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BETRIEBSANLEITUNG UND SICHERHEITSVORSCHRIFTEN
OPERATING AND SAFETY INSTRUCTIONS
MODE D'EMPLOI ET DE SÉCURITÉ
ISTRUZIONI PER L'USO E DI SICUREZZA

## CH 41 P

Ab Serie-Nr. 1000

From serie no 1000

A partir du no de série 1000

A partire dal no di serie 1000

Handgerät zum Umreifen mit Stahlband

Hand tool for steel strapping

Appareil pour le cerclage par feuillard d'acier

Apparecchio per reggiare con reggetta d'acciaio



Vor dem Gebrauch des Gerätes die Betriebsanleitung aufmerksam lesen.

Before using the tool, read the operating instructions carefully.

Avant l'utilisation de l'appareil, consultez soigneusement le mode d'emploi.

Prima d'utilizzare l'apparecchio, leggere attentamente le istruzioni per l'uso.



CE

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## 1

## TECHNICAL DATA

Weight	5.5 kg (12 lbs)
Dimensions	Length 370 mm (14.55") Width 130 mm (5") Height 120 mm (4.75")
Tension force	
– Compressed air motor	
LZB 22 A008-51	up to approx. 2650 N
LZB 22 A005-51	up to approx. 5500 N
Air pressure	Maximum 6 bar static
Air consumption	
– Tensioning	4 NI/s
Tension speed	
– Compressed air motor	
LZB 22 A008-51	approx. 100 mm/s (4"/s)
LZB 22 A005-51	approx. 60 mm/s (2.36"/s)
Air connection	G 1/4" (1/4" NPT)
Sealing	Sealless notched seal with 3 notches
Emission sound pressure levels, measurement type A (EN ISO 11202)	$L_{pA}$ 83 dB (A)
Vibrations at handle (EN ISO 8662-1)	$a_{h,w}$ < 2,5 ms <sup>-2</sup>
<b>STEEL STRAP</b>	
Strap width	13, 16, 19 mm ( <sup>1</sup> / <sub>2</sub> ", <sup>5</sup> / <sub>8</sub> ", <sup>3</sup> / <sub>4</sub> ")
Normal quality:	
Strap thickness	0.40–0.63 mm (.015"–.025")
Tensile strength	Up to approx. 850 N/mm <sup>2</sup> (117'000 lbs/in <sup>2</sup> )
High strength quality:	
Strap thickness	0.40–0.58 (.015"–.022")
Tensile strength	Up to approx. 1100 N/mm <sup>2</sup> (156'000 lbs/in <sup>2</sup> )

## DECLARATION OF AGREEMENT

We take sole responsibility for declaring that the tool CH 41 P, to which this declaration refers, is in full compliance with the current requirements of the guidelines laid down by the council on 22th June 1998 (98/37/EEC), "Machine Guidelines".

According to norm:  
EN 292-1, EN 292-2, EN 349, EN 983, EN 1050, prEN 792-2

CH-8953 Dietikon, July 2003

Manager  
Sales & Marketing:

Manager  
Engineering:



R. Kieffer



M. Binder

# 2

## GENERAL INFORMATION

These operating instructions are intended to simplify familiarisation with the strapping tool and the possibilities of application for the intended purpose. The operating instructions contain important information concerning the safe, proper and efficient use of the strapping tool. Observation of the information will help to avoid danger, reduce repairs and stoppages and increase the reliability and service life of the strapping tool.

The operating instructions must always be available at the place of operation of the strapping tool. They must be read and observed by all persons concerned with work on the strapping tool. This work specifically includes operation, refilling of operating material, fault elimination and maintenance.

In addition to the operating instructions and the regulations for accident prevention effective in the country of use and place of application, the recognised technical regulations for safety and proper working must also be observed.



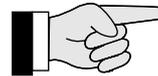
### CAUTION!

Used where there is danger to life and health.



### WARNING!

Used for danger which can cause material damage.



### NOTE!

Used for general information and information which if not followed can cause faults in the operating sequence.

### 2.1 INFORMATION ON ENVIRONMENTAL PROTECTION

This tool is manufactured without any physical or chemical substances which could be dangerous to health. For disposal of all the parts, the governmental instructions must be observed.

## 3

## SAFETY INSTRUCTIONS



**Inform yourself!**  
Read the operating instructions carefully.



**Do not use a bottled air or gas source!**  
Do not operate this tool by using a bottled air or gas source.



**Protect yourself!**  
When operating the tool, wear eye, face and hand protection (cut-proof gloves).



**Original ORGAPACK spare parts must be used exclusively!**  
Not using original spare parts will dissolve the warranty and the liability.



**Warning:**  
**Strap will snap forward!**  
When cutting the strap, hold the upper portion and stand safely away from the strap.  
**Caution:**  
The lower strap will snap forward.

#### Use for the intended purpose

The tool is intended for strapping flat packages, pallet loads etc.

This tool was designed and manufactured for safe handling during the strapping operation.

The tool processes steel straps only.

#### Possible misuse

The use of plastic straps is not possible.



**Warning:**  
**Strap could break!**  
Do not stand in line with the strap while it is tensioned. The strap could break!



**Caution:**  
**Danger of squeezing!**  
Do not put your fingers into the tension wheel area.



**Caution:**  
**Only strap packed goods!**  
Do not put hands or other parts of the body between the strap and the package during the strapping process.



