

Instruction manual

—— Combined
Universal Pipe Notcher



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1. Introduction

Please carefully read the operation manual before you start working with the machine.

It will inform you about correct start-up procedure, the correct use as well as the safe and efficient operation and maintenance of the machine.

The operation manual is part of the machine.

She always has to be kept with the machine. Moreover the local accident prevention rules and general safety regulations for the use of the machine are applicable.

Pictures in this operation manual are there to give you more understanding and can deviate from the real job.

1.1 Copyright

The contents of this manual are protected by copyright. There application is allowed within the frame of the use of the machine.

All other use which deviates from this is not allowed without written consent of the manufacturer.

1.2 Limitation of liability

All indications and instructions in this manual were composed with regard of the valid standards and regulations, the level of technique as well as our many years of experience.

In the following cases the manufacturer is not liable for

- No observation of manual.
- No correct use.
- Use of unqualified staff.
- Self-made changes.
- Technical modifications.
- Use of unpermitted spare parts.

The factual delivery can, in case of special models, deviate from the pictures and descriptions if additional orders are being placed. The obligations agreed upon in the contract, the general terms and conditions as well as the terms and conditions of the manufacturer and the legal regulations valid on the moment of conclusion of the contract are applicable.

2. Safety

This chapter shows all important safety packages for the protection of persons as well as for the safe and sound operation. All other safety instructions regarding certain tasks have been mentioned in the separate chapters.

2.1 Explanation of symbols

Safety instructions

Safety instructions are indicated in this manual by symbols. The safety symbols have been introduced by safety words, which have to explain the gravity of the danger.



DANGER!

This combination of symbol and word indicates an immediate dangerous situation, which might cause death or serious injury if it will not be prevented.



WARNING!

This combination of symbol and word indicates an immediate dangerous situation, which might cause death or serious injury, if it will not be prevented.



CAREFUL!

This combination of symbol and word indicates an immediate dangerous situation, which might cause little or light injury, if it will not be prevented.



INDICATION!

This combination of symbol and word indicates an immediate dangerous situation, which might cause damage to material or environment, if it will not be prevented.

Information and advices



INFORMATION AND ADVICES

This symbol gives information and advices for a more efficient and sound operation.

In order to prevent the risk of personal or material damage, you are obliged to observe the safety instructions as laid down in this manual.

2.2 Correct use

The machine has exclusively been developed for grinding and notching the metal pipe ends.
For a correct use, it is necessary to observe all instructions in this operation manual. All other use deviating from this manual, or other kind of use, is considered as wrong.



WARNING

Danger in case of wrong use!

A wrong use of the machine can cause dangerous situations:

- The machine has only to be used for the work mentioned in the technical data.
- Never by-pass the safety devices or put them out of order.
- The machine has to be operated in a perfect condition.

For constructive and technical changes on the machine, the manufacturer does not accept any liability.

Claims of any kind whatsoever, due to damage caused by wrong use are excluded.

2.3 Responsibility of owner.

The owner is that person, who uses the machine himself for economical purposes or leaves it to third parties to use it, and remains responsible for the protection of the user, staff or third parties during operation.

Obligations owner.

The owner will be responsible to observe the legal stipulations for the safeguarding of persons at work. Therefore safety instructions in this manual as well as the accident prevention-, safety-, environmental stipulations have to be observed. The following is very important:

- The owner has to inform himself about valid labour protection regulations. In dangerous situations he has to make a judgement, which might result from the special labour circumstances at the working place of the machine. He will have to turn these into instructions for the operation of the machine.
- The owner has to check, during the whole working time with the machine, whether the instructions laid down by him come up to the actual state of affairs in control engineering, and, eventually to adjust them.
- The owner has to lay down clearly all authorizations regarding installations, operation, trouble-shooting and maintenance and cleaning.

- The owner has to see to it, that all persons who work with the machine, have read this manual and have understood it. Moreover he will have to instruct his staff at regular intervals and to inform them about the risks.
- The owner will have to put the necessary protective equipment at the disposal of the staff and he will have to make carrying of the needed protective equipment obligatory.

Furthermore the owner will always be responsible for a perfect condition of the machine. Therefore the following applies:

- The owner will have to take care of it, that the maintenance intervals described in this manual will be observed.
- The owner will have to see to a regular check up of a correct functioning and completeness of all safety devices.

2.4 Qualification off staff

The various tasks described here, demand different qualifications of persons, who are being charged with the job.



WARNING!

Danger in case of insufficient qualified staff!

Danger in case of insufficient qualified staff!
Insufficient qualified staff cannot estimate the risks during working with the machine and might expose themselves or others to danger with death or serious injury as a consequence.

- All tasks may only be done by qualified staff.
- Insufficient qualified staff should be kept at a distance.

For all work, only persons are allowed, from whom you may expect, that they are capable of carrying out these tasks correctly. Persons, whose reaction power has been influenced by drugs, alcohol or medicines, are not allowed to get near to the machine.

In this manual, the following indicated qualifications of staff are mentioned for various tasks:

Operator:

The operator has received the necessary instructions from the owner with regard to certain tasks charged to him as well as the eventual risks. Tasks which deviate from the normal operation, the operator may only carry out if such is mentioned in the manual and if he explicitly has been charged with it.

Electrician

The electrician is by virtue of his professional training, experience as well as knowledge of actual standards and stipulations capable of carrying out work on electrical installations and to recognize possible dangerous situations and to prevent them.

Qualified staff:

The qualified staff is by virtue of their professional training, knowledge, experience as well as knowledge of standards and stipulations capable of carrying out work and to recognize possible dangerous situations and to prevent them.

Producer

Certain tasks may only be done by qualified staff of producer. Other staff is not authorized to carry out these tasks.

