

OPERATING MANUAL

Special Tool SW40

for Profile Tube Assembly



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Date 10.09 | Update 5.2020
Printed in Germany



Read and observe this operating
manual before the initial
commissioning.
Keep this manual for future use.

IDENTIFICATION DATA

Identification Data

Enter the identification data of the special tool here. The identification data are on the type plate.

Type: _____
Serial number: _____
Year of manufacture: _____

Address of the manufacturer

WALTERSCHEID GmbH
Address: Hauptstraße 150
Town: D-53797 Lohmar
Tel.: + 49 (0) 22 46 12 - 0
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Formalities for the operating manual

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Printed in Germany



Read and observe this operating manual before the initial commissioning. Keep this manual for future use.

Introduction

Dear Customer,

You have purchased a quality product from the extensive product range of WALTERSCHEID GMBH. Thank you for your confidence in us.

On receipt of the special tool, establish whether transport damage has occurred or parts are missing. Check the completeness of the supplied special tool including the ordered special equipment using the delivery note. Compensation will only be made if complaints are made immediately.

Read and observe this operating manual, particularly the safety instructions, before the initial commissioning. You can use the benefits of your newly acquired special tool completely after the careful reading.

Ensure that all operators of the special tool read this operating manual before the special tool is put into operation.

Please contact us if you have any questions about handling the special tool or this operating manual.

Regular maintenance and replacement in good time of worn or damaged parts increase the service life of your special tool.

User Assessment

Dear Reader,

our operating manuals are updated regularly. Your suggestions for improvement help us to make the operating manual more and more easy to use. Please send your suggestions by fax or email to:

WALTERSCHEID GMBH

Address: Hauptstraße 150

Town: D-53797 Lohmar

Tel.: + 49 (0) 22 46 12 - 0

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USER INFORMATION

1 User Information

The User Information chapter provides information about using the operating manual.

1.1 Purpose of the Document

The present operating manual:

- describes the operation and the maintenance of the special tool.
- provides important information for safe and efficient handling of the special tool.
- is an integral part of the special tool and must always be kept accessible in the vicinity of the special tool.
- must be kept for future use.
- must be passed on to the purchaser if the special tool is sold.

1.2 Location details in the operating manual

All direction statements in this operating manual are always as seen in the direction of the counter bearing for the yoke / drive shaft.

1.3 Illustrations Used

Handling instructions and reactions

Activities to be performed by the operator are shown as numbered instructions. Comply with the sequence of the specified instructions. The reaction to the respective instruction is marked by an arrow if necessary. Example:

1. Instruction 1
→ reaction of the special tool to instruction 1
2. Instruction 2

Lists

Lists without a mandatory sequence are shown as a list with bullet points. Example:

- Point 1
- Point 2

Position numbers in figures

Numbers in round brackets refer to position numbers in figures. The first number refers to the figure and the second number to the position number in the figure.

Example (Fig. 3/6)

- Figure 3
- Position 6

1.4 Terms Used

The term ...	means ...
Third person	... all persons other than the operator.
Hazard	... the source of a possible injury or harm to health.
Manufacturer	... the company WALTERSCHEID GMBH.
Control	... the part which is directly operated by the operator, e.g. by pressing. A control can be a control lever, rocker switch, button, rotary switch etc.

PRODUCT DESCRIPTION

2 Product Description

This chapter contains:

- extensive information about the design of the WALTERSCHEID special tool SW40 for profiles,
- the names of the individual assemblies and controls.

If possible, read this chapter directly at the special tool. This will best familiarise you with the special tool.

2.1 Overview – Assemblies

Illustration of the special tool SW40 and designation of the most important elements.

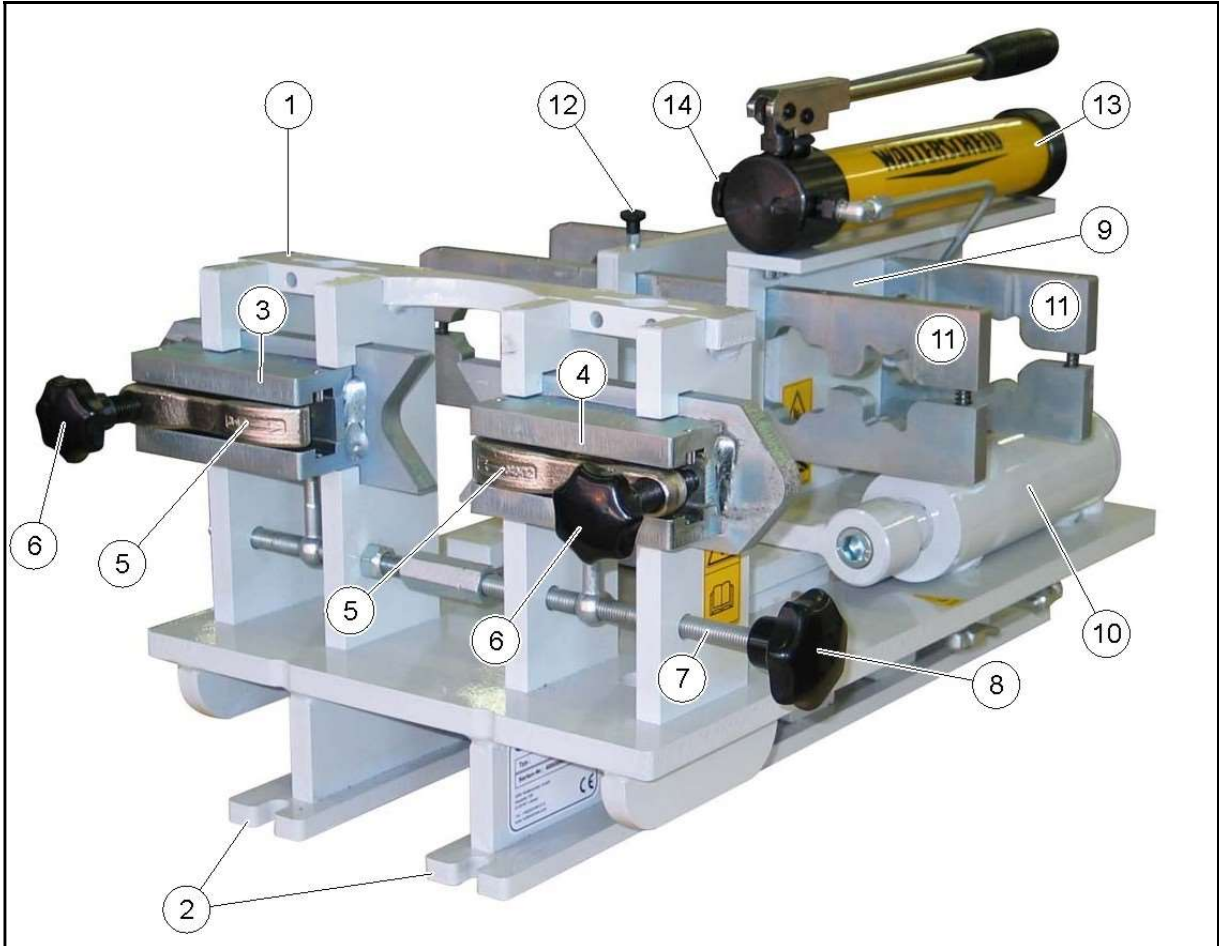


Fig. 1

- | | |
|---|---|
| (1) Special Tool SW40 for profiles | (9) Mounting carriage; can be moved hydraulically |
| (2) Mounting rail; for fixing the special tool on a worktop | (10) Hydraulic cylinder; for moving the mounting carriage |
| (3) Counter bearing, right, with clamping lever | (11) Clamping profiles, for mounting and clamping different profile tubes; can be clamped hydraulically |
| (4) Counter bearing, left, with clamping lever | (12) Locking pin for locking the clamping profiles; spring-loaded |
| (5) Clamping lever | (13) Hand pump; for the hydraulic clamping of the clamping profiles |
| (6) Clamping lever bolt | (14) Changeover screw for toggling the hand pump to clamping / release clamping profiles |
| (7) Threaded rod with star head; for adjusting the counter bearings | |
| (8) Star head | |

PRODUCT DESCRIPTION

2.2 Safety devices and protection equipment

This chapter shows the arrangement of the correctly mounted safety devices and protection equipment in the safety position.

WARNING



Hazards for persons can arise from ejected objects or highly pressurised hydraulic oil discharging if the required safety devices and protection equipment are not present during operation!

- Only put the special tool into operation when safety devices and protection equipment are completely installed.
- Replace defective safety devices and protection equipment immediately with new ones.



Fig. 2

- (1) Hollow dowel pin; for securing the respective clamping lever against ejection from the counter bearing in the case of a malfunction
- (2) Protective tube on the respective hydraulic hose line to the hydraulic pump

2.3 Intended Use

The WALTERSCHEID special tool SW40 for profiles of drive shafts is exclusively intended for the dismantling and mounting of yokes / joints of and on profile tubes by qualified skilled personnel. The special tool is only permitted to be operated by the hydraulic hand pump supplied by us or using the pneumatically driven hydraulic unit supplied by us.

Proper use also includes:

- the compliance with all instructions in this operating manual,
- the compliance with the specified work for maintenance and care of the special tool,
- the exclusive use of original parts.

Any uses other than those above are prohibited and are deemed as improper use.

For damage arising from improper use:

- the owner bears the sole responsibility,
- the manufacturer accepts no liability of any kind.

2.4 Danger zone and danger points

The danger zone is the area surrounding the special tool in which hazards for the safety or health of persons can arise during the hydraulic movement of the mounting carriage.



No persons are permitted to be in the danger zone during the hydraulic movement of the mounting carriage.

The operator is only permitted to move the mounting carriage hydraulically if there are no persons in the danger zone of the special tool.

There are hazards in the danger zone from danger points which cannot be completely eliminated with respect to the functional safety of the special tool. The hazards are always present.


Danger points on the special tool are identified with warning signs. The warning signs warn about the residual risks.

Action-related safety instructions in this operating manual indicate the existing residual risks of the special tool.

PRODUCT DESCRIPTION

2.5 Type plate and CE marking

The following illustration shows the layout of the type plate and CE marking.



The complete marking has official status and must not be modified or rendered unrecognisable.