**Do not exceed the air pressure!**  
Do not exceed the recommended air pressure.



**Use safety coupling!**  
For connecting the air hose to the tool, use only a safety coupling.

# 4

## DESCRIPTION

### 4.1 DESIGN

- 1 Sealing lever
- 2 Operating lever (tensioning)
- 3 Compressed air motor
- 4 Rocker lever
- 5 Tension wheel and toothed plate
- 6 Strap guide pawl
- 7 Die and die plate
- 8 Base plate
- 9 Adjusting screw (cutting depth)

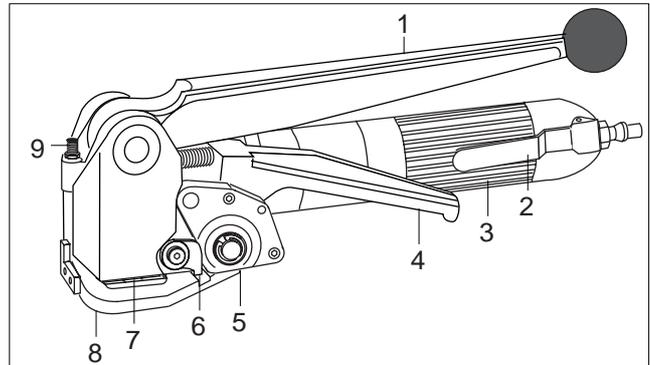


Fig. 1

### 4.2 FUNCTION

- Strap clamped by pressure on toothed plate (2/2).
- Tensioning by feed wheel principle (2/1).
- Sealing by punching strap (2/3).
- Strap cut with knife (2/4).

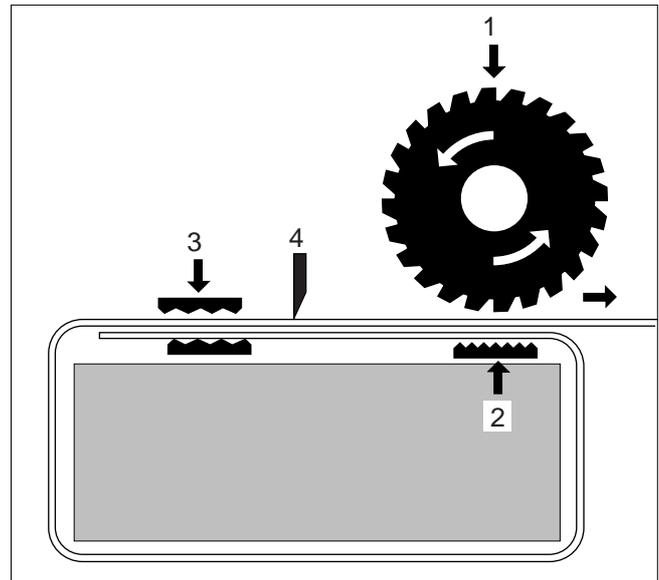


Fig. 2

### 4.3 COMPRESSED-AIR CONNECTION

The motor is lubricated by oil mist of the compressed air. Properly prepared compressed air is therefore essential for trouble-free operation of the tool. This can only be ensured by a reliably functioning maintenance unit, consisting of water separator, pressure reducing valve with pressure gauge and oil mist lubricator.

The oil mist lubricator should supply sufficient oil. The length of the hose between the CH 41 P and the maintenance unit should not exceed 5 m (15 ft). The internal diameter of the pipe should be at least 10 mm ( $\frac{3}{8}$ ""). It must be ensured that the hose does not form loops, where oil can collect.

## 5

## OPERATING INSTRUCTIONS

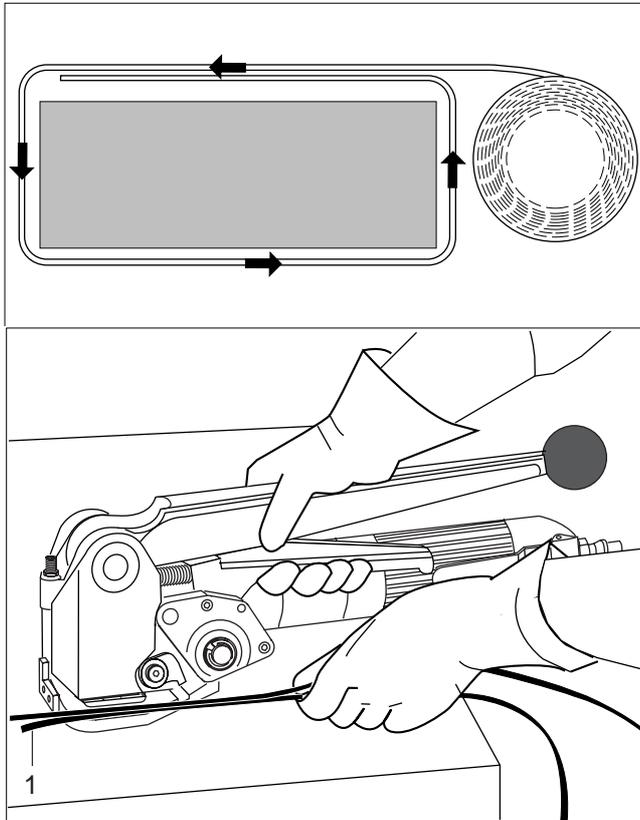


Fig. 3

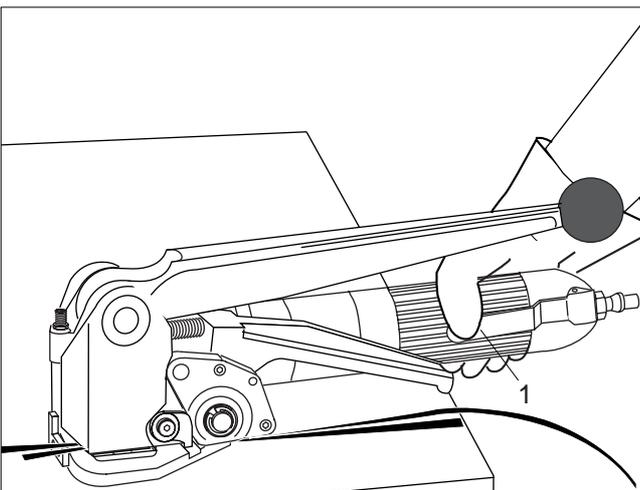
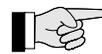


Fig. 4

## 5.1 OPERATING THE TOOL

- Wind strap tightly round packed goods, so that the straps lie above each other on top. Hold the strap in the left hand so that the lower strap start (3/1) is approx. 20 cm (8") from the hand.
- Hold the tool in right hand and raise rocker lever against compressed air motor.
- Place the tool against the strap until this contacts the stop. The lower strap start projects approx. 5 cm (2") above the tool.
- Release rocker lever. The straps are clamped tightly and are fed from the tool.



