

## PT-4500/PT-4500H Operating Manual



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## Safety instructions

### Caution:

**The following safety rules must be observed for adequate protection against electric shocks, injuries or fire hazards:**

- The blind riveting tool should be used exclusively to set blind rivets!
- Do not overload the tool; work within the prescribed work capacity.
- Never use the blind riveting tool in a humid or wet environment or close to inflammable substances or gases. Risk of explosion!
- Ensure that the battery is properly secured in the grip.
- Remove the battery when the blind riveting tool is not in use and for repair/servicing operations.
- Do not use the blind riveting tool as a hammer.
- When not in use, keep the blind riveting tool in a dry, closed room and out of the reach of children.
- When working with the tool, always wear protective goggles. Personal protection like clothes, gloves, safety helmet, non-slip shoes, ear protection and anti-fall protection are highly recommended.
- The air inlets for the motor should not be obstructed. Do not introduce anything into them.
- When setting the blind riveting tool down, make sure that it cannot fall.
- Use only genuine spare parts for repair.
- Repair work must be carried out by skilled workers. In case of doubt, always send the blind riveting tool back to the manufacturer.
- Do not use the tool outside of riveting holes! The blind rivet could be ejected from the tool! Never turn the tool towards yourself or towards another person!
- The mandrel container (n° 39) must be mounted on the blind riveting tool during operation.

### Starting procedure

- Insert fully charged battery in correct position into housing.
- Select correct nosepiece according to table 1.4.
- To screw in the nosepiece, activate the switch and proceed until the stop position has been reached at the back.
- Then remove the battery. Screw in the nosepiece and tighten it using the wrench provided. Put the battery back in and activate the switch.

### Mode of operation

The blind riveting tool features optimized operating speed. After inserting the blind rivet, the blind riveting tool can be operated in two different modes:

#### **a. Pressing and holding the switch:**

Press and hold the switch to start riveting. The pulling process stops automatically when the rivet reaches the rear end position. The tool automatically assumes the front starting position when the switch is released.

#### **b. Tapping the switch:**

Riveting is triggered by briefly tapping and immediately releasing the switch. As soon as

the mandrel breaks off, the blind riveting tool stops and automatically re-assumes the front starting position.

- Eject the spent mandrel by tilting to the rear into the spent mandrel container or to the front through the nosepiece.
- The blind riveting tool is equipped with overload protection. In the event of overloading the blind riveting tool, e.g. by setting rivets that are outside the working range, riveting stops, indicated by the 3 LEDs flashing slowly (1 Hz). Press the switch to make the blind riveting tool go back to the start position and it is then ready for operation.
- The control detects a blockage on return (e.g. dirt, foreign object, etc. in the steel head sleeve). The tool stops the return procedure and immediately assumes the rear end position automatically. The fault is indicated by the LEDs flashing rapidly (2 Hz). The battery pack must be removed and the fault eliminated. Then reinsert the battery and briefly press the switch. The tool assumes the front-end position and is again ready for use.
- The blind riveting tool is fitted with an acoustic warning device, which provides information about the remaining battery time. Beeps sound to tell the user when to change the battery. This ensures that the blind riveting tool will not switch off during a riveting operation.

The blind riveting tool is equipped with 3 LED lights to illuminate the work space. These can be turned on by turning the black ring (n° 44) behind the LEDs. There are 3 settings, which are displayed by an arrow cast in the housing.

**3 beeps and flashing LED lights for 10 seconds:**

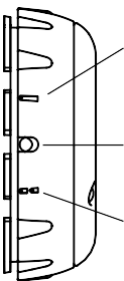
The battery needs to be changed soon (about 20% battery charge remaining).

**6 beeps and flashing LED lights for 10 seconds after every setting sequence:**

Change the battery after a few more riveting sequences in order to guarantee safe riveting sequences (approx. 10% battery remaining).

**9 beeps and flashing LED lights for 10 seconds:** The next riveting sequence cannot be reliably carried out. The blind riveting tool is switched off. Change the battery.

**1.8 Lighting**



**— Continuous light/torch function:**

The lighting is switched on after a riveting sequence and stays on for approx. 10 minutes. The LEDs then turn off automatically.

**Zero position:**

Lights switched off.

**-- Work light:**

Lights are switched on at the start of the riveting sequence. The LEDs stay on for about 10 seconds and then switch off automatically.