The type plate shows:

- Type
- Serial No.
- Manufacturer

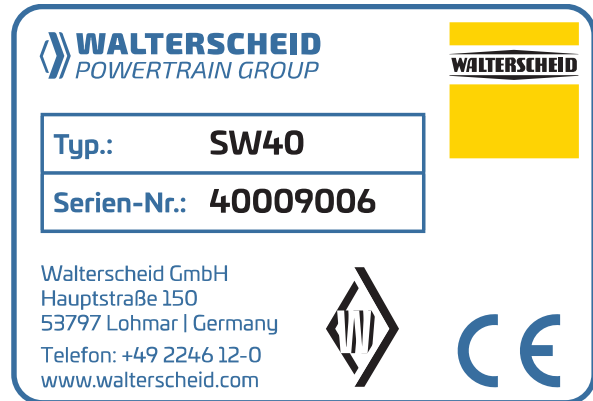


Fig. 3

2.6 Technical Data

2.6.1 Special Tool SW40

Weight:	kg	112	
Dimensions:	mm		
		• Length	700
		• Width	500
• Height	400		
Maximum operating pressure:	bar	160	

2.6.2 Manually operated hydraulic pump

Weight:	kg	6	
Dimensions:	mm		
		• Length	160
		• Width	120
• Height	290		
Maximum operating pressure:	bar	160	

2.6.3 Pneumatically operated hydraulic unit

Weight:	kg	7
Dimensions: • Length • Width • Height	mm	440
		160
		240
Maximum operating pressure:	bar	160

2.7 Conformity

The WALTERSCHEID Special Tool SW40 for profiles complies with the basic health and safety requirements of the following directives and standards:

- Machines Directive 98/37/EC / 2006/42/EC
- EN ISO 12100-1:2003 / EN ISO 12100-1:2003/A1:2009
- EN ISO 12100-2:2003 / EN ISO 12100-2:2003/A1:2009
- EN 349:1993+A1:2008
- EN 982:1996+A1:2008
- EN 574:1996+A1:2008

The manufacturer confirms that the Special Tool SW40 complies with the basic health and safety requirements:

- by the issue of the declaration of conformity,
- by the application of the CE marking to the special tool.

In the case of non-approved structural changes and attachments or conversions:

- the declaration of conformity and the CE marking of the special tool lose their validity,
- warranty claims and liability claims for personal injuries and damage to property are excluded by the manufacturer,
- the owner bears the responsibility.

SAFETY INSTRUCTIONS

3 Safety Instructions

This chapter contains important information for the owner and the operator about the safe and faultless operation of the special tool.



Observe all safety instructions in this operating manual.

Most accidents are caused by non-observance of the simplest safety regulations.

You help to prevent the occurrence of accidents by observing all the safety instructions in this operating manual.

3.1 Safety-conscious Working

The special tool has been built in accordance with the state of the art and the generally recognised rules of technology. Nevertheless, hazards and adverse effects can arise during use of the special tool:

- for the life and limb of the operator or third persons,
- for the special tool itself,
- to other property.

Observe the following for the safe operation of the special tool:

- this operating manual, particularly:
 - the basic safety instructions, the action-related safety instructions and the action instructions,
 - the information about proper use.
- the warnings on the special tool,
- the national, generally applicable regulations for occupational health and safety, accident prevention and environmental protection.

Only operate the special tool when it is in a technically faultless condition.

3.2 Organisational Measures



The operating manual:

- always keep at the usage location of the special tool,
- must be freely accessible at any time to the operator and maintenance personnel.

3.2.1 Obligations of the owner

The owner is obligated:

- to observe the national, generally applicable regulations for occupational health and safety, accident prevention and environmental protection,
- only allow persons to work with/on the special tool who:
 - are familiar with the basic requirements for occupational health and safety and accident prevention,
 - have been instructed about working with/on the special tool,
 - have read and understood this operating manual.
- to keep all warning signs on the special tool in legible condition,
- to replace damaged warning signs,
- to provide the required personal protective equipment, such as e.g.:
 - safety goggles,
 - work gloves according to DIN EN 388,
 - safety footwear,
 - protective clothing,
 - barrier cream, etc.

SAFETY INSTRUCTIONS

3.2.2 Obligations of the operator

All persons who are assigned to working with/on the special tool are obliged, before starting work:

- to observe the national, generally applicable regulations for occupational health and safety, accident prevention and environmental protection,
- to read and observe the chapter "Basic safety instructions" starting on page 20 of this operating manual,
- to read the chapter "Warnings and instructions" starting on page 25 of this operating manual and to observe the warnings during operation of the special tool,
- to familiarise themselves with the special tool,
- to read the chapters of this operating manual which are important for carrying out the work assigned to them.

If the operator discovers that the equipment is not technically safe, the operator must rectify this defect immediately. If this is not part of the operator's work assignment or he does not have the corresponding technical knowledge, the operator must notify the defect to his supervisor or the owner.

3.2.3 Qualification of the persons



Only trained and instructed persons are permitted to work with / on the special tool. The owner must clearly specify the responsibilities for operation, maintenance and repairs.

A person undergoing training is only permitted to work with / on the special tool under the supervision of an experienced person.

The owner is only permitted to carry out the work described in this operating manual.

Only specialist workshops are permitted to carry out work on the special tool which requires particular technical knowledge. Specialist workshops have qualified personnel and suitable auxiliary equipment (tools) for the proper and safe performance of this work.

This applies to all work:

- which is not mentioned in this operating manual,
- which is identified with the addition of "workshop work" in this operating manual.

Activity \ Persons	Person special-ly trained for the activity ¹⁾	Instructed person ²⁾	Persons with specialist training (specialist workshop) ³⁾
Loading / Transport	X	X	X
Commissioning	--	X	X
Installation, setting up	--	X	X
Operation	--	X	X
Cleaning, maintenance and repairs	--	X	X
Troubleshooting and fault clearance	--	X	X
Disposal	X	--	--

Legend: X..allowed --..not allowed

- 1) A person who can take over a specific task and is permitted to perform this for a correspondingly qualified company.
- 2) An instructed person is a person who has been instructed and if required trained about the tasks assigned to him and possible dangers in the case of improper behaviour and who has been instructed about the necessary safety devices, protective equipment and safety precautions.
- 3) Persons with specialist training are skilled persons (specialists). On the basis of their professional training and knowledge of the relevant conditions, they can assess the work assigned to them and recognise possible dangers.

Note: An equivalent qualification to technical training can also be acquired by several years of experience in the work area concerned.

SAFETY INSTRUCTIONS

3.3 Product Safety

3.3.1 Safe Operation of the Machine

Only one person is permitted to operate the machine if there are no persons in the danger zone of the special tool. Observe the chapter "Danger zone and danger points", page 11.

3.3.2 Safety devices and protection equipment

- Only operate the special tool if all safety devices and protective equipment have been installed properly and are completely functional.
Defective or removed safety devices and protective equipment can result in dangerous situations.
- Check all safety devices and protection equipment for externally recognisable damage and functionality before you put the special tool into operation.

3.3.3 Structural Changes

- Structural changes, attachments or conversions to the special tool must only be made with the manufacturer's written permission.
- In the case of non-approved structural changes, attachments or conversions, the declaration of conformity and the CE marking of the special tool lose their validity.
- Only use original parts or conversion and accessory parts approved by the manufacturer so that:
 - the declaration of conformity and the CE marking of the special tool retain their validity,
 - the faultless function of the special tool is guaranteed.
- The manufacturer is not liable for damage caused by:
 - unauthorised modifications of the special tool,
 - non-approved conversion and accessory parts,
 - welding and drilling work on load-bearing parts of the special tool.

3.3.4 Spare and wear parts and auxiliary materials

Replace defective parts immediately.

Only use original parts from the manufacturer or parts approved by the manufacturer for this. If spare and wear parts from third party manufacturers are used, it is not guaranteed that they have been designed and produced in accordance with load and safety.

The manufacturer accepts no liability for damage caused by the use of non-approved spare and wear parts or auxiliary materials.

3.3.5 Warranty and liability

Our "General Terms of Sale and Delivery" always apply. These have been issued to the owner at the latest on conclusion of the contract.

Warranty and liability claims for personal injuries and damage to property are void if they are attributable to one or more of the following causes:

- improper use of the special tool,
- improper installation, commissioning, operation and maintenance of the special tool,
- operation of the special tool with defective safety devices and protection equipment or improperly installed or non-functional safety devices and protection equipment,
- non-observance of the instructions in the operating manual concerning commissioning, use and maintenance,
- unauthorised structural changes to the special tool,
- defective monitoring of parts which are subject to wear,
- improperly carried out repairs,
- catastrophes due to external influences and force majeure.

SAFETY INSTRUCTIONS

3.4 Basic Safety Instructions

Basic Safety Instructions:

- always apply for the safe operation of the special tool,
- are compiled in the following subchapters.

3.4.1 General safety and accident prevention instructions

- In addition to the safety instructions in this chapter, also observe the generally applicable safety and accident prevention regulations.
- Always wear your personal protective equipment when working on the special tool.
- Observe the warning notices and instructions applied to the special tool. In this way, you obtain important information for the safe and faultless operation of the special tool.
- In addition to the basic safety instructions in this chapter, also observe the action-related safety instructions of the other chapters.
- Send any people out of the close vicinity of the special tool before you put it into operation. Pay particular attention to children.

Use of the special tool

- Before starting work, familiarise yourself with all the equipment and control elements and their functions of the special tool. During the work is too late for this.
- Only put the special tool into operation when all safety devices and protection equipment are installed.
- It is forbidden for persons to be in the work / danger zone of the special tool.
- There are crushing and shearing points on moving parts of the special tool which are operated by external force (e.g. hydraulically).
- You are only permitted to actuate parts of the special tool operated by external force if there are no persons in the danger zone of the special tool.

3.4.2 Hydraulic System

The hydraulic system is under high pressure.

- Before working on the hydraulic system:
 - depressurise the hydraulic system,
 - disconnect the hydraulic system from the external energy source.
- Arrange for the hydraulic hose lines to be checked at least once per year by an expert for their safe working condition.
- Replace the hydraulic hose lines in the case of obvious defects, damage and ageing. Only use original hydraulic hose lines.
- Hydraulic hose lines must not be used for longer than six years including any storage time of maximum two years.

Hoses and hose connections are also subject to natural ageing with proper storage and permissible load, thus their storage time and usage period are limited. However, the usage period can be established in accordance with experience values, in particular taking account of the hazard potential. The same guide values apply for hoses and hydraulic hose lines made of thermoplastics.