If the straps are not inserted correctly in the tool, it is not possible to perform the tensioning operation.

- Hold the tool with the right hand press the lever on the compressed air motor (4/1) until the required strap tension is obtained.

- When the strap tension is reached, move sealing lever (5/1) to the stop. The right hand remains on the compressed air motor to resist the opposing force. The strap is sealed and cut.

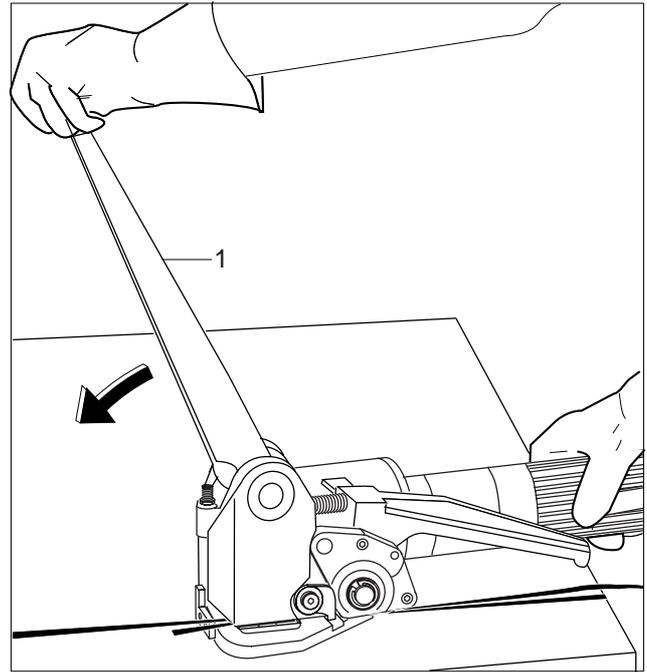


Fig. 5

- Return sealing lever to initial position.
- Raise the rocker lever against the compressed air motor.
- Swivel the tool away from the strapping to the right at the rear.

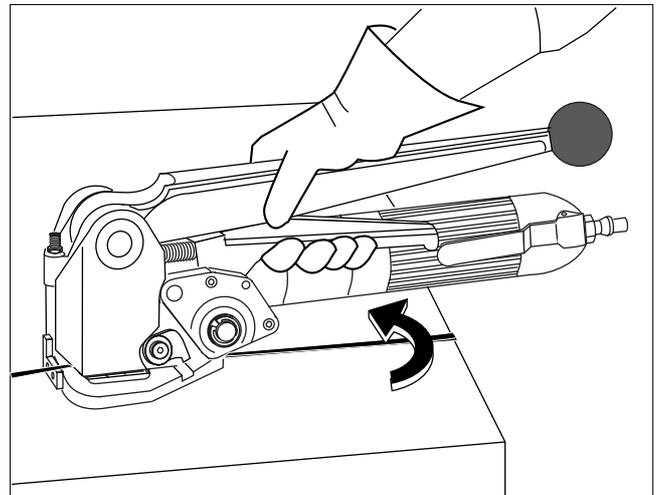


Fig. 6

**Check of seal**

To obtain the maximum seal efficiency, the notches have to be cut properly into the straps (interlock). If these notches are not correctly cut, replace die and die plate (see chapter 6.5).

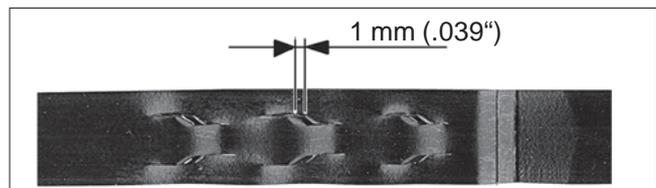


Fig. 7

## 6

## PREVENTIVE AND CORRECTIVE MAINTENANCE



The tool always has to be disconnected from the air supply, before maintenance- or repair work is performed.

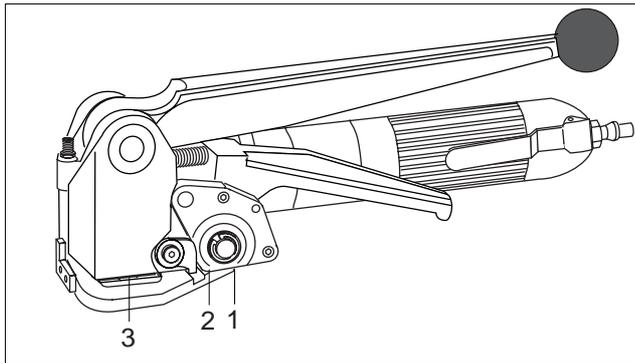


Fig. 8

## 6.1 CLEANING THE TOOL

 In the event of severe soiling it is recommended to clean the tool regularly (daily). The following parts in particular should be kept clean:

- Tension wheel (8/1)
- Toothed plate (8/2)
- Punching tools (8/3)

This is best performed by blowing out with compressed air (wear goggles).

## 6.2 SETTING THE CUTTING DEPTH

 The setting of the cutting depth must correspond to the thickness of the relevant strap. If set incorrectly, the sealing strength can be reduced.

- Release locknut (9/1).
- Set adjusting screw (9/3) with screwdriver. Turning adjusting screw clockwise increases cutting depth. Turning adjusting screw counterclockwise decreases cutting depth. Set cutting depth so that the lower strap is not touched during cutting.
- Tighten locknut.

