TITGEMEYER GTO

TIOS® ER15

Battery-Operated Blind Rivet Tool
Operating Instructions

TITGEMEYER Tb1524GB(1212)1

Contents

Notes on operating instructions

Note

Legislation dictates that the operator must be trained in using electric rivet tools. Upon request, training courses are available through TITGEMEYER in Osnabrück (Germany).

Perfected technology

This rivet tool represents the very latest in technology. To ensure the safe operation of this professional tool please follow all the safety recommendations.

Reading the operating instructions

Please ensure that you read through the operating instructions carefully before operating the rivet tool for the first time.

Actions

Do not carry out any actions or application procedures other than those described in this operating instruction manual.

Malfunctions

If a malfunction occurs, the operator should only try to rectify those sgnalled by the **"0"** (operator). All other numeric signals must only be investigated by a certified repairs expert.

Illustrations and numbering of parts

All descriptions and parts numbers found in the illustrations refer to the parts list on page 23.

Table for starting torques

For all thread sizes, a table of starting torques has been provided in the section entitled “Maintaining the rivet tool”.

Warnings, guidelines and action to be taken by the operator

Always follow the guidelines and safety instructions. Icons have been used in certain sections of these operating instructions for added emphasis. Please make a point of memorising the icons and what they stand for:

Caution! Risk of injury! This icon warns of dangers.

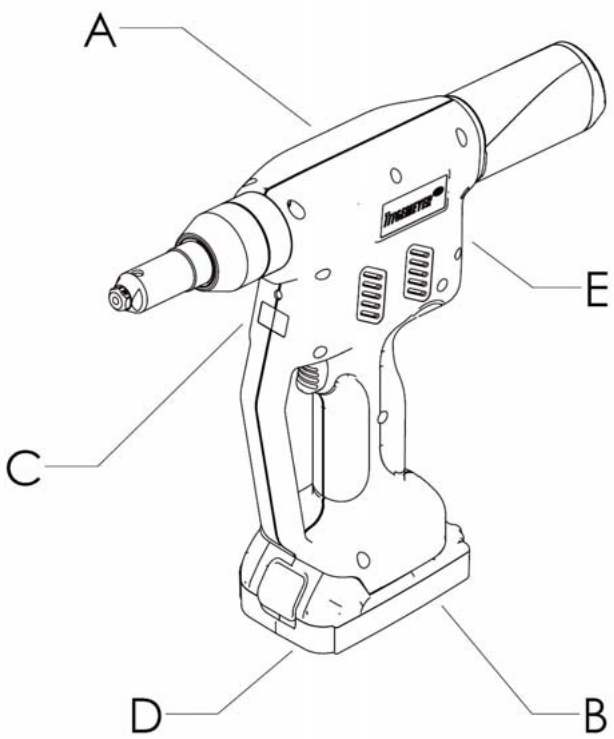
Caution! Damage to materials! This icon warns of actions which could result in the rivet tool or the blind rivets being damaged.

→ **Note!** This icon refers to useful information.
• This bullet (•) highlights each paragraph where you will be required to take action.

Caution! Environmental hazard! This icon warns of possible damage to the environment.

This pictograph indicates that you must first have read the operating instructions before beginning to operate the rivet tool.

Identification of rivet tool parts



A	Name plate	**C**	CE mark
B	Serial no. (located underneath the housing - remove battery!)	**D**	Name of supplier
		E	LED mode status

Labels on the battery and/or battery-operated tool

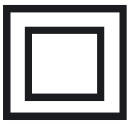
Recyclable

Dry environment

CE mark

Indoor use only

Dispose of correctly



Protection class II
Extra or double insulation between electric circuit and output voltage (without equipment earthing conductor)

Keep away from fire

Safety isolating transformer
Short-circuit proof

Safety notes

Intended use

The TIOS® ER15 battery-operated blind rivet tool may only be used to install blind rivets, as described in these operating instructions.
The TIOS® ER15 rivet tool is designed to install standard and cap (sealed end) blind rivets, as well as high-strength blind rivets with a rivet shank ø of 3.0 – 6.5 mm made from any material up to a max. installation force of 15 kN.
This rivet tool may only be used as a manually operated tool!
The customer is solely responsible for any modifications made to the rivet tool.
The safety notes contained in these operating instructions must be strictly observed at all times.

Foreseeable misuse

Never throw or drop the rivet tool!

Safety notes

This tool has been made to the very latest engineering standards and in keeping with the approved safety guidelines. It can be operated safely provided that the safety notes and intended use are observed and that the appropriate personal protective equipment is worn.