- Never try to seal leaking hydraulic hose lines with your hand or fingers.

Highly pressurised liquid (hydraulic oil) can penetrate through the skin into the body and cause severe injuries.
Contact a doctor immediately in the case of injuries caused by hydraulic oil. Danger of infection.
- Never track down leaks with your bare hands due to the possible severe risk of infection. Use suitable aids for the search for leaks (cleaning spray, special leak detection spray).

SAFETY INSTRUCTIONS

3.4.3 Cleaning, maintenance and repairs

- Carry out the specified work for cleaning, maintenance and repairs at the specified intervals.
- Any mechanical, hydraulic or pneumatic residual energies present can initiate unintended movements of the special tool.

Note the presence of residual energies in the special tool for maintenance and repair work. Warning signs identify components with residual energies. Detailed information can be found in the respective chapters of this operating manual.

- Secure all operating media such as hydraulic oil and compressed air against unintended start-up.
- Check the tightness of bolts and nuts regularly. Tighten loosened bolts and nuts.
- Check whether threaded connections loosened for cleaning, maintenance and repairs have been tightened again.
- Check the function of safety devices and protective equipment after completion of the maintenance work.
- Dispose of oils, greases and filters properly.
- Handle and dispose of substances and materials used for cleaning the special tool properly, particularly:
 - for work on lubrication systems and equipment,
 - when cleaning with solvents.
- Spare parts must comply at least with the specified technical requirements of the manufacturer. This is always the case when original parts are used.
- Observe the intervals for the maintenance of wear parts.

3.5 Action-related safety instructions and important information

The operating manual contains action-related safety instructions and important information. Signal words and symbols are used to be able to recognise action-related safety instructions and important information at a glance.

3.5.1 Action-related safety instructions

Action-related safety instructions:

- warn about residual risks which can occur in a specific situation or in connection with a certain action,
- are in the individual chapters immediately before a hazardous activity,
- are identified using the triangle safety symbol and a preceding signal word. The signal word describes the severity of the threatening hazard.

DANGER



DANGER

indicates a direct hazard with high risk which will result in severe physical injuries (loss of parts of the body or long-term damage) or death if it is not avoided.

There is a direct danger of severe physical injuries including death due to the non-observance of safety instructions marked with "DANGER".

WARNING



WARNING

indicates a potential hazard with medium risk which could result in severe physical injuries or death if it is not avoided.

There is a risk under certain circumstances of severe physical injuries including death due to the non-observance of safety instructions marked with "WARNING".

CAUTION



CAUTION

indicates a potential hazard with low risk which could result in minor or medium physical injuries or damage to property if it is not avoided.

There is a risk under circumstances of minor or medium physical injuries or damage to property due to the non-observance of safety instructions marked with "CAUTION".

SAFETY INSTRUCTIONS

3.5.2 Important Information

Important information:

- provides information for proper handling of the special tool,
- provides user tips for optimum use of the special tool,
- is marked with the symbols below.



IMPORTANT

indicates an obligation for a specific action or activity for the proper handling of the special tool.

The non-observance of this information can result in faults on the special tool or disturbances in the environment.



NOTE

indicates user tips and particularly useful information.

This information can help you to use all functions on your special tool optimally.

3.6 Warning Signs



There are warning signs attached to the special tool. Warning signs indicate danger points on the special tool and warn about residual risks which can occur in a specific situation or in connection with a certain action.

Always keep these warning signs in a clean and legible condition. Replace illegible signs. Request the warning signs from your dealer using the part number.

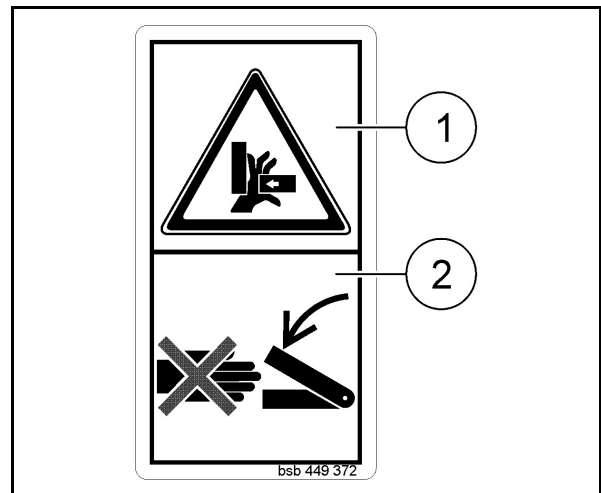
A warning sign consists of 2 pictograms:

(1) Pictogram for the description of the hazard

The pictogram shows the pictorial description of the hazard, surrounded by a triangular safety symbol.

(2) Pictogram for prevention of the hazard

The pictogram shows the pictorial instruction for preventing the hazard.



Explanations of the warning signs

The following list contains:

- all the warning signs present on the special tool in the right-hand column,
- the following information about the warning sign on the right in the left-hand column:
 1. The part number.
 2. The description of the hazard, e.g. "Crushing hazard for fingers or hands when moving the mounting carriage by the approach of moving parts to stationary parts!"
 3. The consequences for ignoring the instruction(s) for prevention of the hazard, e.g. "These hazards can cause severe injuries with loss of parts of the body"
 4. The instruction(s) for preventing the hazard, e.g. "Never reach into the dangerous place while parts can still move. Send any third persons out of the danger zone of the special tool before you move the mounting carriage".

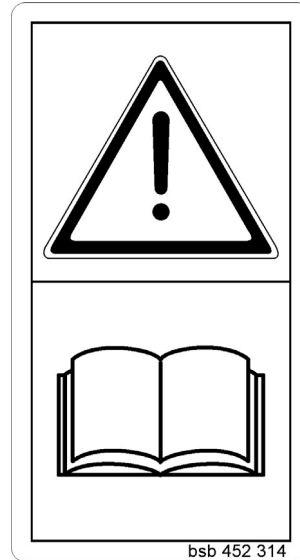
SAFETY INSTRUCTIONS

Part number and description

Warning Sign

SW40-050

Read and observe the operating manual and safety instructions before you put the special tool into operation.



SW40-049

Crushing hazard for fingers or hands when moving the mounting carriage by the approach of moving parts to stationary parts!

These hazards can cause severe injuries with loss of parts of the body.

- Never reach into the dangerous place while parts can still move.
- Send any third persons out of the danger zone of the special tool before you move the mounting carriage.

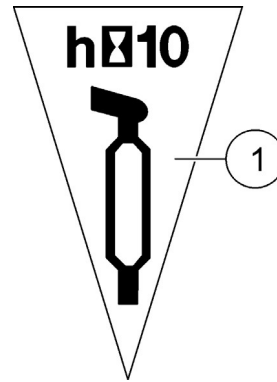


3.6.1 Instruction Signs

An instruction sign consists of one pictogram:

(1) Pictogram with information about proper handling of the machine.

The pictogram contains the information in pictorial or descriptive illustration or in table form.

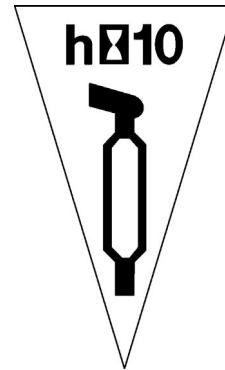


Part number and description

Instruction Sign

SW40-003

This pictogram indicates lubrication points. Lubricate the indicated lubrication points every 10 operating hours.



SAFETY INSTRUCTIONS

3.6.2 Placement of the warning signs and information signs

The following illustrations show the arrangement of the warning signs and instruction signs on the special tool.

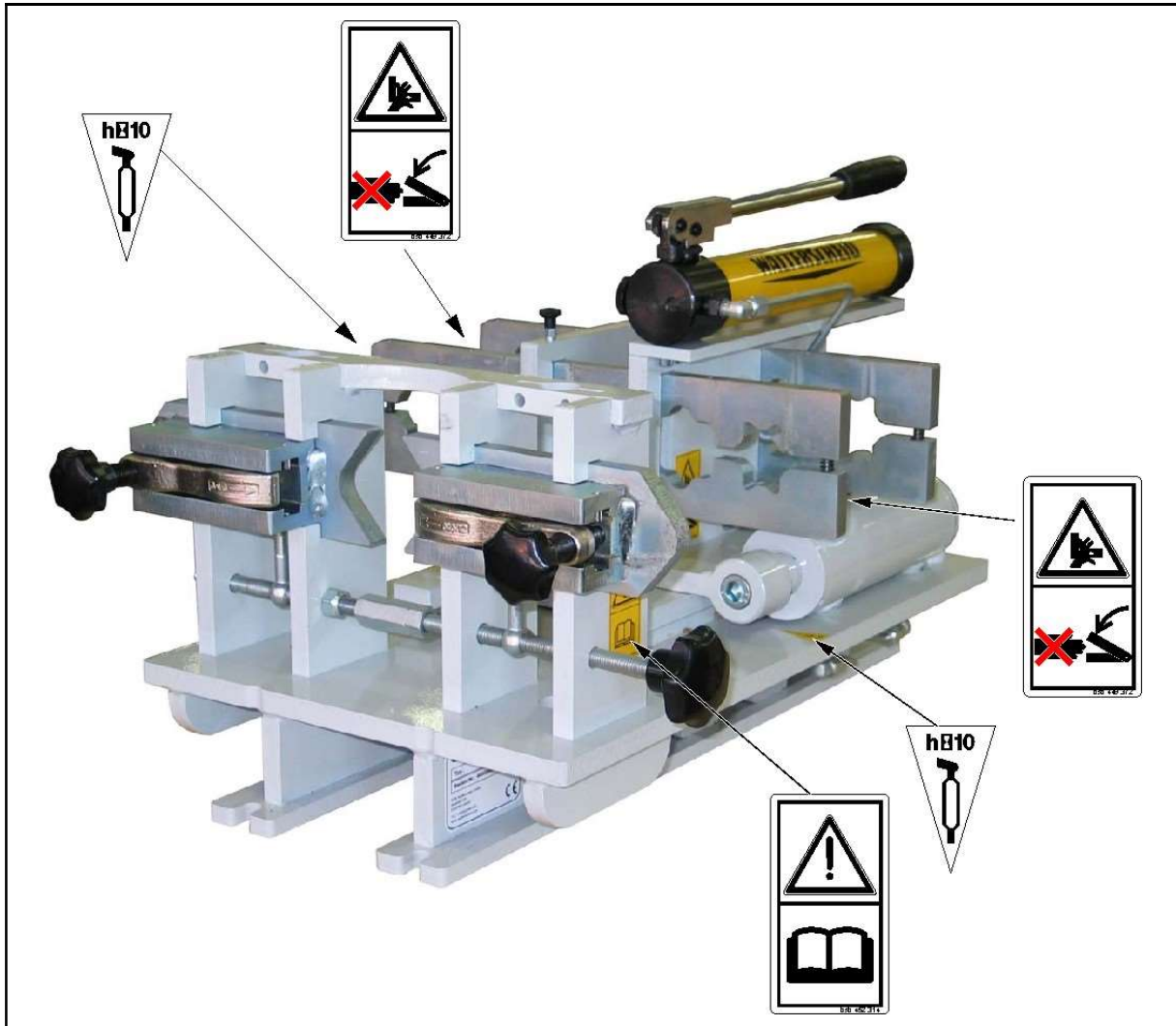


Fig. 4

3.7 Hazards in the case of non-observance of the safety instructions and warning signs

The non-observance of the safety instructions and warning signs can:

- cause hazards for persons, environment and special tool, such as, e.g.:
 - hazards to persons caused by unsecured work areas,
 - failure of important functions of the special tool,
 - failure of specified methods for the maintenance and repair,
 - hazard to persons caused by mechanical and chemical effects,
 - hazard to the environment due to leakage of hydraulic oil.
- result in the voidance of any claims for compensation.

PREPARING SPECIAL TOOL FOR USE

4 Preparing Special Tool for Use

4.1 Transport

The special tool is supplied in a closed wooden case.

The wooden case can be transported with a fork-lift or suitable lifting gear.



Fig. 5

4.2 Unpacking



At least two persons are required for unpacking the special tool.

1. Undo and remove the fixing screws of the cover.
2. Undo and remove the fixing screws of the parts screwed to the wooden case.
3. Remove all parts from the wooden case.
4. Set the special tool down on a stable work surface.



Fig. 6

PREPARING SPECIAL TOOL FOR USE

4.3 Scope of delivery

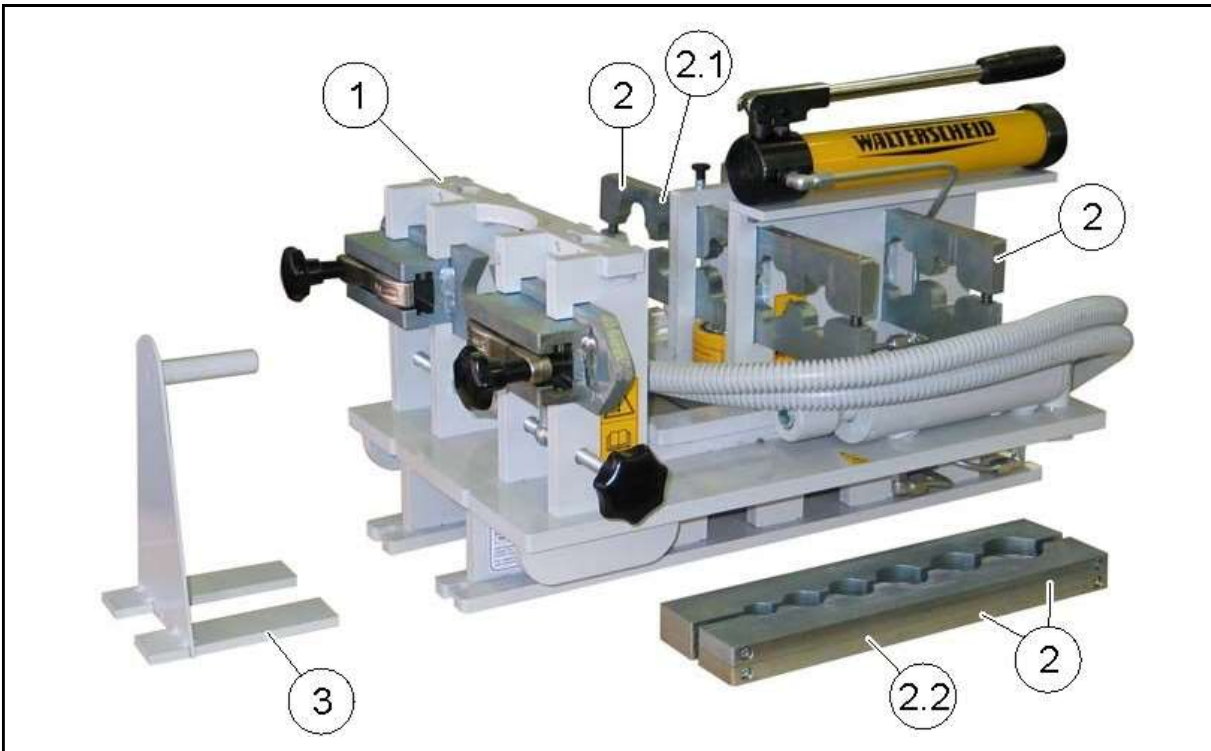


Fig. 7

- (1) Special tool, prepared for use with the hydraulic hand pump
- (2) Clamping profile
- (2.1) 1 star profile set
- (2.2) 1 lemon profile set
- (3) Support for drive shaft

5 Initial Commissioning

The special tool is only permitted to be operated by the hydraulic hand pump supplied by us or using the pneumatically driven hydraulic unit supplied by us.

The special tool is prepared as standard for the direct connection to the hydraulic hand pump. The special tool can also optionally be connected to the pneumatically driven hydraulic unit.



Check the oil level of the hydraulic hand pump or the hydraulic unit. If required, fill with hydraulic oil HLP 46.

5.1 Connecting special tool to the hydraulic hand pump



Fig. 8

1. Secure the special tool (1) against moving on a stable worktop.
2. Connect the hydraulic hose lines (2) and (3) to the connections (4) and (5) of the hydraulic hand pump.

→ The special tool is ready for use.



Ensure that the hydraulic connectors engage in the hydraulic sleeves.

INITIAL COMMISSIONING

5.2 Connecting special tool to the pneumatically driven hydraulic unit

You must first install the changeover valve (1) of the pneumatically driven hydraulic unit on the special tool before connecting the special tool to the pneumatically driven hydraulic unit.

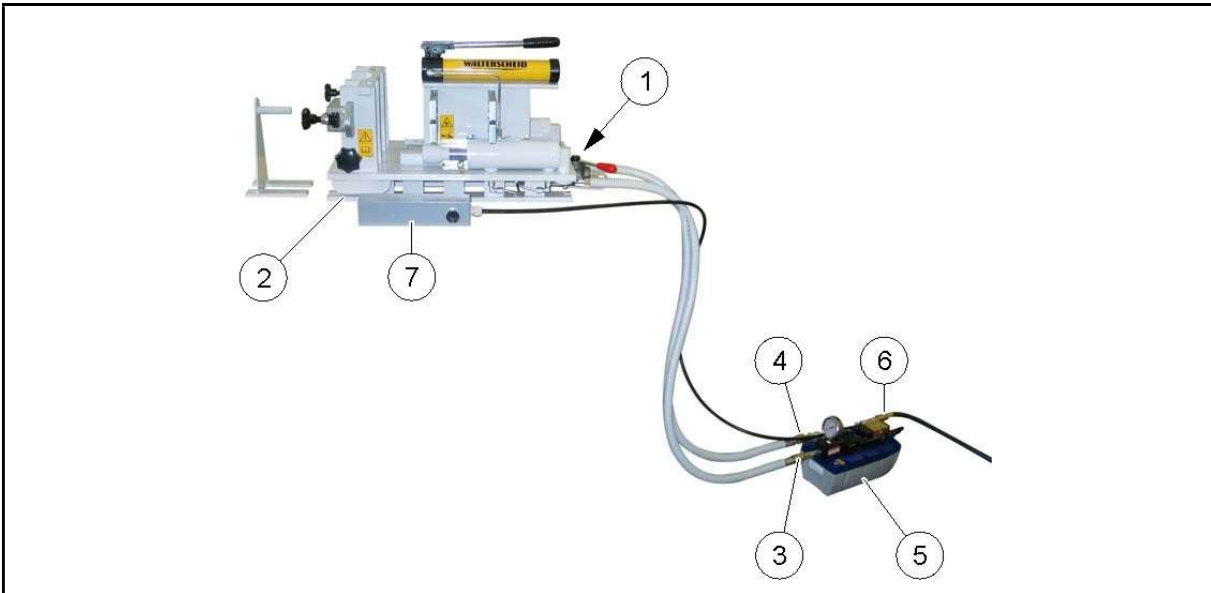


Fig. 9

1. Install the changeover valve (1). See also Chapter 5.2.1 for this.
 2. Secure the special tool (2) against moving on a stable worktop.
 3. Connect the hydraulic hose lines (3) and (4) to the connections of the hydraulic hand pump (5).
 4. Connect the compressed air connection (6) to an external compressed air source. The input air pressure of the external compressed air system must not exceed 6 bar.
 5. Place the two-hand control (7) next to the special tool.
- The special tool is ready for use.

5.2.1 Installing Change over Valve

1. Unscrew the hydraulic hose lines (1) and (2) from the reducing fittings (3) and (4).

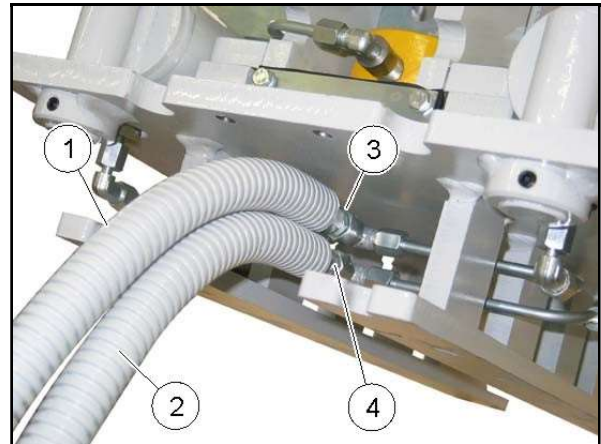


Fig. 10

2. Attach the changeover valve (1) using the fixing bolts (2) loosely in the holes provided on the base frame (3).
3. Screw the hydraulic tubes (4) and (5) tightly to the reducing fittings (6) and (7).
4. Tighten the fixing bolts (2).

