

Operating instructions

[incl. installation manual]

Changing fixture



Translation of the original operating instructions

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1 General

1.1 Information about this manual

This manual enables you to work safely and efficiently with the product.

This manual is part of the product and must be kept in a location directly beside the product that is accessible to the personnel at all times. The personnel must have read this manual carefully and understood its contents before starting any work. The basic requirement for safe work is compliance with all stipulated safety notices and work-related instructions in this manual.

If the product is passed onto a third party, this manual must accompany it.

Illustrations in this manual are there to facilitate a basic understanding, and may differ from the actual design configuration of the product.



WARNING

Serious injuries caused by individual products or by inappropriate combinations of them!

- Read and pay attention to all operating instructions for individual products and combinations of them.

1.2 Key to symbols

Safety instructions in this manual are designated by symbols. The safety notices are invoked by signal words that express the level of hazard involved.

Always comply with safety notices and exercise caution to avoid accidents, injury to people and damage to materials.

Safety notices



DANGER

... indicates an immediate and hazardous situation that can lead to death or serious injury if not avoided.



WARNING

... indicates a potentially hazardous situation that can lead to death or serious injury if not avoided.



CAUTION

... indicates a potentially hazardous situation that can lead to moderate or slight injuries if not avoided.



NOTE

... indicates a potentially hazardous situation that can lead to damage to materials if not avoided.

Tips and recommendations



INFORMATION

... highlights useful tips and recommendations as well as information for efficient and problem-free operation.



... refers to other documents relating to personal and general safety.

Warning symbols may appear on the product or its components.

Always pay attention to warning symbols, and exercise caution to avoid accidents, injury to people and damage to materials.



... warns of stored energy [for example involving springs].



... warns of hand injuries.



... draws attention to the fact that the operating instructions of the product must be read.

1.3 Definition of terms

1.3.1 Release setting

Release setting means that the clamping device is released. If the clamping device is released, this also releases the workpiece.

1.3.2 Complete clamping reserve

Complete clamping reserve means that the clamping device is clamped without a workpiece. The complete stroke has been used up, which means that the clamping device is therefore at the limit position for clamping reserve.

1.4 Limitation of liability

All details and notices in this manual were compiled with due reference to applicable standards and specifications, state-of-the-art technology and our many years of expertise and experience.

The manufacturer accepts no liability for damage arising from any of the following:

- Non-compliance with this manual
- Unintended use
- Use of untrained personnel
- Autonomous conversion work
- Technical modifications
- Use of non-approved spare parts
- Use of non-approved accessories

Subject to any commitments agreed to in the supplier contract, the General Terms & Conditions of Business and the delivery terms of the manufacturer and all legislative stipulations valid at the time of conclusion of this contract.

1.5 Copyright

This manual is protected by copyright, and are only intended for internal use.

The dissemination of this manual to third parties, reproductions in any shape or form - even in part - as well as commercial use and/or communication of their contents are prohibited for anything other than internal use, except with the written consent of the manufacturer.

Infringements oblige the offending party to pay compensation. Without restriction on further claims.

1.6 Scope of delivery

The scope of delivery of this product includes:

- Changing fixture
- The operating instructions

Additionally needed and included as optional items in the scope of delivery:

- Changing fixture holder

1.7 Spare parts and accessories



WARNING

Serious injuries can be caused by incorrect or defective spare parts!

- Always use genuine spare parts made by the original manufacturer.



NOTE

Damage, malfunctions or total failure of the product or the machine tool caused by an incorrect or defective spare parts!

- Always use genuine spare parts made by the original manufacturer.

Spare parts and accessories can be sourced from contract dealers or directly from the manufacturer [see »Contact« chapter].

Without exception, wearing parts and components in contact with the workpiece are not covered by warranty.

1.8 Warranty terms

The warranty terms are included in the manufacturer's General Terms & Conditions of Business.

2 Safety

This section provides an overview of all the important safety aspects for optimum protection of personnel, and for safe and problem-free operation.

2.1 Responsibility of the operator

The product is used in the industrial sector. The operator of the product is therefore governed by the provisions of Health & Safety at Work legislation.

As well as the safety notices in this manual, the area of use of the product must also comply with locally applicable safety, accident prevention and environmental protection specifications as well as those in the manual for the machine tool.

No modifications must be made to the product. The operator is wholly and solely responsible for any resultant personal injury and/or damage to materials.

2.2 Personnel requirements



WARNING

Serious injuries caused by incorrect handling of the product by insufficiently skilled or trained personnel!

- All activities must be performed by skilled staff from the relevant specialist field.



WARNING

Serious injuries caused by unauthorized presence of unauthorized personnel in the working area!

- Keep unauthorized people away from the working area.
- If in doubt, speak to people and direct them to leave the working area.
- Interrupt work until unauthorized people have left the working area.



NOTE

Serious damage to materials caused by incorrect handling of the product by insufficiently skilled or trained personnel!

- All activities must be performed by skilled staff from the relevant specialist field.

This manual name the following skills sets required for various different areas of activity:

Skilled specialist

Skilled specialists, due to their professional training, knowledge and experience and awareness of applicable provisions, are capable of carrying out the work entrusted to them and independently to identify and avoid potential hazards.

Hydraulics specialist

Hydraulics specialists are trained in the specific task profile for which they are employed, and are familiar with the relevant standards and legislative provisions.

Due to their vocational training and experience, hydraulics specialists can work on hydraulic systems and can independently identify and avoid potential hazards.

Pneumatics specialist

Pneumatics specialists are trained in the specific task profile for which they are employed, and are familiar with the relevant standards and legislative provisions.

