AXMINSTER

PROFESSIONAL

AP125MB Swivel Head Bandsaw



The packaging is suitable for recycling.
Please dispose of it in a responsible manner.

EU Countries Only
Do not dispose of electric tools together with household waste material. By law they must be collected and recycled separately.

Fully read manual and safety instructions before use. Save this manual for future reference.

Eye protection should be worn

Ear protection should be worn

Dust mask should be worn

Hazard

The symbols above advise the correct safety procedures when using this machine.

Original Instructions	
Code	**114130**
Version	**1**
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Object of the Declaration: Axminster Professional AP125MB Metal Bandsaw 230v 114130

UK:
Supply of Machinery (Safety) Regulations 2008 as amended
Electromagnetic Compatibility Regulations 2016 as amended
Directive 2011/65/EU (RoHS 2)
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

EU:
Machinery Directive 2006/42/EC
EMC Directive 2014/35/EU
Directive 2011/65/EU (RoHS 2)
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

UK Address:
Newhow Limited.
Trading as Axminster Tools
Weycroft Avenue
Axminster. Devon
EX13 5PH

Standards used or references to the other technical specifications in relation to which conformity is declared:
ISO 12100:2010, ISO 16093:2017, EN 60204-1:2018+A1:2025
IEC 55014-1:2021, IEC 55014-2:2021, IEC 61000-3-2:2019+A1:2021, 61000-3-3:2013+A1:2019+A2:2021

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Place: Axminster



Charlie Cross
Operations Director

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Preface



Before commissioning the machine, please read these operating instructions thoroughly and get familiar with the machine. Please also make sure that all persons operating the machine have read and understood the operating instructions beforehand.
Keep these operating instructions in a safety place nearby the machine.



Information

The operating instructions include indications for safety-relevant and proper installation, operation and maintenance of the machine. The continuous observance of all notes included in this manual guarantee the safety of persons and of the machine.

The manual determines the intended use of the machine and includes all necessary information for its economic operation as well as its long service life.

The illustration and information included in the present manual can possibly deviate from the current state of construction of your machine. Being the manufacturer we are continuously seeking for improvements and renewal of the products. Therefore, changes might be performed without prior notice. The illustrations of the machine may be different from the illustrations in these instructions with regard to a few details. However, this does not have any influence on the operability of the machine. Therefore, no claims may be derived from the indications and descriptions.

Your suggestion with regard to these operating instructions are an important contribution to optimising our work which we offer to our customers. For any questions or suggestions for improvement, please do not hesitate to contact our service department.



Warning

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding toolb integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

1. Safety

This operating instructions

▲explains the meaning and use of the warning notes included in these operating instructions
▲defines the intended use of the metal cutting bandsaw
▲points out the dangers that might arise for you or others if these instructions are not observed.
▲informs you how to avoid dangers.

In addition to these operation instructions, please observe
▲the applicable laws and regulations
▲the statutory provisions for accident prevention
▲the prohibition, warning and mandatory signs as well as the warning notes on the machine.

If required, the relevant measures to comply with the country-specific regulations must be taken before commissioning the machine.

Always keep this documentation close to the metal cutting bandsaw.

1.1 Safety instructions for general machinery

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals:
Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

	For your own safety, read instruction manual before operating the machine. Learn the machine's application and limitations as well as the specific hazards peculiar.
	Always wear approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles Everyday eyeglasses are not approved safety glasses.
	Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear an approved respirator to reduce your risk.
	Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.
	Keep hands and clothing away from moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips which could cause a loss of workpiece control.

Personal protective equipment

protective suit	safety shoes	protective gloves	protective glasses
			



Dirty or contaminated personal protective equipment can cause illness. Clean your personal protective equipment after each use and once a week.

1.2 Intended use

The metal cutting bandsaw is designed and manufactured for use in non-explosive environments.
The metal cutting bandsaw is designed and manufactured to saw cold metal, cast material and plastics or other material that are not hazardous to health and do not generate dust.
The metal cutting bandsaw must not be used on wood.
The pieces to be cut must be of a shape that will allow them to be securely clamped in the machine vice and ensure that the piece does not come loose when it is being sawn.
The metal cutting bandsaw must only be installed and operated in dry and ventilated areas.

1.3 Safety instructions for metal cutting bandsaw

BLADE CONDITION	Do not operate with dull, cracked or badly worn blade. Inspect blades for cracks and missing teeth before each use.
HAND PLACEMENT	Never position fingers or thumbs in line with the cut. Hands could be crushed in vise or by falling machine components.
ENTANGLEMENT HAZARDS	Do not operate this bandsaw without blade guard in place. Otherwise, loose clothing, jewelry, long hair and work gloves can be drawn into working parts.
BLADE REPLACEMENT	When replacing blades, make sure teeth face toward the workpiece. Wear gloves to protect hands and safety glasses to protect eyes
WORKPIECE HANDLING	Always support the workpiece with table, vise, or some type of support fixture. Flag long pieces to avoid a tripping hazard. Never hold the workpiece with your hands during a cut.
LOSS OF STABILITY	Unsupported workpieces may jeopardize machine stability and cause the machine to tip and fall which could cause serious injury.
POWER INTERRUPTION	Unplug machine after power interruption. Machines without magnetic switches can start up after power is restored.
FIRE HAZARD	Don't use the wrong cutting fluid which will lead to chip fire and possible explosion.
CUTTING FLUID SAFETY	Always follow manufacturer's cutting fluid safety instructions. Pay particular attention to contact, contamination, inhalation, storage and disposal warnings. Spilled cutting fluid is a slipping hazard.
ATTENTION TO WORK AREA	Never leave a machine running and unattended. Pay attention to the actions of others in the area to avoid unintended accidents.
MAINTENANCE/SERVICE	All inspections, adjustments, and maintenance are to be done with the machine OFF and the plug pulled from the outlet. Wait for all moving parts to come to a complete stop.
HEARING PROTECTION & HAZARDS	Noise generated by blade and workpiece vibration, material handling, and power transmission can cause permanent hearing loss over time and interfere with communication and audible signals. Always wear hearing protection.
HOT SURFACES.	Due to friction, the workpiece, chips, and some machine components can be hot enough to burn you.



No list of safety guidelines can be complete. Every shop environment is different. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

1.4 Safety devices

The metal cutting bandsaw must only be used with fully functional safety devices. Stop the metal cutting bandsaw immediately if a safety device is defective or becomes ineffective. This is your responsibility!

If a safety device has been activated or has failed, the machine must only be used if you have eliminated the cause of the fault and have verified that there is no danger to personnel or objects.



If you bypass, remove or override a safety device in any other way, you are endangering yourself and other persons working with the machine. The possible consequences are:
▲injuries due to components or parts of components flying off at high speed,
▲contact with rotating and circulating parts
▲and fatal electrocution.

The metal cutting bandsaw features the following safety devices:

▲a protective cover for the V-belts
▲a saw blade casing with protective cover at the rear,
▲protective covers on the saw belt guide.

1.4.1 Saw arch

The saw arch of the metal cutting bandsaw is fitted with a protective cover which is firmly bolted into place. The protective cover protects the belt guide pulleys and the rotating saw belt.



WARNING! Danger of injury! The teeth of the saw belt are sharp. Take great care when opening the protective cover to change the saw belt.
Close and mount all protective covers before restarting the metal cutting bandsaw.

1.4.2 Saw blade guide

Refit the protective covers after each saw blade change.

1.4.3 V-belt casing

The V-belt casing is fitted with a protective cover. The protective cover shields the V-belt pulleys.



WARNING! Pull out the mains plug before you open the casing and change the saw belt speed.

The metal belt saw switches on only when the protective cover is closed. Close all protective covers before restarting the metal belt saw.

1.5 Reasonably foreseeable misuse

Any use other than that specified under "Intended use" or any use beyond the described use will be deemed non-intended use and is not permissible. Any other use must be discussed with the manufacturer.

In order to avoid misuse, the operating instructions must be read and understood before first commissioning. The operator of the metal cutting bandsaw must be duly qualified.

1.5.1 Avoiding misuse

▲ Use the correct metal belt saw bands and tooth pitch, depending on the material to be sawn.
▲ Correct belt speed and feed rate of the material to be sawn.
▲ Clamp the workpiece firmly and as free of vibration as possible.
▲ Long workpieces must be supported. Use a suitable support.

1.6 Possible dangers caused by the metal cutting bansdaw

The metal cutting bandsaw has undergone a safety inspection (hazard analysis with risk assessment). It has been designed and built on the basis of this analysis using state-of-the-art technology.

Anyway, there is a residual risk as the machine operates under electrical voltage and currents and saw blade.

We have used design and safety engineering to minimize the health risk to personnel resulting from these hazards. If the machine is used and maintained by personnel who are not duly qualified, there may be a risk resulting from incorrect or unsuitable maintenance.

This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages.

Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

1.7 Operator positions

The operator must stand beside the metal cutting bandsaw.

The mains plug of the metal cutting bandsaw must be freely accessible.

1.8 Safety check

Check all safety devices when starting any task, once a week and after any maintenance and repair work. The metal belt saw switches on only when the protective cover is closed. Close all protective covers before restarting the metal belt saw.

1.9 Safety during operation

We specifically point out the dangers in the description of work with and on the metal cutting bandsaw.

CAUTION! Before switching on the metal band saw, ensure that there is no risk of personal injury or damage to property.

Avoid any unsafe work methods:

▲ Make sure that your operation does not create a safety hazard.

▲ The rules specified in these operating instructions must be observed during assembly, operation, maintenance and repair.

▲ Do not work on the metal belt saw if your concentration is reduced, for example because you are taking medication.

▲ Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other supervisory authorities responsible for your company.

▲ Stay with the metal belt saw until all movements have come to a complete standstill.

▲ Use the specified personal protective equipment. Ensure you wear well-fitting clothing and, if necessary, a hairnet.

1.9.1 Disconnecting and securing the metal cutting bandsaw

Pull out the power plug before beginning any maintenance or repair. All machine parts as well as all dangerous voltages must be switched off.



Live parts and movements of machine parts can cause severe injury to yourself and others! Proceed with extreme caution, if the mains plug of the metal belt saw cannot be disconnected due to the nature of the required work (e.g. functional check).

1.9.2 Using lifting equipment



The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension equipment are of sufficient load-bearing capability and are in perfect condition. Fasten loads carefully. Never walk under suspended loads!

1.9.3 Mechanical maintenance

Remove or install protective safety devices before starting and after completing any maintenance tasks, including:

▲ covers ▲ safety instructions and warning signs ▲ grounding cables.



If protection or safety devices are removed, they must be refitted immediately after completion of the work. Check that they are working properly!

2. Technical Specification

The following information represents the dimensions and weight information and the manufacturer's approved machine data.

2.1 General

Model number	**MCB128SHD**
Motor power	550W
Saw blade dimension	1640 x 12.7 x 0.64 mm (Bi-Metal saw blade)
Packing size	940 x 450 x 550mm 655 x 455 x 205mm
Packing material	Two cartons
N/G Weight	70/72kgs 17/18.5kgs

2.2 Cutting area

Model number	**MCB128SHD**
Cutting at 90 degree	 125x120mm  128mm
Cutting at 45 degree	 80x80mm  85mm
Cutting at 60 degree	 75x25mm  30mm

2.3 Saw blade speed

V-belt drive	**MCB128SHD**
m/min (50HZ)	24 / 35 / 55 m/min

2.4 Operating material

Lowering cylinder	Hydraulic oil, viscosity 32 - 46 in accordance with DIN 51519, HLP quality
Worm gear	Mobilgear 629, ISO VG 150 or a comparable oil
Machine vice spindle	Machine oil

2.5 Emissions

The noise (emission) generated by the metal belt saw is 78 dB(A) at idle speed.
If the metal belt saw is installed in an area where various machines are in operation, the noise exposure (immission) on the operator of the metal belt saw at the workplace may exceed 80dB(A).

INFORMATION



This numerical value was measured on a new machine under the operating conditions specified by the manufacturer. The noise behaviour of the machine may change depending on the age and wear of the machine. Furthermore, the noise emission also depends on production engineering factors, speed, material and clamping conditions.

INFORMATION



The specified numerical value is the emission level and not necessarily a safe working level. Although there is a correlation between the degree of noise emission and the degree of noise disturbance, this cannot be used reliably to determine whether further precautionary measures are required or not.

The following factors influence the actual degree of noise to which the operator is exposed:



- ▲ Characteristics of the working area, e.g. size of damping behaviour,
- ▲ other noise sources, e.g. the number of machines,
- ▲ other processes taking place in proximity and the period of time, during which the operator is exposed to the noise.

