

OPERATING MANUAL

Special tool SW41

for dismantling and mounting
of yokes and crosses



697026 – ADLS 1001-3
Version of 04/10 | 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
Fax: + 49 (0) 22 46 12 - 35 01
website: www.walterscheid.com
email: info@walterscheid.com

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 us your suggestions by fax or email to:

WALTERSCHEID GMBH

Address: Hauptstraße 150

Town: D-53797 Lohmar

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

Fax: + 49 (0) 22 46 12 - 35 01

email: info@walterscheid.com

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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 for 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 in the direction of the quick-change system holder of the drift punch and the various mandrels.

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 SW41,
- 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 SW41 and designation of the most important elements.

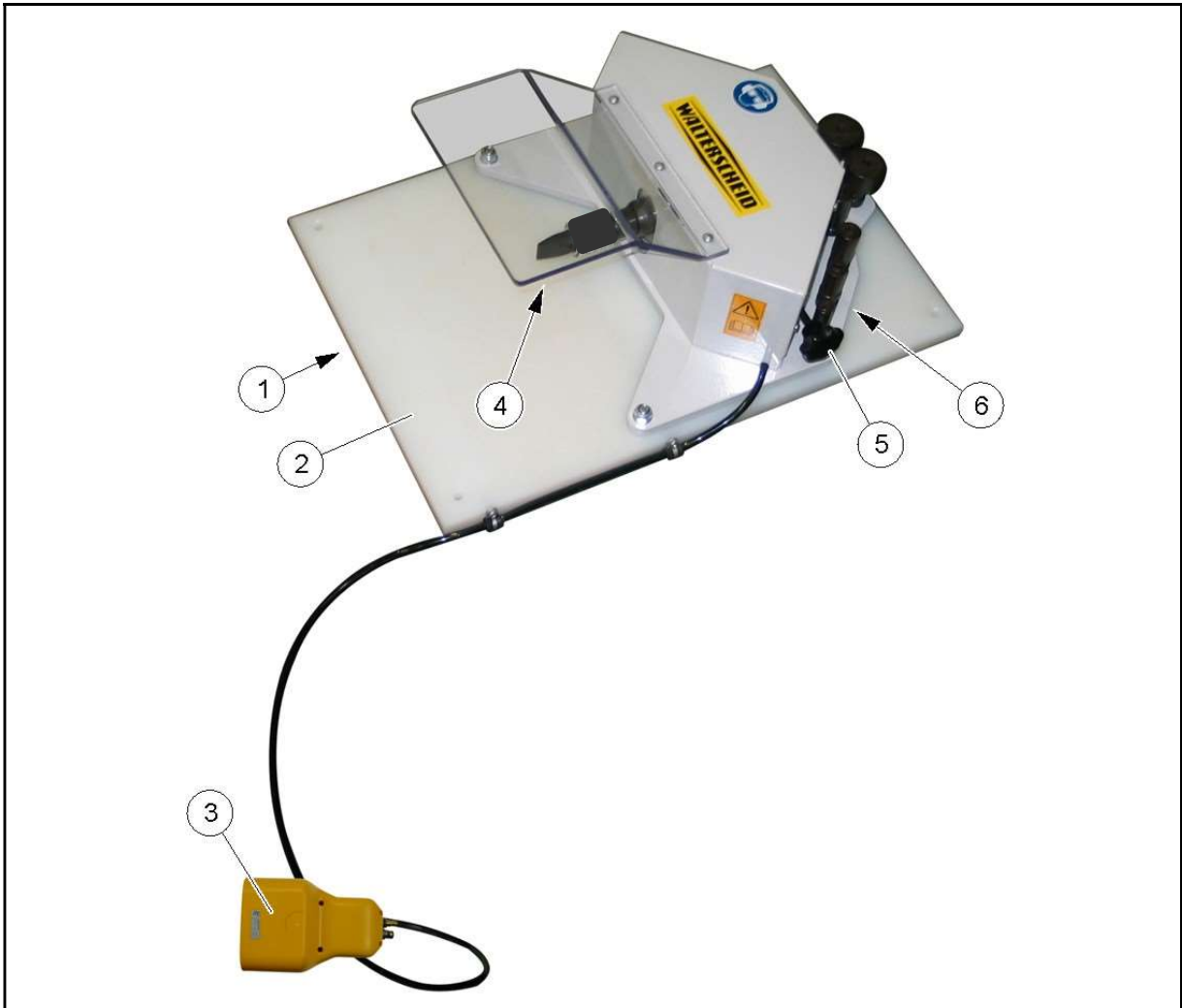


Fig. 1

- (1) Special tool SW41 for dismantling and mounting of yokes and crosses
- (2) Mounting plate with bore holes for bolting firmly to a worktop
- (3) Foot switch with compressed air connection for external compressed air system. The input air pressure of the external compressed air system must not be less than 6 bar and must not exceed 10 bar.
- (4) Quick-change system for holding the drift punch and the various mandrels for the dismantling and mounting of the yokes and crosses, can be pivoted vertically and locked
- (5) Clamping bolt for locking the quick-change system in the required position
- (6) Holders for storage of the unused drift punch/mandrels

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 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.