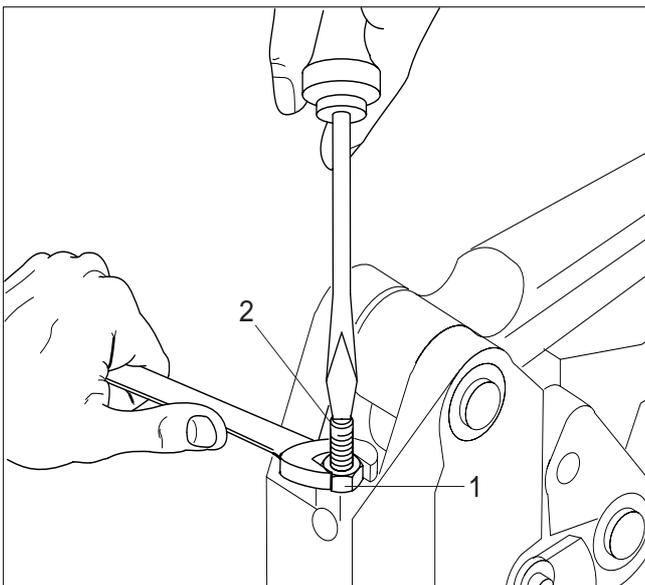


Fig. 9

### 6.3 SETTING CLEARANCE BETWEEN TENSION WHEEL AND TOOTHED PLATE

 The tension wheel and toothed plate must not touch (damage the teeth). If the spacing is too great, the strap slips through before the final tension is reached.

- Remove set screw (10/1) with socket-head spanner.
- Set the set screw underneath with a screwdriver so that the clearance between tension wheel and toothed plate is between 0.15 (.006") and 0.2 mm (.008"). Turning clockwise increases the clearance, turning counter clockwise reduces the clearance.
- Screw in and tighten set screw (10/1).
- Check clearance, reset if necessary.

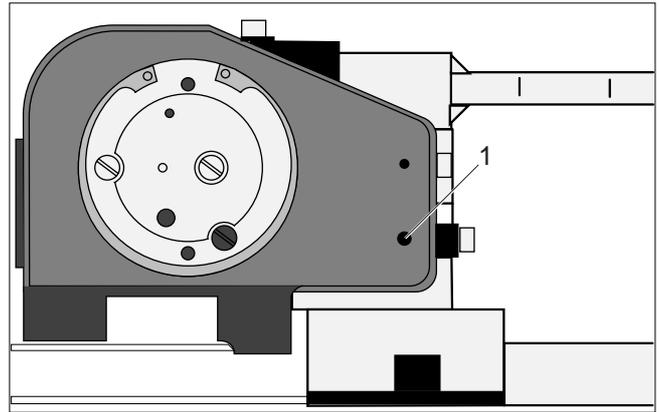


Fig. 10

### 6.4 REPLACING TENSION WHEEL

 If the tension wheel spins before the required strap tension is reached, the wheel must be replaced (precondition: clearance set correctly, see chapter 6.3).

#### Removal

- Remove two cylinder screws (11/2).
- Release cylinder screw (11/6) and remove strap guide pawl (11/8) with bushing (11/7).
- Remove retaining ring (11/4) and disk (11/3).
- Remove bearing plate (11/1) with link (11/5).
- Slide out gear housing incl. air motor (11/14) and take off compression spring (11/15).
- Remove tension shaft (11/11) with internal ring (11/9), spacer washer (11/10), tension wheel (11/12) and bushing (11/13) from gear housing.
- Remove tension wheel (11/12) and bushing (11/13) from tension shaft and replace tension wheel.

#### Installation

- Install the parts in revers order.
- Secure all screws with Loctite 243.
- Set clearance between tension wheel and toothed plate (see chapter 6.3).

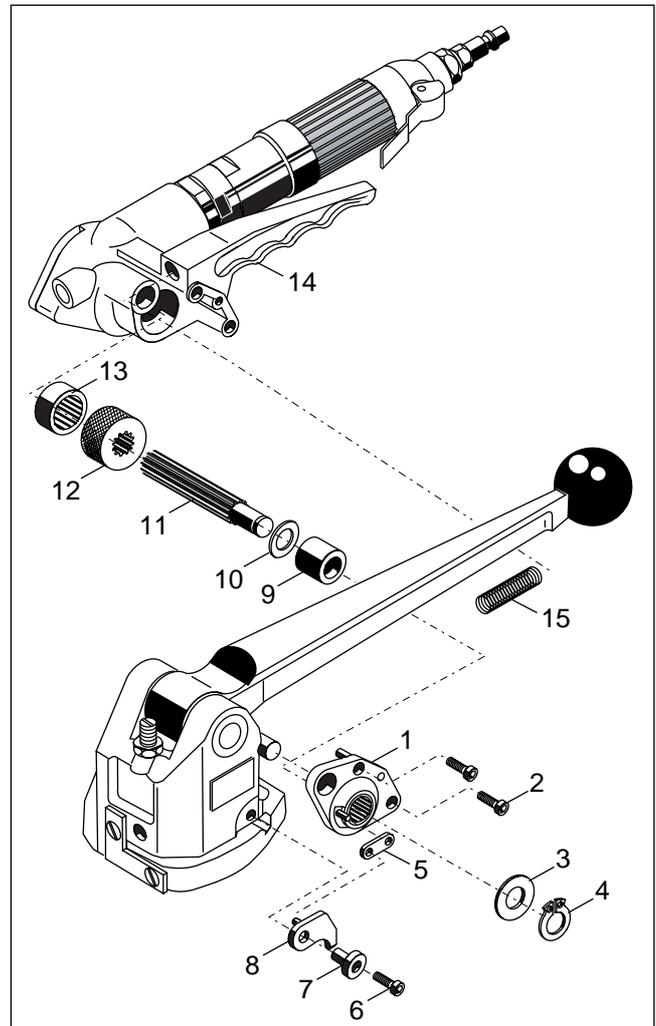


Fig. 11

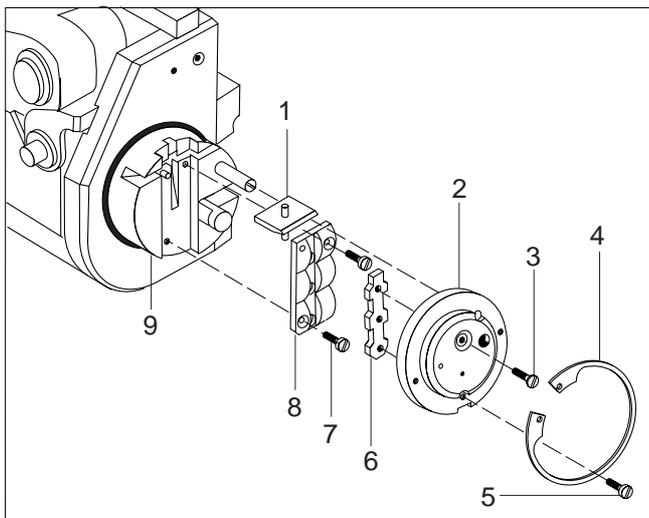


Fig. 12

## 6.5 REPLACING DIE, DIE PLATE AND KNIFE

 If the seal is no longer properly notched (seal does not grip, cut not clean), the die, the die plate and the knife must be checked and replaced if necessary.

### Removal

- Remove cylinder screw (12/5).
- Set sealing lever to initial position and remove retaining ring (12/4).
- Draw die support (12/2) from housing.
- Remove countersunk screw (12/3) and press die (12/6) from die support. Clean die support.
- Tilt sealing lever to rear and draw sealing block (12/9) carefully from housing.
- Release two cylinder screws (12/7) and remove die plate (12/8).
- Remove knife (12/1). Clean and grease sealing block.
- Replace die, die plate and knife.

### Installation

- Install the parts in reverse order.
- Secure all screws with Loctite 243.
- Set cutting depth after assembly (see chapter 6.2).
- Set clearance between tension wheel and toothed plate (see chapter 6.3).