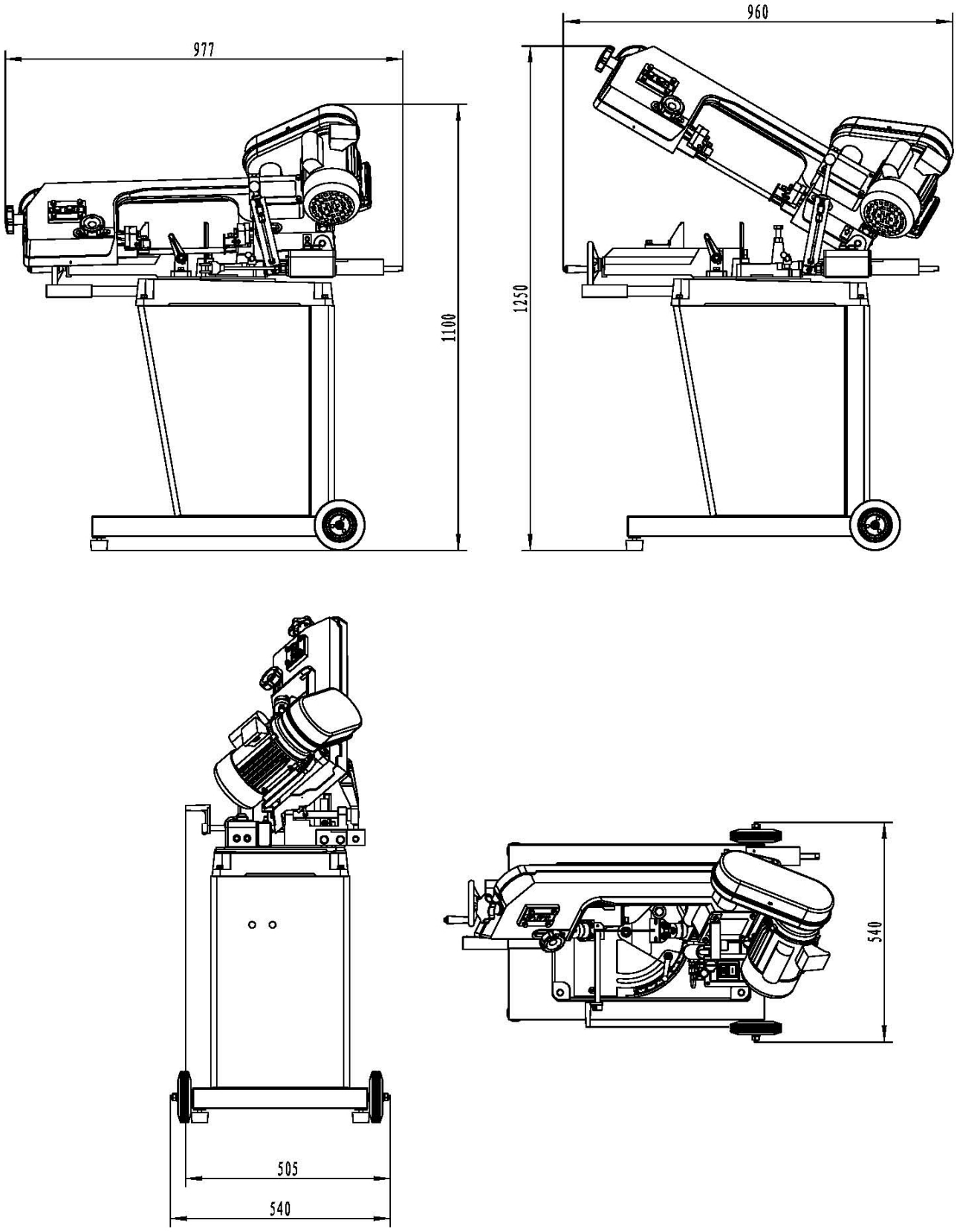
Furthermore, it is possible that the admissible exposure level may vary from country to country due to national regulations.
This information about the noise emission should, however, allow the operator of the machine to more easily evaluate the hazards and risks.

CAUTION!



Depending on the overall noise exposure and the basic threshold values, machine operators must wear appropriate ear protection. We generally recommend the use of noise and ear protection.

2.6 Dimensions



3. Assembly

The metal belt saw is delivered pre-assembled. After unpacking, the metal belt saw must be installed.

3.1 Unpacking the machine

Transport the metal belt saw in its packing crate to a place near its final installation site before unpacking it. If the packaging shows signs of possible transport damage, take the necessary precautions not to damage the machine when unpacking. If any damage is discovered, the carrier and/or shipper must be notified of this fact immediately to establish any claim which might arise.

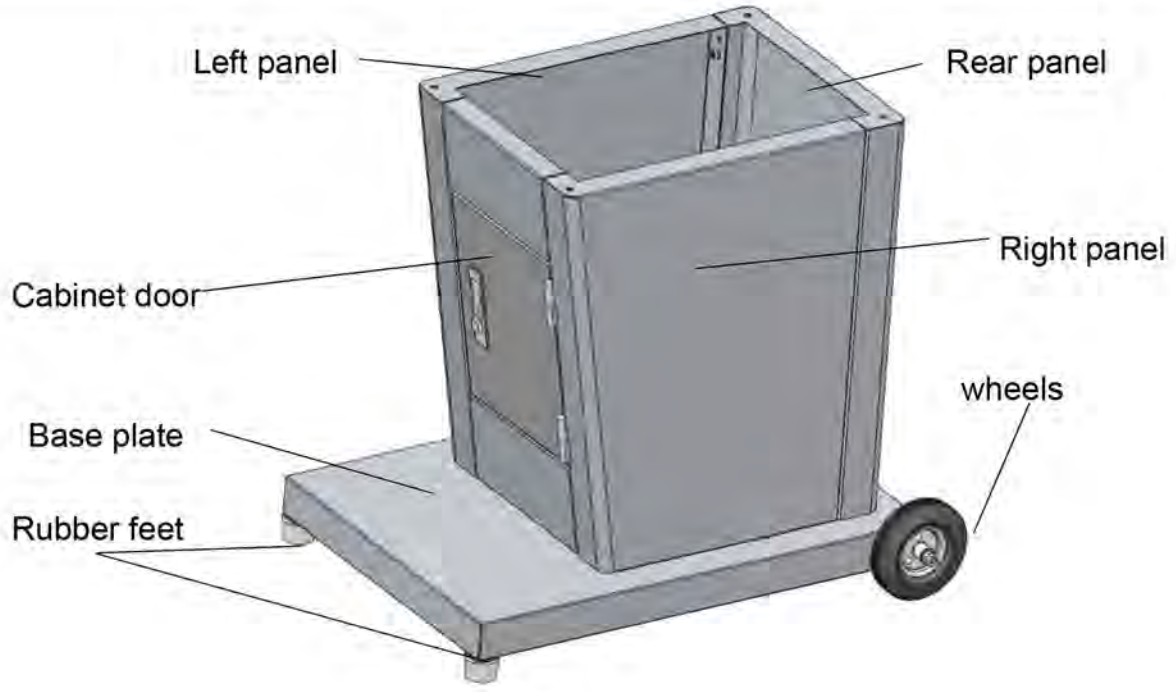
Inspect the machine completely and carefully, making sure that all materials, such as shipping documents, instructions and accessories supplied with the machine have been received.

3.2 Scope of delivery

3.2.1 MCB128SHD

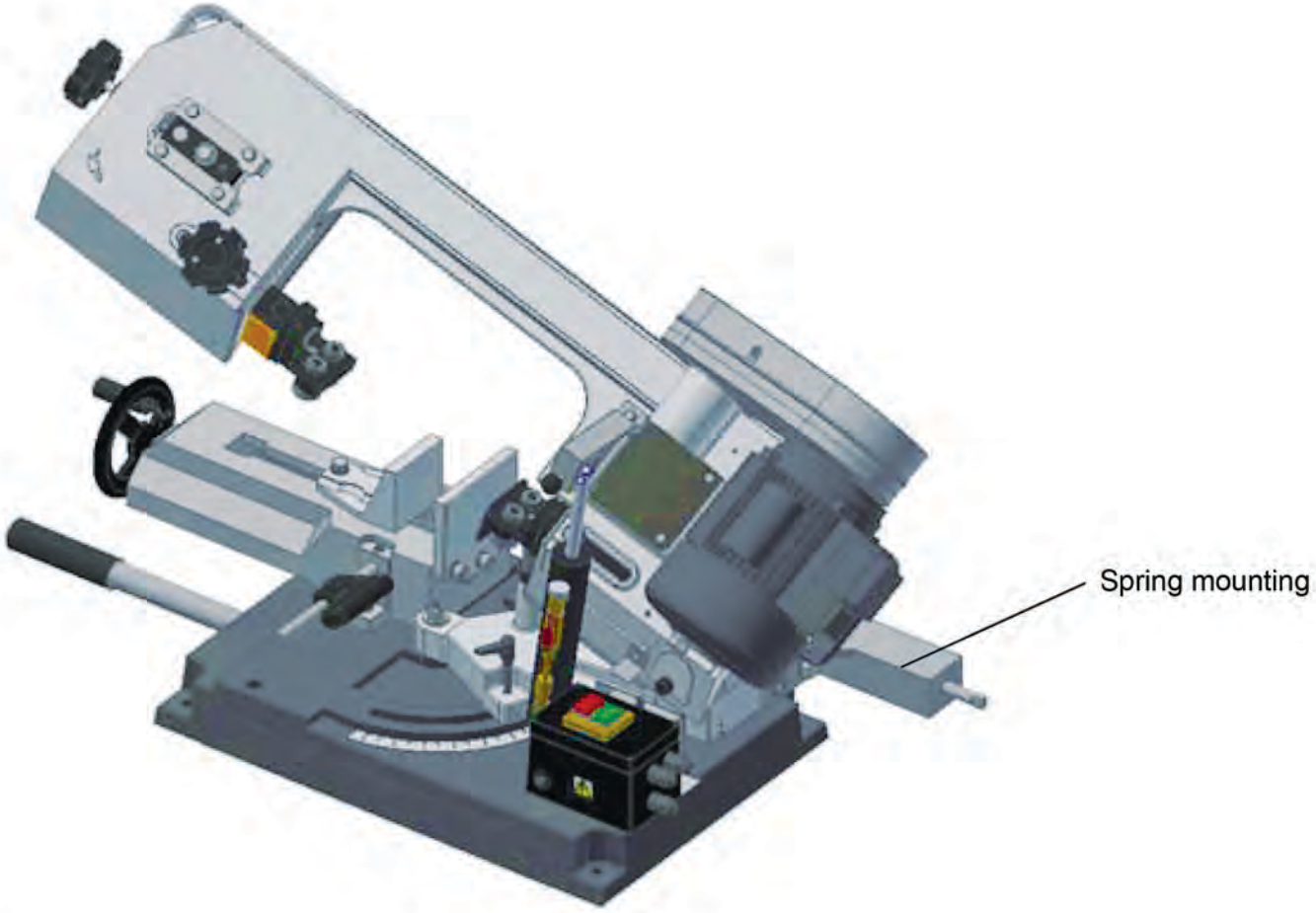
The machine are packed in two cartons.
One of these contains the cabinet, the second contains the metal bandsaw.
The packing unit for the cabinet contains the following components:

1 x baseplate	1 x right panel	1 set of bolts, washers and nuts comprising: 2 x M10 self-locking nuts for the axle,2 x axle washers, 12 x M5 square round-head bolts for the sides of the machine substructure + nuts + washers + spring washers 6 x M6 cylindrical cross-head bolts + washers for fixing the panels to the baseplate
1 x front pane	2 x wheels	
1 x rear panel	1 x axle	
1 x left panel	2 x rubber feet	



The packing unit for the metal cutting bandsaw contains the following components:

1 x metal bandsaw	1 set of bolts, spring washers and washers for fastening the spring mounting and metal belt saw to the machine substructure.
1 x spring mounting	

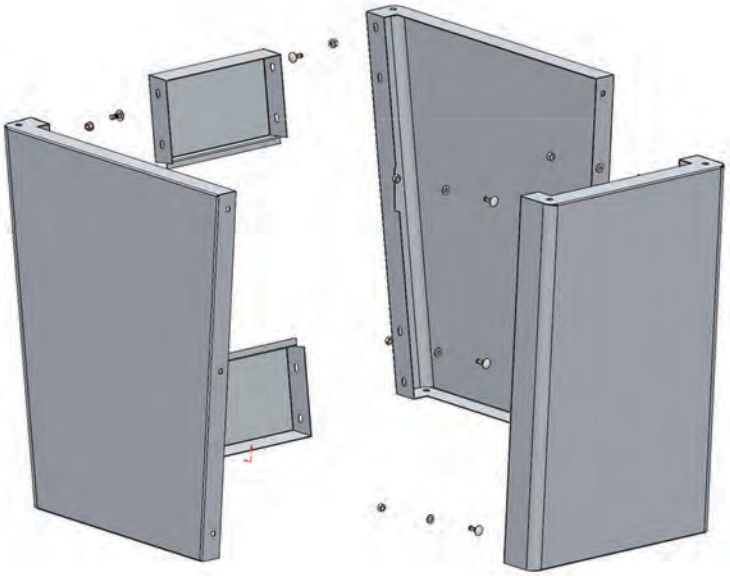


3.3 Assembly

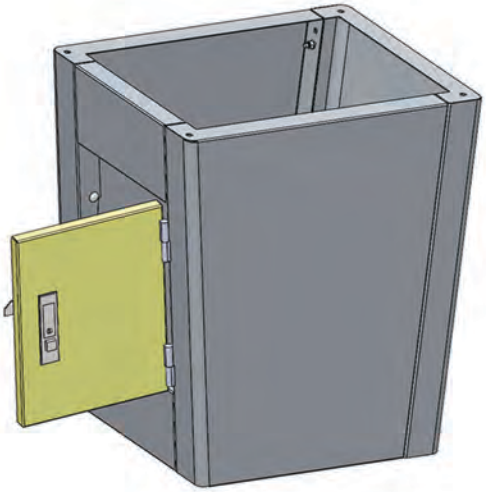
First assemble the machine substructure, so that you can continue with assembly and make the necessary adjustments to the metal belt saw on the machine substructure.