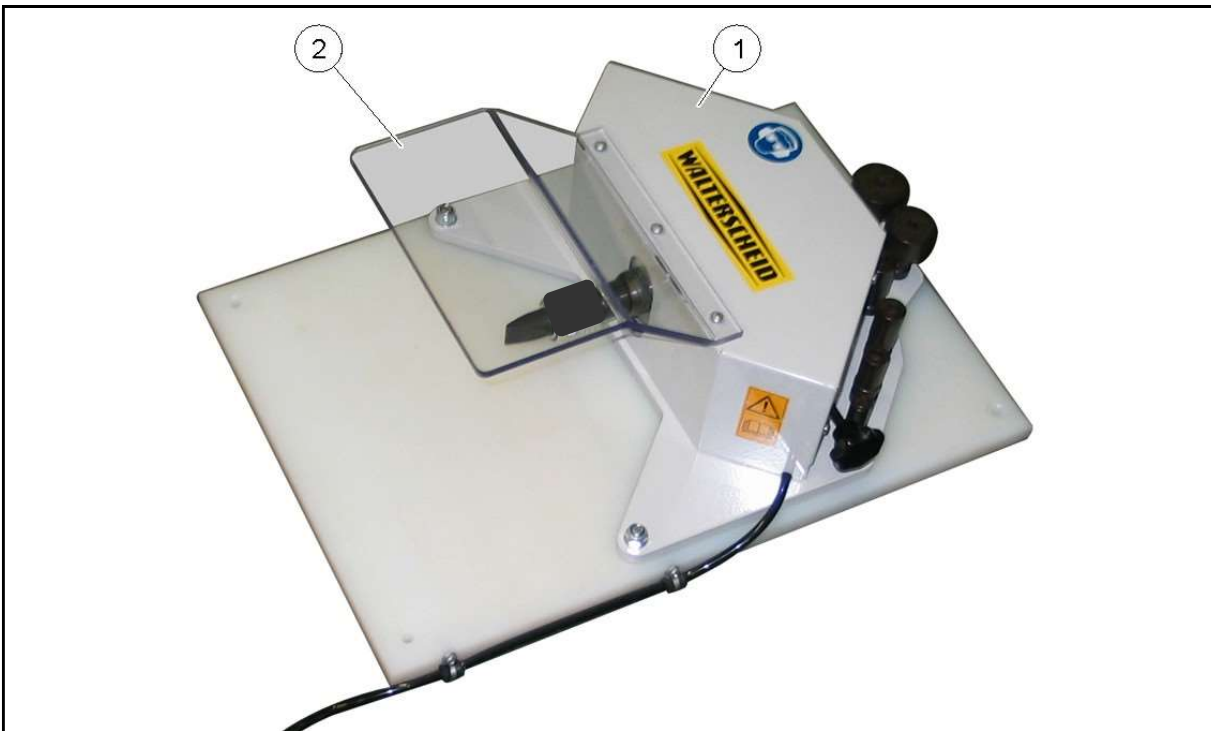


Fig. 2

- (1) Case cover, lined with sound insulating heavyweight sheeting
- (2) Safety cover against ejection of flaked off materials

2.3 Intended Use

The WALTERSCHEID special tool SW41 is exclusively intended for the dismantling and mounting of yokes and crosses by qualified skilled personnel. The special tool must only be operated using an external compressed air system with a maximum air pressure of 10 bar.

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 pneumatically supported dismantling and mounting of yokes and crosses.



No persons are permitted to be in the danger zone during the pneumatically supported dismantling and mounting of yokes and crosses.

The operator is only permitted to operate the special tool pneumatically 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

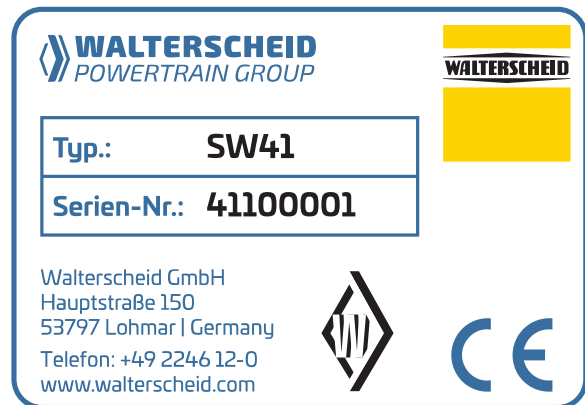


Fig. 3

2.6 Technical Data

Weight:	kg	31
Dimensions:		
• Length		630
• Width	mm	430
• Height		250
Medium:		oiled and filtered compressed air
Maximum operating pressure:	bar	10
Flow rate:		600 l/min. at 10 bar (Min. 400 l/min - Min. 8bar)

2.7 Conformity

The WALTERSCHEID Special Tool SW41 for dismantling and mounting yokes and crosses complies with the basic health and safety requirements of the following directives and standards:

- Directive 2006/42/EC
- EN ISO 12100: 2010
- EN ISO 4414:2010

The manufacturer confirms that the Special Tool SW41 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 21 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.

SAFETY INSTRUCTIONS

Activity \ Persons	Person specially 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.

3.3 Product Safety

3.3.1 Safe Operation of the Special Tool

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.

SAFETY INSTRUCTIONS

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.

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 prohibited 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. pneumatically).
- 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.

SAFETY INSTRUCTIONS

3.4.2 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, e.g. 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.

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

<p>WARNING</p> 	<p>WARNING</p> <p>indicates a potential hazard with medium risk which could result in severe physical injuries or death if it is not avoided.</p> <p>There is a risk under certain circumstances of severe physical injuries including death due to the non-observance of safety instructions marked with "WARNING".</p>
---	---

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

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.

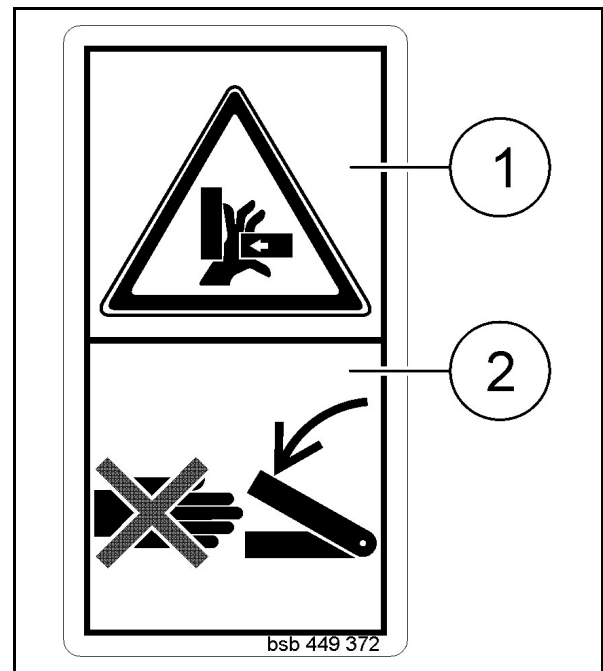
A warning sign consists of 2 pictograms:

(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.