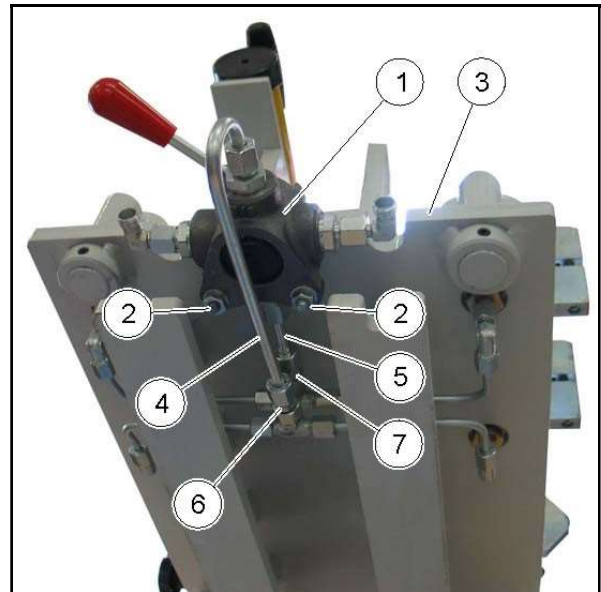


Fig. 11

5. Screw the hydraulic hose line with the hydraulic connector (1) to the angled screw connection (2) at the input (ENT) of the changeover valve.
6. Screw the hydraulic hose line with the hydraulic sleeve (3) to the angled screw connection (4) at the output (SOR) of the changeover valve.

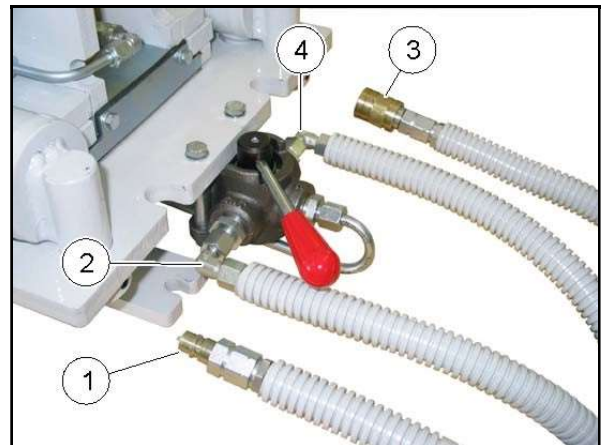


Fig. 12

OPERATING THE SPECIAL TOOL

6 Operating the Special Tool

6.1 Mounting Clamping Profiles



Always use 2 clamping profiles of the same type.

1. Pull the locking pin (1) up and hold.
2. Pull the clamping profile (2) out of both supports (3).
3. Insert the clamping profile with the tapered surface (4) in front into the supports (3).
4. Lock the required profile size for both clamping profiles using the locking pins (1).

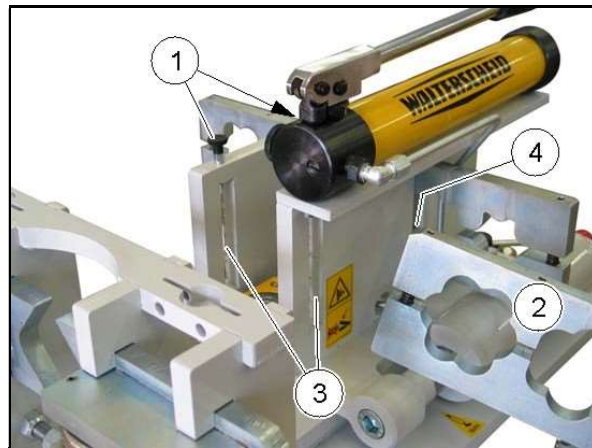


Fig. 13

6.2 Clamping and releasing profile tubes in the clamping profiles

Clamping profile tubes in the clamping profiles

1. Turn the changeover screw (1) to the ON position.
2. Operate the manual lever (2) until the clamping profiles (3) clamp the profile tube firmly.

Releasing profile tubes in the clamping profiles

1. Turn the changeover screw (1) to the OFF position.
- Both clamping profiles slacken and release the profile tube.

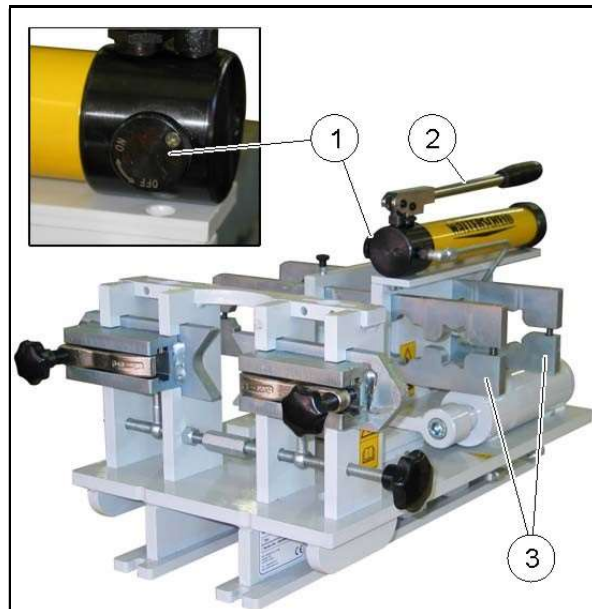


Fig. 14

6.3 Moving mounting carriage

WARNING



Crushing hazard when moving the mounting carriage by the approach of moving parts to stationary parts!

- Never reach into the dangerous place while parts can still move.
- Send any third persons out of the danger zone of the special tool before you move the mounting carriage.

The mounting carriage (1) is moved using the two hydraulic cylinders (2).

The mounting carriage must be moved backwards in the direction of the arrow (3) for the removal (pulling out) of a profile tube.

The mounting carriage must be moved forwards in the direction of the arrow (4) for the mounting (press fitting) of a profile tube.

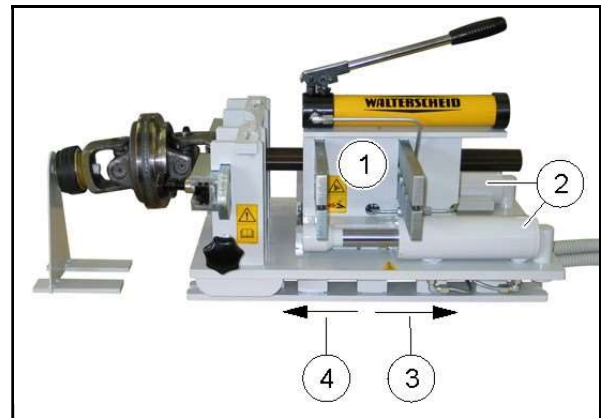


Fig. 15

6.3.1 Moving mounting carriage using hydraulic hand pump

The hydraulic cylinders (3) move the mounting carriage (4) by operating the manual lever (1) of the hydraulic hand pump (2). The position of the changeover valve (5) determines the movement direction of the mounting carriage.

- Set the changeover valve in position A if you want to move the mounting carriage backwards.
- Set the changeover valve in position B if you want to move the mounting carriage forwards.

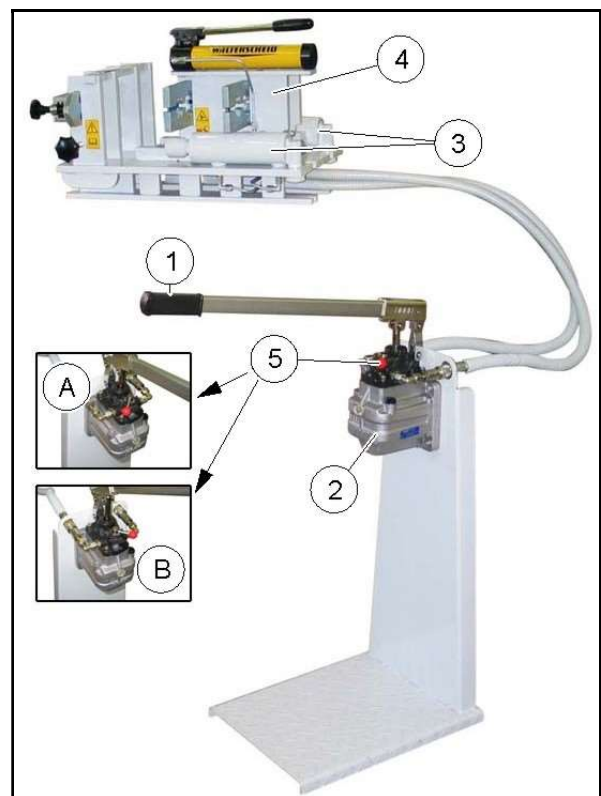


Fig. 16

OPERATING THE SPECIAL TOOL

6.3.2 Moving mounting carriage using pneumatically driven hydraulic unit

The hydraulic cylinders (5) move the mounting carriage (6) by simultaneously pressing the buttons (1) and (2) of the two-hand control (3) for the pneumatically driven hydraulic unit (4). The position of the changeover valve (7) determines the movement direction of the mounting carriage.

- Set the changeover valve in position A if you want to move the mounting carriage backwards.
- Set the changeover valve in position B if you want to move the mounting carriage forwards.

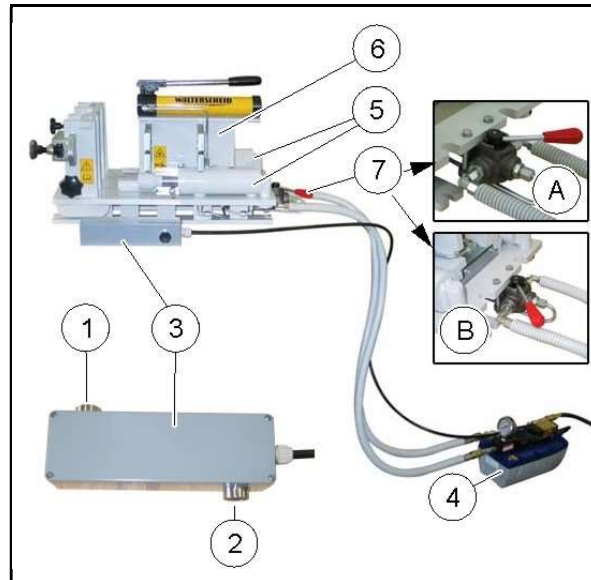


Fig. 17

REPLACING PROFILE TUBE

7 Replacing Profile Tube

7.1 Removing profile tube

1. Install the appropriate clamping profiles (1).
2. Select the appropriate profile size for holding the profile tube.
3. Move the mounting carriage (2) (see chapter 6.3) forwards in the direction of the counter bearing (3) so that the hydraulic cylinder (4) is almost completely extended.