## 7

## PARTS LIST 1178.200.000/7

When ordering please indicate part number and quantity

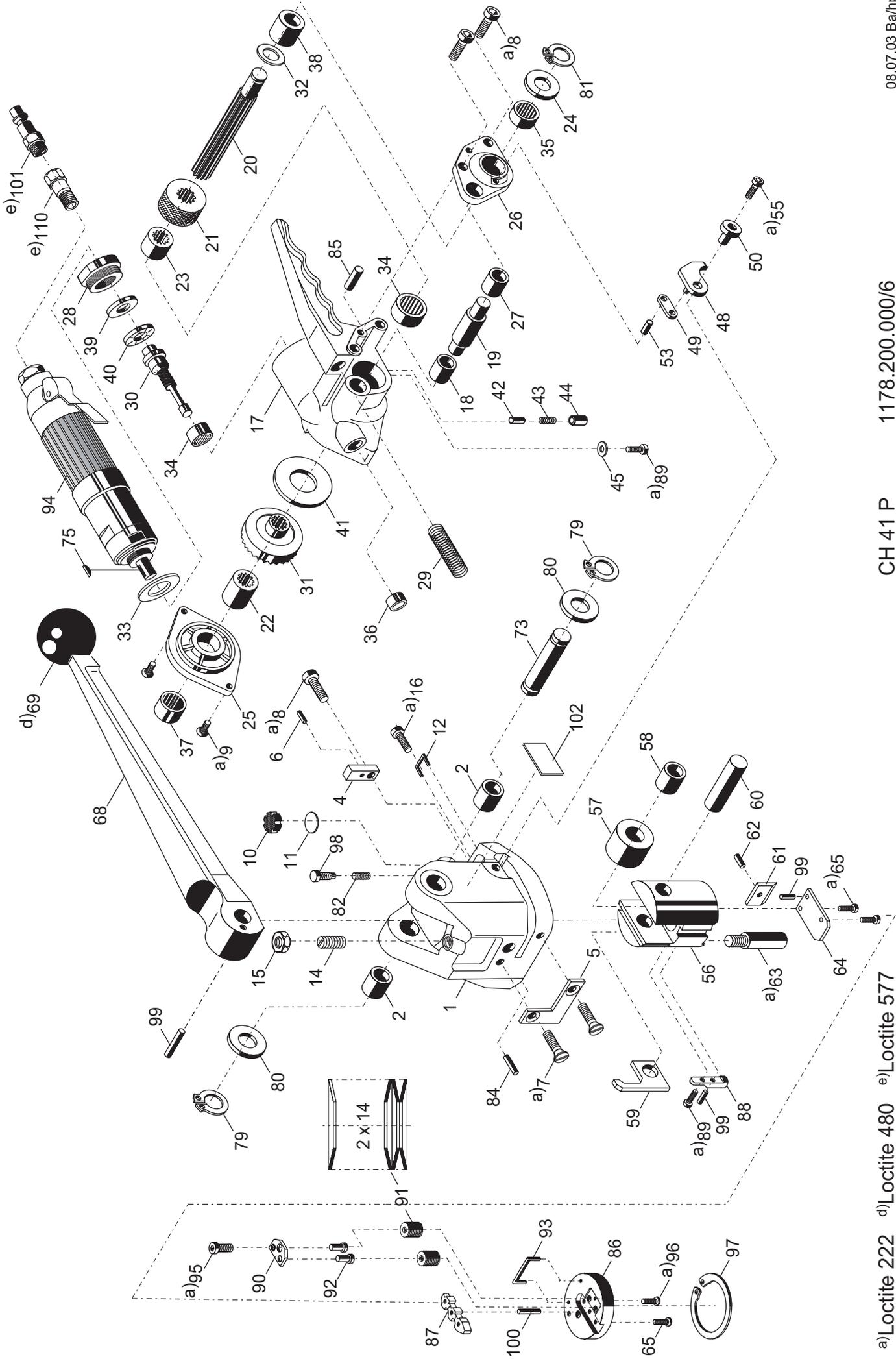
Explosion drawing see page 30

**\* Recommended spare parts**

Pos.	Part no	Part name	Quantity
1	1178.200.050	Housing, incl. pos. 2	1
2	1935.514.150	Radial-slide bearing	2
3			
4	1178.200.060	Strap stop front 13 mm (1/2")	1
4	1173.750.001	Strap stop front 16, 19 mm (5/8", 3/4")	1
5	1173.740.006	Strap stop rear 13 mm (1/2")	1
5	1173.750.006	Strap stop rear 16 mm (5/8")	1
5	1173.760.006	Strap stop rear 19 mm (3/4")	1
6	1921.403.101	Spiral pin, ø 3 x 10 13 mm (1/2")	1
7	1911.905.122	Counter sunk screw, M 5 x 12	1
8	1911.005.168	Cylinder screw, M 5 x 16	3
9	1911.905.162	Counter sunk screw, M 5 x 16	1
* 10	1820.040.107	Tooth plate	1
11	1820.020.181	Shim	1
12	1830.000.287	Safety wire	1
13			
14	1910.008.309	Setscrew, M 8 x 30	1
15	1916.008.055	Nut, M 8/0.5 d	1
16	1910.805.058	Cylinder screw, M 5 x 5	1
17	1178.200.051	Gear housing, incl. pos. 18	1
18	1935.510.150	Radial-slide bearing	1
19	1178.200.058	Shaft	1
20	1178.200.054	Tension shaft	1
* 21	1820.040.106	Tension wheel	1
22	1178.200.055	Bushing	1
23	1178.200.056	Bushing	1
24	1178.200.057	Cover plate	1
25	1178.200.053	Bearing cover	1
26	1178.200.052	Bearing plate, incl. pos. 27	1
27	1935.510.100	Radial-slide bearing	1
28	1173.900.013	Flange	1
29	1820.010.159	Compression spring	1
30	1820.060.080	ZTA-Worm gear	1
31	1820.060.064	ZTA-Wheel	1
32	1917.401.125	Spacer washer, ø 12/24 x 0,5	1
33	1917.401.262	Spacer washer, ø 26/38 x 0,2	1
34	1933.722.162	Needle bushing	2
35	1933.715.160	Needle bushing	1
36	1933.908.080	Needle bushing	1
37	1933.920.120	Needle bushing	1
* 38	1935.000.331	Internal ring	1
39	1934.450.200	Counter washer	1
40	1934.310.170	Axial needle bearing	1
41	1934.310.300	Axial needle bearing	1
42	1820.050.057	Blocking pawl	1
43	1820.010.010	Compression spring	1
44	1820.020.183	Bushing	1
45	1917.803.056	Washer, M 5	1
46			

Pos.	Part no	Part name	Quantity
47			
48	1173.740.004	Strap guide pawl 13 mm (1/2")	1
48	1173.750.004	Strap guide pawl 16 mm (5/8")	1
48	1173.760.004	Strap guide pawl 19 mm (3/4")	1
49	1173.700.013	Link	1
50	1820.020.198	Hub	1
51			
52			
53	1921.603.161	Spiral pin, ø 3 x 16	1
54			
55	1911.005.128	Cylinder screw, M 5 x 12	1
56	1173.700.005	Die cylinder	1
57	1173.700.007	Pressure roll, incl. pos. 58	1
58	1935.514.200	Radial-slide bearing	1
* 59	1173.700.012	Carrier	1
60	1820.030.324	Shaft	1
* 61	1173.700.151	Knife "D", incl. pos. 62	1
62	1921.403.121	Spiral pin, ø 3 x 12	1
63	1820.030.348	Stud bolt	1
* 64	1821.202.002	Die plate 13 mm (1/2")	1
* 64	1821.202.003	Die plate 16 mm, 19 mm (5/8", 3/4")	1
65	1910.803.088	Cylinder screw, M 3 x 8	3
66			
67			
68	1821.081.003	Sealing lever complete, incl. Pos. 69	1
69	1820.080.051	Knob, blue	1
70			
71			
72			
73	1820.030.431	Shaft	1
74			
75	1895.312.003	Key	1
76			
77			
78			
79	1920.214.102	External retaining ring, ø 14	2
80	1917.401.145	Spacer, ø 14/26 x 0,5	2
81	1920.212.102	External retaining ring, ø 12	1
82	1910.406.052	Set screw, M 6 x 5	1
83			
84	1921.306.160	Cylindric pin, ø 6 x 16	1
85	1921.306.220	Cylindric pin, ø 6 x 22	1
86	1173.740.007	Die support 13 mm (1/2")	1
86	1173.760.003	Die support 16, 19 mm (5/8", 3/4")	1
* 87	1173.700.147	Die 13 mm (1/2")	1
* 87	1173.700.148	Die 16, 19 mm (5/8", 3/4")	1
88	1173.700.153	Back up hook 13 mm (1/2")	1
88	1173.700.154	Back up hook 16, 19 mm (5/8", 3/4")	1
89	1911.005.108	Cylinder screw, M 5 x 10	2
90	1173.700.015	Cover plate	1

Pos.	Part no	Part name	Quantity
91	1925.210.042	Spring washer, ø 8/4,2 x 0,4 (2 x 14)	2
92	1173.500.073	Ejector	2
* 93	1173.700.017	Cutting wire	1
94	1894.334.000	Air motor, LZB 22 A008-51	1
94	1894.324.000	Air motor, LZB 22 A005-51	1
95	1912.503.087	Pan head screw, M 3 x 8	1
96	1911.703.127	Counter sunk screw, M 3 x 12	1
97	1920.352.202	Internal retaining ring, ø 52	1
98	1821.027.003	Stop screw	1
99	1921.604.121	Spiral pin, ø 4 x 12	3
100	1922.103.121	Ridged pin, ø 3 x 12	1
101	1940.311.721	Air connection	1
102	1820.090.066	Name plate	1
		<b>Variation USA</b>	
101	1820.100.019	Air connection, 1/4"-18 NPT	1
110	1820.100.017	Transition connection, G1/4" x 1/4"-18 NPT	1