SAFETY INSTRUCTIONS

Explanations of the warning signs

The following list contains:

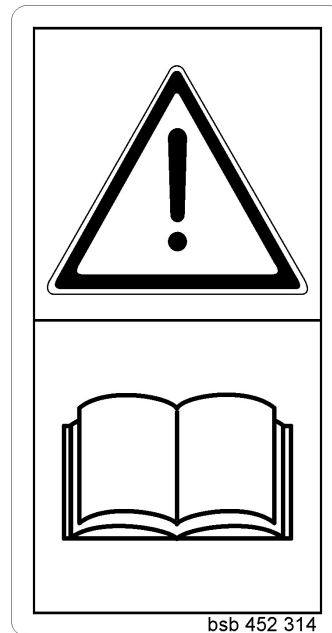
- all the warning signs present on the special tool in the right-hand column,
- the following information about the warning sign on the right in the left-hand column:
 1. The part number.
 2. The description of the hazard, e.g. "Crushing hazard for fingers or hands when moving the mounting carriage by 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".

Part number and description

Warning Sign

SW40-050 / SW41-033

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



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

SW41-027

Wear hearing and eye protection.

Instruction Sign



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,
- 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 forklift 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

4.3 Scope of delivery



Fig. 7

- (1) Special tool mounted on the mounting plate (2), prepared for use with an external compressed air system
- (2) Mounting plate with bore holes for bolting firmly to a worktop
- (3) Foot switch with compressed air connection for external compressed air system
- (4) Safety cover against ejection of flaked off materials
- (5) Quick-change system for holding the drift punch and the various mandrels for the dismantling and mounting of the yokes and crosses
- (6) Clamping bolt for locking the quick-change system in the required position
- (7) Holders for storage of the unused drift punch/mandrels
 - 1 drift punch
 - 11 different mandrels

INITIAL COMMISSIONING

5 Initial Commissioning

The special tool is prepared as standard for the direct connection to an external compressed air system.



Ensure that the coupling sleeve on the coupling connector locks into place.

1. Set the special tool (1) down on a stable work surface.
2. Bolt the mounting plate firmly at all 4 corners (2) to a worktop.

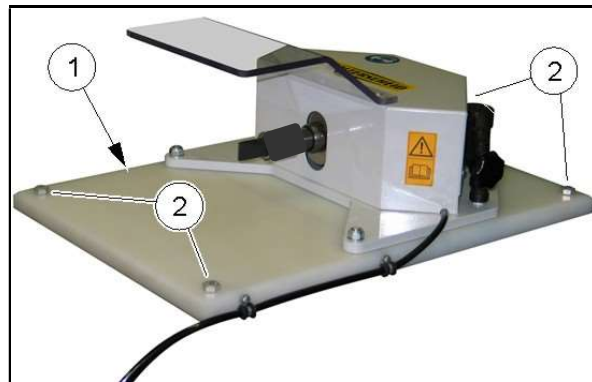


Fig. 8

3. Connect the compressed air connection (1) of the foot switch to an external compressed air system (2). The input air pressure of the external compressed air system must not be less than 8 bar and must not exceed 10 bar.

→ The special tool is ready for use.

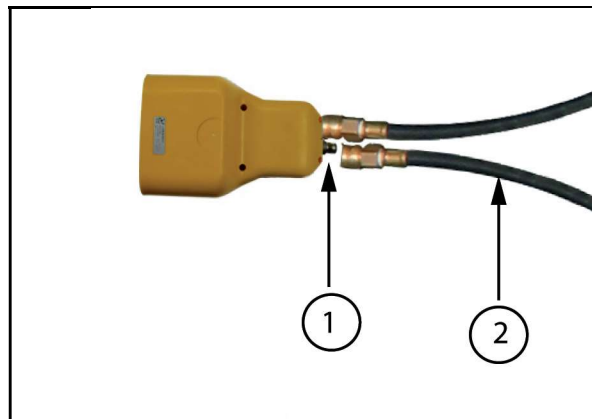


Fig. 9

OPERATING THE SPECIAL TOOL

6 Operating the special tool

6.1 Inserting/removing drift punch/mandrel



Always select the mandrel designed to fit the installation size of the bearing bushes of the of the yokes/crosses to be mounted. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.

Inserting

1. If necessary, clean the insertion shaft (1) of the drift punch/mandrel (2).
2. Insert the insertion shaft into the quick-change system (3).
3. Press the drift punch/mandrel into the quick-change system as far as the stop. Slight turning of the mandrel while pressing at the same time makes the process easier.

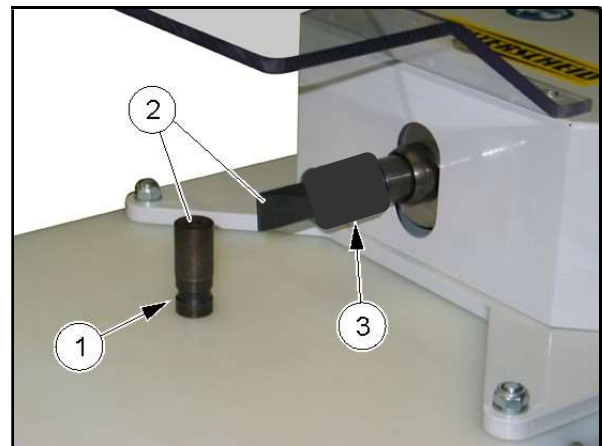


Fig. 10

Removal

Pull the drift punch/mandrel (2) to the front.

