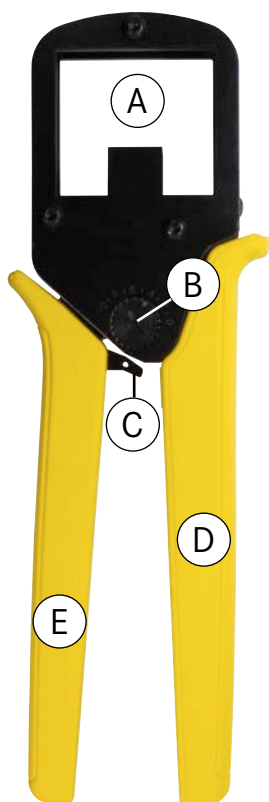


	HARTING Electronics GmbH P.O. Box 14 73 D-32339 Espelkamp HARTING.electronics@HARTING.com	English
HARTING ix Industrial® hand tool		
P/N: 09 45 800 0185	ix Industrial® hand tool frame	
P/N: 09 45 800 0186	ix Industrial® hand tool insert 1	
P/N: 09 45 800 0187	ix Industrial® hand tool insert 2	
P/N: 09 45 800 0188	ix Industrial® hand tool insert 3	
www.HARTING.com		

Assembly instructions



- A: Place for insert
- B: Pretension adjustment
- C: Ratchet relief
- D: Stationary handle
- E: Moving handle

Fig. 1:
ix Industrial® hand tool frame

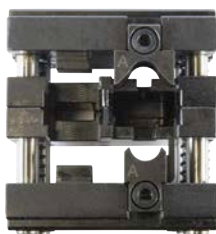


Fig. 2:
ix Industrial® insert 1



Fig. 3:
ix Industrial® insert 2

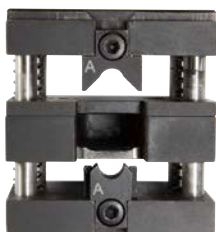


Fig. 4:
ix Industrial® hand tool insert 3

1. General remarks – Usage and design of the tooling

- The HARTING ix Industrial® hand tool is intended to be used for the assembly of the HARTING ix Industrial® plugs with solder or isolation displacement connection (IDC). Using this hand tool for any other purpose, or for crimping of any other object, can result in damaging the tool and the objects being crimped and prevention of its normal further functioning, for what the manufacturer cannot be held responsible.
- The HARTING ix Industrial® hand tool is delivered ready to use. No adjustment is needed for the first use.
- The assembly tool is equipped with a full-cycle ratchet mechanism which, together with the optimized lever system in the tool, makes working with this tool easy and simple. In the event of an improper crimp, the ratchet release mechanism allows the hand tool to be easily opened and the blockage removed before continuing work. See: 3. *Unlocking the tool.*

2. Procedure for inserting & removing the crimp inserts

2.1 Insertion of hand tool insert in the hand tool frame

- Select the correct insert according to the connector which should be assembled (for correct insert see instruction of specific connector).
- Open the tool frame handles completely.



Fig. 5:
Open tool frame

- Press the insert (partially) together to compress the springs as shown in Fig. 6.

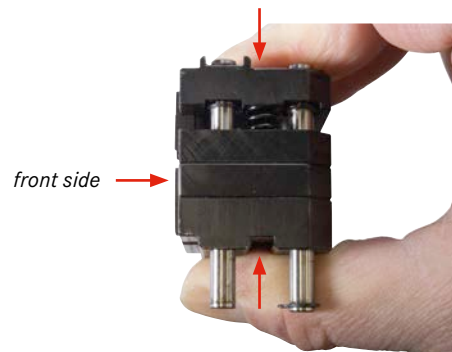


Fig. 6:
Compression of insert

- Keeping the insert compressed, tilt the insert and place it from the back side (no marking on tool) in the tool frame to the approximate position as shown in Fig. 7.

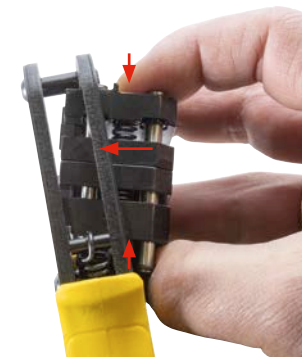


Fig. 7:
Insertion of insert

- Release the insert so that the upper and lower notches slide into the opening of the frame. The spring force helps with positioning the insert (see Fig. 8).
- After inserting the insert, check for correct positioning. The insert must lie evenly in the tool and be locked in place (see Fig. 9).

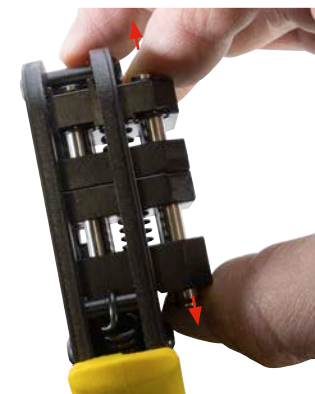


Fig. 8:
Insertion of insert



Fig. 9:
Checking the correct fit

- Close the handles of the tool slowly to check if the insert is correctly fitted.
- In case the insert is not correctly snapped into the frame, open the handles using the ratchet relief. See 3. *Unlocking the tool.*
- Position the insert correctly and repeat the procedure.
- After ensuring the correct fit, the hand tool is ready to use.

