

# TYROLIT

## Instructions for use for TYROLIT diamond wire saw

### 1. Assembly

- 1.1 Note the running direction arrow  $\Rightarrow$  on the wire (behind the beads). In the case of used wires, assemble the smaller diameter of the conically worn beads to the front in the running direction. The wire must not be inserted in the wrong running direction as this will result in greatly increased wear.

- 1.2. Cutting of the wire to length for assembling the sleeve should be carried out in accordance with the TYROLIT assembly instructions, paying special attention to a straight and square cut. Use angle grinders with TYROLIT cut-off wheel 41F  $\varnothing$  125 x 1.0 mm for this.

- 1.3. With the exception of cardanic sleeves, sleeves must never be assembled directly on the wire beads. Rigid parts will result in premature wire breaks.

**Attention:** Due to the design with reinforcement spring, always assemble the rubber rings enclosed with the repair sleeves between the bead and sleeve.

- 1.4. Use only TYROLIT original sleeves and the TYROLIT original tools provided for clamping these sleeves during assembly.

Make sure to observe the enclosed assembly instructions for sleeves.

- 1.5. Never assemble wires with a bead diameter difference greater than 0.2 mm.
- 1.6. Screw in the diamond wire to the left (anti-clockwise) during assembly (Fig. 1):

Wires with sintered cutting layer  
(DWLx-CF): 1x per metre of wire length

Wires with electroplated cutting layer  
(DWM/Hx-C/S): 0.5x per metre of wire length

- 1.7. To guarantee even wear of the wire beads, the twist must be changed by 30% after each cut (from 0.5 to max. 3 revolutions per metre of wire length).

Example of electroplated wire with 20 m wire length: 1st cut - 10 twists, 2nd cut - 13 twists

- 1.8. Do not kink the diamond wire and do not use damaged wires.

### 2. Use

- 2.1 Make sure to observe the machine manufacturer's safety instructions.
- 2.2. Make sure that the machine and pulleys are mounted on a stable surface.
- 2.3. Align the pulleys exactly in cutting direction. When doing so, choose the largest possible pulley diameter (at least  $\varnothing$  200 mm). Smaller diameters will result in increased wire breaks in the sleeve area.
- 2.4. Make sure to fasten pulleys at entrance and exit points for retaining the wire at the end of a cut.
- 2.5. Wrap the wire as far as possible around the drive wheel to prevent it from slipping (at least 50% of the wheel circumference).
- 2.6. The selected arc of contact of the wire must not be too small. Small radii and short contact lengths will result in wire breaks and increased wear.
- 2.7. Round off corners on the workpiece slightly by hand using a suitable tool before starting.
- 2.8. Manually grinding in the wire makes starting with the machine easier.

- 2.9. Mount the water supply at the entry point and at roughly half the contact length of the wire. A faultless supply of cooling water is crucial for a good result (a shortage of cooling water will result in the destruction of the workpiece).
- 2.10. Start the wire running at low tension to avoid jamming.
- 2.11. The cutting speed of the diamond wire should be 20 to max. 25 m/s. 18 m/s is recommended with very high levels of reinforcement and 10-18 m/s with pure steel cuts.
- 2.12. Main pressure during cutting between 80 and 160 bar, depending on the application and drive system. Excessively high pressure will result in increased and one-sided wear, excessively low pressure will result in dulling of the diamond beads.
- 2.13. Feed pressure max. 40 bar, depending on the application and drive system. The feed unit must run smoothly and without jerks.

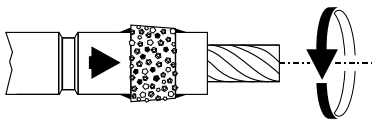
### 3. Storage

Clean the wire after use and always store dry and away from light.

