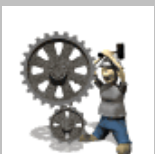


BXT 19  
BXT

 **SIGNODE®**



## Service - Guide 2008



# BXT 19 BXT



## Overview

<i>Service overview</i>	<i>Page</i>	<i>2</i>
<i>Generals, Overview</i>		<i>3-6</i>
<i>Wear Parts</i>		<i>7</i>
<i>Strap width adjustement</i>		<i>8</i>
<i>Touch-Panel / PC Board</i>		<i>9-14</i>
<i>Battery - Guide</i>		<i>15-16</i>
<i>Welding adjustments</i>		<i>17-18</i>
<i>Drive System</i>		<i>19-21</i>
<i>Motor / Brush cover</i>		<i>22-26</i>
<i>Help guide / Tension wheel</i>		<i>27-31</i>
<i>Updates 2005-2007</i>		<i>32-35</i>
<i>Final check</i>		<i>36</i>



BXT 19  
BXT



## Easy and fast to service

Simple design

Phillips s. driver fits for most screws and is attached with the tool box

No special tools are needed

Very easy to replace wear parts even by operator

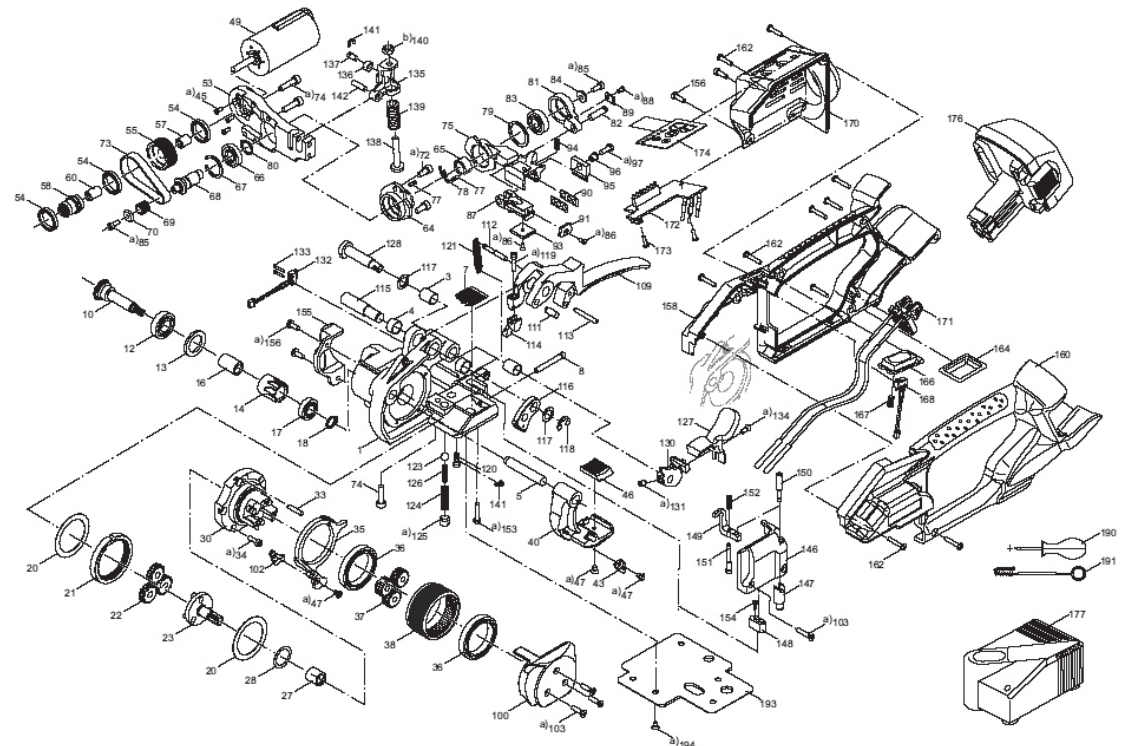
All parts documented in the manual and available as spare parts out of the Orgapack KANBAN system.

**SIGNODE®**

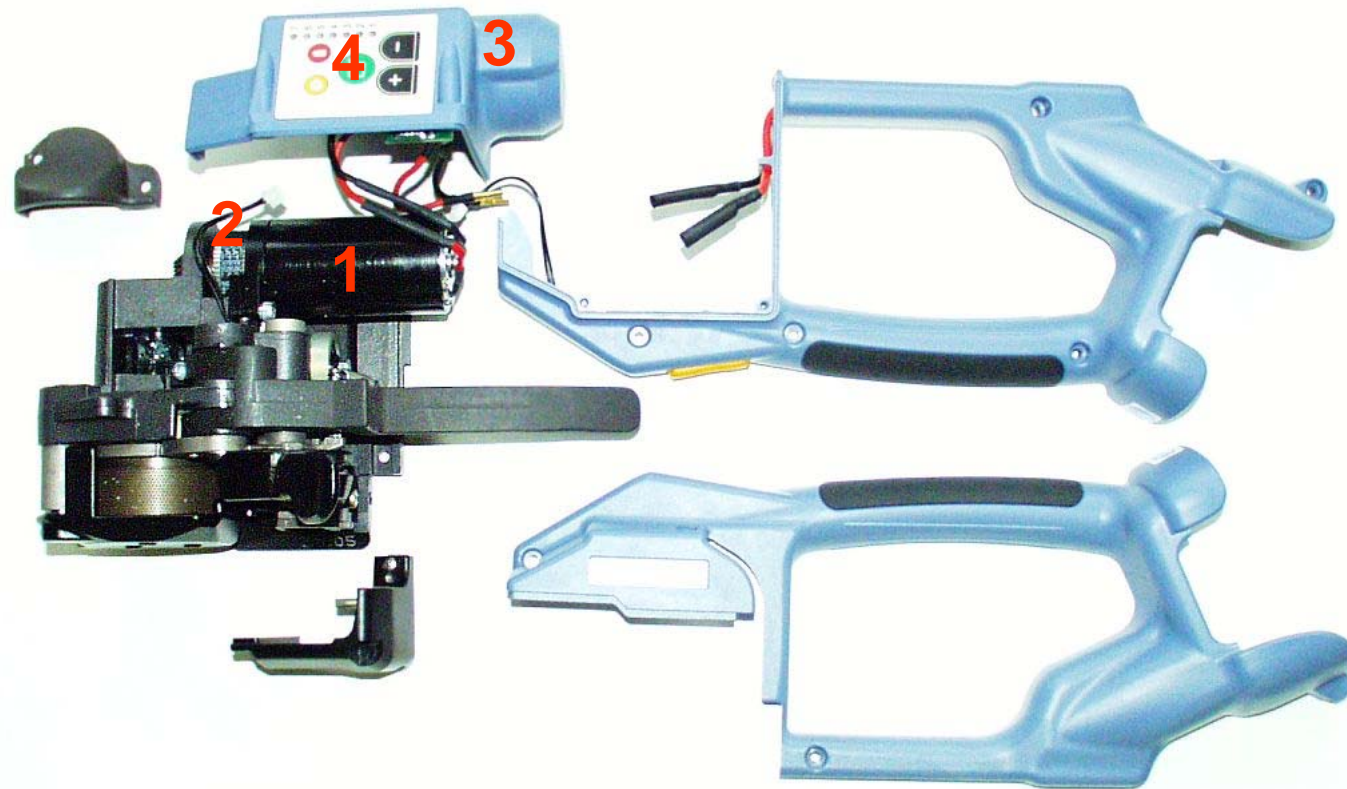


Phillips screw driver

servicing



BXT 19  
BXT



Overview

**Technical details**

1 Motor system with 2 drive direction (1)

Belt drive unit for welding drive (2)

Seperate cover for pc-board (3)

Touch panel for adjustments without mechanical components (4)

