



Manual eCrimp (97 43 E)



Read these
Operating Instructions
before starting work!

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KNIPEX-Werk
C. Gustav Putsch KG
Oberkamper Strasse 13
42349 Wuppertal
GERMANY

Tel.: +49 (0) 202 – 47 94-0
Fax: +49 (0) 202 – 47 74 94
info@knipex.de
www.knipex.de

1. Intended use

The crimping tools are designed exclusively for use with die sets that are either distributed by KNIPEX or which KNIPEX has declared as being compatible. The tools and the die sets must be used solely for the purpose as envisaged by KNIPEX. The tool is not intended for use in different or more specialised applications. Any work performed with this tool that is not in line with its intended use can cause damage to the crimping tool, its accessories and the crimped contacts.

KNIPEX accepts no liability for losses resulting from

- the use of unsuitable crimping die sets or crimping die sets from other manufacturers; or
- the use of the tool in applications that are outside the scope of the tool's intended use.

Using the tool "as intended" also implies following the Operating Manual, performing inspections and maintenance work as instructed and compliance with all applicable safety provisions in their latest published version.

Read this Operating Manual carefully!
Follow all safety instructions as provided!
Ensure compliance with national safety standards!

Read and follow all safety instructions and guidelines! Any failure to follow the safety instructions and guidelines as given can cause electrical shock, fire and/or serious injury. Accordingly: Ensure that you retain all safety instructions and guidelines for future use and always include these when passing the equipment on to others.

Warning



Danger of injury from airborne fragments. If the tool is used incorrectly, or if worn or damaged die sets and crimping tools are used, the operator risks injury from airborne fragments.

Accordingly:

- Crimping tools must be used solely by qualified personnel.
- Maintenance must be performed at the required intervals.
- Before each use, inspect the crimping tools and die sets for cracks and other signs of wear.
- Crimping tools and die sets with material flaws or other signs of wear must be taken out of service immediately and no longer used.
- Only use crimping tools and die sets if they are in perfect working order.
- If crimping tools or die sets have been used incorrectly, they must be removed from service and inspected by an authorised service centre.

2. General safety instructions

Icons are used to mark sections of text as described below. Ensure you follow these instructions and take especial care in such situations. Also provide other users and technicians with a full set of health and safety instructions!

Warning



Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and / or serious injury. See all warnings and instructions for further reference.

Caution



This section cautions the reader about a potentially dangerous situation that can lead to minor or moderate physical injury and/or damage to property.

Please note

The information in this section is of particular relevance to the description of a function or an operating procedure.

Caution



Damage to/malfunctioning of the crimping tool and die set as a result of improper handling.

Accordingly:

- Do not continue to use worn crimping tools – replace them immediately.
- For transportation and storage, use the carrying case and store the crimping tools and die sets in a dry place.
- Ensure all damage is inspected without delay by an authorised service centre.
- Observe the safety instructions for detergents and corrosion protection agents used.

Please note

For working and installation instructions for crimp contacts, consult the documents as supplied by the manufacturer.


3. Terminology used

V	Volt
A	Ampere
Hz	Hertz
W	Watt
kW	Kilowatt
g	Gram
kg	Kilogram
Bj	Year of manufacture





Ah	Amp-hour
db(A)	Decibel (sound pressure)
bar	Bar
°C	Degrees Celsius
kN	Kilonewton
A.C.	Alternating current
D.C.	Direct current
F	Force

Ø	Diameter
h	Hour
min	Minute
s	Second
m/s²	Metres per second squared (acceleration)
No.	Number






4. Symbols used on the equipment and rating plate details

Symbol	Meaning
	Maintenance sticker, shows date of next service. Located in the battery compartment. To read the sticker, pull out the battery.