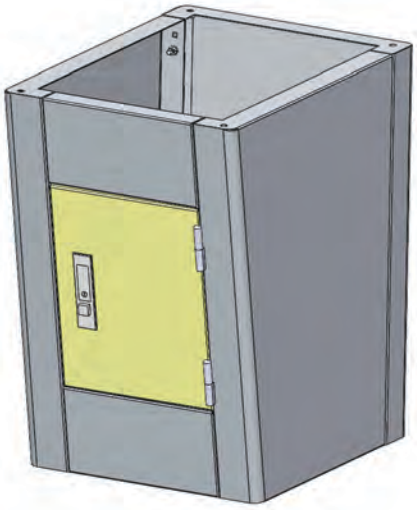
WARNING!
Assemble the metal belt saw only when all the parts required have been found or replaced.
The metal belt saw may only be commissioned after proper assembly.

1. Bolt the panels of the cabinet together

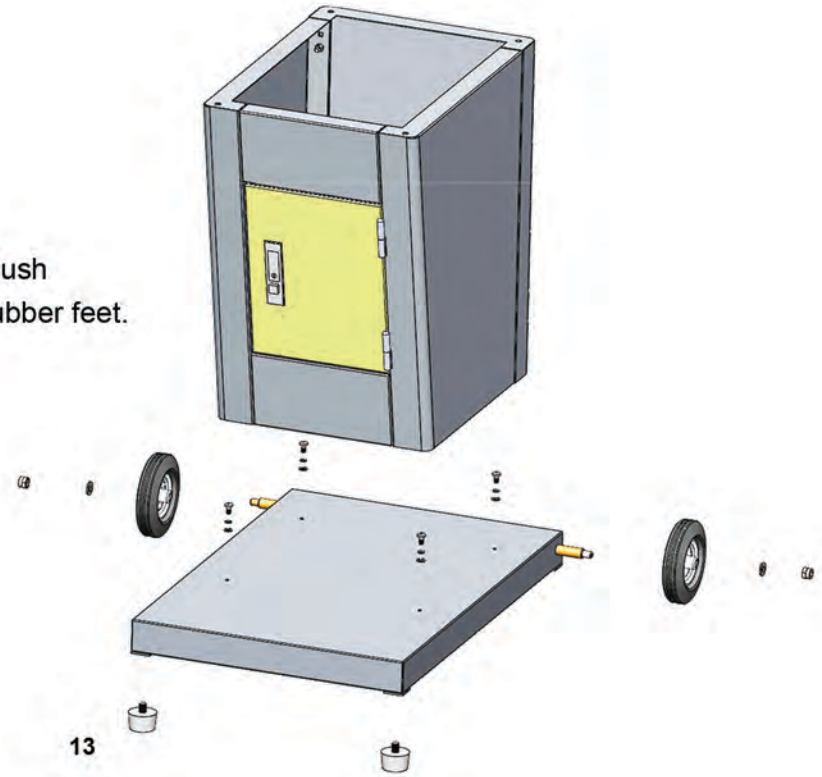


2. Make the machine substructure as following.

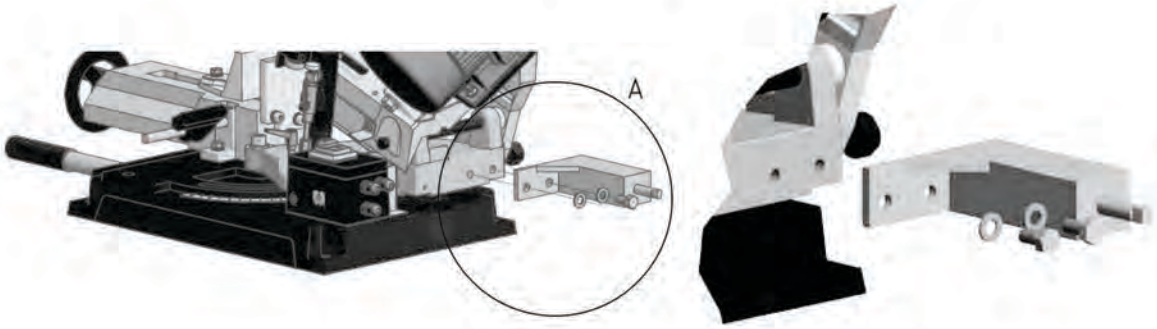




3. Fix the bolted panels to the baseplate; push in the axle and attach the wheels and rubber feet.



4. Assemble the counterpressure bearing spring mounting. **(FOR MCB128SHD ONLY)**



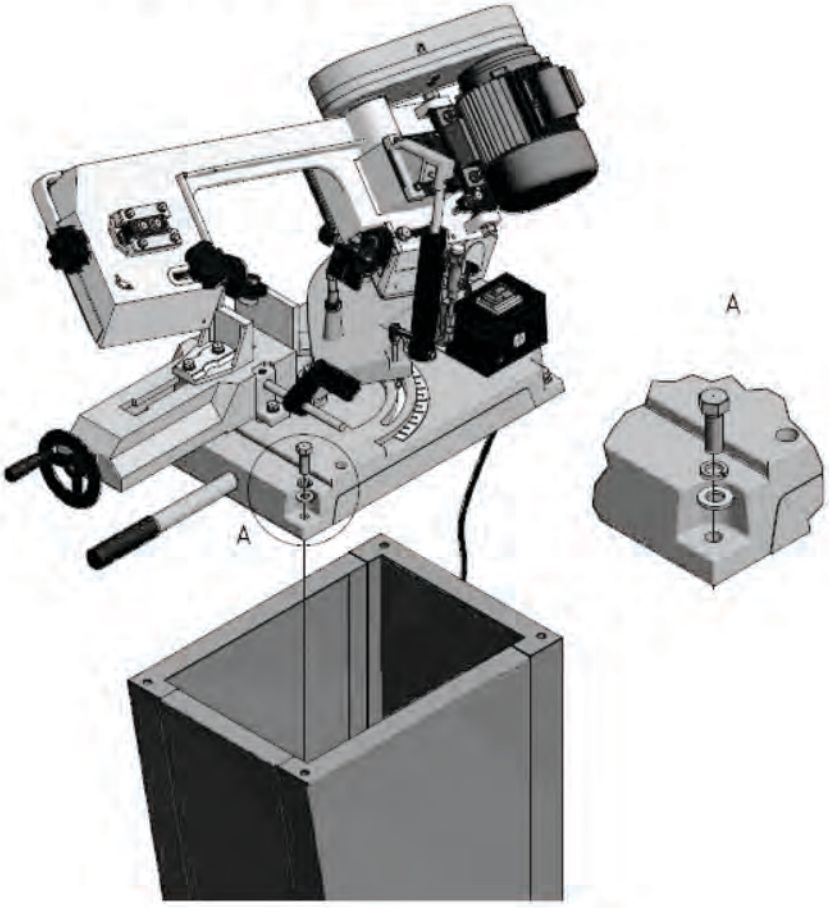
5. Place the metal bandsaw on the machine substructure and bolt the two parts together. (**FOR MCB128SHD ONLY**)

DANGER!

Danger of crushing and overturning. The metal belt saw must be fitted to the machine substructure by at least 2 people. Weight 75 kg excluding the machine substructure.

CAUTION!

The acceptable load for individuals may be exceeded when the metal belt saw is fitted to the machine substructure. Wear safety shoes.



6. Place the oil drip tray, metal bandsaw on the machine substructure and bolt the three parts together. (**FOR MCB128SHD-B ONLY**)



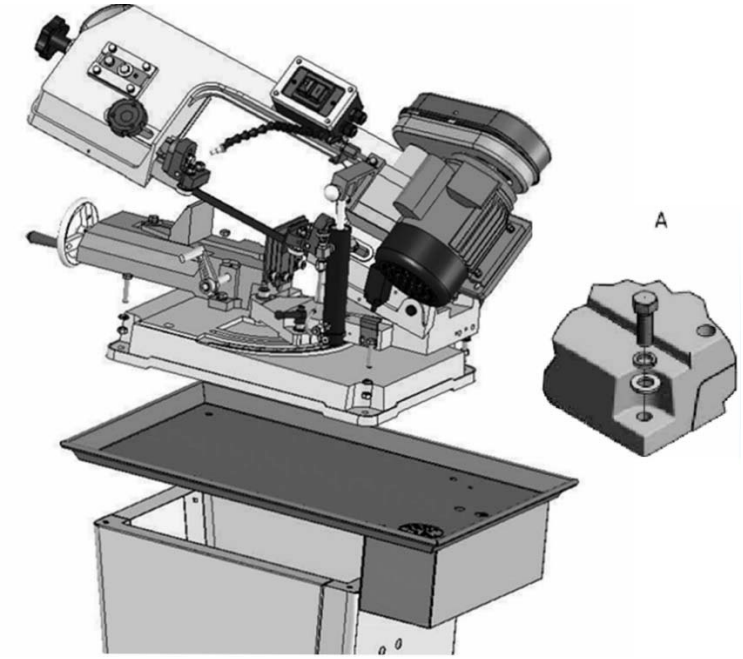
DANGER!

Danger of crushing and overturning. The metal belt saw must be fitted to the machine substructure by at least 2 people. Weight 75 kg excluding the machine substructure.

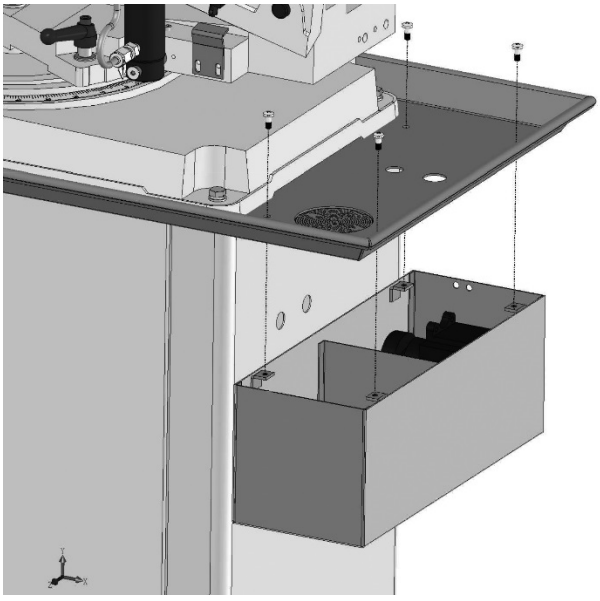


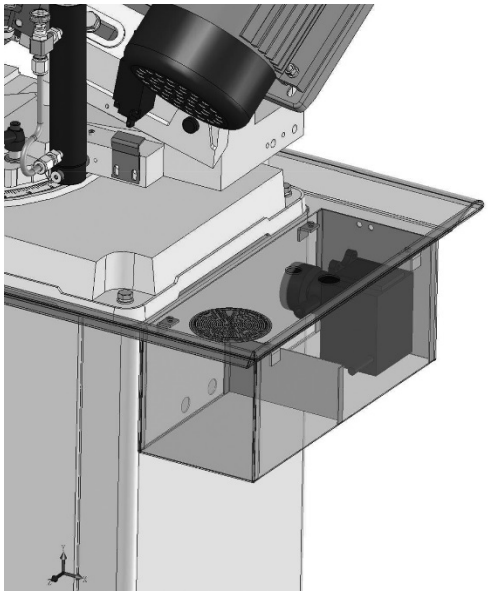
CAUTION!