2.5 Personal Protective equipment

The personal protective equipment is meant to protect persons against dangers resulting from work and which may jeopardize their health and safety. His staff is obliged to wear protective equipment during working with the machine.

In the following chapters the personal protective equipment will be explained:



Eye-, ear- and head protection

The safety goggle protects the eyes against parts flying around and fluids.

The ear protection protects the ears against damage to hearing caused by noise.

The safety helmet protects the head against falling objects and bumping against solid objects.



Safety gloves

The Safety gloves protect the hands against sharp edges, as well as grazes or deeper injuries.



Safety shoes

The safety shoes protect the feet against jamming and gliding on slippery ground.



Safety clothes

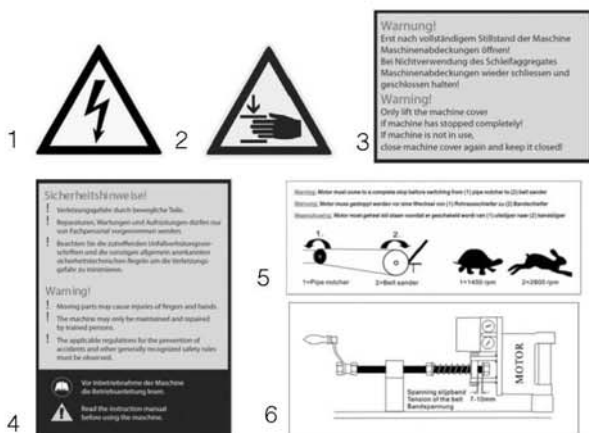
The safety working clothes are tight fitting and will not rip quickly.

2.6 Safety devices.

In order to protect against a spark rain, a safety window has been placed on the chassis above the contact wheel. The on-off switch is combined with an emergency switch.

2.7 Safety indications on the machine.

On the machine several safety indications can be found (ill 1) which need to be observed.



ill. 1: Safety indications:

1. Warning against dangerous electrical tension
2. Careful: risk of jamming
3. Warning against covering
4. Safety instructions
5. Warning stop engine.
6. Indication for the tension of belt.

Damaged or missing safety symbols on the machine can result in wrong actions with persons and cause damage to people and material. The safety symbols put on the machine may not be removed. Damaged safety symbols need to be renewed immediately.

As of the moment, on which the symbols cannot be recognized or understood anymore, the machine should be taken out of production till the symbols have been renewed.

3. Technical data

Technical data	
Motor capacity kW (400V/50 Hz)	2,5/3.3
Belt speed (Rpm)	1400/2800
Grindable diameter (mm)	20-76
Adjustable angle (degrees)	30-90
Belt (mm)	2000x100
Dimensions LxWxH (mm)	1340x700x1210
Weight (kg)	159
Noise level (dB/A)	83-87

4. Transport, packing and storage

4.1 Delivery and transport

Delivery

The machine has to be checked after delivery for any transport damage. In case the machine has some clear damage, this should be reported to the transporter or the dealer.

Transport



WARNING!

Danger as a consequence of falling cargo!

If during transport or during elevating the weight of the machine or the maximum bearing capacity is not being observed, the machine might tip over or fall down.

- During transport and elevating the weight or the machine and also the maximum bearing capacity should be observed.



INDICATION!

Protect the machine against humidity.

The combined universal pipe notcher and belt grinder may only be transport in a standing position and with disconnected engine.

Transport with a fork lift truck:

The machine must be mounted on a pallet in order to carry it with a fork lift truck.

Transport with a crane:

The machine has a special transport eye. For the transport and assembling always use a crane and put the elevating devices always in the transport eye.

4.2 Packing

All used packing material and packing auxiliaries of the machine can be recycled and have to be given to the recycling channel.

Packing elements made of card board need to be made small and given to the collection channel for old paper.

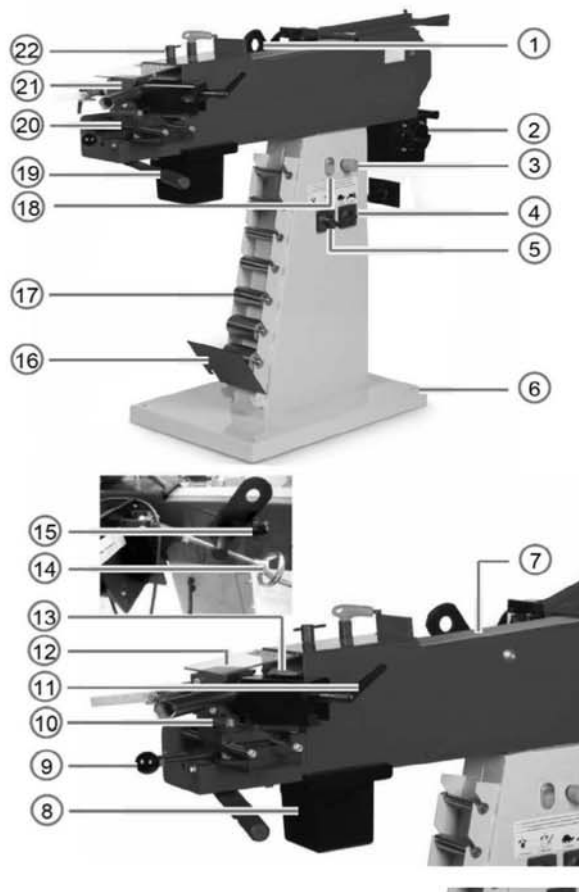
The foils are made of polyethylene (PE) and the filling material of polystyrol (PS). These materials need to be given to a collection point or to the local garbage company.