- **Danger, electrical tool:**
  Only allow trained electricians to carry out work on the rivet tool. Check the electrical equipment at regular intervals. Repair any loose connections and damaged leads immediately.
- **Observe the corresponding accident prevention** regulations that apply **in your country.**
- Never **point** the tool at anyone while it is in use.
- **Keep your work area clean, tidy and well-lit.** Bad housekeeping and poorly-lit work areas increase the likelihood of accidents.
- **Never use electrical tools in explosion-prone areas** where combustible liquids, gases or dust particles are found. Electrical tools generate sparks which can ignite dust or vapours.
- **Take environmental conditions into account.** Never expose electrical tools to rain. Never use electrical tools in humid or moist environments.
- Only use the rivet tool within its specified range of performance. Overloading it may result in the tool being damaged or risks to your safety.
- **Always wear protective glasses.** It is recommended that you wear suitable personal protective equipment, such as protective clothing, non-slip safety shoes, a hard hat and ear protection, depending on what electrical equipment is being used.
- **Remove the battery before changing the accessories or storing away the tool.** This precautionary measure will ensure that the electrical tool does not start running unintentionally.
- **Repairs must only be performed by trained personnel using original spare parts which can be obtained from Gebr. Titgemeyer GmbH & Co. KG.** This will ensure that the tool remains to use and will extend the lifetime of the tool.
- **Only use the designated batteries in the electrical tools.**
  The use of other batteries may result in injury or fire.
- **Only charge the batteries in the chargers recommended by the manufacturer.**
  The battery may be destroyed if inserted into an unsuitable charger.
- **Whenever possible, always charge the lithium-ion battery immediately after using and never store it when empty.** The battery will keep its capacity constant for a longer time (max. loss per year: 5%) if stored separately from the tool and charger.

Safety notes
(continued from Page 7)

- **For safety reasons, the lithium-ion battery should not be left in an active charger for longer than 36 hours.** Whenever possible, remove the battery from the charger as soon as it is fully charged.
- **Whenever possible, always remove the battery from the device before transporting.** This will prevent you from unintentionally switching the device on and also prevent the battery from running down very low.
- **Never expose the lithium-ion battery to high temperatures (+ 50 °C) or direct sunlight.** If the battery becomes hotter than 50 °C while in operation (charging or discharging), immediately remove it from the charger or rivet tool.
- **Keep unused batteries away from paper clips, coins, keys, nails, screws and any other small metal objects that might bridge/short-circuit the contacts. Never open or short-circuit the battery.** Short-circuiting the battery contacts may result in burns, fire or explosions.
- **Batteries may leak when subjected to extreme use or temperatures.** Keep your skin and eyes away from a leaking battery at all times. The liquid contained in a battery is corrosive and may cause chemical burns in human tissue. Should the liquid come into contact with the skin, immediately wash it off with soap and water and then with lemon juice or vinegar. If the liquid comes into contact with the eyes, rinse with water for 10 minutes and then seek the advice of a doctor immediately.
- Never charge the battery in temperatures BELOW 10 °C or ABOVE 40 °C.
- The charger must never be connected to a step-up transformer, generator or DC socket.
- Ensure that the ventilation slots on the charger are never covered or clogged.
- Never store the electrical tool or battery in areas where temperatures exceed 50 °C.
- Never store the battery in a box or enclosed container. The battery must be stored in a well-ventilated area.
- No changes, modifications or alterations may be made to the tool without the manufacturer's permission. No conversions may be performed without first being approved in writing by Gebr. Titgemeyer GmbH & Co. KG. Any parts not in fully-working order must be replaced without delay.

Basic requirements for handling the rivet tool

WARNING!
Risk of physical injury

- Attach the spent mandrel container before using the tool. Failure to do so will cause the mandrels to shoot out on breaking which may result in injury.
- Check that no parts of the tool are damaged. All damaged parts must be repaired before being used. Working with damaged tool parts increases the likelihood of injury.
- If working at elevated heights, always wear a safety harness. Avoid dropping rivets and avoid dropping the tool at all costs. Failure to do so may result in injuries and significant damage.

CAUTION !
Risk of personal injury or damage to the tool

- First remove the battery before cleaning the tool or performing any general maintenance work.
- Keep your face away from the ventilation slots at all times.
- Avoid substances such as lubricating oil and lubricating grease coming into contact with the skin. These substances can cause inflammation of the skin. If they do come into contact with the skin, carefully rinse the affected area to remove them.
- Avoid working in unsecured positions, as you could fall or injure yourself.
- Maintain the rivet tool with great care. Follow the operating instructions when performing maintenance and cleaning work. Keep the handle free from dirt and grease.
- Use the tool with care and be sure to operate it correctly. Ensure that the surrounding conditions are right when working with this tool. Always maintain full concentration during your work.
- Only the blind rivets specified in these operating instructions may be used.

Maintenance and care

The operator may only perform the maintenance and repair work described in these operating instructions.

Service instructions

Any maintenance and repair work not described in these operating instructions must be performed by trained personnel who have undergone a corresponding training course with TITGEMEYER. See the address on the last page for further information on training courses.

Note

→ The manufacturer accepts no liability for damage resulting from improper repairs or the use of non-original spare parts.

EU Declaration of Conformity

The TIOS® ER15 rivet tool has been manufactured and tested in accordance with the European directives. The Declaration of Conformity can be found on the next to last page.

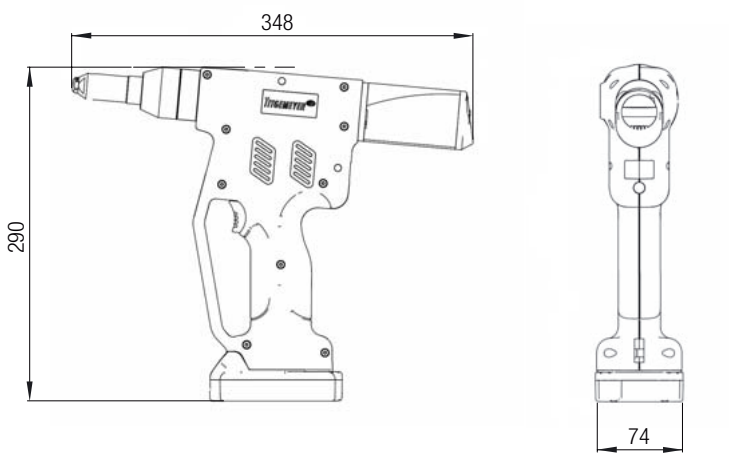
Warranty

Any improper use of this rivet tool, which results in the rivet tool being damaged, will render the warranty void.

