

# **FROMM**

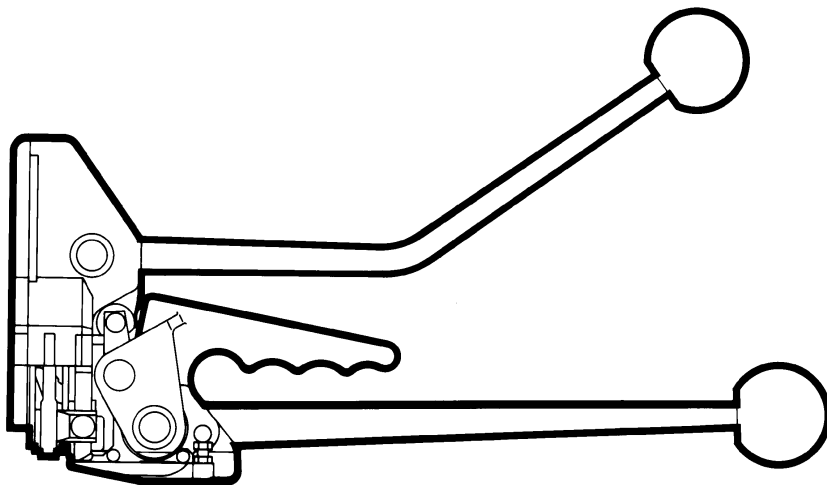
OPERATION MANUAL / SPARE PARTS LIST

## **MANUAL COMBINATION**

### **PUSHER TYPE TOOL**

#### **MODEL A431**

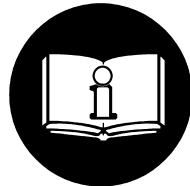
13.3071.01



	<b>INDEX</b>	<b>PAGE</b>
1	<b>SAFETY INSTRUCTIONS</b>	<b>2</b>
2	<b>WARRANTY CONDITIONS AND LIABILITY</b>	<b>4</b>
3	<b>APPROPRIATE USE</b>	<b>4</b>
4	<b>TECNICAL DATA</b>	<b>5</b>
5	<b>CHART OF TYPES A431</b>	<b>5</b>
6	<b>SPARE PARTS LIST 13.3071.01</b>	<b>8</b>
7	<b>OPERATION</b>	<b>10</b>
8	<b>JOINT CONTROL</b>	<b>11</b>

## **1 SAFETY INSTRUCTIONS**

Read these instructions carefully. Failure to follow these instructions can result in severe personal injury.



### **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.



### **Operation**

Tool must not be used by persons not properly trained in their use. Before tensioning strap, read and understand the tool operating instructions. Failure to follow the operating instructions or improper load positioning could result in strap breakage. Become familiar with your tool and keep fingers away from areas that can pinch or cut.

## Joins

You are fully responsible to review the joints made by your tool. Become familiar with the seal control and seal adjustment described in this operation manual. Misformed joints may not secure the load and could cause serious injury. Never handle or ship any load with improperly formed joints.

## Dispensing strap

Only dispense strap from a dispenser specifically designed for strap.  
Tuck strap end back into dispenser when not in use.

## Protective gloves

When handling strap, always wear protective gloves.



## Strap warnings

Never use strap as a means of pulling or lifting loads. Failure to follow these warnings can result in severe personal injury.

### Strap breakage hazard

Improper operation of the tool, excessive tensioning, using strap not recommended for this tool or sharp corners on the load can result in a sudden loss of strap tension or 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.

Note as follows:

- 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.
- Use the correct strap quality, strap width, strap gauge and strap tensile strength recommended in this manual for your tool. Using strap not recommended for this tool can result in strap breakage during tensioning.

### Cutting tensioned strap

When cutting strapping, use the proper strapping cutter and keep other personnel and yourself at a safe distance from the strap. Always stand to side of the strap, away from the direction the loosened strap end will fly. Use only cutters designed for strap and never hammers, pliers, hacksaws, axes, etc.

### Fall hazard

Keep your working area tidy. Untidiness of your working area may cause a risk of injury. Maintaining improper footing and/or balance when operating the tool can cause you to fall. Before tensioning and especially in elevated areas, always establish good balance. Both feet should be securely placed on a flat, solid surface, especially when working in elevated areas. Do not use the tool when you are in an awkward position.

Pay attention to the rules and regulations for preventions of accident which are valid for the work place.

### Tool hazards

A well maintained tool is a safe tool!

Check tool regularly for broken or worn parts. Do not operate a tool with broken or worn parts.