4.3 Storage

The machine has to be cleaned thoroughly, before you store it in a dry, clean and frost-free environment.

5. Description of machine

Pictures in this manual are there to give you the necessary understanding and may deviate from the reality.



ill. 3: Description of machine

1. Transport eye
2. Absorption supports
3. Emergency stop
4. Speed switch
5. Switch pipe notcher /belt grinder
6. Base plate
7. Grinding surfaces
8. Grinding waste container
9. Handle for adjusting support parallel to grinding roller
10. Adjustment grinding angle
11. Clamp handle
12. Safety shield
13. Grinding roller
14. Hand wheel for adjustment of belt tension

15. Adjustment screw belt running
16. Covering for front contact roller
17. Support for grinding rollers
18. Start/stop switch
19. Handle for support adjustment perpendicular to grinding roller
20. Cross support
21. Clamping device
22. Adjustment mechanism grinding roller

6. Mounting and start-up



ATTENTION!

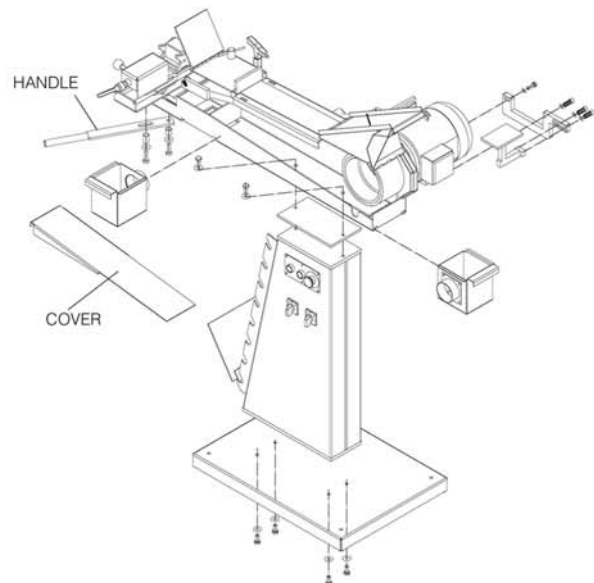
Before you erect the machine, you have to check the bearing capacity of the floor. The place where the machine will be placed has to be able to carry the weight of the machine and the materials to be grinded.

In order to get a good working capacity of the machine as well as to reach a long working life, the place of working should come up to the following demands:

- The machine may only be placed and operated in a dry, ventilated space.
 - Do not place the machine in the neighbourhood of dust- and chips producing machines.
 - The place of erection should be free of vibrations, so away from presses, planers etc.
 - The floor has to be suitable for the work.
- Pay attention to bearing capacity and levelness of the floor
- Protruding parts, like f.i. stop plate, grips, etc need to be made safe in such away that people are not jeopardized.
 - There should be enough place for operation staff and transport of material.
 - Think also of the accessibility for adjustment and maintenance work.
 - Take care of sufficient light (minimal 300 Lux)

6.1 Mounting

Step 1: Tighten the machine foot with the four screws on the ground plate.



ill. 4: Mounting of pipe notcher /belt grinder.

Step 2: Remove the cover before lifting the machine chassis on the foot. Put an intermediate plate between the pipe notcher and the foot, before you put it down definitely. We advise you to use a crane. **ATTENTION:** to lift the chassis, use the transport eye.

Step 3: Put both screws in and tighten them. Then replace the cover to the housing

Attention!

This cover needs to be removed to access holes in body to assemble it to the stand.

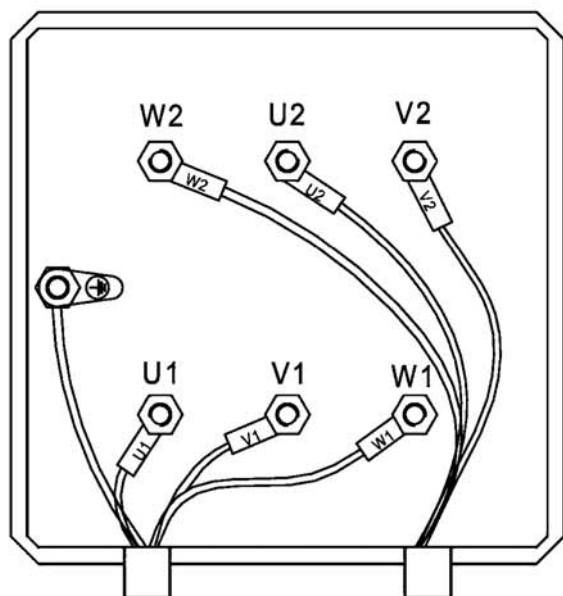


Step 4: Put the handle under the front of the table, tighten them.



ATTENTION!

The electrical connection of the engine cable has to be done by an electrician.



ill. 5: Connection of the engine

6.2 Set up

The four mounting points of the machine should be marked and bore holes should be made for anchorages. The machine should be mounted with steel bolts to the floor.



INDICATION!

After the erection take away the lubrication of the white metal parts, which has been put there for reasons of protection.

- Use for this the usual solvents
- No water, no nitrosolvents etc.!

6.3 Electrical connection



DANGER! Danger by voltage!

Danger by voltage! Working on the electrical connection may only be done by electricians



ATTENTION!

The machine will be supplied without power plug.
The electrical connection to the electrical mains and mounting of the power plug may only be done

You should pay attention that;

- The connection has the same marks (voltage, supply frequency, phases) as the engine.
- The voltage of 400 V (16A – fuse) has to be used.

The plug will be connected to the cables L1, L2, L3, PE.

Eventually you can operate this machine to with a fixed connection.



ATTENTION!

After connecting the plug, you have to check the running direction of the engine. Should this be wrong, you have to change the two phases.