Rating plate details

1		KNIPEX-Werk 42349 Wuppertal Oberkamper Str. 13 GERMANY www.knipex.de	1	Manufacturer logo with address
2	eCrimp – 97 43 E		2	Model designation for the tool
3	Nr. XXXXX	BJ. MM/JJ	3	Serial no.
4	12V d.c. 240W		4	Permitted voltage range in volts
			5	Country of manufacture
		complies with UL 60745 CSA-C22.2 No. 60745 C 210060 US	6	Article no.
		KNIPEX Quality – Made in Germany	7	Year of manufacture
			8	Power consumption

Explanation of possible rating plate icons used

	Certification mark, Canada and USA		CE mark – product security in Europe
	Certification mark, Russia		Read the Operating Manual
	Certification mark, Australia		

5. Scope of delivery

The standard scope of delivery includes:

- eCrimp (97 43 E) crimping tool, incl. Operating Manual
- Charger, incl. operating instructions
- 12 V DC battery, 1.5 Ah
- Carrying case

Information about other accessories – such as die sets, positioning guides (locators), wire stops, etc. – can be obtained online at www.knipex.de or from your dealer.

6. Technical specifications

Rated voltage / battery	12 V DC (lithium-ion) / 1.5 Ah / 3.0 Ah
Power consumption	240 W
Height	Approx. 142 mm
Length	Approx. 274 mm with 1.5 Ah battery; approx. 300 mm with 3.0 Ah battery
Width	Approx. 50 mm
Net weight	Approx. 2.0 kg (with 1.5 Ah battery)
Crimping range	Conductor inner cross-section: 0.08 mm ² to 50 mm ²
Max. sound power level	83 db(A) (measurement uncertainty 3 db(A))
Sound pressure level at operator ear	70 db(A) (measurement uncertainty 3 db(A))
Vibration level	<2.5 m/s ² (measurement uncertainty 1.5 m/s ²)
Protection class	IP20
Operating temperature range	-10 °C to +50 °C

The vibration emission figure stated has been measured using a standard test procedure and can be utilised when making comparisons with other equipment. The figure can also be used for an initial estimation of exposure levels.

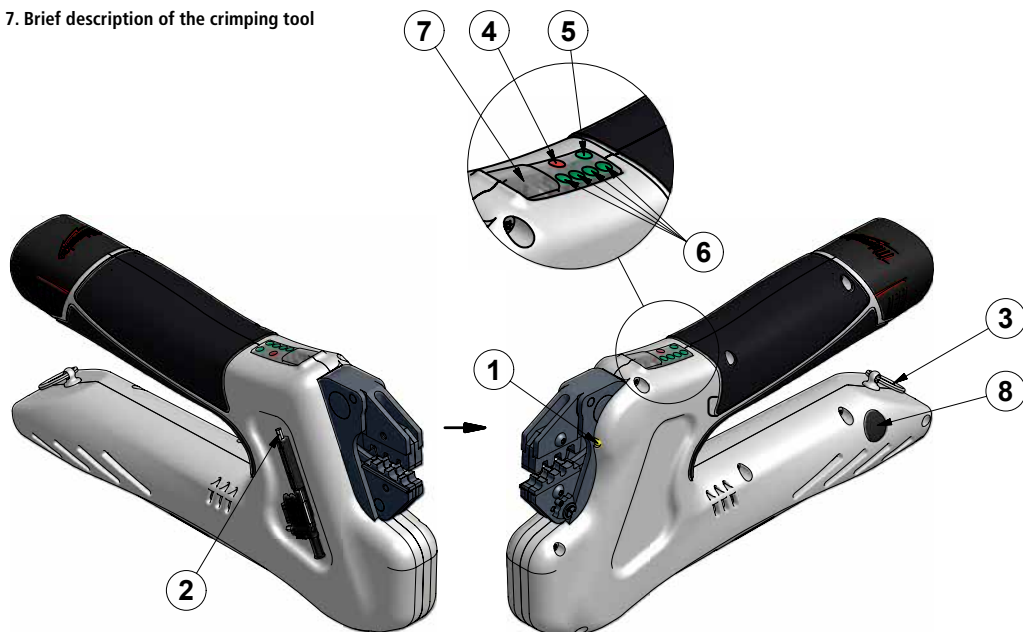
For information about charger operation and functionality, please consult the operating instructions enclosed for the charger.

Caution



During actual use of the equipment, the vibration emission figure can differ to the value stated, depending on the specific application for which the equipment is being used. Depending on the actual operations conditions experience (exposure while working), it may be necessary to draw up safety precautions for operating personnel.

7. Brief description of the crimping tool



1 LED

The LED (1) illuminates the working area. This LED lights up when the crimping tool is ready for use.