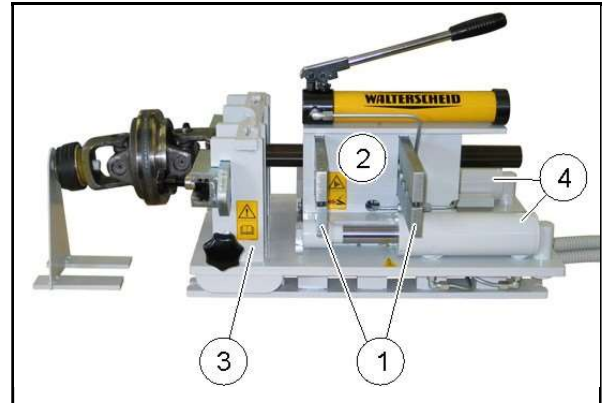


Fig. 18

4. Insert the profile tube (1) into both clamping profiles (2) so that the bore hole (3) of the inboard yoke (4) faces upwards.
5. Support the joint (5) using the support (6).
6. Guide the joint (5) with one hand.
7. Keep turning the threaded rod (7) until the counter bearings (8) for the guidance of the inboard yoke are just against the area of the guard bearing running groove (do not clamp tight).

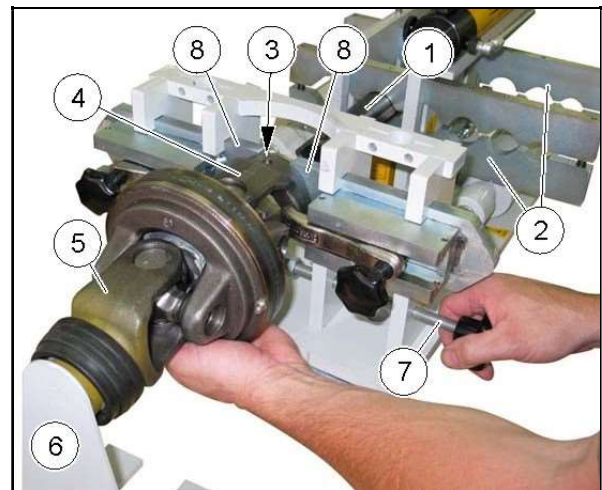


Fig. 19

8. Align the two clamping levers (1) opposite the grooved yoke (2) so that the clamping levers securely support the inboard yoke.
9. Tighten the clamping lever screws (3) hand tight (do not tighten firmly) so that both clamping levers (1) lightly contact the inboard yoke (2).

→ The inboard yoke can still easily be turned by hand.

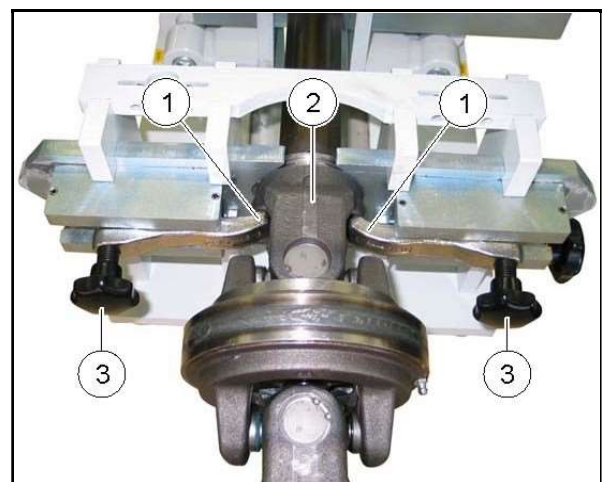


Fig. 20

REPLACING PROFILE TUBE

10. Clamp the profile tube (1) tightly in the clamping profiles (3) using the hand pump (2).
11. Drive out the clamping pin (4) carefully.
12. Move the mounting carriage (5) (see chapter 6.3) to the back until the profile tube is completely pulled out of the inboard yoke (6).
13. Release the profile tube (1) in the clamping profiles.
14. Remove the profile tube from the special tool.

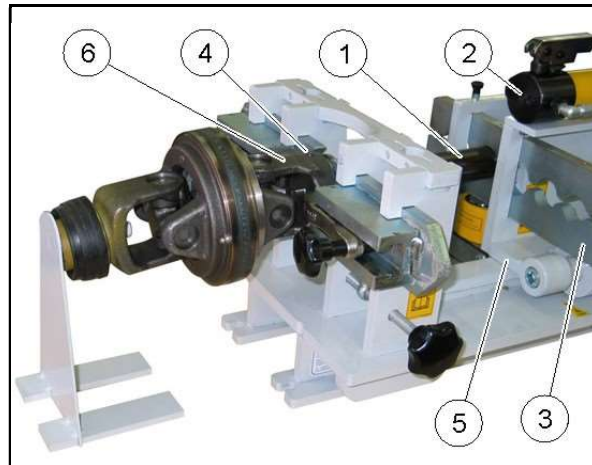


Fig. 21

7.2 Mounting profile tube

1. Deburr the profile tube all round on the face of the press fitting side.
 2. Insert the profile tube into the clamping profiles.
 3. Grease the protrusion of the profile tube (Fig. 23).
 4. Move the profile tube (1) by hand in the direction of the inboard yoke (2) so that the profile tube securely engages in the inboard yoke.
 5. Clamp the profile tube tightly in the clamping profiles.
 6. Check the alignment of the profile tube with the inboard yoke again. If necessary, adjust the inboard yoke so that no twisting occurs during the press fitting.
 7. Move the mounting carriage (3) forward
 - until the bore holes (4) and (5) of the profile tube (1) and the inboard yoke (2) are aligned.
 - until the profile tube (1) engages flush in the receptacle of the inboard yoke.
 8. If necessary, drill a hole from both sides through the bore holes of the inboard yoke into the profile tube.
 9. Drive in the clamping pin.
 10. Undo the clamping lever screws (6).
 11. Keep turning the threaded rod until the counter bearings (7) and the clamping lever (8) release the inboard yoke (2).
 12. Release the profile tube in the clamping profiles.
- The drive shaft halves can now be removed from the special tool.

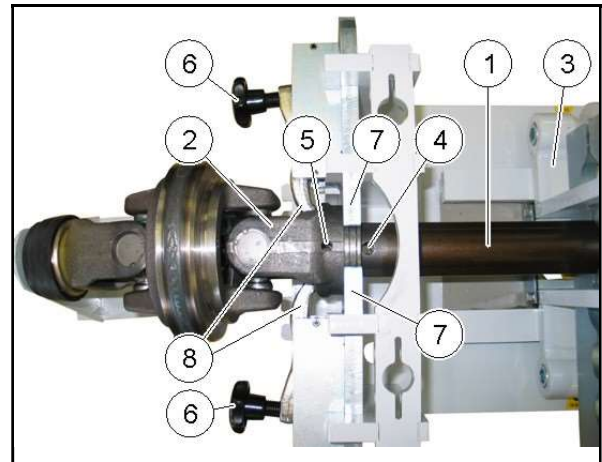


Fig. 22

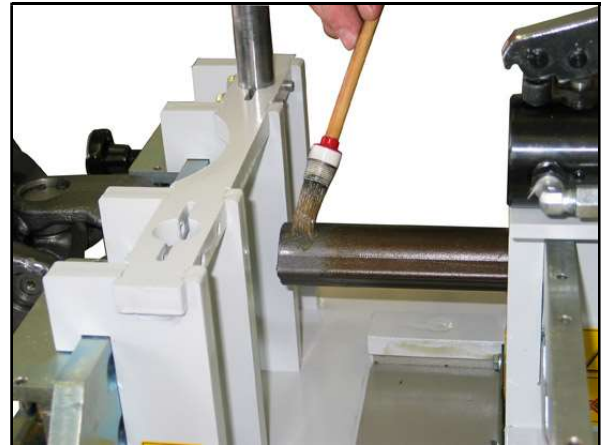


Fig. 23

REPLACING YOKE / JOINT

8 Replacing Yoke / Joint

8.1 Removing yoke / joint

1. Install the appropriate clamping profiles (1).
2. Select the appropriate profile size for holding the profile tube.
3. Move the mounting carriage (2) (see chapter 6.3) forwards in the direction of the counter bearing (3) so that the hydraulic cylinder (4) is almost completely extended.

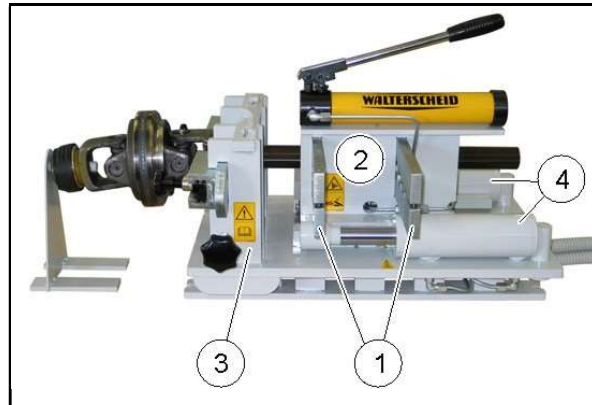


Fig. 24

4. Insert the profile tube (1) into both clamping profiles (2) so that the bore hole (3) of the inboard yoke (4) faces upwards.
5. Support the joint (5) using the support (6).
6. Guide the joint (5) with one hand.
7. Keep turning the threaded rod (7) until the counter bearings (8) for the guidance of the inboard yoke are just against the area of the guard bearing running groove (do not clamp tight).