6.4 Change of grinding roller



DANGER! Danger by voltage!

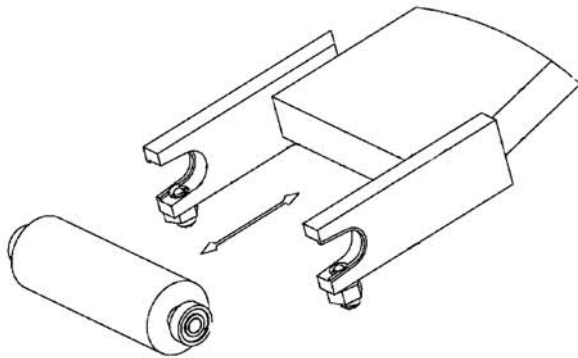
Before beginning of the work on the machine, pull out the plug from the mains.

- Step 1. Pull out the plug
- Step 2: Take out the safety screw and open the cover.
- Step 3: Release the belt by turning the hand wheel (14).
After this, you open the cover of the grinding surface (7).
- Step 4: Take out the belt.

Step 5: Open the locking screws and turn them out so far, till it is possible, to take out the grinding roller.

Step 6: Take out the grinding roller.

Step 7: Clean the contact surfaces and intake on the grinding roller holder.



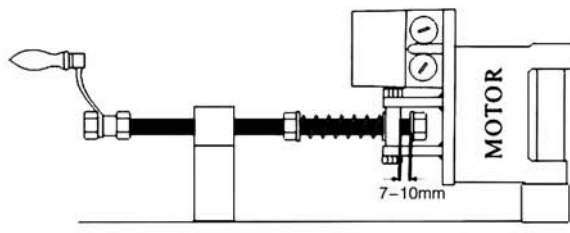
ill. 6: Changing of grinding roller.

Step 8: Replace the new contact roller in the fixed half of the grinding roller holder.

Step 9: Push the movable part of the holder across the roller and tighten the screws.

Step 10: Put on the belt.

Step 11: Stretch the belt and adjust the belt running.



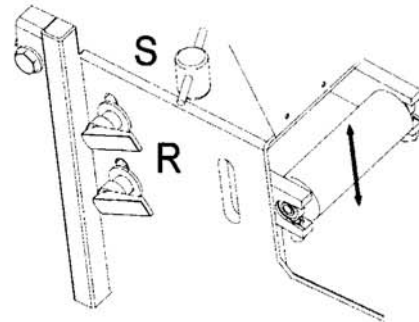
ill. 7: Stretching the belt

6.5 Adjustment of the height of the grinding roller

Step 1: Loosen both clamping levers R (ill 8)

Step 2: Adjust the height of the grinding roller with the adjustment screw S (ill 8)

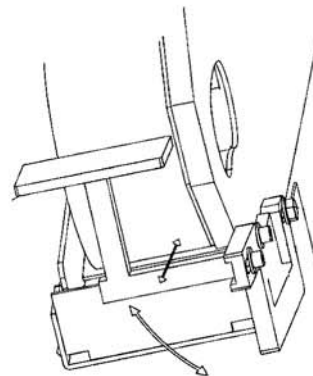
Step 3: Tighten both clamping levers R.



ill. 8: Adjustment of the height of the grinding roller.

6.6 Working surfaces on the back of the machine.

Step 1: Open the covers on the backside



ill. 9: Adjustment of working surfaces on the backside

Step 2: Adjust the position of the working surfaces after loosening the catch pawl screws on the machine.

Front screw: adjustment of distance

Middle screw: adjustment of altitude

Back screw: adjustment of swivelling axle and after this, tighten the screws.

Step 3: Put in the covering plate for the front grinding roller.



ill. 10: Cover for the front grinding roller

Step 4: Always close the covering plates on the back side of the machine after finishing the work.

6.7 Operation



WARNING! **life at risk!**

For the operator and other persons there is a serious danger, if they do not observe the following rules.

- The operator is not allowed to work if he is under influence of alcohol, drugs or medicine.
- The operator is not allowed to work, if he is tired or suffers from lack of concentration.
- The combined universal pipe notcher and belt grinder may only be operated by one person. Other persons have to stay at a distance during operation.



Wear ear- and head protection!



Wear safety glasses!



Wear safety gloves!



Wear safety shoes!



Wear safety clothes!

- Step 1: Check if the correct grinding roller has been placed.
- Step 2: Check the belt running and belt tension.
- Step 3: Adapt the stretch prism to the piece of work to be grinded. V-Prism for round pipes, variable prism for flat- and square material.
- Step 4: Adjust now, if needed, the desired grind angle above the angle adjustment. Open for this both socket head screws and turn the clamp for the piece of work on the correct degree. Tighten both screws again.

- Step 5: If you want to work with more pieces of work with the same dimensions, it would be advisable to work with stops.
- Step 6: Stretch the piece of work, by putting it into the stretch prism, pushing the clamp bush to the material and pulling the clamping lever backwards.
- Step 7: Move the slides till the belt reaches the entire working width on the piece of work. Tighten the slide after adjustment with the clamping lever.
- Step 8: Check if the center of the piece of work agrees with the center of the roller. If not or a special mode would be needed, make another adjustment for the height of the roller.
- Step 9: Select the desired belt speed.
- Step 10: Select the desired mode of working: pipe notcher or belt grinder.



ATTENTION!

Before you make your selection, pipe notcher or belt grinder, the machine has to be switched off and stand still.



ill. 11: Mode of working

- Step 11: Start the engine, by pushing the green START- button. Turn the safety shield down.
- Step 12: Start now the grinding process by pushing the supply arm (17) forward.
- Step 13: After you have grinded the right radius, you can take the pipe out of the clamp and burr the edges with the abrasive wheel (7). To switch off the machine, push on the red STOP-button and pull out the plug.