## **Maintenance**

The maintenance of the blind riveting tool is limited to the complete claw mechanism and the associated wearing parts:

- Remove battery (n° 55) from the blind riveting tool.
- Unscrew the head (part n° 13) using flat wrench SW 14 or SW 24 and clean. Look for deposits in the top of the head!
- Unscrew the jaw housing (n° 15) using 2 SW 17 flat wrenches.
- Take out the jaws (n° 16) and jaw pusher (n° 17), clean them and lubricate or grease the sliding surfaces; replace the jaws (n° 16) if worn (blunt teeth!).
- Re-assemble in reverse order ensuring that all parts are tightened! We recommend that you secure the screw connection using a thread adhesive (such as Loctite 222 or Loctite 243).

**Regular maintenance will extend the service life of your high-quality PT-4500 tools and they should be serviced at least every 2 years by an authorized workshop or by FSI Service. For tools that are used intensively, we recommend servicing ahead of schedule.**

## **Charger and battery**

### **Technical data**

#### **Battery charger**

Input voltage: 100 V-240 V~/50-60 Hz

Output voltage: 21 VDC

Output current: 2.5 A

Weight: 0.6 kg

#### **Battery**

Nominal voltage: 18.0 V

Number of cells: 5

Cell/capacity: Li-Ion; 2.1 Ah

Weight: Approx. 0.42 kg

## **Safety instructions**

### **Battery charger**

#### **Caution:**

**The following safety rules must be observed for adequate protection against electric shocks, injuries or fire hazards:**

- The charger must be used exclusively to charge FSI batteries.
- Check the cord, plug and charger regularly and have them repaired by Service or by an authorized skilled specialist electrician when damaged.
- For repairs, use only genuine plugs and cords and genuine spare parts.
- Never use the charger in a humid or wet environment or close to inflammable substances or gases. Risk of explosion!
- Take the charger out of its packaging before use. Insert the FSI battery in the right way into the charger.

- Never try to charge non-rechargeable batteries.
- Store the charger in a dry, closed room, out of the reach of children.
- Never insert metallic parts into the charging bay - danger of short circuiting.
- If the charger is wall-mounted, make sure that the inserted battery cannot fall out due to external influences (e.g. vibrations).
- This battery charger should not be operated by people with physical or mental disabilities or impairments, nor by untrained or unskilled persons. If this is the case, they should be supervised by someone who is responsible for safety or receive instructions from them as to how to use the device.

## **Battery**

### **Caution:**

**The following safety rules must be observed for adequate protection against electric shocks, injuries or fire hazards:**

- Never insert metallic parts into the charging bay - danger of short circuiting.
- Never try to charge a damaged battery.
- Do not insert a dirty or wet battery into the charger.
- Never throw batteries into the waste, into fire or into water.

### **Charging procedure**

- Charge only FSI batteries and when the temperature of the environment is between -5°C and +55°C!
- Take the charger out of its packaging and connect to the mains.
- Gently insert the FSI battery in the right way into the charger.
- The charging operation starts automatically.

## **Function lights**

### **Signal Meaning**

Constant green Battery is charged / top-up charging

Flashing green Charging

Constant red Charging temperature out of range (battery too hot or too cold)

Flashing red Battery is defective or wrong battery (different manufacturer)

Charging\* takes approx. 40 minutes.

\* Charging times may vary according to the remaining capacity and the battery temperature.

## **Battery handling**

- Only insert batteries into the charger once they have cooled down.
- FSI batteries can be charged approx. 1000 times.
- Do not insert the battery into the charger after each use.
- If battery autonomy becomes significantly shorter despite proper recharging, the battery should be replaced.
- Store batteries in a dry place where there is no danger of frost. The optimum operating temperature range is 10°C to 50°C.

FSI batteries have a display showing battery life in percent. Press the button in the display to activate the green LED lights for approx. 5 seconds.