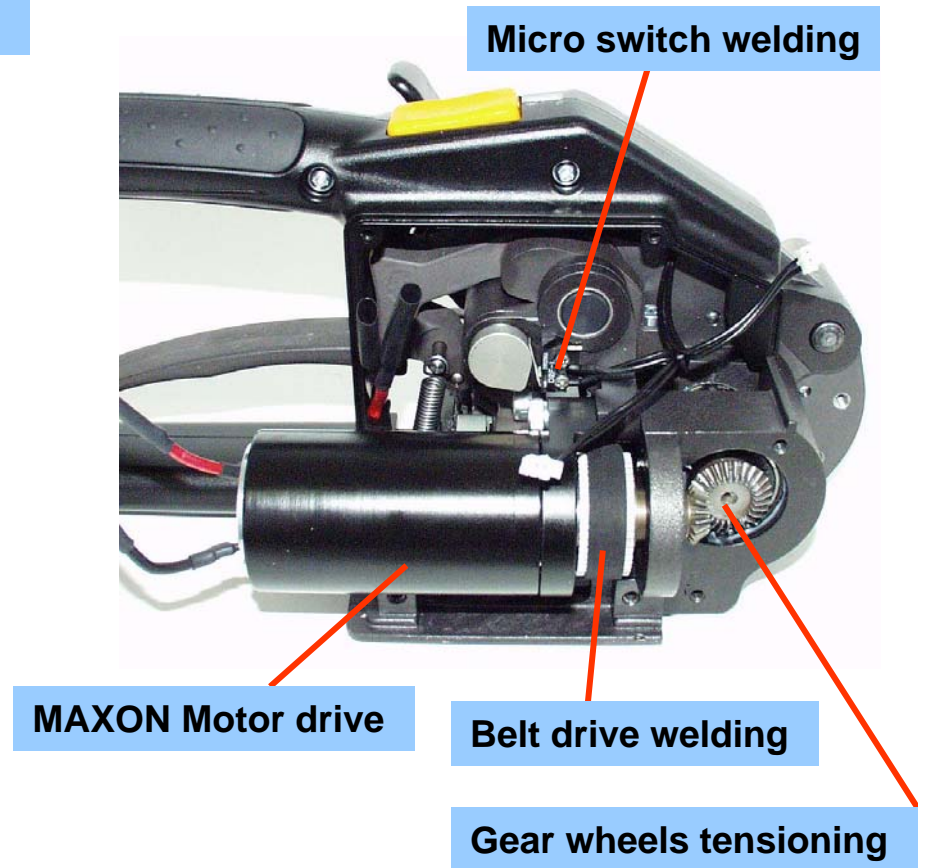
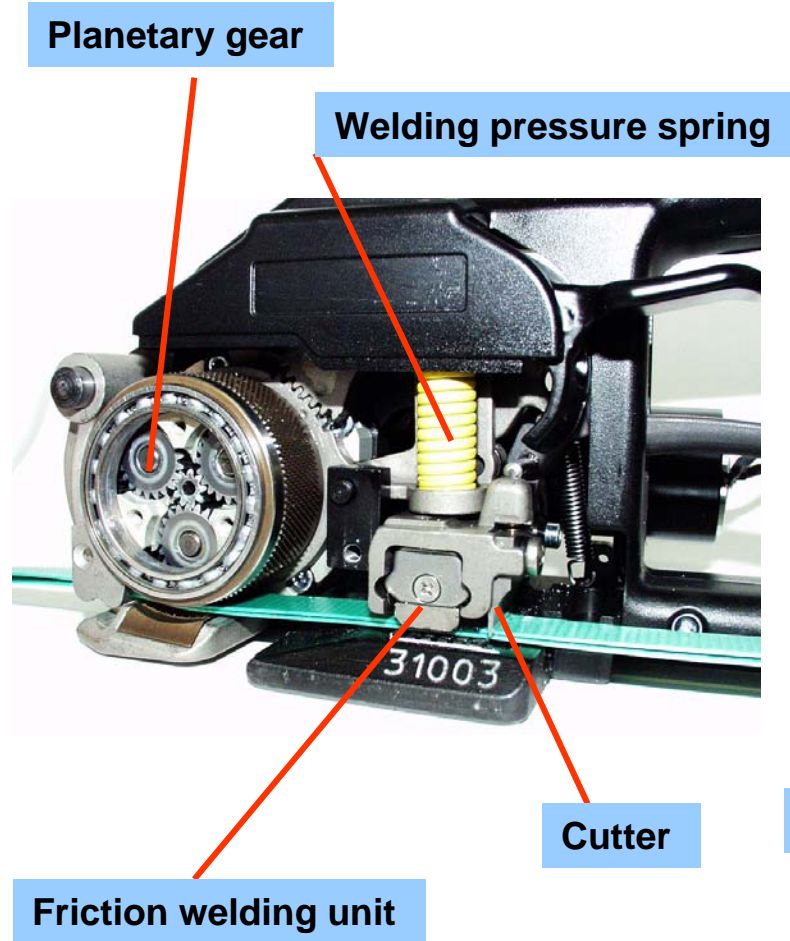
Strap on strap insertion

No adjustment for strap thickness or cutter

BXT 19  
BXT



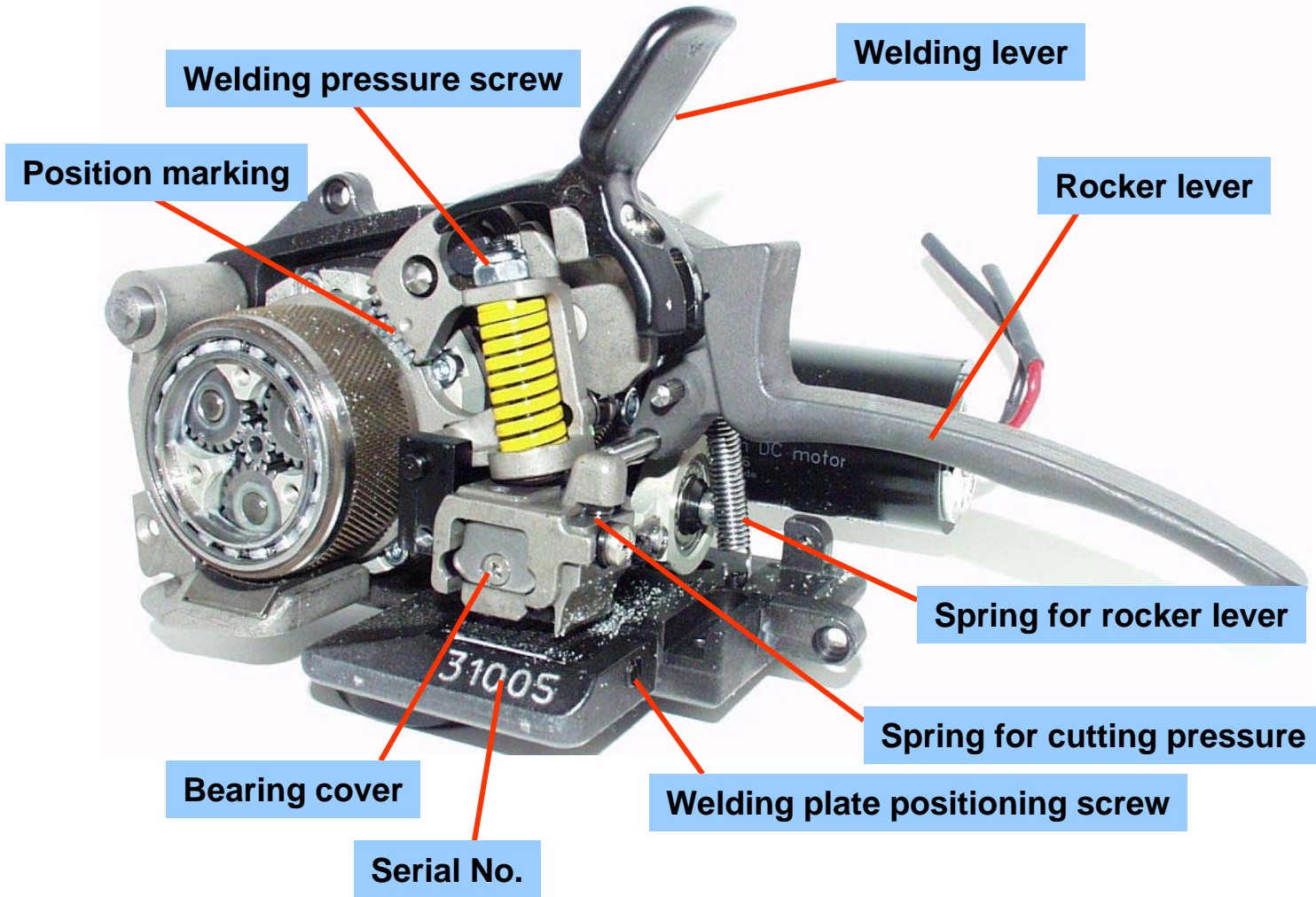
Components



BXT 19  
BXT



*Components*



BXT 19  
BXT



Since manufacturing year 2007, all screws have a factory coating as thread-locker. This thread-locker has no effect after the screw was removed once. It's strongly recommended to use Loctite or a similar thread locking glue to lock all screws at the tool after removing (Exception: Plastic housing screws).

