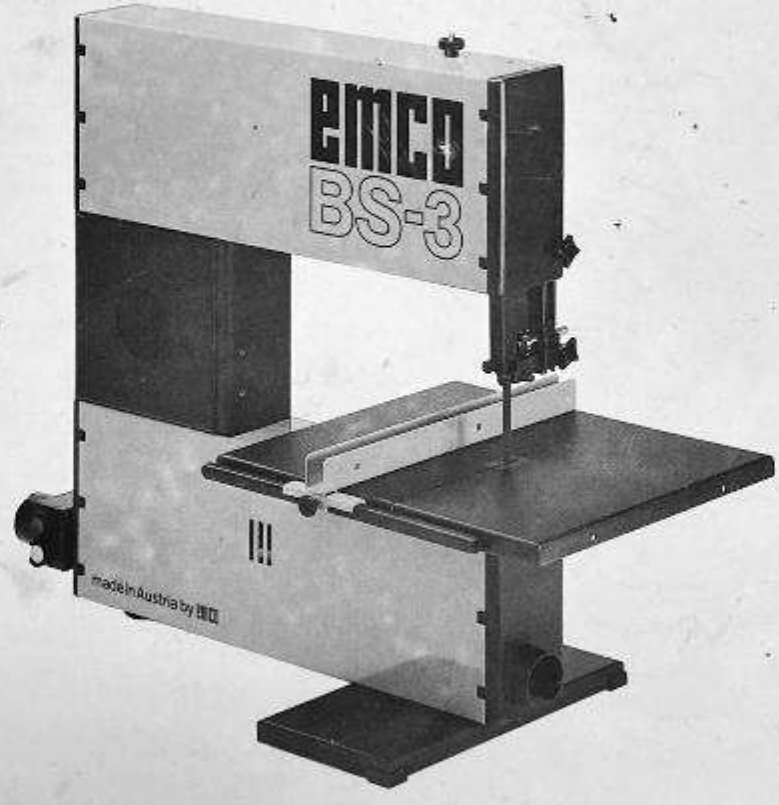
Instruction book

Service parts

Blade length 2123mm

Bandsaw BS-3



Englisch Order No. EN6 901

Auflage: 10. 9. 8. 7. 6. 5. 4. 3. 2. 1.
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Maier + Co.
A-5400 Hallein/Austria

Accident Prevention
Bandsawing

Always work with bandsaw blades which are sharp and straight set.

Cracked or wharped saw blades must not be used.

Check the blade tension prior to switching the machine on.

Set the upper bandsaw guide to the lowes position possible.

If the saw guideway is worn, replace the table insert.

When cutting round timber, use a feeding device which secures the workpiece on both sides of the saw blade against being turned.

After switching off the machine, do not stop the saw blade by applying lateral pressure.

Never leave the machine unattended during operation.

Never work without a bandsaw guard.

Never work without the cover being fitted

Only carry out adjustments, measuring and cleaning work when the machine is at a standstill.

Accident Prevention
Disc Sanding

Do not use dorn sandpaper.

Guide the workpiece securely.

To prevent the workpiece being lifted off the table, only use the downward rotating section of the sanding disc for sanding.

The corundum sandpaper must adhere completelyflat to the sanding disc. Unevenness would result in rapid wear and tearing of the sandpaper.

Replace worn sandpaper! Blunt abraisive produces burn marks on the workpiece.

Accident Prevention
Belt Sanding

Sanding with the sanding drum:

Ensure that the sanding belt has been fitted correctly, with regard to the joint.
If the sanding belt is fitted incorrectly, it will tear at the joint.

Do not use torn sanding belts.

Technical Data

Cutting height	160 mm
Throat clearance	380 mm
Sice of table	400 x 460 mm
Swivel range	0 - 45°
Roller diameter	220 mm
Bandsaw blades	2123 mm endless
Weight	39 kg

Machine dimensions: Width = 950 mm
Height = 800 mm
Depth = 490 mm

Instalation area 410 x 620 mm

3 cutting speeds:

50 Hz:	1160 rpm	60 Hz	1380 rpm
	725 rpm		863 rpm
	144 rpm		172 rpm

Voltage frequency: See motor rating plate.

Output of the a.c. motor:

Power consumption (S3-60% Duty cycle)	750 W
Power output	500 W

Electrical Equipment

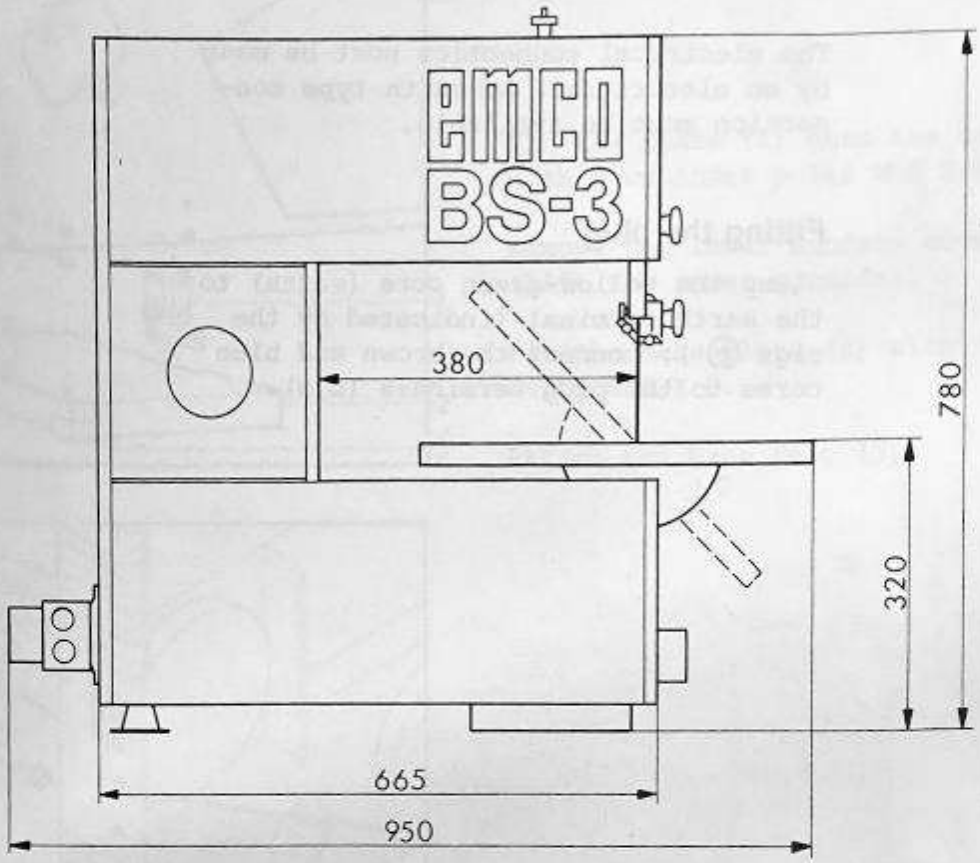
Motor: IEC standard motor; degree of protection IP 54;

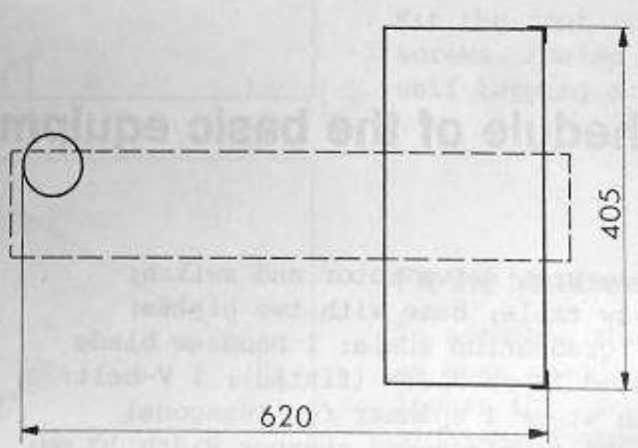
Switch: The switch and switch housing comply with the regulations, according to VDE 0113 and VDE 0740;
Degree of protection IP 54;

According to the safety regulations in the country to which the machine is supplied, switches are available with or without under-voltage cutout, with 3 types of connections.

1. Switch with cable and plug
2. Switch with cable (free cable end)
3. Switch with fitted shielded plug.

Overall Dimensions





Recommended height for the machine base (work-table): 650 - 700 mm.

Electrical Connection

The electrical connection must be made by an electrician. An earth type connection must be available.

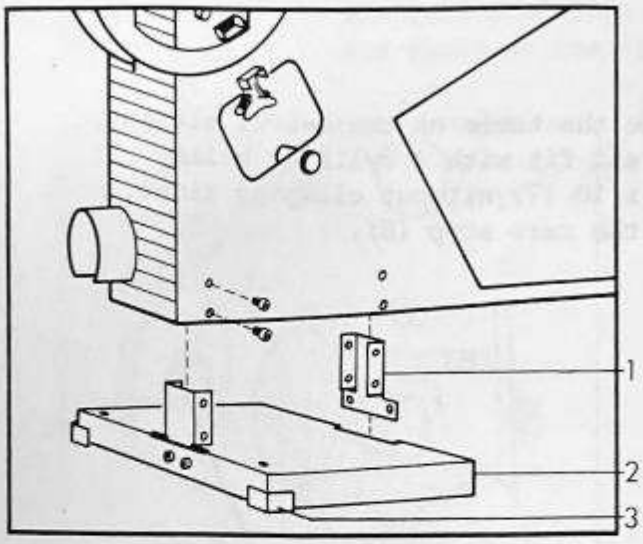
Fitting the plug

Clamp the yellow-green core (earth) to the earth terminal (indicated by the sign ⏚), connect the brown and blue cores to the plug terminals (L,N).

Supply schedule of the basic equipment

Bandsaw with drive motor and switch; bandsaw table; base with two plates; foot; graduation scale; 1 bandsaw blade for wood 10 mm width (fitted); 1 V-belt; length stop; 1 spanner for hexagonal bolts; 1 single-ended spanner width 10 mm; operating instructions with spare parts list.