The acceptable load for individuals may be exceeded when the metal belt saw is fitted to the machine substructure. Wear safety shoes.



7. Assemble the cooling pump system on the drip tray. (**FOR MCB128SHD-B ONLY**)



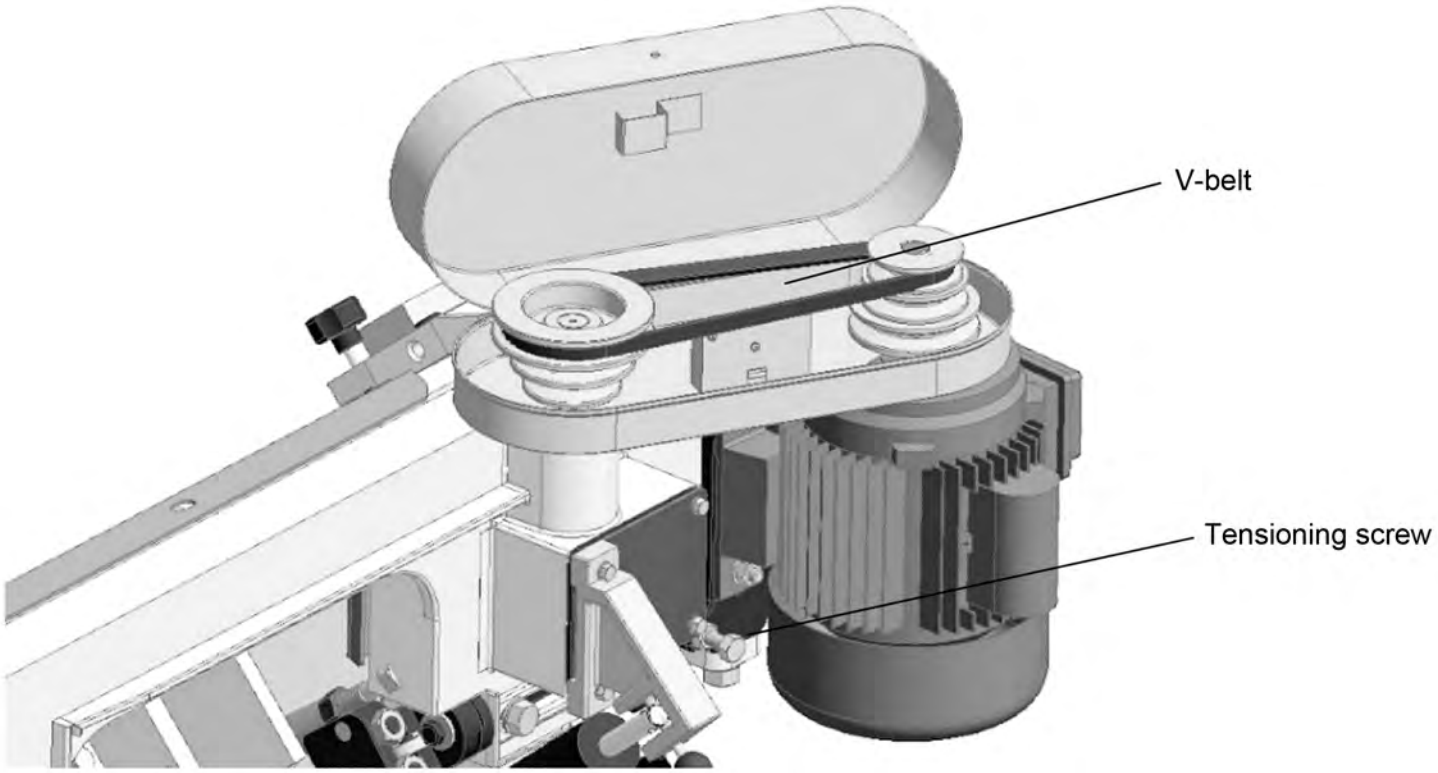


3.4 Adjustment prior to commissioning

WARNING!
Pull out the mains plug, should this be plugged in already.

3.4.1 V-Belt tension

▲ Check the V-belt tension.
▲ Tighten or slacken the V-belt with the tensioning screw and Allen screw on the motor.
▲ Check the V-belt tension. The tension in the V-belt is correct if you can still push it in approximately 1 cm with your index finger.
▲ Reclose and bolt the protective cover.



3.4.2 Position and direction of the saw blade

WARNING!

Danger of injury! The teeth of the saw blade are sharp. Wear protective gloves.

▲Check the position of the saw blade The saw blade must be seated on the shoulders of the saw blade rollers and be located between the blade guide rollers.

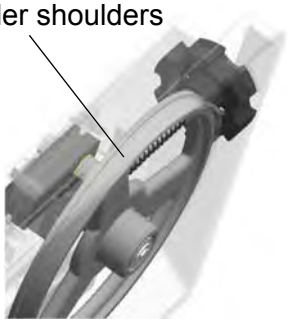
▲Check the direction of the saw teeth. The saw teeth must point in the direction of the drive motor looking from the operator's position.

▲You will need to remove the rear protective cover on the saw arch to be able to carry out the checks.

saw blade



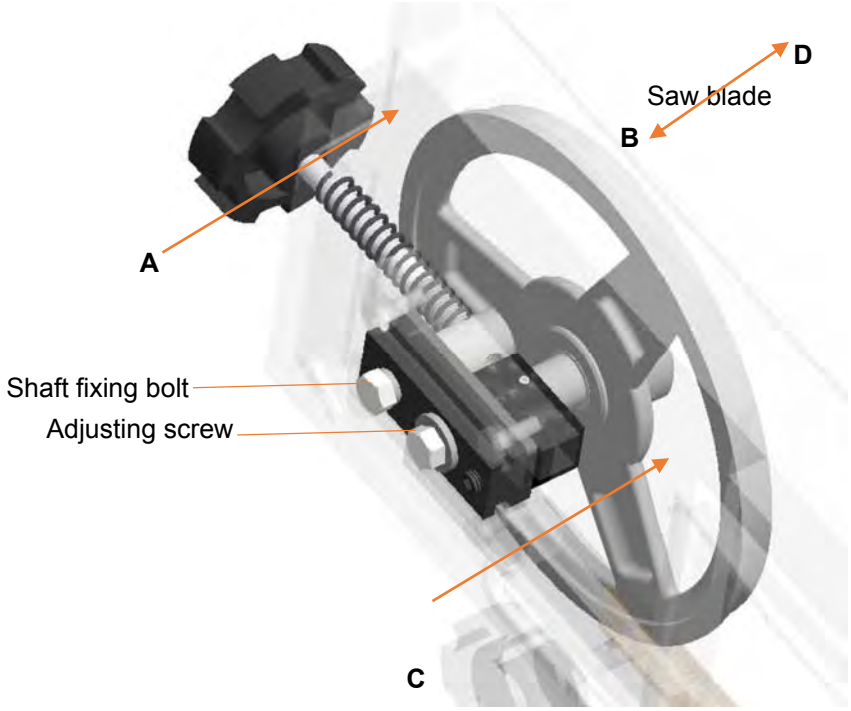
saw blade roller shoulders



▲Turn the front saw blade rollers several times by hand. To do this, slacken the V-belt and remove it from the V-belt washers. The saw blade must not move.

▲If the saw blade moves on the saw blade rollers or rubs too heavily on the shoulders of any of the saw blade rollers, the position of the front saw belt roller must be altered.

3.4.3 Altering the position of the saw blade roller



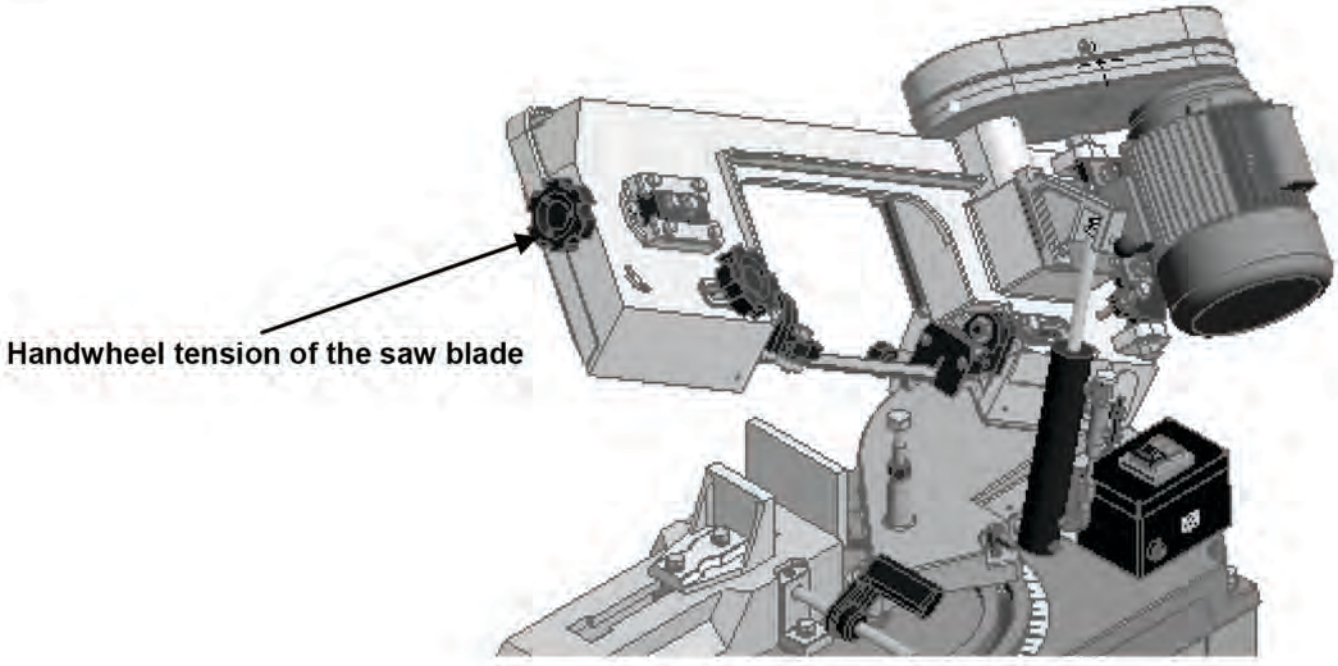
This setting can only be made, if the saw belt roller is not in use.
▲Loosen the shaft fixing bolt.
▲Change the position of the saw belt roller slightly using the adjusting screw.
▲Retighten the shaft fixing bolt.

INFORMATION

Reference value:
Changing the position of the front saw blade roller with new and non-"spherical" saw belt rollers in direction **A** by unscrewing the adjusting screw causes the saw belt to move in direction **B.** Changing the position of the front saw belt roller with new and non-"spherical" saw belt rollers indirection **C** by screwing the adjusting screw in causes the saw belt to move in direction **D.** In the event of any doubt about the present position of the saw blade roller, unscrew the shaft fixing bolt by about 3 turns and unscrew the adjusting screw by a few turns. Retighten the nut on the shaft fixing bolt. Now screw in the adjusting screw again until it makes contact with the bearing block.