Due to their vocational training and experience, pneumatics specialists can work on pneumatic systems and can independently identify and avoid potential hazards.

Electricians

Electricians are trained in the specific task profile for which they are employed, and are familiar with the relevant standards and legislative provisions.

Due to their vocational training and experience, electricians can work on electrical systems and can independently identify and avoid potential hazards.

Trainees

Trainees can only work on the machine under the supervision and direction of staff skilled in the relevant specialist field.

The only people admitted as personnel are those who can reasonably be expected to carry out their work to a reliable standard. People whose response capabilities are impaired, for example by drugs, alcohol or medication, are prohibited. For the selection of personnel, pay attention to the stipulations applicable at the place of work governing age and specific vocational requirements.

2.3 Intended use

The changing fixture is intended for the installation / removal of clamping elements. It must not remain in the machine tool but must instead be removed before the start of machining.

Spindle rotation on the machine is prohibited while a changing fixture is attached.

The product is only intended for the type of use described in this manual [see »Use« chapter]. Furthermore, an extended form of use can be agreed contractually between manufacturer and operator.

Only skilled staff from the appropriate specialist fields may operate and clean the product [see »Personnel requirements« chapter].

Never exceed the technical values stipulated for the product [see »General information« and »Operating conditions« chapters].

Maintain the product at regular intervals [see »Maintenance schedule« chapter].

When used for its intended purpose, the operational safety of the product is assured, subject to compliance with relevant safety stipulations, to the full extent foreseeable.

Intended use also includes compliance with all stipulations in this manual.

Any form of use beyond the scope of intended use, or other forms of use of the product, is considered as misuse, and can lead to dangerous situations.



WARNING

Serious injuries caused by misuse of the product!

- Do not leave the changing fixture in the working area of the machine during machining operations.
- Never start rotating the machine spindle while a changing fixture is attached.
- Only use for the type of use indicated [see »Use« chapter].
- Only skilled staff from the appropriate specialist fields may use the product [see »Personnel requirements« chapter].
- Never exceed the technical data indicated on the product [see »General information« and »Operating conditions« chapters].
- Maintain the product at regular intervals [see »Maintenance schedule« chapter].
- Only use with compatible clamping elements.



NOTE

Damage to materials caused by incorrect use of the product!

- Do not leave the changing fixture in the working area of the machine during machining operations.
- Never start rotating the machine spindle while a changing fixture is attached.
- Only use for the type of use indicated [see »Use« chapter].
- Only skilled staff from the appropriate specialist fields may use the product [see »Personnel requirements« chapter].
- Never exceed the technical data indicated on the product [see »General information« and »Operating conditions« chapters].
- Maintain the product at regular intervals [see »Maintenance schedule« chapter].
- Only use with compatible clamping elements.

Claims of all kinds will be rejected that are due to unintended use.

Here are some examples of unintended use of the product

- If the product is used on non-intended clamping elements.

2.4 Personal protective equipment

During work, it is essential to wear personal protective equipment to minimize the health hazards.

Always wear the required personal protective equipment when working on any given job.

Always pay attention to any notices about personal protective equipment displayed in the working area.

Always wear



When working, always wear the following items:

Workplace clothing

Workplace clothing should be close-fitting, with low tear-resistance, narrow cuffs and no protruding parts. It serves primarily to protect the wearer from coming into contact with moving machine parts. Do not wear rings, chains or other jewelry.

Safety footwear

To protect the wearer from any heavy items that may fall, and from losing their footing on slippery ground.



Protective goggles

To protect the eyes from projectile parts and liquid splashes.



Hair net

To protect long hair from getting snagged in rotating parts on the machine tool.

Additional personal protective equipment

When carrying out certain work, additional personal protective equipment is required. Separate reference is made to this in the individual chapters of this manual. The following section explains these additional items of personal protective equipment:



Protective gloves

To protect the hands from friction, chafing, stabbing or deeper injuries and from contact with hot surfaces.



Hard hat

To protect against falling and projectile parts and materials.

2.5 Particular hazards

The following section names residual risks resulting from the installation of the clamping element in a product with a changing fixture. In all cases, the residual risks detected during a risk assessment of the machine tool need to be named by the operator.

Pay attention to the safety instructions named here, as well as the warning notices in other chapters of these operating instructions to reduce the risk of health hazards and to prevent dangerous situations.

Improper use



WARNING

Serious injuries caused by a damaged changing fixture!

- A damaged changing fixture must be removed immediately to prevent further use [see »Fault table« chapter].
- If a changing fixture is damaged, contact the manufacturer immediately.

Sharp-edged parts



WARNING

Serious cut injuries caused by sharp-edged parts and burrs!

- All installation of individual parts must be performed by skilled staff from the relevant specialist field.
- Also wear the following items of personal protective equipment, in addition to the basic equipment:



Stroke



WARNING

Serious crushing injuries caused by the stroke of the product!

- Never reach into an area where moving parts are operating.

2.6 Other safety instructions



WARNING

Serious head injuries caused by bending into the working area of the machine!

- Only ever bend into the working area of the machine if there are no cutting tools or sharp objects in it, or if these are covered.
- Never move body parts under parts in the working area of the machine with the potential to drop down.



WARNING

Serious injuries caused by media escaping under high pressure due to missing / damaged seal elements!

- Ensure that all sealing elements for the media ports are present and are undamaged.
- Lubricate the sealing elements before every installation and at every maintenance operation.



WARNING

Serious injuries caused by snagging body parts on the rotating machine spindle!

- Never reach into the product while the machine spindle is still rotating.
- Before working on the product, ensure that the machine spindle is unable to start up.