Alternatively, press the drift punch / mandrel against the rear stop, release and operate the foot switch briefly.

Then remove the drift punch / mandrel.

OPERATING THE SPECIAL TOOL

6.2 Aligning position of the drift punch/mandrel opposite the bearing bushes of the crosses

1. Insert the drift punch/required mandrel (1) into the quick-change system. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.
2. Place the joint (2) on the mounting surface (3) as shown in Fig. 11.

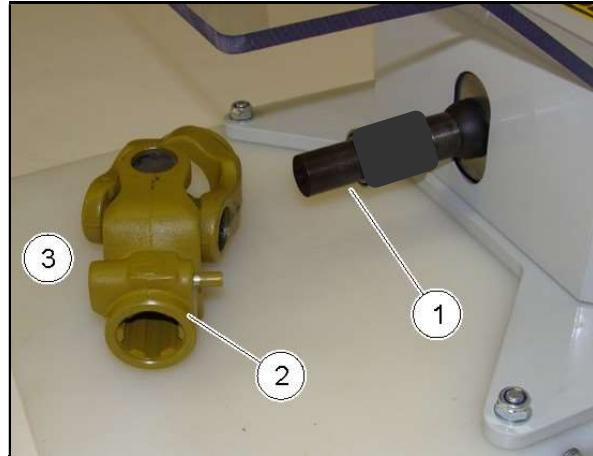


Fig. 11

3. Undo the clamping bolt (1).
 4. Align the position of the drift punch/mandrel (2) opposite the bearing bush.
 5. Tighten the clamping bolt (1) again in order to fix the drift punch/mandrel in this position.
- The special tool is ready for dismantling and mounting the bearing bushes.



Fig. 12

6.3 Operating special tool using foot switch

There is a pneumatically operated striking mechanism inside the special tool case. The changeover valve integrated in the foot switch opens when the foot switch is operated. The compressed air reaches the striking mechanism and propels the striking mechanism. The bearing bushes of the crosses can be driven in and expelled using the impact energy produced here.



Fig. 13

7 Dismantling / mounting yoke / cross



Observe the operating manual of the drive shaft for the removal and installation of the safety devices. Download the corresponding operating manual from our website if necessary.

www.walterscheid.com/en/downloads/manuals/

7.1 Dismantling yoke /cross

1. Pull the drive shaft apart.
 2. Remove the safety device of the defective drive shaft half. Observe the operating manual of the drive shaft for this.
 3. Lubricate the cross kit.
- This minimises the risk of the bearing needles falling out of the bearing bushes.



Fig. 14

4. Insert an appropriate mandrel (1) into the quick-change system. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.
5. Align the position of the mandrel (1) opposite the bearing bush of the cross.



Fig. 15

6. Release the first circlip of the yoke.
 - 6.1 For this, press the bearing bush against the mandrel for a short time and operate the foot switch simultaneously.
- The circlip is released.



DISMANTLING / MOUNTING YOKE / CROSS

- 6.2 Remove the first circlip.
7. Release and remove the second circlip on the opposite side. Repeat the action step 6 for this.

Fig. 16



8. Drive both bearing bushes out of the yoke.
 - 8.1 For this, press one bearing bush (1) against the mandrel (2) and operate the foot switch simultaneously until you can remove the first bearing bush (3).

Fig. 17

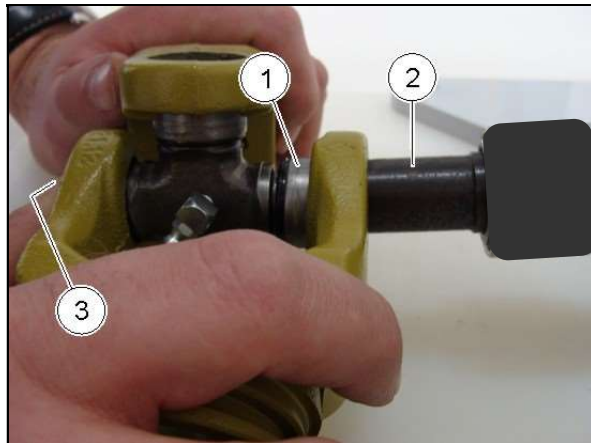


Fig. 18

- 8.1.1 Turn the yoke over if you cannot remove the first bearing bush from the yoke.
- 8.1.2 For this, press one bearing bush (1) against the drift punch (2) and operate the foot switch simultaneously until you can remove the first bearing bush (3).



Fig. 19

- 8.2 Turn over the yoke if necessary.
- 8.3 Press one cross journal (1) against the mandrel (2) and operate the foot switch simultaneously until you can remove the second bearing bush.
- 8.3.1 Carry out the action steps 8.1.1 and 8.1.2 if you cannot remove the second bearing bush from the yoke.
- The connecting fork can now be removed from the cross kit.
 - The cross can now be removed from the yoke.
9. Repeat the action steps 6 to 8 in order to dismantle the second yoke.