Assemble the BS-3

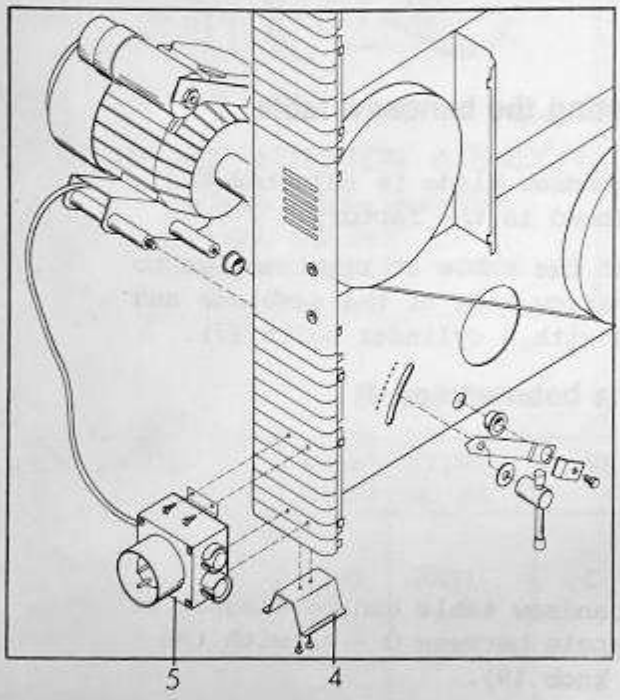


Fit the plate (1) onto the base (2) with 4 cylinder bolts M 6 X 8 (2).

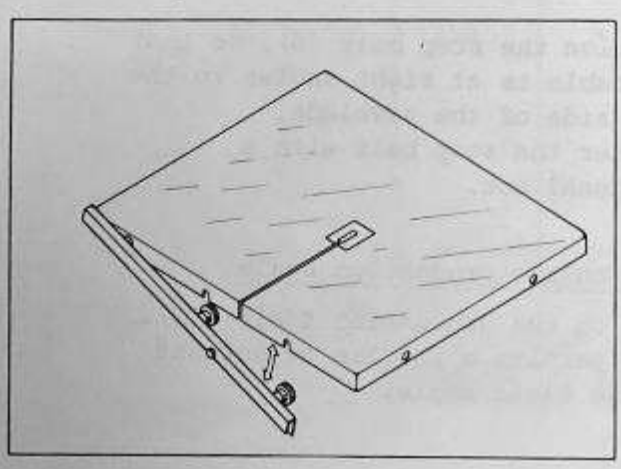
Remove the lower bandsaw cover (Lift the cover upwards).

Fit the base plate (2) with 8 cylinder bolts M 6 X 8.

Attach the base feet (3).



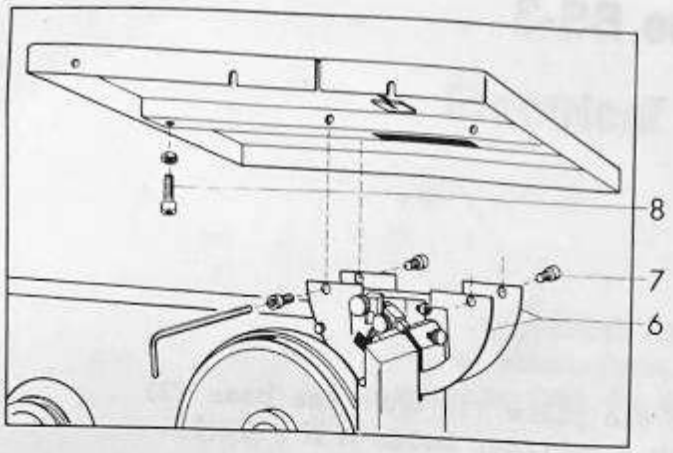
Fit the foot (4) with two self-tapping screws. Fasten the switch (5) with 4 self tapping screws.



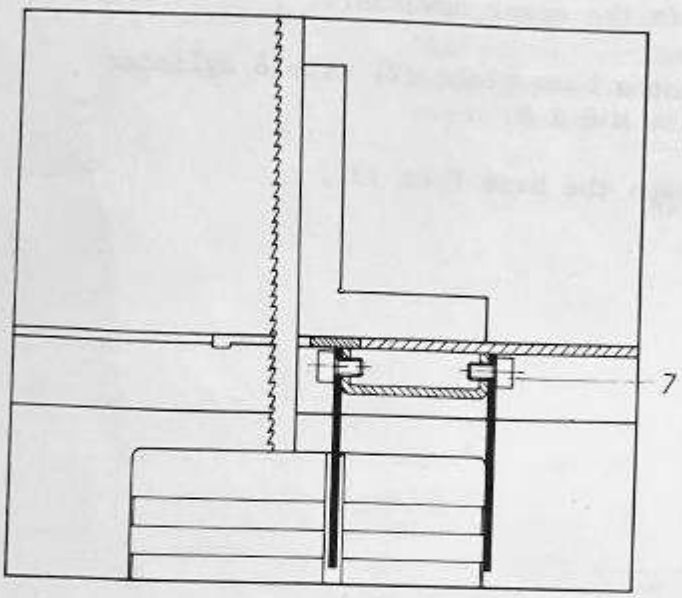
Fit the bandsaw table

To assemble the bandsaw table, as well as when changing the saw blades, only loosen the two knurled screws on the right-hand side and swing away the guide rail.

The guide rail is used for clamping the length stop, and increases the stability of the bandsaw table.