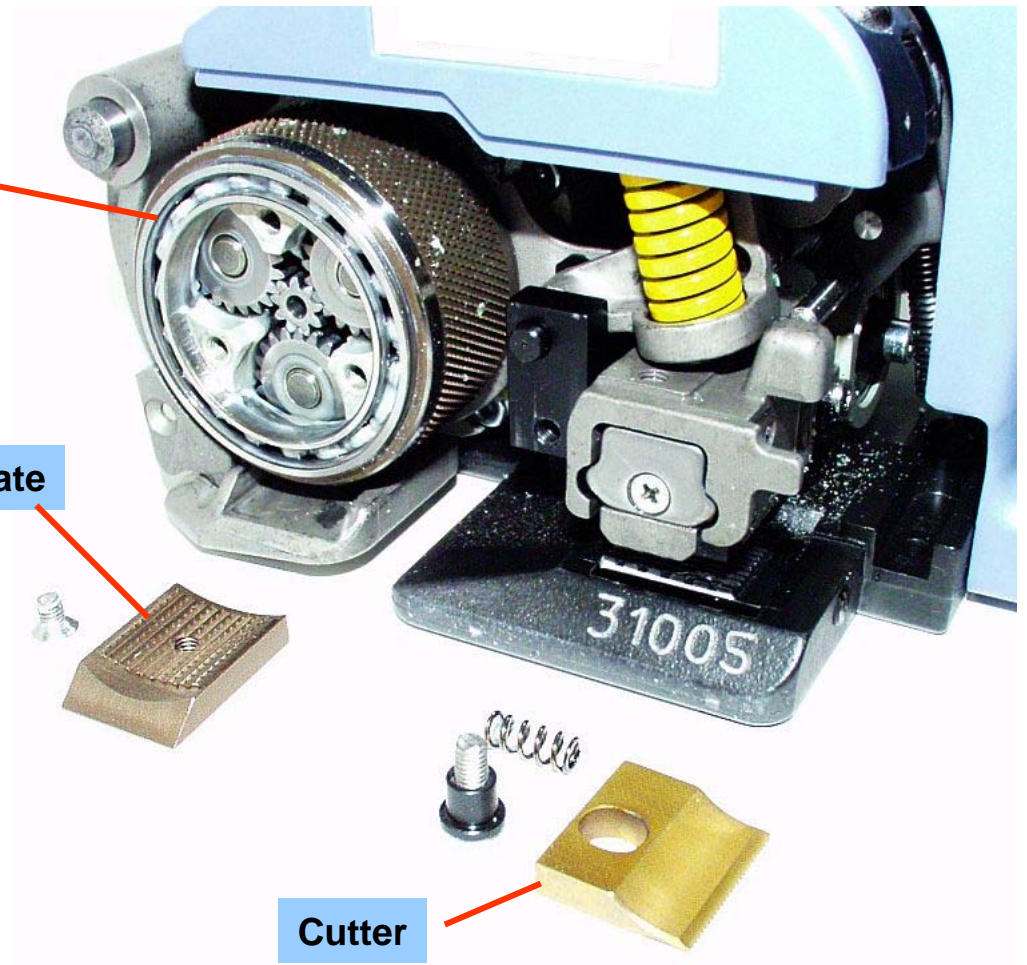
Wear parts



Tension wheel

Gripper plate

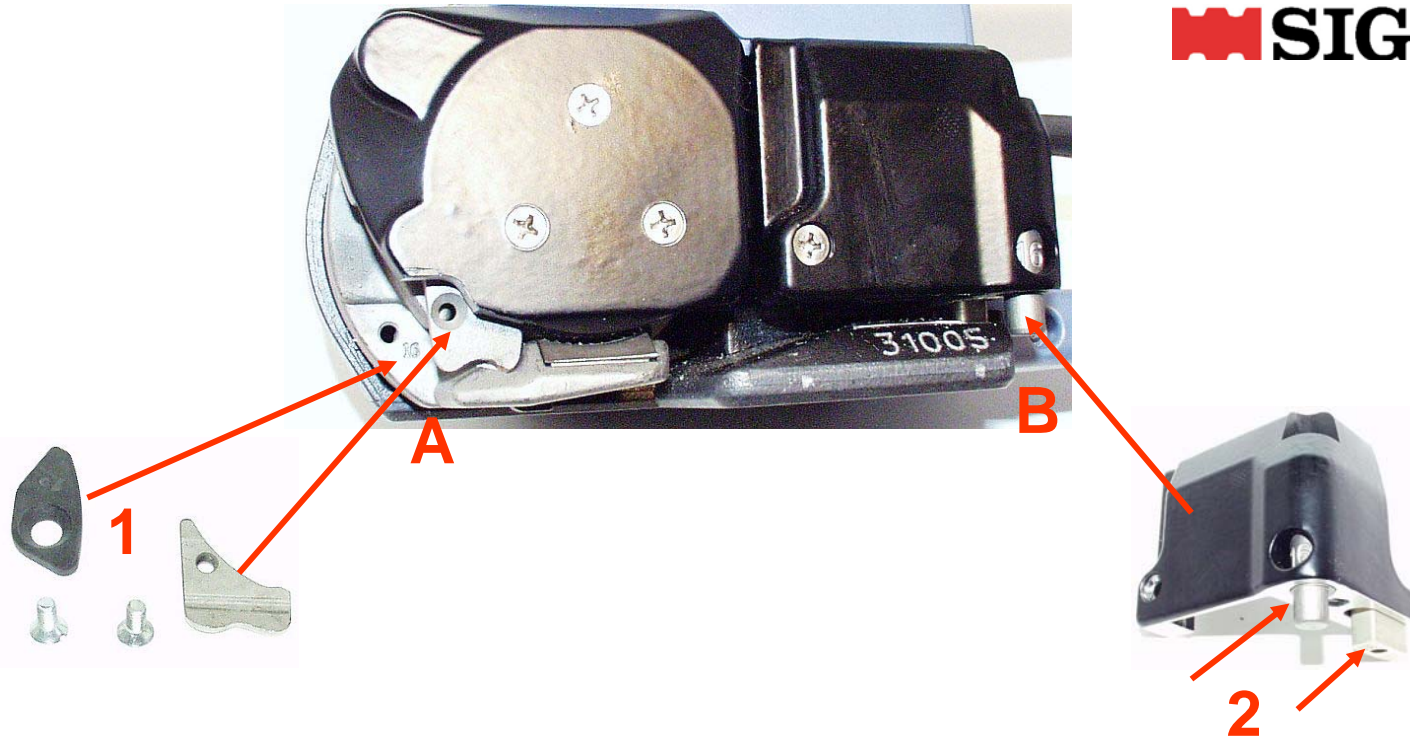
Cutter



BXT 19  
BXT



**SIGNODE®**



**Strap width adjustment: 12-13mm (1/2") or 15-16mm (5/8")**

**> Front side strap guide (A) and rear strap guide (B) have to be changed**

**- 12-13mm Tool > Strap guide parts (1) have to be assembled (A)  
Both pins (2) have to be on position „13“ (B)**

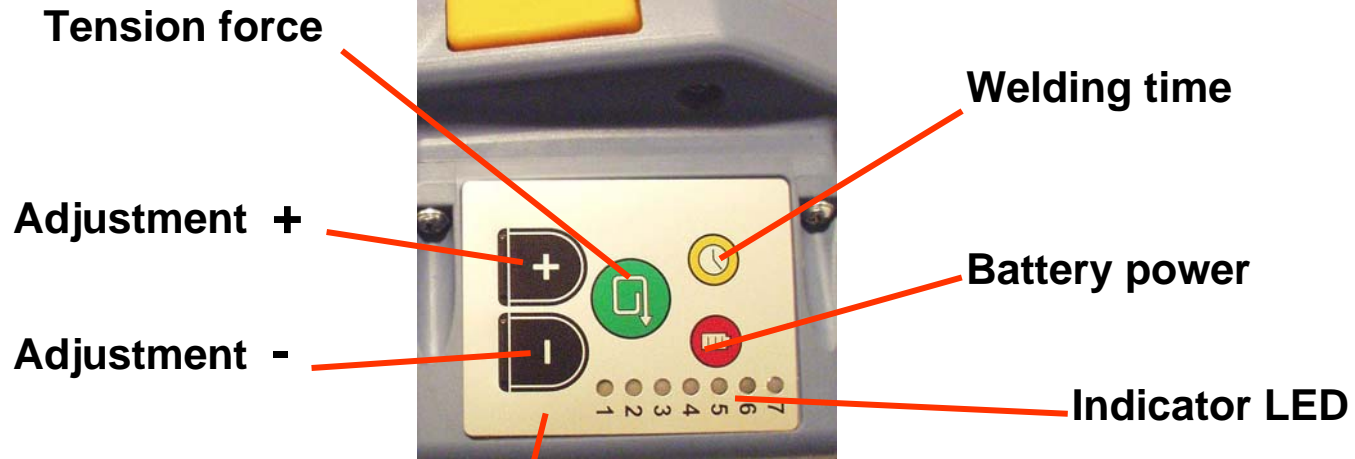
**- 15-16mm Tool > No strap guide parts are needed at the front (A)  
Both pins (2) have to be on position „16“ (B)**

**The tool works without an additional strap thickness adjustment**

**Adjustments**



BXT 19  
BXT



**Touch panel: Aluminium panel with micro touch switches  
Function by pressure (No sensor)**

*Adjustments*

# BXT 19 BXT



## Adjustments

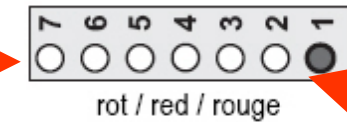
**A. Standard-Anzeige**  
Standard display  
Indicateur standard

Eingestellte Spannkraft  
Adjusted strap tension  
Ajustage de la force de tension



**B. Anzeige-Akku leer**  
Display of empty battery  
Indicateur accumulateur vide

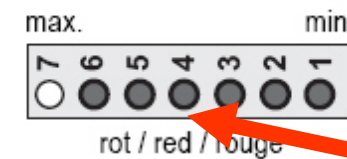
Keine Geräte-Funktion  
No tool function  
Non appareil fonctionnement