2 Allen key

An Allen key (2) is required for changing the die sets. This key is clipped to the crimping tool. The key (2) is removed for use and then pressed back into the clip holder.

3 Key ring

The crimping tool is equipped with a key ring (3) to which a carry strap or catch mechanism can be attached.

4 Red LED

The LED lights up or flashes (reason see 8.2)

5 Green LED

The LED lights up or flashes (reason see 8.2)

6 Green LEDs

The LEDs light up (reason see 8.2)

7 Start button

8 Reset button

7.1 Operation

Press the Start Button (7) and release again to switch the tool. Press and hold the Start button (7) to close the jaws of the crimping tool. If the Start button (7) is released, the tool halts immediately at its current position. When the tool reaches its final position and finishes crimping, the jaws automatically open again.

7.2 Reset button

After interrupting a crimping process, the electronics of the crimping tool are reset or the crimping tool is turned off using the Reset button (8).

7.2.1 Cancelling a crimping operation

- The crimping operation can be interrupted by releasing the Start button (7). This will halt the tool at its current position.
- To return, briefly press the Reset button (8) and then press the Start button again.
- The tool returns to its starting position.

7.2.2 Switching off the crimping tool

- Press and hold the Reset button (8).
- All LEDs go out and the crimping tool switches itself off.
- or
- The tool switches itself off automatically if not used for approx. 5 min.

7.3 Battery



Figure 2

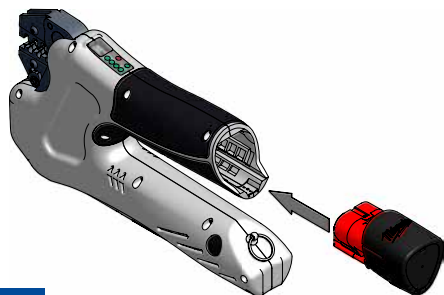


Figure 3

7.4 eCrimp (97 43 E) battery usage

Behaviour of the crimping tool after prolonged non-use or on battery change

The crimping tool switches itself off if it is not used for a while or if its battery is removed. No LED is illuminated. To switch on the crimping tool, press the Start button (1).

Behaviour of the crimping tool when battery is empty

If the green LED (5) flashes, the battery is empty and crimping is not possible. The battery must be recharged.

Please note

The batteries are not charged at the factory.
Accordingly: Charge the battery before first using the tool.

Specific temperatures apply to charging performance and battery storage.

Accordingly: Ensure you follow the charger's operating manual.

Removing the battery (Figure 2)

Depress (1) both unlocking buttons (A) and then pull out the battery (2).

Inserting the battery (Figure 3)

Push the battery into the tool as shown until it locks into place.

Battery status indicator

The 4 green LEDs (6) show the battery's charge level. The number of LEDs illuminated indicates the charge level. If the LED (5) flashes, the battery is empty and crimping is not possible.

Please note

The eCrimp (97 43 E) crimping tool must be powered by a 12 V lithium-ion rechargeable battery.

8 First use and operation

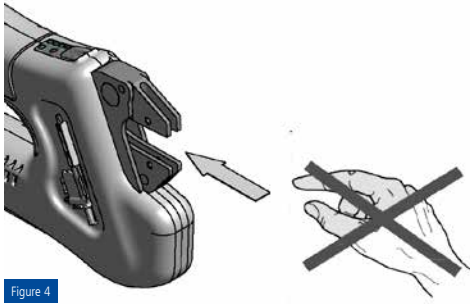


Figure 4

Without a die set inserted, the operator's fingers can slip between the jaws of the tool. Starting the tool would then crush the operator's fingers.

Accordingly:

Never operate the tool without a die set. Keep fingers out of the jaws of the tool.

The crimping tool and the die sets can be damaged by

- assembling non-matching upper and lower die set parts; and by
- failing to assemble the die set parts properly.

Accordingly:

Ensure that you only assemble and fit matching die set parts.
Ensure that you assemble the die set parts properly when fitting them.