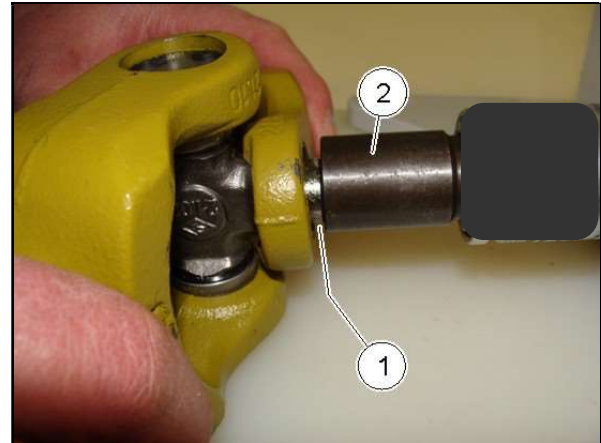


Fig. 20

DISMANTLING / MOUNTING YOKE / CROSS

7.2 Mounting yoke / cross

- (1) Connecting fork (with cross pre-mounted)
- (2) Inboard yoke
- (3) Bearing bush
- (4) Circlip

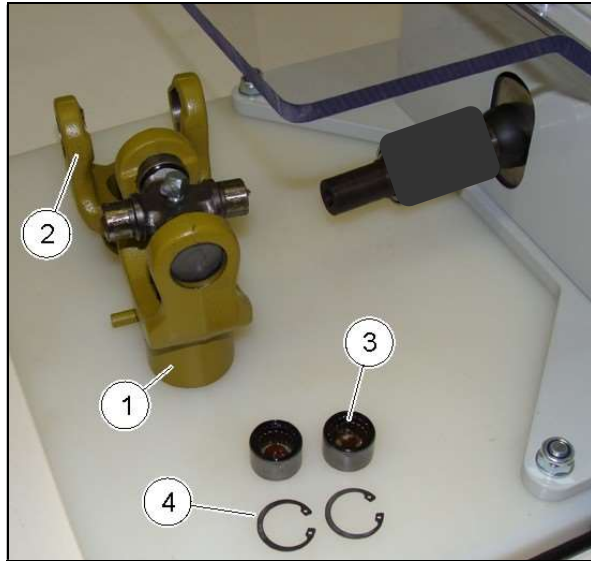


Fig. 21

- 1. Insert an appropriate mandrel (1) into the quick-change system. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.
- 2. Align the position of the mandrel (1) opposite the bearing bush of the cross.
- 3. Lubricate the bearing needles of all bearing bushes generously.
- 4. Insert the cross into the yoke.
- 5. Place the first bearing bush (2) on the cross journal. Pay attention here that no bearing needles fall out of the bearing bush.

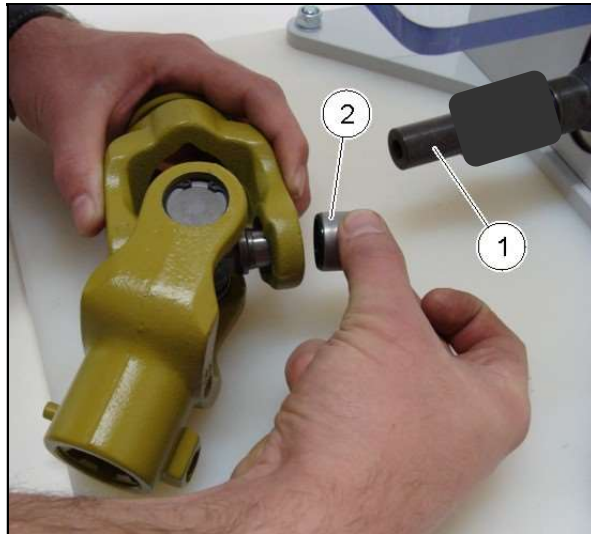


Fig. 22

- 6. Drive the first bearing bush into the yoke so far until the ring groove is visible.
- 6.1 Press the bearing bush (1) against the mandrel (2) and operate the foot switch simultaneously until the ring groove is visible.



Fig. 23

7. Insert the first circlip.



Fig. 24

8. Place the second bearing bush on the opposite cross journal. Pay attention here that no bearing needles fall out of the bearing bush.

9. Drive the second bearing bush into the yoke so far until the ring groove is visible.

9.1 Press the bearing bush (1) against the mandrel (2) and operate the foot switch simultaneously until the ring groove is visible.

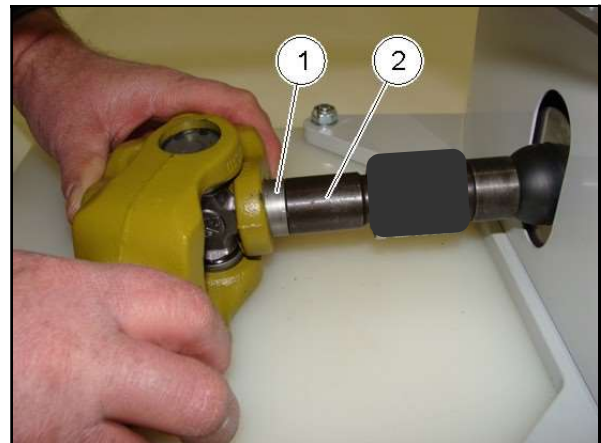


Fig. 25

10. Insert the second circlip.

→ The yoke is mounted.

11. Insert the cross into the second yoke if necessary.

12. Repeat the action steps 5 to 10 in order to mount the third and fourth bearing bushes.



Fig. 26

DISMANTLING / MOUNTING YOKE / CROSS

13. Releasing the mounted joint:

- for this, press the pivot arm (1) against the mandrel (2) for a short time and operate the foot switch simultaneously or



Fig. 27

- strike on the pivot arm (1) using a hammer.

14. Lubricate the cross kit.

15. Mount the safety device. Observe the operating manual of the drive shaft for this.

16. Push the drive shaft halves back into each other.

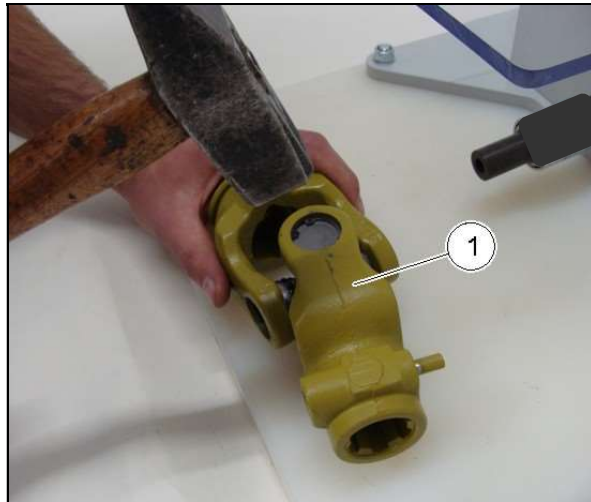


Fig. 28

8 Dismantling / mounting yokes / crosses of a wide angle joint



Observe the operating manual of the drive shaft for the removal and installation of the safety devices. Download the corresponding operating manual from our website if necessary.
www.walterscheid.com/en/downloads/manuals/

8.1 Dismantling yokes/crosses of a wide angle joint



Always start the dismantling with the bearing bushes of the double yoke.