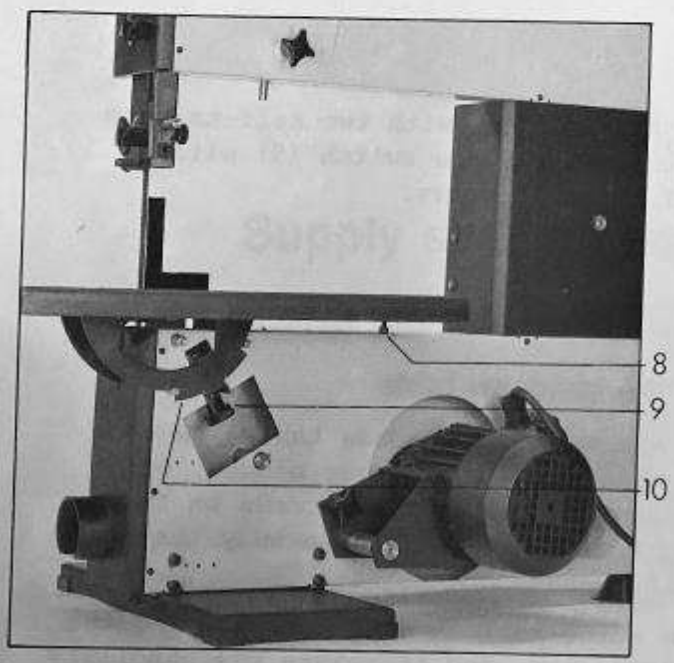
Place the table on the swivel element (6) and fit with 4 cylinder bolts M 6 x 10 (7) without clamping tight. Fit the zero stop (8).



Adjusting the bandsaw table

The bandsaw blade is adjusted and tensioned in the factory.

Adjust the table at right angles to the narrow side of the sawblade and clamp with 4 cylinder bolts (7).



The bandsaw table can be clamped at any angle between 0 - 45° with the star knob (9).

Position the stop bolt (8), so that the table is at right angles to the wide side of the sawblade. Counter the stop bolt with a hexagonal nut.

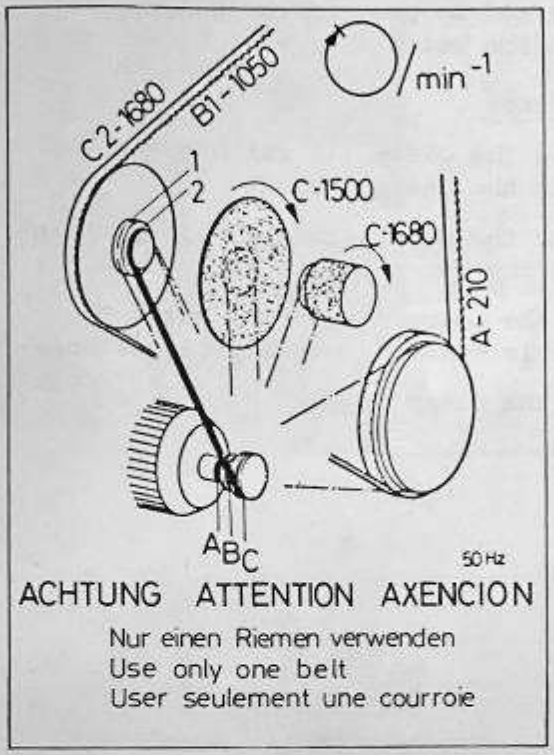
Glue on the graduation scale

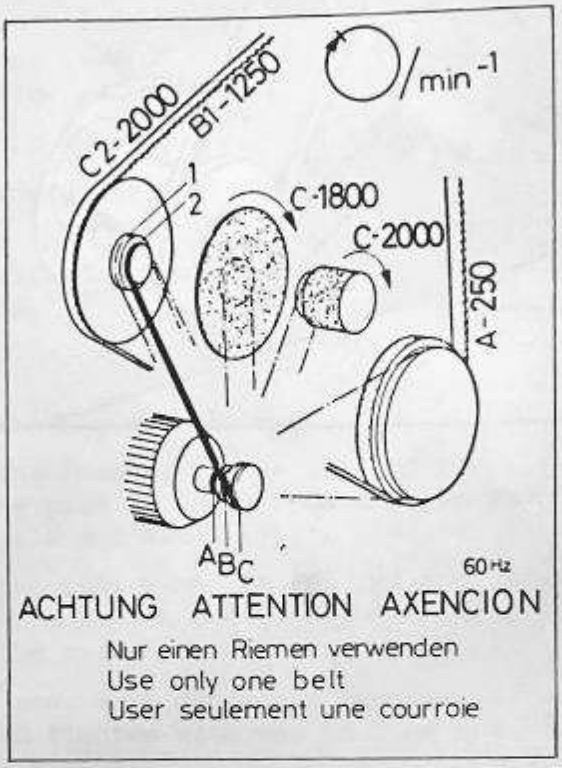
Glue on the graduation scale (10). This permits a precise adjustment of the table angle.

Speed Adjustment (cutting speed)

By changing the position of the belt, the workpieces can be cut with 3 cutting speeds.

The belt positions and associated speeds are shown on the speed data plate.