8.1 Preparing the eCrimp (97 43 E)

8.1.1 Fitting die sets without additional locators

e.g. for insulated/non-insulated cable connectors, butt and coax connectors, wire-end sleeves, RJ plugs, etc. (Figure 5, 6)

1. Select the crimping die set as appropriate (e.g. insulated connectors or wire-end sleeves). For mounting the upper and lower piece of the die set use the bolts M4x11.
2. Push the assembled crimping die set – as shown in Figure 5 – into the slot of the crimping tool until the lower piece of the die set can be loosely secured in position by locking the M4x11 bolt.
3. Press the Start button on the crimping tool briefly to close it so the upper part of the die set can be bolted into place using a bolt M4x11 (figure 6).
4. Now tighten both bolts.

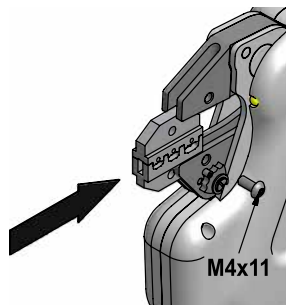


Figure 5

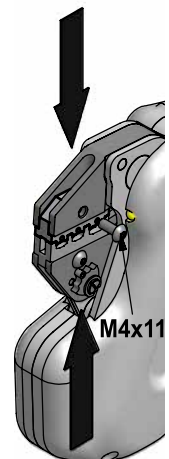


Figure 6

Warning

Do not work with the crimping tool on live wires!
Always verify the workpiece is not energized.

Caution

Finger crush hazard when operating the tool without crimping die sets. (Figure 4)

Please note

The crimping tool is not intended as a substitute for a stationary crimping machine.

Caution

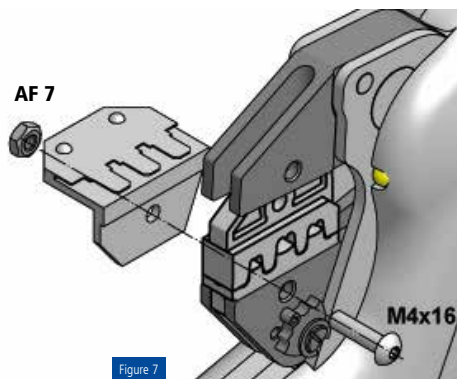
Risk of damaging the crimping tool and the die sets.

8.1.2 Fitting die sets with additional positioning guides

8.1.2.1 Examples: non-insulated open plug connectors, D-sub plugs, etc. (Figure 7)

A positioning guide can be used to position the connectors. For use without a positioning guide, assemble as shown in Section 8.1.1.

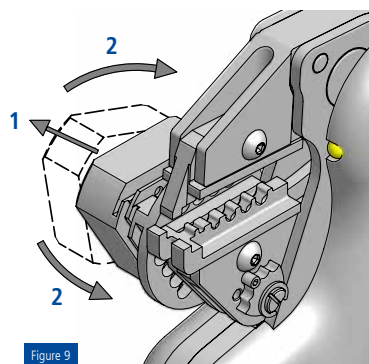
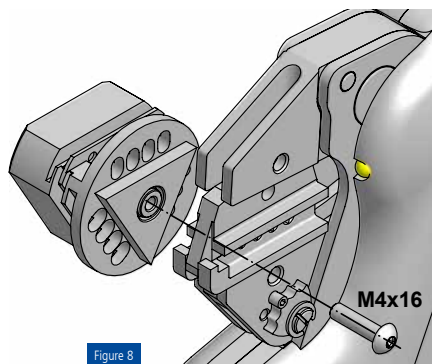
1. Select the crimping die set as appropriate (e.g. insulated connectors or wire-end sleeves) and make sure to use the proper screws: for mounting the upper piece of the die set use the bolt M4x11; for mounting the lower piece of the die set together with the locator use the bolt M4x16.
2. Push the assembled crimping die set – as shown in Figure 5 – into the slot of the crimping tool until the lower piece of the die set can be loosely secured in position by locking the M4x16 bolt.
3. Press the Start button on the crimping tool briefly to close it so the upper part of the die set can be bolted into place using a bolt M4x11 (figure 6).
4. Now tighten both bolts.
5. Push the locator onto the M4x16 bolt as shown in Figure 7 and secure using the nut (AF 7).



8.1.2.2 Example for rotated contacts (Figure 8, 9)

A locator can be used to position the connectors. For use without a positioning guide, assemble as shown in Section 8.1.1.