Technical specifications

TIOS® ER15 rivet tool

Range of application	Blind rivet ø 3.0 mm to ø 6.5 mm, high-strength
Installation force	15 kN
Installation stroke	max. 25 mm
Installation speed	max. 22 mm/sec.
Weight	2.2 kg (1.9 kg without battery)
Height	290 mm
Width	348 mm
Nose cap ø	22.5 mm
Nose cap length	58 mm
Battery	18 V lithium-ion
Motor	Brushless
Workspace light	LED
Application-pressure control	Yes
Vibration DIN EN 60745-1	an < 2.5 m/s2
Noise emissions LPA	< 75 dB(A), short-term > 80 dB(A)



Rapid charger TIOS® LIO2830 Single Charger

Input voltage	230V / 50Hz
Output voltage	18V
Charging time	approx. 60 min.
Weight	0.55 kg

TIOS® LIO1816 battery

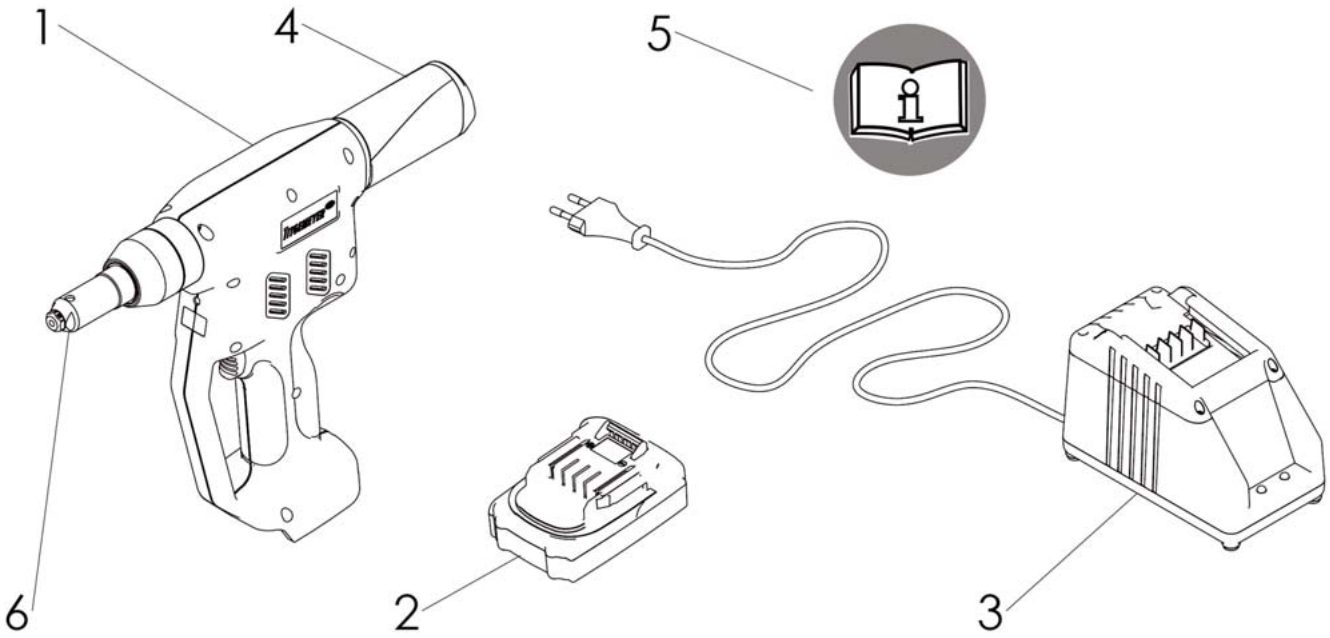
Power supply	18 V Li-Ion
Capacity	1.65 Ah
Cell type	lithium-ion manganese
Number of cells	5
Weight	0.33 kg

TIOS® LIO1833 battery (not supplied)