1. Pull the drive shaft apart.
 2. Remove the safety device of the defective drive shaft half. Observe the corresponding operating manual of the drive shaft for this.
 3. Lubricate the cross kits.
- This minimises the risk of the bearing needles falling out of the bearing bushes.



Fig. 29

4. Insert an appropriate mandrel (1) into the quick-change system. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.
5. Align the position of the mandrel (1) opposite the bearing bush of the double yoke.

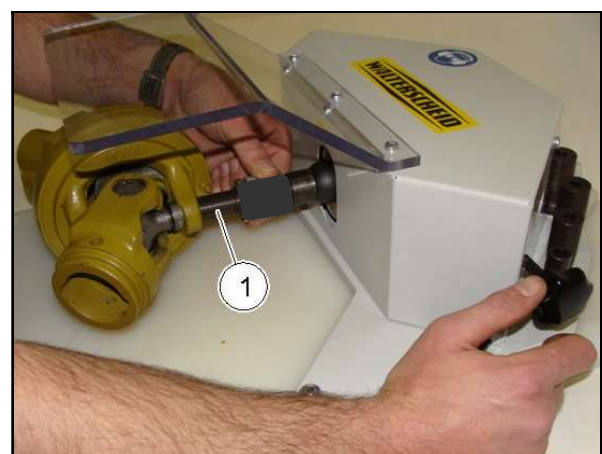


Fig. 30

DISMANTLING / MOUNTING YOKES / CROSSES OF A WIDE ANGLE JOINT

6. Release the first circlip of the double yoke.

6.1 For this, press the bearing bush against the mandrel for a short time and operate the foot switch simultaneously.

→ The circlip is released.



Fig. 31

6.2 Remove the first circlip and the circular blank.

7. Release and remove the second circlip and the circular blank on the opposite side. Repeat the action step 6 for this.

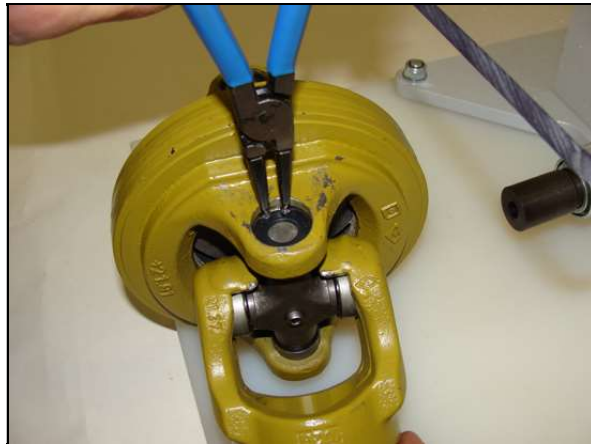


Fig. 32

8. Drive both bearing bushes out of the double yoke in two stages in each case.

8.1 Press a bearing bush (1) against the mandrel (2) and operate the foot switch simultaneously until the cross kit no longer moves.

→ The first stage for driving out the first bearing bush is ended.

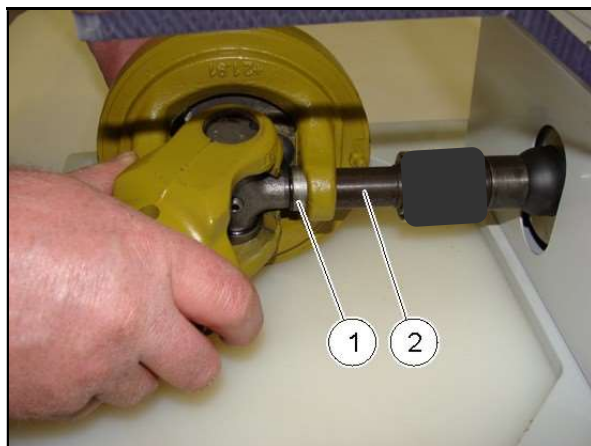


Fig. 33

- 8.2 Replace the mandrel with the drift punch (1).
- 8.3 Turn the double yoke over.

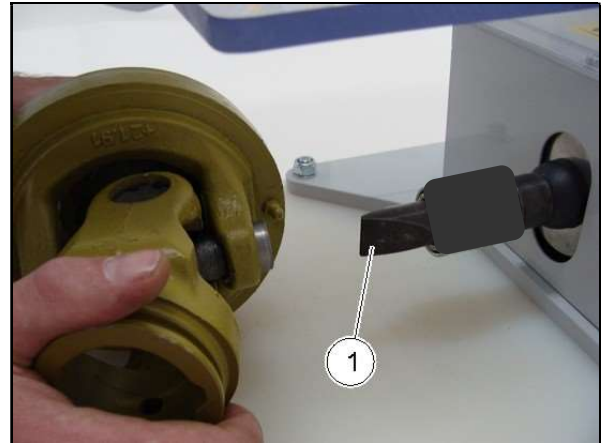


Fig. 34

- 8.4 Press the pivot pin (1) against the drift punch (2) and operate the foot switch simultaneously until you can remove the first bearing bush.
→ The second stage for driving out the first bearing bush is ended when you can remove the bearing bush.



Fig. 35

- 8.5 Replace the drift punch with the mandrel.