## 4. Accessories

Product	Type no.	Description
SVR 8	902134	Repair sleeve for diamond wire diameter 8.5 mm (packaging unit: 10 pcs.)
SVR 11	600045	Repair sleeve for diamond wire diameters 10 & 11 mm (packaging unit: 10 pcs.)
SVG 10	218909	Cardanic sleeve for diamond wire diameters 10 & 11 mm (packaging unit: 5 pcs.)
SVGB 10	218914	Spare bolt for cardanic sleeve SVG 10 (packaging unit: 25 pcs.)
SPV 80 KN-KPL	117984	Hydraulic hand press for wire sleeve assembly, including press insert SPEV
SPEV 11	578301	Press insert for hand press SPV 80KN-KPL for diameters 10 & 11 mm
SPEV 8	524002	Press insert for diameter 8
SMGV II	860404	Assembly and removal fixture for cardanic sleeve bolt
SMGV II-STIFT	148130	Spare bolt (2.5 mm)

Fig. 1



# Assembly instructions for cardanic sleeve

## SVG 10 type no. 218909

### 1. Pressing on the sleeve

- 1.1. Cut the diamond wire at either end using a one-handed angle grinder and TYROLIT cut-off wheel 41F Ø 125 x 1.0 mm (Fig. 1).
- 1.2. Remove the rubber sleeve and reinforcing spring from the steel wire using pliers. Cleanly remove the remaining rubber using a knife and a wire brush (Fig. 2).
- 1.3. Insert the locking fork with the flute in the pressing direction into the press insert of the plier as far as it will go and clamp slightly.
- 1.4. Insert the bare wire end into the bore and crimp fully. Use TYROLIT original tools, namely press SPV 80 kN (type no. 117984) and press insert SPEV (type no. 578301).
- 1.5. The width of the crimped connection on the sleeve must not exceed 7.8 mm (Fig. 4).
- 1.6. Crimp the second locking fork (with preassembled articulated part) as described under Section 1.3. - 1.4.

### 2. Closing the sleeve

- 2.1. Screw in the wire according to the regulations (see instructions for use for TYROLIT diamond wire saw).
- 2.2. Join the two pressed-on sleeve parts using one of the bolts included with the sleeve (smooth side to the front).
- 2.3. Drive the bolt of the sleeve joined in this way all the way into the bore using the ejector spindle of the TYROLIT assembly fixture or with a gentle tap of a hammer (Fig. 5).

### 3. Opening the sleeve

- 3.1. Insert the sleeve into the support under the ejector spindle of the TYROLIT assembly fixture and align so that one of the bolts can be pressed into the flute behind the support (Fig. 5).
- 3.2. Drive out the bolt by screwing in the ejector spindle.
- 3.3. The wire can be sealed again using a new spare bolt, enclosed with the sleeve or available separately (type no. 218914), as described under Section 2.
- 3.4. Replace worn sleeves in good time to prevent wire breaks.

### 4. Accessories

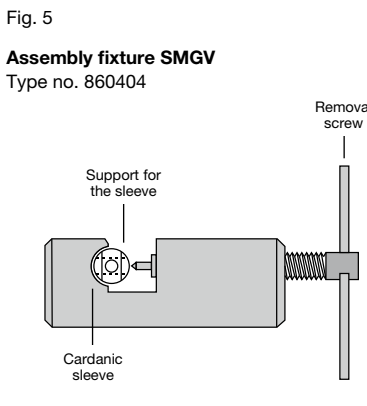
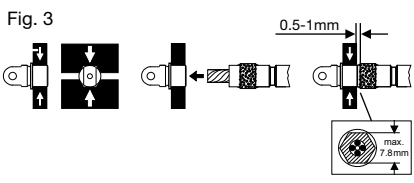
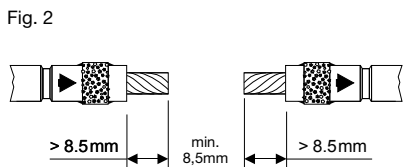
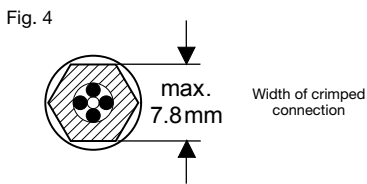
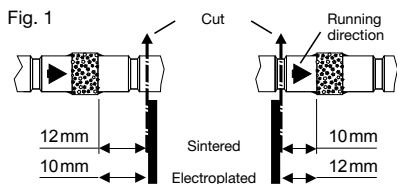
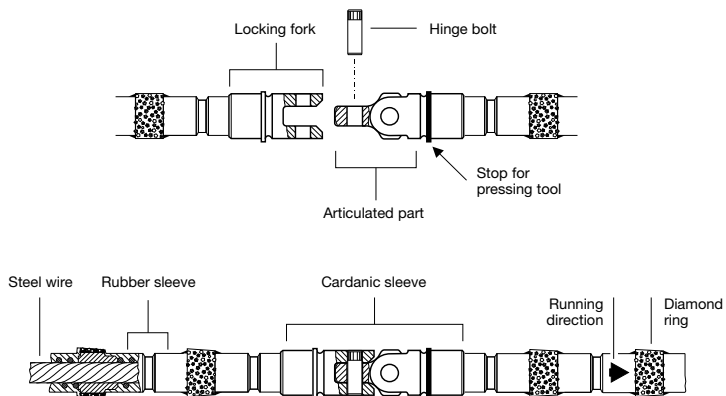
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### Attention!