a) Loctite 222 d) Loctite 480 e) Loctite 577

CH 41 P 1178.200.000/6

08.07.03 Bar/tp  
07.03/WE

## 8

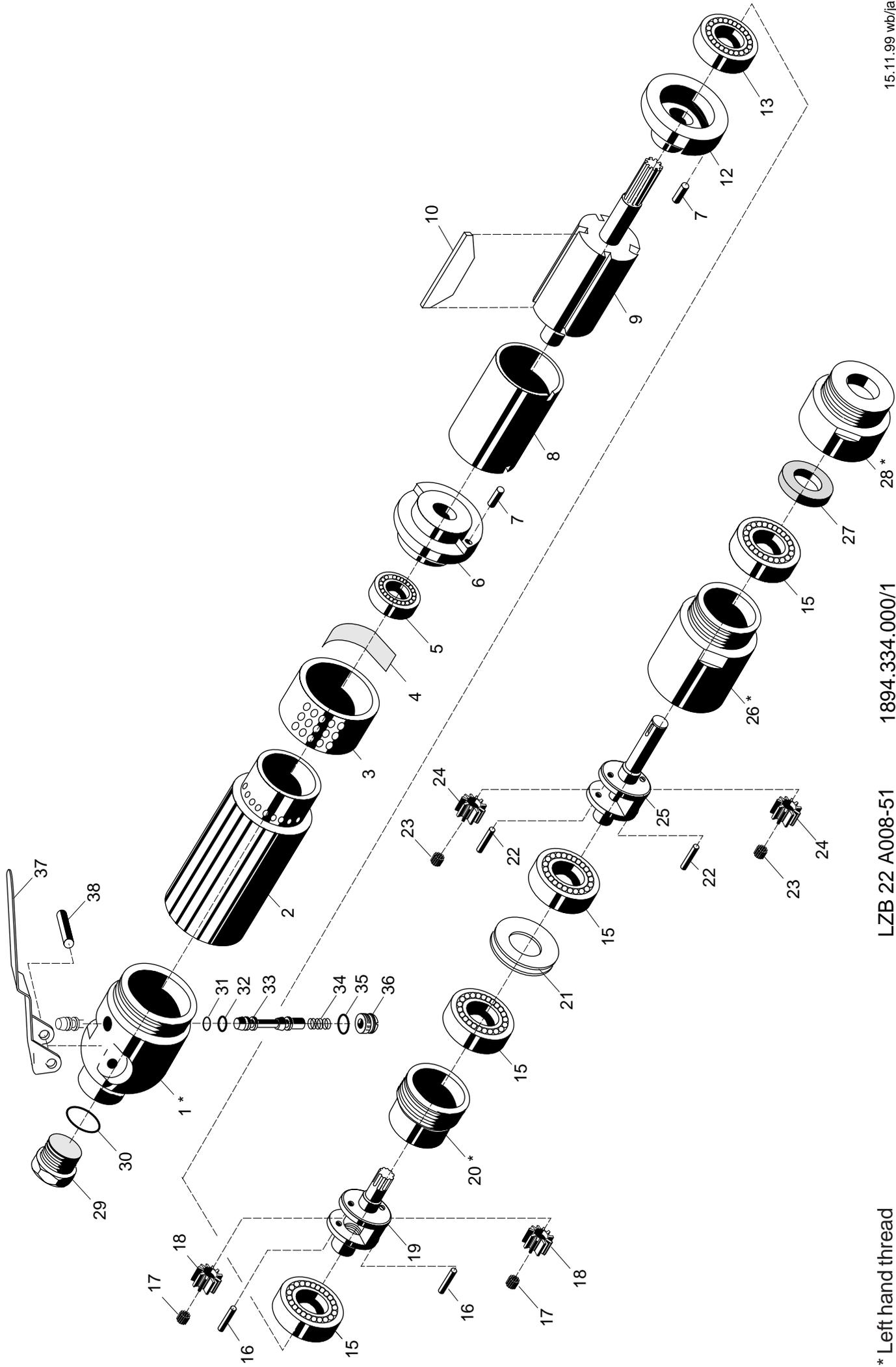
## PARTS LIST COMPRESSED AIR MOTOR

8.1 COMPRESSED AIR MOTOR  
LZB 22 A008-51 1894.334.000/1

When ordering please indicate part number and quantity

Explosion drawing see page 32

Pos.	Part no	Part name	Quantity
1	1894.324.011	Valve housing	1
2	1894.332.010	Gear housing (rear side)	1
3	1894.332.013	Silencer	1
4	1894.332.012	SilencerMesh screen	1
5	1894.332.002	Ball bearing	1
6	1894.332.003	Bearing plate rear	1
7	1894.332.001	Pin	2
8	1894.332.005	Cylinder	1
9	1894.332.004	Rotor	1
10	1894.332.007	Blade	5
11			
12	1894.332.009	Bearing plate front	1
13	1894.332.008	Ball bearing	1
14			
15	1894.332.014	Ball bearing	4
16	1894.332.015	Shaft	2
17	1894.332.016	Bearing needle	2
18	1894.332.017	Planetary wheel	2
19	1894.332.019	Planetary cage	1
20	1894.332.020	Threaded bushing	1
21	1894.332.021	Saucer spring	2
22	1894.332.022	Shaft	2
23	1894.332.024	Bearing needle	24
24	1894.332.023	Planetary wheel	2
25	1894.332.026	Planetary cage	1
26	1894.332.029	Gear housing (front side)	1
27	1894.332.027	Gasket	1
28	1894.332.028	Front part	1
29	1894.324.005	Hose adapter	1
30	1894.426.102	O-Ring	1
31	1894.324.008	O-Ring	1
32	1894.324.004	O-Ring	1
33	1894.324.010	Valve	1
34	1894.324.003	Compression spring	1
35	1894.324.001	O-Ring	1
36	1894.324.002	Plug	1
37	1894.324.007	Lever	1
38	1894.324.006	Pin	1



