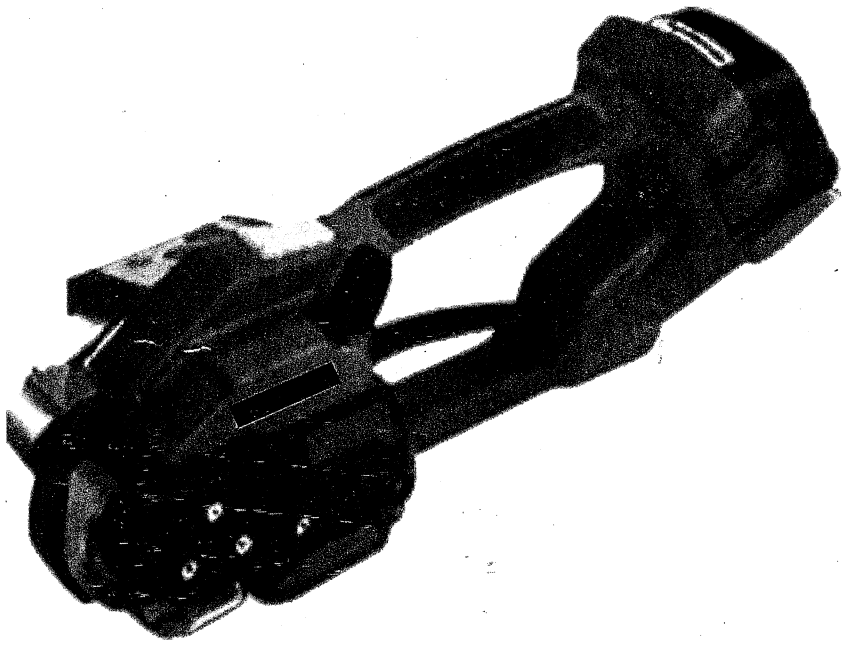
OPERATING AND SAFETY INSTRUCTIONS

Battey–hand tool for plastic strapping



Before using the tool, read the operating Instructions carefully.

TABLE OF CONTENTS

1-TECHNICAL DATA

BASIC DOCUMENT

Weight	3.9kg(8.6lbs) (incl.battery)
Dimensions(Length*Width*Height)	375mm*130mm*140mm
Strap tension	400-2000N
Tension speed	260mm/s(10.2" /s)
Sealing	Friction welded
Emission sound pressure levels,measurement	
Type A (EN ISO 11202) L_{PA}	82dB (A)
Vibrations at handle (EN ISO 8662-1) $a_{h,w}$	2.2ms^{-2}

BATTERY CHARGER/BATTERY

Voltage	Battery charger,100/240V
	(AL60DV1419)
	Bosch 12V/2.4Ah NiCd
Charging time	60 minutes
Strappings with	
One battery charge	100 to 200 depending on strap,strap tension and package
Service life	Up to approx 2000 chargings

PLASTIC STRAP

Strap quality	Polypropylene (PP), Polyester (PET)
Strap width adjustable to	12-13, 15-16mm
Strap thickness	PP (0.6-1.0mm)、PET (0.5-1.0mm)

2 -GENERAL INFORMATION

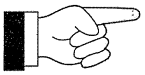
These operating instructions are intended to simplifyfamiliarisation with the strapping tool and its properues for the intended purpose.The operating instructionscontain important information concerning the safe,proper an defficient use of the strapping tool.
Compliance with the instructions will help to avoid danger, reduce repairs and stappages and increase the reliability and service life of the strapping tool.

CAUTION!

Used where there is danger to life and health.

WARNING!

Used for danger which can cause material damage.



NOTE!

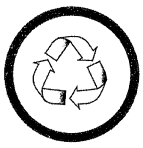
Used for general informatio and information which,if no followed can cause faults i the operating sequence.

The operating instructions must always be availableat the place of opertion of the strapping tool.Theymust be read and observed by all persons concernedwith work on the strapping tool.This workspecificiallyincludes operation,refilling ofoperating material,fault elinination and maintennance.

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 regulation for safety and proper operation must also beobserved.

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..The electrical assemblies should be dismantled so that the mechanical,electro-mechanical and electronic components can be disposed of separately.



Dealers provide an environmentally-friendly battery disposal service

- Do not open the battery.
- DO not throw the used battery into household waste,fire or water.

Defective or used batteries undergo a complete recycling process.

3-SAFETY INSTRUCTIONS

Inform yourself! Beued exclusively!
Read the operating instruction carefully.
Not using original spare parts will dis-
Preventive and corrective maintenance on the tool may only be carried out by trained personnel.

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

Power source!
Befor starting preventive or corrective maintenance, remove battery from the tool.

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.

Warning:
Strap could break
Do not stand in line with the strap while itis tensioned.
The strap could break

Caution!
Only strap packed goods!
Do not put hands or others parts of the bady between the strap and the packags during the strapping process.

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

Do not use water!
Do not use water or steam to clean the tool.

Original ORGAPACK spare parts must be ued exclusively!
Not using original spare parts will dis-solve the warranty and the liability

Use for the intended purpose
This tool is designed for strapping packages, pallet loads and the like.

The tool was designed and manufactured to Provide safe handling during the strapping operation.