Never modify any tool. Modification can result in severe bodily injury.

## **2 WARRANTY CONDITIONS AND LIABILITY**

FROMM Holding AG warrants all its strapping tools and machine heads during a period of 90 days from the date of sale. The warranty includes all deficiencies clearly resulting from poor manufacturing or faulty materials. Damage claims as a result of production shutdowns and claims for damage to persons and to property resulting from warranty deficiencies cannot be asserted by the customer.

The warranty excludes:

- wearing parts
- deficiencies resulting from improper installing, incorrect handling and maintaining the tool
- deficiencies resulting from using the tool without or with defective security- and safety devices
- disregard of directions in the operation manual
- arbitrary modifications of the tool
- deficient control of wearing parts
- deficient repair works of the tool
- Use of consumable products not recommended by FROMM Holding AG

We reserve the right to modify the product at any time in order to improve its quality.

## **3 APPROPRIATE USE**

The tool model A431 has been designed to strap packages with steel strapping exclusively.

The warranty / liability excludes:

- non appropriate use of the tool,
- disregard of directions in the operation manual,
- disregard of control- and maintenance instructions.

## 4 TECHNICAL DATA

### Dimensions without suspension bracket

	Tool	Package
Length:	400 mm / 15.75"	406 mm / 15.98"
Width:	400 mm / 15.75"	406 mm / 15.98"
Height:	210 mm / 8.27"	167mm / 6.58"
Weight:	3.4 kg / 7.5 lbs	0.5 kg / 1.1 lbs

### Joint strength

Approx. 55% of the strap's tensile strength.

### Steel strapping

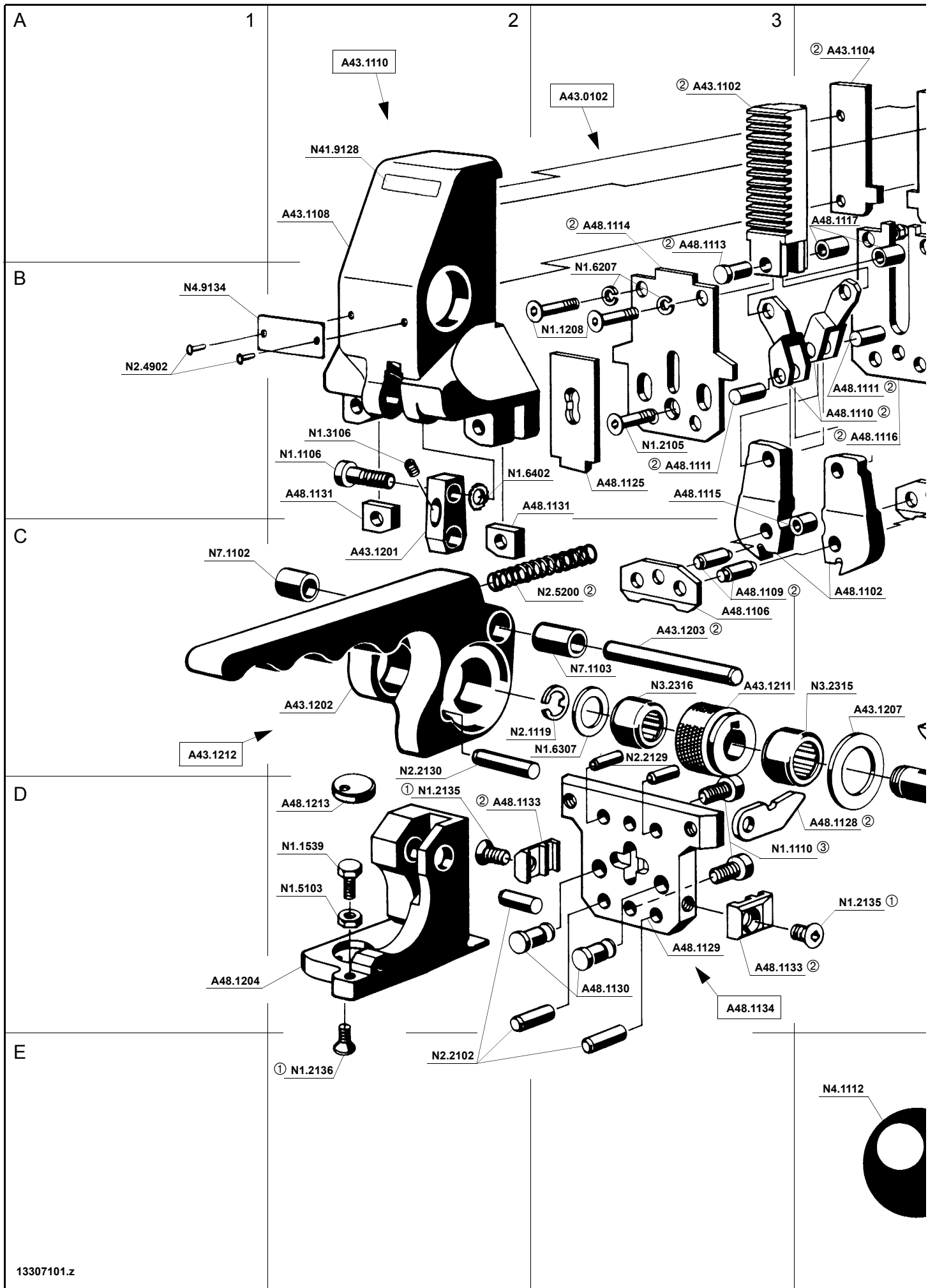
Width:	10 - 19 mm / 3/8 - 3/4" (see chart of types)
Thickness:	0.38 - 0.63 mm / 0.015 - 0.025"
Quality:	Fundamentally the A431 allows the use of all current steel straps with tensile strengths ranging from 850 to 1100N/mm <sup>2</sup> / 123 000 - 160 000 psi. Straps with a low breaking elongation are unsuitable.

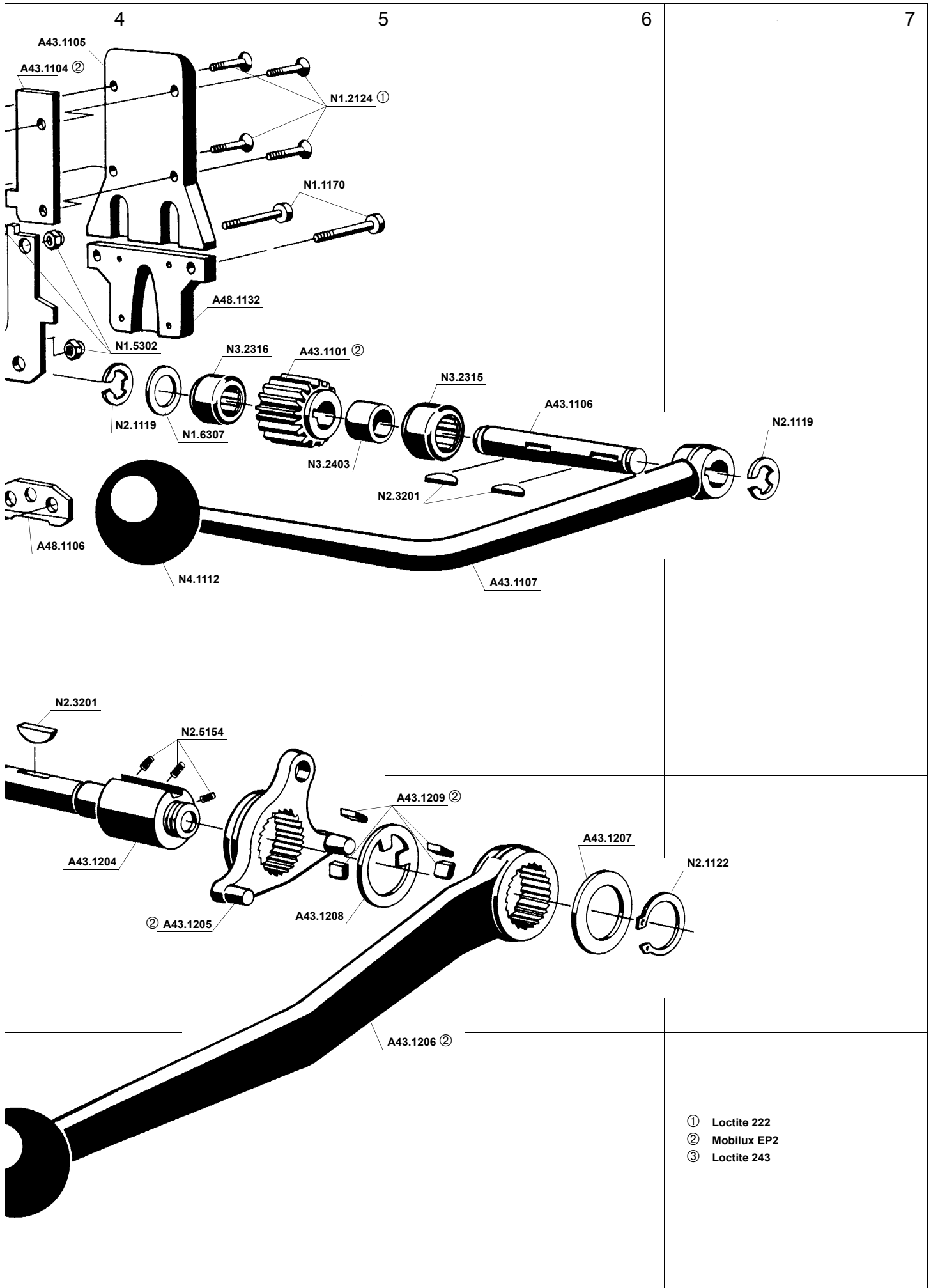
## 5 CHART OF TYPES A431

Item No.	Model	Strap width	Strap thickness
13.3050	A431/10/0.38-0.63/UNI	10mm / 3/8"	0.38-0.63 / 0.015-0.025"
13.3051	A431/10/0.38-0.63/ULT	10mm / 3/8"	0.38-0.63 / 0.015-0.025"
13.3070	A431/13/0.38-0.63/UNI	13mm / 1/2"	0.38-0.63 / 0.015-0.025"
13.3071	A431/13/0.38-0.63/ULT	13mm / 1/2"	0.38-0.63 / 0.015-0.025"
13.3090	A431/16/0.38-0.63/UNI	16mm / 5/8"	0.38-0.63 / 0.015-0.025"
13.3091	A431/16/0.38-0.63/ULT	16mm / 5/8"	0.38-0.63 / 0.015-0.025"
13.3110	A431/19/0.38-0.63/UNI	19mm / 3/4"	0.38-0.63 / 0.015-0.025"
13.3111	A431/19/0.38-0.63/ULT	19mm / 3/4"	0.38-0.63 / 0.015-0.025"

UNI = Uniflex (Regular Duty max. 850 N/mm<sup>2</sup> / 123'000 psi)

ULT = Ultraflex (High Tensile max. 1100 N/mm<sup>2</sup> / 160'000 psi)





**6 SPARE PARTS LIST 13.3071.01**

13.3071.01	A431/13/0.38-0.63/ULT		A431.0001.01		25.02.00	
Item-No.		in group	Pcs.	Description	Dimension	Field
[A43.0102]			1	JAW ASSEMBLY	13 MM	A3
A43.1101			1	GEAR WHEEL		B5
A43.1102		A43.0102	1	PISTON ROD		A3
A43.1104			2	SUPPORTING PLATE		A4
A43.1105			1	COVER PLATE		A4
A43.1106			1	SEALING SHAFT		B6
A43.1107			1	SEALING HANDLE		C6
A43.1108		A43.1110	1	SEALING BODY		A2
[A43.1110]			1	SEALING HOUSING		A2
A43.1201			1	STANCHION		C2
A43.1202		A43.1212	1	ROCKER		C2
A43.1203			1	PIVOT PIN		C3
A43.1204			1	TENSION SHAFT		D4
A43.1205			1	RETURN STOP		D5
A43.1206			1	TENSION HANDLE		E6
A43.1207			2	DISK		D6+
A43.1208			1	INTERMEDIATE WASHER		D5
A43.1209	*		4	CATCH PAWL		D6
A43.1211	*		1	TENSIONING WHEEL		C3
[A43.1212]			1	ROCKER		C1
A48.1102	*	A43.0102	2	CUTTING JAW		C4
A48.1106	*	A43.0102	2	NOTCHING KNIFE		C4+
A48.1109		A43.0102	2	JAW PIN		C3
A48.1110		A43.0102	2	FRONT TOGGLE LINK		B4
A48.1111		A43.0102	2	LEVER BOLT		B4+
A48.1113		A43.0102	1	ROD BAR BOLT		A3
A48.1114		A43.0102	1	SIDE PLATE		A3
A48.1115		A43.0102	1	SPACER BUSH		A4
A48.1116		A43.0102	1	SIDE PLATE		B4
A48.1117		A43.0102	2	SPACER BUSH		B3
A48.1125	*		1	CUTTER	13 MM	B3
A48.1128	*		1	CUTTER JACK		D4
[A48.1129]		A48.1134	1	CONNECTION PLATE		D3
A48.1130		A48.1134	2	STOP BOLT		D3
A48.1131			2	JAW GUIDE		B2+
A48.1132			1	COVER PLATE		B5
A48.1133			2	TONG GUIDE		D3+
[A48.1134]			1	CONNECTION PLATE		D3
[A48.1204]	*		1	TENSIONING BODY		D1
A48.1213	*		1	SLIDE PLATE		D2
N1.1106			1	SCREW	M6 X 20	B2
N1.1110			2	SCREW	M5 X 8	D4
N1.1170			2	SCREW	M6 X 35	A5
N1.1208		A43.0102	2	SCREW	M5 X 25	B3
N1.1539			1	HEXAGON SCREW	M5 X 14	D2
N1.2105		A43.0102	1	COUNTERSUNK SCREW	M5 X 25	B3
N1.2124			4	COUNTERSUNK SCREW	M5 X 20	A5
N1.2135			2	COUNTERSUNK SCREW	M5 X 12	D4+
N1.2136			1	COUNTERSUNK SCREW	M5 X 8	E2
N1.3106			1	SOCKET SET SCREW	M5 X 6	B2
N1.5103			1	HEXAGON NUT	M5	D2

[ ] = Group

\* = Wearing parts



13.3071.01	A431/13/0.38-0.63/ULT			A431.0001.01		25.02.00
Item-No.		in group	Pcs.	Description	Dimension	Field
N1.5302		A43.0102	3	RETAINING NUT	M5	B5
N1.6207		A43.0102	2	SPRING LOCK WASHER	M5	B3
N1.6307			2	SPACER WASHER	15 X 21 X 1.5	C3+
N1.6402			1	TOOTH WASHER	M6	B3
N2.1119			3	SECURITY RING	E10	C3+
N2.1122			1	SECURITY RING	E21	D7
N2.2102			1	PARALLEL PIN	5 m6 X 16	E2
N2.2102		A48.1134	2	PARALLEL PIN	5 m6 X 16	E2
N2.2129		A48.1134	2	PARALLEL PIN	5 m6 X 10	C3
N2.2130		A43.1212	1	PARALLEL PIN	8 m6 X 24	C2
N2.3201			3	WOODRUFF KEY	4 X 6.5 X 15.72	B6+
N2.4902			2	HAMMER HEAD BOLT	1.85 X 4.76	B1
N2.5154			4	PRESSURE SPRING	0.45 X 3.9 X 7	C5
N2.5200			1	PRESSURE SPRING	2X9,8X63/23.5	C3
N3.2315		A43.1110	1	NEEDLE BEARING		B6
N3.2315		A43.1212	1	NEEDLE BEARING		C4
N3.2316		A43.1110	1	NEEDLE BUSH		B5
N3.2316		A43.1212	1	NEEDLE BUSH		C3
N3.2403			1	INNER RACEWAY		B5
N41.9128			1	ADHESIVE LABEL		A2
N4.1112			2	GRIP BALL		E4+
N4.9134			1	LABEL	<<A431>>	B1
N7.1102		A43.1212	1	BUSH		C1
N7.1103		A43.1212	1	BUSH		C3

[ ] = Group

\* = Wearing parts

## 7 OPERATION

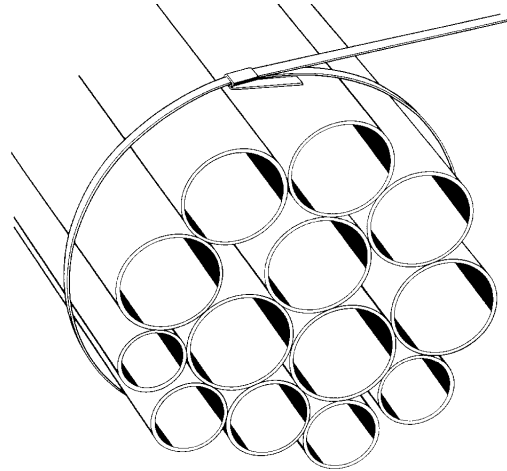


When handling strap, always wear protective gloves and safety glasses with side shields which conform to ANSI Standard Z87.1.