\*\*\*\*\* Battery fully charged

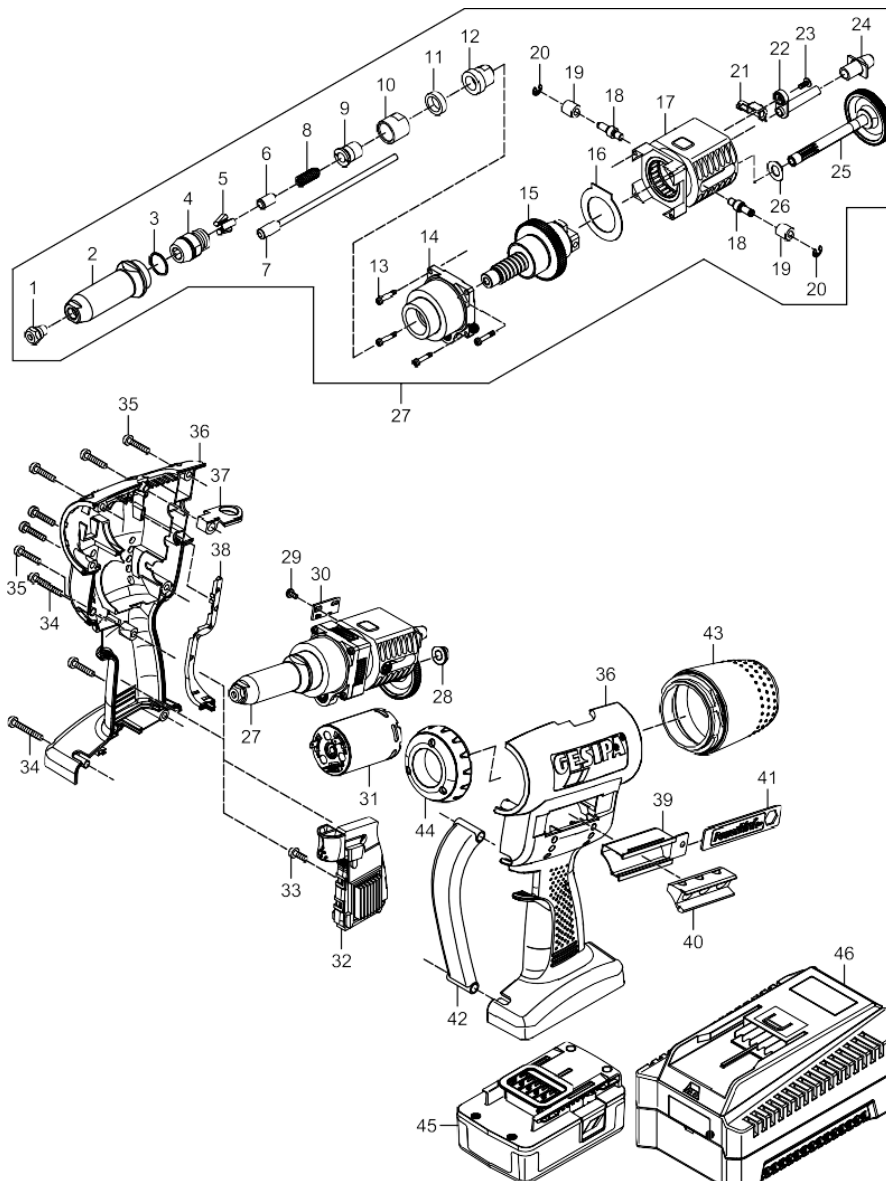
\*\*\*\* Battery capacity approx. 80%

\*\*\* Battery capacity approx. 60%

\*\* Battery capacity approx. 40%

\* Battery capacity max. 20%, charge soon

**Diagram:**



**Parts List: PT-4500**

<b>1</b>	<b>F159</b>	<b>1/8" Nosepiece</b>
	<b>F156</b>	<b>3/32" Nut-plate Nosepiece</b>
	<b>F143</b>	<b>5/32-3/16 Nosepiece</b>
	<b>F142</b>	<b>1/4" Nosepiece</b>
<b>2</b>	<b>F130-F</b>	<b>Nose Tube</b>
<b>3</b>	<b>F6012</b>	<b>O-Ring</b>
<b>4</b>	<b>F126-F</b>	<b>Jaw Holder</b>
<b>5</b>	<b>F122-A</b>	<b>2-pc Jaws</b>
<b>6</b>	<b>F3245</b>	<b>Jaw Follower, 1/4"</b>
<b>7</b>	<b>F3621A</b>	<b>Jaw Follower</b>
<b>8</b>	<b>F3081A</b>	<b>Jaw Follower Spring</b>
<b>9</b>	<b>F3605-1</b>	<b>Draw Bolt</b>
<b>10</b>	<b>F3185-1</b>	<b>Adapter Housing</b>
<b>11</b>	<b>F3745</b>	<b>Scraper Ring</b>
<b>12</b>	<b>Not Used on the PT-4500</b>	
<b>13</b>	<b>F5768</b>	<b>Screw</b>
<b>14</b>	<b>F5398</b>	<b>Housing, Front</b>
<b>15</b>	<b>F5406</b>	<b>Ball Screw</b>
<b>16</b>	<b>F4962</b>	<b>Spacer Ring</b>
<b>17</b>	<b>F5397</b>	<b>Ball Screw Housing</b>
<b>18</b>	<b>F5385</b>	<b>Guides</b>
<b>19</b>	<b>F4970</b>	<b>Stand Off</b>
<b>20</b>	<b>F5790</b>	<b>C-Clip</b>
<b>21</b>	<b>F0817</b>	<b>Clip</b>
<b>22</b>	<b>F5393</b>	<b>Ejector Tube</b>
<b>23</b>	<b>F5990</b>	<b>Screw</b>
<b>24</b>	<b>F4874</b>	<b>Tail</b>
<b>25</b>	<b>F5395</b>	<b>Drive Gear</b>
<b>26</b>	<b>F4967</b>	<b>Spacer</b>
<b>27</b>	<b>F7643</b>	<b>Ball Screw - Complete</b>
<b>28</b>	<b>F5763</b>	<b>Stand Off</b>
<b>29</b>	<b>F5989</b>	<b>Screw</b>
<b>30</b>	<b>F5408</b>	<b>Stroke Adjustment Plate</b>
<b>31</b>	<b>F7645</b>	<b>Motor</b>
<b>32</b>	<b>F5381</b>	<b>E-Control</b>
<b>33</b>	<b>F5773</b>	<b>Screw</b>
<b>34</b>	<b>F5987</b>	<b>Screw, Long</b>
<b>35</b>	<b>F5772</b>	<b>Screw</b>
<b>36</b>	<b>F5401</b>	<b>Housing, PT-4500</b>
<b>37</b>	<b>F5746</b>	<b>Loop</b>
<b>38</b>	<b>F5403</b>	<b>Guide Arm</b>
<b>39</b>	<b>F5016</b>	<b>Not Included, Nosepiece Holder</b>