7. Maintenance and repair



Information and advices

In order to keep the machine always in an excellent condition, you will have to carry out maintenance on a regular basis.



WARNING! Danger in case of unqualified persons!

Insufficient qualified persons cannot estimate the risks during repair work and might expose themselves and others to serious or lethal injury.

All maintenance work may only be done by qualified persons.



DANGER! Life at risk by voltage!

Making contact with electrical parts, is dangerous.

- Before starting with cleaning work, always unplug the machine.
- Connections and repair work on electrical equipment may only be done by qualified personal.



INDICATION!

Check after maintenance and repair work if all covering plates and safety devices have been put back correctly and that no tool has been left inside.

Damaged safety devices and machine parts have to be changed or repaired by a certified work shop.

7.1 Cleaning and lubrication of machine.



ATTENTION!

- Before starting with cleaning or lubricating, always switch off the machine and pull out the plug.
- Never use solvents to clean artificial parts or painted surfaces. The surfaces might dissolve or loosen up and cause a lot of damage.

Clean the pipe notcher and belt grinder regularly.

Empty the chip container regularly and check if the inside of the grinder should be cleaned.

Take off dust with a broomstick or piece of cloth of all open machine parts.

All painted surfaces should be cleaned with a wet piece of cloth.

Clear metallic working surfaces have to be treated with a rust inhibitor spray.

Lubricate all bearings once a month.

If needed, change the graphite layer on the abrasive wheel.



ATTENTION!

Use only belts with the dimension 2000 mm x 100 mm. Check before installation for your own safety the dimensions of the belt and check it for evt. structural faults. Always select that belt which suits to the material to be grinded.

Choose grinding belts with a weld where the opposite ends are glued together. Grinding belts with the ends glued together on top, can break when changing the belt direction.

- Step 1: Switch off the machine with the main switch and unplug the machine.
- Step 2: Unscrew the safety screw and open the side coverings plate by turning the lever.
- Step 3: Turn the cover of the abrasive wheel (7) backwards.

Step 4: Release the belt by turning the hand wheel (14).

Step 5: Take out the belt.

Step 6: Put in a new belt.

Step 7: Stretch the belt with the hand wheel (14).
You have reached the right belt tension if the upper spindle nut is cuts out 7 to 10 mm and the tension is taken over by the spring only.

Step 8: Afterwards close the cover and tighten the safety screw again.

Step 9: It is recommended, to adjust the band running a bit rough by pushing the belt to the abrasive wheel (7) and turning the adjustment screw (15).

Step 10: Close the cover of the abrasive wheel and start the machine.

Step 11: The belt running can now be adjusted by turning the adjustment screw (15). Turn care fully and watch how the belt is doing. If you have reached the right adjustment, you should be seeing the same distance on both sides on the grinding roller.

7.3 Mal functioning, possible causes and solutions



ATTENT ON!

If one of the following faults takes place, stop the machine at once. Before searching for the mistakes, switch off and unplug the machine. All repairs and changes may only be done by qualified and trained staff.

Fault	Possible cause	Solution
Machine does not work	1. Plug not in 2. Cables defect 3. Switch defect 4. Engine defect	1. Put in the plug 2. Call a service-engineer 3. Call a service-engineer 4. Call a service-engineer
Material is not being clamped properly	1. High speed stretcher not correctly adjusted 2. Piece of work is very long and heavy	1. Adjust high speed stretcher 2. Use a material support
Belt does not run in the center	1. Belt running not correctly adjusted 2. Damage to bearings in grinding roller	1. Adjust belt running 2. Replace grinding roller
Belt makes contact with the chassis near the abrasive wheel	1. Graphite layer is worn out	1. Renew the graphite layer
Bad grinding result	1. Wrong belt 2. Belt worn out	1. Put in the correct belt 2. Change the belt
Grinding roller starts crawling	1. Roller holder is not completely closed	1. Stop the machine at once Clean the contact surfaces near the roller holder. Tighten the fixing screws on the grinding roller.



INDICATION!

Shouldn't you be able to solve the problems with your machine yourself, then kindly go to your RVD dealer. Please write down first the following data of your machine or copy them from the machine manual, in order to enable the dealer to help you.

- Model of machine
- Serial number of machine
- Year of construction
- Exact description of the problem

8. Re use of old equipment

In the interest of the environment, it is necessary to deposit old parts of machines to the waste incineration plants.

8.1 Put out of order.

Old equipment has to be put out of order immediately in order to prevent later abuse with jeopardizing the environment or damage to people as a consequence.

- All environmental jeopardizing fluids from the old machine have to be deposited at a waste incineration plant.
- The machine has to be demounted in small manageable parts and groups.
- The machine components and fluids have to be deposited at a waste incineration plant.

8.2 Depositing electrical equipment

Electrical equipment contain a lot reusable materials as well as environmental harmful components. These parts have to be deposited separated and correctly. In case of doubt, you can ask your garbage collection authorities.

For the preparation you may think of asking help of a specialist in waste treatment affairs.

8.3 Deposit of lubricants

The indications for depositing used lubricants can be obtained at the supplier of lubricants. If needed, you may ask for product specific information sheets.

9. Spare parts



DANGER!

Risk of injury when using wrong spare parts!

When using wrong or defective spare parts dangerous situations might occur as well as damage or mal functioning.

- Only original spare parts of the producer may be used or spare parts which are permitted by the producer.
- In case of doubt always contact the producer.



Loss of guarantee

In case of use of not permitted spare parts producer's guarantee will be cancelled.

The spare parts can be obtained through your dealer or directly from the producer.