1. Select the crimping die set as appropriate and make sure to use the proper screws: for mounting the upper piece of the die set use the bolt M4x11; for mounting the lower piece of the die set together with the locator use the bolt M4x16.
2. Push the assembled crimping die set – as shown in Figure 5 – into the slot of the crimping tool until the lower piece of the die set can be loosely secured in position by locking the M4x16 bolt.
3. Press the Start button on the crimping tool briefly to close it so the upper part of the die set can be bolted into place using a bolt M4x11 (figure 6).
4. Now tighten both bolts.
5. Place the locator onto the M4x16 bolt as shown in Figure 8 and secure using the threads in the locator. (Figure 9)



8.2 LED display meanings (see Figure 1)

LED display	Status/cause	Action
No LEDs illuminated	The tool is switched off.	Press the Start button (see Section 7.4).
Green LED (5) is illuminated	The tool is ready for use.	
Green LED (5) not illuminated (jaws opening)	The crimping tool is returning automatically to its starting position.	
Green LED (5) flashes	Battery charge level insufficient.	Recharge or replace the battery.
Green LEDs (6)	Battery charge level indicator.	
Red LED (4) is flashing	Tool outside operating temperature range.	The tool operates within the temperature range of -10 °C to +50 °C: if the red LED is flashing, the tool must be moved to a warmer/cooler environment. You can use non-load runs to warm the tool up to its operating temperature.
Red LED (4) is illuminated	The crimping tool has not returned to its starting position after switching off.	Briefly press the Reset button (8). Then press the Start button: the crimping tool returns to the start position.
Red LED (4) is illuminated	An excessive level of power draw has been detected – overcurrent protection	Check the combination of die sets/crimp contacts. Clean crimping tool as required. If the fault persists, return the crimping tool to a service centre.
Red (4) and green (5) LEDs are flashing alternately	Maintenance interval of 25,000 operations reached.	Return the crimping tool for service.
Red LED (4) illuminated and all other LEDs flashing	Tool malfunction.	Return the crimping tool to a service centre.

8.3 Crimping

There is a risk of crush injuries to fingers and hands.

Accordingly:

During crimping, keep all parts of the body and other objects away from the die set jaws.

Caution



Crush hazard!

8.3.1 Die sets for insulated/non-insulated cable connectors, butt and coax connectors, wire-end sleeves, RJ plugs (Figure 10)

1. Check that the connector parameters match those for the crimping die set.
2. Insert the connector into the die set as appropriate for its cross-section.
3. Press the Start button briefly, so as to close the die set far enough to hold the connector straight.
4. Insert a stripped cable into the connector.
5. Press the Start button and keep it pressed until crimping is complete.
6. After crimping has finished, remove the connector from the crimping tool.

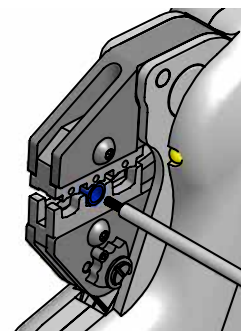


Figure 10

8.3.2 Die sets for non-insulated open plug connectors, D-sub plugs (Figure 11)

1. Check that the connector parameters match those for the crimping die set.
2. Insert the connector into the die set and positioning guide as appropriate for its cross-section.
3. Insert a stripped cable into the connector.
4. Press the Start button and keep it pressed until crimping is complete.
5. After crimping has finished, remove the connector

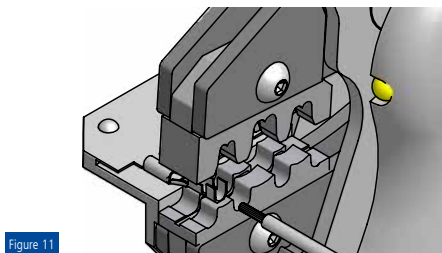


Figure 11

8.3.3 Die sets for turned contacts (Figure 12, 13)

1. Check that the connector parameters match those for the crimping die set.
2. If required, pull out the locator and rotate it in order to position it correctly. (Figure 12)
3. Insert the connector into the die set and locator as appropriate for its cross-section.
4. Insert a stripped cable into the connector.
5. Press the Start button and keep it pressed until crimping operation is complete.
6. After crimping has been finished, remove the connector from the crimping tool.

