Instruction Manual

Universal bending machine

UB 10

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Imprint

Product identification

Universal bending machine	Item number
UB 10	3776010

Manufacturer

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Indications regarding the operating instructions

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1 Introduction

You have made a good choice by purchasing the METALLKRAFT Bending machine.

Read the operating manual thoroughly before commissioning the machine.

It gives you information about the proper commissioning, intended use and safe and efficient operation and maintenance of your bending machine.

The operating manual is part of the bending machine package. Always keep this operating manual in the location where your bending machine is being operated. All local accident prevention regulations and general safety instructions for the operating range of your bending machine must also be complied with.

1.1 Coypright

1.2 Customer service

Please contact your dealer if you have questions concerning your Bead bending machine or if you need technical advice. They will help you with specialist information and expert advice.

Germany:
Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

Repair service:

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E-Mail: service@stuermer-maschinen.de
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We are always interested in valuable experience and knowledge gained from using the application-which then could be shared and be valuable to develop our products even further.

1.3 Limitation of liability

All information and notes in these operating instructions were summarised while taking applicable standards and rules, the state-of-the-art technology and our long-term knowledge and experiences into consideration.

In the following cases the manufacturer is not liable for damages:

- Non-observance of the operating instructions,
- Inappropriate use
- Use of untrained staff,
- Unauthorised modifications
- Technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may deviate from the explanations and presentations described here in case of special models, when using additional ordering options or due to latest technical modifications.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery condi-tions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicable.

2 Safety

This section provides an overview of all major safety pac-kages for personal protection and safe and trouble-free operation. Further task-related safety instructions are contained in the individual chapters.The term "machine" below replaces the usual trade name of the object to which these operating instructions refer (see cover sheet).

2.1 Symbol explanation

Safety instructions

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.

DANGER!

This combination of symbol and signal words indicates an imminently dangerous situation which may lead to death or severe injury if not avoided.

WARNING!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to death or severe injury if not avoided.

CAUTION!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to slight or minor injury if not avoided.

NOTE!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to material or environmental damage if not avoided.

Tips and recommendations

Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for an efficient and trouble-free operation.

It is necessary to observe the safety notes written in these operating instructions in order to reduce the risk of personal injuries and damages to property.

2.2 Requirements to staff

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.

WARNING!

Danger in case of insufficient qualification of the staff!!

Insufficiently qualified persons cannot estimate the risks while using the vacuum cleaner and expose themselves and others to the danger of severe or lethal injuries.

- Have all works only performed by qualified persons.
- Keep insufficiently qualified persons out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine.

The qualifications of the personnel for the different tasks are mentioned below:

Operator

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be per-formed beyond the operation in the standard mode must only be performed by the operator if it is indicated in these instructions and if the operating company expressively commissioned the operator.

Qualified personnel

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

Manufacturer

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

2.3 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protec-tive equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:

Eye protection

The goggles protect the eyes from flying parts and liquid splashes.

Protective gloves

The protective gloves serve to protect the hands against sharp components as well as against friction, abrasions or deep injuries.

Safety boots

Safety boots protect the feet from being crushed, falling parts and slipping over on slippery ground.

Protective clothes

Protective clothes are made of a tightly fitted fabric without the protruding parts of low tear strength.

2.4 General safety instructions

Please note the following:

- Use the guards and secure them securely. Never work without guards and get them working.
- Always keep the machine and its working environment clean. Ensure adequate lighting.
- The universal bending machine must not be modified in design and should not be used for purposes other than those foreseen by the manufacturer.
- Never work under the influence of concentration-disturbing illnesses, fatigue, drugs, alcohol or medicines.
- Keep children and persons not familiar with the Universal Bending Machine away from their work environment.
- Eliminate disturbances that affect safety immediately.
- Protect the universal bending machine from moisture.
- Before each use of the Universal Bending Machine, make sure that no parts are damaged. Damaged parts must be replaced immediately to avoid any danger.
- Do not overload the universal bending machine! You work better and safer in the specified performance range. Use the right tool! Make sure the tools are not dull or damaged
- Only use original spare parts and accessories to avoid possible dangers and accident risks.
- To avoid injury from crushing, pay attention to the shearing edges during transport, cleaning and when using the machine.
- Always make sure that you never get any body parts into the bending area when using the machine.
- Avoid unnatural posture and maintain balance at all times. Wear work shoes to increase their stability.
- If you pass on this bending machine, you must hand over all the tools and documents supplied with the bending machine.
- Due to the forces occurring during the forming process, the machine must be firmly connected to the ground to absorb the reaction forces.
- Before and during work, check the work area so that there are no unauthorized persons in it. Do not allow the bending machine to be touched by other persons, especially children.
- Maintain the machine with care. Keep the bending machine clean in order to be able to work well and safely in the long term. Follow the instructions for maintenance.
- Remove oil and grease residues from the handle and keep it dry.
- Observe the maximum dimensions of the workpieces given in the technical data
- Before starting the bending machine work, find out about the type of material to be processed.
- Do not overload the bending machine. It works better and safer in the specified field of application.
- Check the stability of the machine and, if necessary, the secure screw connection with the foundation.
- Please note that the use of other tools and other accessories may result in injury to you.
- Always work on only one workpiece.
- Damaged machine parts must be replaced or repaired as intended by a recognized specialist workshop.
- Make sure that only original spare parts are used during repairs. Otherwise, the operator is at risk of accidents.

3 Intended Use

The universal bending machine is suitable for bending flat, rectangular and round sections and for heating pipes. A rational way to bend usual shapes and curves. The machine is light enough and can be carried to different workplaces.

The compact dimensions of the Universal Bending Machine UB 10 ensure easy handling. It is suitable for both private and commercial use.

Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse.

WARNING!

The improper use of this device as well as the disregard of the safety instructions or operating instructions in the operating instructions exclude any liability of the manufacturer for resulting damage to persons or objects.

WARNING!

Danger in case of misuse!!

Misuse of the universal bending machine can lead to dangerous situations.

- Only operate the Universal Bending Machine in the performance range specified in the technical data.
- Never bypass or override the safety devices.
- Only operate the Universal Bending Machine in a technically perfect condition.

3.1 Misuse

If the intended use is observed, no reasonably foreseeable misuse is possible, which could lead to dangerous situations with personal injury.

3.2 Residual risks

Even if all safety regulations are observed and the machine is used correctly, there are still residual risks listed below:

- There is a risk of injury to the upper limbs (e.g., hands, fingers).
- Danger from falling workpieces
- Danger of pulling in clothes and objects.
- During set-up and set-up work, it may be necessary to dismantle on-site protective equipment. This creates various residual risks and potential dangers that every operator must be aware of.

3.3 Technical condition

The Universal Bending Machine UB 10 complies with the current state of the art in design and execution and is built according to the recognized safety rules.

DANGER!

The machine may only be operated in a technically perfect condition. Any faults must be eliminated immediately.

Please note the following:

- Before each use, the machine should be checked for externally visible damage.
- During each use, the operating behavior is observed.
- In the event of safety-relevant deviations from the delivery condition, the machine must be inspected by an authorized specialist and, if necessary, repaired.
- From the point in time when the machine no longer meets the normal operating conditions, the bending machine must be taken out of service until repaired.

DANGER!

Unauthorized modifications or changes, especially those that affect the safety of the machine operator, are generally prohibited. Technical changes, conversions and extensions made by the user on the machine may void the machine's operating license and are the responsibility of the operator.

ATTENTION!

In the interest of further technical development or changing regulations, the manufacturer reserves the right to make changes to the characteristics of the product at any time without prior notice.

3.3.1 Machine operation

The bending machine can be dangerous if it is not used in accordance with the chess and intended purpose.

In addition to the health and safety instructions in this operating manual, the generally applicable safety and accident prevention regulations for protection against the risk of injury must be observed and adhered to.The work instructions in the individual chapters of the operating instructions must be followed. The safety instructions must be observed under all circumstances. Despite observing all working instructions, safety and accident prevention regulations, there remains a residual risk when handling the machine. Through concentrated and forward-looking work and action, you can reduce the residual risk.

4 Technical Data

Technical Data	UB 10
Pipes	G 3/4 "
Weight	32 kg
Flat steel: plate rolling	10 x 50 mm
Flat steel: acute bending	6 x 50 mm
Round materials Steel/Aluminium/Copper	16 mm
Round materials stainless steel	14 mm
Square materials Steel/Aluminium/Copper	16 x 16 mm
Square materials stainless steel	14 x 14 mm

Scope of delivery:

- Bending rollers: 2 x Ø 24/30/37/43/49/62/75 mm

Optional accessories:

- Heating pipe bending roller set
  Item number: 3790001
- Bending roller set 10-180
  Item number: 3790002
- Adjustable stop 10-200
  Item number: 3790003
- Clamping plate
  Item number: 3790004
- Conversion kit for UB 10 to RB 30
  Item number:3790006
- Helical bending element UB 11
  Item number:3790011
- Separate holding handle for helical bending element UB 11
  Item number: 3790280

5 Transport, packaging, storage

5.1 Delivery and Transport

Delivery

Check the Machine on delivery for any visi-ble transportation damage. If you notice any damage to the device please report this immediately to the carrier or dealer.

Transport

Remove the factory-prepared antirust agent with thinner or paint remover before installing the device. Then lubricate with machine oil. Make sure that the device is not set up or put into operation in a damp or wet environment. The humidity should not exceed 60% and the measured room temperature should be between max. 0 ° C and 40 ° C amount. .

NOTE!

For a safe stand, it is recommended to attach the device to a stable and stable surface using the holes provided on the bottom of the device.

5.2 Packaging

All used packaging materials and packaging aids are recyclable and should be taken to a materials recycling depot to be disposed of.

The delivery packaging is made of cardboard, so please dispose carefully by having it chopped up and given to the recycling collection

The film is made of polyethylene (PE) and the cushioned parts of polystyrene (PS). Deliver these substances to a collection point for recyclable materials or to the waste disposal company which looks after your region.

5.3 Storage

Thoroughly clean the Universal Bending Machine in a dry, clean and frost-free environment.

The universal bending machine must not be parked in a room with chemicals.

If the machine is stored for a long time, all bare metal parts must be greased against rusting.

6 Description of the device

Illustrations in this operating manual serve the general understanding and may deviate from the actual design.

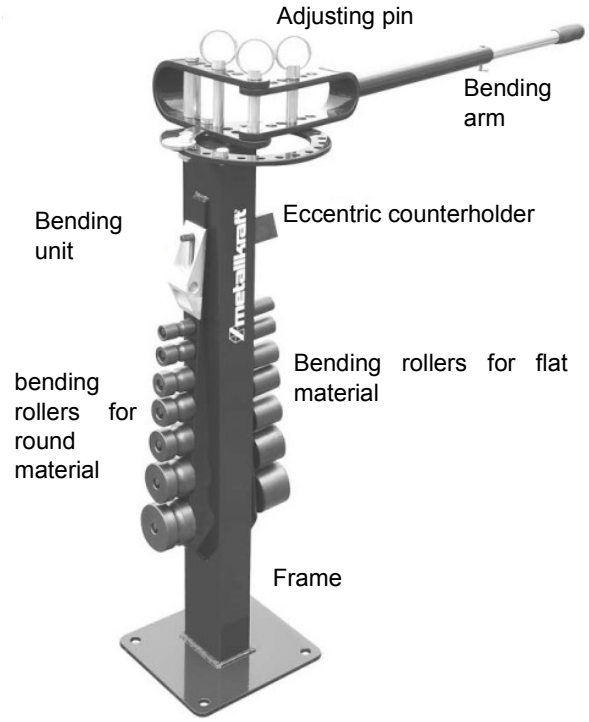


Fig. 1: Description of the device

7 Assembly

Please note the following:

- Make sure that all bolts are inserted correctly and in the proper place.

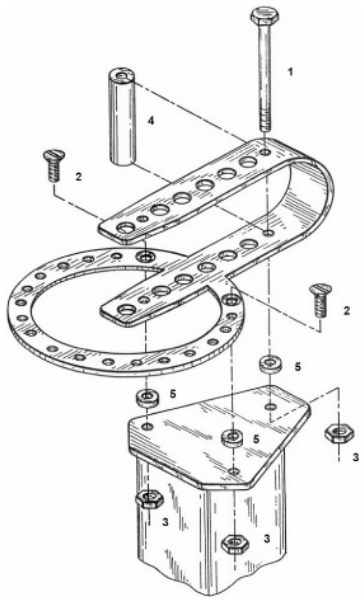


Fig. 2: Assembly

1 screw

2 screw

3 Nut

4 spacer tube

5 spacer ring

7.1 Set up

Mount the machine firmly on the ground at a suitable location.

Note the following:

• Make sure you have enough space around the machine (see Fig. 3).

• Make sure that the bending machine is firmly screwed to the floor.

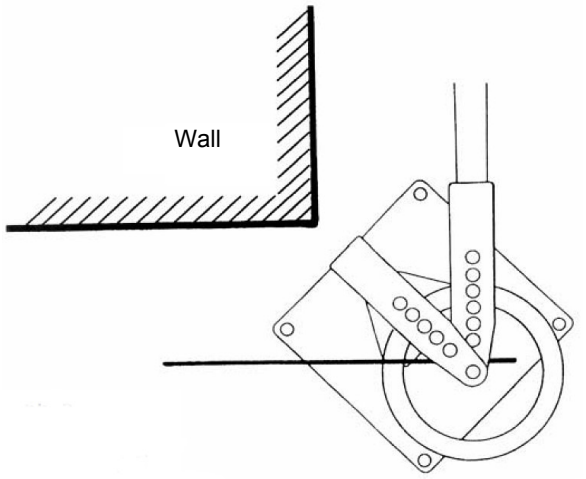


Fig. 3: Set up example

8 Work and operation

Information about the use of the machine

• Do not bend other steels than standard structural steel. (8 x 50 mm and round steel up to Ø16 mm, rectangular steel up to a size of 14 x 14 mm and heating pipes up to a size of G3 / 4˝!

• Do not bend materials thicker than 6 mm around the center pin. Always use the Ø24 mm rollers to prevent the bolt from bending.

• Do not use additional lever extension.

• Do not use the right-angle bending accessory to bend wooden blocks.

• When using the right angle bend accessory, bend only standard steel up to 6 x 50 mm or 7 x 30 mm.

• Keep the work area around the machine clean to avoid unnecessary accidents.

• Preventing the bending roller from dropping suddenly could cause serious injury.

• When shearing, edging and bending, you can mount a rip fence. To do this, screw the guide pins of the rip fence to the frame.

8.1 Application of the eccentric counter-holder

This counterholder in the bending arm ensures that the material is firmly clamped during the bending process.

Fig. 4: Counter-holder

The eccentric anvil offers four positions. Always use the proper position to bring the anvil as close as possible to the center pin or roller, but make sure that a small gap is left for the material.

To reach two of the four positions, the anvil must rotate from side to side. If the hole is to the left of the center, the backstop will slip and thus the material will. If you are using a large bending roller, insert the counterholder and stop into the corresponding hole so that the material is firmly attached. Place the anvil as close to the central bolt or to the bending roller as possible and turn the anvil into one of the four positions. You can adjust the stop on the support plate by one hole forward or backward to achieve the required clearance.

Too large a distance between the central bolt or the bending roller and the stop causes the slipping of the material and thus an inaccurate bending radius.

If a very accurate bend radius is desired, it is prudent to secure the material with a retainer clip against the anvil to prevent the material from slipping.

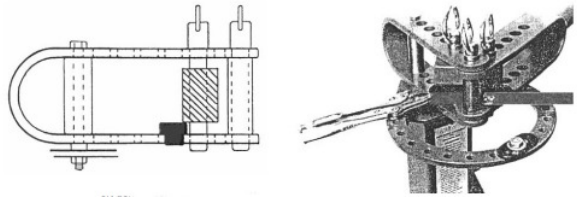


Fig. 5: Centering the counter-holder

In most cases it is not necessary to use a retaining clip when using an anvil. However, you can use a holder clamp, if you want to make special curvatures.

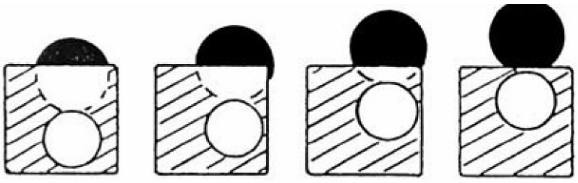


Fig. 6: Right Position of the counterholder

Examples of the eccentric counterhold for each "correct" position:

Position 1
Bender for flat material or round material of 6 mm: Ø 37 m

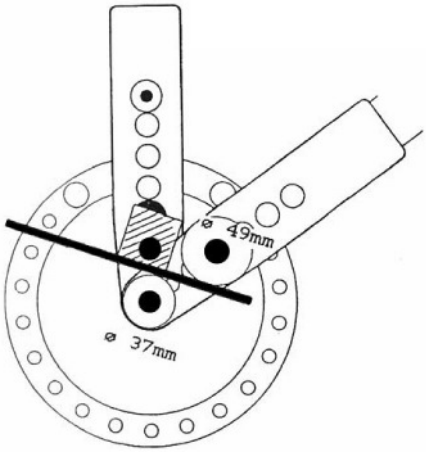


Fig. 7: Example Position 1

Position 2

Bender for flat material or round material of 6 mm: Ø 75 mm

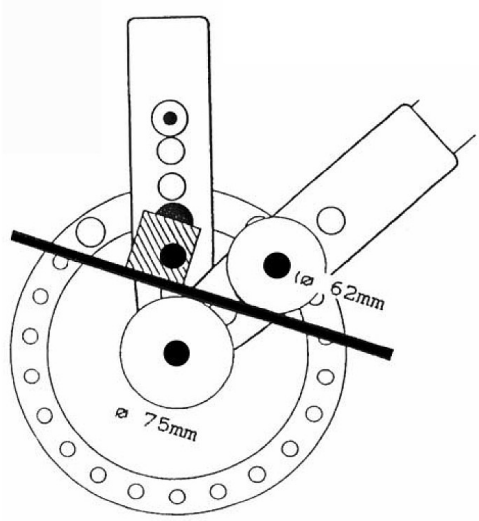


Fig. 8: Example Position 2

Position 3

Flat or round material of 6 mm: use central bolt

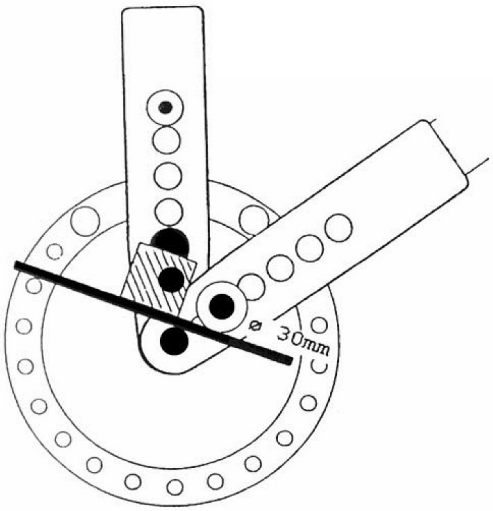


Fig. 9: Example Position 3

Position 4

Rectangular or round steel of 16 mm: Use Ø 30 mm bending roller

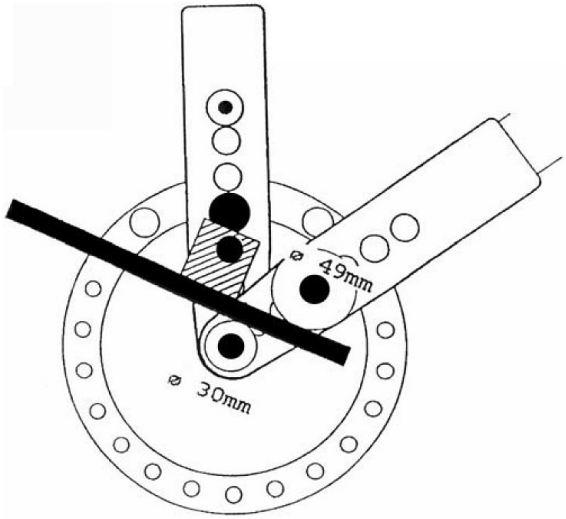


Fig. 10: Example Position 4

Application of right-angle bending accessory

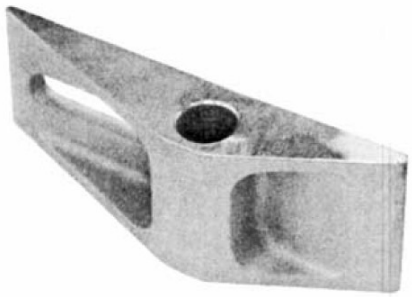


Fig. 11: Application of the bending accessory

If you want to bend a right angle, mark the location of the sheet with chalk. When inserting the material into the bending machine, make sure that the marked area is still partially visible. The bending edge of the right-angle bending accessory covers the other side of the marked location.

If two right angles are to be bent on the same flat material (eg 5 x 25 mm), the marked points must be separated by 3 mm more than the required inner dimension. If the material thickness is different, the corresponding bending allowances must be taken into account

If very precise work is needed, first bend a specimen before bending a large amount. So you can find out if you need to move the spot or if you need to lengthen or shorten the material.

This instruction manual specifies the bending measure, but if you are unsure about the dimensions, it is better to use a narrower material than the required thick material, which would be more expensive. If you are sure about the bending and bending degree, make a note of it for further use.

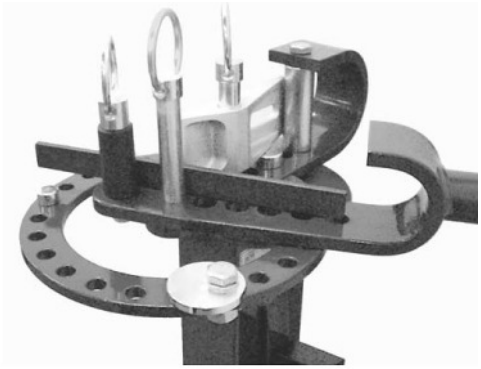


Fig. 12: Application of the bending accessory

The adjustable stop is used for equal curvatures. Make sure that the screw is tight and that the stopper is tight.

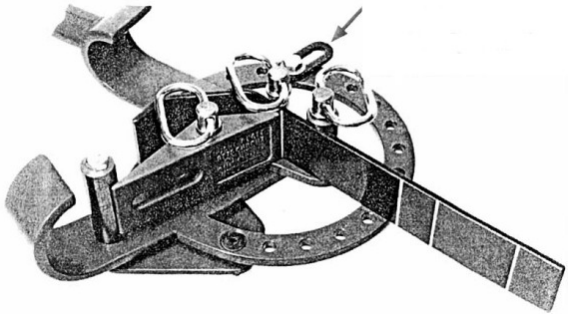


Fig. 13: Chalk mark

This image shows the exact position of the chalk mark against the bending edge of the right-angle bending accessory.

8.2 The production of U-shaped tabs

Preparing the material - The length of the material for U-shaped tabs must be cut according to the size of the bending element.

The holes in the carrier plate

The number of the hole in which the ex-centric counter-holder is placed.

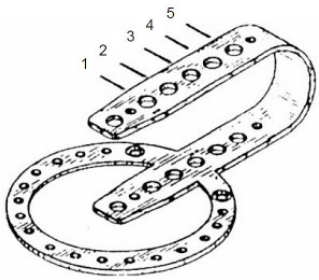


Fig. 14: Holes of the carrier plate

The position of the eccentric counter-holder

The correct position of the counter-holder, according to the thickness of the material to form U-shaped tabs.

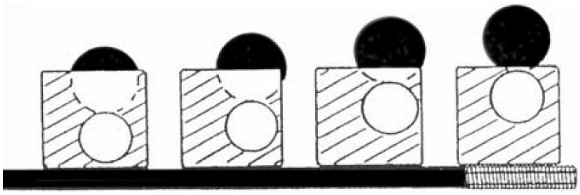


Fig. 15: Position of the counter-holder

The distance to the eccentric counterholder

Before bending the material, measure the distance from the eccentric anvil.

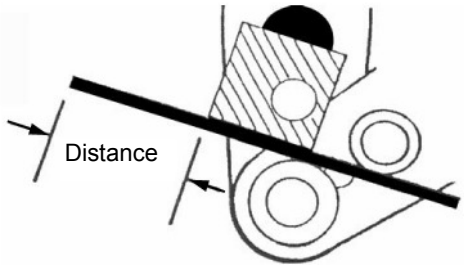


Fig. 16: Distance to the anvil

Bending roller

It is used in the bending fork.

The holes in the bending arm

The various holes in the bend of the bend arm show where the bolt is placed to hold the bend roll.

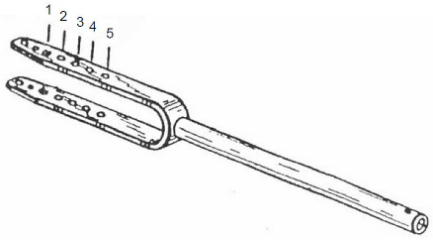


Fig. 17: Holes in the bending arm

8.3 Production of handles

Round material

With the bending machine you can produce handles with different shapes and sizes. Each of the three illustrated handles has been bent by Ø 15 mm and a length of 230 mm steel. After bending the bends, drill a Ø 15 mm hole in the tab. Then insert the handle into the tab and weld it tight. Sand the rest off the tab to get a flat surface.

The correct position of the eccentric counter-holder is given by the diameter of the material (see picture on the right). After you have made the first bend, you must turn the material 90 ° and bend the other end 90 °.

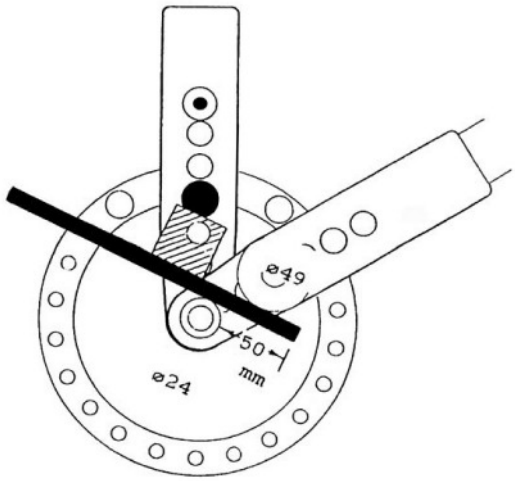


Fig. 18: Production of handles

NOTE!

When using a different diameter material for the handle, the diameter of the hole in the tab must be identical to the diameter of the handle.

Flat material

Chalk the workpiece as shown in the picture. The markings on the ends must be on one side of the material, the inside on the other side.

The dimensions in the illustration can be replaced by others. Depending on the user's idea of the universal bending machine.

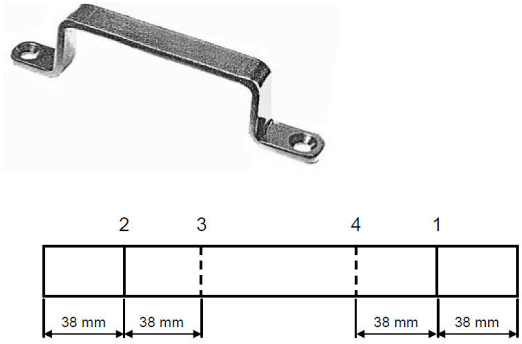


Fig. 19: Production of handles with flat material

1. Curvature

Insert a flat material up to the mark (1) and bend it by 90 °. Check the angle before proceeding. Attach the eccentric counterhold so that the respective angles are 90 °.

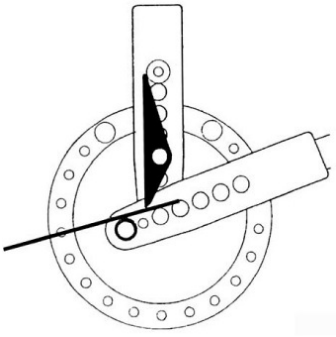


Fig. 20: Curvature 1

2. Curvature

Turn the material and insert it to the mark 2. Again, turn a 90 ° angle here.

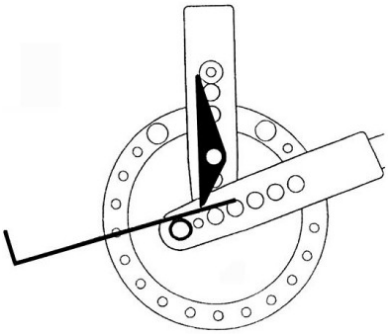


Fig. 21: Curvature 2

3. Curvature

Turn over the half-finished product and place it in the device up to mark 3. Bend another 90 ° angle.

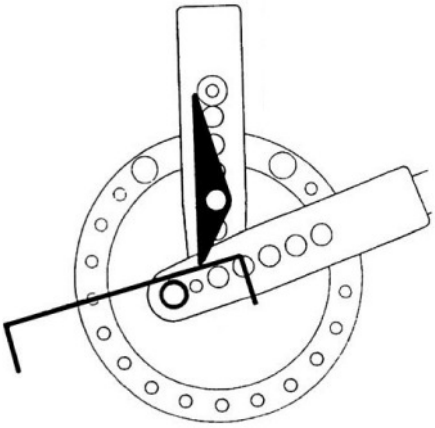


Fig. 22: Curvature 3

4. Curvature

Turn the half finished product over and repeat step 3.

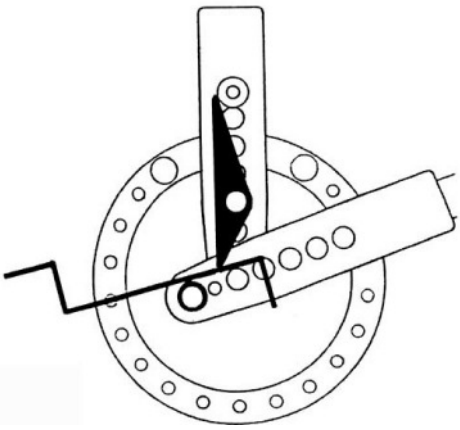
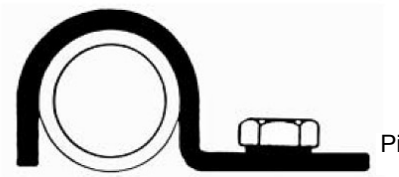


Fig. 23: Curvature 4

8.4 The production of pipe supports



Pipe clamp

Fig. 24: Manufacturing pipe clamp

1.Curvature

Put the eccentric anvil in position Then insert the material into the bending machine as in the picture. Use the manual lever to bend the material until the bender roller reaches the material end.

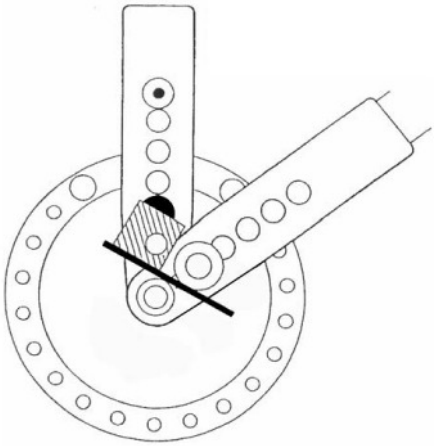


Fig. 25: Curvature 1

2. Curvature

Insert the right angle accessory. Insert the product so that the curvature lies on the bolt. Insert the stop into hole 6 (clockwise). Now bend the material with the lever, so that the lever is about 3 mm from the bolt.

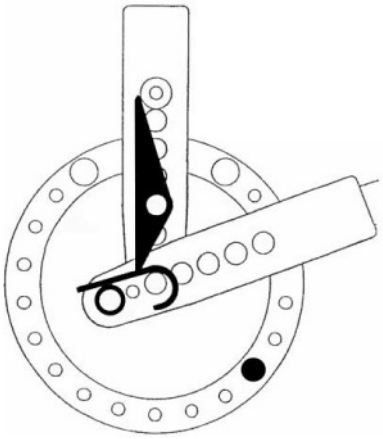


Fig. 26: Curvature 2

Attach the retaining clip to the end of the stopper to prevent the material from slipping.

You can also make many other types of clamps. Write down the work steps for the different types of clamps. This will help you later if you want to make it again.

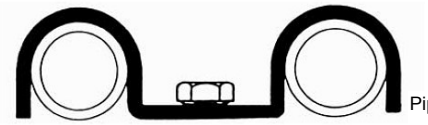


Fig. 27: Production double pipe clamp

1. Curvature

Insert the material into the bender as shown in the picture. Use the lever to bend it until the bender roller reaches the end of the material.

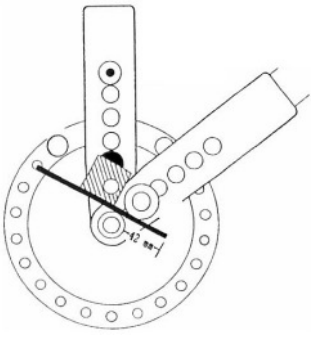


Fig. 28: Curvature 1

2. Curvature

Turn over the half-finished product and place it in the bending device. (See image). Now take the lever and bend the material until the bending roller reaches the end of the material.

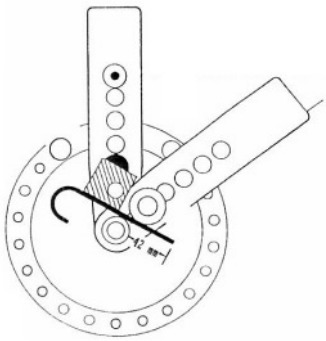


Fig. 29: Curvature 2

3. Curvature

Attach the right angle attachment. Now insert the material as far as possible into the bending device, so that it leans against the central bolt. (You must take out the central bolt). Insert the stop in hole 6 clockwise. Move the bending lever so far that it is approx. 3 mm away from the stop.

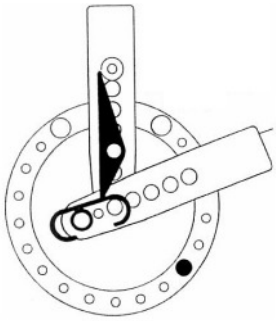


Fig. 30: Curvature 3

4. Curvature

Turn the half-finished product over to the other end. Now insert the material as far as possible into the bending device, so that it leans against the central bolt. (You must take out the central bolt again). Now bend the material. The lever must be 3 mm away from the stop.

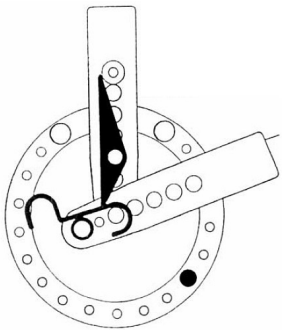


Fig. 31: Curvature 4

8.5 The production of U-shaped tabs and mounting brackets

Before you start making U-shaped tabs, try bending a pattern first. Check all sizes and make the necessary changes.

Fig. 32: Finishing U-shaped tabs

Always move the eccentric anvil so that it is as close to the bolt or bender as possible to prevent the material from slipping.

If you want to extend the U-shaped tab, you will first find out how much material you need for it. Now you have to add twice the amount.

Example: If you want to extend the tab by 25 mm, you must add 50 mm over the total length. The distance from the eccentric anvil to the material end will only increase by 25 mm. The other 25 mm are for the other end. The bending machine has bending rolls of different sizes. This allows you to bend different U-shaped tabs. Always use rollers on the center bolt when working with a material thicker than 9 mm. Otherwise you could accidentally bend the bolt. The material is stretched during the bending process. This stretch is different for each material. For this reason, we recommend that you test the stretch even if you use this manual.

Make a note of the diameters of the bending rolls and the dimensional deviation of the elongation. So you can save time in a repeated production.

Fig. 33: Correct arrangement

Example 1

For a 9 mm screw with a length of 310 mm, the distance from the eccentric anvil to the stop is 2.15 mm.

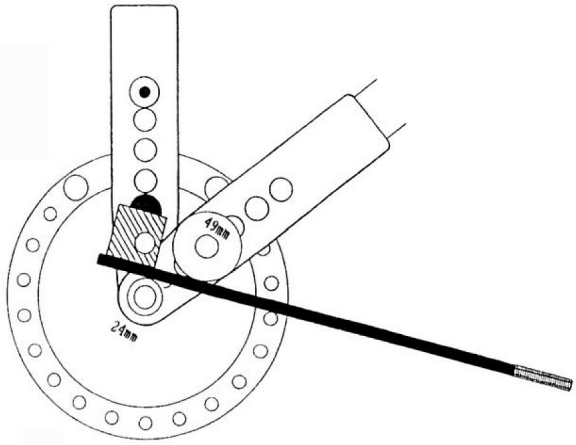


Fig. 34: Example 1

Example 2

For a screw with a length of 310 mm and a thickness of 12 mm, the distance from the eccentric counter-holder to the stop is 1.15 mm.

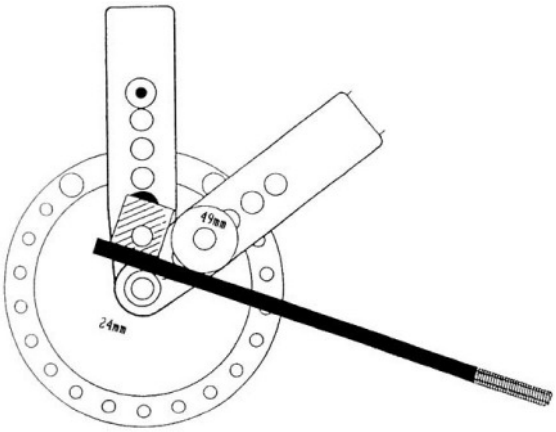


Fig. 35: Example 2

Example 3

For screws with a length of 315 mm and a thickness of 15 mm, the distance from the eccentric anvil is 6 mm.

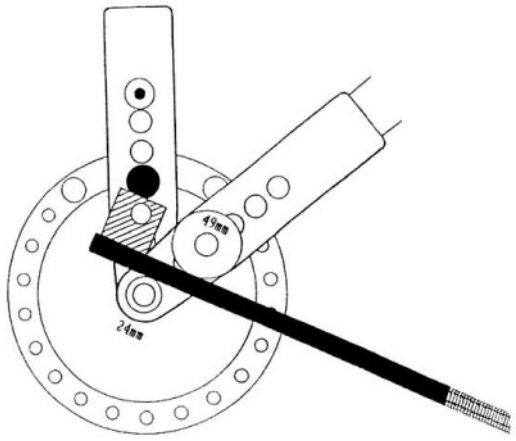


Fig. 36: Example 3

The sizes given here are suitable for making 250 mm long screws. However, you can always vary the length by simply shortening or lengthening the length. You can also change the length of the material after curvature by reducing or extending the length of the eccentric anvil. Make sure that a sufficient length of material leans against the counterholder.

9 Special accessories

9.1 Bending segment for spirals

The bending segment is supplied as a separate accessory and can bend a hot rolled material of 5 x 25 mm. The edge of the segment bends the material in a spiral. If you want to make several spirals of the same shape, mark the top of the bend segment where the first spiral stops. If you bend the other spirals up to this mark, the sizes of the spirals will all be the same.

Fig. 37: Bending segments for spirals

By bending large and small spirals, you must first insert the fence and the bend segment into hole 2.

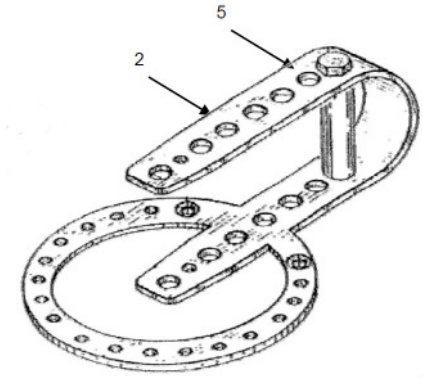


Fig. 38: Insert stop

If you would like to produce a large spiral after the first phase of bending, remove the stop of the bending segment from hole 2 and insert them into hole 5 (at the very end).

Fig. 39: Making a big spiral

Do not bend a large spiral when the fence and bend segment are in hole 5. You need to start with it when in hole 2, otherwise the spiral will not be formed properly.

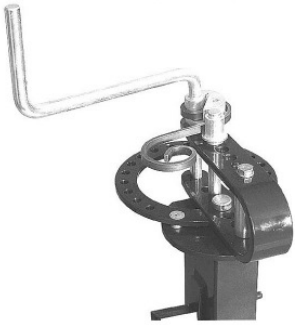


Fig. 40: Produce a big spiral

Turn the spiral around as long as the bending segment allows it. Take out the stop and the segment and place them in the hole for the second bend and finish the spiral.

9.2 Heating pipe bending roll set

For cold bending of heating pipes of size G3 / 8 ", G1 / 2", G3 / 4 ". For a curvature of a heating pipe, a heating pipe bending roll set is required (larger and smaller rolls). The large roll is used as the middle and the material is bent with it. The procedure is similar to the normal bending rollers.

NOTE!

The pipe must not be bent more than 180 °, otherwise it will jam in the bending roller.

Fig. 41: Heating tube bending rolls set

9.3 Clamp

It is used for mounting the dismantled bending unit of the UB 10. For this you need three screws. The clamping plate must be firmly mounted to an anchored workbench.

Fig. 42: Clamp

9.4 Adjustable stop 10-200

It is a universal, adjustable stop to produce material of the same length for a series of bends. Use a screw and a nut to secure the fence in the second or third hole.

Then turn the stopper so that the curved material is perpendicular to the outer side of the stopper. Fix the stopper so that the material is parallel to the underside of the stopper. The adjustable stop can be fixed from both sides.

Fig. 43: Adjustable stop

10 Care, maintenance and repair

Tips and recommendations

To ensure that the bending machine is always in good operating condition, regular care and maintenance work must be carried out.

DANGER!

Danger due to insufficient qualification of persons!!

Insufficiently qualified persons can not assess the risks involved in maintenance work on the machine and expose themselves and others to the risk of serious injury.

- All maintenance work should only be carried out by qualified persons.

NOTE!

Before servicing and maintenance the Universal Bending Machine, the maintenance instructions must be carefully read. The handling of the Universal Bending Machine is only permitted to persons who are familiar with the Universal Bending Machine.

DANGER!

After servicing, maintenance and repair, check that all panels and guards are properly installed on the machine and that there is no more tool inside or in the working area of the universal bending machine. Damaged safety devices and equipment must be repaired or replaced by the customer service.

10.1 Maintenance

ATTENTION!

To avoid injuries caused by crushing, pay attention by shearing edges during transport, cleaning and when using the device.

General informations:

- Check the universal bending machine for damage before and after each use.
- All moving parts must be lubricated at regular intervals. Use only acid-free lubricants.
- Do not clean the universal bending machine with aggressive chemicals, but only with a dry cloth.
- Do not store the universal bending machine outside and protect it from high humidity, cold or heat.
- The machine clean and the warehouse seats and work surfaces of the work.

NOTE!

Oil and grease cleaning agents are hazardous to the environment and must not be disposed of in wastewater or normal household waste. Dispose of these funds in an environmentally friendly way. The cleaning cloths soaked in oil, grease or detergent are easily combustible. Collect them in a suitable, closed container and dispose of them in an environmentally friendly way - Do not throw in the trash!

10.2 Repair

DANGER!

Repair work may only be carried out by qualified personnel.

If the bending machine does not work properly, contact a dealer or our customer service. The contact details can be found in chapter 1.2 Customer Service.

11 Disposal, recycling of used devices

Please take care in your own interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and permitted way.

11.1 Decommissioning

Disused equipment must be taken out of service immediately in order to avoid later misuse and endangering the environment or people.

- Dispose of all environmentally hazardous fluids from the old device.
- If necessary, disassemble the machine into manageable and usable assemblies and components.
- Supply the machine components and operating materials to the appropriate disposal channels.

11.2 Disposal of new equipment packaging

All packaging materials and packaging aids used in the machine are recyclable and must always be recycled.

The packaging wood can be sent for disposal or recycling.

Packaging components made of cardboard can be crushed for waste paper collection.

The films are made of polyethylene (PE) or upholstery parts made of polystyrene (PS). These substances can be reused after reprocessing if they are forwarded to a recycling center or to the disposal company responsible for them.

Only pass on the packaging material sorted, so that it can be directly recycled.

12 Spare parts

DANGER!

Risk of injury due to incorrect spare parts!

The use of incorrect or faulty replacement parts may cause danger to the operator and cause damage and malfunction.

- Only original spare parts from the manufacturer or replacement parts approved by the manufacturer must be used.
- In case of doubt, always contact the manufacturer.

NOTE!

Using non-approved spare parts voids the manufacturer's warranty

12.1 Ordering spare parts

The spare parts can be obtained from the dealer or directly from the manufacturer. The contact details are in chapter 1.2 Customer Service. Specify the following key data when inquiring or ordering spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction:
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indica-tions regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier.

You will find information regarding the device type, item No. and year of manufacture on the type plate fixed to the Machine.

Example

The bending additive for the universal bending machine UB 10 has to be ordered. This is indicated in the spare parts drawing with the item number 010-070.

- Type of device: **Universal bending machine**
- Item number: **3776010**
- Position number: **010-070**

Your order number is: **0-3776010-010-070**

The order number consists of the item number, the position number and one digit in front of the item number (0).

- Place the digit 0 in front of the item No.
- Also place the digit 0 in front of the position No. 1 trough 9.

13 Spare parts drawing

In case of service, the following drawing shall help to identify the necessary spare parts. If necessary, send a copy of the parts drawing with the marked components to your authorised dealer.

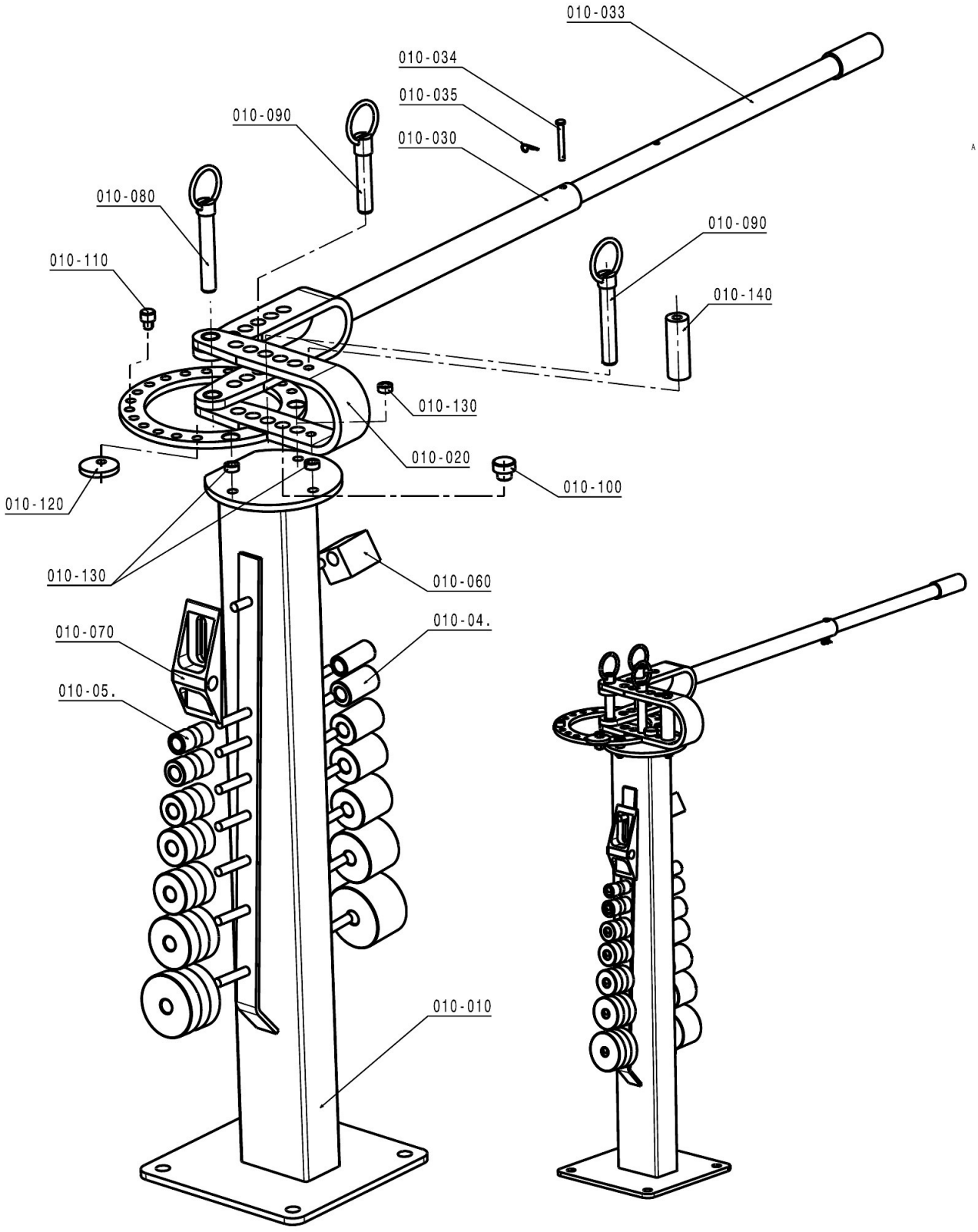


Fig. 44: Spare parts drawing UB 10

14 Declaration

Manufacturer / distributor: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

The universal bending machine is a hand-operated machine and is not subject to harmonized standards in the sense of the regulations for CE certification. Therefore, the creation of a CE declaration and a corresponding marking are not necessary.

Product group: Metallkraft® Metal working machines

Designation of the machine: UB 10

Machine type: Universal bending machine

Item number: 3776010

Serial number: _____

Year of manufacture: 20____

The designated product complies with the following regulations:

Applied national standards and technical specifications:

the regulations valid until now in Germany directory index machines October 92 to the GSG e.g. VDI 2854, VBG 1, VBG 5

Responsible for documentation: Kilian Stürmer, Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 06.05.2007

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Kilian Stürmer
General Manager

15 Notes


stürmer
OPTIMUM