40	F4978	Rubber Insert, Not Included
41	F7646	Wrench Cover
42	F5399	Handle Guard
43	F5396	Canister
44	F7644	LED Lights
45	F-4500A	18v Battery Pack, Li-Ion
46	F-3500A	Battery Charger, USA Plug
	F-3500B	Battery Charger, EU Plug

**PT-4500 Configurations:**

## PT-4500 (optional) Configurations

**Standard Configuration**

- Nosepiece
- F130-F Nose Tube
- F126-F Jaw Holder
- F122-A 2 pc Jaws
- \*F3621 Jaw Follower
- F3081 Spring

**CherryMax® Pulling Head Configuration**

- Extended Straight Pulling Head F1074
- Right Angle Pulling Head F1075
- Offset Pulling Head F1076
- F187-1AR Sleeve
- F187-3BCM Adjustable Adapter Shaft

**CherryMax® & Pop® Rivets Configuration**

\*Note: Replace Jaw Follower F3621 with F3245 (see spare parts canister) when installing 1/4" dia. rivets. You may also use the F123 (3pc) jaws for 1/8" thru 1/4" diameter blind rivets. Use F142 Nosepiece.

- F126-F Jaw Holder
- \*F3621 Jaw Follower
- F130-F Nose Tube
- F123 3 pc Jaws
- F3081 Spring
- \*F3245 Jaw Follower
- 1/4" Rivets

**MS90353/54 "U" & "S" Type Blind Bolt Configuration**

- Nosepiece
- F130-F Nose Tube
- F123-A or F123-B BB Jaws
- F128 BB Jaw Holder
- F3081 Spring
- F3245 Jaw Follower

**Spare Parts:**

- F-4500A Battery Pack
- F-3500A Battery Charger
- 18 v Battery Pack
- Dual Voltage 110/220

**Rivet Types:**  
Types of rivets installable with the PT-4500 include, but are not limited to, virtually all CherryMax®(M7885), Avdel®, or Cherry Monobolts®, Cherry Interlock®, Huck MagnaLok®, and Pop type rivets. The PT-4500 is also capable of installing both 5/32" and 3/16" Blind Bolts (MS90353/54-S/U) with the proper nosepieces (provided in the Mil-1 and MIL -2 kits).

**Aerospace and Industrial Sheet Metal Applications**



## PT-4500H Configurations:

### 1. Basic Tool – No Pulling Heads



### 2. Adding the F4187-AR-4500 – Rotating Adapter for Offset Huck Heads



### 3. Adding the F1458-SE – Side Ejection Adapter



#### 4. Adding a Huck Pulling Head



#### 5. Standard Configuration