**1. Akkuladezustand prüfen**  
Check battery capacity  
Vérifier la capacité de l'accumulateur



Kurz betätigen  
Push briefly  
Appuyer brièvement



**2. Spannkraft einstellen**  
Adjust strap tension  
Réglage de la tension



Kurz betätigen  
Push briefly  
Appuyer brièvement



Betätigen  
Push  
Appuyer



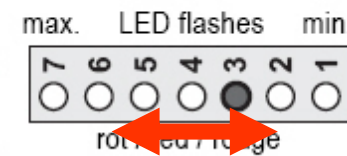
**3. Schweisszeit einstellen**  
Adjust welding time  
Réglage la durée de soudage



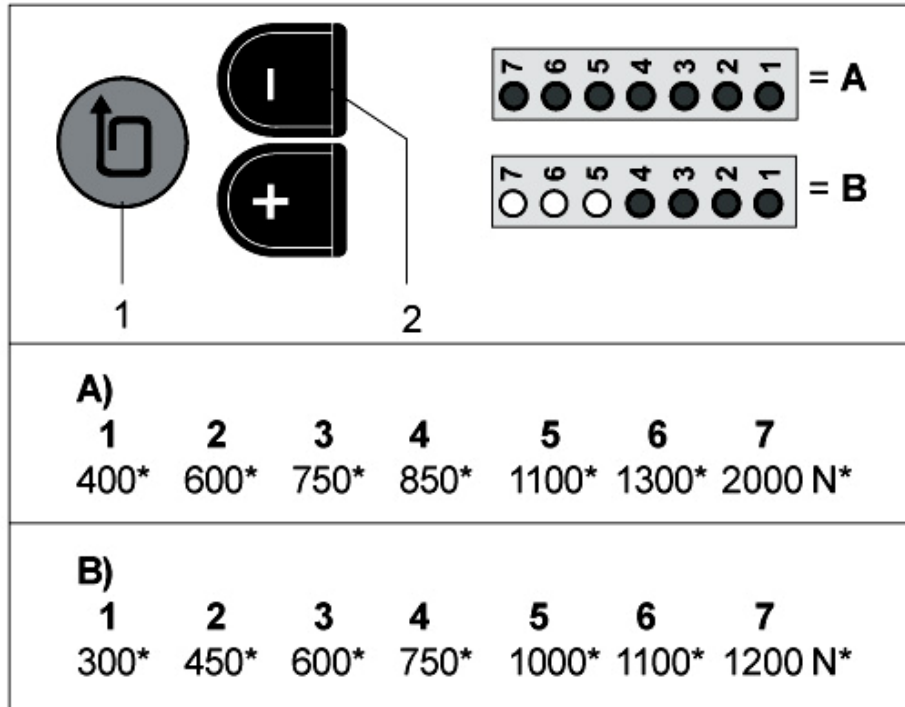
Kurz betätigen  
Push briefly  
Appuyer brièvement



Betätigen  
Push  
Appuyer



BXT 19  
BXT



All PET straps, 16mm PP  
(Standart tool adjustment)

13mm PP, and low  
tension applications

Adjustments

Tension range setting

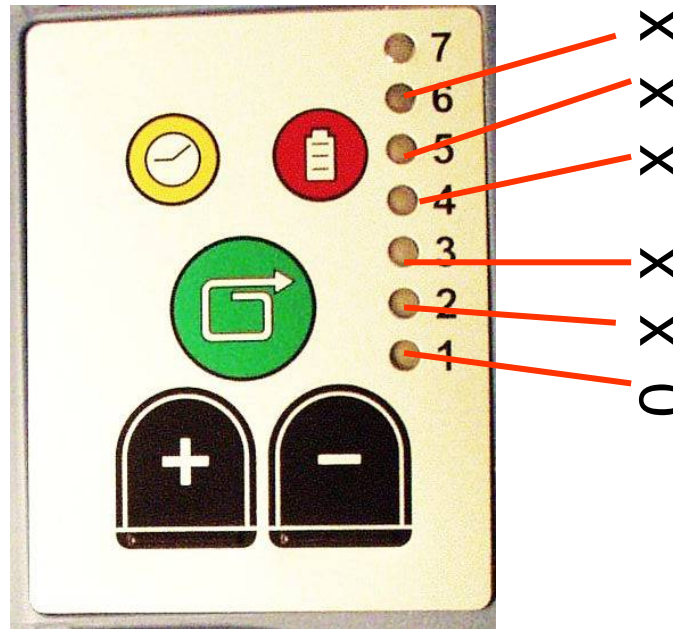
- 2 Tension ranges are available: Standart range (A) and low range (B)

- For range setting: Depress and hold „-“ in addition depress „strap tension“. Adjustment A or B is indicated through flashing LED. Change with „-“ or „+“

BXT 19  
BXT



Adjustments

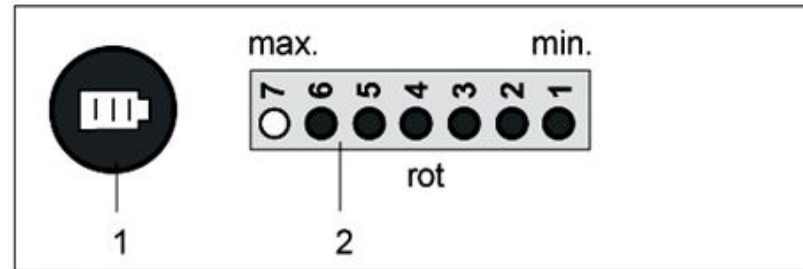


### Reading out the strapping cycles

- Press and hold „+“, then press the „ clock“.  
= LED 2 / 3 / 4 / . . . . starts flashing one by one.  
Count and note the flashes:

LED 2 = 5 x LED 3 = 6 x LED 4 = 2 x >> 2 6 5 0 cycles

BXT 19  
BXT



## Battery power indication

When the battery symbol is pushed, the LED displays the actual battery power:

LED 1 - 7 red > Battery is fully charged or minimum 30 – 50 cycles can be done

LED 1 – 6 red > Battery capacity get's lower, but still 25 + cycles can be done

LED 1 – 5 red > About 15 + cycles can be done. Battery charging possible

LED 1 - 4 red > About 10 + cycles can be done. Battery charging possible.

LED 1 - 3 red > Less than 10 cycles possible. Battery charging recommended

## In general

- It's not recommended to charge the battery at display 1-7 or 1-6 !

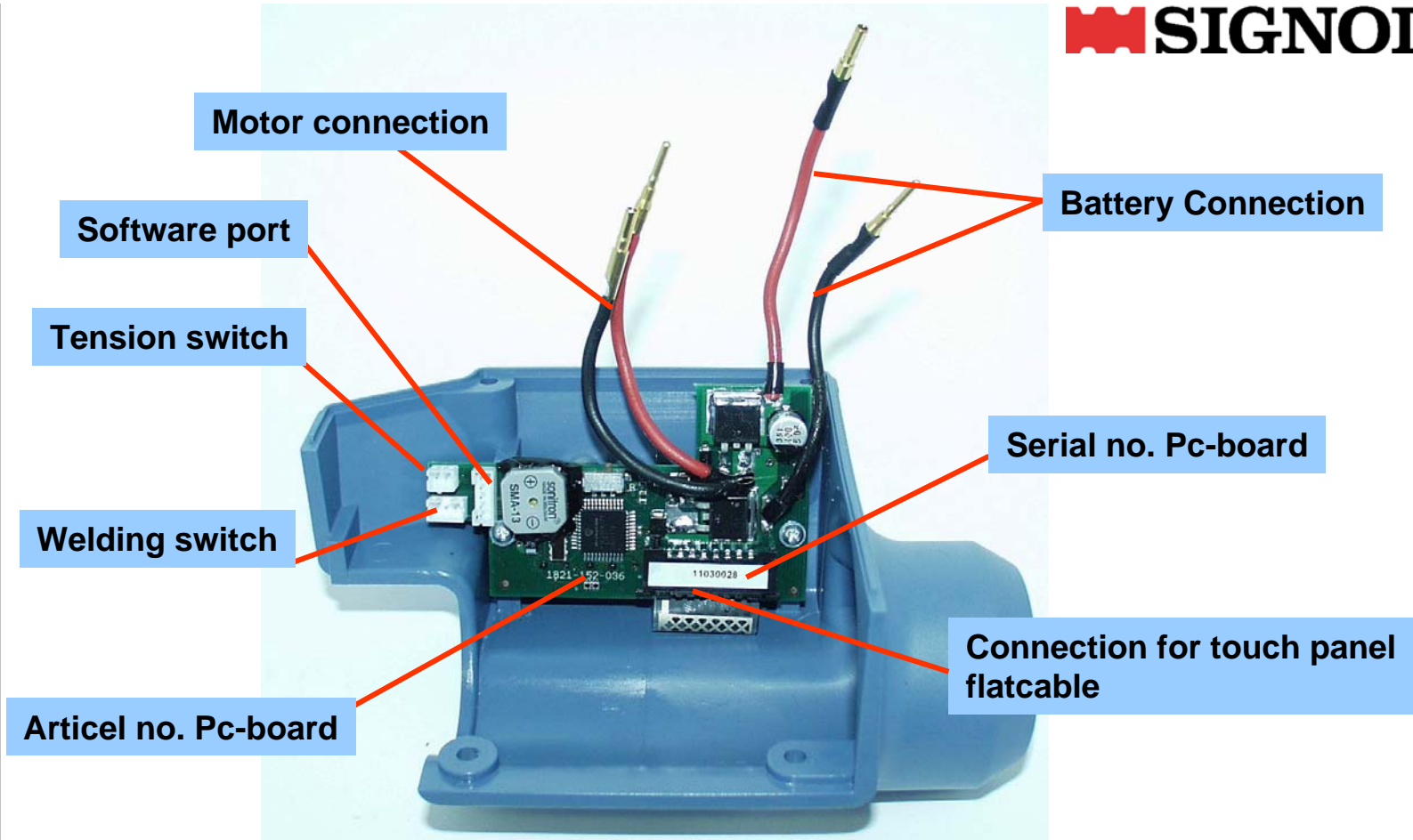
- The battery recovers itself after heavy usage. It's possible, when the tool is not used for 15min. or longer, the display shows a different value.

