Original operating instructions

Bike repair stand

Item no. 4000.00-XXXX

KET-LIFT4BIKE

01/2023

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Subject to technical and editorial changes.

Scope

1 Introduction

1.1 Content

These operating instructions describe the safe use of the bike repair stand Ket-Lift4Bike, in the following briefly “repair stand”. It contains important safety instructions that must be observed.

The operating instructions must be made available to all persons who work on and with the repair stand.

The operating instructions must always be complete and in a clearly readable condition.

Please read these operating instructions carefully and observe the safety instructions!

Depending on the design or modification status of the product, differences may occur compared to these operating instructions.

1.2 Other applicable documents

Installation instructions HILTI HSA bolt anchor

Document number: PUB / 5222425 / 000 / 03

1.3 Scope

These instructions apply to the bicycle repair stand „Ket-Lift4Bike“(Item no. 4000.00-XXXX).

1.4 Directives

The bicycle repair stand is in compliance with the following EC directives:

- 2006/42/EG (MD)
- 2011/65/EU (RoHS)
- 2014/30/EU (EMC)

The conformity evaluation procedure was carried out in accordance with the Machinery Directive 2006/42/EC.

1.5 Warnings and symbols used

In these assembly instructions, the following danger levels are used, which include the possible dangerous situations and important safety instructions:

DANGER! Dangerous situation resulting in death.

WARNING! Potentially dangerous situation resulting in death or serious, irreversible injuries.

CAUTION! Dangerous situation with minor or moderate injuries.

INFO! Possible harmful situation with damage to the product or the environment.

2 Safety

Read the safety instructions and information on safe handling in these assembly instructions carefully before starting work.

Keep these operating instructions in a safe place and pass them on to others if necessary.

It is very important for your safety that you understand and follow all the safety information.

Non-observance of the safety instructions can lead to danger to the life and health of persons and to considerable damage to property.

2.1 Personnel - qualification and obligations

Information

All handling activities with the repair stand may only be performed by authorized and qualified persons.

The competent and qualified persons must:

- … be familiar with the applicable accident prevention regulations and safety instructions in the technical documentation and be able to apply them.
- … have been trained and instructed in accordance with the rules of behaviour in the event of a malfunction.
- … have the physical and mental capabilities to handle the repair stand safely.

2.2 Obligations of the operator

Every person who works with the repair stand has a responsibility for their own safety and health.

- Make sure that only authorized and qualified persons handle the repair stand!
- Avoid unsafe and dangerous working practices!
- Have maintenance and safety checks performed only by qualified persons or the manufacturer.

2.3 General safety instructions

The following safety instructions must be observed in all phases of life and during all activities on and with the repair stand.

DANGER!

Risk of electric shock due to damaged live electrical equipment.

• Do not perform any activities if the electrical equipment is damaged.

DANGER!

Electrical hazard due to liquids entering the repair stand.

• Avoid liquids getting into the repair stand.

WARNING!

Danger of being pulled in, caught or gripped by the rotary motion of the spindle drive system.

• Do not interfere with moving parts during operation.

WARNING!

Danger of parts falling over or down.

• Ensure that the bicycle mounting stand is standing stable.

WARNING!

Risk of crushing and impact due to the lifting movement.

• Make sure that there are no living beings or objects in the danger zone of the repair stand.

WARNING!

Risk of breakage due to incorrect installation or non-observance of the operating data.

• Observe all safety instructions and information in these operating instructions during installation, start-up and operation.

WARNING!

Danger from a falling bicycle in case of incorrect attachment.

• Observe all instructions for securely fastening the bicycle to the repair stand.

CAUTION!

Risk of cut injuries from dangerous surfaces.

• Wear suitable protective gloves.

CAUTION!

Risk of tripping and falling due to the base plate and the transport rollers.

• Pay attention to the risk of tripping due to the step on the base plate and the transport rollers.

In dangerous situations, immediately press the emergency stop button by pressing the red pushbutton.

After pressing the emergency stop button, the repair stand is electrically disconnected and all movements are safely switched off.

Before resetting the emergency stop button, the reason for the hazardous situation must be eliminated. To reset the emergency stop button, turn the pushbutton to the left or right until it jumps back.

When cleaning a bicycle on the assembly stand, avoid liquids getting into the housing, electrical equipment or the accessory power sockets.

Avoid cleaning under high pressure, e.g. using a water hose or high-pressure cleaner.

The guide and spindle drive system as well as the accessory power sockets, the hand switch or the foot switch can be damaged by liquids getting into them.

If liquids enter electrical equipment, there is a risk of an electrical short circuit or malfunction.

When using the repair stand with the base plate and without further fixation, the stability factor is > 2.

When working on the bicycle in the highest position, no more than 10 kg of pressure should be applied to the bicycle to prevent the bicycle stand from falling over.

2.4 Use

2.4.1 Intended use

The electrically powered bicycle repair stand is designed to raise and lower bicycles with a mass up to 50 kg via its integrated motorized spindle drive system.