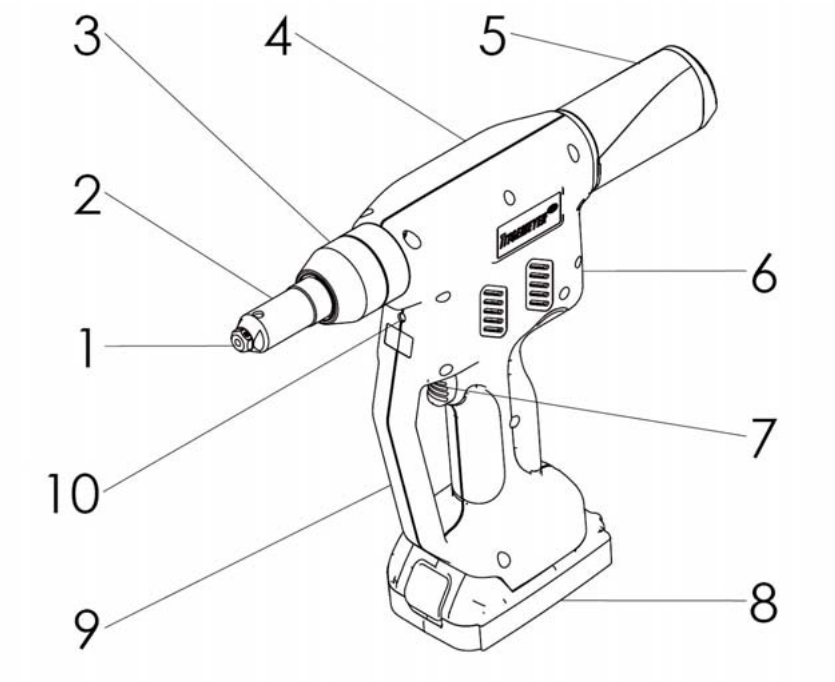
Power supply	18 V Li-Ion
Capacity	3.3 Ah
Cell type	lithium-ion manganese
Number of cells	5
Weight	0.57 kg

Scope of delivery

1. 1 battery powered tool for blind rivets TIOS® ER15
2. 1 battery TIOS® LIO1816
3. 1 TIOS® LIO2830 battery charger
4. 1 spent mandrel collector
5. Instruction manual
6. Nose piece ø 4,0 / ø 5,0 / ø 6,0 / ø 6,4 mm (nose piece ø 3,0 available as an optional extra)



Description of rivet tool



1. Nose piece
2. Nose cap
3. Lock nut
4. Housing
5. Spent mandrel collector
6. Status LED
7. Trigger
8. TIOS® LIO1816 battery
9. Hand guard
10. LED light

Required tools

You will need the following tools to perform all the adjustments, care and maintenance work.

Tools:
– Open-end spanners: SW12 and SW14

Storing the rivet tool

Until used for the first time

If you do not need to use the rivet tool immediately, please store it in its original packaging in a dry, dust-free place.

Longer storage after use

Clean the rivet tool (see “Maintaining and cleaning the rivet tool”).
Remove the battery whenever the rivet tool is not in use.
If you do not intend to use the battery for a lengthy period of time, fully charge the battery and then store in a dry, dust-free place.
Store the rivet tool in a dry, splash-proof place.
Store the rivet tool in a well-ventilated room that is well-protected from heavy dust.
Ensure that no aggressive chemicals or vapours are present in the storage area.
Never store the electrical tool or battery in areas where temperatures exceed 50 °C.

Disposing of the rivet tool

Dispose of the rivet tool components in the proper manner. Neither the rivet tool nor its individual parts should be mixed with household waste. They should be disposed of at a special collection centre for electronic waste.
Do not dispose of the battery as solid waste. It should be taken to a battery recycling plant or returned to the manufacturer for disposal.

Maintaining and cleaning the rivet tool

Caution

Risk of injury due to improper care! All maintenance, care and service work on rivet tools must be conducted by suitably trained personnel. If the tool is used as intended, the operator should be at no risk. The operator may only carry out the work described in these operating instructions.
Risk of injury due to falling rivet tool!

Important

Danger of material damage due to corrosion!
Do not use any aggressive cleaning agents or flammable liquids to clean the tool!
Do not spray any cleaning agents, solvents or readily flammable substances into the vents or openings in the housing.

The following tasks are recommended:
Clean the rivet tool and check for any mechanical faults.
If the rivet tool is to be stored for a longer period, first clean the tool and then lightly grease all the exposed metal components (see “Maintenance intervals”).

Preparing and fitting the rivet tool

Initial setup

1. Read the operating instructions and keep in a safe place.
2. Perform a visual inspection of the devices to check for defective or loose parts (damage in transit).
3. Plug the charger to the mains.
4. Insert the battery into the charger (check the display!).
5. Charge the battery (approx. 60 min).
6. Attach the spent mandrel container. To do this, rotate the container about a quarter turn. Empty the container and then reattach as and when required.
7. Insert the battery into the rivet tool until you hear an audible “click”. (To remove the battery, press the catch downwards and pull the battery forwards).
8. Press the start trigger.
9. The rivet tool is now ready for use.

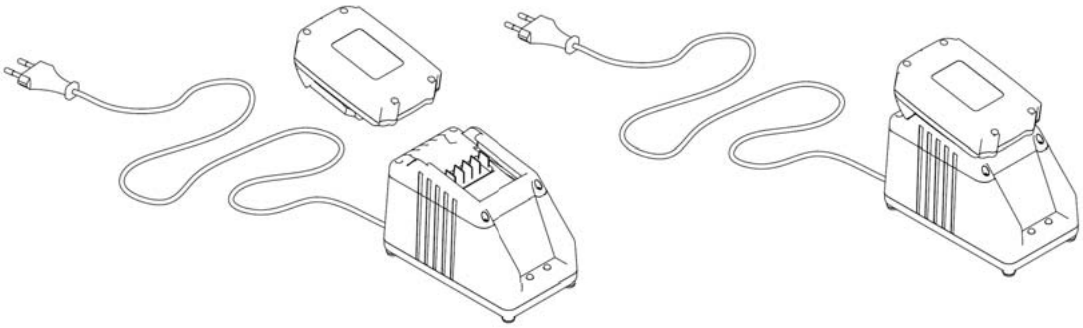
Application-pressure control →

- **Note:**
  The tool is operated by means of application-pressure control. Apply a little pressure to the pulling unit until it moves slightly. Now press the start trigger.

