-12 tool.

**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.





## **PART ADJUSTMENT, REMOVAL & REPLACEMENT**

**REFER TO PAGES 7 AND 8 FOR ADDITIONAL INFORMATION**

### **DISASSEMBLY OF TOOL:**

1. Remove the seals from the magazine and the sealer mechanism.
2. To remove both units loosen the cutter adjustment screw (33) and remove the top and bottom cap screws in the sealer frame (1 and 2).
3. Push the magazine out to the side so the locating lug clears the offset in the frame. Pull back the entire sealer mechanism and magazine assemblies, twisting the front outward away from the sealer frame. Remove both assemblies from the sealer frame.
4. The magazine is now easily separated from the sealer mechanism. 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 pins and cutter blade. Clean the parts. Jaws and notchers are replaced as required. Note that the outer jaws can be reversed front to back to provide new cutting edges, doubling the life of these parts. After necessary repairs have been made, grease the parts or apply light machine oil. The tool is now ready for reassembly.

### **REASSEMBLY OF TOOL:**

1. Place the sealer mechanism against the magazine and hold the units together.
2. Be sure the strap latch spring (26) is in the correct position in the tensioner frame (23).
3. Insert the lower portion of the assembly into the tool first and hook the slot in the sealer cam (70) on to the cam roller (7) inside of the sealer frame. Then swing the front of the sealer mechanism into the sealer frame so that the guide on the jaw support (76) aligns with the groove in the front of the sealer frame. Then push the whole assembly forward into place engaging the lug in the side of the magazine into the offset in the sealer frame.
4. Insert and snug up but do not tighten the top and bottom cap screws (1 and 2).
5. With jaws in the down position, advance the cutter adjustment set screw (33) until a slight bind can be felt when operating the sealer handle.
6. Securely tighten the top and bottom cap screws (1 and 2).
7. Insert a stack of seals into the magazine. Operate the sealer mechanism through 3 or 4 cycles to check tightness of the cutter adjustment set screw and see that the 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 that all elements of the tool operate properly.

### **EJECTOR (48) AND EJECTOR LEVER (46) W/O MAGAZINE REMOVAL:**

1. Remove the seals from the magazine.
2. Remove the Truarc (43) from the right side of the ejector arm pin (42).
3. Lift the sealer handle to clear the ejector arm pin (42).
4. Drive out the ejector arm pin (42) from the sealer handle side.
5. Remove the ejector arm spring (45).
6. Place the sealer mechanism in the UP position with the sealer handle in the rest position.
7. Hold the gripper lever (35) down and pull out the ejector lever.

### **EJECTOR DISASSEMBLY**

1. Drive out the roll pin (49) from the ejector pin (50). Be sure to support the ejector lever (46). See Figure 7.
2. Remove the pin (50), ejector (48), and spring (47). Replace the ejector lever and/or ejector as necessary.
3. Reassemble with the new ejector by following these steps in reverse order.

**NOTE:** If only the ejector needs to be replaced, it can be removed without removing the ejector lever following the above 3 steps.

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**PART ADJUSTMENT, REMOVAL & REPLACEMENT, Continued**  
**REFER TO PAGES 7 AND 8 FOR ADDITIONAL INFORMATION**

**REASSEMBLE THE EJECTOR LEVER (46):**

1. Insert the ejector (48) into the cutter block (52) slot, hold the gripper lever (35) down and slide the ejector lever (46) into position.
2. Start the ejector arm pin (42) through the left side of the ejector lever (46) and magazine.
3. Insert ejector arm spring (45) and maintain alignment with a punch from the sealer handle side.
4. Tap ejector arm pin (42) in from the tensioner handle side, while removing the aligning punch at the same time.
5. Push on the lower left part of the ejector lever (46) to align holes on the right side of the tool. Finish tapping in the ejector arm pin (42) and replace the Truarc (43).
6. Insert a stack of seals into the magazine. Operate the sealer mechanism through 3 or 4 cycles to check the tightness of the adjustment set screw and to see that the 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 that all elements of the tool operate properly.

**REPLACING THE FEEDWHEEL:**

To change a dirty or worn feedwheel remove the left hand nut (32) from the feedwheel shaft and the lock nut (14) from the support shaft. Press down on the tensioner handle to raise the feedwheel and remove the washer (31), side plate (29) and feedwheel (28). Replace the feedwheel and reassemble the parts in reverse order.

**REPLACING THE GRIPPER PLUG:**

Turn the tool on its side. Remove the feedwheel by following the Feedwheel Replacement Instructions. Using a punch, drive the plug (25) and roll pin (24) upward and out. Make certain a roll pin is properly installed in the new gripper plug. Drop the new gripper plug, with roll pin, into the hole in the base, properly aligning the roll pin with its hole. Drive the gripper plug downward with a length of brass rod or re-install the feedwheel and apply a strap under tension to fully set the plug.