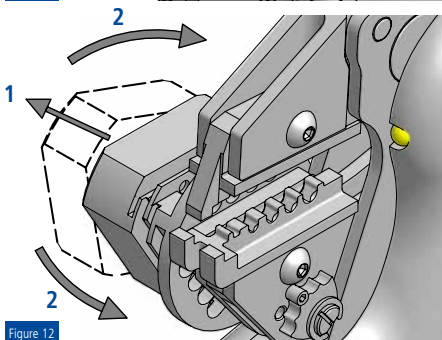


Figure 12

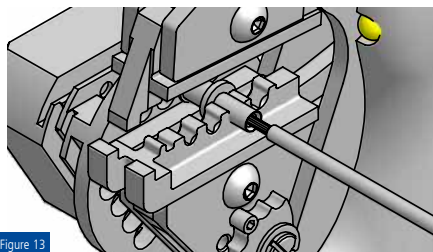


Figure 13

9. Cleaning, maintenance and repair

All maintenance and repair work must always be performed by RENNSTEIG or by a service centre authorised by RENNSTEIG.

Service addresses
 Rennsteig Werkzeuge GmbH
 An der Koppel 1
 98547 Viernau
 Germany

Enquiries about addresses for servicing and repair work outside D/A/CH can be obtained from your KNIPEX dealer or directed to KNIPEX at www.knipex.de or to Rennsteig at www.rennsteig.com.

Caution



Danger of injury during cleaning or repair by accidentally pressing buttons on the tool.

Accordingly:

Follow safety instructions during cleaning, maintenance or repair work and always remove the battery beforehand.

Please note

The next service due is specified by an inspection label placed on the crimping tool. This service must be performed at least once every 2 years or at the point in time indicated by the LED display (see Section 8.2, "LED display meanings").

Cycles display within a service interval

With the crimping tool switched off, you can check the number of cycles remaining before the next service by completing the steps as given below:

- Press and hold the Reset button (8) (Fig. 1).
- Then press and hold the Start button (7) (fig.1).
- As soon as LED (4) and (5) (fig. 1) are flashing simultaneously, release both buttons.
- The mode "service display" is active.
- The four green LED lights (6) (fig.1) show the remaining cycle time (crimp operations) until
- next service is due (see table below).
- To exit service display mode, press the Reset key (8) or the Start key (7) (Figure 1).

The crimping tool must be inspected regularly (before use, at the start of a working day) for externally recognisable damage, cracks in the material and other signs of use. The tool must not be used and must be repaired if defects are present. (Figure 14)

Display (LED 6) Figure 1	Number of cycles remaining
All 4 battery LEDs illuminated	25,000 to 20,000 crimp operations
Lower 3 battery LEDs illuminated	20,000 to 15,000 crimp operations
Lower 2 battery LEDs illuminated	15,000 to 10,000 crimp operations
Lower 1 battery LED illuminated	10,000 to 5,000 crimp operations
No battery LEDs illuminated	5,000 to 500 crimp operations
All 4 battery LEDs flashing	500 to 0 crimp operations

Setting the crimp height (Figure 15)

If the results of crimping do not meet the specifications set by the connector manufacturer (crimp height, extraction force), this may have the following causes:

Crimping die set worn:
to avoid damage, the crimping die set must be replaced.

Normal usage of the tool has resulted in wear:
the crimping force can be recalibrated.

Procedure of recalibration see figure 15

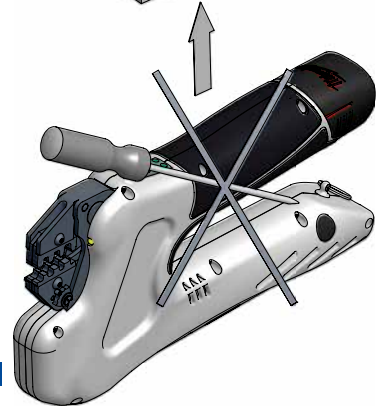
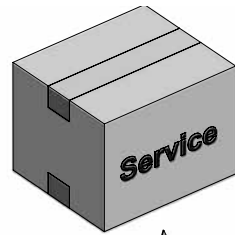


Figure 14

Caution



Setting the crimp height shall only be carried out when the tool is in a totally open position (i. e. basic position, fig. 15) and the battery unplugged. Never operate the tool with unsecured adjusting disc (e.g. missing screw A, fig. 15).