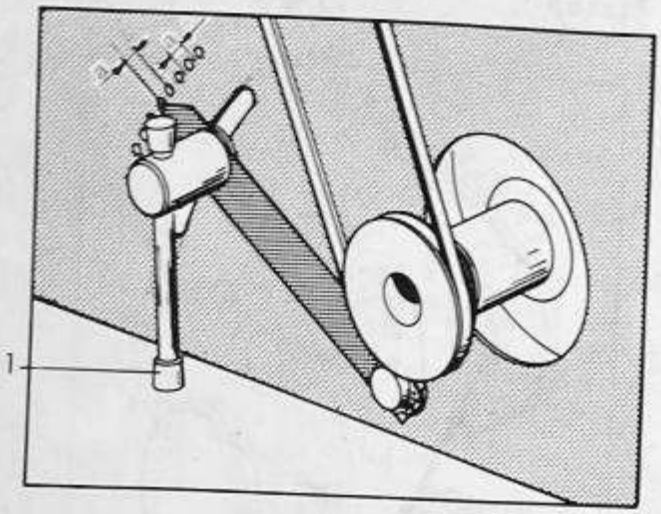


Recommended speeds and bandsaw blades

Material	Speed (rpm) 50 Hz	60 Hz	Belt position	Bandsaw blade
Wood (thin items)	1680	2000	C - 2	6 mm wide for curve cutting with radii over 30 mm
Wood (thick items) plastics	1050	1250	B - 1	10 mm wide for longitudinal and cross cutting, curve cutting with radii over 40 mm 15 mm wide for straight cutting and thick workpieces
Steel (iron)	210	250	A - lower bandsaw roller	5 mm wide, 24 teeth/inch
Non-ferrous metals (aluminium, brass...)	1050	1250	B - 1	6 mm wide, tooth spacing 4 mm

Attention:

Tightening the V-belt



The V-belt must be correctly tensioned, in order to transmit the full motor power, and to prevent the pulley and belts from being damaged.

Procedure:

Unscrew the clamp (1) raise the motor and fit the belt.

Release the motor, the belt is pre-tensioned through the weight of the motor.

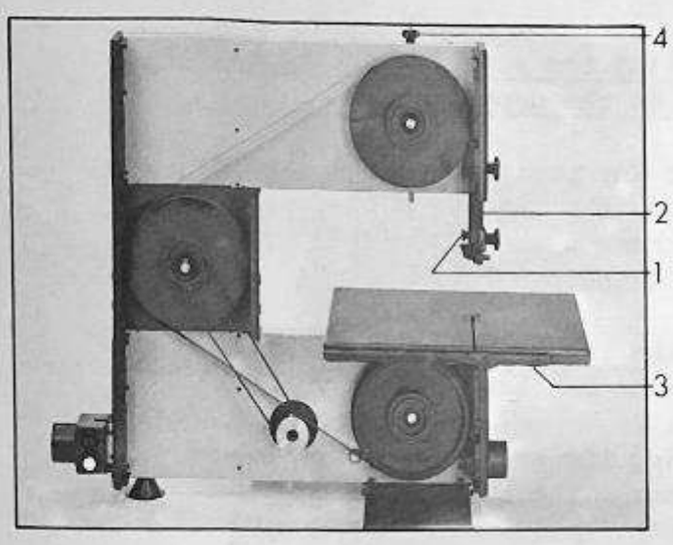
Press the motor downwards, until the needle is moved by one additional hole (a).

Screw the clamp tight.

Checks prior to switching on:

- Check the bandsaw blade for correct tension.
- Check the belt for correct tension.
- All 3 front covers must be fitted.

Changing the Bandsaw Blade



Lift and remove the three front covers.

Loosen the knurled screw (1) and remove the bandsaw guard (2).

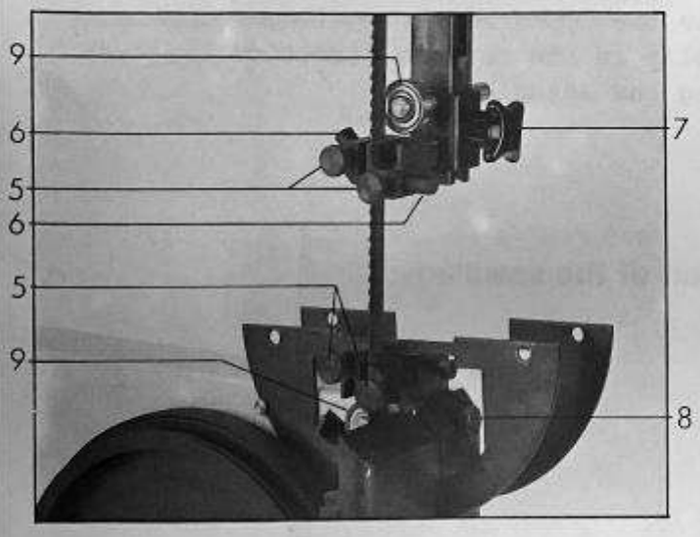
Remove the V-belts.

Swivel the guide rail (3) away.

Rotating the knurled nut (4) anti-clockwise, moves the upper bandsaw pulley downwards.

Remove the bandsaw blade.

Loosen the knurled screws (5) and move the guide pins (6) away from the bandsaw blade (pull out slightly).



Loosen the star knob (7) and the knurled screw (8) and push the back guide rollers (9) to the rear.

Fit the new, or a different bandsaw blade and tighten with the knurled nut (4).

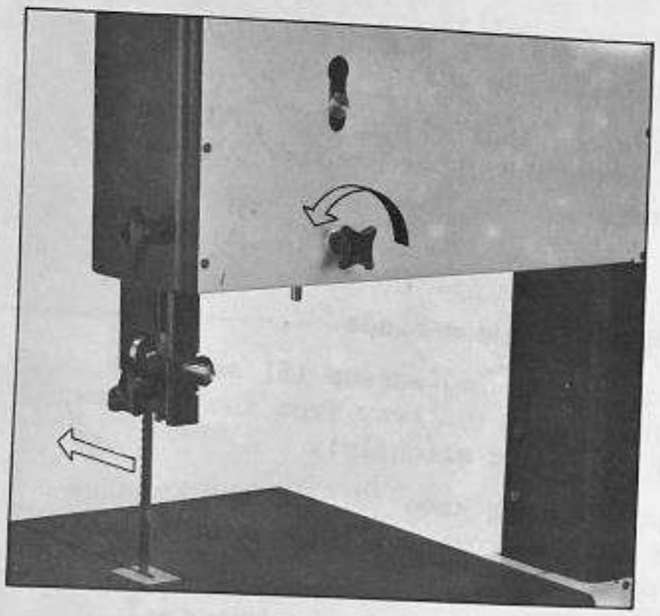
In the illustration, the bandsaw table has been removed.

A guide for tensioning the bandsaw blade:

With higher tension, increased cutting accuracy is obtained (the bandsaw blade has reduced deflection) however, the service life of the bandsaw blade is reduced.

Wide bandsaw blades require stronger tensioning than narrower blades.

Adjusting the Bandsaw Blade:



Adjusting the position of the bandsaw blade on the upper pulley

Adjust the position of the bandsaw blade on the bandsaw pulley with the star knob, which is located on the rear of the bandsaw.

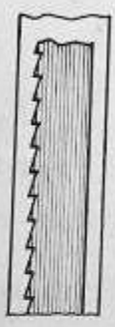
Rotating the star knob clockwise makes the bandsaw blade move backwards.
Rotating the star knob anti-clockwise makes the bandsaw blade move forwards.

Note:

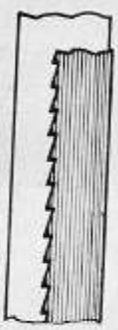
Rotate the upper bandsaw pulley manually in the cutting direction during the adjustment.

Correct and incorrect position of the sawblade:

Incorrect



Correct



Incorrect

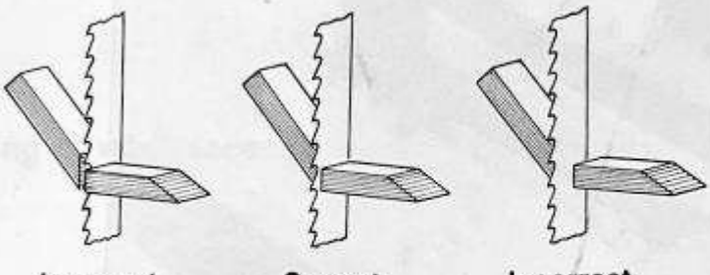
The bandsaw blade moves in the center of the pulley.

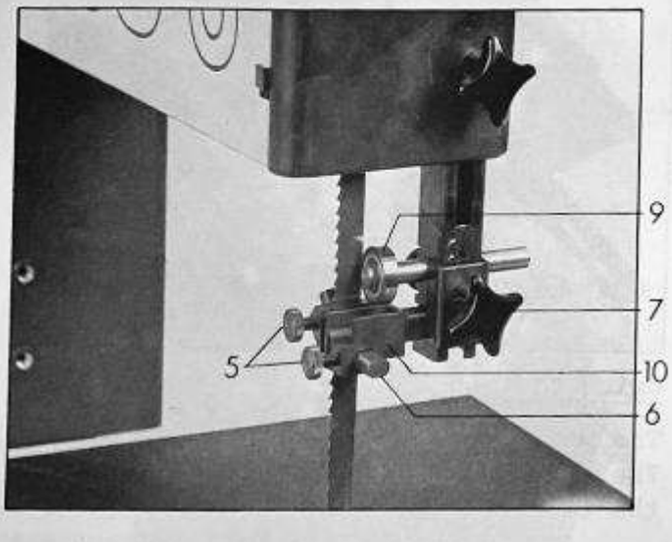
Adjusting the upper BS-guide:

Clamp the guide head (10) and back guide pulley (9) with the star knob (7).

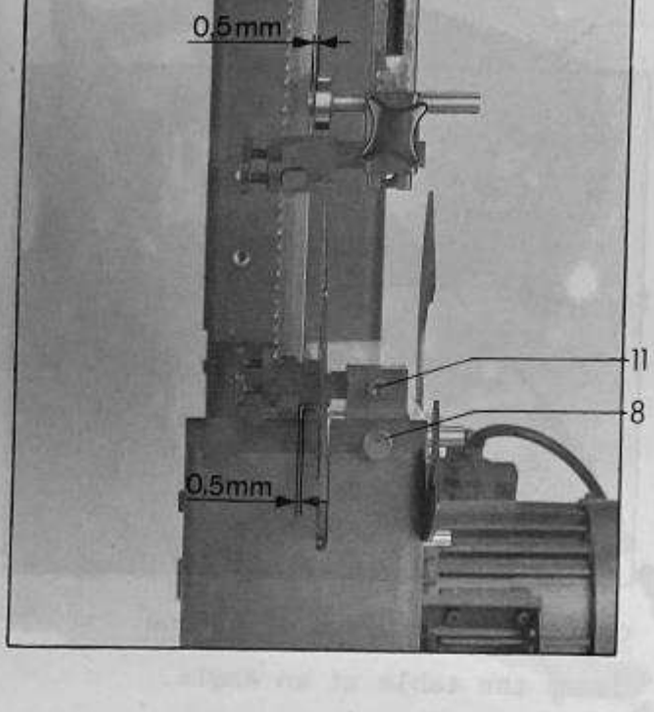
Clamp the back guide pulley, so that the distance to the bandsaw blade is approx. 0,5 mm.

Clamp the guide head, so that the guide pins (6) guide the entire blade width without touching the teeth.





Clamp the guide pins (6) with the knurled screws (5), so that the bandsaw blade is not jammed or pushed away.
Check: Rotate the pulley manually when releasing, the bandsaw blade must only have slight contact with the guide pin.



Adjusting the lower BS-guide:

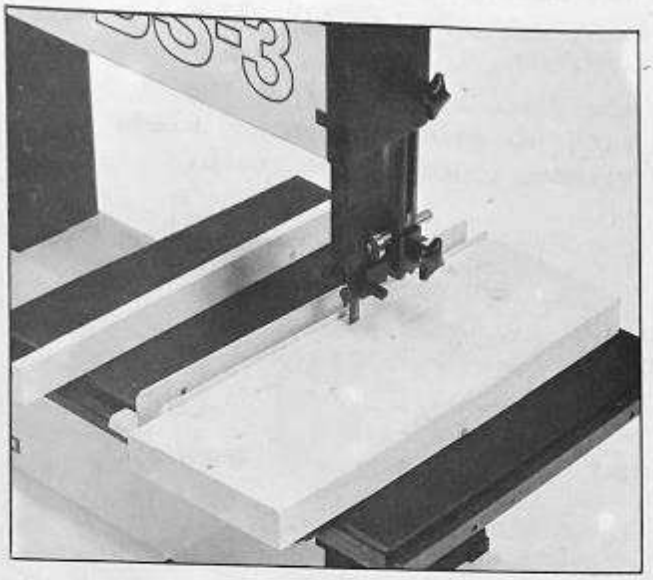
Adjust the lower BS-guide in the same manner as with the upper BS-guide.

Clamp the back guide pulley with the knurled screw (8).

Clamp the guide head with the knurled screw (11).

Fit the guide rail (3).
Fit the V-belt and tighten.
Fit the bandsaw guard.
Push on the 3 front covers.

Working Examples, Working Notes

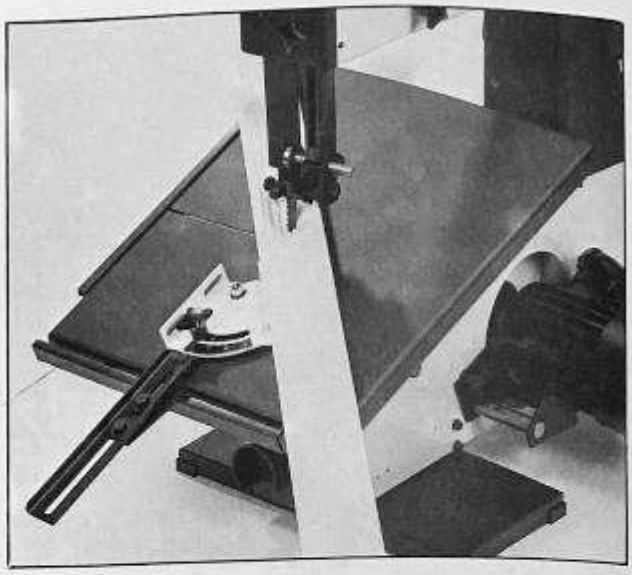


Straight cuts

Guide the item along the length stop.

Clamp the upper bandsaw guide as close as possible to the workpiece. Optimum bandsaw guidance, is thus obtained.

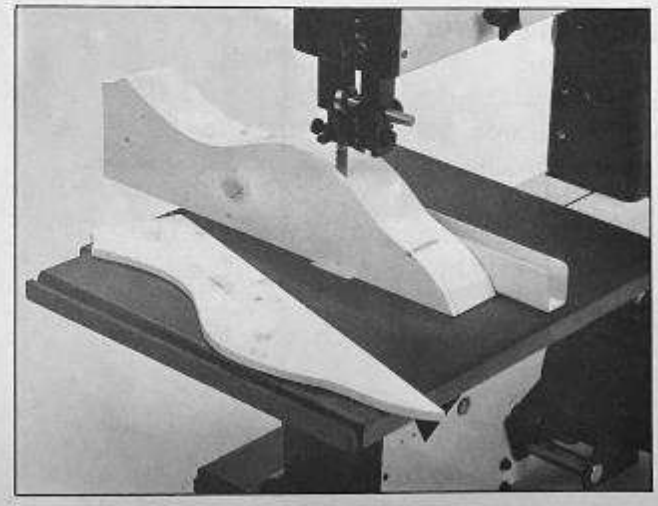
The slower the workpiece is directed, the less the bandsaw blade will be laterally deflacted.