The tool is designed for use with plasic straps(poly-propylene and polyester).

Possible misuse
The use of steel straps is not possible.

3.1 SAFETY INSTRUCTIONS FOR BATTERY CHARGER AND BATTERY

Always inspect the electrical plug and cable before use,if damaged,they must be replaced by qualified personnel.
Do not charge other types of batteries (seechapter 5.1)and use original accessories only.

Keep the battery charger slot freeof foreignobjects and protect against dirt.

Protect the battery charger against humidityand use it in dry areas only.

Do not open the battery,Protect the batteryagainst impact,heat and fire,Risk of explosion!

When the battery is outside the battery charger, cover its battry terminals to avoid short circuits with metal objects,risk of fire and explosion!

Keep battery dry and protected against frost..
Do not store it at temperatures over 50 ℃or below 10℃.

Damaged battries should not be used longer.

4– DESCRIPTION

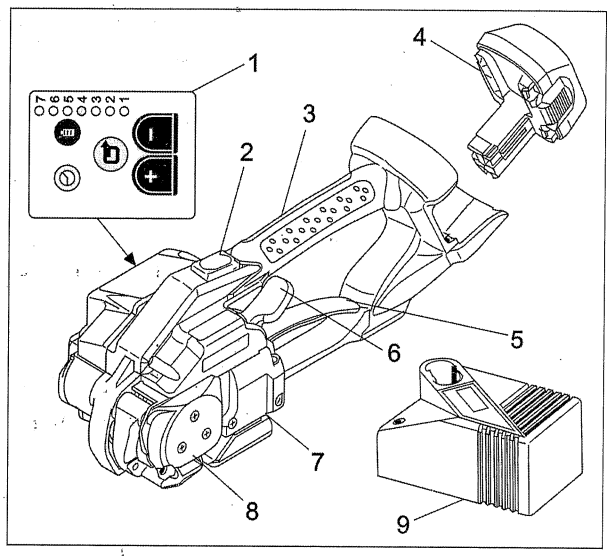


Fig.1

4.1 CONSTRUCTION

1 Operating panel
2 Strap tensioning push button
3 Handle
4 Battery lever
5 Rocker lever
6 Welding/cutting button
7 Welding/Cutting
8 Tensioning
9 Battery charger

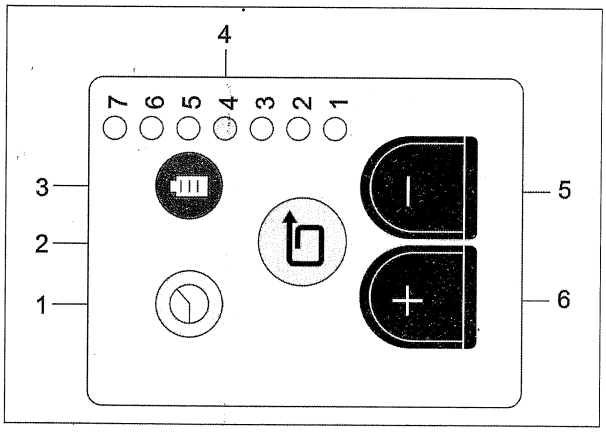


Fig.2

4.2 OPERATING PANEL

1 Welding time pushh button
2 Strap tension push button
3 Battry push button
4 LED–indicators 1–7
Green = Strap tension setting
Red = Battery empty indicator
5 Setting–push button
6 Setting+push button

For detailed information of the operating panel,refer to chaper 6.3

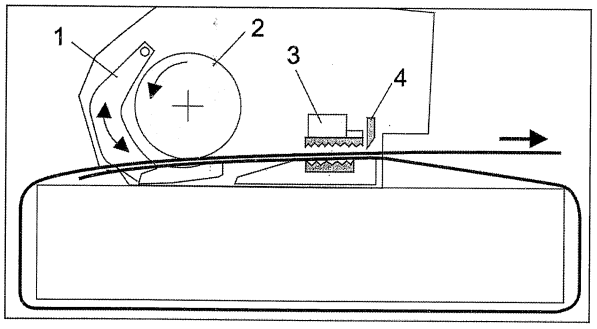
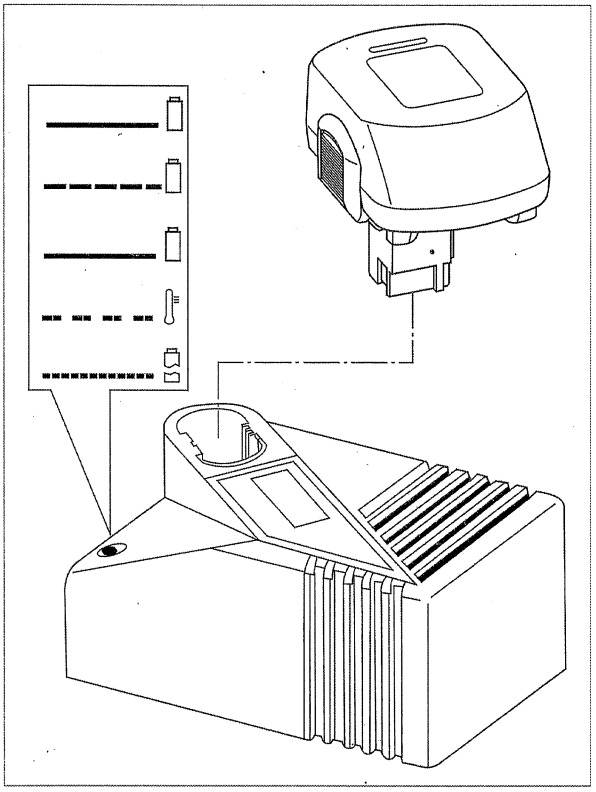