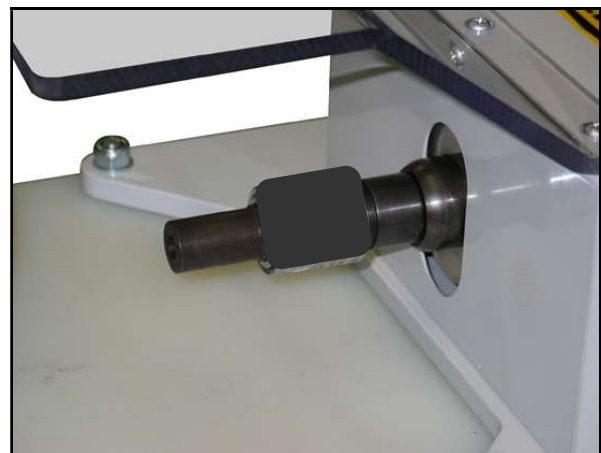


Fig. 36

DISMANTLING / MOUNTING YOKES / CROSSES OF A WIDE ANGLE JOINT

8.6 Press the cross journal (1) against the mandrel (2) and operate the foot switch simultaneously until the cross kit no longer moves.

→ The first stage for driving out the second bearing bush is ended.

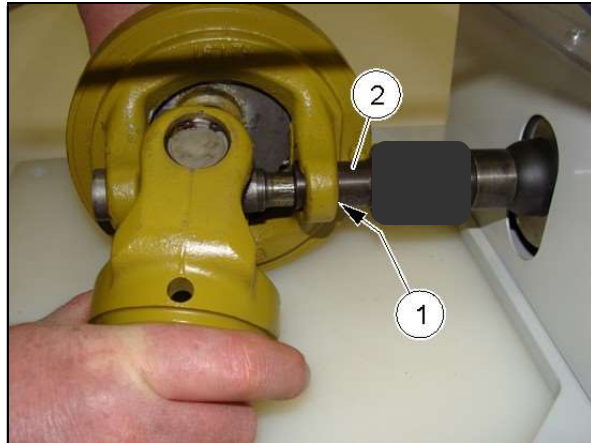


Fig. 37

8.7 Replace the mandrel with the drift punch (1).

8.8 Turn the double yoke over.

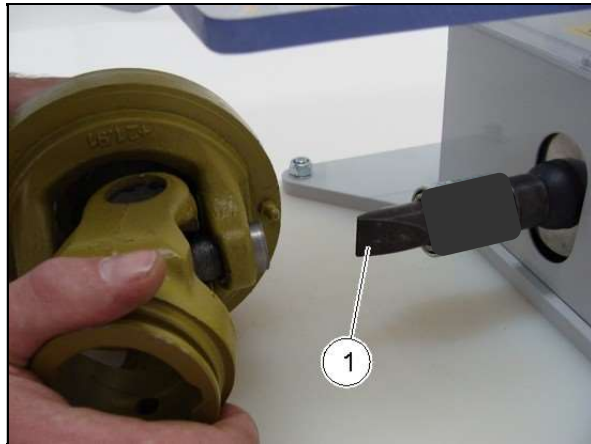


Fig. 38

8.9 Press the pivot pin (1) against the drift punch (2) and operate the foot switch simultaneously until you can remove the second bearing bush.

→ The second stage for driving out the second bearing bush is ended when you can remove the bearing bush.

→ The connecting fork with the cross kit can now be removed from the double yoke.



Fig. 39

8.2 Mounting yokes/crosses of a wide angle joint



Always start the mounting of the cross with the inboard yoke (slip-on yoke or grooved yoke).

- (1) Double yoke
- (2) Grooved yoke with mounted cross (see Chapter 7.2 for mounting)
- (3) Bearing bush
- (4) Circular blank
- (5) Circlip

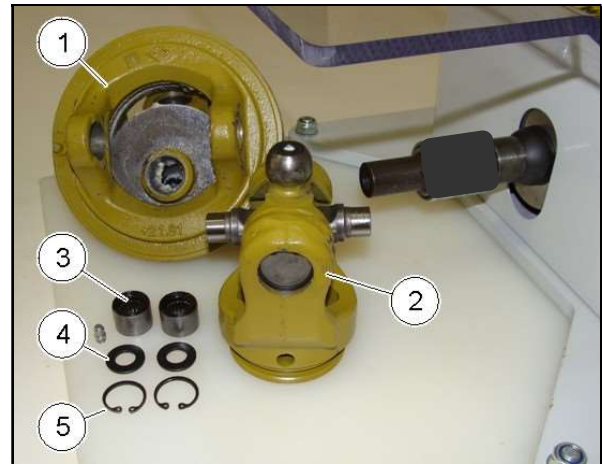


Fig. 40

1. Insert an appropriate mandrel (1) into the quick-change system. The diameter of the mandrel must correspond to the drill hole diameters of the yokes.
2. Align the position of the mandrel (1) opposite the bearing bush of the cross.
3. Grease the bearing needles of all bearing bushes generously.
4. Insert the cross into the yoke.
5. Place the first bearing bush (2) on the cross journal. Pay attention here that no bearing needles fall out of the bearing bush.

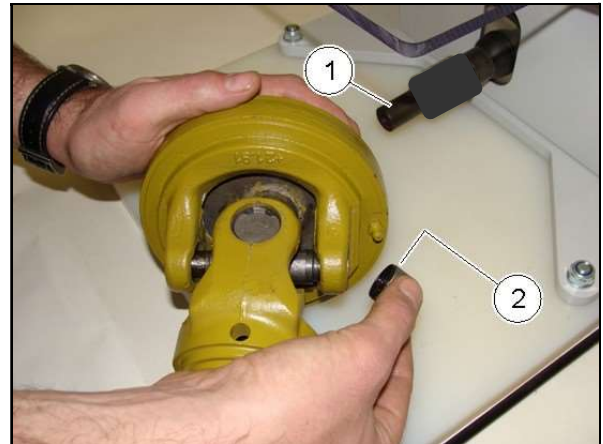


Fig. 41

DISMANTLING / MOUNTING YOKES / CROSSES OF A WIDE ANGLE JOINT

6. Drive the first bearing bush into the yoke so far until the ring groove is visible.



Fig. 42

7. Insert the circular blank and the first circlip.



Fig. 43

8. Place the second bearing bush on the opposite cross journal. Pay attention here that no bearing needles fall out of the bearing bush.



Fig. 44

9. Drive the second bearing bush into the yoke so far until the ring groove is visible.



Fig. 45

10. Insert the circular blank and the second circlip.

→ The yoke is mounted.



Fig. 46

11. Releasing the mounted cross/ joint:

- for this, press the pivot arm (1) against the drift punch (2) for a short time and operate the foot switch simultaneously or

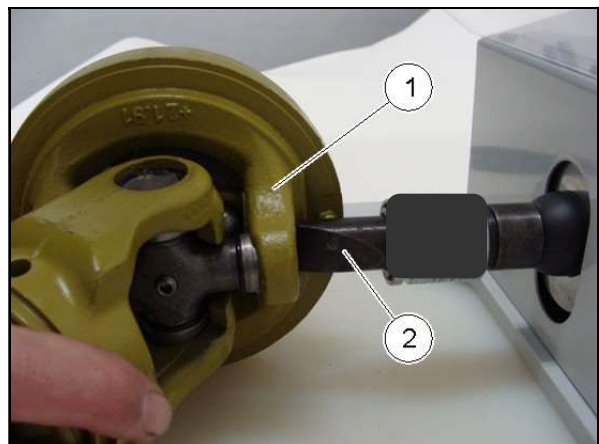


Fig. 47

DISMANTLING / MOUNTING YOKES / CROSSES OF A WIDE ANGLE JOINT

- strike on the pivot arm (1) using a hammer.
12. Lubricate all the cross kits.
 13. Mount the safety device. Observe the operating manual of the drive shaft for this.
 14. Push the drive shaft halves back into each other.



Fig. 48

9 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 European 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 dismantling and mounting yokes and cross kits**
Type: **SW41**
Serial number:
Trade name: **Special Tool SW41**

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

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

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

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
EN ISO 4414:2010 Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4414:2010)

Lohmar, November 2013

Place, date



Signature
Norbert Fartmann
Customer Service Manager

Pos.	Drawing No.	Designation	Dimension	DIN standard	Quantity [Pieces]	till-from Series.-No.
1	SW41-001	PA6 plate	25x450x600		1	
2	SW41-002	Welded mounting frame			1	
3	SW41-003	Countersunk screw	10x50blue		5	
4	SW41-004	Nut	M10blue		5	
5	SW41-005	Washer	10mm blue		5	
6	SW41-006	Striking mechanism, mounted			1	
7	SW41-007	Shaft94			1	
8	SW41-008	Circlip	20mm	471	2	
9	SW41-009	Screw	10x35blue	933	1	
10	SW41-010	C washer	A10		8	
11	SW41-011	Nylon washer	10mm	125A	1	
12	SW41-012	Allen screw	10x20blue	912	1	
13	SW41-013	Sound insulating heavyweight sheeting			2	
14	SW41-014	Allen key, mounted	8mm		1	
15	SW41-015	Pusher			1	
16.1	SW41-016.1	Quick-change system			1	ab 41100022
17.1	SW41-017.1	Screw-in coupling	1/4" 10mm 90°		1	ab 41100022
18.1	SW41-018.1	PU tube	10x8 black		2m	ab 41100022
19.1	SW41-019.0	Clip	10mm		2	ab 41100022
20	SW41-020	Screw	5x16blau	7985	9	
21	SW41-021	Damping attachment			1	
22	SW41-022	Washer			1	
23	SW41-023	Sticker WAL	Walterscheid		1	
24	SW41-024	Safety sticker	eyes/hearing		1	

SPARE PARTS LIST

Pos.	Drawing No.	Designation	Dimension	DIN standard	Quantity [Pieces]	till-from Series.-No.
25	SW41-025	Cover				
26	SW41-026	Sound insulating heavyweight sheeting			1	
27	SW41-027	Sound insulating heavyweight sheeting			2	
28	SW41-028	Safety cover			1	
29	SW41-029	Type plate			1	
30.1	SW41-030.0	3/2- way valve	G1/4"		1	ab 41100022
31.1	SW41-031.0	Screw-in coupling	G1/4" 10mm		1	ab 41100022
32.1	SW41-032.0	Plug nipple	G1/4" 7,2mm		1	ab 41100022
33	SW41-033	Pictogram	Manual		1	
34	SW41-034	Drift punch			1	
35	SW41-035	Mandrel D18			1	
36	SW41-036	Mandrel D22			1	
37	SW41-037	Mandrel D25			1	
38	SW41-038	Mandrel D27			1	
39	SW41-039	Mandrel D30			1	
40	SW41-040	Mandrel D32			1	
41	SW41-041	Mandrel D34			1	
42	SW41-042	Mandrel D36			1	
43	SW41-043	Mandrel D41			1	
44	SW41-044	Mandrel D45			1	
45	SW41-045	Mandrel D50			1	
46	SW41-046	Adjusting washer	16x22x0,2		n.B.	
47	SW41-047	Compression spring			1	
48	SW41-048	Adjusting washer set - striking mechanism	16x22		1	

NOTES

WALTERSCHEID GMBH

Hauptstraße 150

D-53797 Lohmar

Tel: +49 2246 12-0

Fax: +49 2246 12-3501

www.walterscheid-group.com

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 has a slight shadow effect. Below the text, there is another thin white horizontal line, and at the bottom, a thicker grey horizontal bar.

WALTERSCHEID