Failure to observe these assembly instructions can result in damage to the cardanic sleeve, malfunctions of the diamond wire saw and injury to persons.

The cardanic sleeve is protected by patent EP 0680395B1 and US 5718216.

Structure of the **cardanic sleeve**



## Assembly instructions for repair sleeve SVR 11 (type no. 600045) | SVR 8 (type no. 902134)

### 1. Pressing on the sleeve

- 1.1. Cut the diamond wires at either end using a one-handed angle grinder and TYROLIT cut-off wheel 41F Ø 125 x 1.0 mm. Wires with diameters 10-12 mm according to Fig. 1, wires with diameter 8.5 mm according to Fig. 1.1.

**Attention!** Make sure the cut is straight! Shears are not suitable (ratchet cable cutter only)!

- 1.2. Remove the rubber sleeve and reinforcing spring from the steel wire using pliers. Cleanly remove the remaining rubber using a knife and a wire brush (Fig. 2). Push the rubber rings included with the sleeves onto the shiny ends of the wire (important for the flexibility of the wire in the sleeve area).
- 1.3. Insert the sleeve into the press insert of the plier until it projects by 1 mm and clamp gently. The crimpable area is delimited on the sleeve by a recess in the threaded part.
- 1.4. Insert the bare wire end into the bore and crimp fully.
- 1.5. Maximum allowable width of crimped connection on the sleeve (see Fig. 3):  
SVR 11: max. 7.8 mm  
SVR 8: max. 6.4 mm

- 1.6. Use only TYROLIT original tools: press SPV 80kN (type no. 117984) and, as appropriate to wire diameter, press insert SPEV 11 (type no. 578301) or SPEV 8 (type no. 524002).
- 1.7. Crimp the second side as described under Section 1.4 - 1.6.
- 1.8. Replace worn sleeves in good time to prevent wire breaks.

### Attention!

Failure to observe these assembly instructions can result in damage and malfunctions of the diamond wire saw as well as injury to persons.