To avoid damage to the tool and crimping die sets, please ensure that the adjusting disc is always only rotated step-wise by a half-notch each time. This is achieved by repositioning the screw (A) in the next free threaded hole to secure the adjusting disc in place.

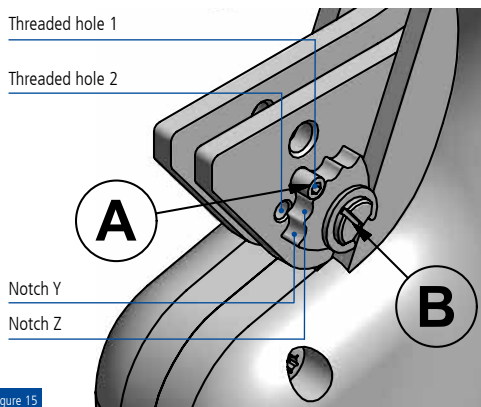
Please note

The crimp height should be checked regularly by qualified personnel and recalibrated as required using the method described below.

Tool setting example: (Figure 15)

1. Before this adjustment is started, the jaws/dies of the crimping tool must be in totally open position (basic position).
2. Remove screw (A) from the threaded hole (1).
3. Turn the adjusting disc a half-notch:
 - To achieve higher crimping force and/or lower crimp height = rotate clockwise (notch Y over threaded hole 2)
 - To achieve lower crimping force and/or higher crimp height = rotate anti-clockwise (notch Z over threaded hole 2)
4. Insert screw (A) into threaded hole (2) and tighten.

Always rotate only half notch wise, because otherwise the change to the crimping dimensions and/or force would be much too great. This could result in damage to the tool and the crimping die sets.

**10. Disposal**

Do not dispose of the tool or its accessories in household waste. For disposal of the battery and the charger, please follow the information given in the charger's operating instructions. KNIPEX recommends using a licensed waste management company to handle disposal. Alternatively, the tool and its accessories can be returned to KNIPEX or a service centre.

11. Warranty

In addition to the full statutory warranty, KNIPEX provides a 24 month or 4 servicing cycle warranty on its crimping tools. The warranty period always commences with delivery and in case of doubt can be established on the basis of the purchase documents..

Within the warranty period, the product warranty covers the rectification of all damage or faults affecting the tool, where such damage or faults are traceable to defects in material or manufacturing.

Items not covered by the warranty:

- Damage caused by improper use or inadequate maintenance.
- Damage caused by the application of products that KNIPEX has not approved for use with its crimping tools.
- Damage caused by the crimping of unsuitable cables or connectors.

KNIPEX offers no product warranty on replacement parts.

While services rendered under the terms of the warranty are free of charge, the equipment owner must bear the costs of carriage in both directions. Complaints will be recognised only if the equipment is returned in its fully-assembled state to RENNSTEIG or an authorised service centre.

Any repair or exchange of the equipment conducted under the terms of the warranty does not extend the warranty period. Repair or exchange always involves the supply of as-new parts, whose function matches that of the old parts. All defective – and therefore replaced – parts are the property of the manufacturer.

12. EC Declaration of Conformity**In accordance with EU Directives 2004/108/EC; 2006/42/EC**

We hereby declare that the eCrimp (97 43 E) crimping tool conforms to the relevant general safety and health regulations in terms of its design and type, and in terms of the model as placed by us on the commercial market. The validity of this Declaration is rendered void if the product is not used as intended or if it is modified in ways that we have not approved beforehand.

Applicable standards:

EN 55014-1; EN 55014-2; EN 60745-1; EN ISO 12100

Wuppertal, 15.05.2013

i. V. Jürgen Steinbauer
-Produktmanager-

KNIPEX-Werk
C. Gustav Putsch KG
Oberkamper Strasse 13
42349 Wuppertal
GERMANY

Tel.: +49 (0) 202 – 47 94-0
Fax: +49 (0) 202 – 47 74 94
info@knipex.de
www.knipex.de