\* Left hand thread  
32

LZB 22 A008-51

1894.334.000/1

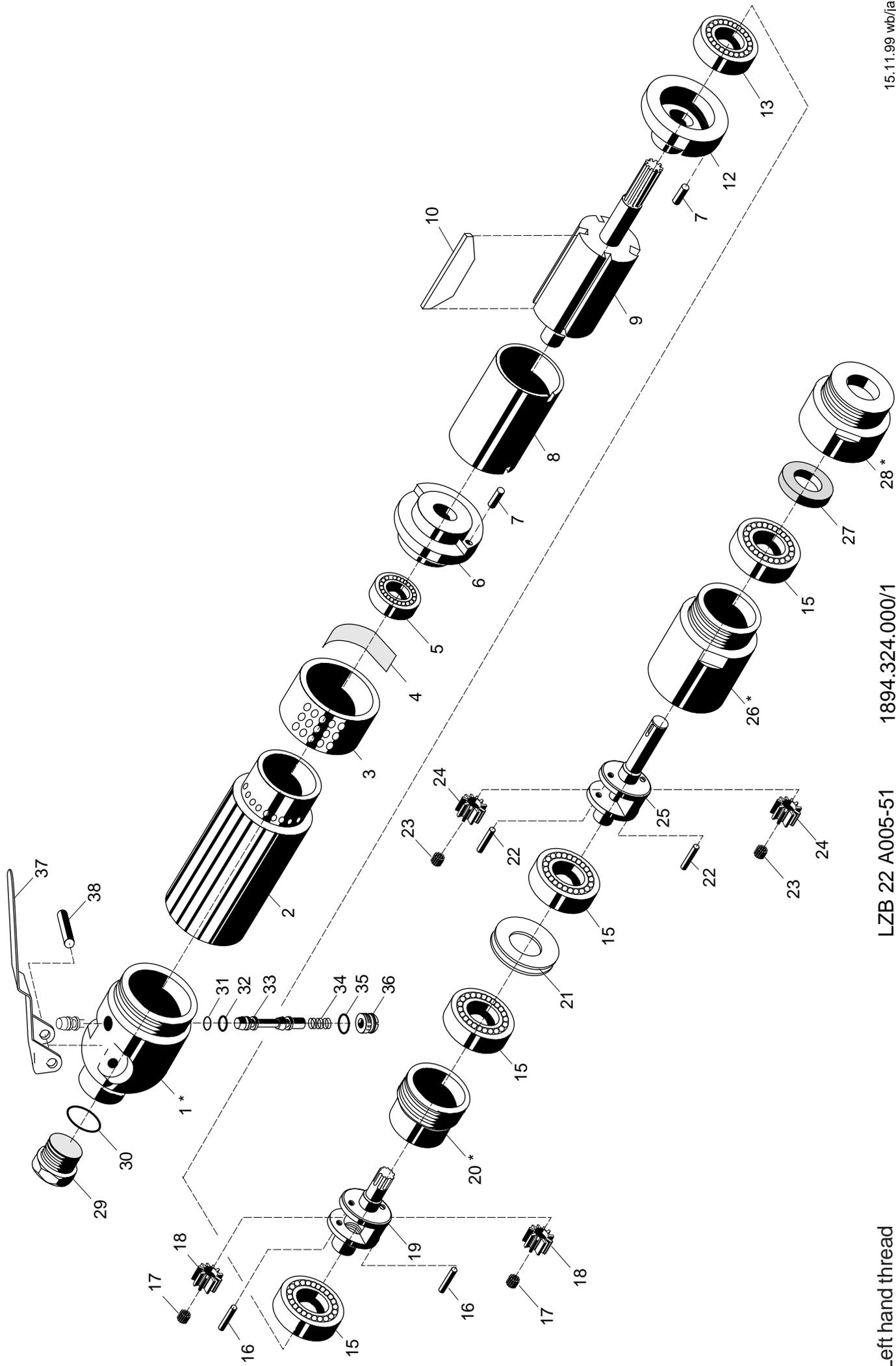
15.11.99 wb/ja  
07.03/WE

8.2 COMPRESSED AIR MOTOR  
LZB 22 A005-51 1894.324.000/1

When ordering please indicate part number and quantity

Explosion drawing see page 34

Pos.	Part no	Part name	Quantity
1	1894.324.011	Valve housing	1
2	1894.332.010	Gear housing (rear side)	1
3	1894.332.013	Silencer	1
4	1894.332.012	Mesh screen	1
5	1894.332.002	Ball bearing	1
6	1894.332.003	Bearing plate rear	1
7	1894.332.001	Pin	2
8	1894.332.005	Cylinder	1
9	1894.324.013	Rotor	1
10	1894.332.007	Blade	5
11			
12	1894.332.009	Bearing plate front	1
13	1894.332.008	Ball bearing	1
14			
15	1894.332.014	Ball bearing	4
16	1894.332.015	Shaft	2
17	1894.332.016	Bearing needle	2
18	1894.332.017	Planetary wheel	2
19	1894.324.014	Planetary cage	1
20	1894.332.020	Threaded bushing	1
21	1894.332.021	Saucer spring	2
22	1894.332.022	Shaft	2
23	1894.332.024	Bearing needle	24
24	1894.332.023	Planetary wheel	2
25	1894.332.026	Planetary cage	1
26	1894.332.029	Gear housing (front side)	1
27	1894.332.027	Gasket	1
28	1894.332.028	Front part	1
29	1894.324.005	Hose adapter	1
30	1894.426.102	O-Ring	1
31	1894.324.008	O-Ring	1
32	1894.324.004	O-Ring	1
33	1894.324.010	Valve	1
34	1894.324.003	Compression spring	1
35	1894.324.001	O-Ring	1
36	1894.324.002	Plug	1
37	1894.324.007	Lever	1
38	1894.324.006	Pin	1



\* Left hand thread  
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