Adjustments

BXT 19  
BXT



Touch panel  
Pc-board



In cases of damaged touch pads, we recommend to use the optional available rubber cover > 2179.880

BXT 19  
BXT



Battery / Charger



**SIGNODE®**

### Important rules for best battery lifetime and capacity:

- New battery: Minimum charging time for the very first battery charge: 5 hours
- **Do NOT charge batteries which are kept in the stock (self discharging)**
- Empty the battery always in the strapping tool up to the last cycle
- **Keep spare batteries in the charging unit. Use all batteries alternately.**
- Do NOT charge the battery below 5°C (41°F) or higher 40°C (104°F) battery temperature
- **Keep the charging unit in an environment with between 15°C (59°F) to 25°C (77°F)**

For disposal of the batteries, the government instructions must be observed. Used or defective batteries must be recycled according to regulation 91/157/EC.

BXT 19  
BXT



Year 1. or 2. half Month > 291 = November 2002  
281 = January 2002

Battery

## Battery details

**Battery age:** The BOSCH manufacturing code displays the battery age

**Worn out batteries:** After a certain amount of charging cycles, the battery capacity power is lowering. The battery can be refreshed, when it's discharged manually to nearly 100%. This can be done with a 12V car lamp for example, which is connected directly to the battery as long as the lamp is nearly off.

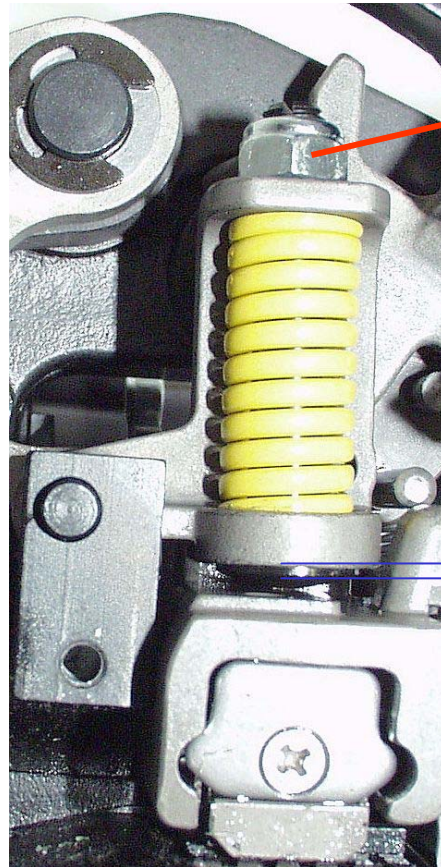
**Attention:** This should only be done after about 100 charging cycles the first time, and only after every 100 charging cycles.



BXT 19  
BXT



# Adjustments



Pressure adjustment nut

1mm

Welding time too long,  
or wrong pressure  
adjustment



## Welding time + pressure adjustment

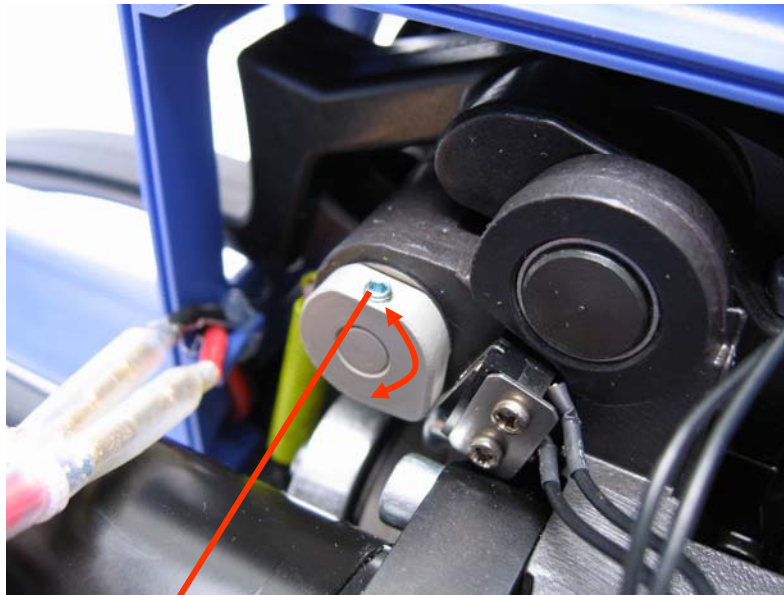
- Time: When all parts are in good condition, welding time on the display for a good seal and proper cutting is between 2 and 4.
- Pressure: The pre-pressure setting of the spring for proper sealing + cutting has to be as shown. To test: **When moving the welding lever down-side with no strap in the tool, the lever has to move noticeable strong in the last 1/3 up to the end stop. IF not, tight the nut 1/4 or 1/2 rounf more !**

BXT 19  
BXT

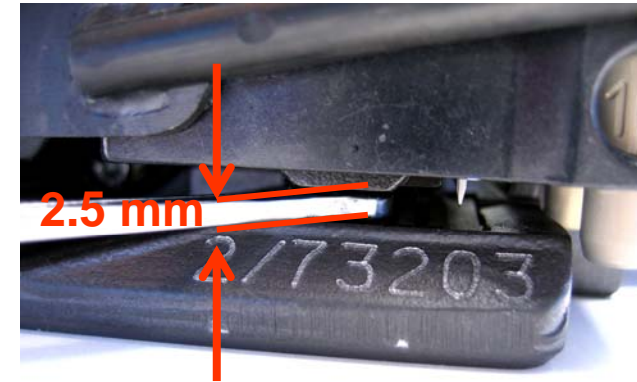


## Adjustment - Welding

**SIGNODE®**



Welding - point adjustment



Gap between down side and Upper sider welding shoe.

### Adjustable welding point

The point of time the welding operation starts when the welding lever is moved down, is adjustable (all tools with series-no. 71500 and higher).

Correct setting: Place a distance-plate of 2.5mm thickness between lower and upper welding plate and move the welding lever down. There has to appear a piep-sound when the lever is at the end-position. Should the piep-sound appear much earlier or non, open the screw of the curve pos. 130 and reposition the curve on the axle. **(Ensure you have NOT pushed the tension button before !)**