WARNING

Serious injuries caused by reaching into slots and bores!

- Never reach into slots or bores.



WARNING

Serious injuries caused by the use of damaged products or by their components and accessories!

- Check products or their components and accessories on a regular basis for visible signs of damage [see »Inspections« and »Cleaning« chapters].
- Use of damaged products, their damaged components and/or their damaged accessories is prohibited.
- Report damage to the operator immediately.
- Damaged components / accessories must be replaced with genuine spare parts / accessories made by the manufacturer.



WARNING

Serious injuries caused by parts dropping if the changing fixture is used incorrectly!

- The changing fixture must only be used for installation / removal of the clamping element.



CAUTION

Injuries caused by slipping on escaping media!

- Ensure that media are not able to escape.
- Drain the rest of the product.



CAUTION

Cut injuries caused by sharp edges and burrs resulting from wear and/or repeated rework!

- Remove sharp edges and burrs.
- If necessary, replace worn components with genuine parts made by the manufacturer.

2.7 Screws



WARNING

Serious injuries caused by accidental opening of the fixing screws!

- All fixing screws must not be opened.
- If in doubt, contact the manufacturer immediately to determine how best to proceed.

2.8 Functionality



WARNING

Serious injuries caused by severe contamination of the product!

- Always comply with the cleaning instructions and intervals [see »Cleaning« chapter].

2.9 Environmental protection



NOTE

Substantial damage to the environment can result from non-compliant handling or incorrect disposal of environmentally hazardous substances!

- If environmentally hazardous substances enter the environment accidentally, take immediate remedial action.
- If in doubt, notify the relevant municipal authorities about the incident.

The following environmentally hazardous substances are used:

Lubricants, auxiliary materials and operating fluids

Lubricants such as grease and oil can contain toxic substances. These must not enter the environment.

Dispose of environmentally hazardous substances properly [see »Disposal« chapter].

3 Technical data

3.1 General information

The product is available in various sizes and variants, with each version differing in terms of dimensions and weight.

Minimum actuating pressure $p_{max.}$ [bar]	Maximum actuating pressure $p_{max.}$ [bar]
50	60

Table 1: Technical data

3.2 Performance values



NOTE

Material damage to the products use and/or to the machine tool caused by exceeding the maximum performance values!

- Do not exceed the maximum performance values [see »General information« chapter].
- On all products used, do not exceed the lowest of the maximum performance values.



INFORMATION

Details of maximum performance values can be found on each product.

3.3 Operating conditions

Indication	Value	Unit
Ambient temperature range	15 - 40	°C
Humidity	≤ 80	%

Table 2: Operating conditions

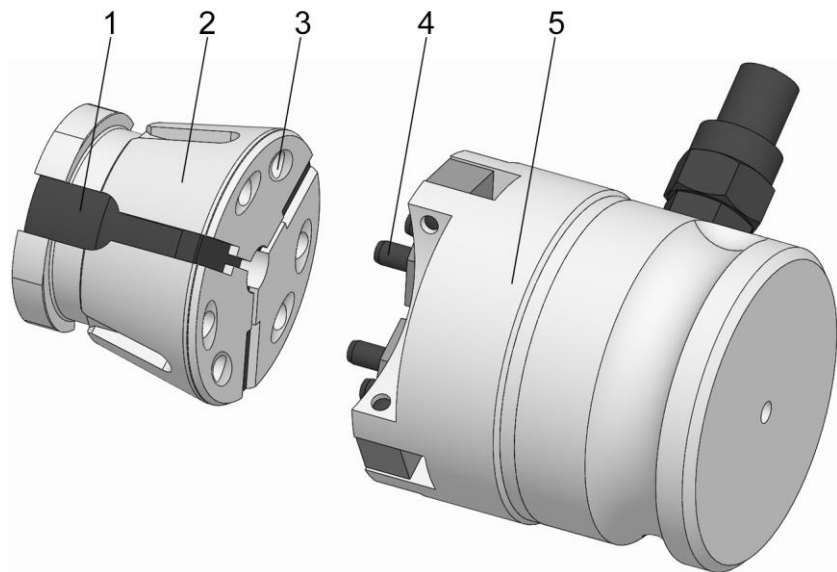
3.4 Type designation

The type designation is on the product and it includes the following indications:

- Manufacturer
- Product designation
- Order number
- Build year
- CE marking

4 Layout and function

4.1 Overview and brief description



- 1 Coupling area
- 2 Clamping head [clamping element]
- 3 Changing holes
- 4 Bracket with pins
- 5 Changing fixture

The changing fixture is designed for the installation and removal of a clamping head in or out of a corresponding clamping device.

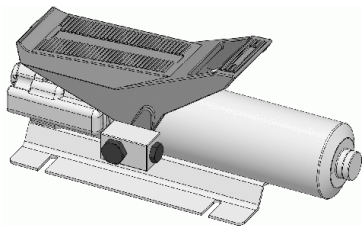
For this, changing holes are needed in the clamping head into which the pins of the changing fixture can engage.

When actuating the changing fixture, the clamping head is compressed in the coupling range which enables it to connect with and to disconnect from the clamping device.

Actuation is hydraulic.

4.2 Optional accessories

4.2.1 Pressure booster



The pressure booster is there to actuate the hydraulic changing fixture.

5 Use

The product is used exclusively to install and remove HAINBUCH clamping heads in and from corresponding clamping devices.

As well as for its general field of application, this product was designed and developed for use, when necessary, in a specific and documented application [see clamping situation drawing or order confirmation].

Any other fields of application require the explicit approval of the manufacturer.