Structure of the **repair sleeve**

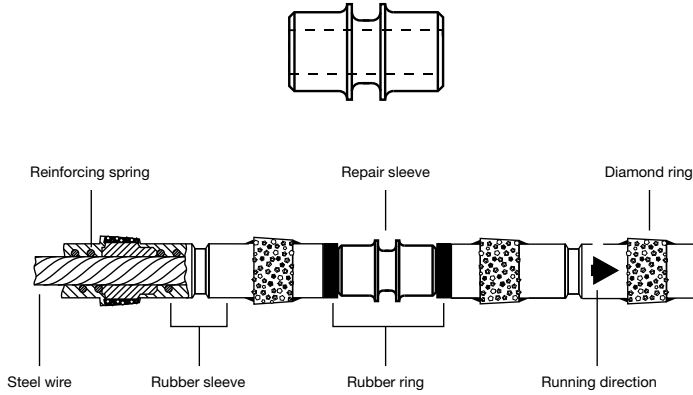


Fig. 1

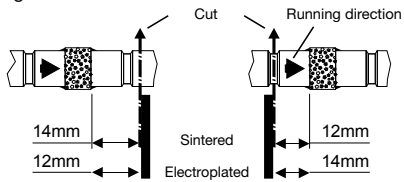


Fig. 2

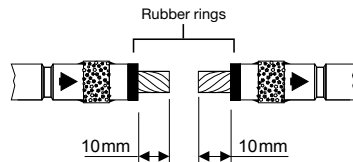


Fig. 1.1 (wire with diameter 8.5 mm only)

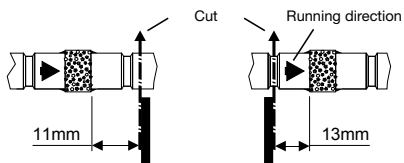
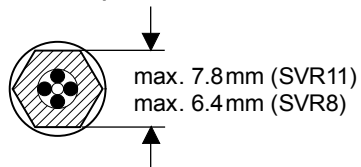
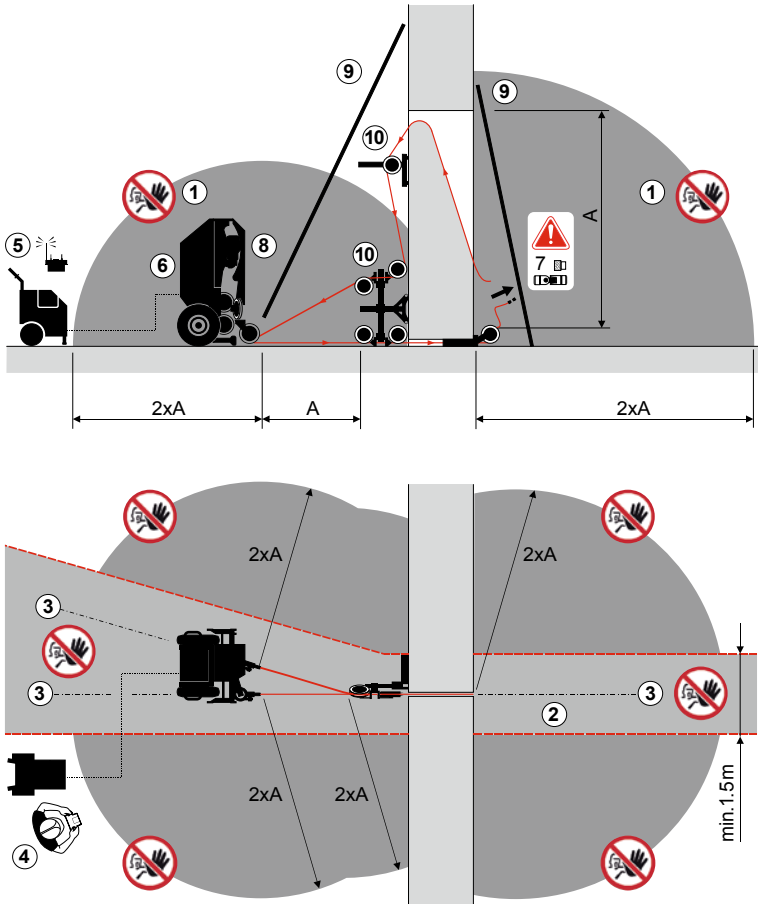


Fig. 3

**Width of crimped connection**



## Hazard and working areas



### Key:

A Longest free diamond wire length

1 Hazard area

2 Hazard area, diamond wire alignment

3 Diamond wire alignment axis

4 Recommended working area

5 Power pack

6 Wire length

7 Wire segments/wire sleeve

8 Protection device, wire saws

9 Protection device, free wire length

10 Pulleys







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