Mandrel container →

- **Note:**
  A magnetic contact switch is installed on the mandrel container. If the container has not been fitted or if the contact is not closed, the tool will not operate.

Charging battery



Description of LED status on the charger

Left LED

Mains

Defective charger

Right LED

Charging battery

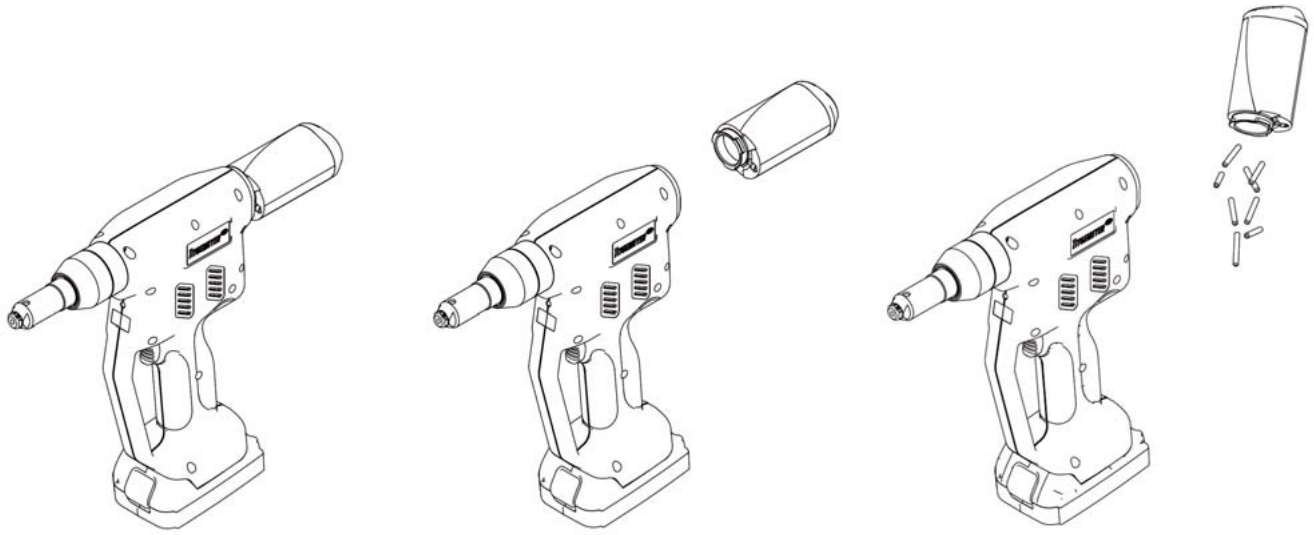
Battery charged

Defective battery

Battery too hot or too cold

Inserting the battery → • **Note:**
An audible “click” will be heard if the battery is properly inserted.

Emptying the mandrel container → • **Note:**
A magnetic contact switch is installed on the mandrel container.



Operating the rivet tool

Caution

Risk of injury due to flying rivet heads! For this reason, no blind rivets should be loaded when checking the rivet tool. Always wear protective glasses.

Caution

Risk of injury due to discharging mandrel! Only use this tool with an undamaged spent mandrel container. And always ensure that the container is correctly in position.

Selecting the nose piece

To install different sizes of blind rivet (rivet shaft ø 4.0 – 6.5 mm) you can change the nose piece on the rivet tool.
Use the SW12 and SW14 open-end spanners.

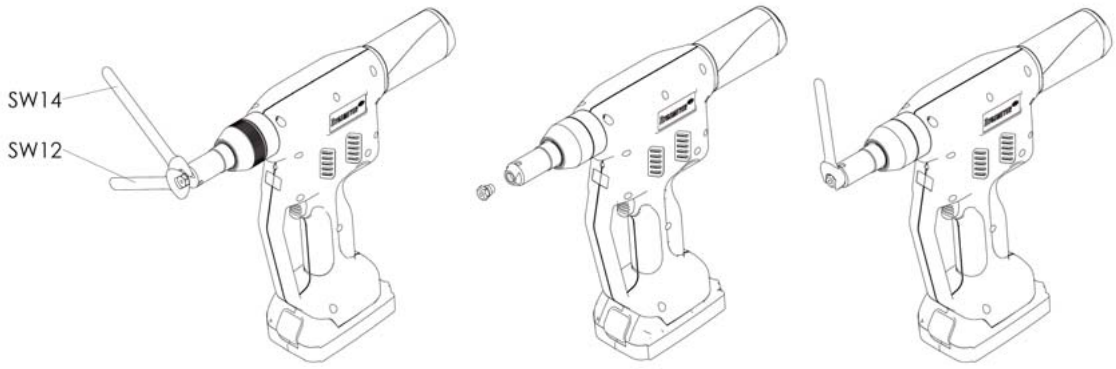
Note

If the nose piece is firmly attached, try clamping the rivet tool in a vice and then loosening the nose piece. Before clamping the rivet tool in a vice, remember to place a soft material (aluminium/wood) around it first.