The mounting clamps and holders offered as accessories are approved for safe use by the manufacturer. Other accessories may be used at the user's own risk and responsibility.

2.4.2 Foreseeable misuse

Advice:

In case of misapplication, Ketterer is not liable for property damage, personal injury or possible consequential damage.

Misapplications can be:

- Disregard of the permitted operating data and instructions for use.
- Use in outdoor areas.
- Disregard of the mounting instructions.
- Lifting and lowering objects other than a bicycle (e.g. living beings).
- Use as a cleaning station for bicycles using a water hose or high-pressure cleaner.

2.5 Residual risks

Despite all actions taken to integrate safety in the design, the safety devices and the supplementary safety instructions, residual risks cannot be completely eliminated.

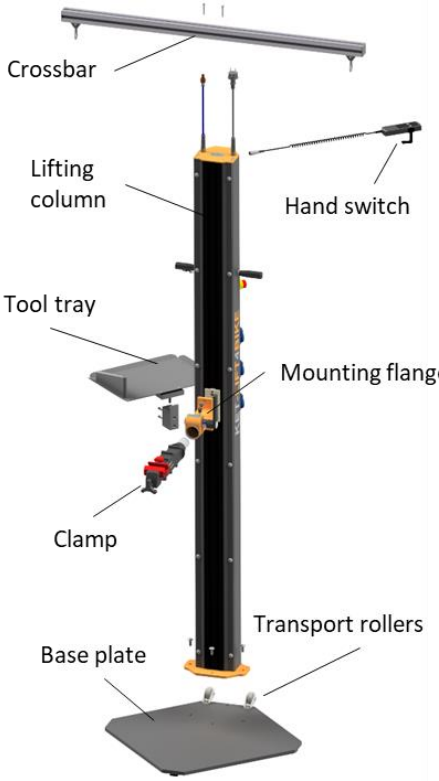
You can reduce residual risks by observing the safety instructions and the intended use.

Residual risks can be:

- Risk of cuts on dangerous surfaces.
- Risk of tripping and falling due to the base plate and the transport rollers.
- Risk of crushing or impact due to the lifting motion.
- Danger due to uncontrolled movements of the bicycle when releasing the clamping lever.
- Danger due to lack of maintenance or failure to carry out maintenance work as well as mechanical and electrical inspections.
- Danger due to unsecured parts during transport

3 Product information

3.1 Description of the Ket-Lift4Bike



The bicycle repair stand Ket-Lift4Bike uses a powerful electric spindle drive system that can lift bicycles with a mass up to 50 kg to an ergonomic and safe working height.

Standard scope of delivery:

- 1 lifting unit with:
  - Hand switch
  - Connection for footswitch
  - 2 Schuko sockets
  - 1 USB socket
  - 1 compressed air connection NW7.2

Available accessories:

Description	Part number
Base plate 600 x 600 mm with 2 transport rollers and 4 rubber feet	4000.35-0002
Crossbar with 2 sliding hooks	4000.38-0001
Tool tray	4000.19-0001
2-way air switch with coupling sockets	PN4000-03
Mounting flange for Feedback or VAR clamp	4000.01-0001
Clamp FEEDBACK	4000.37-0001
Clamp VAR	4000.37-0002
Clamp Tip-Top incl. fixing material	4000.37-0003
Steering bar clamp with Velcro fastener	4000.37-0004
Footswitch	4000.47-0002

Spare parts:

Description	Part number
Compressed air hose	PN4000-05

3.2 Technical data / operating conditions

Technical data / operating conditions	
Dimensions (l x w x h) Width with Crossbar Base plate Weight	760 mm x 740 mm x 2.019 mm 1.210 mm 600 mm x 600 mm x 15 mm 81 kg
Max. travel Minimum height Maximum height	1.635 mm 345 mm 1.980 mm
Maximum lifting speed	80 mm/s
Operating mode Duty cycle	Jog mode 1 minute ON / 5 minutes OFF
Temperature range Humidity	+ 0°C up to + 40°C max. 90% rF 20°C
Supply voltage	230 V AC, 1 L, N, PE, 50 Hz
Protection class	IP 30
Mains cable Length Quality	Protective contact connection cable 3,5 m H07 RNF
Maximum loads Clamp Tool tray Carabiner	 50 kg 5 kg 5 kg
Accessory socket	230 V AC, 1 L, N, PE, 50 Hz 16 A IP 54
USB-Ports	2 Type-A 5 V/ 2,1 A DC IP 54
Maximum pressure (compressed air)	6 bar

4 Transport / Unpacking / Storage

Observe the general safety instructions for all activities at transport, unpacking and storage!

WARNING!

Danger from falling or tipping parts.

• Always secure the repair stand with a second person when unpacking.