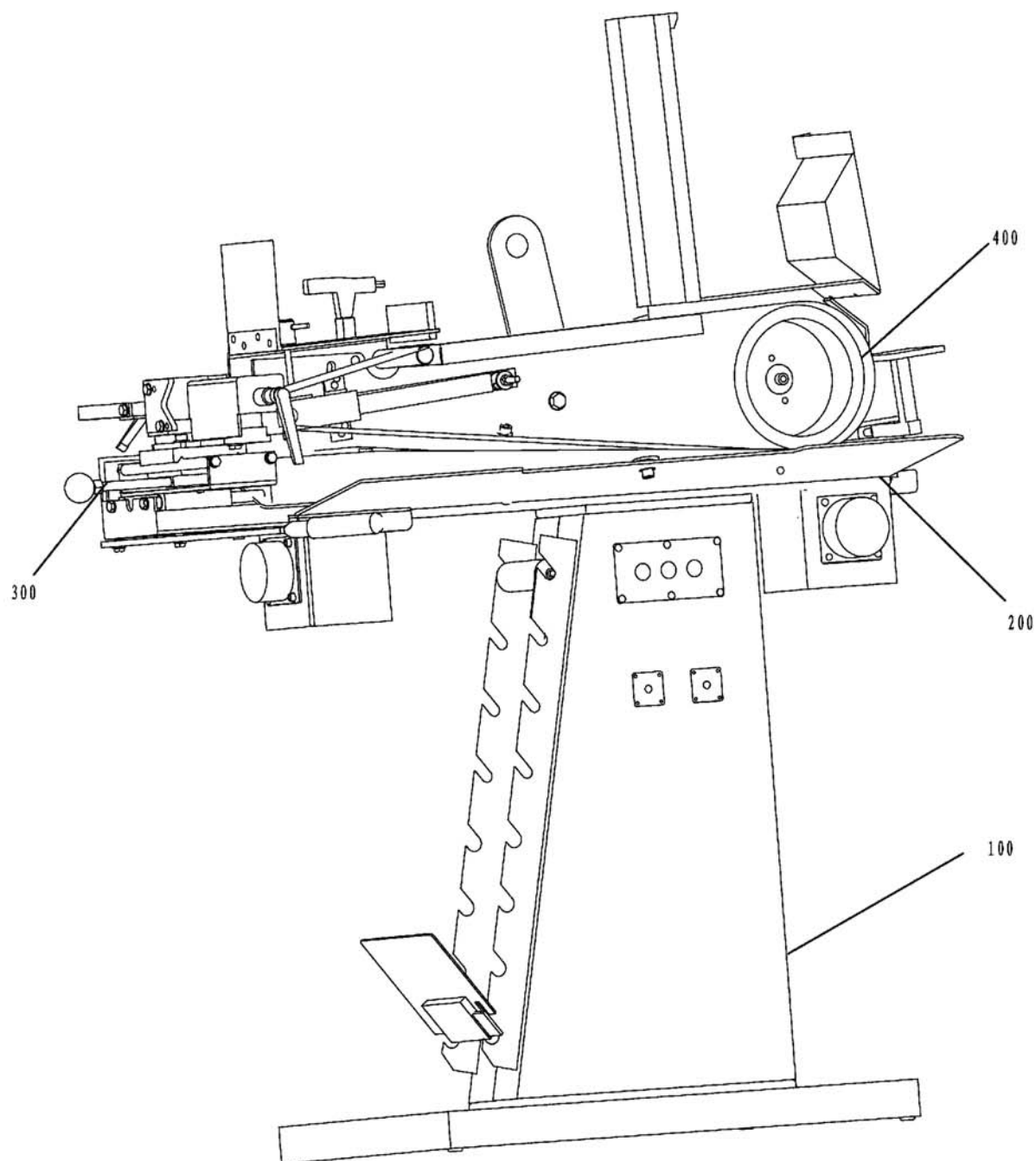
The following data are very important if you want to order spare parts:

- Type of machine
- Serial number
- Quantity
- Indication
- Desired way of shipment (postal parcel, freight, Sea, Airmail, Express delivery)
- Delivery address