Important

Only use the nose piece that matches the blind rivet you are going to use. Failure to do so may damage the rivet tool. The nose piece should screw in by hand. Do not apply force as this may damage the tool. Do not cross thread or use a nose piece with a damaged thread. You will need to overcome the spring action on the jaws.
The max. mandrel length (after breakage) must not exceed 62 mm.

Required tools: SW12 and SW14 open-end spanners.



Description	Rivet shaft ø mm	**Part No.**
TIOS® ER15 3.0	3.0 / 3.2	**352 200 103 (optional)**
TIOS® ER15 4.0	4.0	**352 200 104**
TIOS® ER15 5.0	4.8 / 5.0	**352 200 105**
TIOS® ER15 6.0	6.0 / 6.4	**352 200 106**
TIOS® ER15 6.4	6.4 high-strength	**352 200 107**

Installing the blind rivet

What to remember!

Important

Damage to materials! Always hold the rivet tool at right angles (90°) to the area where you want to install the blind rivet nuts. If held at another angle, the rivet will not install correctly.

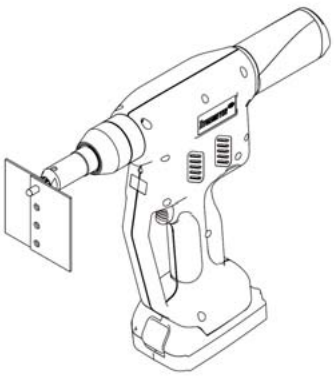
Important

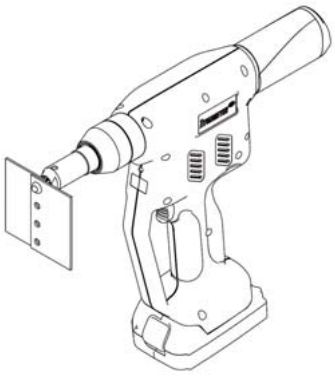
Damage to materials! Only use the nose piece that matches the blind rivet you are going to use! Using an incorrect nose piece can damage both the jaws and the nose piece.

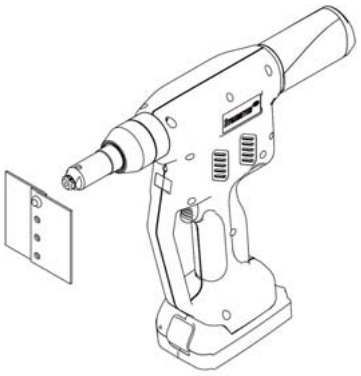
Note

For details on hole diameters and clamping areas, please refer to the specifications in the rivet manufacturer's catalogue.

1. Insert the wire rivet mandrel into the nose piece.
2. Insert the blind rivet into the pre-drilled hole.
3. Press the rivet tool firmly against the component (pressure-sensitive control).
4. Press the trigger to initiate and maintain the installation stroke.
5. Release the trigger.
6. Tilt the rivet tool so the spent mandrel falls in to the container.







LED display (operating modes)

The display is located at the back of the housing, below the spent mandrel container.
The following statuses can be displayed on the LED display when the tool is in operation:

LED display		Description of status	Action
	Lighting LED comes on briefly; LED display briefly turns red then green	Function test after inserting the battery and pressing the trigger.	
	LED display turns green	Mandrel container not or not correctly fitted, or pressure-sensitive switch not pressed.	Fit mandrel container correctly and press the pressure-sensitive switch.
	LED display flashes green	Pressure-sensitive switch must be pressed before each installation.	Release the pressure-sensitive switch. Next rivet installation can begin.
	LED display flashes orange	Battery almost flat but still operable.	Replace or charge battery.
	LED display remains orange	Battery flat, no longer operable.	Replace or charge battery.
	LED display flashes red	Malfunction: Current overload due to excessive break-load on the mandrel or overheated tool (55 °C) Mandrel container not or not correctly fitted.	Wrong blind rivet used, or pulling unit is dirty or damaged. Service the pulling unit or allow the tool to cool down. Fit mandrel container correctly.
	LED display remains red	Malfunction: The rivet tool is out of order and no longer works.	Contact your supplier.

Description of decal:
LED status for rivet tool

Replace or charge battery

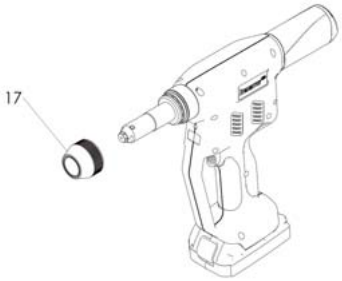
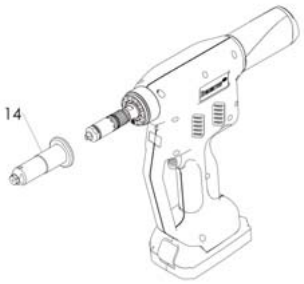
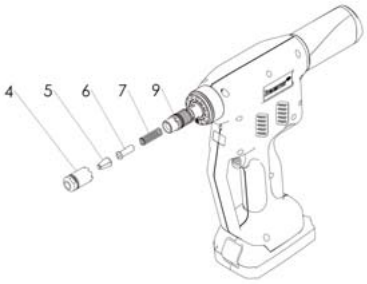
Malfunction: Defective charger

Maintaining the rivet tool

Caution

Risk of injury due to improper care! All maintenance, care and service work on rivet tools must be conducted by suitably trained personnel. If the tool is used as intended, the operator should be at no risk. The operator may only carry out the work described in these operating instructions.