6 Transport, packaging, storage

6.1 Safety, transport, packaging, storage



WARNING

High level of physical strain due to the weight of the product or of its components if not transported properly!

- From a weight of 10 kg, use appropriate transport equipment, lifting gear and lifting tackle.



WARNING

Serious crushing injuries and breakages caused by falling parts if transported incorrectly!

- Ensure that the product cannot roll away or fall.
- Place on a non-slip surface.
- When using lifting gear, use appropriate load-bearing equipment and lifting tackle.



WARNING

Serious injuries caused by transporting off-center equipment!

- Pay attention to marks on the packaging items.
- Attach the crane hook directly above the center of gravity.
- Raise carefully and correct the lifting points if necessary.



WARNING

Serious injuries caused by incorrect transport with lifting gear!

- Never raise loads above people.
- Never step under suspended loads.
- Pay attention to information about the intended lifting points. Ensure that the lifting gear is mounted on a secure base.
- Only use authorized and undamaged lifting gear, load-bearing equipment and lifting tackle.
- Never exceed the maximum load-bearing capacity of lifting gear, load-bearing equipment and lifting tackle.



NOTE

Damage to materials caused by falling parts if transported incorrectly!

- Ensure that the product cannot roll away or fall.
- Place on a non-slip surface.
- When using lifting gear, use appropriate load-bearing equipment and lifting tackle.

6.2 Symbols on the packaging



Fragile

Designates packaging items with fragile or breakable contents.

Handle the packaging item with care. Do not drop it and protect it against collision impacts.



Keep it dry

Keep packaging items dry and protect them from the ingress of water.



Position designation

Points to the correct upright position of the packaging item.

6.3 Transport inspection

Check the delivery on receipt immediately to ensure it is complete and has not been damaged in transit.

Proceed as follows if you find any externally visible signs of damage while in transit:

- Refuse to accept the delivery, or only subject to later approval
- Make a note of the extent of damage on the transportation documents or on the delivery note of the transportation company
- Initiate a complaint



INFORMATION

Raise a complaint for every defect as soon as it is discovered. Compensation claims can only be enforced during the applicable complaint periods.

6.4 Unpacking and internal transportation

The total weight of the product depends on its size.

Depending on the weight involved, it may be necessary to use lifting gear to lift the product or its components out of the packaging safely, to transport them and to position and install them in the machine tool or on the machine table.

1. The product is packaged in a stable position.
2. Lift the product out of its packaging safely and set it down on a stable, flat surface.
3. Secure the product to prevent it from rolling away.
4. When transporting on a trolley or car, ensure that the product is securely mounted on a non-slip surface before starting to move it.

6.5 Packaging

The individual packaging items are packaged in an appropriate manner for the type of transportation involved. Always use environmentally compatible materials for packaging purposes.

Packaging should protect individual components from damage in transit, corrosion and other forms of damage, up until installation. For this reason, do not destroy the packaging, and do not remove it until shortly before installation.



INFORMATION

The packaging units are packaged, wrapped in airtight film and placed in cardboard boxes. On the individual weights of each of the sizes [see »General information« chapter].

Dispose of packaging material in accordance with applicable legislative provisions and local regulations.



NOTE

Damage to the environment caused by improper disposal of packaging materials!

- Dispose of packaging materials in an environmentally responsible manner.
- Pay attention to local disposal regulations and, if necessary, appoint a specialist waste disposal company with this work.

6.6 Storage



INFORMATION

The packaged items may display information relating to storage and readmission to storage that extend beyond the scope of these requirements. Pay attention to these notices.

Store packaged items under the following conditions:

- Safe for storage.
- Do not store outdoors.
- Store in a dry, dust-free place.
- Avoid exposure to aggressive media.
- Protect against direct sunlight.
- Avoid mechanical vibration.
- Storage temperature: 15 to 35°C.
- Relative humidity: Maximum 60%.
- In the event of storage for more than 3 months:
 - On a regular basis, check the general condition of all parts and packaging.
 - If necessary, refresh the preservation or replace it.

6.7 Preservation

1. Clean the product [see »Cleaning« chapter].
2. Apply a light coating of preserving oil to the inner and outer faces of the product. Wipe away surplus preserving oil with a soft, lint-free, tear-resistant cloth.
3. Pack product air-tight in foil.
4. Return product to storage [see »Return to storage« chapter].

6.8 Return to storage

Return product to storage under the following conditions:

1. Preserve the product [see »Preservation« chapter].
2. The product must be stored in a safe condition. Use an appropriate container for the product, on a non-slip surface, or fit the floor of the shelving unit with an all-round safety border.
3. For storage conditions, see the »Storage« chapter.

7 Use

7.1 Use-related safety



WARNING

Serious injuries caused by unskilled staff when using a changing fixture for installation / removal of the clamping element!

- Use of the changing fixture for installation / removal of the clamping element must be performed by skilled staff from the relevant specialist field.



WARNING

Serious injuries can be caused if the machine tool starts up accidentally!

- Set the machine tool into set-up mode.
- Remove all tools, auxiliary equipment and items of test equipment immediately from the working area of the machine.
- Remove all lifting gear from the product and from the working area of the machine.



WARNING

Serious head injuries caused by bending into the working area of the machine!

- Only bend down into the working area of the machine if it contains no cutting tools or sharp objects, or if these are covered.
- Never move body parts under parts in the working area of the machine with the potential to drop down.



WARNING

Serious crushing injuries caused by reaching into the coupling / slot area in the clamping head or into the changing fixture!

- During actuation, never reach into the coupling / slot area in the clamping head or into the changing fixture.



WARNING

Cut injuries caused by failure to wear protective clothing when changing the clamping head!