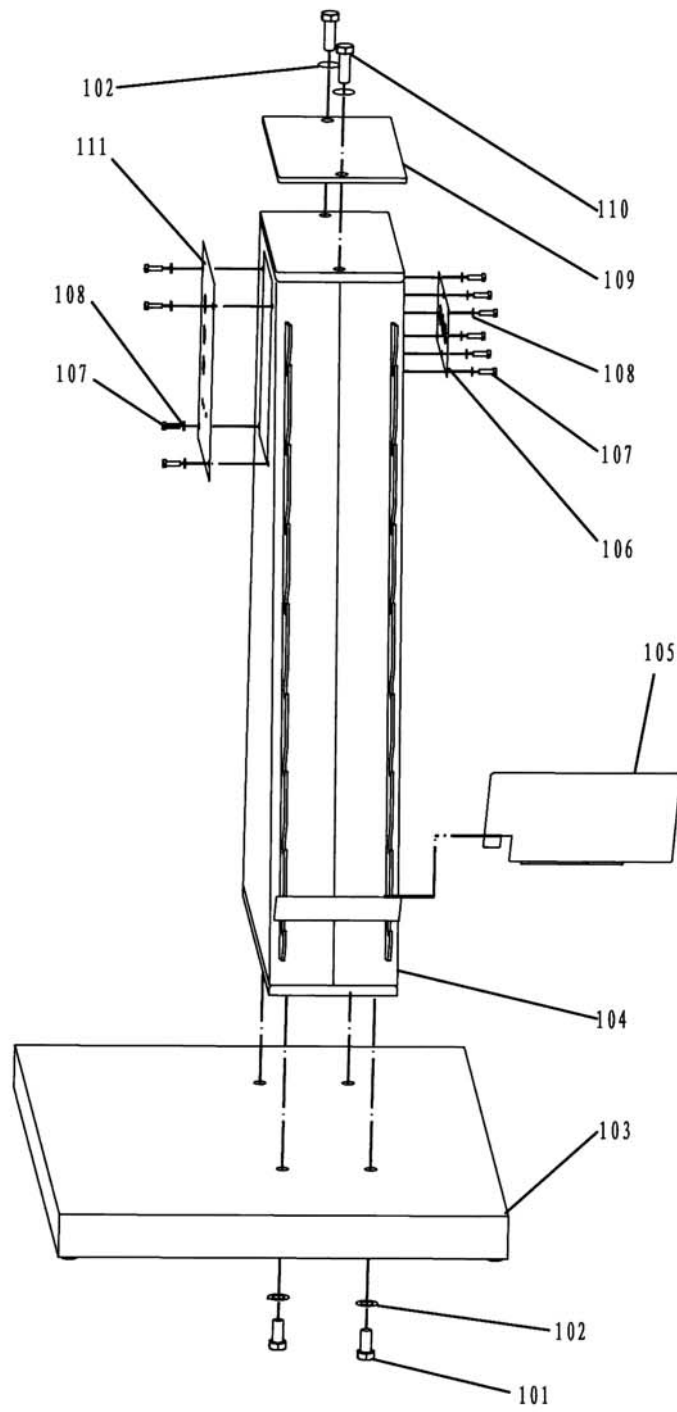
Spare parts orders which do not show the information needed as shown above cannot be taken into consideration. If no information has been given regarding the way of shipment, this will be arranged within the possibilities of the producer.

9.1 Spare parts diagram

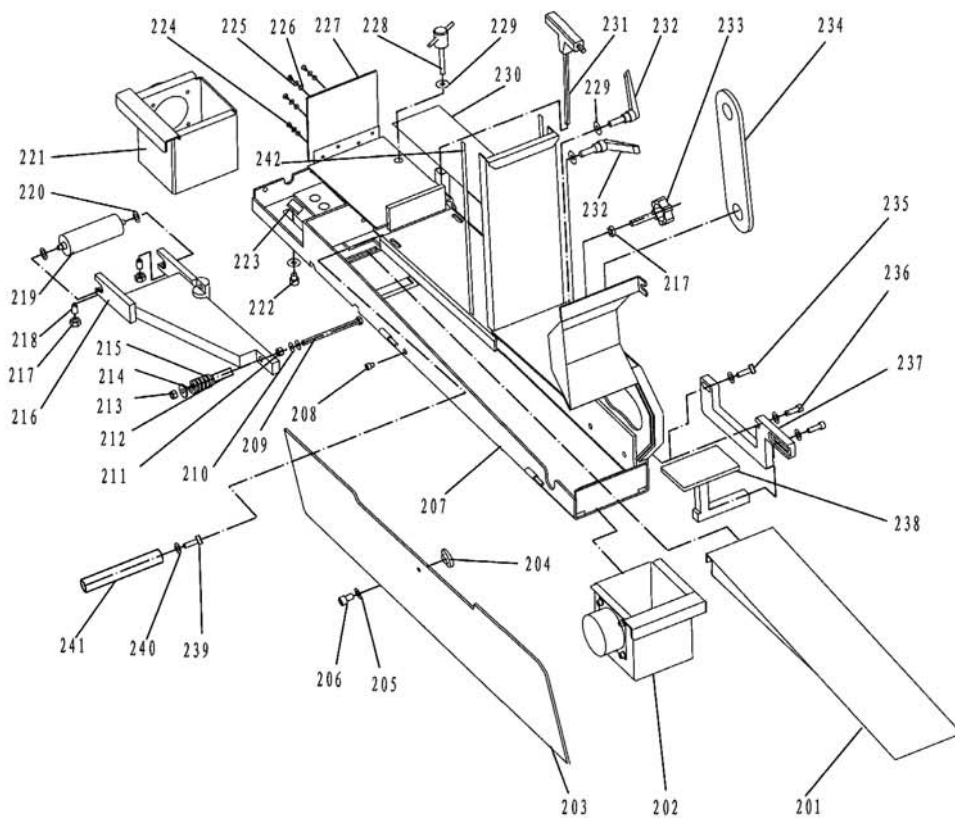
The following diagrams are there to help you, to identify the needed spare parts. If needed, you can make a copy of the diagram with the indicated spare parts and send it to your dealer.