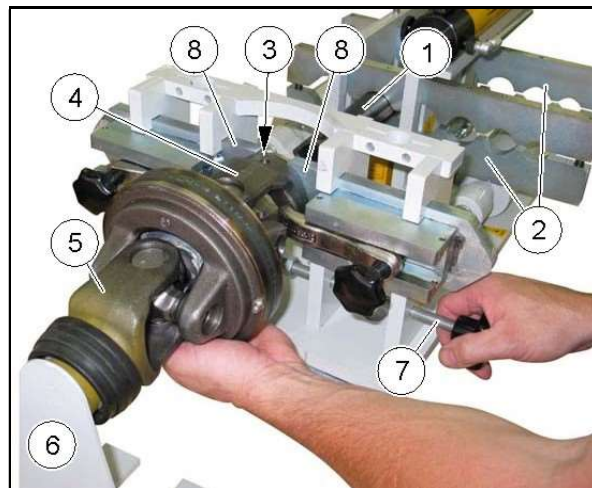


Fig. 25

8. Align the two clamping levers (1) opposite the grooved yoke (2) so that the clamping levers securely support the inboard yoke.
9. Tighten the clamping lever screws (3) hand tight (do not tighten firmly) so that both clamping levers (1) lightly contact the inboard yoke (2).

→ The inboard yoke can still easily be turned by hand.

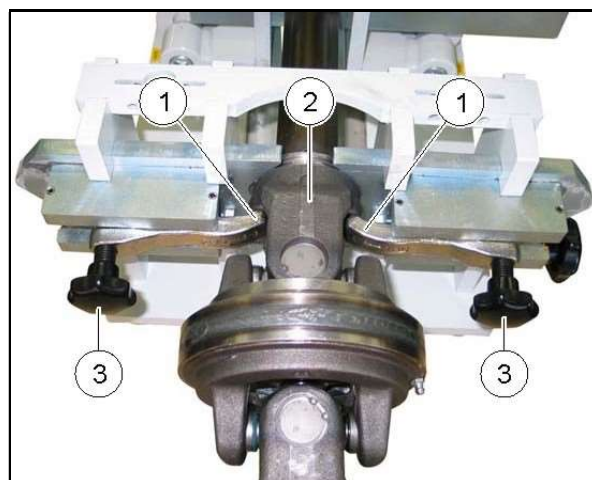


Fig. 26

10. Clamp the profile tube (1) tightly in the clamping profiles (3) using the hand pump (2).
11. Drive out the clamping pin (4) carefully.
12. Move the mounting carriage (5) (see Chapter 6.3) to the back until the profile tube is completely pulled out of the inboard yoke (6).

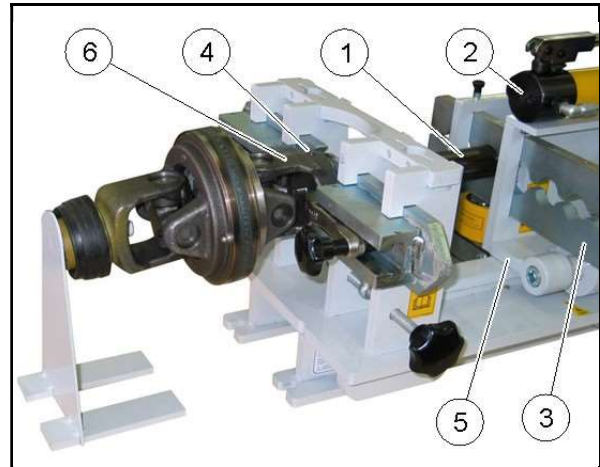


Fig. 27

13. Release the profile tube (1) in the clamping profiles (2).
14. Hold the joint (3) with one hand.
15. Undo the clamping lever screws (4).
16. Keep turning the threaded rod (5) until the counter bearings (6) and the clamping lever (7) release the inboard yoke (8).
17. Remove the yoke or the joint from the special tool.

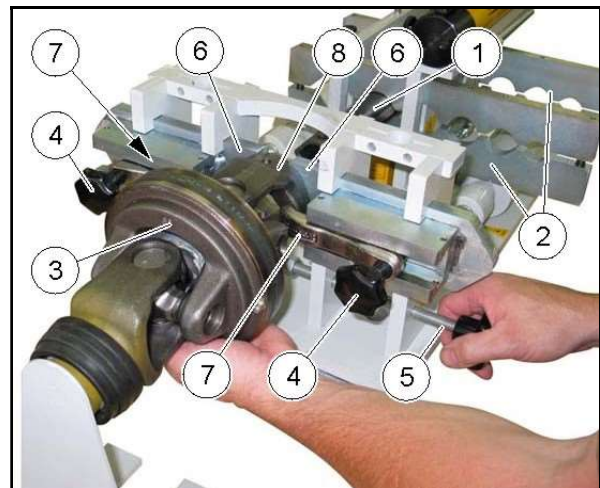


Fig. 28

8.2 Mounting yoke / joint

1. Insert the inboard yoke (1) into the counter bearings (2) so that the bore hole (3) of the grooved yoke faces upwards.
2. Keep turning the threaded rod (4) until the counter bearings (2) for the guidance of the inboard yoke are just against the area of the guard bearing running groove (do not clamp tight).
3. Support the joint (5) using the support (6).

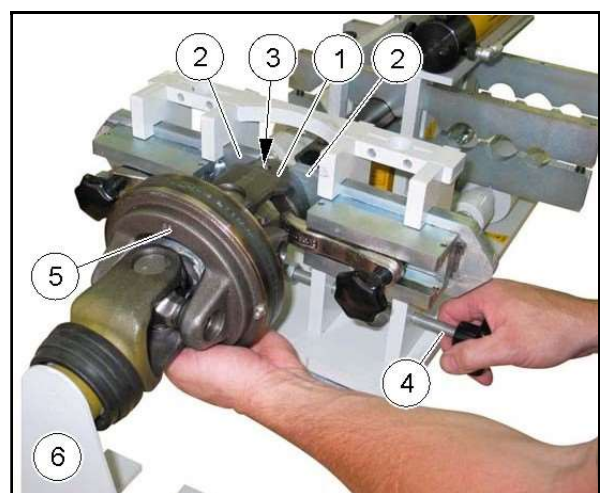


Fig. 29

REPLACING YOKE / JOINT

4. Align the two clamping levers (1) opposite the inboard yoke (2) so that the clamping levers securely support the inboard yoke.
 5. Tighten the clamping lever screws (3) hand tight (do not tighten firmly) so that both clamping levers (1) lightly contact the inboard yoke (2).
- The inboard yoke can still easily be turned by hand.

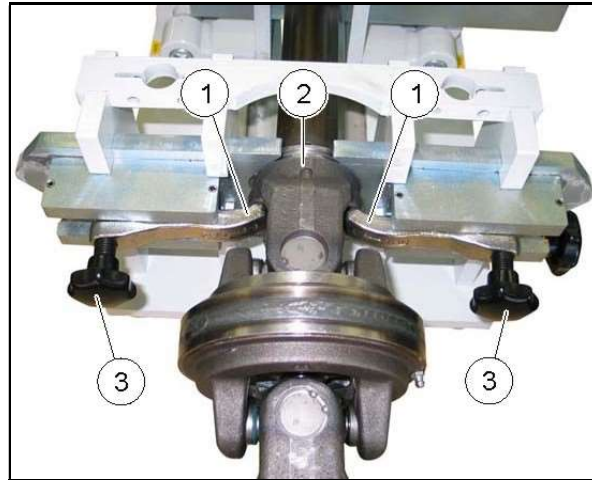


Fig. 30

6. Grease the protrusion of the profile tube.



Fig. 31

7. Move the profile tube (1) by hand in the direction of the inboard yoke (2) so that the profile tube securely engages in the inboard yoke.
8. Clamp the profile tube tightly in the clamping profiles using the hand pump.
9. Check the alignment of the profile tube with the inboard yoke again. If necessary, adjust the inboard yoke so that no twisting occurs during the press fitting.
10. Move the mounting carriage (3) forward until the bore holes (4) and (5) of the profile tube (1) and the inboard yoke (2) are aligned.

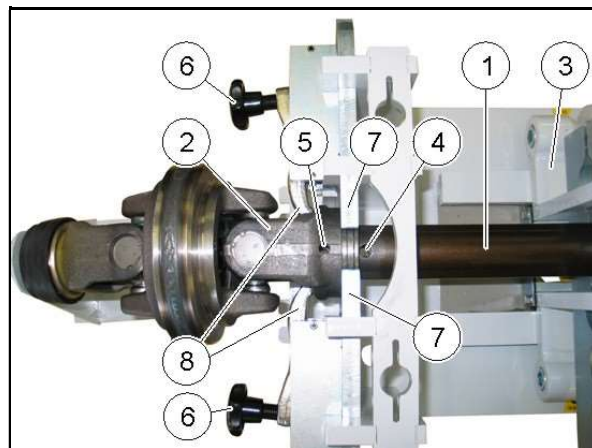


Fig. 32

11. Drive in the spring type straight pin.
 12. Undo the clamping lever screws (6).
 13. Keep turning the threaded rod until the counter bearings (7) and the clamping lever (8) release the inboard yoke (2).
 14. Release the profile tube in the clamping profiles.
- The drive shaft halve can now be removed from the special tool.

CLEANING, MAINTENANCE AND REPAIRS

9 Cleaning, Maintenance and Repairs



Also note the instructions in the following chapters for cleaning, maintenance and repair:

- "Obligations of the operator" on page 16,
- "Qualification of the persons" on page 17,
- "Basic safety instructions" starting on page 20,
- "Warning signs and instruction signs" starting on page 25.

Observance of these chapters provides your safety.

9.1 Lubrication



Lubricate both lubricating nipples on the guide rails of the mounting carriage every 10 operating hours.

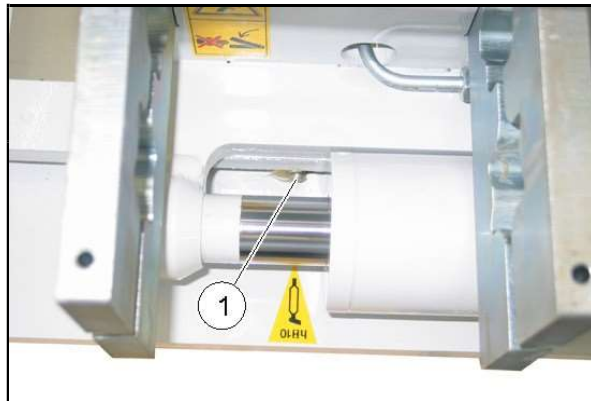


Fig. 33

9.2 Aligning counter bearings centrally



Both the counter bearings (2) and (3) must be aligned centrally to the base frame (1) if any of the inboard yokes supported by the counter bearing is no longer centrally aligned with a clamped profile tube.