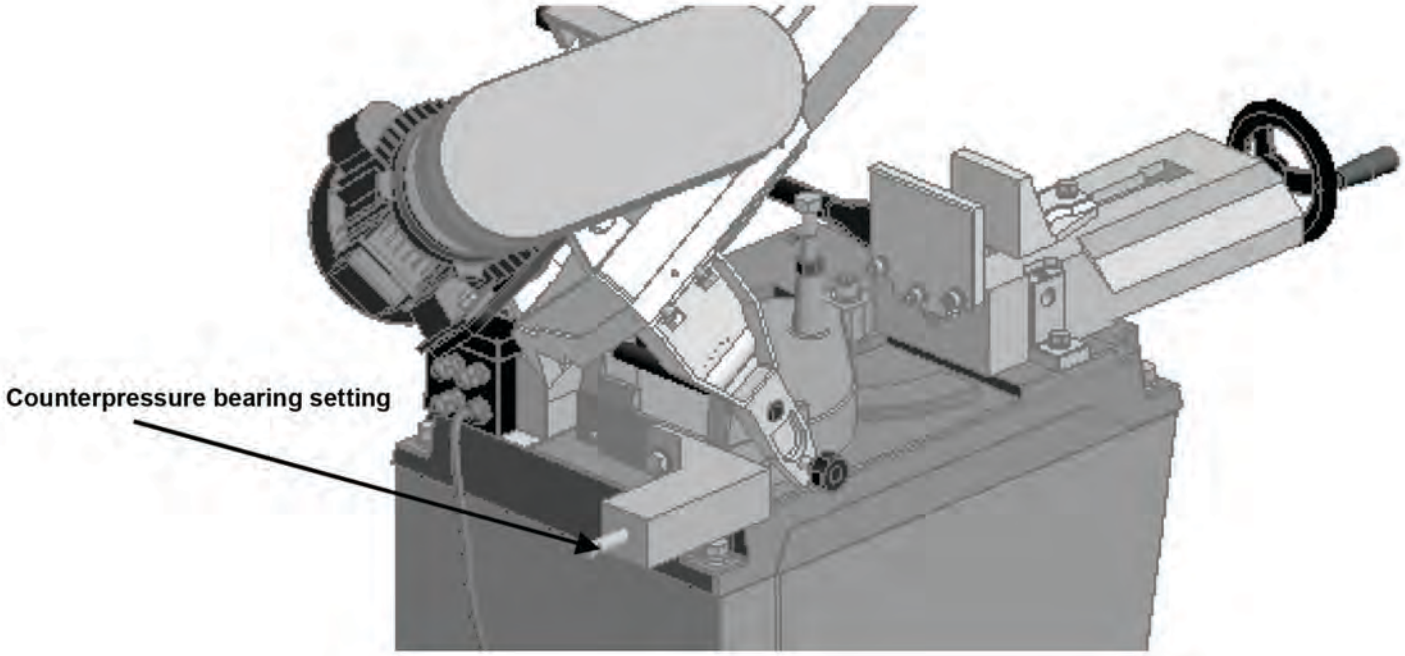
3.4.4 Saw blade tension

▲Check the saw blade tension.
▲Tighten or loosen the saw blade .
▲The correct saw blade tension is achieved, when you can move the saw blade in the centre by 3 mm with a force of about 50 N (5 kg). The left and right saw belt guide is also completely pushed on.



3.4.5 Setting the counterpressure bearing (FOR MCB128SHD ONLY).

The counterpressure bearing keeps the saw arch under pressure after the saw cut has ended. Set the spring tension accordingly.



3.5 Initial commissioning

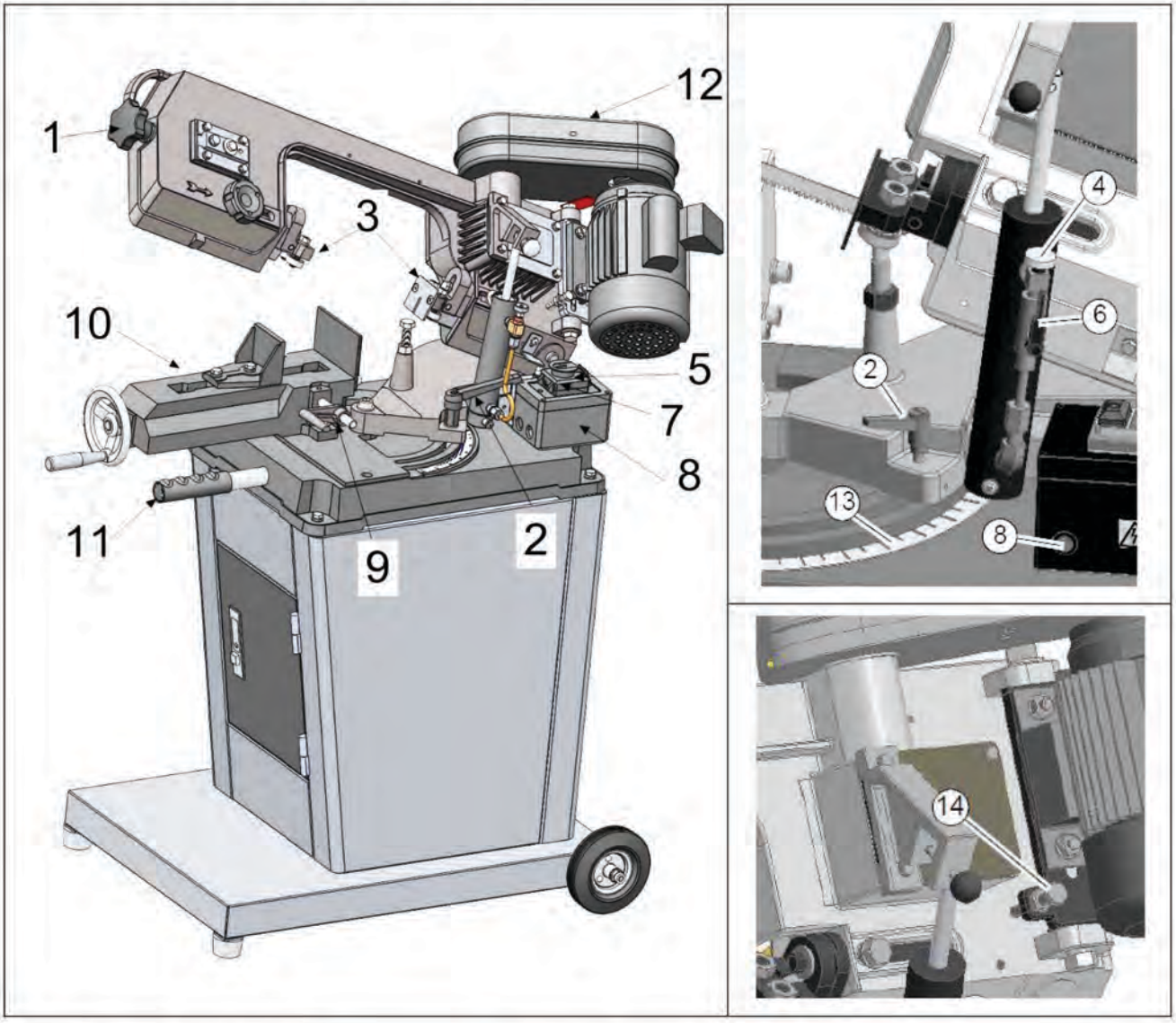
WARNING!

When first commissioning the metal belt saw by inexperienced staff you endangerpeople and the machine. The metal belt saw may only be commissioned after proper assembly.

We do not accept any liability for damage caused by incorrectly performed commissioning.

4. Operation

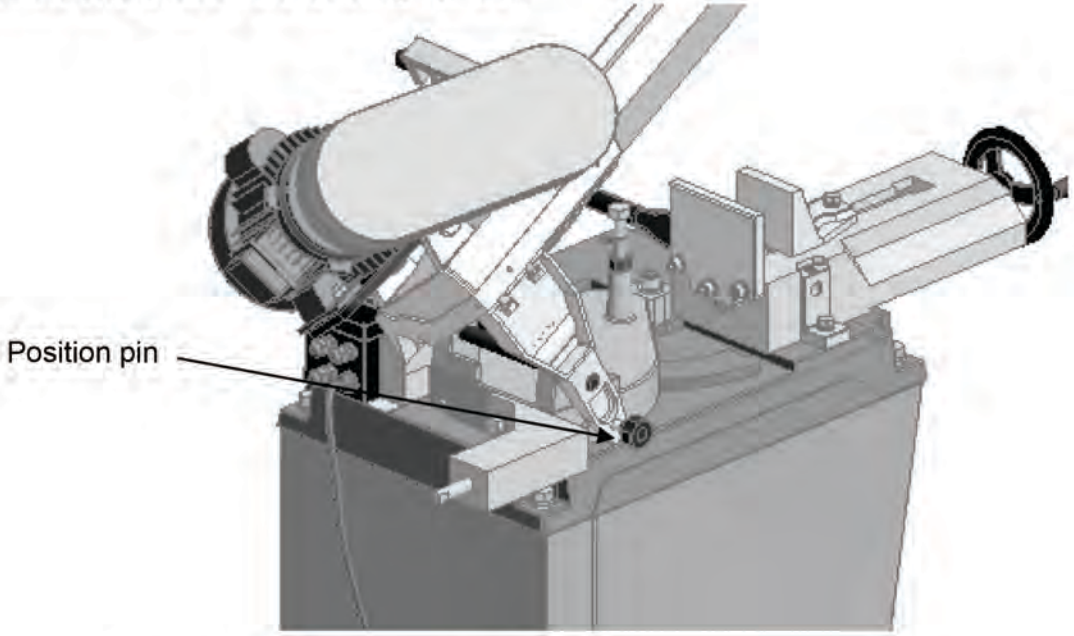
4.1 Control and indicating elements



Item	Description	Item	Description
1	Saw blade tension	2	Clamping lever for the tilting saw arch
3	Adjustable saw blade guide	4	Feed control valve
5	Push button "ON"	6	Stop cock
7	Push button "OFF"	8	Push button "Reset motor circuit breaker"
9	Material stop	10	Vice
11	Push-in transport rod	12	V-belt housing
13	Angle scale	14	V-belt tension setting

4.2 Inserting the workpiece

▲ Raise the saw arch and push the position pin into the hole.
▲ Close the stop cock on the lowering cylinder.



▲ Place the piece to be cut in the machine vice.

CAUTION!
Risk of toppling the metal band saw. Support long work pieces before pushing the piece to be cut into the work-holder vice.

4.3 Starting the metal bandsaw

▲ Connect the electrical supply cable.
▲ Select the saw belt speed.
▲ Press the push button "On".

4.4 Switching off the metal bandsaw

▲ Press the push button "Off".
▲ Pull out the mains plug if the machine is not to be used for a protracted period.Place the piece to be cut in the machine vice.

CAUTION! Risk of toppling the metal band saw.
Support long work pieces before pushing the piece to be cut into the work-holder vice.

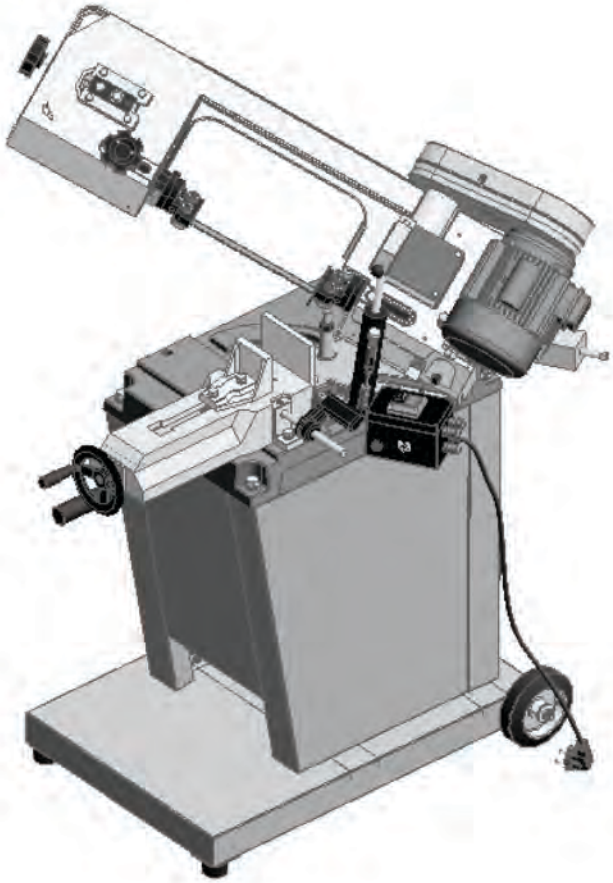
4.5 Restarting the metal bandsaw

If the motor circuit breaker is triggered, the metal belt saw must be restarted.
▲ Press the push button "Reset".
▲ Press the push button "On".

4.6 Sawing of angles

To saw angles greater than 45° to 60°, the vice must be offset.





ATTENTION!

Make sure that the saw is clean and free of chips in the slewing area before adjusting it.

▲ Remove the vice.
▲ Fix the vice in the new position.
▲ Turn the saw arch to the required cutting position.
▲ Tighten the clamping lever.

4.7 Adjusting the saw blade guide

Change the position of the saw blade guide depending on the size of the pieces to be cut.

▲ Loosen the adjusting screw.

▲ Adjust the saw blade guide close to the workpiece without influencing or hindering the sawing procedure.

▲ Re-tighten the adjusting screw.

ATTENTION!

An unnecessarily wide space between the workpiece and the saw belt guide, in combination with a high feed rate causes the saw belt to wear very quickly.

4.8 Setting the saw blade speed

WARNING!

Pull out the mains plug before you open the protective cover. Close and screw down the protective cover after each change of speed.