Transport:

- During transport, the repair stand must be protected from dust, shocks and moisture.
- Keep the repair stand within the temperature range of - 25°C to + 55°C during transport.
- Lift heavy parts only with the help of a second person or use a suitable lifting device.
- Never lift the repair stand by the flange for the mounting clamp.
- Remove or secure all moving parts before moving the repair stand.
- To move the repair stand, hold it by the two handles.

  Note: Tilting the repair stand during moving produces a force of approx. 22 kg.

Unpacking:

General instructions:

- Only move the unassembled repair stand with a second person or suitable lifting equipment.
- Do not use sharp objects to remove the packaging.
- Remove all packaging components completely.
- Dispose of all packaging components in accordance with the disposal regulations applicable in the country of use.
- Leave the repair stand flat on the ground until you set it up.

Version <u>with</u> base plate:

- Remove the packing strap and always lift the bicycle assembly stand from the pallet with a second person or a suitable lifting device.

WARNING!

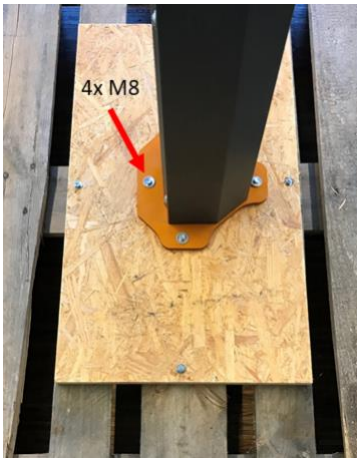
Danger due to the repair stand falling over before installation.

• Do not stay in the danger zone of loads.

• Always secure the repair stand with a second person or a suitable lifting device to prevent it from tipping over.

Version <u>without</u> base plate:

- Loosen the 4xM8 screws on the base repair stand stand. A second person must secure the repair stand against falling over.



Storage:

- Protect the repair stand from dust, shock and moisture during storage.
- Keep a temperature range of - 15°C to + 70°C and a humidity of max. 70% rH during storage.

5 Assembly

Observe the general safety instructions for all activities at assembly!

Danger of electric shock due to incorrect installation or damage to live electrical equipment.

- Carry out the mechanical assembly before the electrical connection.
- Check all electrical equipment for damage before the electrical connection.
- Before the electrical connection, check whether the voltage supply is suitable and protected by a differential current circuit breaker (RCD) with a rated current of 30 mA.

DANGER!

Danger of falling objects.

- Do not stay in the danger zone of loads.
- Always lift heavy components with a second person or with suitable lifting equipment.
- Observe the assembly instructions.
- Use suitable personal protective equipment such as protective gloves and safety shoes during assembly.

WARNING!

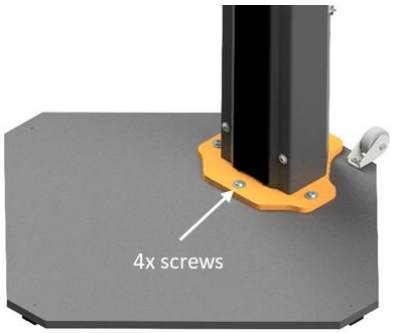
Preparatory activities:

- Inspect the repair stand for damage to the exterior of the mechanical and electrical components.
- Remove all packaging components.
- Select a firm, stable and level surface for the repair stand.

5.1 Setting up the repair stand

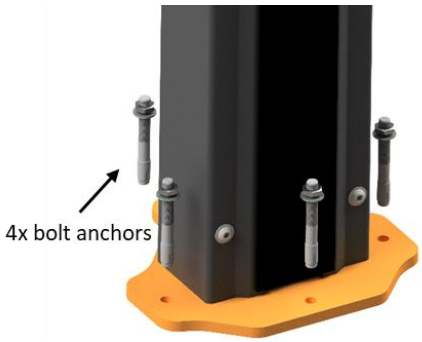
There is a risk of falling over when the repair stand is set up. Set up the repair stand with at least two persons

5.1.1 Setting up <u>with</u> base plate



- Depending on the version ordered, the base plate with 2 transport rollers and 5 rubber feet is already preassembled.
- Select an installation place with a level, solid surface.
- If it is necessary to install the base plate, place the lifting column on the base plate with a second person and screw it down with the enclosed M10x25 screws. Tightening torque: 40 Nm.

5.1.2 Setting up <u>without</u> base plate

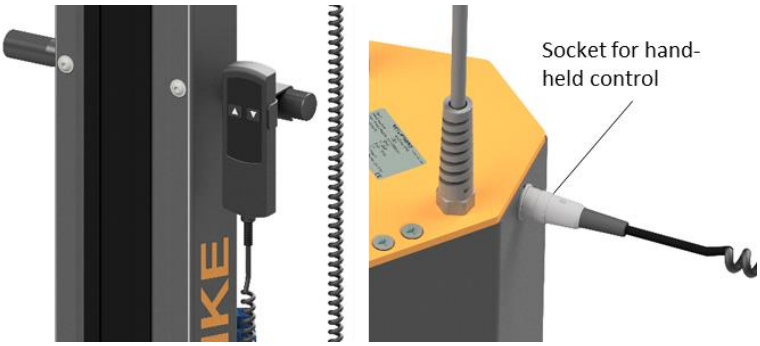


- Select an installation place with level, non-cracked concrete floor C 20/25 or up to C 50/60.
- Use only the enclosed 4 bolt anchors HSA M10x83.
- Two people are required to mark the borehole pattern, one person must ensure that the repair stand is standing securely. The second person draws the 4 mounting holes on your desired set-up position.
- Before drilling, be sure to double-check the correct dimensions of the marked drilling pattern using the drawing in the annex.
- Observe the attached installation instructions (PUB / 5222425 / 000 / 03) for safe installation of the bolt anchors.
- Drill 4 holes with Ø 10 mm and a depth of 55 mm.
- Clean the holes.
- Carefully insert the bolt anchors into the hole using a hammer.
- Check whether the bolt anchors are in contact with the base plate.
- Tighten the nuts firmly. Tightening torque: 25 Nm.

5.2 Installation of the hand switch

Connect the hand switch to the repair stand:

- Connect the plug of the connecting cable of the hand switch to the designated socket at the **top** of the repair stand and tighten the fastening nut only slightly.
- The hand switch may only be connected in the **upper** socket.
- The hand switch can be hooked onto the handles using the integrated holder.



5.3 Mounting the foot switch (optional)

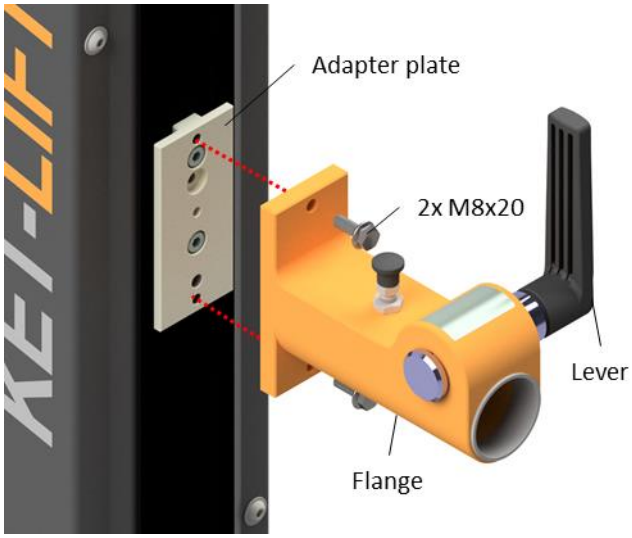
Connect the foot switch to the repair stand:

- Connect the plug of the connecting cable of the foot switch to the provided socket at the **bottom** of the bicycle mounting stand and tighten the fastening nut only slightly.
- The foot switch may only be connected in the **lower** socket.

5.4 Mounting the VAR / FEEDBACK clamp

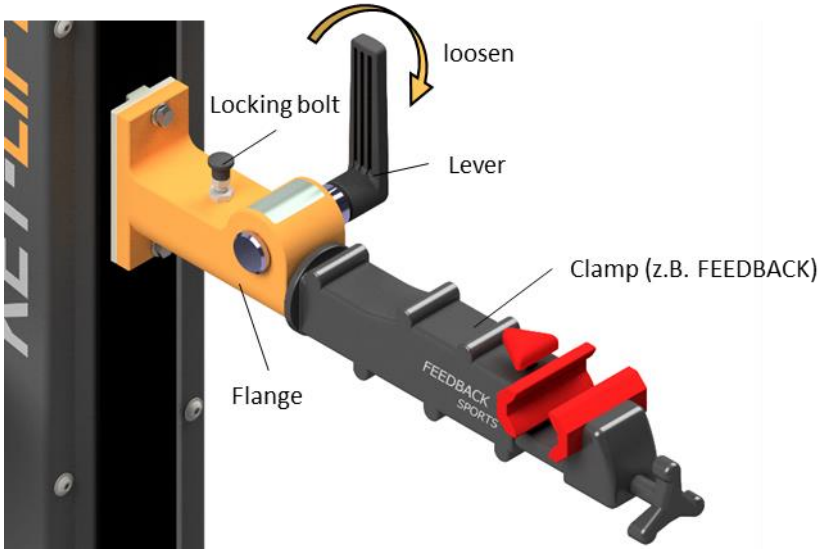
First mount the flange onto the adapter plate:

- Screw the flange onto the adapter plate using the two DIN 6921 M8x20 screws supplied. Tightening torque: 20 Nm.

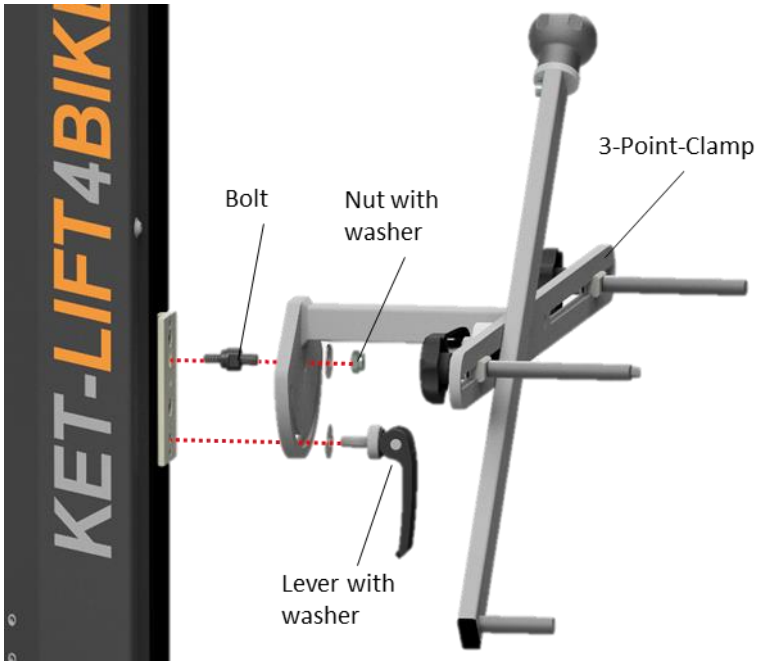


Insert the clamp into the flange:

- Loosen the lever by turning it in the front direction (see arrow).
- Push the clamp into the flange as far as it will go. The locking bolt must click audibly ("click") into place!
- Check for tight fit by pulling the clamp.
- Tighten the lever.



5.5 Mounting the 3-Point-Clamp Tip-Top



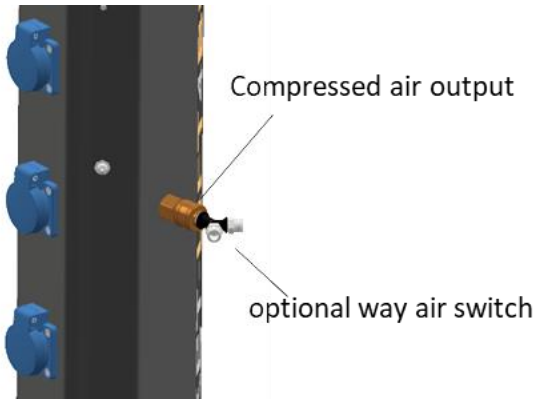
Mount the 3-point clamp directly onto the adapter plate:

- Screw the bolt into the adapter plate. Tightening torque: 20 Nm.
- Push the 3-point clamp onto the bolt and hold it firmly.
- Mount the nut with washer on the bolt. Tighten the nut and then loosen it again by about ¼ turn. This allows the holder to turn.
- Mount the lever with washer.

5.6 Compressed air connection

Observe the following instructions when connecting your compressed air equipment:

- The compressed air connection may only be connected by authorized persons.
- Connect your compressed air source to the repair stand.
- Maximum working pressure: 6 bar.

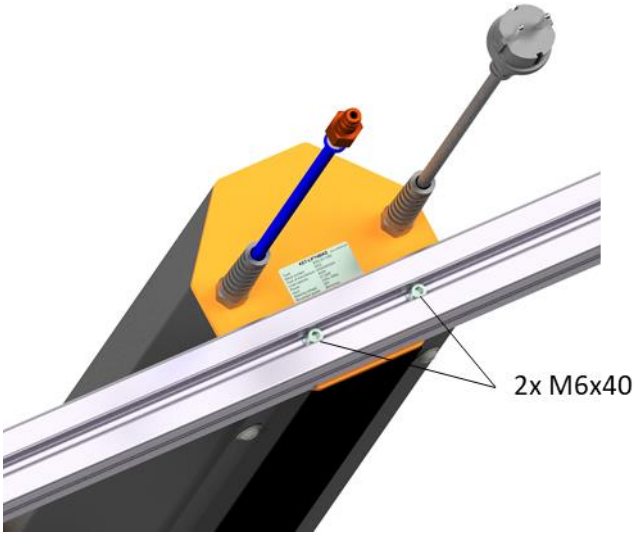


- Connect your compressed air tool to the compressed air outlet on the repair stand.
- Only connect the compressed air connection to the compressed air tool via a quick-release coupling.
- Regulate the working pressure setting with a pressure reducer.

5.7 Mounting the Crossbar (optional)

- Tighten the Crossbar with the M6x40 bolts.

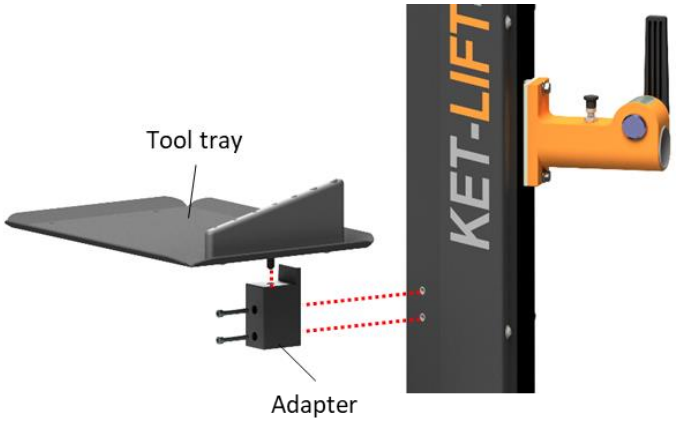
  Tightening torque: 8 Nm.



5.8 Mounting the tool tray (optional)

- Screw the tool tray adapter to the side of the repair stand using the two M6x80 screws supplied.

  Tightening torque: 5 Nm.
- Plug the tool tray onto the adapter.



5.9 Electrical connection

- Check the mains voltage before connection to ensure that it complies with the manufacturer's specifications.
- Make sure that the power supply is protected by fuses and a differential current circuit breaker (RCD) with a nominal current of 30 mA.
- Plug the power supply cable into a suitable socket.

6 Start-up

Observe the general safety instructions for all activities at start-up!

Start-up activities:

- Before start-up, make sure that all mechanical and electrical installation work has been carried out correctly.
- Before start-up, check that all packaging components have been removed.
- Check the function of the emergency stop. It must not be possible to move the repair stand after the emergency stop has been pressed.
- Do not start-up the machine if the emergency stop is faulty and contact the manufacturer.

WARNING!

Danger due to incorrect assembly or function.

• Do not stay in the danger zone of the repair stand.

• Carry out an unloaded cycle for start-up.

- Travel to the lowest position with the hand switch by pressing the "Down" key.

  The lifting movement is automatically stopped when the lower end position is reached.
- Then move to the top position with the hand switch by pressing the "Up" key

  The lifting movement is automatically stopped when the upper end position is reached.

7 Operation

Observe the general safety instructions for all activities at operation!

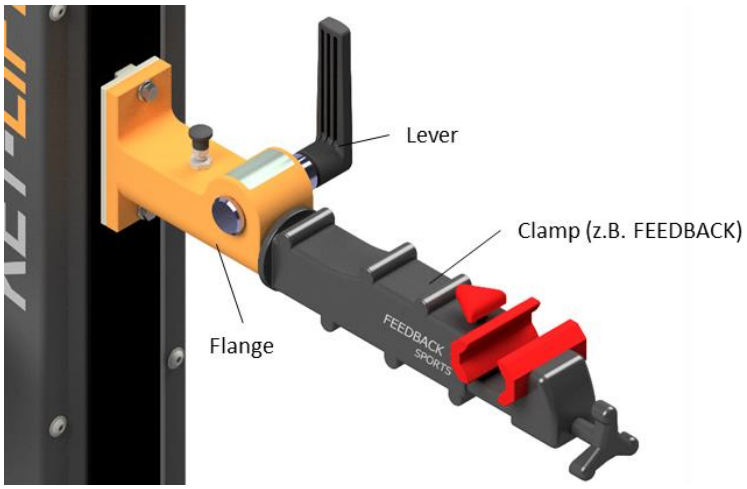
7.1 Mounting the bicycle with the clamp

Ensure that the bicycle is firmly fixed in the clamp at all times. A loose fit can lead to injuries and material damage.

If you release the lever with the bicycle mounted, you must hold it with one hand to prevent the bicycle from turning. Depending on the weight of the bicycle, a dangerous momentum is created.

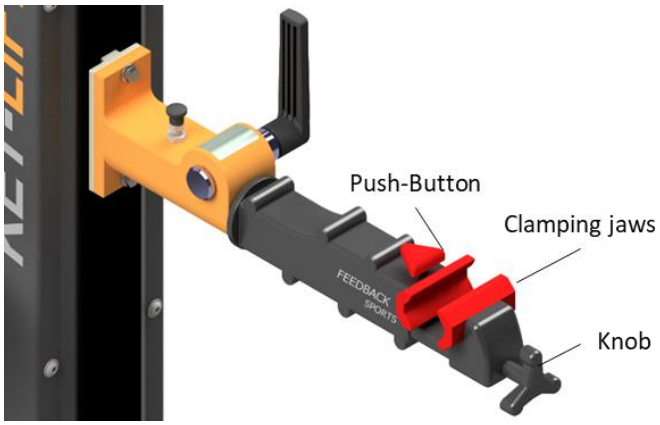
Preparatory activities:

- Place the bicycle in front of the repair stand and adjust the clamp to an appropriate height.
- Loosen the lever on the flange to adjust the angle of the clamp to the mounting position on the bicycle frame.
- Tighten the lever on the flange.



7.1.1 Feedback Clamp

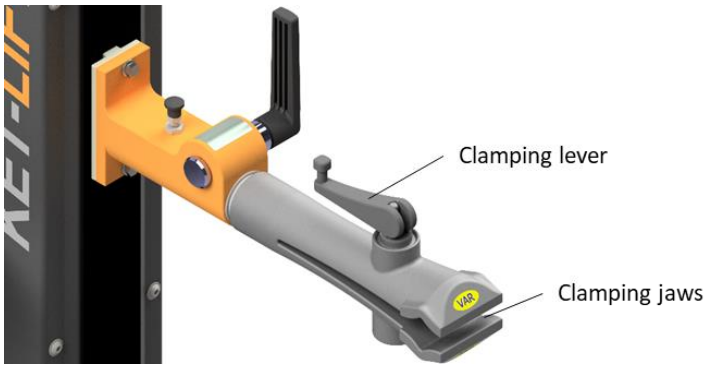
Caution! The clamping jaws immediately open completely when the push button is pressed. This can cause the bicycle to fall out of the clamp.



- Open the clamp jaws via the push button and hang in the bicycle with the seatpost or frame in the clamp jaws and push them together. Choose a point close to the center of gravity of the bicycle.
- Secure the bicycle by tightening the knob.
- Adjust the clamping force so that the bicycle is securely fixed, but not damaged.

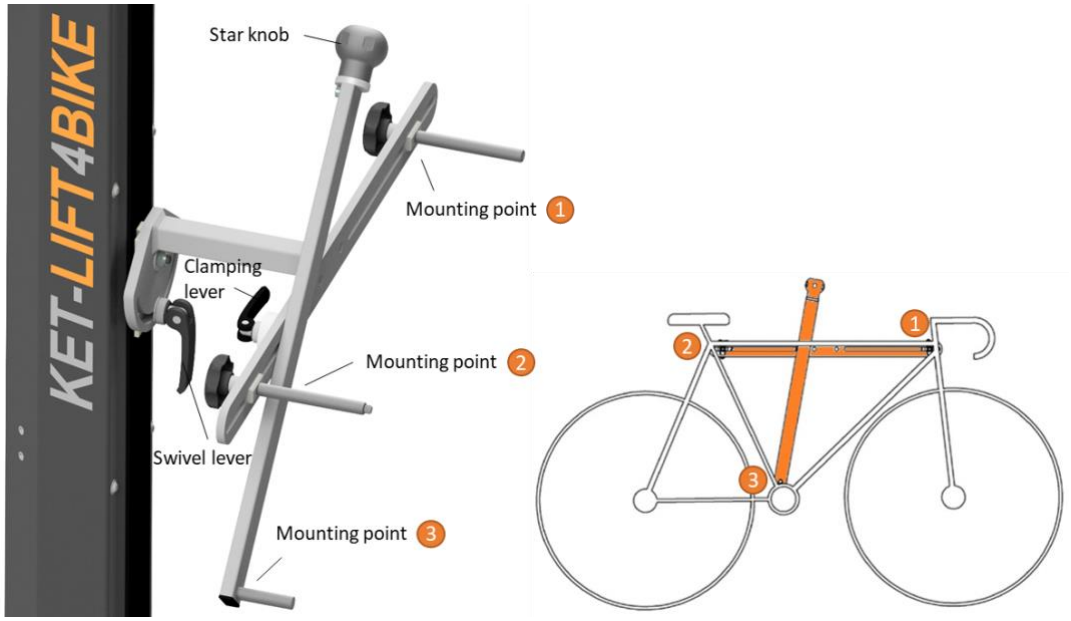
7.1.2 VAR Clamp

Caution! The clamping jaws immediately open completely when the clamping lever is turned. This can cause the bicycle to fall out of the clamp.



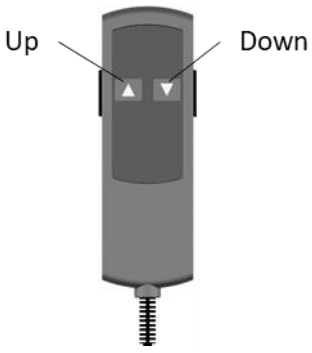
- Open the clamping jaws by turning the clamp lever and hang the bicycle with seatpost or frame. Clamp the bicycle by turning and flipping the clamping lever. Choose a point close to the center of gravity of the bicycle.
- Adjust the clamping force so that the bicycle is securely fixed, but not damaged.

7.1.3 3-Point Clamp



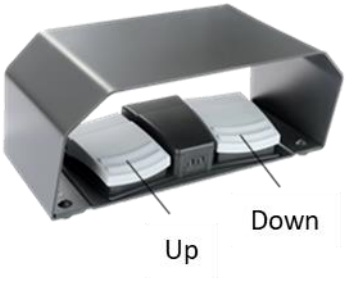
- Adjust the 3 mounting points roughly to the geometry of the bicycle.
- Adjust the 3 mounting points roughly to the geometry of the bicycle.
- Push mounting point 1 all the way out and fix the position with the star knob.
- Hook the bicycle into the clamp.
- Push mounting point 2 outwards so far that the frame is clamped without clearance. Secure the bicycle by tightening the star knob.
- Release the clamping lever and tighten the mounting point 3 by moving the ball handle between the seat tube and down tube.
- Secure the bicycle by turning the clamping lever over.
- You can swivel the bicycle by loosening the swivel lever.
- Tighten the clamping lever again in the preferred position.

7.2 Control



Control via the hand switch:

- Move the bicycle up or down by holding the button on the hand switch. The movement stops after releasing the button.
- You can hang the hand switch on the handlebars or at a suitable position on the bike while you are working. Make sure that the cable is not pinched or damaged.
- Stop the movement before the bicycle touches the ground.



Control via the foot switch:

Move the bike up or down by pressing the respective button on the foot switch. The movement stops after the button is released.

- Be aware of the risk of tripping over the foot switch.
- Stop the movement before the bicycle touches the ground.

You may only plug in the hand switch or the foot switch at the same time. Operation via both control devices is not possible.

7.3 Automatic collision detection

If you cause a collision when moving the bicycle downwards, this will be detected automatically.

The drive system stops immediately and moves up automatically by approx. 3 - 5 cm.

Please avoid collisions despite the automatic detection. The lifetime of the drive system as well as your bicycle can be negatively influenced by collisions.

7.4 Notes on using the accessory sockets

The repair stand has two protective contact sockets and two USB sockets type-A.

- Maximum total power of all consumers 3.000 W.
- Electrical cables must not be placed in traffic areas and must not be damaged by the lifting movements of the repair stand.
- Never let any liquids enter the sockets.

7.5 Notes on the use of the compressed air

- Observe the safety instructions in these operating instructions and the respective manufacturer's instructions for the safe use of the compressed air equipment.
-

8 Maintenance

Observe the general safety instructions for all activities at maintenance!

Preparatory activities:

DANGER!

Risk of electric shock from live electrical equipment.

• All electrical tests and maintenance may only be performed by a qualified electrician in accordance with generally accepted electrical engineering standards.

WARNING!

Danger of unexpected start-up due to unauthorized restart during maintenance.

• Secure the repair stand against unauthorized restarting.

Notes on maintenance:

- Maintenance work may only be carried out by qualified and trained persons.

Subject	Periods	Inspections
Hand switch / foot switch	Before any use	Check for visible damage and correct function.
Mains cable	Before any use	Check for visible damage to the cable and strain relief.
End position switches (load free)	Every 3 months	Approaching the lower end position: Switch-off at approx. 345 mm above ground. Approaching the upper end position: Switch-off at approx. 1980 mm above ground.
Emergency stop (load free)	Every 3 months	Check of the function of the emergency stop button by actuation and unlocking.
Electrical equipment Ordinance on Industrial Safety and Health	Observe the regulations on the operation of electrical equipment in the country of use.	

9 Disposal

Observe the general safety instructions for all activities at disposal!

The disposal of the repair stand (mechanical and electrical machine parts, operating materials) is subject to the local disposal regulations and the environmental protection laws in the country of use.

Do not dispose any components of the repair stand with household waste.

10 Service / Repair

In case of service, repair or spare part orders, please contact the manufacturer:

B. Ketterer Söhne GmbH & Co. KG

Bahnhofstraße 20

78120 Furtwangen / Germany

Phone: +49(0)77 23 / 6569 - 10

E-Mail: info@ketterer.de

Internet: www.ketterer.de

11 Troubleshooting

Observe the general safety instructions for all activities at troubleshooting!

DANGER!

Risk of electric shock due to live electrical equipment.
• Have all electrical maintenance and tests performed by a qualified electrician only.

Malfunction	Possible cause	Possible Solution
Repair stand cannot be moved	Voltage supply missing	Connect and check power supply
	Emergency stop activated	Reset emergency stop
	Fuse in the Power distribution has triggered	Switch on automatic circuit breaker again
	Power supply line is damaged	Maintenance by a qualified electrician
	Mechanical blockage	Switch off, de-energize, remove mechanical blockage
	Mains voltage missing	Check mains voltage, restore power supply
	Motor is too hot e.g. duty cycle exceeded	Allow motor to cool down
Motor runs but the spindle does not move	Gear wheel or spindle damaged	Send repair stand for repair
Repair stand cannot lift the full load (50 kg)	Power supply damaged	Have mains power supply checked
	Motor damaged	Send repair stand for repair
Motor runs too slowly or not with full power	Power supply damaged	Have power supply checked

For all other malfunctions, please contact the manufacturer:

B. Ketterer Söhne GmbH & Co. KG
Bahnhofstraße 20
78120 Furtwangen

Phone: +49(0)77 23 / 6569 – 10
E-mail: info@ketterer.de

Please have the following information ready:

- Nameplate data
- Type and extent of malfunction

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- **Drilling pattern of the base plate**

  Use this drawing of the base plate to check your marked drilling pattern (drawing not true to scale).