1. Undo the two nuts (4) and (5).
2. Move the threaded rod (6) with the counter bearings (2) and (3) in the required direction until the two counter bearings (2) and (3) are aligned centrally again with the base frame (1).
3. Tighten the two nuts (4) and (5) until the threaded rod (6) can be turned easily and without play (do not clamp).

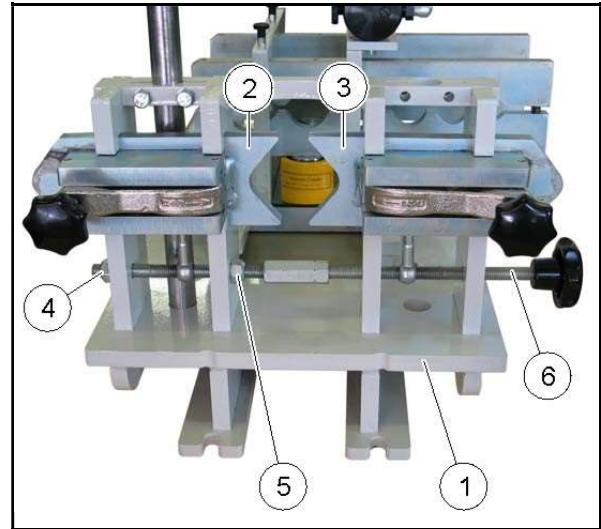


Fig. 34

EC DECLARATION OF CONFORMITY

10 EC Declaration of Conformity

EC Declaration of Conformity

for the purpose of the EC Machines Directive 2006/42/EC, Appendix II, 1.A

Manufacturer:

WALTERSCHEID GmbH
Hauptstraße 150
D-53797 Lohmar

Person domiciled in the Community who is authorised to compile the relevant technical documents:

WALTERSCHEID GmbH
Hauptstraße 150
D-53797 Lohmar

Description and identification of the machine:

Designation: **WALTERSCHEID special tool for profiles**
Type: **SW40**
Serial number:
Trade name: **Special Tool SW40**

It is expressly declared that the machine complies with all relevant provisions of the following EC Directives:

2006/42/EC:2006-05-17 EC Machines Directive 2006/42/EC

References of the applied harmonised standards in accordance with Article 7 Paragraph 2:

EN ISO 12100-1:2003/A1:2009 Safety of machines – basic terms, general design principles – part 1: basic terminology, methodology
EN ISO 12100-2:2003/A1:2009 Safety of machines – basic terms, general design principles – part 2: technical principles
EN 349:1993+A1:2008 Safety of machines – minimum distances for preventing crushing of parts of the body
EN 982:1996+A1:2008 Safety of machines – technical safety requirements for fluid handling machines and their components – hydraulics
EN 574:1996+A1:2008 Safety of machines – two-hand circuits – functional aspects – design principles

Lohmar, December 2009

Place, date



Signature
Norbert Fartmann
Customer Service Manager

SPARE PARTS LIST

11 Spare parts list

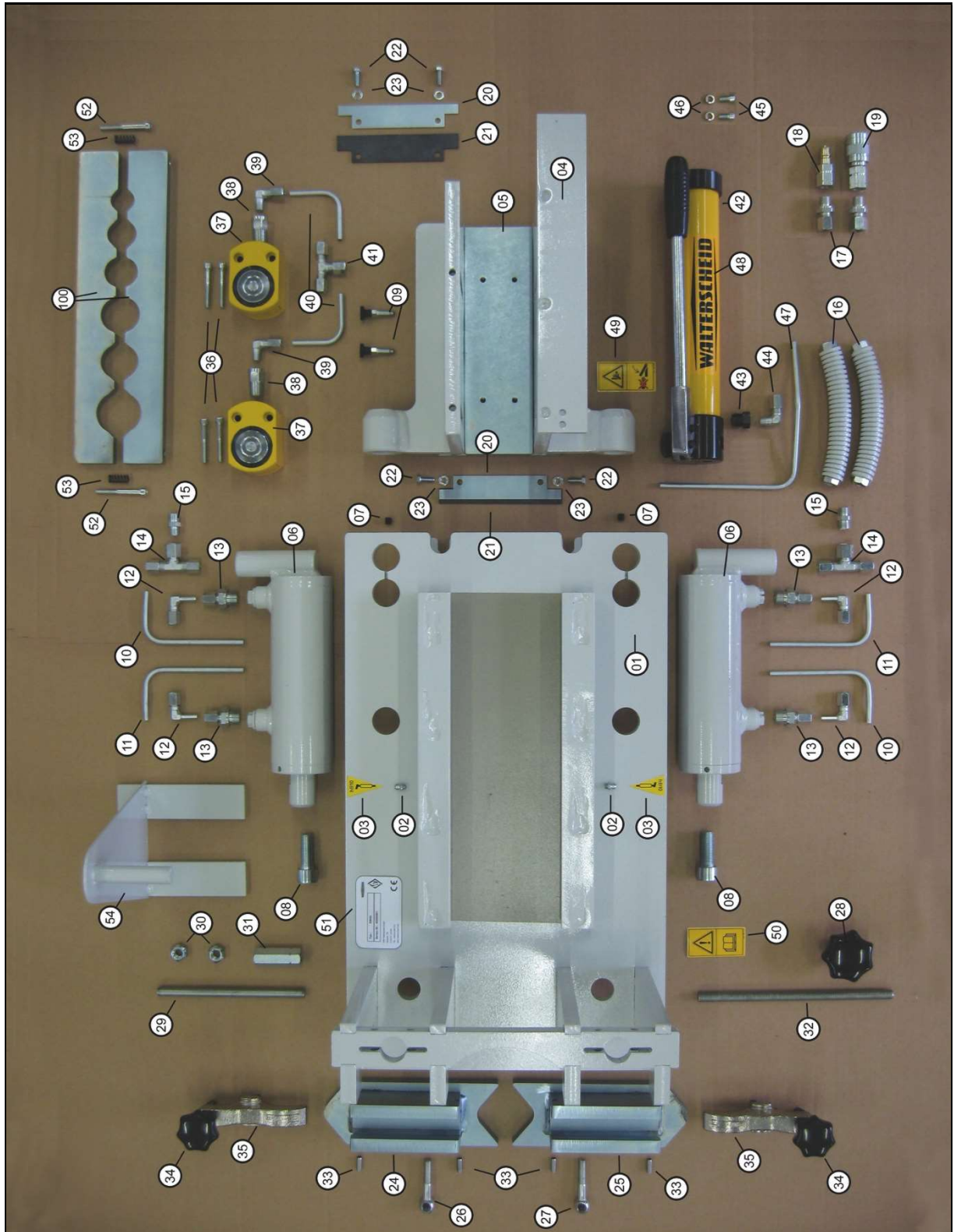


Fig. 35

SPARE PARTS LIST

Pos.	Drawing No.	Designation	Dimension	Standard	Quantity [Pieces]
1	SW40-001	Base frame, welded			1
2	SW40-002	Grease nipple	M6 180°		2
3	SW40-003	Lubrication sticker			2
4	SW40-004	Welded sliding piece			1
5	SW40-005	Cylinder mounting			1
6	SW40-006	Welded cylinder			2
7	SW40-007	Grub screw	M8		2
8	SW40-008	Allen screw	16 x 40 blue	Din 912	2
9	SW40-009	Locking bolt	5 mm		2
10	SW40-010	Hydraulic tube, right			2
11	SW40-011	Hydraulic tube, left			2
12	SW40-012	Elbow			4
13	SW40-013	Screw-in coupling			4
14	SW40-014	T threaded joint			2
15	SW40-015	Reducing fitting			2
16	SW40-016	Hydraulic line, mounted			2
17	SW40-017	Screw-in coupling			2
18	SW40-018	Connector	IG 1/4"		1
19	SW40-019	Coupling sleeve	IG 1/4"		1
20	SW40-020	Support plate			2
21	SW40-021	Seal	NBR/SBR65Shore A		2
22	SW40-022	Screw	6 x 12 blue	DIN 933	4
23	SW40-023	Washer	6 mm blue	DIN 125A	4
24	SW40-024	Welded counter bearing, right			1
25	SW40-025	Welded counter bearing, left			1
26	SW40-026	Eyebolt	M12		1
27	SW40-027	Eyebolt	M12L		1
28	SW40-028	Machined star head	M12L		1
29	SW40-029	Threaded rod	M12 l = 175		1
30	SW40-030	Nut	M12	DIN 980	2
31	SW40-031	Turnbuckle nut	M12	DIN 1479	1
32	SW40-032	Threaded rod	M12L l = 230		1
33	SW40-033	Hollow dowel pin 1.4310	6 x 16	DIN 1481	4
34	SW40-034	Clamping lever bolt			2
35	SW40-035	Clamping lever			2
36	SW40-036	Allen screw	6 x 45 blue		4
37	SW40-037	Flat cylinder RMC	10 t		2
38	SW40-038	Threaded joint			2
39	SW40-039	Elbow			2
40	SW40-040	Hydraulic tube	105.5 mm		2
41	SW40-041	T piece			1
42	SW40-042	Hand pump CP180 easy			1
43	SW40-043	Threaded joint			1
44	SW40-044	Elbow			1
45	SW40-045	Screw	6 x 16 blue	DIN 912	2
46	SW40-046	Spring washer	6 mm blue	DIN 127B	2
47	SW40-047	Hydraulic tube	320 mm		1
48	SW40-048	Sticker WAL	40 x 200		1

49	SW40-049	Sticker, crushing hazard			1
50	SW40-050	Sticker, operating manual			1
51	SW40-051	Type plate			1
52	SW40-052	Allen screw		DIN 912	8
53	SW40-053	Spring			8
54	SW40-054	Support for joint			1
100	SW40-100	Clamping profile variants			
	SW40-101	Clamping profile – 2 ribs			2
	SW40-102	Clamping profile – starofile			2

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The logo consists of a grey rectangular background. At the top, there is a thin white horizontal line. Below this line, the word "WALTERSCHEID" is written in a bold, black, sans-serif font. The text is centered and flanked by two thin white horizontal lines, one above and one below, creating a framed effect.

WALTERSCHEID