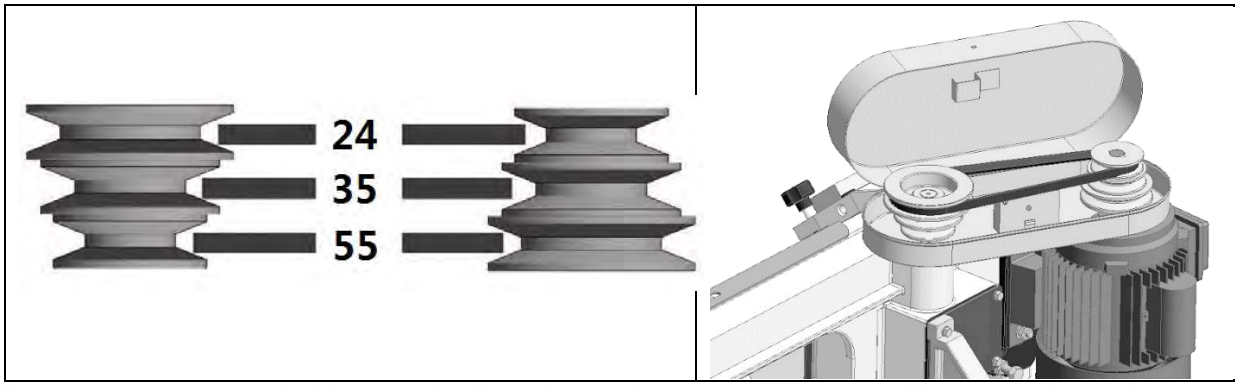
▲ Disconnect the metal bandsaw from the power supply.
▲ Slacken the V-belt with the tensioning screw and Allen screw on the motor.
▲ Place the V-belt in the required position on the pulleys.
▲ Tighten the V-belt with the tensioning screw and Allen screw on the motor.
▲ Check the V-belt tension.
▲ Close and bolt down the protective cover.

INFORMATION

It is impossible to start the machine when the protective cover is not closed.

ATTENTION!

Ensure that the V-belt is tensioned correctly. Too high or too low tension of the V-belt can cause damage.



Material	[m/min]	Material	[m/min]	Material	[m/min]
Tool steel	24	semi-hard alloyed carbon steel	35	Low-alloy carbon steel	55
Nickel-chrome steel		Hard brass		Soft brass	
High-grade steel					
Medium to high alloy carbon steels		Hard alumin-ium		Soft alumin-ium	
Hard brass				Plastic	
Bronze					

4.9 Blade Selection

The chart below is a basic starting point for choosing blade type based on teeth per inch (TPI) for variable tooth pitch blades and for standard raker type bimetal blades/HSS blades. However, for exact specifications of bandsaw blades, contact the blade manufacturer.

Here are some general rules of thumb with respect to bandsaw blade use.

▲ At least three teeth must contact the metal at any phase of the cut. Otherwise, the teeth can load up with metal, fracture, and break off. If the TPI is too high, the teeth can load up with material and overheat, damaging the blade.

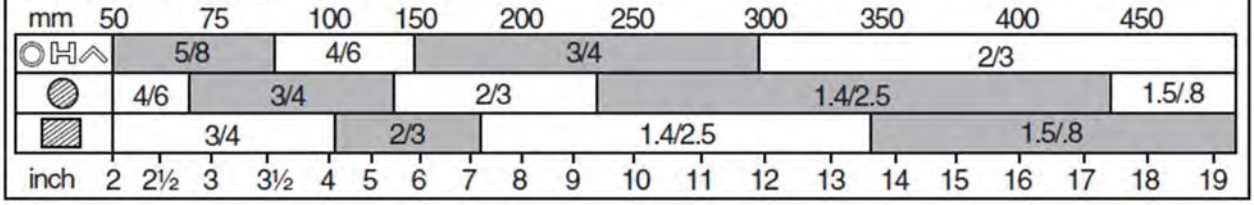
▲ For a faster but rougher cut, use a blade with a lower TPI and a higher feed rate.

▲ For a slower but smoother cut, use a blade with more TPI and a lower feed rate.

To select the correct blade TPI:

1. Measure the material thickness. This measurement is the length of cut taken from where the tooth enters the workpiece, sweeps through, and exits the workpiece.
2. Refer to the "Material Thickness" row of the blade selection chart in Figure 21, and read across to find the workpiece thickness you need to cut.
3. Refer to the "Shape" of metal and "Material Type" columns, and find the shape and material to be cut.
4. In the applicable row, read across to the right and find the box where the row and column intersect. Listed in the box is the minimum TPI recommended for the variable tooth pitch blades, and the TPI for bimetal raker blades in parentheses.

TOOTH SELECTION



CUTTING SPEED RATE RECOMMENDATION

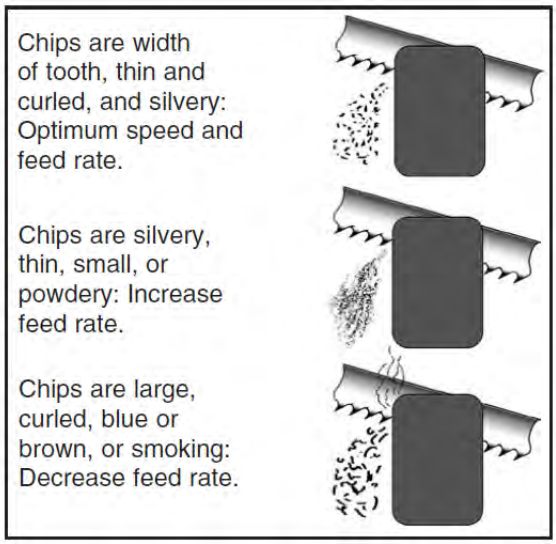
Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)	Material	Speed FPM (M/Min)
Carbon Steel	196~354 (60) (108)	Tool Steel	203 (62)	Alloy Steel	111~321 (34) (98)	Free Machining Stainless Steel	150~203 (46) (62)
Angle Steel	180~220 (54) (67)	High-Speed Tool Steel	75~118 (25) (36)	Mold Steel	246 (75)	Gray Cast Iron	108~225 (33) (75)
Thin Tube	180~220 (54) (67)	Cold-Work Tool Steel	95~213 (29) (65)	Water Hardened Tool Steel	242 (75)	Ductile Austenitic Cast Iron	65~85 (20) (26)
Aluminum Alloy	220~534 (67) (163)	Hot-Work Tool Steel	203 (62)	Stainless Steel	85 (26)	Malleable Cast Iron	321 (98)
Copper Alloy	229~482 (70) (147)	Oil-Hardened Tool Steel	203~213 (62) (65)	CR Stainless Steel	85-203 (26) (62)	Plastics	220 (67)

4.10 Feed rate

The speed at which the saw blade will cut through a workpiece is controlled by blade type and feed rate.
The feed rate is controlled by the valve lever and feed rate dial on the hydraulic cylinder.
Turning the valve lever in-line with the piping opens it up, which allows the fluid to circulate and allows the head to move.Turning the valve lever sideways or perpendicular to the pipiing closes it, which locks the headstock in place. The feed rate dial controls the amount of fluid that circulates around the hydraulic cylinder, which in turn, controls the speed that it moves.

To set the feed rate:

1. Raise the headstock and turn the valve lever sideways (horizontally).
2. Clamp the workpiece in the table vise.
3. Move the headstock and blade a few inches above the workpiece.
4. With the correct saw blade installed and blade speed selected, turn the saw ON.
5. Slowly rotate the feed rate dial to a conservative feed rate until the saw begins to cut the workpiece.
6. Observe the chips that exit the cut, and increase or decrease the feed rate according to the chip characteristics.



5. Maintenance

This chapter contains important information about

▲ Inspection

▲ Maintenance

The diagram below shows you which tasks fall under these categories.



ATTENTION!

Properly performed regular maintenance is an essential prerequisite for operational safety, failure-free operation, a long service life of the metal belt saw and the quality of the products which you manufacture. Installations and equipment from other manufacturers must also be in good condition.

ENVIRONMENTAL PROTECTION

Make sure that coolant, lubricants and oils are not spilt on the floor.
Clean up any spilt liquid or oils immediately using proper oil-absorption methods and dispose of them in accordance with current environmental protection regulations.



Collecting leakages

Do not re-introduce liquids spilt outside the system during repair or as a result of leakage into the reserve tank; collect them in a collecting container for disposal.



Disposal

Never dump oil or other environmentally hazardous substances which are harmful to the environment in water inlets, rivers or canals. Waste oils must be taken to a collection point. Please consult your supervisor for further information on your nearest collection point.

5.1 Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check	Monthly Check	Annual Check
• Loose mounting bolts. • Damaged saw blade. • Worn or damaged wires. • Any other unsafe condition. • Clean after each use. • Proper blade tension.	• Lubricate vise screw. • Check V-Belt for wear.	• Inspect gear lubrication

5.2 Cleaning

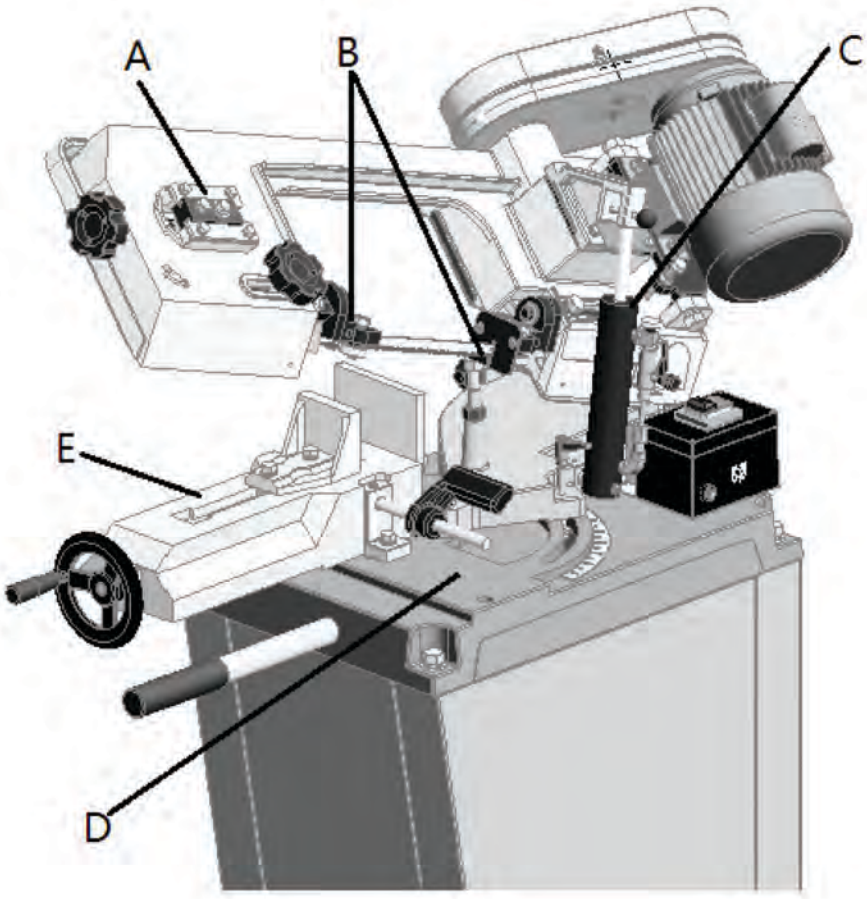
Cleaning the metal cutting bandsaw is relatively easy.
Keeping metal chips away from bandsaw mechanisms is important to making sure you're your bandsaw lasts a long time. Use a shop vacuum or brush off metal chips frequently.

5.3 Lubrication



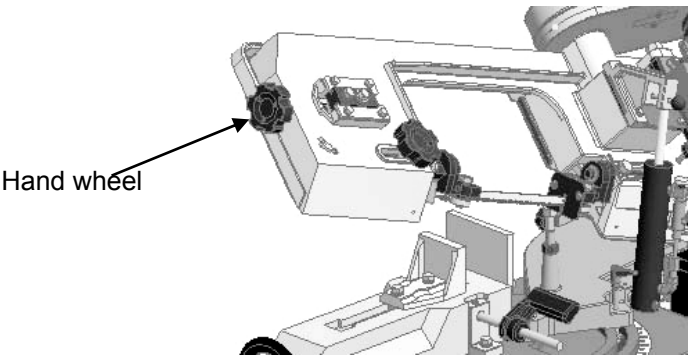
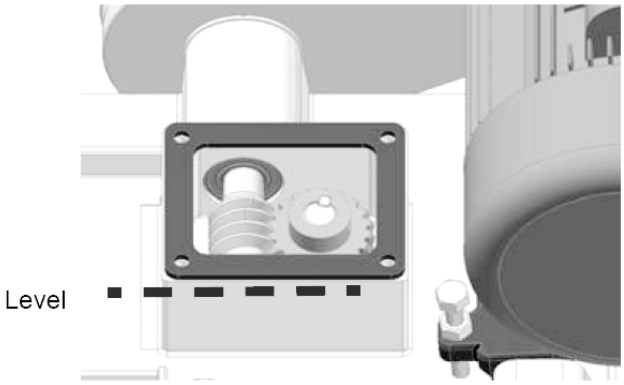
The gearbox and all bearings are sealed and permanently lubricated so no scheduled lubrication is needed. However, you must periodically lubricate adjustment locations and bare metal surfaces.

