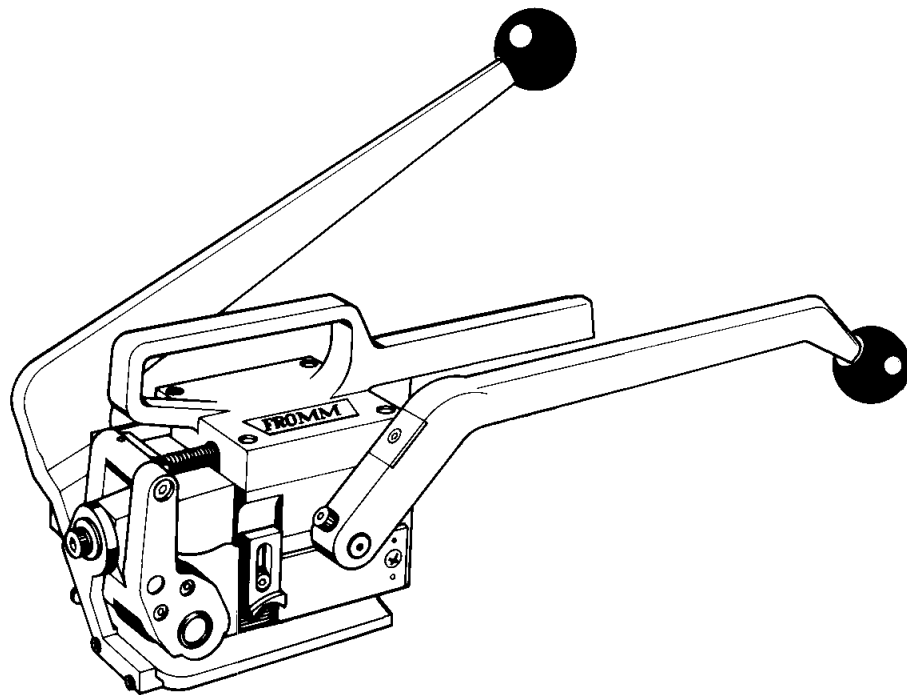


FROMM

OPERATION MANUAL / SPARE PARTS LIST
**MANUAL SEALLESS
COMBINATION STRAPPING TOOL
MODEL A334**

13.2611.01



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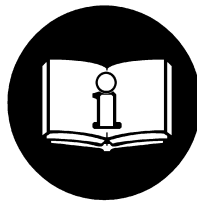
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1 SAFETY INSTRUCTIONS

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.

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Joints

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.

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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 A334 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:	560 mm / 22"	635 mm / 25"
Width:	155 mm / 6.1"	210 mm / 8.3"
Height:	305 mm / 12"	350 mm / 13.8"
Weight:	7.2 kg / 15.9 lbs	1.28 kg / 2.82 lbs

Joint strength

Approx. 80% of the strap's tensile strength.

Steel strapping

Width:	16 - 20 mm / 5/8 - 3/4" (see chart of types)
Thickness:	0.58 - 0.80 mm / 0.023 - 0.031"
Quality:	Fundamentally the A334 allows the use of all current steel straps with tensile strengths ranging from 850 to 1100 N/mm ² / 123 000 - 160 000 psi. Straps with a low breaking elongation are unsuitable.

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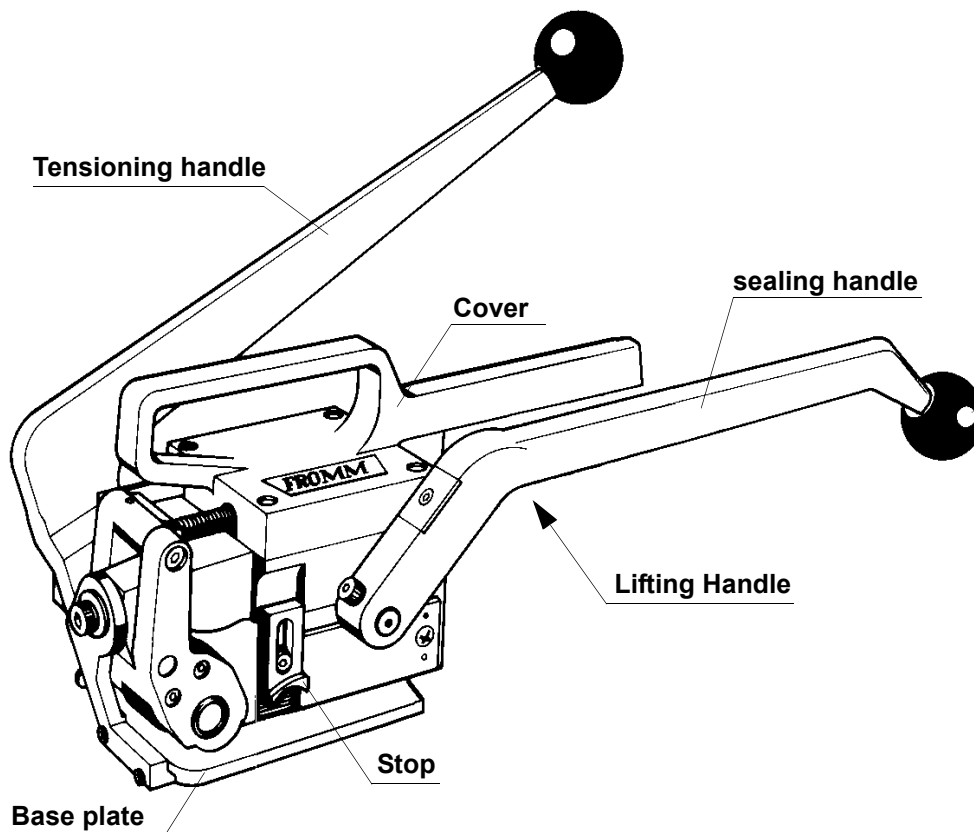
5 CHART OF TYPES A334

Item No.	Model	Strap width	Strap thickness
13.2590	A334/16/0.58-0.70	16 mm / 5/8"	0.58 - 0.70 mm / 0.023 - 0.028"
13.2591	A334/16/0.8	16 mm / 5/8"	0.8 mm / 0.031"
13.2610	A334/19/0.58-0.70	19 mm / 3/4"	0.58 - 0.70 mm / 0.023 - 0.028"
13.2611	A334/19/0.8	19 mm / 3/4"	0.8 mm / 0.031"
13.2620	A334/20/0.58-0.70	20 mm	0.58 - 0.70 mm / 0.023 - 0.028"
13.2621	A334/20/0.8	20 mm	0.8 mm / 0.031"

Uniflex (Regular Duty max. 850 N/mm² / 123'000 psi)

Ultraflex (High Tensile max. 1100 N/mm² / 160'000 psi)

6 OPERATION LEVERS



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7 OPERATION

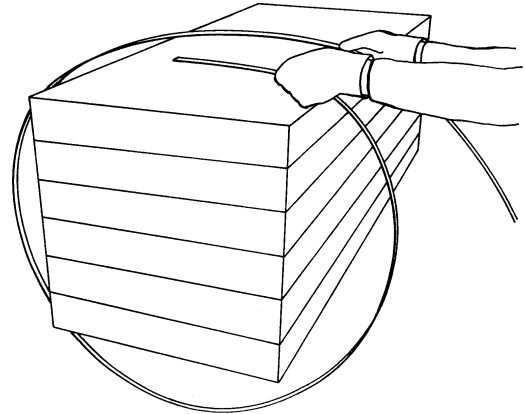


When handling strap, always wear protective gloves and safety glasses with side shields which conform to ANSI Standard Z87.1.



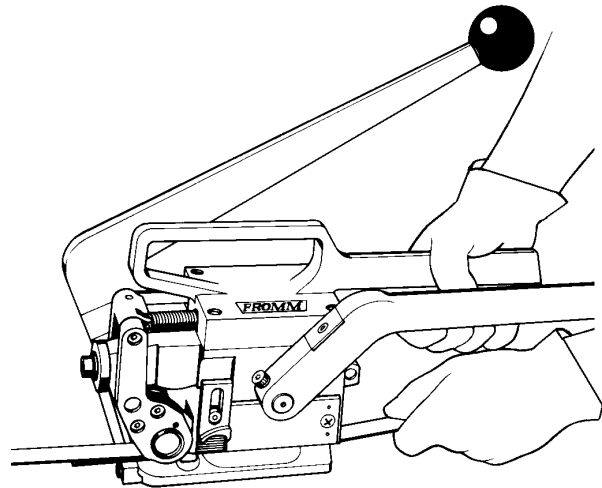
Feeding the strap around the package

The strapping is fed around the package in the direction as shown in the illustration. The strapping end is held tightly with the left hand and pulled firmly towards the operator with the right hand.



Loading the strap

The lifting handle is raised with the right hand. Insert both thicknesses of the strap with the left hand. Lower the lifting handle; be certain that the strap is held by the strap guide.



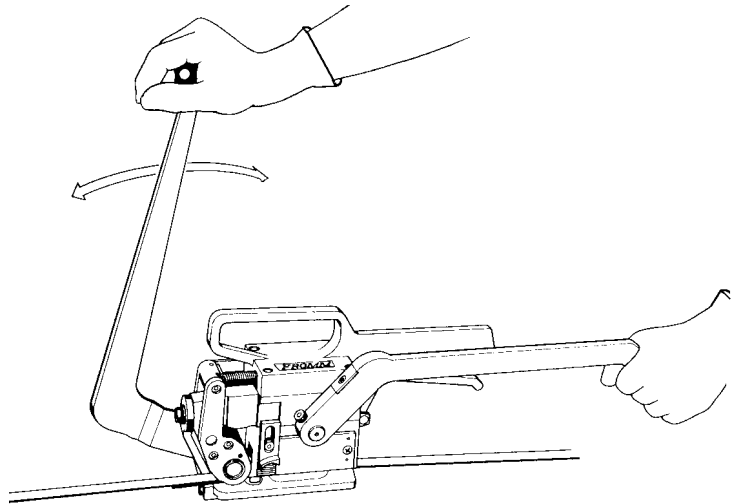
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Tensioning the strap

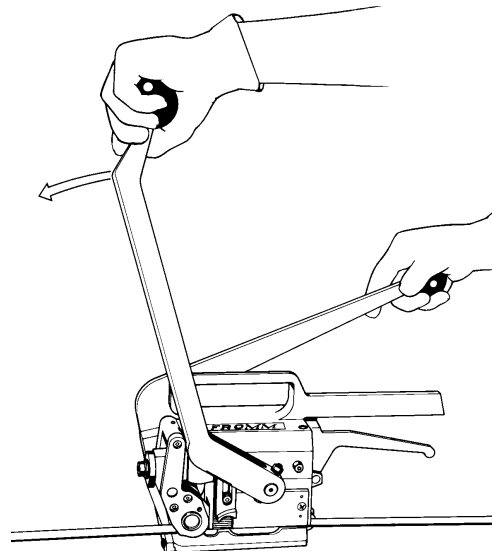
The tool is held tightly with the left hand being placed on the sealing handle. The tensioning handle is now moved forward and backward with the right hand until the desired tension is attained.



Sealing the strap

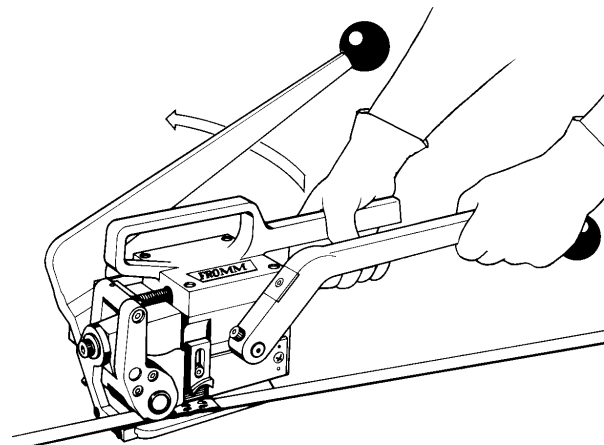
The sealing handle is moved forward using the left hand until it hits the stop. The handle is then moved back to its initial position.

When sealing, the right hand holding the tensioning handle absorbs the sealing force.



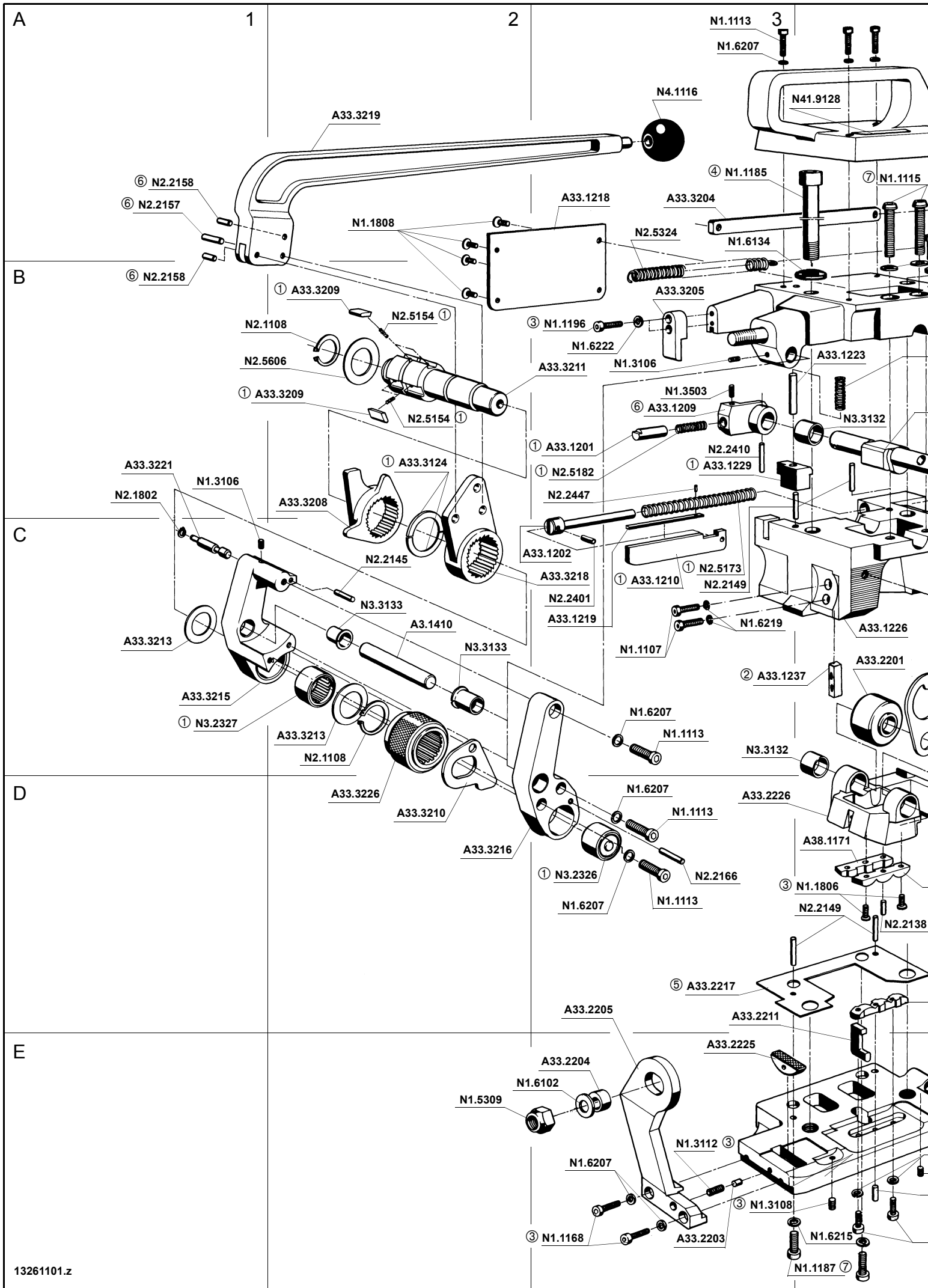
Removing the tool from the tensioned strap

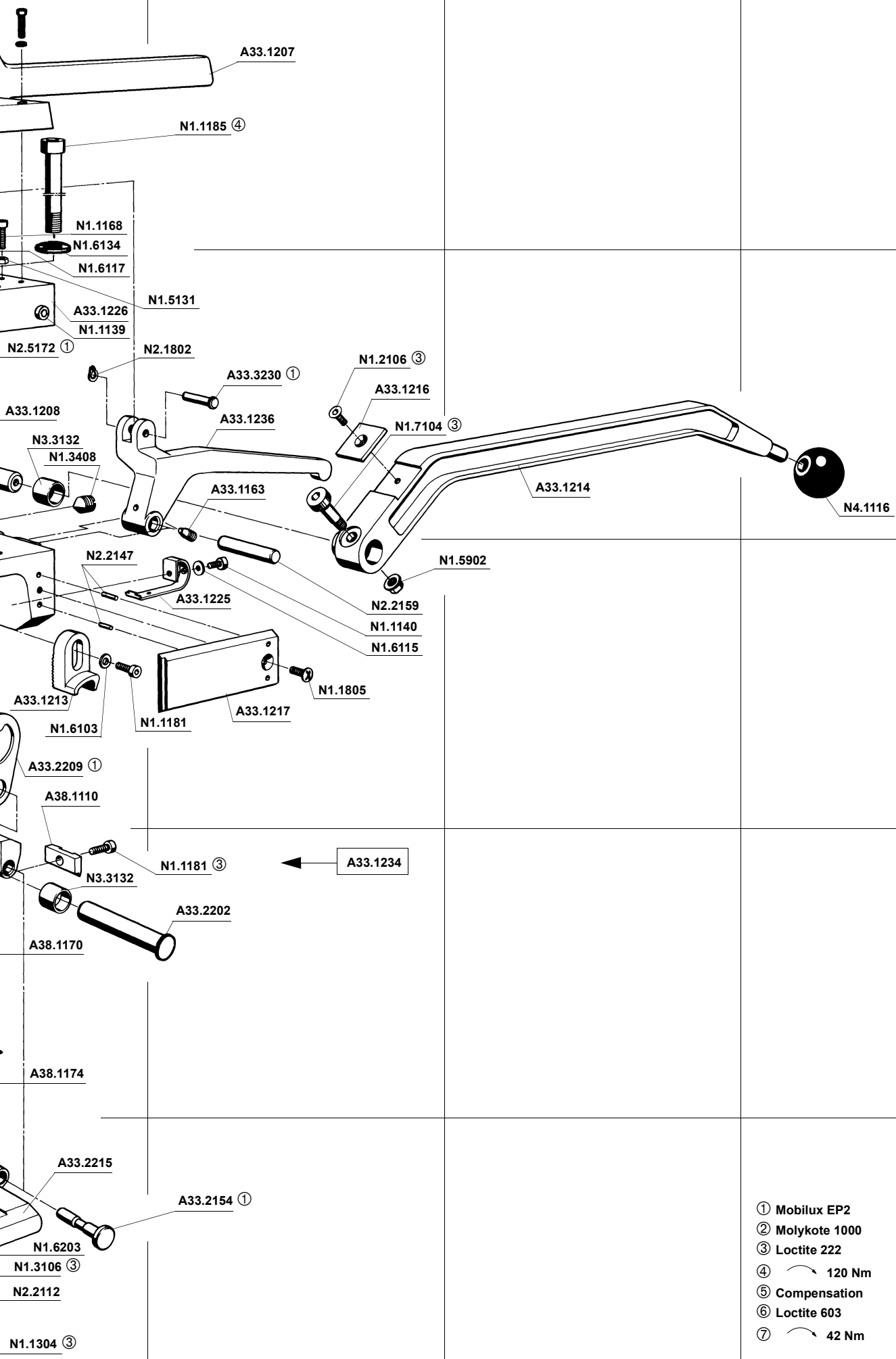
The lifting handle is raised with the right hand. The tool is then pushed to the right from the seal.



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- ① Mobilux EP2
- ② Molykote 1000
- ③ Loctite 222
- ④ 120 Nm
- ⑤ Compensation
- ⑥ Loctite 603
- ⑦ 42 Nm

8 SPARE PARTS LIST 13.2611.01

13.2611.01	A334/19/0.80		A334.0005.01		31.03.06	
Item-No.		in group	Pcs.	Description	Dimension	Field
A33.1163			1	SOCKET SET SCREW		B5
A33.1201			1	RELEASING BOLT		B3
A33.1202			1	ROD BAR		C3
A33.1207			1	COVER		A5
[A33.1208]			1	CAM		B4
A33.1209			1	RELEASING HEAD		B3
A33.1210			1	RELEASING ROD		C3
A33.1213			1	STOP		C4
A33.1214			1	SEALING HANDLE		B6
A33.1216			1	STOP PLATE		B5
A33.1217			1	COVER		C5
A33.1218			1	COVER		A3
A33.1219			1	SLIDE-BEARING		C3
A33.1223			1	PARALLEL PIN		B4
A33.1225			1	PLATE SPRING		C5
[A33.1226]			1	HOUSING		C4+
A33.1229			1	RELEASING BODY		B3
[A33.1234]			1	DIE AND CUTTER SUPPORT		D5
A33.1236			1	ROCKER LEVER		B5
A33.1237			1	KEY		C3
A33.2154			1	LIMIT BOLT		E5
A33.2201		A33.1234	1	ROLLER		C4
A33.2202		A33.1234	1	SUPPORTING SHAFT		D5
A33.2203			1	NYLON BOLT		E3
A33.2204			1	EXCENTRICAL BUSHING		E3
A33.2205			1	BUTT STRAP		D3
A33.2209		A33.1234	1	LINK		C4
A33.2211			1	EJECTOR		D3
A33.2215			1	BASE PLATE		E4
A33.2217			1	SHIM		D3
[A33.2225]	*		1	GRIPPER		E3
A33.2226		A33.1234	1	DIE AND CUTTER SUPPORT		D3
A33.3124			2	RING HALF		B2
A33.3204			1	ROD BAR		A3
[A33.3205]			1	STOP		B3
A33.3208			1	LOCKING RING		B2
A33.3209			6	TENSIONING PAWL		B2
A33.3210			1	STRAP GUIDE		D2
A33.3211			1	TENSION SHAFT		B3
A33.3213			2	SPACER WASHER		C1+
A33.3215			1	ROCKER		C1
A33.3216			1	ROCKER COVER		D2
A33.3218			1	DRIVER		C3
A33.3219			1	TENSION HANDLE		A2
A33.3221			1	BOLT		B1
A33.3226	*		1	TENSIONING WHEEL		D2
A33.3230			1	LEVER BOLT		B5
A38.1110	*		1	CUTTER		C4
A38.1170	*		1	DIE HALF		D4
A38.1171	*		1	DIE HALF		D4
A38.1174	*		1	PUNCH		D4

[] = Group

* = Wearing parts

13.2611.01	A334/19/0.80		A334.0005.01		31.03.06	
Item-No.		in group	Pcs.	Description	Dimension	Field
A3.1410			1	BOLT		C2
N1.1107			2	SCREW	M4 X 10	C3
N1.1113			7	SCREW	M5 X 20	A3+
N1.1115			2	SCREW	M8 X 40	A4
N1.1139		A33.1227	1	SCREW	M10 X 16	B4
N1.1140			1	SCREW	M4 X 8	C5
N1.1168			3	SCREW	M5 X 16	E3+
N1.1181			2	SCREW	M5 X 12	C5+
N1.1185			2	SCREW	M12 X 1,25 X 112	A3+
N1.1187			2	SCREW	M8 X 16	E4
N1.1196		A33.3205	2	SCREW	M4 X 16	B3
N1.1304			2	SCREW	M3 X 8	E4
N1.1805			1	SCREW	M5 X 8	C5
N1.1806			4	SCREW	M4 X 10	D4
N1.1808			4	SCREW	M4 X 10	A2
N1.2106			1	COUNTERSUNK SCREW	M4 X 8	B5
N1.3106			3	SOCKET SET SCREW	M5 X 6	B1+
N1.3108			1	SOCKET SET SCREW	M6 X 10	E3
N1.3112			1	SOCKET SET SCREW	M5 X 10	E3
N1.3408			1	SOCKET SET SCREW	M12 X 8	B4
N1.3503			1	SOCKET SET SCREW	M5 X 12	B3
N1.5131			1	HEXAGON NUT	M5	B5
N1.5309			1	RETAINING NUT	M10 X 1.25	E2
N1.5902			1	HEXACON NUT	M6	C6
N1.6102			1	WASHER	10.5 X 21 X 2	E3
N1.6103			1	WASHER	5.3 X 9.5 X 1	C4
N1.6115			1	WASHER	4.3 X 9 X 0.8	C5
N1.6117			2	WASHER	8.4 X 17 X 1.6	B4
N1.6134			2	WASHER	13 X 20 X 2	A3+
N1.6203			2	SPRING LOCK WASHER	M3	E4
N1.6207			9	SPRING LOCK WASHER	M5	A3+
N1.6215			2	SPRING LOCK WASHER	M8	E4
N1.6219			2	SPRING LOCK WASHER	M4	C3
N1.6222		A33.3205	2	SPRING LOCK WASHER	M4	B3
N1.7104			1	SHOULDER SCREW	8 X 30/M6	B5
N2.1108			2	SECURITY RING	20	B1+
N2.1802			2	TENSIONING RING	5	B1+
N2.2112			1	PARALLEL PIN	3 m6 X 12	E4
N2.2138		A33.1234	2	PARALLEL PIN	4 m6 X 12	D4
N2.2145			1	PARALLEL PIN	4 h6 X 18	C2
N2.2147			2	PARALLEL PIN	3 m6 X 10	C4
N2.2149			2	PARALLEL PIN	4 h6 X 22	C3
N2.2149		A33.1226	2	PARALLEL PIN	4 h6 X 22	D4
N2.2157			1	PARALLEL PIN	6 h6 X 20	A1
N2.2158			2	PARALLEL PIN	6 h6 X 16	A1+
N2.2159			1	PARALLEL PIN	10 h6 X 40	C5
N2.2166			1	PARALLEL PIN	4 h6 X 20	D3
N2.2401			1	DOWEL PIN	3 X 10	C3
N2.2410			1	DOWEL PIN	4 X 22	B3
N2.2447			1	DOWEL PIN	2 X 4	B3
N2.5154			6	PRESSURE SPRING	0.45 X 3.9 X 7/6	B2+
N2.5172			1	PRESSURE SPRING	1 X 9 X 26/10.5	B4
N2.5173			1	PRESSURE SPRING	1.6 X 9.8 X 94/42.5	C3

[] = Group

* = Wearing parts

13.2611.01	A334/19/0.80		A334.0005.01			31.03.06
Item-No.		in group	Pcs.	Description	Dimension	Field
N2.5182			1	PRESSURE SPRING	0.63 X 5.5 X 27/15.5	B3
N2.5324			1	TENSIONING SPRING	2 X 10.2 X 120	A3
N2.5606			1	CUP SPRING	40 X 20.4 X 1	B1
N3.2326			1	NEEDLE CASE	18 X 24 X 16	D3
N3.2327			1	NEEDLE BUSH	20 X 26 X 16	C1
N3.3132			2	SLIDE-BEARING	16 X 18 X 20	B4
N3.3132		A33.1234	2	SLIDE-BEARING	16 X 18 X 20	C3+
N3.3133			2	HEADED PRESS FIT BUSH	12 X 14 X 20 X 17	C2
N41.9128			1	ADHESIVE LABEL	30 X 10 X 0.1	A4
N4.1116			2	GRIP BALL	D=48	A3+

[] = Group

* = Wearing parts

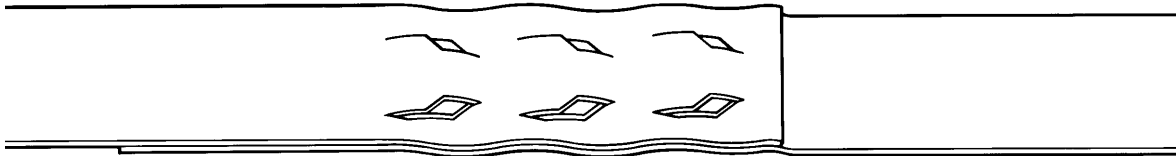
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9 SEAL CONTROL

A regular control of the seal is necessary. The seal can be checked visually and the person controlling can easily judge the quality of the seal. When checking the seal the following illustrations must be compared.

Correct seal

A correct seal must conform to the illustration. This means that the depth with which the upper strap hooks into the lower one must be 1 – 1.5 mm (0.039 – 0.059") in min. and must not exceed 2 mm (0.079"). The upper strap must be sheared clean and the cutter must not leave scratch marks on the lower strap.



Incorrect seal (the sealing mechanism is adjusted too high)

This stamped seal is not deep enough and the upper strap is not sheared. The tensile strength of this seal is insufficient and the strapping must be taken away from the package. The tool must be readjusted immediately (see SEAL ADJUSTMENT).



Incorrect seal (the sealing mechanism is adjusted too low)

This stamped seal is too deep and the lower strap is scratched by the cutter. Although the tensile strength of this seal is sufficient the strapping must be taken away from the package because of the scratched lower strap. The tool must be readjusted immediately (see SEAL ADJUSTMENT).



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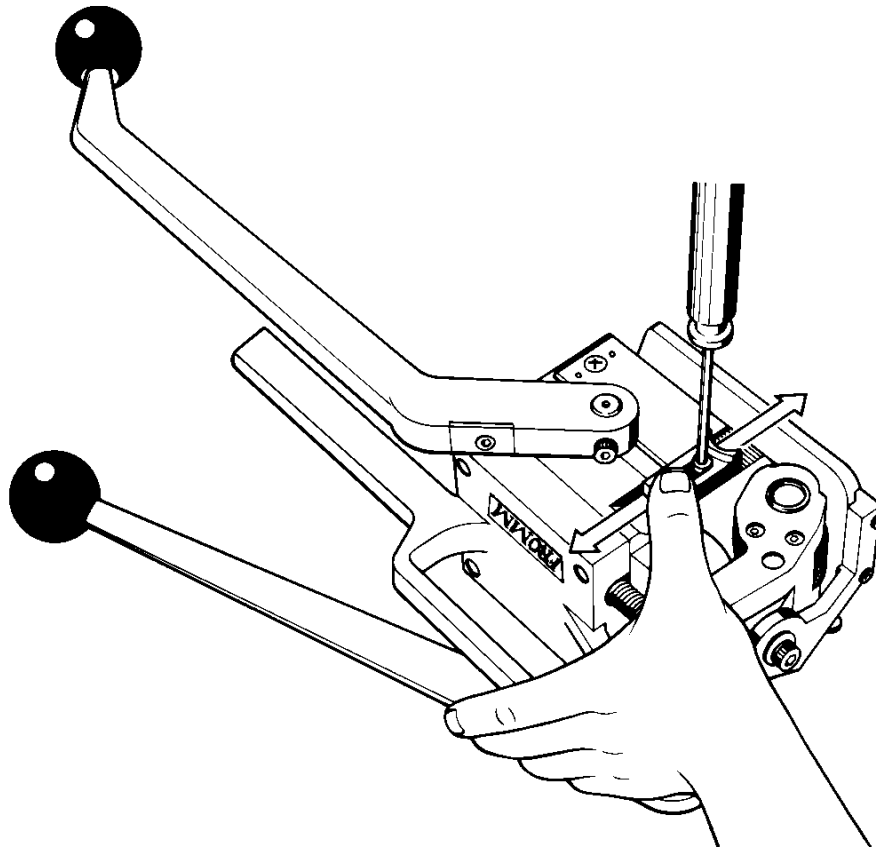
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10 SEAL ADJUSTMENT

The depth of the sealing mechanism and the cutter can be adjusted by displacing the stop. Place the tool as shown and loosen the screw with an allen key. After displacing the stop retighten the screw.



- If sealing depth is not sufficient reset stop in the direction of the base plate.
- If sealing depth is excessive reset stop in the direction of the cover.

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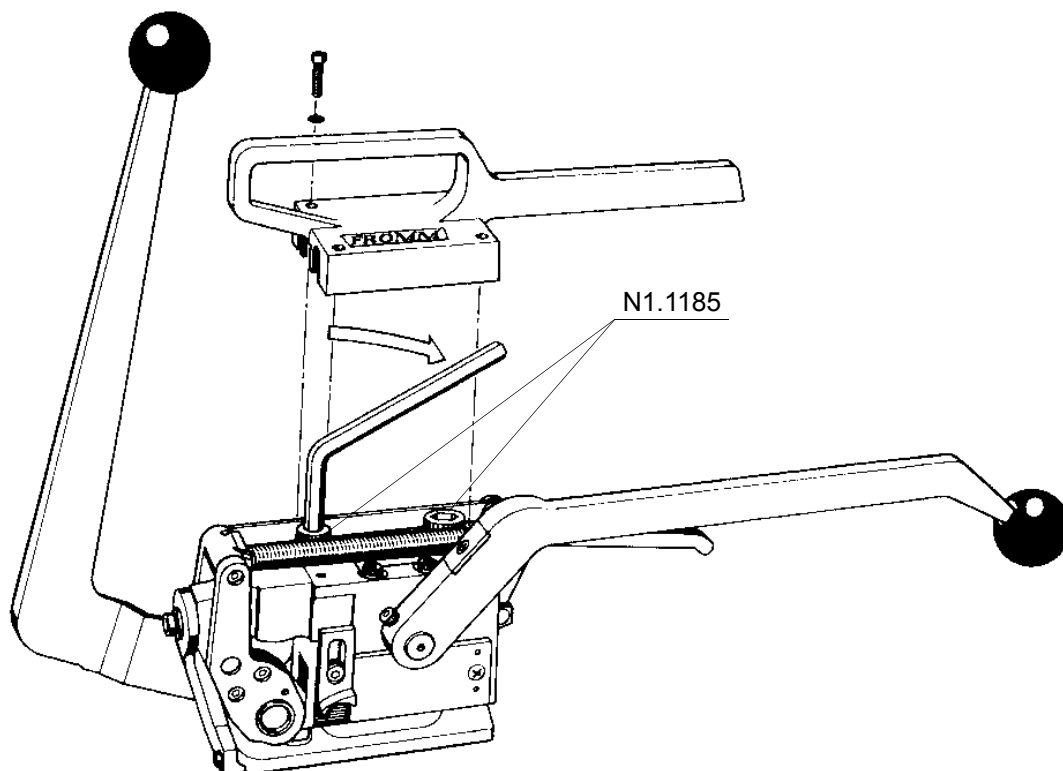
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11 MAINTENANCE

Disassembly / Assembly

If base plate was removed for service- or repair works it is important to retighten the two screws N1.1185 with tightening torque of 120 Nm / 87 ft lb when assemble.



12 CLEANING

In case of heavy dirt and when painted straps are used the punch, dies, gripper and feed-wheel must be cleaned regularly.

Normally it is sufficient to blow out the parts with the help of an air gun.

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