Cleaning the pulling unit

1		Remove the battery before beginning any work on the rivet tool. Loosen the lock nut (17) and remove by pulling it forwards.
2		Pull the nose cap (14) forwards and remove.
3		Pull the catch (9) backwards. Remove the jaw case, jaws, ram and spring. Clean all the parts thoroughly using a cleaning rag or compressed air. Reassemble following the above steps in reverse order. Before reassembly, lightly grease the jaws with an acid-free oil.

Maintenance intervals

Interval	Activity	How?	Who?	Remarks
Daily before each use	Check for cracks	Visual inspection	Operator	
Daily before each use	Check nose piece for rivet diameter as well as wear and tear	Visual inspection	Operator	Replace nose piece if necessary
Daily before each use	Check the jaws and jaw case	Function check	Operator	Clean or replace jaws if necessary

Replacing the pulling unit

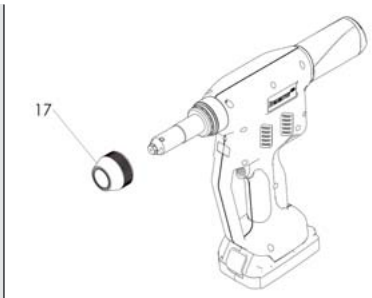
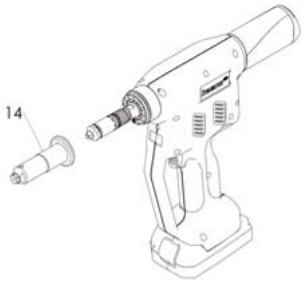
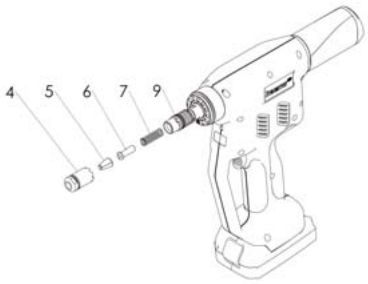
1		Remove the battery before beginning any work on the rivet tool. Loosen the lock nut (17) and remove by pulling it forwards.
2		Pull the nose cap (14) forwards and remove.
3		Pull the catch (9) backwards. Remove the jaw case, jaws, ram and spring.
4		Loosen the jaw case body using two SW14 open-end spanners. Insert the new jaw case body and tighten using two SW14 open-end spanners. Reassemble following the above steps in reverse order. Before reassembly, lightly grease the jaws with an acid-free oil.

Table for starting torques

The table below shows the torque values that must be adhered to for the specified threads.

Item	Description	Thread	Torque MA in Nm
3	Nose piece	M10	25 Nm
17	Lock nut	M40	Hand-tight
8	Spacer	M11	30 Nm
12	Spacer sleeve	M11	30 Nm

Troubleshooting

Work that may be performed by the operator is highlighted by the letter **"O".**
Work that may be performed by the trained personnel is highlighted by the letter **"T".**

Caution

Risk of accident!
Remove the battery at all times until the fault has been detected.

Important

Damage to materials! Work that is highlighted by the letter **"T"** may only be performed by trained personnel. Submit the rivet tool to Maintenance.
Only trained personnel may replace original parts.

Note

→ A full function test must be performed each time a fault is repaired.

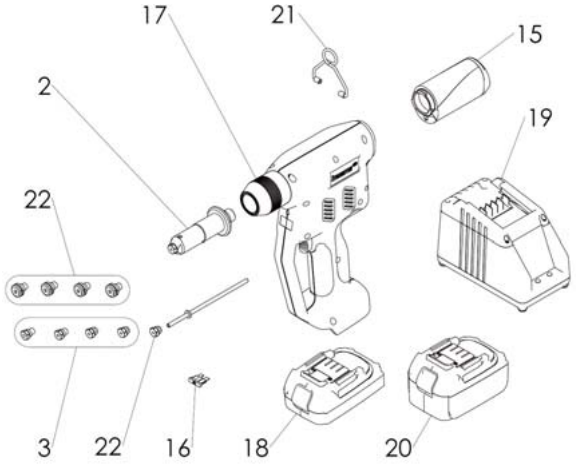
Malfunctions	Cause	Remedies
Rivet does not install	Flat battery (LED flashes orange)	**O** Replace battery
	Mandrel container not correctly attached (LED flashes green)	**O** Attach container
	Pressure-sensitive switch not pressed (LED flashes green)	**O** Press nose piece up to component
	Loose jaw case or jaws are defective	**O** Replace jaws + jaw case if necessary
Mandrel is not rejected	Jaws / jaw case dirty	**O** Clean
	Slide pipe dirty	**O** Clean
	Mandrel too large for nose piece	**O** Replace nose piece
	Mandrel wedged inside jaws	**O** Loosen nose piece, remove Lock nut and cap. Loosen jaw case, replace jaws if necessary
Battery does not charge in charger	Defective battery (right LED flashes red)	**T** Replace battery and dispose of used one properly
	Defective charger (left LED flashes red)	**T** Replace charger and dispose of used one properly
	Charger not connected to mains (left LED dead)	**T** Check the power supply on the charger