Fig.3

4.3 FUNCTION

- Clamping of the straps by tooth plate on rocker(3/1).
- Tensioning by feed wheel(3/2)anti–clockwise
- Friction welding(3/3) of the straps.
- Upper strap is cut by knife(3/4).

4.4 BATTERYCHARGE INDICATION



Continuous green light

Ready for chargig
Battery not inserted, mainssupply is connecte.

Flashing green light

Rapid charging
Rapid charding operates until the battery is fully re-charged.The battery charger then switches automaticcally to trickle charging.

Continuous green light

Trickle charging Bttery is fully charged.
The battery charger is delivering only a trickle charge.

Double flashing green light

Temperature
Warning:the battery is too hot(or too cold).
Trickle charging only.
The battery charger switches automatically to rapid charging when the temperature is within thepermitted range again.

Flashing green light

Error message
Warning:battery cannot be charged(battery or temperature sensor defective or not a BOSCH battery)

No indicator illuminated

Mains supply not connected:electrical plug,cable or battery charger defective.

For detailed information,refer to the operating instructions for the battery charger.

5- INTIAL OPERATION

Input 230V 50/60 Hz/44W
Output 7.2–14.4 V ⎓ 1.9A

Fig.5

5.1 BATTERY CHARGER

The mains supply must comply with the specifications on the rating plate(Fig.5) The battery charger is suitable only for charging batteries from the Bosch range of tools(NiCd/NiMH)with voltages between 7.2V and 14.4V.

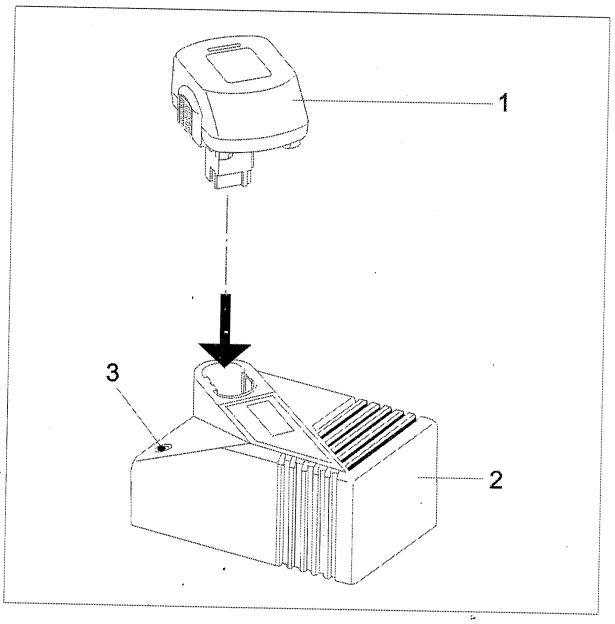


Fig.6

5.2 FIRST BATTRY CHARGE

Please observe the following points in order to ensure optimum battery life:
- Connect battery charger(6/2)to mains supply.
- Insert battery (6/1) into battery charger slot.

For the first charge,leave the battery in the charger for at least five hours,regardless of the battery indicator(the charging time for all subsequent charges is about 60 minutes).

For all subsequent charges,only recharge the battery when the LED indicator on the tool indi -cates battery empty(see Chapter6.3),Avoid charging when the battery is not yet discharged . This will ensure optimun battery capacity and life.

Maximum battery output will be reached after four or five charging/discharging cycles.

5.3 CHARGING THE BATTERY

The charging process and error function are indicated by a green light (6/3)(see chapter4.4) The charging time is approximately 60 minutes. The maximum charging current flows when the tem erature of the battery is between 15–40℃,Avoid charging the battery at temperatures below 0 ℃ and above 40℃.

If the battery is not to be used for a longer period (several days),it should be remove from the tool and charged in/stored in the battry charger.

The intelligent is charger with fuzzy control charges the battery with the optimum rapid charging current depending on temperature and capacity.If fully cha a preserving charge will prevent self–discharge and guarantee a long battery life.

6– OPERATI INSTRUCTIONS

6.1 OPERATING THE TOOL

–Insert charged battery (7/1)into strapping tool.
–lace strap round goods to be packaged ,so that the straps lie one above the other on top of package.The beginning of the strap is underneath. Hold the straps with the left hand so that the strap beginningis approximately 20cm(8 ″) ahead of the hand.

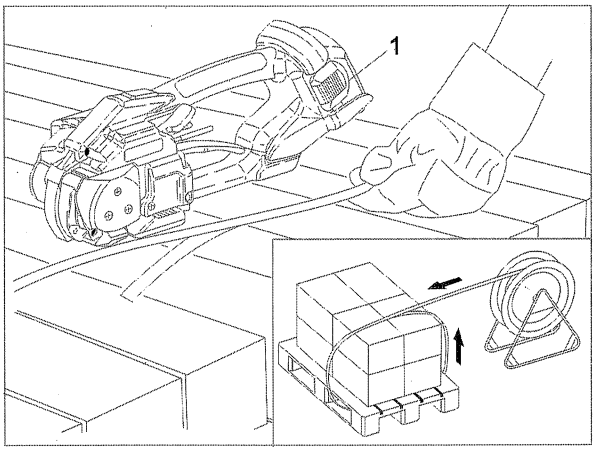


Fig.7 Place strap around package

– Take the tool in the right hand and lift the rocker lever (8/1)towards the handle.
– Slide the straps,one on top of the other,into the tool up to the stop.

The strap lead is now spproximately 5 cm (2 ″) beyond the tool.

–Release the rocker lever.

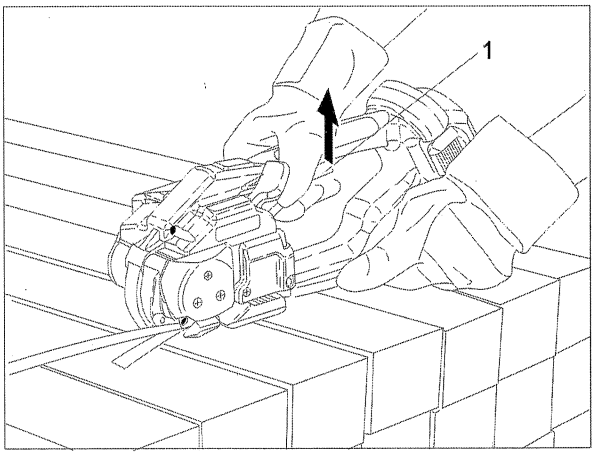


Fig.8 Slide straps into tool

–Press the push button (9/1).The strap is tensioned until the required or pre–selected strap tension is reached.
–The strap tension can be adjusted on the operating panel (see Chapter6.3.2)
–The strap can be re–tensioned at any time.

Releasing strap tension
In order to release the strap tension after the tensioning process,lift rocker lever(8/8) against handle.

Tensioning–welding:
The welding process is started only when the minimum strap tension of 400N has been attained.

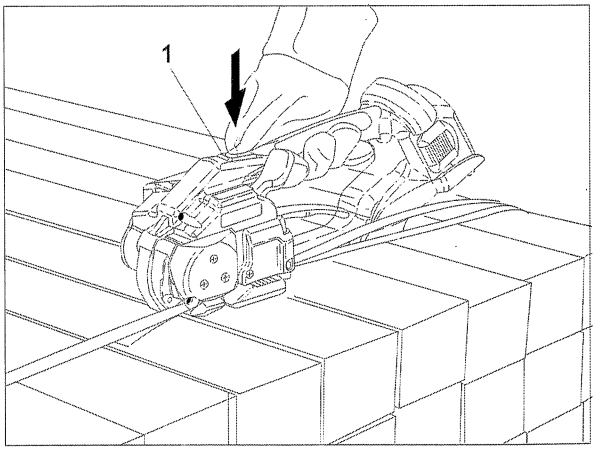


Fig.9 Strap tensioning

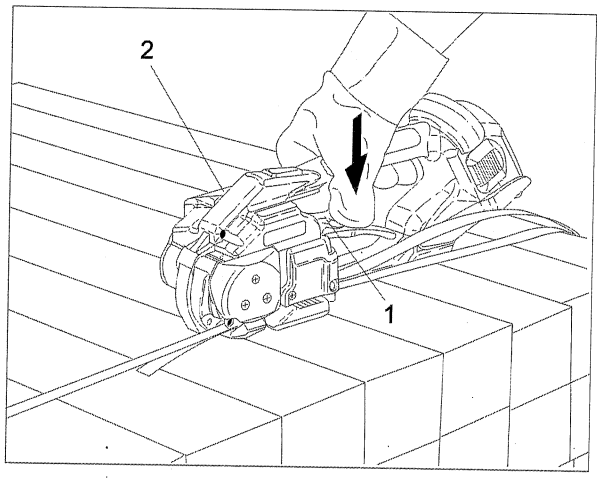
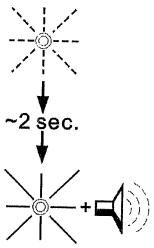


Fig.10 Welding straps

- Depress button (10/1)completely to the stop.The straps are welded together and the upper strap is out off.The LED indicator (10/2) indicates the cooling time of the sealing :



LED flashing
After finishing the friction welding , the green LED flashes for apprx,two seconds.Do not remove the tool during this time!

Continuous LED and audible signal
The sealing cycle is finished.

If the straps have not been welded and an audible signal sounds,this means the minimum strap tension was not attained-re-tension.

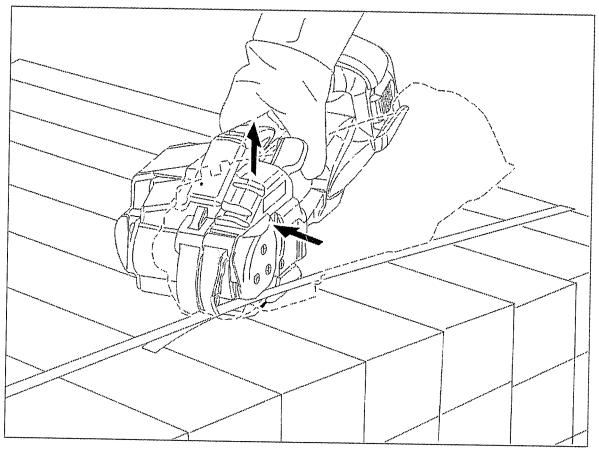


Fig.11 Removing tool

-After the LED has stopped flashing and the audible signal souds,raise the rocker lever up to the handle.
-Swing the tool away from the strapping backwards and to the right.
-Check the seal (refer to chapter6.2).

If the tool is used in a dirty environment,it is I particularly the tension wheel and the tooth plate should be checked for damage and kept clean. This is best performaed by blasting with compressed air(wear goggles).

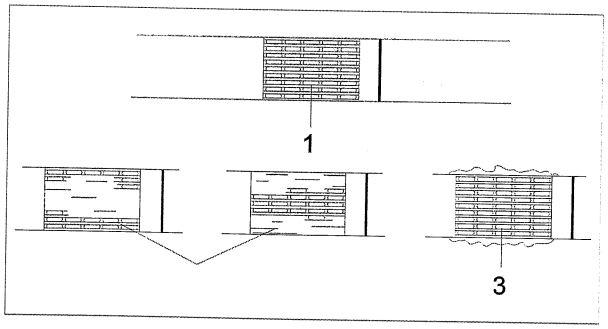


Fig.12 Cheching of seal

6.2 CHECKING THE SEAL

-Check appearance of seal (see fig.12) regularly.
If the straps are poorly welded,check the welding time setting (refer to chapter6.3.3).

1 Good seal (the complete surface is cleanly welded without excess material being forced out sideways).
2 Poorly welded seal (not welded over the complete surface),welding time too short.
3 Poorly welded seal (excess material is forced out sideways),welding time too long.

An incorrectly welded strapping cannot secure the package and can thus lead to injuries.
Never transport or move packaged goods with incorrectly welded seals.

6.3 OPERATING PANEL

a) Standard indication(green)
The current strap tension setting is monitored with inserted and charged battery
1=minimum strap tension (approx.400N)
7=maximum strap tension (approx.1200/2000N*)
depending on strap tension ,refer to chapter6.3.4
- For adjustment of strap tension ,refer to chapter 6.3.2.

b)Battery empty indication (red)
if the inserted battery is empty ,the LED switches to red and the battery must be charged,refer to chapter5.3.

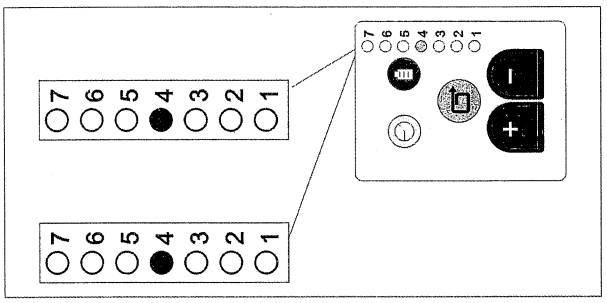


Fig.13

6.3.1 CHECKING BATTRY CHARGE

- Depress battery push button (14/1) briefly.Read off battery charge on LED indicator(14/2).
  1 = empty battery
  1-3 = minimum charge (battery must be charged soon)
  1-5 = decreasing charge(charging possible)
  1-6 = good charge (charging would damages the battery)
  1-7 = maximum battery charge(charging would damage the battery)

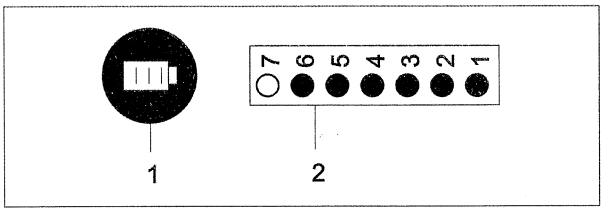


Fig.14

6.3.2 SETTING STRAP TENSION

- Depress strap tension push button (15/1) briefly umtil LED indicator(15/3)flashes.
- Depress- or+push button (15/2) until flashing LED indicator shows required strap tension(wait two seconds until new setting is saved).
  1=minimum strap tension (ca.400N)
  7=maximum strap tension (ca.1200/2000N*)
  *refer to Chapter6.3.4.