**Under regular circumstances, the original manufacturer setting has never to be changed !**

BXT 19  
BXT



*Drive System*

2 direction Maxon motor

Drive end welding

Drive end tensioning

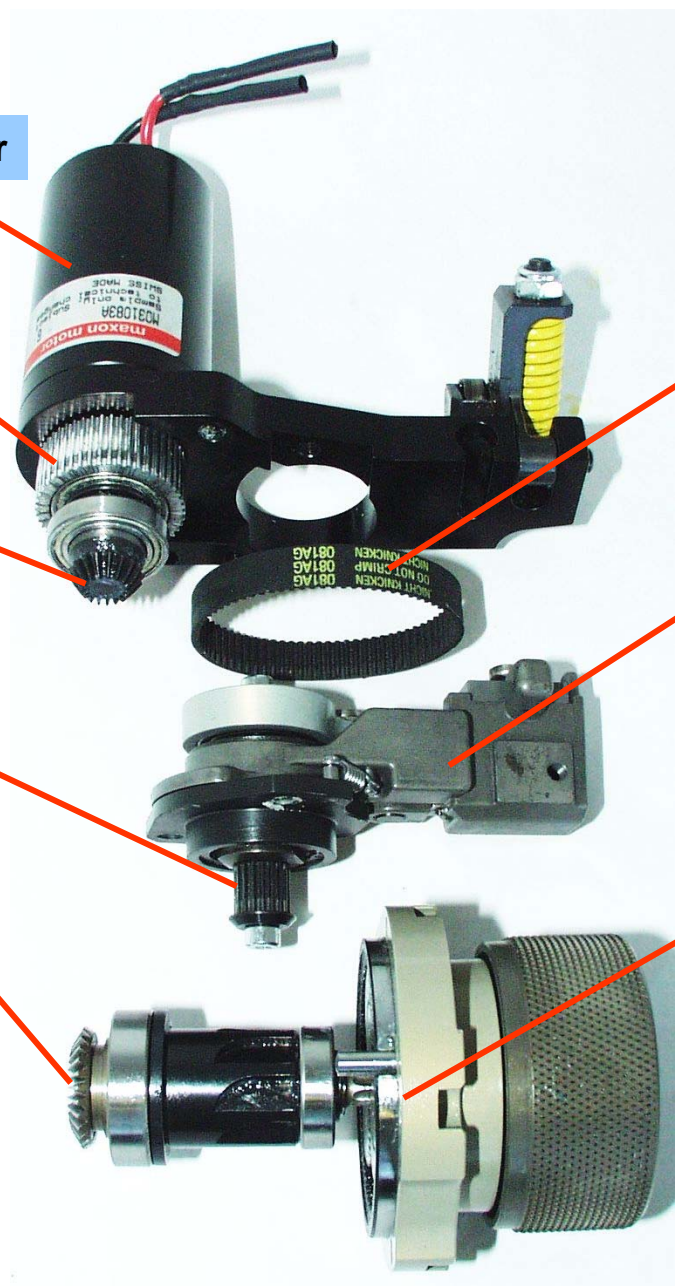
Drive output welding

Drive output tensioning

Drive belt welding

Welding unit

Planetary gear unit



BXT 19  
BXT



Drive System

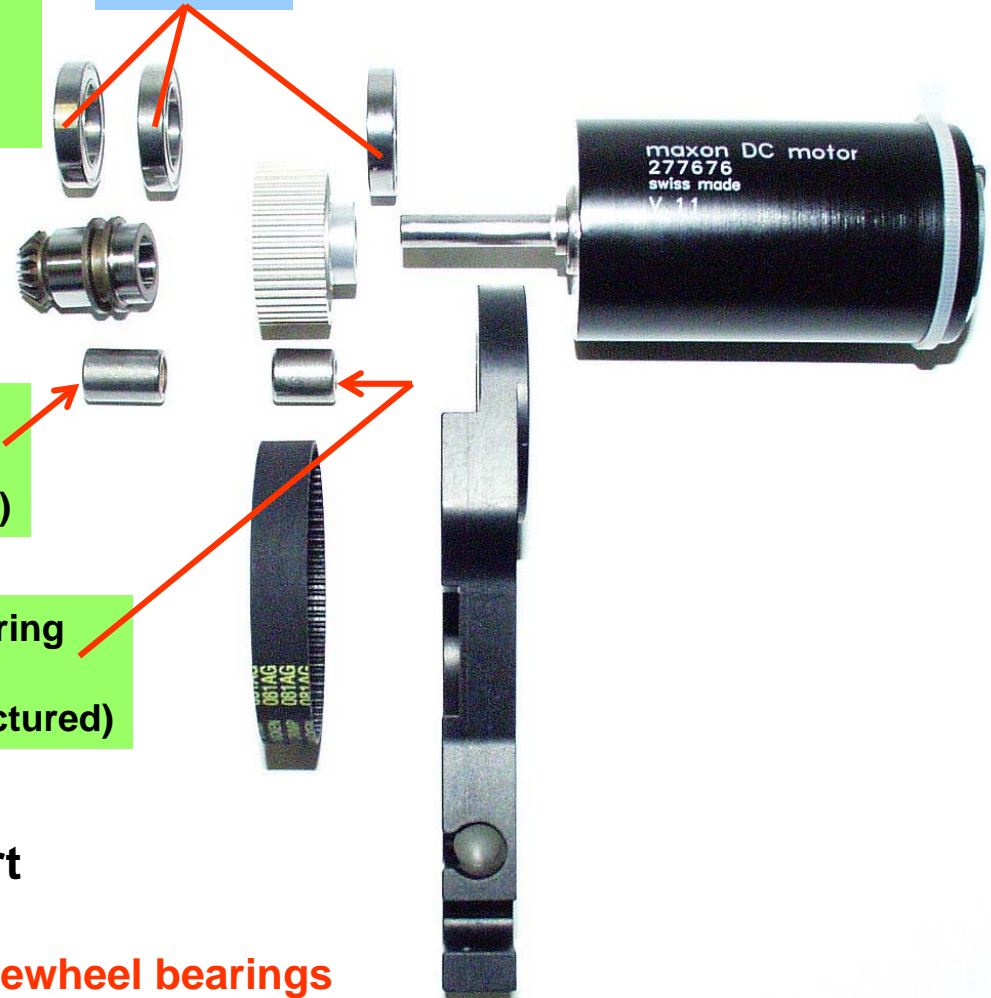
### Freewheel, one direction bearings:

Rotation direction is marked on the abutting face of the bearings !  
Pay attention to the assembling direction as marked !

Freewheel one direction bearing  
>> tensioning  
(Marking on left side, as pictured)

Freewheel one direction bearing  
>> welding  
(Marking on right side, as pictured)

Bearings



### Attention: Lubrication + dirt

**DO NOT use grease for the freewheel bearings or any other part of the welding system. Use a high quality oil spray for high frequent rotating parts.**

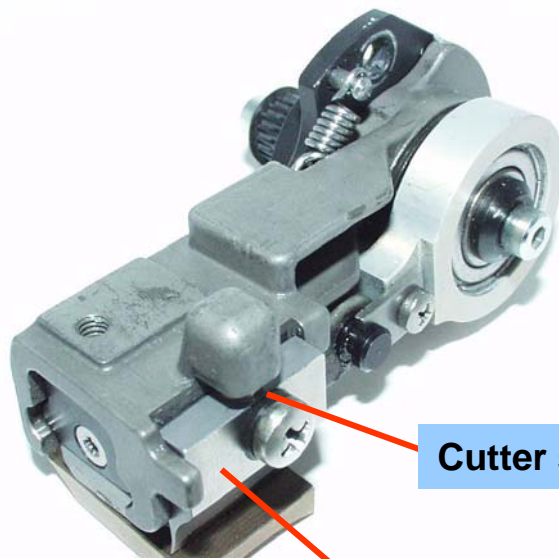
**Ensure that the freewheel bearings are free of any kind of dirt.**

BXT 19  
BXT



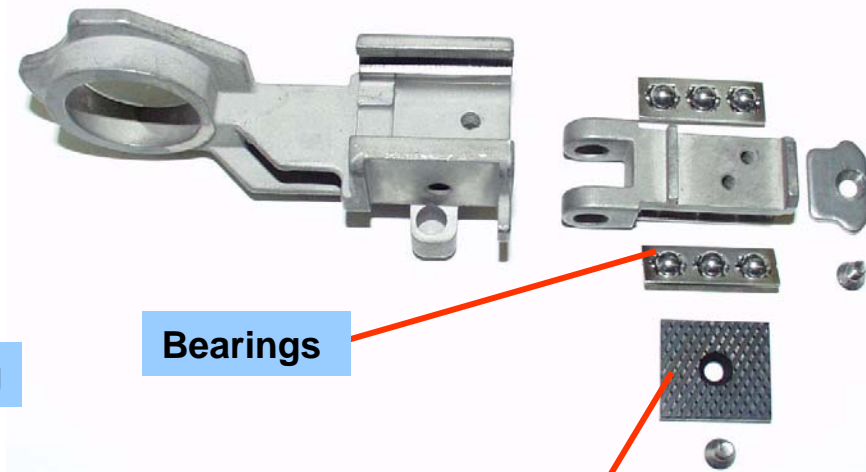
Welding System

 SIGNODE®



Cutter spring

Cutter knife



Bearings

Welding shoe

### Welding + cutting unit

- Cutting: The upper side strap is moved through the welding shoe beyond the cutter knife. Through the cutter spring pressure the strap is cut during the welding process.
- Problems: Check the teeth of the cutter and the cutter spring (pressure)

# BXT 19 BXT



## Motor-311313 / Motor-brushes - Old version

BXT19 up to series-no.: 3/74299

BXT up to series-no.: 2/84990

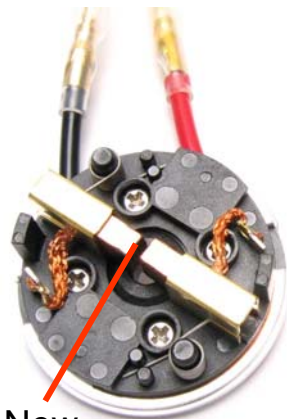
Manufacturing of the old version motor (311313) has been stopped.  
The brush cover-set is still available.

The motor-brushes are wear parts and can be replaced separately.  
All other motor parts are with very low wear; The brushes can be replaced 3-4 times without negative impact of the motor performance.

For this a brush-cover set which includes the complete end-cover with new brushes is available.

### Indication of worn brushes:

- Motor does not turn in one of the both directions
- Motor has no rpm or power in one or both direction.



New



Worn

**Brushes are manufactured from special material which is not available in the free market !**

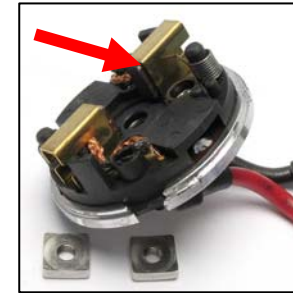
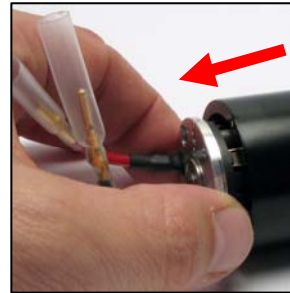
**DO NOT replace the single brushes only.**

**Read and understand the service guide !**

BXT 19  
BXT



**SIGNODE®**



**1) Mark the position of the original brush cover exactly on the motor – IMPORTANT !**  
> Brush-cover, middle of cut-out for red-cable to the motor-housing.