- Also wear the following items of personal protective equipment, in addition to the basic equipment:



CAUTION

Crushing injuries caused by improper fitting of the changing fixture on the clamping head!

- When fitting the changing fixture, never reach into the area of the changing pins.



In addition to these operating instructions, also read and follow the operating instructions for the relevant clamping device.

7.2 Preparation of the machine for installation

1. Set the machine into set-up mode.
2. Reduce the operating pressure to a minimum.
3. Remove cutting tools and/or sharp objects from the working area of the machine, or cover them.

7.3 Preparation of the changing fixture



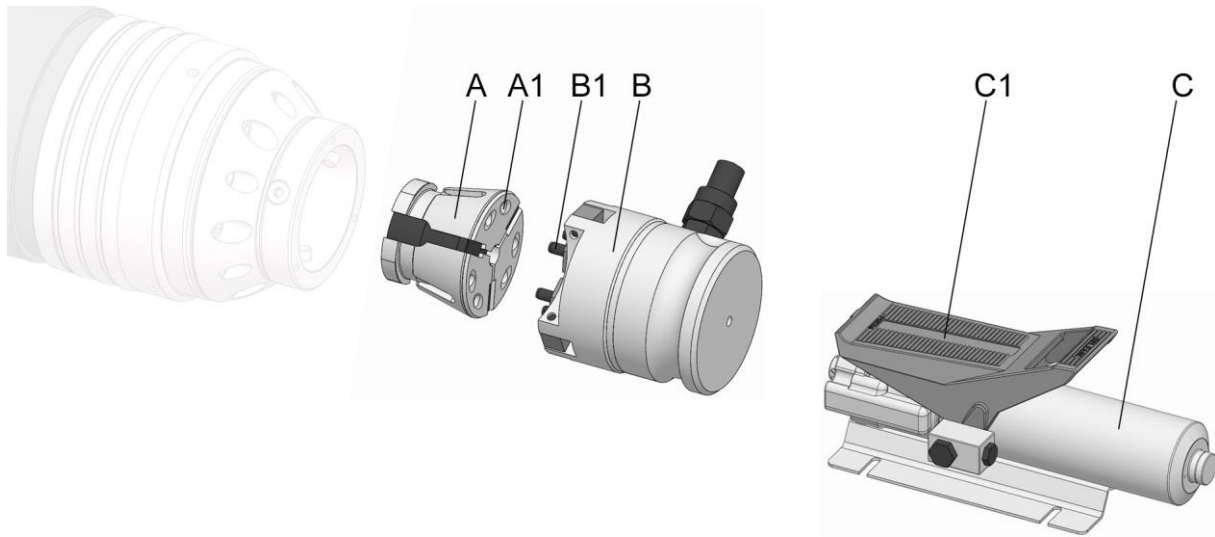
WARNING

Serious injuries caused by escaping media when the coupling slips!

- Ensure that the coupling is securely seated.

1. Set the maximum pressure of the pressure booster using the inlet pressure of the compressed air.
2. Connect the hydraulic hose of the pressure booster with the plug-in nipple on the hydraulic changing fixture.

7.4 Installation of the clamping element



- A Clamping head [clamping element]
- A1 Changing holes in the clamping head
- B Changing fixture
- B1 Changing fixture pins
- C Pressure booster
- C1 Pressure booster pedal

1. As described in the »Preparation of the machine for installation« chapter, prepare for the following steps.
2. Move the clamping device into release position.



WARNING

Serious injuries caused by incorrect installation of the fluid lines!

- Ensure that the fluid lines are connected up correctly.
- Check the hose connections for cracks, and firm seating.

3. Connect the changing fixture to the pressure booster [see »Preparation of the changing fixture« chapter].

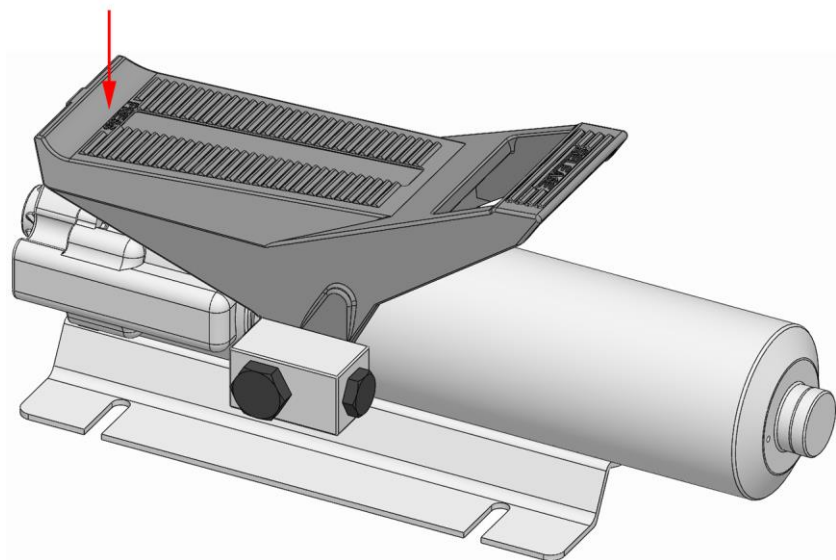


WARNING

Serious crushing injuries caused by reaching into the coupling / slot area of the clamping head when actuating the changing fixture!

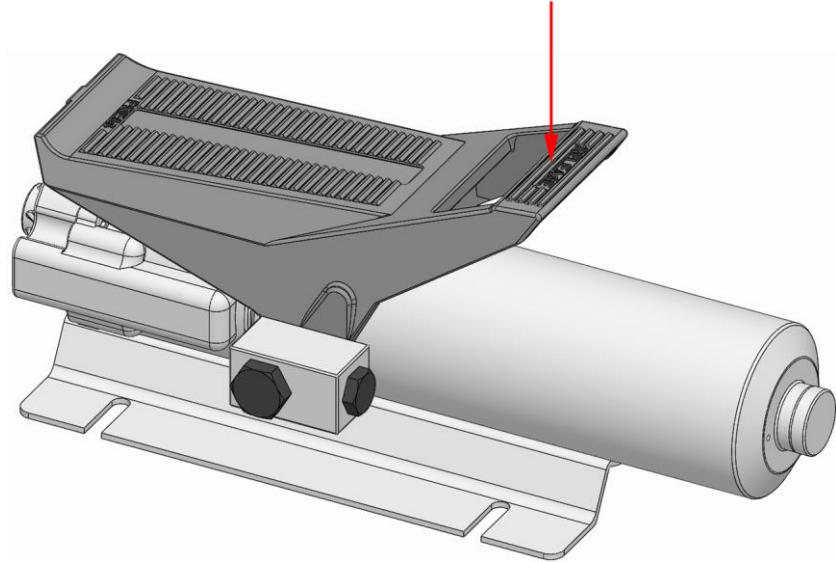
- During actuation, never reach into the coupling / slot area of the clamping head or into the changing fixture.
- Only actuate the changing fixture if the clamping head is placed on a flat surface, or is placed in a storage box intended for this purpose.

4. Place the flat surface of the clamping head down on a flat and stable base, or place in an appropriate holder, with the changing holes on the clamping head facing upwards.
5. Insert the pins of the changing fixture in the changing holes in the clamping head.



6. Press the back pressure booster pedal down until a pumping noise is audible.
7. Once the maximum permitted pressure has built up, release the pedal by removing your foot from it.

8. Install the clamping head with changing fixture in the clamping device [see »Installation of the clamping element« chapter in the operating instructions for the clamping device].

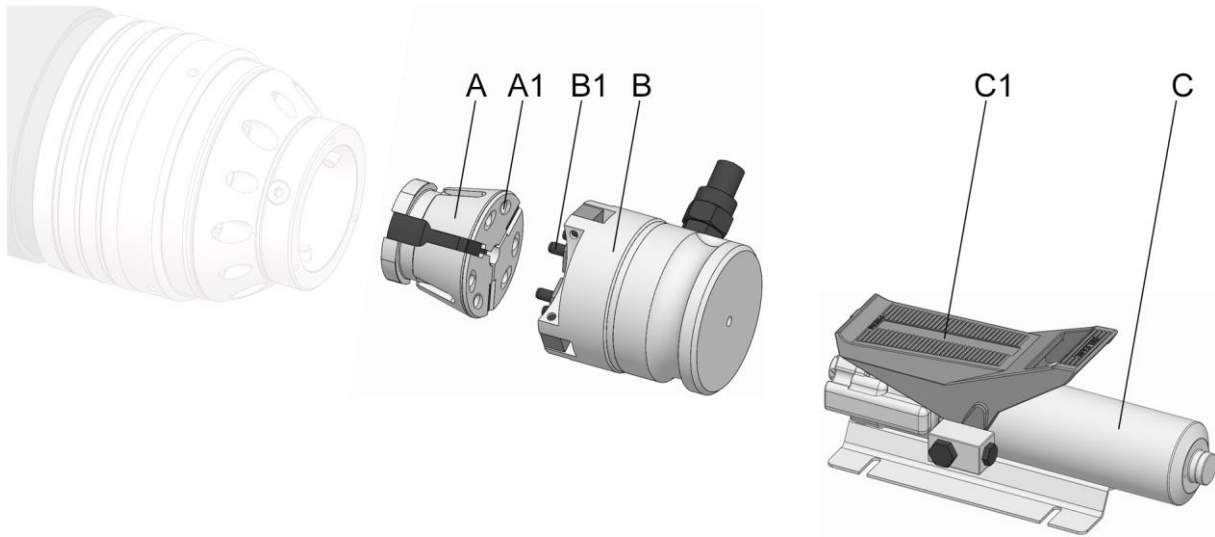


9. When releasing the changing fixture by actuating the front toggle side of the pressure booster pedal, the clamping head is connected up and hydraulic pressure is relieved.

7.5 Preparing the machine for removal

1. Set the machine into set-up mode.
2. Reduce the operating pressure to a minimum.
3. Remove cutting tools and/or sharp objects from the working area of the machine, or cover them.
4. Remove operating and auxiliary materials as well as remaining processing materials and dispose of them in an environmentally responsible manner.

7.6 Removal of the clamping element



- A Clamping head [clamping element]
- A1 Changing holes in the clamping head
- B Changing fixture
- B1 Changing fixture pins
- C Pressure booster
- C1 Pressure booster pedal

1. As described in the »Preparing the machine for removal« chapter, prepare for the following steps.
2. Move the clamping device into release position.

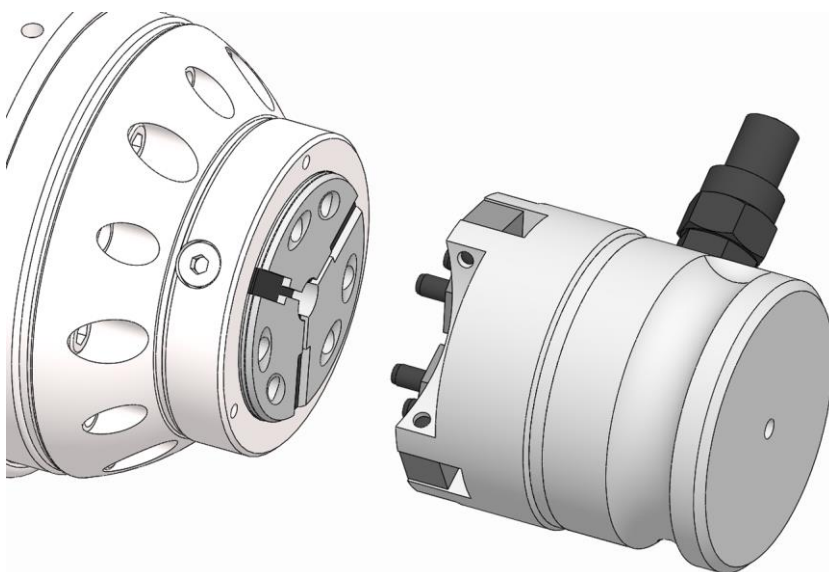


WARNING

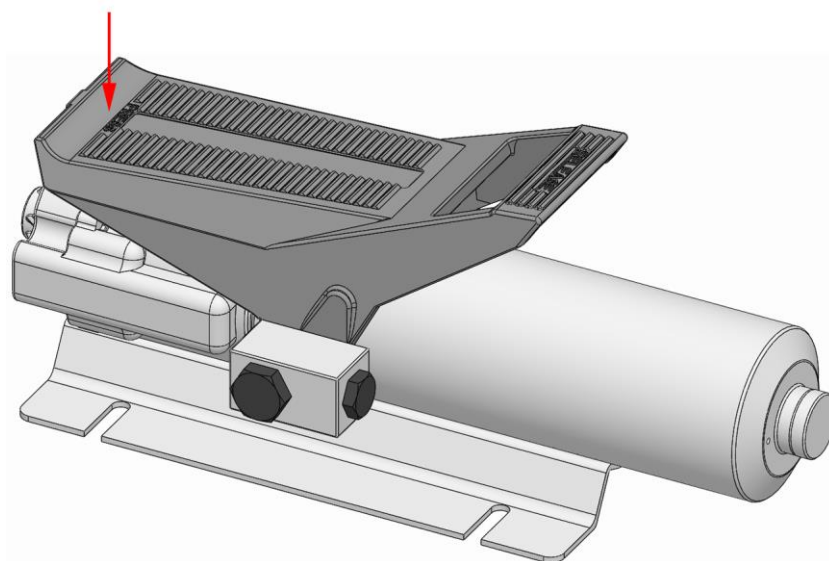
Serious injuries caused by incorrect installation of the fluid lines!

- Ensure that the fluid lines are connected up correctly.
- Check the hose connections for cracks, and firm seating.

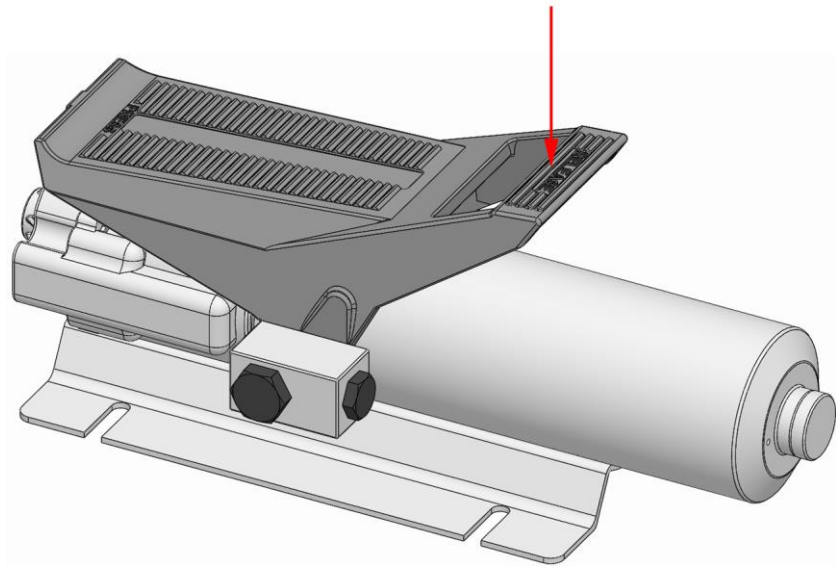
3. Connect the changing fixture to the pressure booster [see »Preparation of the changing fixture« chapter].



4. Insert the pins of the changing fixture in the changing holes in the clamping head.



5. Press the back pressure booster pedal down until a pumping noise is audible.
6. Once the maximum permitted pressure has built up, release the pedal by removing your foot from it.
7. Remove the clamping head with changing fixture from the clamping device [see »Removal of the clamping element« chapter in the operating instructions for the clamping device].
8. Place the flat surface of the clamping head down on a flat and stable base, or place in an appropriate holder, with the changing holes on the clamping head facing upwards.



9. When releasing the changing fixture by actuating the front toggle side of the pressure booster pedal, the clamping head is released and hydraulic pressure is relieved.

7.7 Tests



NOTE

Serious damage to, or destruction of, the machine tool and the workpiece caused by damaged, incomplete or incorrectly installed products!

- Only install undamaged and complete products properly.
- If in doubt, contact the manufacturer.

8 Maintenance

8.1 Maintenance safety



WARNING

Serious injuries caused by parts being ejected centrifugally after a loss of clamping power!

- Maintain the maintenance and cleaning intervals of the product at all times.



WARNING

Serious injuries caused by improper opening of the mechanism!

- All maintenance must be carried out by the manufacturer.