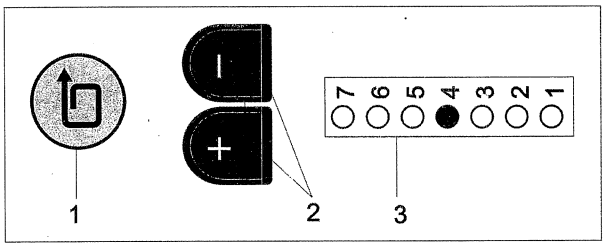


Fig.15

6.3.3 SETTING WELDING TIME

- Depress welding time push button (16/1)briefly until LED indicator(16/3) flashes.
- Depress-or+push button(16/2) until flashing LED indicator shows required welding time(wait two seconds until new setting is saved).
  1=minimum welding time
  7=maximum welding time

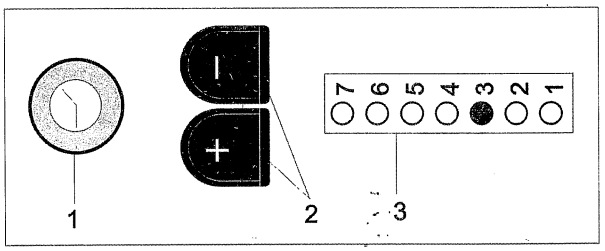
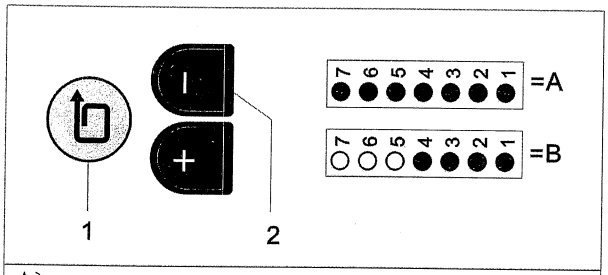


Fig.16

Cutting:
The cutting of the strap is influenced by the welding time.If the tool cuts badly,extend the welding time by one interval.



A)						
1	2	3	4	5	6	7
400*	600*	750*	850*	1100*	1300*	2000N*
B)						
1	2	3	4	5	6	7
400*	450*	600*	750*	1000*	1100*	1200N*

Fig.17

* Standard values!Actual value on package depends on strap and package.

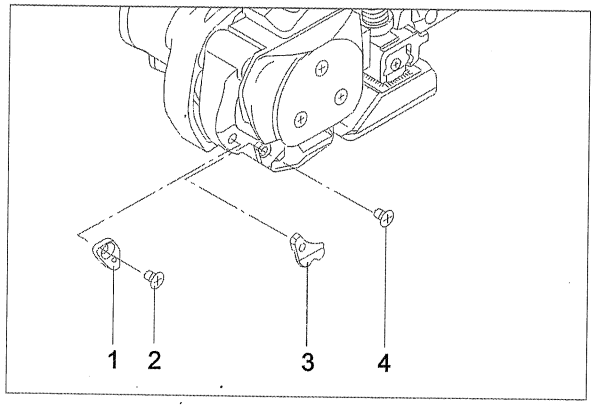


Fig.18

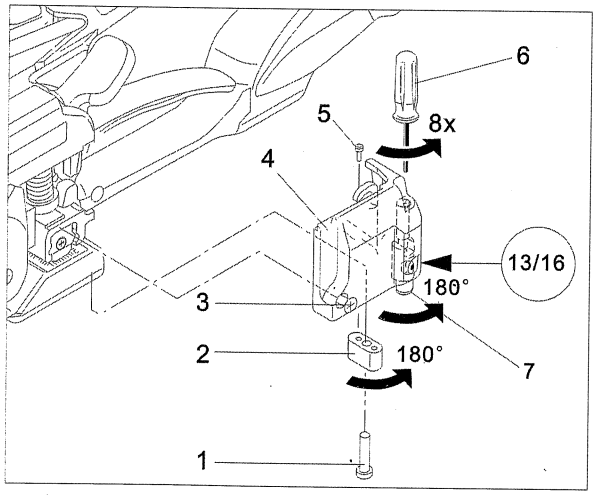


Fig.19

6.3.4 SETTING STRAP TENSION RANGE

The following two strap tension ranges can be set on the tool:
A=400–2000N(standard)
B=400–1200N(en for 13 mm straps)

Check strap tension range

- Depress and hold down "–" push button(17/2),and depress strap tension push button(17/1)for one second.
- If the LEDs 1–7 are flashing = A (400–2000N)
- If the LEDs 1–4 are flashing = B (400–1200N)

Change strap tension range

- Depress and hold down "–" push button (17/2),and depress strap tension push button (17/1) for one second.
- Depress "–" or "+" push button briefly so strap tension range changes(wait two seconds until new setting is saved).

6.4 SETTING STRAP WIDTH

The tool can be used with two different strap widths(12–13mm(1/2")or 15–16mm(5/8").

a) Change strap width from 12–13mm to 15–16mm

- Remove battery from tool.
- Release sunk strew(18/2) and remove strap stop 13mm(18/1).
- Lift the rocker lever towards the handle,release sunk screw(18/4) and remove strap guide 13mm (18/3).
- Release sunl screw(19/3)and cylinder screw(19/1) and remove cover(19/4).
- Release cylinder screw(19/5) turn strap stop (19/2) 180 and remount it.
- Unscrew threaded bolt eight turns with screwdriver (19/6).
- Pull down strap guide (19/7) and turn it 180 until 16mm indicator appears.
- Tighten threaded bolt with screwdriver(19/6) and mount cover(19/4).
- Secure screws (19/1)and (19/3) with Loctite222.

b) Change strap width from 15–16 mm to 12–13mm

- Sequence as described under point a).
- Mount 13mm strap stop (18/1) and secure sunk screw(18/2)with Loctite222
- Mount 13mm strap guide(18/3)and secure sunk screw(18/4)with Loctite222.
- Turn strap stop (19/2).
- Turn strap guide(19/7)until "13" indicator appears.