2) Remove the 2 screws, the lock washer and the washers.

3) Remove the end-cap from the motor housing.  
If not possible, rotate the motor so the lock-nut move to the inner side.

4) Worn our brushes: Spring is in end position on brush guide.

5) Take the new brush cover and place the 2 lock-nuts in it's position.

6) Move the brush cover (with the white plastic pin still in) on the motor axle.  
Remove the white plastic pin.  
Assemble first the black plastic disc (flat side upper side) on the axle, than the bearing.

7) **Adjust the brush-cover (cut-out red cable) to the marked position of the motor housing**  
Tight the screws and assemble the washers and the lock washer.

8) Push the bearing in it's position: 3-4 light strokes with the back side of the screw driver on the motor axle.  
**Check the axle play, point 9 !**

9) **Final-Check:** Check the axle play. This should be around 0.1mm. If more or less, remove or add additional washers.



**Motor - Service**

BXT 19  
BXT



## Motor-333618 / Motor-brushes – New version

BXT19 series-no.: 3/74300 and higher  
BXT series-no.: 2/85000 and higher

BXR + BXT19 have been equipped with an updated motor with a new brush system > Product-Information 12-2007

The motor length changed; All tools manufactured before 03-2007 need a new motor-cover when the new motor is used with.

**The new brush-cover does NOT fit to the older motor series !**

### Indication of worn brushes:

- Motor does not turn in one of the both directions
- Motor has no rpm or power in one or both direction.

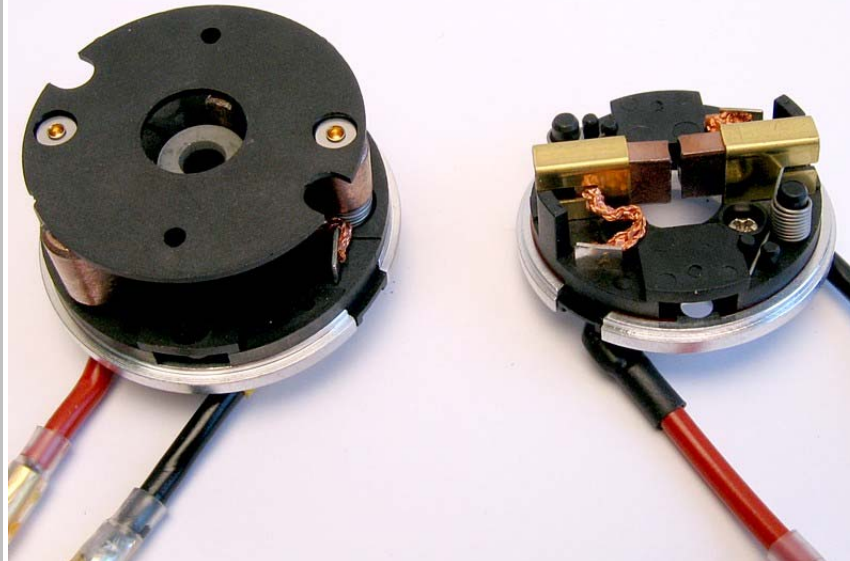


**New**

**Old**

> Motor 333618

> Motor 311313



**Motor - Service**

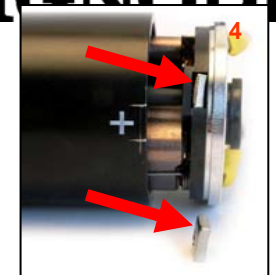
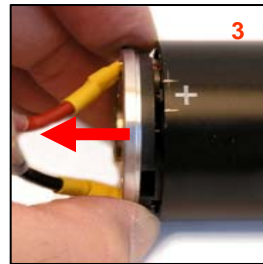
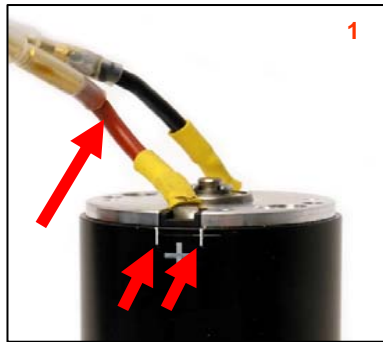


BXT 19  
BXT



## Motor - Service

02\_2008 gm



Brush Cover set  
Article.no. 1821.140.068  
fits only for the new version of  
motor with no. 333618 !

### Assembly instructions

1) **Mark the position of the original brush cover exactly on the motor – IMPORTANT !**  
> Brush-cover, cut-out for red-cable to the motor-housing.

2) Remove the 2 screws, the lock washer and the washers.

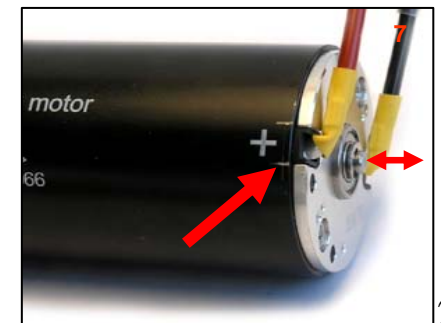
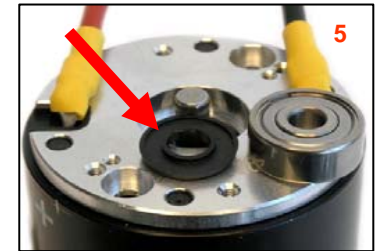
3) Remove the end-cap from the motor housing.  
If not possible, rotate the motor so the square-nuts can move to the inner side.  
Take care of the cables, pull easily only.

4) Take the new brush cover and place the 2 lock-nuts in their position.

5) Place the brush cover (with the black plastic pin still in) over the motor axle all the way to the stop. The pin will be moved out. Remove the plastic pin.  
Turn in the screws but do not tight them completely. Assemble next the black plastic disc (side with the 2 rings up) on the axle, then the ball bearing. Make sure, the ball bearing is inserted all the way to the stop.

6) **Adjust the brush-cover (cut-out red cable) to the marked position on the motor housing**  
Tight the screws and assemble the washers and the lock washer.

7) **Final-Check:** Check the axle clearance. It should be around 0.1mm. If necessary, remove or add additional washers. Check the correct position of the Brush cover.



BXT 19  
BXT



Preventive Check

## Tool Check und preventive Service (Enduser-Information)

### Dayly:

Check Tension-wheel (38) and gripper plate (46) for strap abrasion. Clean them if soiled.

Open rocker when dissambling / assembling the tension wheel. Pay attention to the turning position.

### High Volume applications (more than 400 Cycles/day):

#### Every 2-weeks:

Remove tension + welding side cover (100 + 146). Clean if soiled. Check tension wheel + gripper plate on wear (teeths).

#### Monthly:

Check seal and cutting performance. If welding time has to be adjusted on level 7 for proper welding / cutting, welding mechanics and or cutter are worn. Check welding parts (87, 82, 81) on play. Check cutter (95) on side gap. If cutter has play (+0.2mm) in part 75, replace 75 and or cutter 95.

Remove Motor-cover. Check movement of drive belt on easy movement in both directions.

Open rocker (40) with rocker lever (109): There has to be a counter-force when moving the rocker lever upside. Ohterwise, the springs 124+126 are worn and have to be replaced.

**At high volume applications with 800 – 1000 cycles a day, we reccomend a frequent preventive tool service every 3 months latest (Service-Contract) !**

BXT 19  
BXT



Help guide

## Help guide – defective tool

### No Tensioning / Welding possible:

Check the cable connections to the pcboard.

Check easy movement of drive belt in both directions. Welding mechanics has to move free and easy. If not, bearing Pos. 83 could be damaged.

Check pc board on defective (burned) or lost parts.

Check micro-switches Pos. 132 / 168 on function.

Test function of motor: Connect direct to the battery. Test both turning ways (+/- and -/+ connection) / worn brushes?

Motor: Tools used in high volume applications (500+ cycles a day) can have worn motorbrushes after 6-8 months.

Check touch pad on surface damage. Check function of touch pad buttons.

Tool series-no. below 69999: Min. tension force for weldign release required >

Push tension button until tool stops tensioning itself !

Tools manufactured after 12-2006 have the new pc-board design: Welding after 1 x push of the tension button possible;

### Slipping strap or tension wheel

Check Tension wheel / gripper plate on wear, abrasion or broken teeth.

Check rocker (40) for cracks.

Check rocker lever on counter force when opening the rocker. If movement is very soft, Springs 124 / 126 are worn.

BXT 19  
BXT



## Help guide – defective tool

### Low seal efficiency, bad cutting:

Check if welding plate 93 has no play in welding shoe 87.

Check downside-welding-plate on free movement in both ways in base-plate.

Check cutter on no side play in part 75.

Check welding shoe 87 on no play between pin 82 and connection rod 81; When more than 0.1mm play is detected, parts 87 + 82 have to be replaced.

Check welding pressure by moving welding lever down without strap in the tool. There has to be a counter force in the last 1/3 of movement. If not, tight the pressure screw.

At room temperature, welding + cutting with all straps on welding time setting 3 to 5 has to be possible. If 6 or 7 has to be adjusted, parts of the welding unit are worn or wrong adjusted !

### Welding mechanics in downside-position – no strap insertion possible:

Spring 78 broken.



## Help guide – defective tool

### Worn tension-wheels / gripper plate:

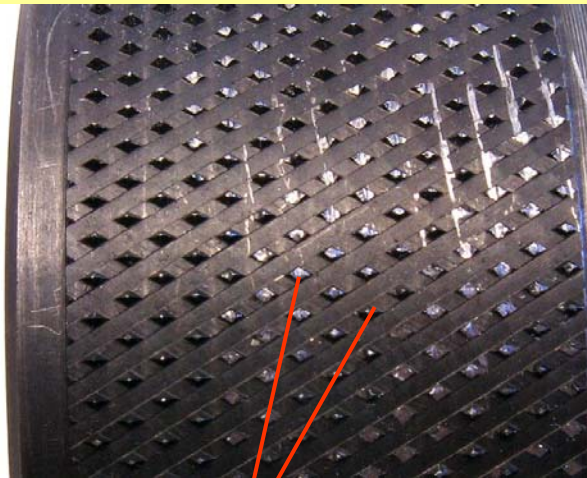
About 75% of the claimed defective tension wheels have indications of manipulation and mishandling:

- Wrong cleaning
- Wrong assembling / disassembling
- Wrong strap (steel strap !)
- Assembling without outer bearing

-Typical signs of wear / damage in relation with mishandling are pictured below; The tension wheel had contact to the gripper plate or an additional hard part (screwdriver eg.):



Missing teeth and 3 rows ok:  
Side inverted assembling



Missing teeth and ok. teeth:  
Contact to the gripper plate



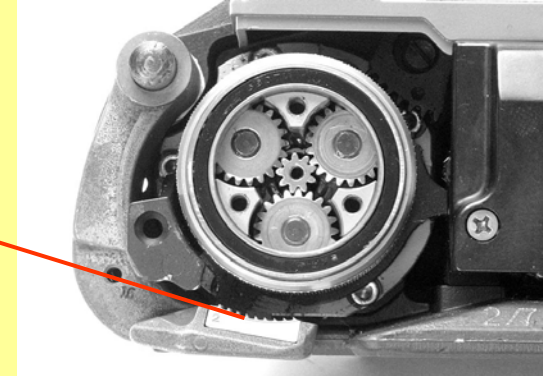
Cracked teeth; 1/3 of the top  
is missing: Contact to hard part.

BXT 19  
BXT



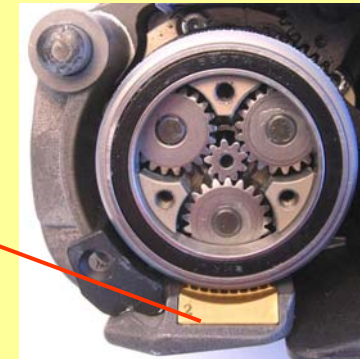
## Tension wheel – assembling / disassembling

Ensure the rocker is opened when the tension wheel is removed !



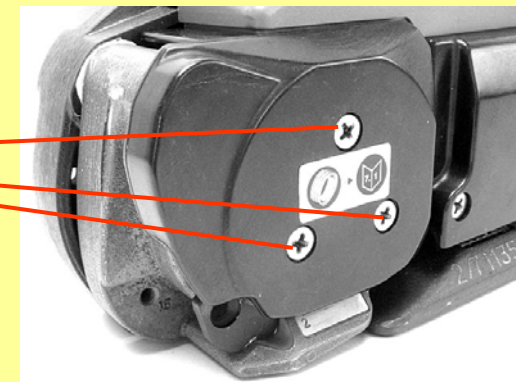
Ensure the gripper plate is placed without any shim or similar direct in the rocker.

Distance between tension wheel and gripper is only 0.1mm !



Take care all screws are mounted at the side cover and are tightened well;

A loose side-cover can damage the tension wheel teeth.



# BXT 19 BXT



## Help guide – defective tool

### Reason for tension wheel contact with the gripper plate

- A 100% completely placed in tension wheel, and both bearings pos.36 assembled, can impossibly have contact to the gripper plate, as the rocker (pos. 40) ensures the distance between both parts !
- Rotating the tension wheel without side cover pos.100 or without the outer bearing pos.36 can cause contact with the gripper plate and can damage the teeth. Ensure tightened screws of the side-cover.
- Removing and assembling the tension wheel without opening the rocker before, can cause contact to the gripper plate and can damage the teeth.
- Side inverted assembling of the tension wheel will cause contact to the gripper plate and will damage the teeth when the wheel is rotating.
- Instruct the customer to read the manual for cleaning the tension wheels.  
In case of frequent needs of cleaning, the adjusted tension force should be reduced, and frequent tensioning in the jog-mode (several times pushing the tension button) should be avoided. Advice to adjust to the needed tension force and to push the tension button only once until the tool stops itself.
- Using BXT and PP strap, ensure, the lower tension setting range with „Soft-Tension mode“ is adjusted.  
(Only tools shipped 09-2007 (> 2/79204) and later); Soft-tension mode prevents slipping tension wheel and tensioning in the jogg-mode > less abrasion = less cleaning.  
Older tools (< 2/79204): The latest pcbboard version has to be used to have „Soft-tension-mode“.

BXT 19  
BXT



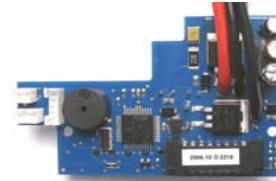
**Major Updates**



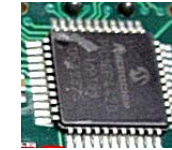
10-2005



3-2006



11-2006



Soft-Mode



10-2007



12-2007



All parts are exchangeable with older tool models



# BXT 19 BXT



## Details on Updates



New: Material + hardness; Product-Information 10-2005

No need for exchange, when older design is ok.



New: Material and thickness; Product-Information 10-2005

Exchange old / new recommended (New = yellow colour)



New: Reinforced design; Product-Information 10-2005

Exchange recommended when high volume application



New: New design; Product-Information 11-2006

Exchange recommended when old moved out side tool-housing

BXT 19  
BXT



**Major Updates**



New: New design; Product-Information 11-2006

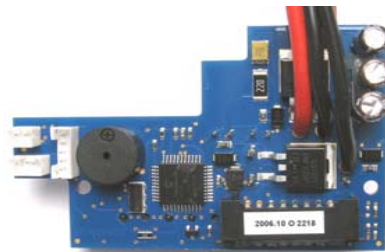
Exchange recommended when high volume application



Pos. 83

New: Quality / cover disc; In use since 11-2006

STB65 tools: Sapporo EZO 2RSR bearing with black cover disc



New: Hard + Software + protection coating; Product-Information 11-2006

No need for exchange when old design ok.

# BXT 19 BXT



*Soft-Tension-Mode BXT*



*Welding-mechanism: Pos.83*



New: Soft-Tension-Mode at lower tension range setting (STB63 only)  
Adjustment recommended for most PP strap applications.  
All STB63 tools shipped since 09-2007 (2/79204) have this feature

Exchange with new pboard recommended, when PP application and frequent tension wheel problems.

New: All new bearing-design: Ball-cage, ball-runway; Grease  
Used for all tools: 61/63/65 since 10-2007 > 2/79776;3/73558;1/72031  
New Part-no.: 1821.301.008 – lasered on bearing

Exchanged recommended, when cover disc of old bearing is missing

New: Reinforced Brush + Collector: Size + Material; Lifetime increase: +100%  
New over all motor lenght; Exchangeable:Tools > 2/72000; 3/71500  
Tools before 02-2007: Motor-cover has to be replaced !  
Used for tools: 65 (12-2007) + 63 (02-2008)  
New part-no.: 1821.140.066

Exchange recommended when brushes have to be replaced more often than 1 x a year;

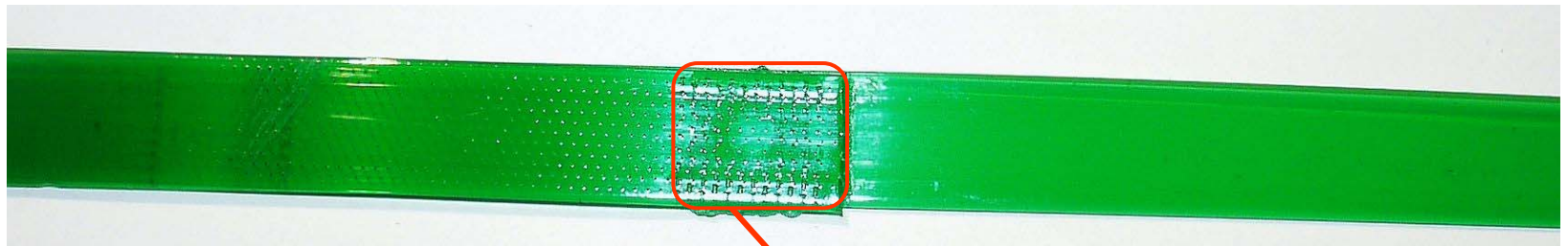
**Details on Updates**

BXT 19  
BXT



Quality control

Control seal and cutting quality at every tool service, with the strap, the customer is using



### Seal quality

- A high quality seal is welded over the complete welding area.