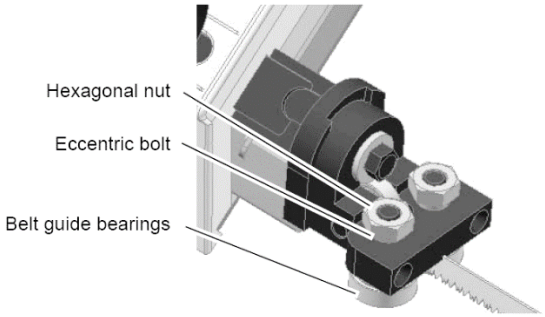
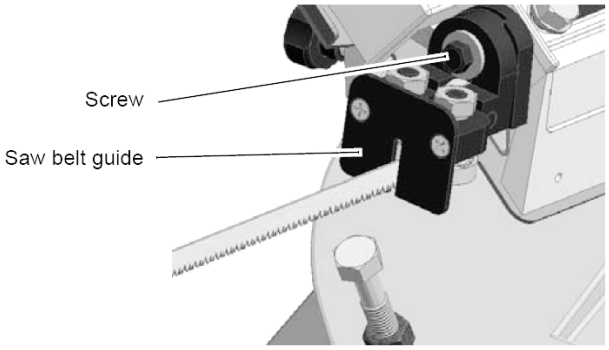
A. Blade Tension Mechanism: Open the main blade guard, and drop a few drops of oil on the tension knob lead screw.
B. Blade and Guides: Drop a few drops of light machine oil on the blade and the blade guides daily.
C. Gear Box: Is packed with grease and should only be changed if you suspect contamination has entered.
D. Table and Machined Surfaces: Keep bare metal surfaces rust-free with regular applications of products.
E. Vise Lead Screw: Drop a few drops of light machine oil on the vise lead screw weekly.



5.4 Inspection and maintenance

The type and level of wear depends to a large extent on specific usage and operating conditions. Any indicated intervals are therefore only valid for the relevant approved conditions.

What?	How?
Setting the saw blade tension	Turn the handwheel clockwise to increase the saw blade tension. The correct saw blade tension is achieved, when you can move the saw blade with a force of about 50 N in the centre by 3mm.  **Do not tension the saw blade beyond the specified limits. The saw belt could be overstretched and become warped.**
Checking and top up the oil in the gear box	▲ Lower the saw arch completely ▲ Disconnect the lowering cylinder from its mountingon the top. ▲ Remove the top mounting. ▲ Unscrew the gearbox cover. If necessary, top up with Mobilgear 629 (ISO VG 150) or a comparable oil. 
Replacing the blade guide bearings	**ATTENTION!** **Always replace the belt guide bearings in pairs.**

Adjusting the blade guide bearings	▲ Place the saw arch in the uppermost position and check that it is safe. ▲ Loosen the hexagonal nut. ▲ Adjust the blade guide bearings with the eccentric bolt, so that the saw blade can no longer be moved back and forth, but the blade guide bearings can still be turned by hand.  **INFORMATION** **Only the belt guide bearings on the operator side have an eccentric bolt with which you can perform the setting**
Adjusting the saw blade guide with respect to the work table	▲ Place a 90° angular measure in the machine vice and compare the position. ▲ Using the angular measure, check whether the saw belt is parallel to the angle. ▲ Loosen the screws on the saw belt guide if the angle is incorrect and adjust the saw belt guide accordingly. 
Changing the saw blade	**ATTENTION!** **The metal belt saw is designed for saw belts with dimensions 1640 x 13 x 0.6 mm. The use of other saw belts may result in inferior cutting results.** ▲ Place the saw arch in the uppermost position andcheck that it is safe. ▲ Remove the protective covers on the saw blade guide. ▲ Remove the protective cover from the saw arch. ▲ Loosen the tension of the saw blade by turning the hand wheel anti-clockwise. ▲ Carefully remove the old saw blade. ▲ Fit the new saw blade by inserting it first into the saw blade guide. ▲ Check the running direction and toothing. ▲ Place the saw blade on the two saw blade rollers so that it is as close

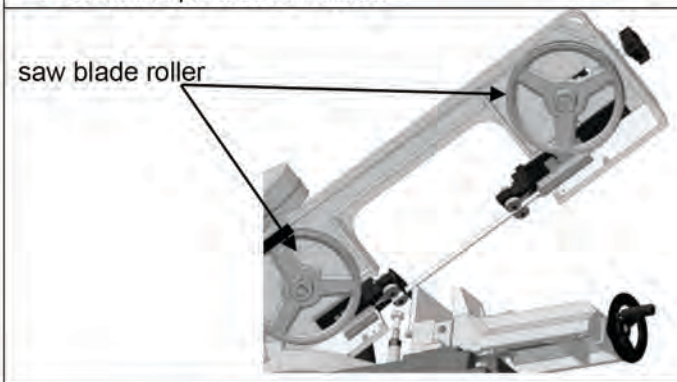
as possible to the shoulder of the saw blade roller.

▲ Tighten the saw blade

▲ For fitting the components, proceed in reverse order.

▲ Carry out a trial run.

▲ Re-fit the protective covers.



Changing the brass worm gear wheel.

Spare parts needed:

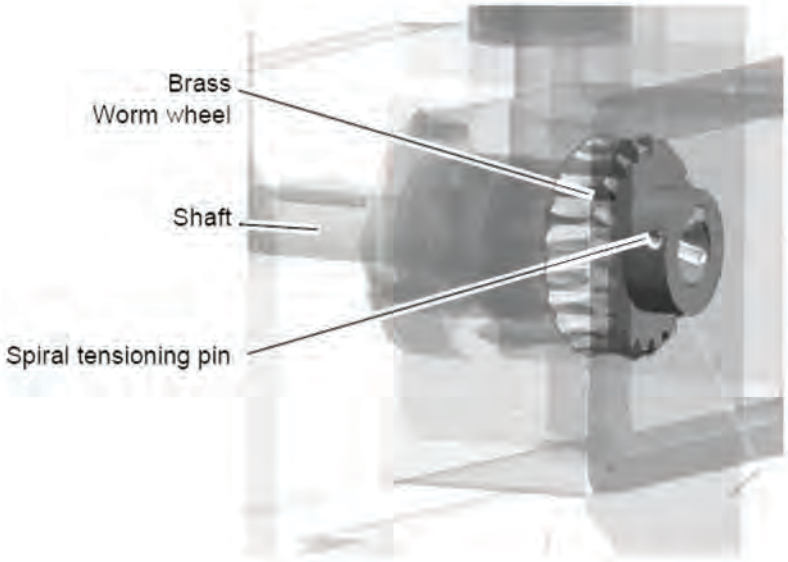
1 x brass worm gear wheel, part no. 50

1 x shaft gasket, part no. 49

2 x bearings, part no. 44

1 x spiral tensioning pin, part no. 51

To remove the spiral tensioning pin from the shaft and the brass helical gear, the complete shaft must be dismantled.



6. Malfunctions

6.1 Motor& Electrical

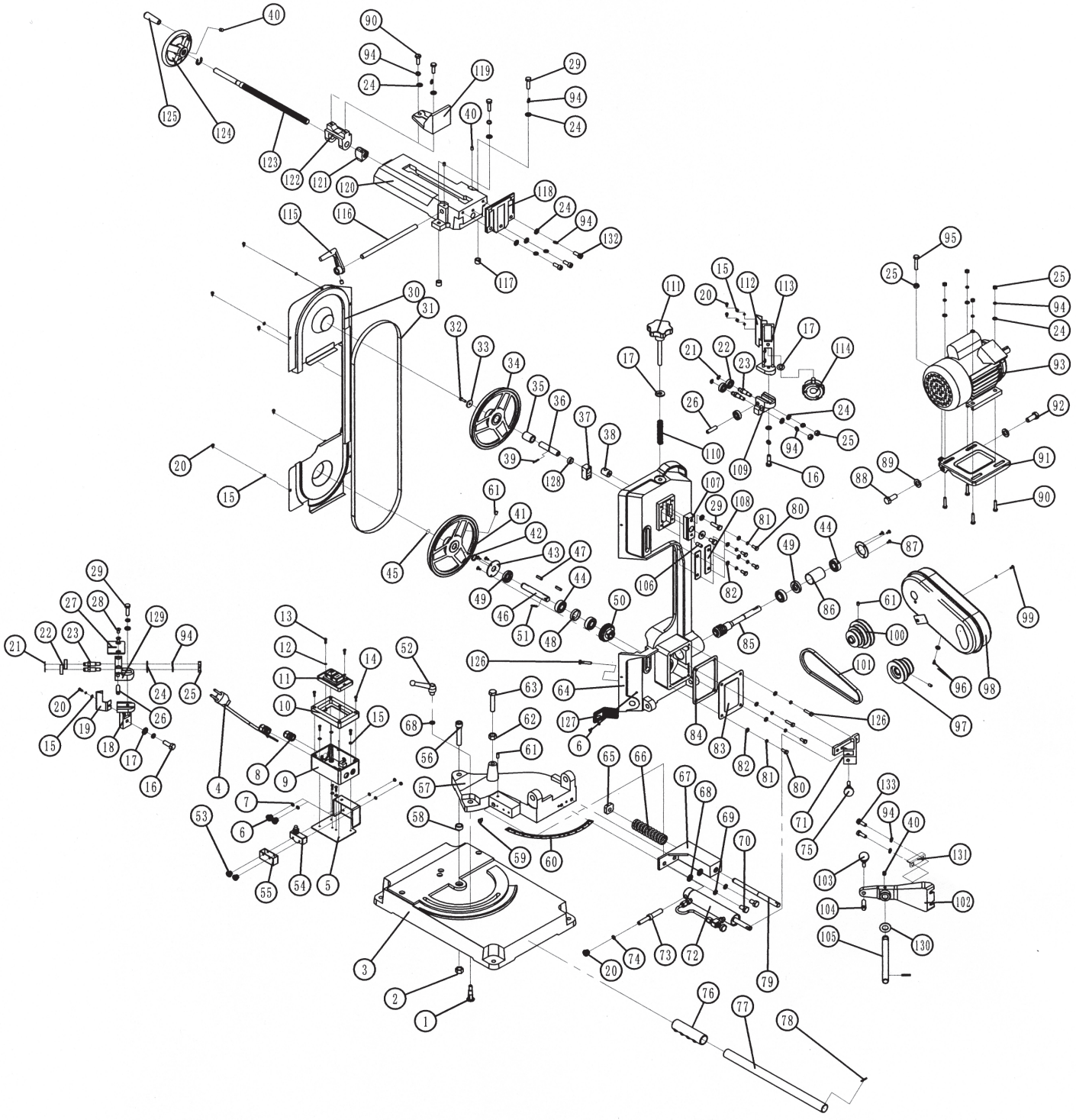
Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	1. Plug/receptacle is at fault or wired incorrectly. 2. Start capacitor is at fault. 3. Wall fuse/circuit breaker is blown/tripped. 4. Motor connection wired incorrectly. 5. Power supply is at fault/switched OFF. 6. Motor ON/OFF switch is at fault. 7. Wiring is open/has high resistance. 8. Motor is at fault.	1. Test for good contacts; correct the wiring. 2. Test/replace if faulty. 3. Ensure correct size for machine load; replace weak breaker. 4. Correct motor wiring connections. 5. Ensure hot lines have correct voltage on all legs and main power supply is switched ON. 6. Replace faulty ON/OFF switch. 7. Check for broken wires or disconnected/ corroded connections, and repair/replace as necessary. 8. Test/repair/replace.
Machine stalls or is underpowered.	1. Wrong blade for the workpiece material. 2. Wrong workpiece material. 3. Feed rate/cutting speed too fast for task. 4. Blade is slipping on wheels. 5. Low power supply voltage. 6. Motor bearings are at fault. 7. Plug/receptacle is at fault. 8. Motor connection is wired incorrectly. 9. Motor has overheated. 10. Motor is at fault.	1. Use blade with correct properties for your type of cutting. 2. Use metal with correct properties for your type of cutting. 3. Decrease feed rate/cutting speed. 4. Adjust blade tracking and tension. 5. Ensure hot lines have correct voltage on all legs. 6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 7. Test for good contacts; correct the wiring. 8. Correct motor wiring connections. 9. Clean off motor, let cool, and reduce workload. 10. Test/repair/replace.
Machine has vibration or noisy operation.	1. Motor fan is rubbing on fan cover. 2. Blade is at fault. 3. Gearbox is at fault. 4. Wrong blade & too slow of speed.10. Motor is at fault.	1. Replace dented fan cover; replace loose/ damaged fan. 2. Replace/resharpen blade. 3. Rebuild gearbox for bad gear(s)/bearing(s). 4. Change blade and or speed.shaft requires bearing replacement. 7. Test for good contacts; correct the wiring. 8. Correct motor wiring connections. 9. Clean off motor, let cool, and reduce workload. 10. Test/repair/replace.