7- PREVENTIVE AND CORRECTIVE MAINTENANCE

7.1 CLEANING/REPLACING TENSION WHEEL

All preventive maintenance tasks can be performed with a Phillips screw driver!

Removal
- Remove battery from tool.
- Release three sunk screws(20/2)and remove cover (20/3)with ball bearing.
- Lift rocker lever(20/4) and remove tension wheel (20/1).
- Clean the tension wheel with compressed air(wear goggles).
- If the tension wheel teeth are covered with heavy dirt,they must be carefully cleaned with the wire brush supplied.
- Check tension wheel for worn teeth.If a few teeth are broken,replace tension wheel (observe rotating direction,see arrow).

The tension wheel must not be cleaned while it is rotating.There is a risk of breakingteeth!

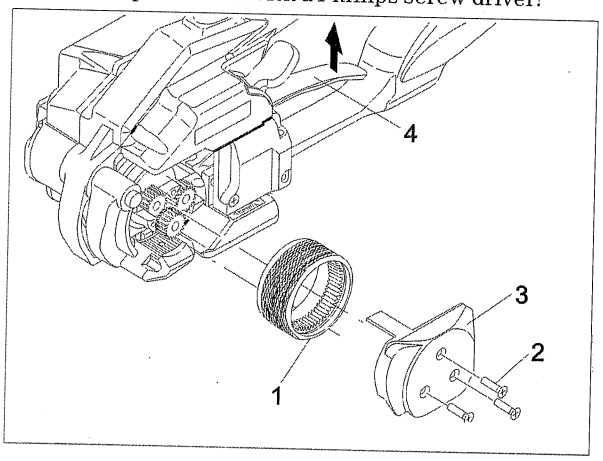


Fig.20

Installation
- Install the parts in reverse order.
- Grease gear teeth of tension wheel lightly with Kluber grease GBU Y131(Microlube).
- When mounting tension wheel lift rocker lever.
- Secure sunk screw(20/2)with Loctite 222.

7.2 CLEANING/REPLACING TOOTH PLATE

Removal
- Remove battery from tool.
- Release sunk screw (21/1)and remove tooth plate (21/2).
- Clean tooth plate with compressed air (wear goggles).
- If the tooth plate teeth are corvered with heavy dirt.they must be carefully cleaned with the wire brush supplied or a sharp tol.
- Check tooth plate for worn teeth,if nacessary replace tooth plate.

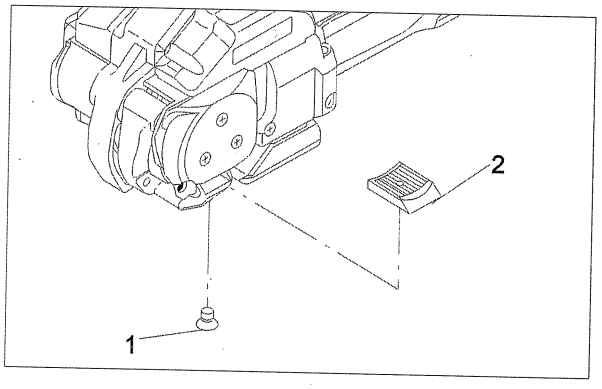


Fig.21

Installation
- Install the parts in reverse order.
- Secure sunk screw(21/1)with Loctite222.

7.3 REPLACING CUTTING KNIFE

Removal
- Remove battery from tool.
- Release sunk screaw(22/2) and screw (22/1) and remove cover(22/3).
- Release cylinder screw(22/6) and remove cutting knife(22/4) with flanged bushing(22/5).Replace cutting knife.

Installation
- Install he parte in reverse order.
- Befor install cutting knife,chenck that the compressing spring on top of knife is still mounted.
- Secure screw(22/1),(22/2) and (22/6) with Loctite222.