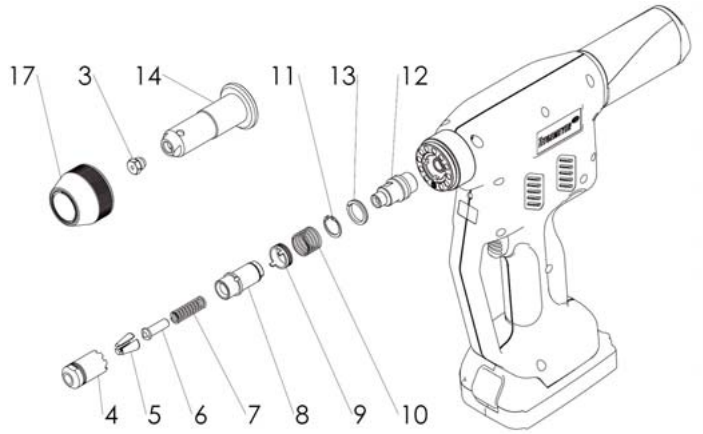
Warranty

In addition to the statutory warranty period, TITGEMEYER provides a further 6 months' warranty starting from the date of purchase (invoice required for proof of purchase).

The following consumables are excluded from the warranty:
– Jaws
– Nose piece
– Jaw case
– Spent mandrel container
– Pressure spring
– Jaw slider

Spare parts list for TIOS® ER15





Item	Description	**Part No.**
	TIOS® ER15 battery-operated blind rivet tool, complete	**352 200 000**
2	1 complete pulling unit = 60 mm	352 200 100
4	Jaw case	352 200 110
5	Jaws	326 583 000
3.1	Nose piece ø 4.0 mm	352 200 104
3.2	Nose piece ø 5.0 mm	352 200 105
3.3	Nose piece ø 6.0 mm	352 200 106
3.4	Nose piece ø 6.5 mm	352 200 107
6	Jaw slider	352 200 111
7	Pressure spring	352 200 112
8	Spacer	352 200 113
9	Catch	352 200 114
10	Pressure spring catch	352 200 115
11	Snap ring	352 200 116
12	Jaw case body	352 200 117
13	Deflector	352 200 118
14	Nose cap	352 200 119
15	Spent mandrel container	352 200 300
16	Fuse, 30A	352 200 301
17	Lock nut	352 200 302
18	Insertable battery, TIOS LIO1816 1.65Ah	352 200 900
19	Single charger, TIOS LIO2830	352 200 910

Optional accessories
(on request)

Item	Description	**Part No.**
20	Insertable battery, TIOS LIO1833 3.3 Ah	352 200 901
21	Complete fixing kit	352 200 921
22	Nose piece ø 3.0 mm with adapter sleeve	352 200 103
22.1	Rivet-holding nose piece ø 3.0 mm	352 200 950
22.2	Rivet-holding nose piece ø 4.0 mm	352 200 951
22.3	Rivet-holding nose piece ø 5.0 mm	352 200 952
22.4	Rivet-holding nose piece ø 6.0 mm	352 200 953
22.5	Rivet-holding nose piece ø 6.5 mm	352 200 954

EU Declaration of Conformity

We hereby declare that battery charging device stated below meets the requirements of the specified norms and directives. Any modification to this device that is not agreed in advance and approved in writing will result in this Declaration of Conformity becoming invalid. (This Declaration refers to the condition of the device at the time it was marketed).

Authorised by:

Company: Gebr. Titgemeyer GmbH&Co.KG
Location: Hannoversche Str. 97
49084 Osnabrück (Germany)
Tel.: +49 541 5822-0
Fax: +49 541 5822-491

Description of device:

Rapid charger for charging lithium-ion batteries
18V 1.65Ah / 18V 3.3Ah

Name of model:

TIOS® LIO2830 Charger

Applied norms and directives:

2006/95/EC Low Voltage Directive

2004/108/EC Electromagnetic Compatibility (of electronic or electrical products)

EN 60335 / EN 55014 / EN 55014-2:98 / EN 61000-3-2 + A12:97, A1 + A2:99

G. Chr. Titgemeyer
Managing Director

Date: 11.01.2012

EU Declaration of Conformity

We hereby declare that the blind rivet tool stated below meets the requirements of the specified norms and directives. Any modification to this device not agreed in advance and approved in writing will result in this Declaration of Conformity becoming invalid. (This Declaration refers to the condition of the device at the time it was marketed).

Authorised by:

Company: Gebr. Titgemeyer GmbH&Co.KG
Location: Hannoversche Str. 97
49084 Osnabrück (Germany)
Tel.: +49 541 5822-0
Fax: +49 541 5822-491

Description of device:

Battery-operated blind rivet tool

Name of model:

TIOS® ER15

Applied norms and directives:

2006/42/EC Machinery Directive

2004/108/EC Electromagnetic Compatibility (of electronic or electrical products)

EN 55014 Electromagnetic compatibility – Requirements for household appliances, electric tools and similar appliances.

DIN EN 60745 Hand-held electrical power tools

Party authorised to compile the relevant technical documentation:

Gebr. Titgemeyer GmbH&Co.KG
Head of Engineering Team
MSc(GB), Dipl.-Ing (FH) B.Thünemann

Hannoversche Str. 97
49084 Osnabrück (Germany)

G. Chr. Titgemeyer
Managing Director

Date: 11.01.2012

Service

Should you encounter any difficulties ordering spare parts or if you would like to learn more about available training courses:

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