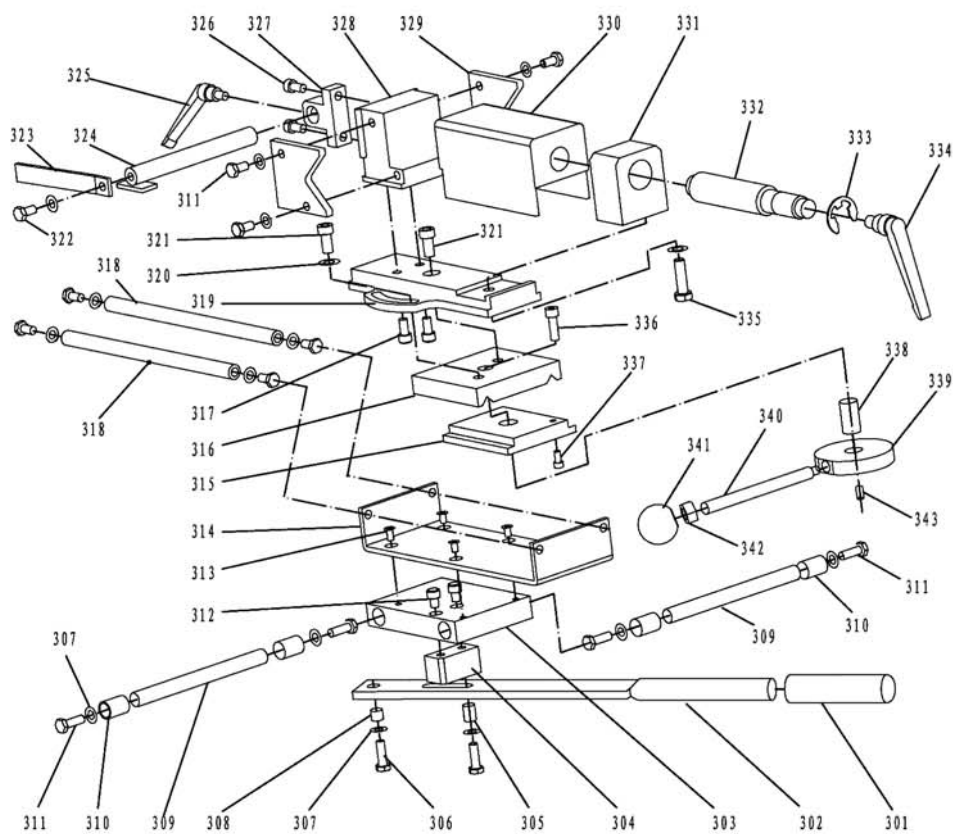
ill. 12: Spare parts diagram



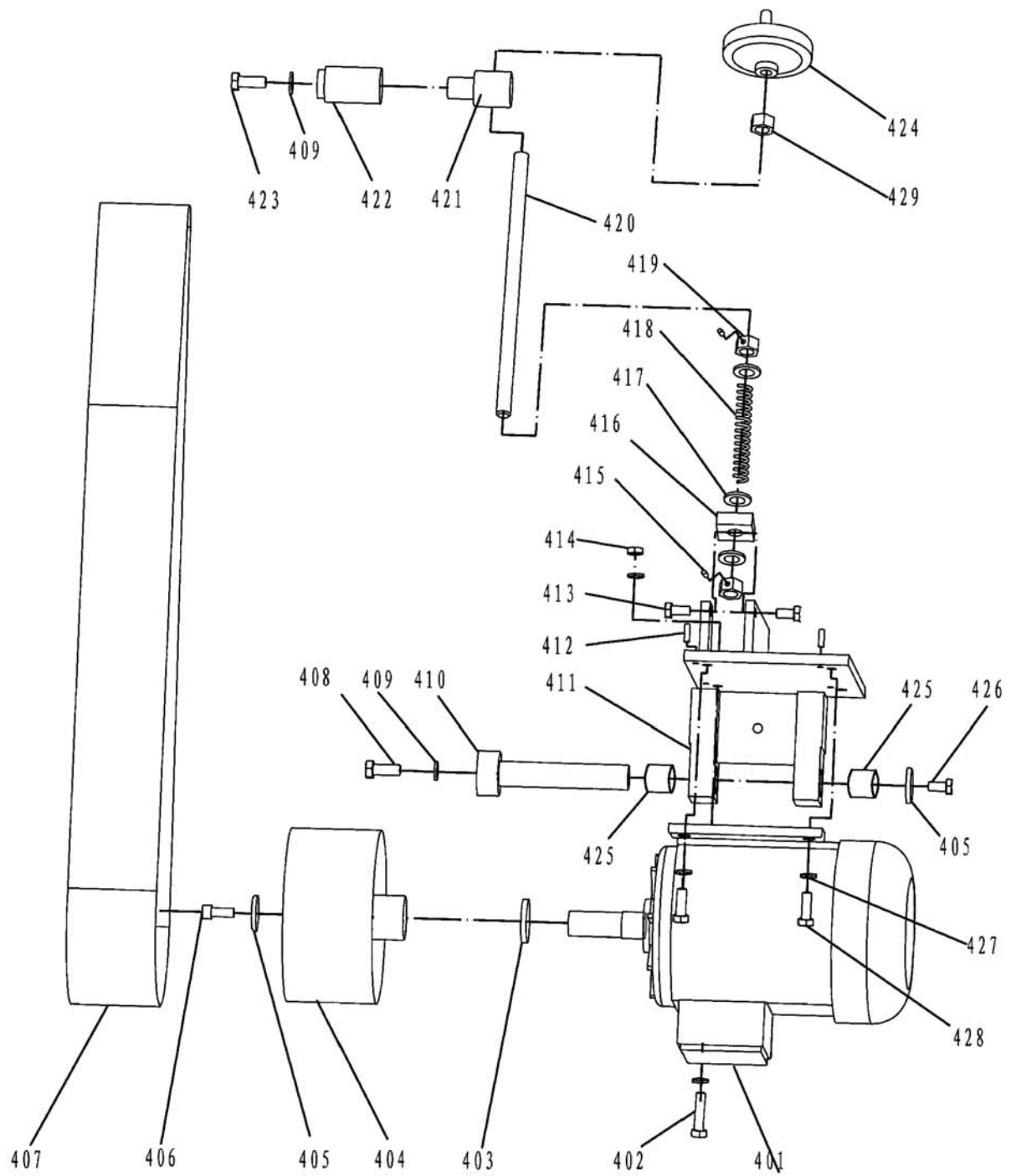
ill. 13: Spare parts diagram 2



ill. 14: Spare parts diagram 3



ill. 15: Spare parts diagram 4



ill. 16: Spare parts diagram5