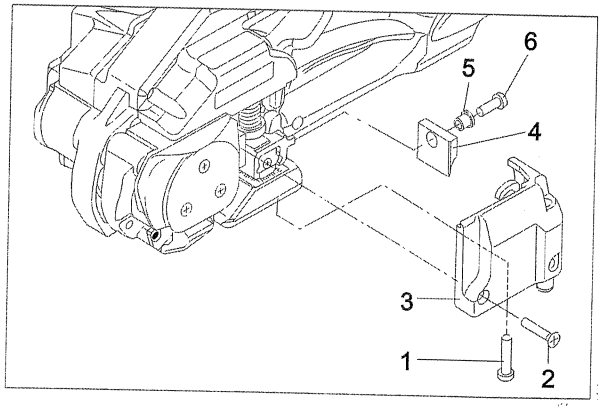


Fig.22

8-Recommended spare parts

Number	Part number	Part name	Attention
1	1832.011.095	Base plate complete, inl. pos. 3-5	
5	1921.310.521	Cylinder pin	
7	1832.022.109	Tooth plate below	
8	1832.022.055	Set screw	
10	1821.061.009	Bevel wheel with pinion	
12	1930.190.154	Ball bearing	
13	1832.039.174	Spacer ring	
14	1832.039.180	Blocking wheel complete, incl. pos. 16	
20	1917.401.365	Spacer disk	
21	1821.060.017	Internal gear ring	
22	1821.060.016	Planrtary wheel, st step	
23	1832.039.165	Planetary support complete	
28	1917.401.125	Spacer disk	
30	1832.039.177	Flange complete, incl. pos. 33	
33	1921.304.200	Cylinder pin	
35	1832.039.185	Cam disk	
37	1821.060.014	Planrtary wheel, nd step	
38	1821.047.006	Tension wheel	Easily break
40	1832.031.037	Rocker	
43	1832.031.022	Strap stop, front, 13mm	
46	1821.048.008	Tooth plate	Easily break
49	1821.140.032	Brushcover-set	
53	1832.039.175	Carrier	
55	1832.039.169	Tothed belt wheel complete, inl. pos. 54, 57	
57	1936.501.060	Bushing	
58	1821.061.012	Bevel wheel complete, incl. pos. 54, 60	
60	1926.502.060	Bushing	
61		Disk	
62		Disk	
69	1832.022.062	Planrtary wheel, nd step	
70	1832.022.060	Disk	
77	1922.103.083	Ridget pin	
78	1821.011.020	Tension spring	

Number	Part number	Part name	Attention
88	1912.403.056	Oval head screw	
90	1832.022.050	Ball guide	
91	1832.022.045	Cover plate	
93	1832.022.046	Tooth plate top	
94	1821.010.053	Compression spring	
95	1821.209.019	Cutter knife	Easily break
96	1832.022.049	Flanged bushing	
100	1832.011.115	Cover tensioning	
102	1832.042.021	Strap guide, 13mm	
109	1832.031.027	Rocker lever complete, incl. pos. 111-113	
111	1821.039.024	Threaded	
112	1922.104.303	Ridget pin	
113	1922.104.300	Cylinder pin	
114	1832.031.018	Blocking pawl	
115	1821.031.048	Bolt	
116	1832.039.163	Toothed segment	
120	1821.036.003	Tension spring bolt	
121	1821.011.021	Tension spring	
124	1821.010.052	Compression spring	
125	1910.010.088	Threaded bolt	
126	1821.010.058	Compression spring	
127	1832.022.110	Welding button-set, incl. pos. 156	
128	1832.022.099	Bolt	
130	1832.022.098	Cam	
132	1821.151.004	Micro switch, welding	
134	1911.804.106	Shim plate	
135	1832.022.091	Spring bow	
136	1832.022.092	Roller	
137	1832.022.093	Shaft	
138	1832.022.094	Pressure bolt	
139	1821.010.056	Spring	
142	1821.030.033	Shaft	
146	1832.011.104	Cover welding	
147	1832.042.015	Strap guide, 13/16mm	

Number	Part number	Part name	Attention
148	1832.042.019	Strap stop 13/16mm	
149	1832.042.017	Hook	
151	1832.042.020	Pin screw	
152	1821.010.057	Compression spring	
155	1832.011.097	Gear cover	
158	1832.011.124	Housing part right, blue	
160	1832.011.122	Housing part left, blue	
164	1832.011.102	Protection plate	
166	1832.011.101	Swith button, yellow	
167	1821.010.054	Compression spring	
168	1821.151.003	Micro switch, tensioning	
170	1832.011.132	Motor cover complete, blue	
171	1821.152.038	Contact plate	
172	1821.152.036	Printed circuit board digital	
176	2179.150	Battery	
177	2179.250	Charger	
63x		Bushing complete, incl. pos. 77	
68x	1832.022.057	Eccentric shaft	
75x		Swivel bearing complete, incl. pos. 77	
85x		Clylinder screw	
87x		Welding shoe	
A41		Ball bearing	
A57		Retaining ring	
A60	1916.306.062	Lock nut	
A69	1910.605.082	Set screw	
B34	1920.108.102	Retaining ring	
K301	1920.104.072	Retaining ring	
M113	1930.180.152	Ball bearing	
M114	1930.180.350	Ball bearing	
M115	1930.190.102	Ball bearing	
M209	1926.502.100	Free-wheel needle bearing	
M214	1933.710.150	Needle bushing	
M222		Free-wheel needle bearing	
M305	1935.510.150	Slide bearing	

Number	Part number	Part name	Attention
M307	1935.512.080	Slide bearing	
P104	1911.004.128	Clylinder screw	
P107	1912.404.256	Oval head srew	
P108	1911.004.258	Clylinder screw	
P112	1911.005.208	Clylinder screw	
P113		Clylinder screw	
P301	1912.203.088	Counter sunk screw	
P302	1911.804.066	Counter sunk screw	
P312	1911.803.066	Counter sunk screw	
P406	1914.635.200	PT-Screw	
P407	1912.401.106	Oval head screw	
P408	1912.403.126	Oval head screw	
P410	1912.404.106	Oval head screw	
P411	1914.630.100	PT-Screw	
Q104	1821.067.008	Tothed belt	
Q117	1925.010.802	Globule hardened	

Assembly Drawing