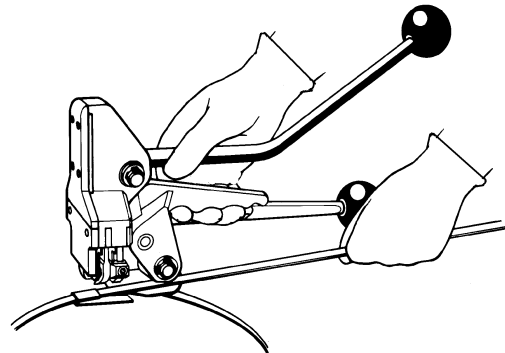
### Feeding the strapping

The strap is fed through the seal, around the package to be strapped and again through the seal. The strap end is then bent. The operator then tensions the loose hoop manually making sure that the bent strap end is adjacent to the object to be strapped.



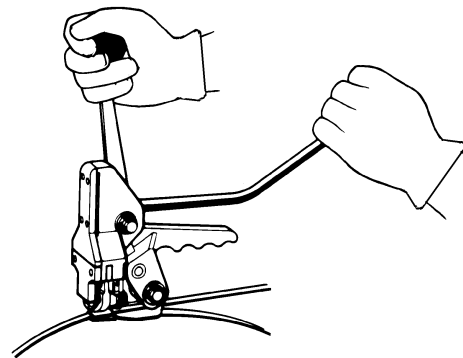
### Loading the strapping

Hold the upper strap with the left hand, lift the feed wheel lifting handle with the right hand and slide the tool over the strap from the right to the left respectively from the rear to the front.



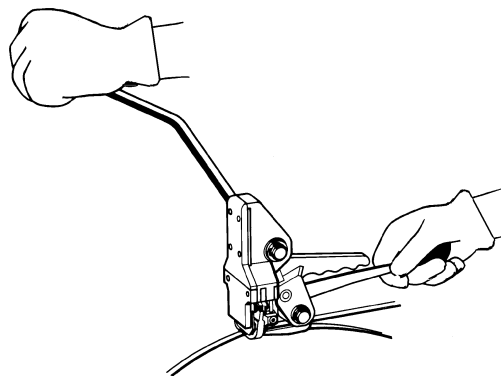
### Tensioning the strapping

The tool is held tightly with the left hand being placed on the sealing handle. The tension handle is now moved forward and backward with the right hand until the desired tension is attained.



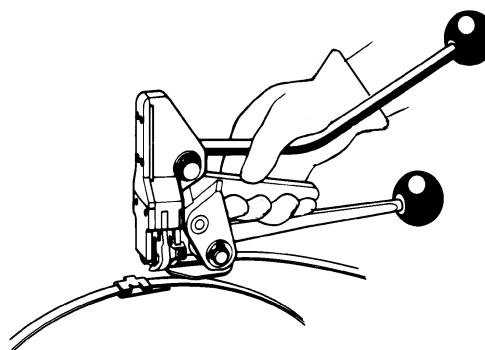
## Sealing the strapping

With the right hand on the tension handle (in back position as illustrated) push the sealing handle forward to the stop with the left hand. Move sealing handle backward into the initial position after completion of the sealing action.



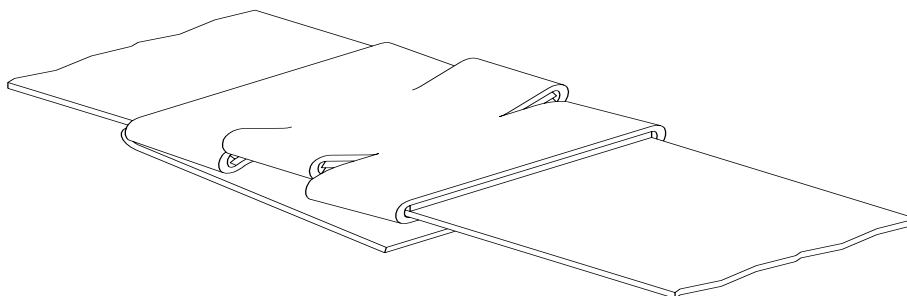
## Releasing the tool

After completion of the sealing action the tool can be released easily from the seal. By relieving the feed wheel lifting handle the strap end can be removed from the tool.



## 8 JOINT CONTROL

A regular control of the joint is necessary. The joint can be checked visually and the person controlling can easily judge the quality of the joint. Following illustration shows a proper joint:



Sharp edged or misformed joints which do not appear as shown have to be taken away from the load immediately. The tensile strength of these joints is insufficient and they could cause serious injury. Having faulty joints proceed as follows:

- Checking the sealing cycle for improper use.
- Having faulty joints in spite of proper use inspect the tool for worn or damaged parts. In case of wearing out or damaging replace tool parts as needed.