CAUTION

Health risks caused by incorrect handling of cleaning agents!

- Pay attention to hazard specifications and the safety data sheet of the manufacturer.

8.2 Maintenance schedule

The following sections describe the maintenance work needed to ensure optimum and fault-free operation.

Contact the manufacturer for questions relating to maintenance work and maintenance intervals [see »Contact« chapter].



WARNING

Serious injuries caused by non-compliant maintenance!

- All maintenance on the product must be carried out by the manufacturer.

8.3 Cleaning



WARNING

Eye injuries and cuts caused by failure to wear protective clothing during cleaning operation!

- Never use compressed air to clean the product.
- Also wear the following items of personal protective equipment, in addition to the basic equipment:



NOTE

Damage to materials caused by incorrect Removal of the product!

- Never remove the product.



NOTE

Damage to seals caused by the wrong solvent!

- To clean the product, never use a solvent that attacks and damages the sealing elements installed. Those installed sealing elements can be made of NBR, Viton and PUR materials.
- To clean the product, never use a solvent that contains ester, nor a polar solvent.

1. Clean all surfaces on the product that can be accessed without disassembly, using an ester-free, non-polar cleaning agent and a soft, lint-free, tear-resistant cloth, wiping away all oil and grease residue and checking for visual signs of damage.

8.4 Visual inspection

Perform a daily visual inspection of the product to identify any damage to the product at an early stage.

Check the product for cracks and damage.

A check is also required to ensure that all fixing screws are tightened down.

If damage is detected, the relevant components must be exchanged immediately for genuine spare parts from the manufacturer.

Complete cleaning of the product is required if heavily soiled [see »Cleaning« chapter].

8.5 Lubricating the product

The product has lifetime lubrication and does not need to be relubricated by the operator.

9 Disposal

If no agreement exists for return or disposal, send dismantled components off for recycling.



CAUTION

Injuries caused by the accidental escape of media!

- Open the pressure relief screws and drain off the remaining media.
- Dispose of media properly.



NOTE

Substantial damage to the environment can result from incorrect disposal of environmentally hazardous substances!

- The product can only be disposed of when partially drained.



NOTE

Substantial damage to the environment can result from incorrect disposal of environmentally hazardous substances!

- Lubricants, auxiliary materials and operating fluids are governed by legislation for the processing of special-category waste: All disposal to be performed by authorized waste disposal specialists.

Catch exchanged oils and greases in suitable containers and dispose of them in accordance with applicable local provisions.

The local municipal authority or specialist waste disposal companies can provide information about environmentally compliant disposal.

10 Faults

The following chapter describes possible causes for faults, and the work involved in remedial action.

Contact the manufacturer if faults occur that cannot be remedied by following these instructions [see »Contact« chapter].

10.1 Procedure with faults

This applies in all cases:

1. With faults that constitute an immediate danger to people or capital equipment, press the Emergency Stop button on the machine tool immediately.
2. Establish the cause of the fault.
3. If troubleshooting requires work to be conducted in the danger area, switch the machine tool into set-up mode.
4. Notify the person on location of the fault immediately.
5. Depending on the type of fault, get it remedied by authorized and appropriately skilled specialists.



INFORMATION

The troubleshooting table in the following section provides information about who is authorized to remedy a given fault.

6. In the event of a fault not caused by the product, the fault may be caused by something close to the machine tool. For this, refer to the operating instructions of the machine tool.

10.2 Fault table

Fault	Possible cause	Remedial action	Remedied by
Changing fixture does not clamp	Brackets do not tilt enough, or do not tilt at all	Service by HAINBUCH	HAINBUCH
Changing fixture cannot be released	Brackets do not tilt enough, or do not tilt at all	Service by HAINBUCH	HAINBUCH
Clamping force is too weak	Supply pressure too low	Check machine setting and correct if necessary	Skilled specialist
	Seals worn	Check fluid pressure at the ports and replace the seals if necessary	HAINBUCH
Clamping force is too high	Supply pressure too high	Check machine setting and correct if necessary	Skilled specialist

Fault	Possible cause	Remedial action	Remedied by
Fluid loss	Seals worn	Check fluid pressure at the ports and replace the seals if necessary	Hydraulic/pneumatic specialist
	Defective fluid port	Check clamping device port and replace if necessary	HAINBUCH
		Check machine port and replace if necessary	Machine manufacturer
Clamping head cannot be installed	Clamping device not in release position	Clean the product	Skilled specialist
		Check the stroke position	
Clamping head cannot be removed	Contaminated clamping head	Clean the clamping head	Skilled specialist
	Internal workpiece end-stop	Remove the workpiece end-stop [see operating instructions for the clamping device]	
	Changing fixture worn	Service by HAINBUCH	HAINBUCH

Table 3: Fault table

10.3 Commissioning after a fault has been remedied

After the fault has been remedied, perform the following steps to recommission it:

1. Reset the emergency stop equipment.
2. Acknowledge the fault on the control unit of the machine tool.
3. Ensure that no-one is in the danger area.
4. Start the machine tool.

11 Annex

11.1 Contact

The following hotlines are available to you for orders, schedule tracking and emergencies.

Order hotline

Ordered quickly, supplied swiftly. Just phone:

+49 7144. 907-333

Tracking hotline

Current status of your order? Just call:

+49 7144. 907-222

24 hour emergency phone line

Has a system crash occurred, or some other technical emergency?

Our experts are there for you around the clock:

+49 7144. 907-444

For advice or help, you can contact the sales partners and service staff listed in www.hainbuch.com.

11.2 Conformity declaration

The conformity declaration is supplied with the product and with its manual.

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