6.2 Bandsaw operations

Symptom	Possible Cause	Possible Solution
Machine is loud when cutting or bogs down in the cut.	1. Excessive feed rate. 2. The blade TPI is too great, or the material is too coarse.	1. Refer to **Feed Rate** or Changing Blade Speed and adjust as required. 2. Refer to **Blade Selection** and adjust as required.
Blades break often.	1. Blade is not tensioned correctly. 2. The workpiece is loose in the vise. 3. The feed or cut speed is wrong. 4. The blade TPI is too great, or the material is too coarse. 5. The blade is rubbing on the wheel flange. 6. The bandsaw is being started with the blade resting on the workpiece. 7. The guide bearings are misaligned, or the blade is rubbing on the wheel flange. 8. The blade is too thick, or the blades are of low quality.	1. Check to see that blade is not excessively tight or too loose. 2. Clamp the workpiece tighter, or use a jig to hold the workpiece. 3. Refer to **Feed Rate** or **Changing Blade Speed** and adjust as required. 4. Refer to **Blade Selection** and adjust as required. 5. Start bandsaw and then slowly lower the headstock by setting the feed rate. 6. Refer to **Blade Guides** and adjust as required. 8. Use a higher quality blade.
Blade dulls prematurely.	1. The cutting speed is too fast. 2. The blade TPI is too coarse. 3. The blade feed pressure is too light. 4. The workpiece has hard spots, welds, or scale is on the material. 5. The blade is twisted. 6. The blade is slipping on the wheels.	1. Refer to **Changing Blade Speed** and adjust as required. 2. Refer to **Blade Selection** and adjust as required. 3. Refer to **Feed Rate** and adjust as required. 4. Increase the feed pressure, and reduce the cutting speed. 5. Replace the blade. 6. Refer to **Blade Tension** and adjust as required.
Blade wears on one side.	1. The blade guides are worn or misadjusted. 2. The blade guide slide bracket is loose. 3. The wheels are out of alignment.	1. Refer to **Blade Guides** and replace or adjust. 2. Tighten the blade guide bracket.
Teeth are ripping from the blade.	1. The feed pressure is too heavy and the blade speed is too slow; or the blade TPI is too coarse for the workpiece. 2. The workpiece is vibrating in the vise. 3. The blade gullets are loading up with chips	1. Refer to **Blade Selection** and decrease the feed pressure. Refer to **Feed Rate** and adjust as required. 2. Re-clamp the workpiece in the vise, and use a jig if required. 3. Use a coarser-tooth blade.
The cuts are crooked.	1. The feed pressure is too high. 2. The guide bearings are out of adjustment, or too far away from the workpiece. 3. The blade tension is low. 4. The blade is dull. 5. The blade speed is wrong.	1. Refer to **Feed Rate** and adjust as required. 2. Refer to **Blade Guides** and replace or adjust. 3. Refer to **Changing the Blade** and replace the blade. 4. Refer to **Changing Blade Speed** and adjust as required.

7. Diagram & Part list

7.1 Diagram and part list for MCB128SHD (Part 1)



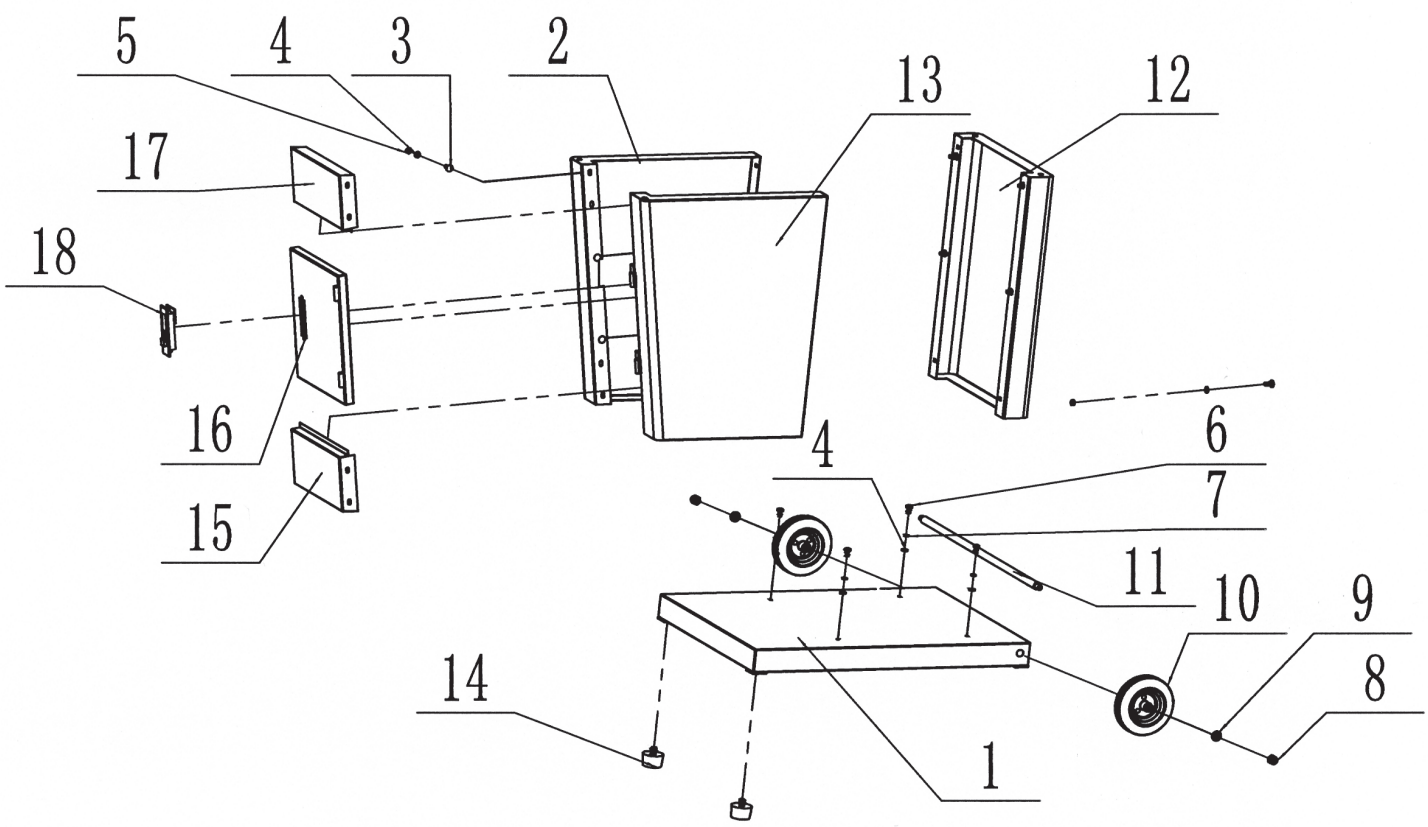
NO.	DESCRIPTION	SIZE	QTY
1	Coach bolt		1
2	Lock nut		1
3	Work table		1
4	Cable and plug		1
5	Switch supporting bracket		1
6	Screw	M5 x 10	2
7	Flat washer	Φ5	3
8	Cable strain relievers	M16	2
9	Lower switch box housing		1
10	Switch plate		1
11	Magnetic switch		1
12	Flat washer	Φ4	18
13	screw		2
14	screw		4
15	Flat washer	Φ4	
16	Hex bolt	M10 x 30	1
17	Flat washer	Φ10	4
18	Lower adjustment guide		1
19	Lower guard cover		1
20	Screw	M4 x 10	3
21	Retaining ring	Φ9	4
22	Ball bearing	629ZZ	6
23	Eccentric shaft		4
24	Elastic washer	Φ8	16
25	Nut (M8)	M8	5
26	Pin		2
27	Blade guide plate		1
28	Screw	M6 x 12	2
29	Bolt	M8 x 30	7
30	Wheel cover		1
31	Saw blade		1
32	Bolt	M5*16	1
33	Droven wheel retaining ring	Φ5	1
34	Driven wheel		1
35	Driven wheel position sleeve		1
36	Driven wheel shaft		1
37	Adjustment block		1
38	Elevating block		1
39	Elastic pin	M3 x 20	1
40	Screw	M6 x 12	6
41	Drive wheel		1
42	Drive wheel position sleeve		1
43	Drive wheel flange		2
44	Ball bearing		4
45	Retaining ring	Φ15	1
46	Drive wheel shaft		1
47	Spuare key	C5*20	2
48	Worm shaft sleeve		1
49	Sealing gasket	15*35*7	2
50	Worm		1
51	Screw	M4 x 24	2
52	lock level	M10	1
53	Cylinder spring	M4 x 30	2
54	Lock knob	LXW5-11	1
55	Switch box		1
56	Screw	M12 x 65	1
57	Angle adjustment base		1
58	Position sleeve		1
59	Angle pointer		1
60	Angle scale label		1
61	Screw(M6X16)	M6 x 16	1
62	Nut	M12	1
63	Bolt	M12 x 60	1
64	Saw bed		1
65	Square nut		1
66	Spring		1
67	Spring holder		1
68	Flat washer	Φ10	4
69	Elastic washer	Φ10	4
70	Bolt (M 10x20)	M10 x 18	2
71	Hydraulic cylinder holder		1
72	Hydraulic cylinder		1
73	Connecting rod		1
74	Big flat washer	Φ4	1
75	Valve knob		1
76	Plastic sleeve		1
77	Bar		1
78	Pin	M2.5 x 40	1
79	Adjustment rod		1
80	Bolt	M6 x 15	6
81	Elastic washer	Φ6	12
82	Flat washer	Φ6	13
83	Gear box cover		1
84	Sealing gasket		1
85	Worm shaft		1

86	Worm shaft sleeve		1
87	Screw	M4 x 10	6
88	Bolt	M12 x 30	1
89	Flat washer	Φ12	2
90	Plastic cable fixing plate	M8 x 25	8
91	Motor base		1
92	Bolt		1
93	Motor	550W	1
94	Flat washer	Φ8	13
95	Bolt	M8 x 40	1
96	Knob	M6 x 30	1
97	Motor pulley		1
98	Pulley cover		1
99	Bolt	M4 x 10	2
100	Gear box pulley		1
101	V-Belt	O-500	1
102	Connecting block		1
103	Position knob		1
104	Position pin		1
105	Turning shaft		1
106	Screw	M8 x 20	1
107	Sliding block		1
108	Pressing plate		2
109	Upper guard holder		1

110	Spring		1
111	Blade tebsion knob		1
112	Upper guard cover		1
113	Adjusting holder		1
114	Lock knob		1
115	Stock stop		1
116	Stock stop rod		1
117	Vise position sleeve		2
118	Rear vise jaw		1
119	Front vise jaw		1
120	Vise bed		1
121	Threaded rod nut		1
122	Front jaw holder		1
123	Threaded rod		1
124	Hand wheel		1
125	Turning handle		1
126	Bolt	M6 x 30	1
127	Stop block		1
128	Position sleeve		1
129	Adjusting holder		1
130	Flat washer	Φ16	1
131	Flat plate		1
132	Bolt	M8 x 20	3
133	Bolt	M8 x 30	2

7. 3 Diagram and part list of cabinet for MCB128SHD

Cabinet Stand



NO.	DESCRIPTION	QTY
1	Base plate	1
2	Left plate	1
3	Coach bolt	14
4	Flat wahser	18
5	Nut	14
6	Bolt	4
7	Elastic washer	4
8	Lock nut	2
9	Flat washer	2

10	Wheel	2
11	Wheel shaft	1
12	Rear plate	1
13	Right plate	1
14	Feet	2
15	Front lower plate	1
16	Door	1
17	Front upper plate	1
18	Lock	1

7.4 Wiring diagram for MCB128SHD

230V:

