



# VAS 631 001

## Operating Instructions

### VW LITEALUM Repair Kit

Operating manual No.: 411-18579-1, Rev. A1  
PN operating manual: 744017-8  
Language: en (translation of the German original version)

- The information provided is for the purpose of product descriptions only. Users must carry out their own assessments and tests. It should be noted that our products are subject to natural wear and ageing processes.
- © TE Connectivity Ltd. All right reserved, including applications for industrial property rights. We reserve all rights of disposal such as copying and transfer rights.
- The front page show a sample configuration.  
The supplied product may vary from that shown.
- The original operating instructions were written in German.

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# 1 General Specifications

## 1.1 Copyrights, industrial property rights

- The copyright to these operating instructions is held by **TE Connectivity Ltd.** These operating instructions are only intended for users of the VW LITEALUM Repair Kit, TE PN 6-1579010-3.
- The relevant supplementary operating instructions include descriptions, technical drawings, specifications and instructions, no part of which may be reproduced, circulated, disclosed or used for the purpose of competition without permission.
- Should third parties endeavour to gain access to these operating instructions, the same fairness is expected from you as you would expect from your customers in such cases.

**All rights reserved in particular including the granting of patents or other registrations. Subject to technical changes.**

## 2 Using these Operating Instructions

- These operating instructions contain important information about using the repair kit safely and properly.
- Read these instructions in full, in particular section 3 "General Safety Instructions", before working with the repair kit.
- **TE Connectivity Ltd.** accepts no liability for any loss or damage attributed to failure to follow the operating instructions.
- These operating instructions must be supplemented by the repair kit user with instructions based on existing national regulations for the prevention of accidents and environmental protection.
- The generally applicable, statutory and other binding regulations of European and national law as well as the regulations for the prevention of accidents and environmental protection applicable in the country of use must also be observed.

### 2.1 Abbreviations used

Abbreviation	Meaning
PN	Part Number
RoHS	Restriction of (the use of certain) hazardous substances;

## 3 General Safety Instructions

The repair kit has been manufactured in accordance with the generally accepted codes of practice. Nonetheless, there is a risk of personal injury and material damage if the following general safety instructions and the warnings preceding the individual operating instructions are not followed.

- ▶ Read these instructions carefully and in full before working with the repair kit.
- ▶ Keep these instructions in a place where they are accessible to all users at all times.
- ▶ These operating instructions must accompany the repair kit if it is passed on to a third party.

### RoHS information

Information on the presence and location of substances subject to RoHS guidelines (Restriction on Hazardous Substances) can be found on the following website:

- <http://www.tycoelectronics.com/customer-support/rohssupportcenter/>
- Select "Find Compliance Status..." on the website and enter the appropriate part number.

### 3.1 Intended use

The repair kit is used for stripping aluminium and copper wires with the cross-sections 2.5 /4.0/ 6.0 mm<sup>2</sup> and crimping LITEALUM butt splice according to TE processing specification 114-94287.

The repair kit may only be used for repair purposes or for making samples, not for series production.

- ▶ The repair kit is not a product in the sense of the EU Machinery Directive 2006/42/EC.
- ▶ Intended use also includes reading and understanding the entire contents of this manual, in particular section 3 "General Safety Instructions".

#### Notification regarding use:

- ▶ Cumulative trauma complaints may result from prolonged use of hand tools. TE Connectivity hand tools are intended for occasional use with low part counts. **TE Connectivity** offers a wide selection of tools to meet increased demand or for production.

## 3.2 Improper use

Use of the repair kit for any other purpose than that described in Section 3.1 "Intended use" is considered improper use.

## 3.3 Reasonably foreseeable misuse

An attempt to work with terminals other than those specified in Section 5 constitutes reasonably foreseeable misuse. Furthermore, the repair kit may only be used for its intended purpose (Section 3.1 "Intended use"). Work with the repair kit must only be carried out by instructed persons or specialists.

A specialist can assess the work assigned to him, recognise potential dangers and take appropriate safety measures based on his technical training, knowledge and experience as well as being familiar with the pertinent regulations. A specialist must comply with the relevant technical regulations.

## 3.4 Warnings in these instructions

### 3.4.1 General information

- ▶ Observe the regulations for the prevention of accidents and environmental protection in the country of use and at the workplace.
- ▶ Only use the repair kit when it is in technically perfect condition.
- ▶ Inspect the repair kit for any visible defects, such as missing components or parts or components in poor condition.
- ▶ The repair kit must not be altered or modified in any way and/or parts replaced with unsuitable components.
- ▶ Only use the repair kit for the applications indicated in these operating instructions.
- ▶ Persons using the repair kit must not be under the influence of alcohol, drugs or medicines liable to influence the ability to react.
- ▶ Prior to use, ensure that all components belonging to the repair kit are present and in a perfect condition. If in doubt, do not use the repair kit or its components.
- ▶ If there are any visible defects or damage or if the repair kit no longer functions properly, the repair kit must be sent in.
- ▶ The warranty applies exclusively to the configuration provided.  
The warranty is voided in the event of use other than as intended or improper use.

### 3.4.2 When working with the repair kit

Only instructed personnel may work with the repair kit within the scope of the intended purpose.

### 3.4.3 Disposal

Dispose of the repair kit in compliance with the environmental rules described in Section 11 "Disposal".

## 3.5 User obligations

The user of the repair kit from **TE Connectivity Ltd.** must train their personnel on the following matters:

- ▶ Following and using the operating instructions and observing statutory provisions.
- ▶ Intended use of the repair kit.



## 4 Scope of Delivery

The scope of delivery comprises the following:

- |  |                   |
|--|-------------------|
| ■ 1 CS33-SDE BASIC HAND TOOL                             | TE PN 3-1579000-5 |
| ■ 1 SDE DIE SET LITEALUM BUTT SPLICE 2.5 mm <sup>2</sup> | TE PN 2-1579017-1 |
| ■ 1 SDE DIE SET LITEALUM BUTT SPLICE 4.0 mm <sup>2</sup> | TE PN 2-1579017-2 |
| ■ 1 SDE DIE SET LITEALUM BUTT SPLICE 6.0 mm <sup>2</sup> | TE PN 2-1579017-3 |
| ■ 1 stripping tool                                       | TE PN 6-1579002-2 |
| ■ 1 tool case with accessories                           | TE PN 8-1579010-3 |
| ■ 1 operating manual                                     | TE PN 744017-8    |

## 5 Terminals and Conductors to be used

The following LITEALUM terminals are processed using the repair kit:

	Terminal	TE PN terminal set	VW PN terminal set	TE Application Specification
2.5 mm <sup>2</sup>	LITEALUM	2236734-1	000 998 910	144-94287
4.0 mm <sup>2</sup>	LITEALUM	2236736-1	000 998 911	144-94287
6.0 mm <sup>2</sup>	LITEALUM	2236738-1	000 998 912	144-94287

Corresponding terminal material, heat-shrink tubing and aluminium and copper wires are not part of the scope of delivery of the repair kit. Terminal sets consisting of the terminal and the corresponding heat-shrink tube can be ordered under the following Volkswagen part numbers:



The following aluminium and copper wires are stripped using the repair kit:

	Stripping length of the conductor	TE Application Specification
2.5 mm <sup>2</sup>	5.8 +/- 0.3 mm	144-94287
4.0 mm <sup>2</sup>	6.2 +/- 0.3 mm	144-94287
6.0 mm <sup>2</sup>	6.6 +/- 0.3 mm	144-94287

## 6 Description of Repair Kit

The basic hand tool essentially consists of a closed frame to house the SDE DIE SETS, two moveable handles, a ratchet mechanism, two fixing screws for the use of the dies, a locking bolt for opening the frame, and a positioner with locking lever.

The LITEALUM SDE DIE SETS are equipped with a crimping profile and can be quickly inserted into the basic hand tool without the use of tools.

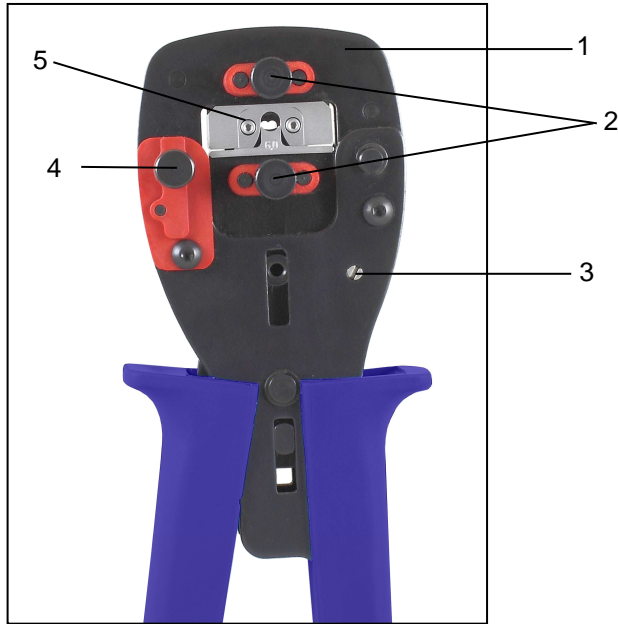


Fig. 1: Hand tool components

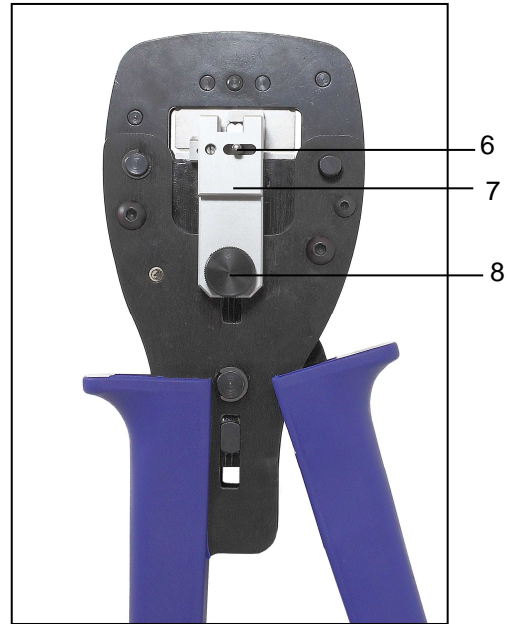


Fig. 2: Hand tool components

- 1 Frame
- 2 Fixing screws
- 3 Release screw (emergency)
- 4 Locking pin

- 5 Die
- 6 Adjustor
- 7 Positioner
- 8 Knurled screw

The stripping tool can be used to strip aluminium and copper wires with the cross-sections 2.5 /4.0 /6.0 mm<sup>2</sup>. The stripping tool is fitted with a positioner that indicates the correct strip lengths for the respective cross-sectional ranges.



Fig. 3: Stripping tool

- 1 Cutting function
- 2 Positioner
- 2 Stripping blade for 2.5 /4.0 /6.0 aluminium and copper wire



Fig. 4: Positioner for correct strip length



Fig. 5: Stripping positions

## 7 Stripping process

- ▶ Insert cable up to stop point on positioner.
- ▶ Close tool until it automatically opens again.

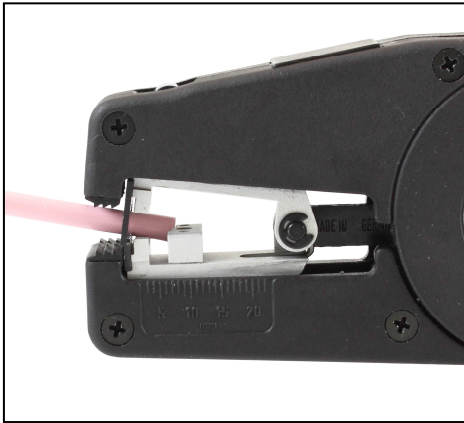


Fig. 6: Insert cable

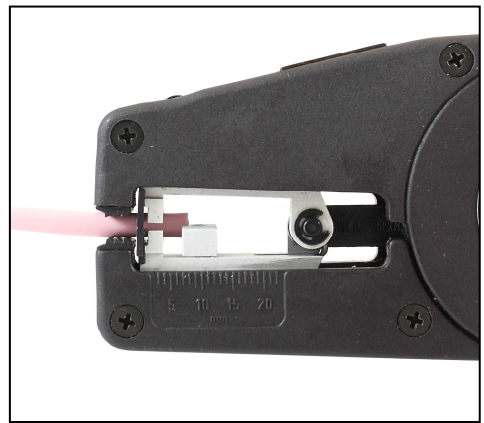


Fig. 7: Close tool

- ▶ Remove properly stripped wire.

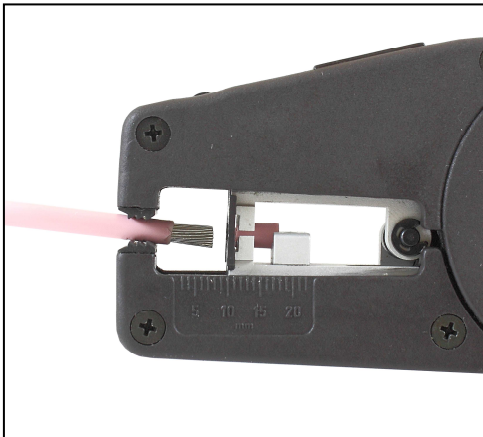


Fig. 8: Strip wire



Fig. 9: Stripped wire

## 8 Die change

Based on the wire cross-section and the relevant processing specification, determine the right SDE DIE SET for the terminal to be processed. Proceed as follows to change the die:

- ▶ Close the handles until the ratchet of the ratchet mechanism releases and allows you to fully open the handles.

**Note:** The die parts must be assembled so that the coloured points on both components are on the same side. The anvil cross-sectional marking must be in the direction of the fixing screws during assembly. This is the only way to prevent damage from occurring to the dies.



Fig. 10: SDE DIE SET 2.5 front view

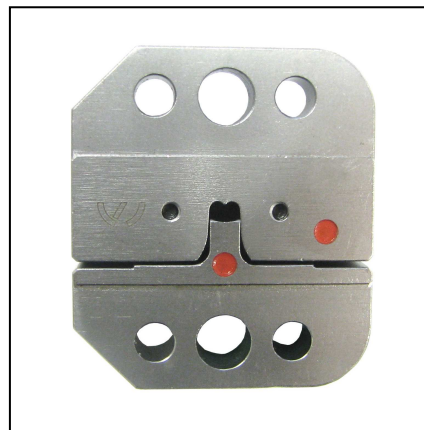


Fig. 11: SDE DIE SET 2.5 rear view

**Note:** The ratchet mechanism of the hand tool makes audible clicks when you close the handles. It releases after the last click.

- ▶ Pull out locking pin (1) to open frame. Turn screw (2/3) anticlockwise, pull out and fasten screw with a further anticlockwise turn.

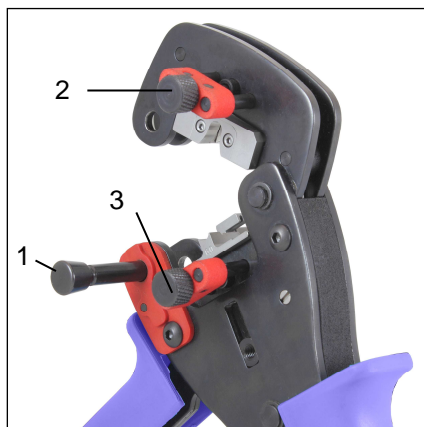


Fig. 12: Open frame



- ▶ Remove upper and lower die parts to adapt different die set as required.
- ▶ Turn screw (2/3) clockwise, release from fixing, insert and tighten as far as it will go. Insert locking pin (1) again to close frame.



Fig. 13: Remove insert

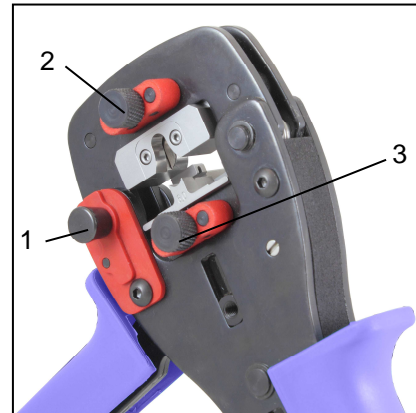


Fig. 14: Close frame

- ▶ Affix positioner including adjuster to the back of the tool by tightening the knurled screw.



Fig. 15: Back of the tool



Fig. 16: Positioner including adjuster and knurled screw



Fig. 17: Back of tool with assembled positioner



## 9 Crimping procedure

Based on the wire cross-section and the relevant processing specification, determine the right SDE DIE SET for the terminal to be processed. Proceed as follows to crimp the terminal:

- ▶ Close the handles until the ratchet of the ratchet mechanism releases and allows you to fully open the handles.

**Note:** The ratchet mechanism of the hand tool makes audible clicks when you close the handles. It releases after the last click.

- ▶ Insert terminal into positioner and align with the recess of the adjustor.
- ▶ Move locking lever of the positioner to the left in order to securely fix terminal.

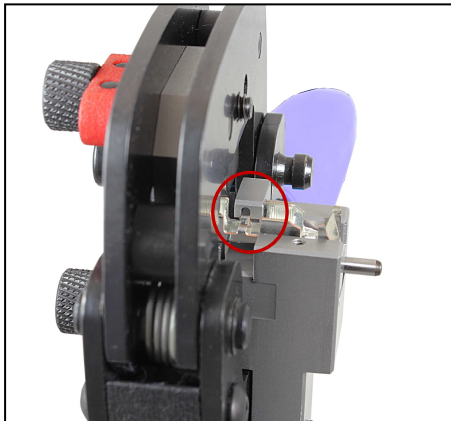


Fig. 18: Insert terminal into positioner

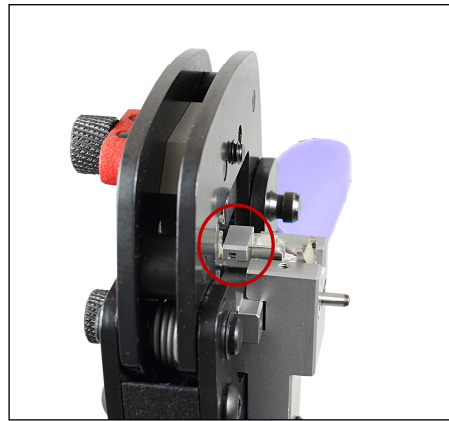


Fig. 19: Terminal fastened

- ▶ Now feed the wire, stripped according to the application specification, into the terminal crimp barrel up to the stop.
- ▶ Hold the wire against the stop and press the handles together until the ratchet mechanism releases. Let the crimping tool open fully.
- ▶ Move locking lever of the positioner to the right in order to release terminal locking mechanism. Pull out locking pin to open frame.



Fig. 20: Insert cable



Fig. 21: Remove terminal

- ▶ Remove terminal and perform crimping operation again for the terminal's other crimping zone.
- ▶ Check the crimp height of the crimped terminal. Refer to the information in the TE Connectivity processing specification 114-94287.

## 10 Early Release

The hand tool can be released in case of inaccurate execution of the crimp process at any time.

- ▶ Press the handles of the hand tool together slightly.
- ▶ Turn the unlocking screw **(1)** anticlockwise using a suitable screwdriver.
- ▶ The tool opens on its own.



Fig. 22: Release unlocking screw

## 11 Maintenance and Servicing

### 11.1 Daily maintenance

The following daily maintenance tasks should be performed by the responsible operator:

- Using a soft, clean brush or a lint-free cloth, remove dirt, dust, moisture and other residue from the tool. Do not use any hard or abrasive tools or materials that could damage the tool.
- Ensure that all fixing pins are firmly seated.
- Coat all pins, pivot points and bearing surfaces with a film of sewing machine oil. Do not lubricate excessively.
- If the individual components of the repair kit are not required, ensure that they are clean and dry and then store in the tool case provided.

### 11.2 Periodic inspection

- The repair kit should be inspected periodically by suitably qualified staff according to the level of use, and the inspections should be documented.
- Ensure that all fixing pins are firmly seated.
- Close the handles until the ratchet mechanism releases and the handles open. Ensure that the tool handles open freely.
- Check the stripping tool and hand tool for wear and damage, particularly on the stripping blade, crimping nest areas and pivot points.

## 12 Disposal

The components of the repair kit must be returned to the address stated in Section 12.1 "Customer support address" to ensure environmentally sound disposal.

## 13 Appendix

### 13.1 Customer support address

**TE Connectivity**  
**c/o Schenck Technologie- und Industriepark GmbH**  
Landwehrstr. 55/Gebäude 83  
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