2.2 Removing the insert out of the hand tool frame

- Close the tool handles completely. Then hold the insert firmly.
- Slowly release the tool handles while holding and pressing together the insert as shown in Fig. 10.

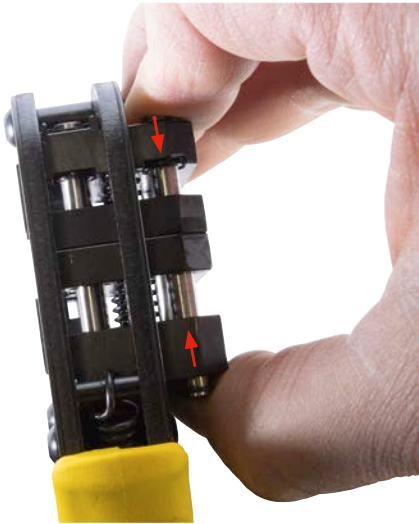


Fig. 10:
Removing of insert

- When the hand tool is open, lower the insert to release the upper edge “A” on the groove of the tool frame.
- Then tilt the insert as shown in Fig. 11 and remove it from the frame.

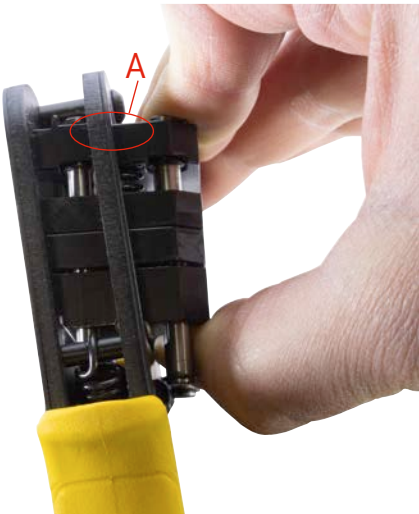


Fig. 11:
Removing of insert

3. Unblocking the tool

IMPORTANT

Apply working force on the tool handles while unblocking. It will prevent injury to yourself and possible damage on the tool.

- In case of improper crimp, push the ratchet relief in direction shown to release the tool and remove obstruction before continuing with work.
- Notice: With this tool only plugs of the correct type have to be used. Crimping plugs of unsuitable type may result with damage of the tools and is to be strictly avoided.



Fig. 12:
Unblocking the tool

4. Tool calibration procedure

- After prolonged work period, tool crimping performance can change slightly due to final self-adjustment of the tools’ components. This hand tool is equipped with eccentric axle which allows periodical adjustment of crimping force and tool recalibration to maintain correct crimp performance.
1. Loosen knurled nut “A” by turning it counterclockwise for 3-4 turns (Fig. 13).
 2. Press the nut until the toothed wheel “B” is lifted above the tool frame so that it can rotate freely.
 3. Rotate the toothed wheel “B” to achieve desired pretension (Fig. 14).
 - Marking point “C” under number 0 sets the lowest pretension.
 - Marking point “C” under number 10 sets the highest pretension.
 4. Once pretension is set push toothed wheel “B” back into its position and tighten knurled nut “A”.



Fig. 13:
Tool calibration

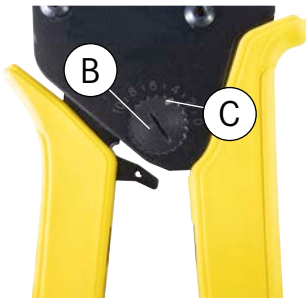


Fig. 14:
Tool calibration

5. Maintenance and repair

- The use of a clean brush or soft, lint-free cloth is recommended to remove dust, moisture and other contaminants. Do not use aggressive agents (thinner, alcohol, ...) or hard objects that could damage the tool.
- Make sure that during the work the bearing surfaces, shafts and pivot points are protected with a thin layer of high-quality machine or motor oil. Do not use too much oil.
- When the tool is not in use, store it in closed position. This will prevent other objects from getting stuck between the crimping dies and damaging them. Store the pliers in a dry and clean area.
- The tool itself also offers the possibility of regular adjustment of the crimping force and recalibration of the tool via an eccentric axis in order to maintain the correct crimping performance. This is rarely necessary. See: 4. Tool calibration procedure.

6. Change of the shielding crimping insert

- The tool comes with two sets of exchangeable shielding crimping inserts.
 - Set A for crimping cable diameters 5-6.4 mm.
 - Set B for crimping cable diameters 6.5-7.5 mm.
- In order to exchange crimping insert, unscrew the fixing screws (A) and remove shielding inserts from the crimping die. Insert other pair of shielding inserts and tighten fixing screws (A).



Fig. 15:
Change of shielding crimping sets