Using the mitre gauge

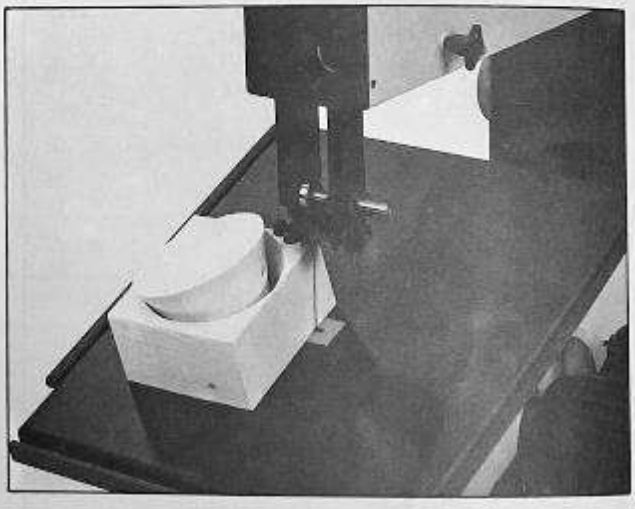
The work guide (1) must be fitted. The workpiece is fastened in way of the front of the arm.

To enlarge the stop area, strips can be fixed or the rear arms.



Producing identical workpieces

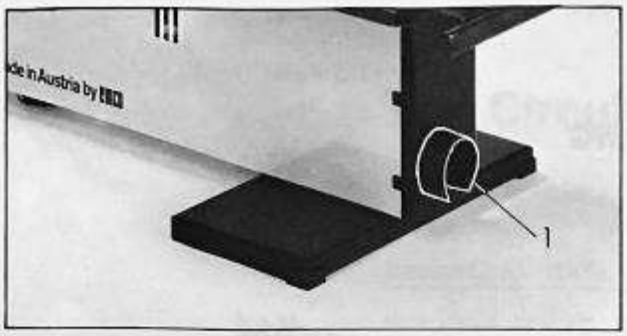
Cut the profile from one block. From the profiled block, the work-pieces are cut off in the required thickness, using the length stop.



Cutting the frustum of a cone

Clamp the table at an angle.

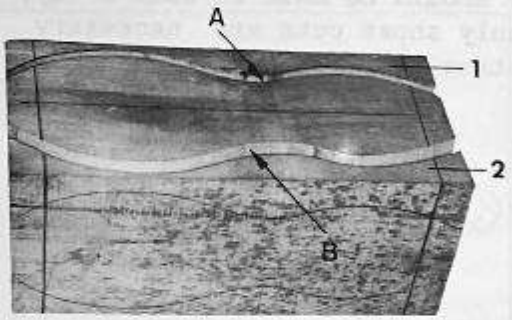
The smaller the radius, the thinner the bandsaw blade must be.



Sawdust suctioning

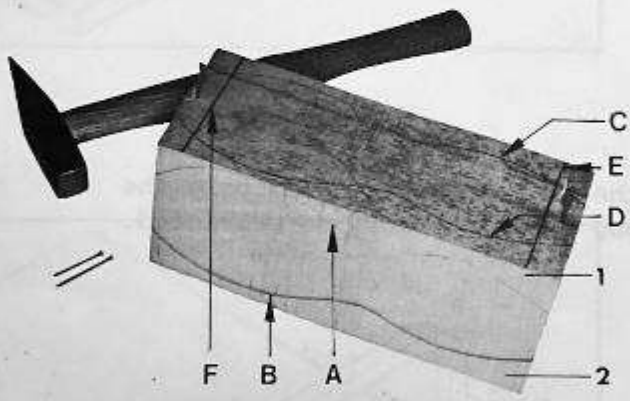
The basic machine and the appropriate accessories, includes a suction connecting piece (1) for connection of a vacuum cleaner. The internal diameter of the connecting piece is 58.2 mm.

All-round machining of workpieces.



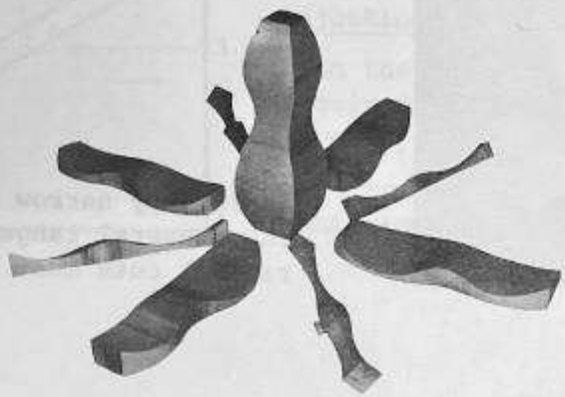
For all-round trimming, cut away the marked areas and slating surface.

The profile is marked out on two areas. The first two cuts (A,B) are made.

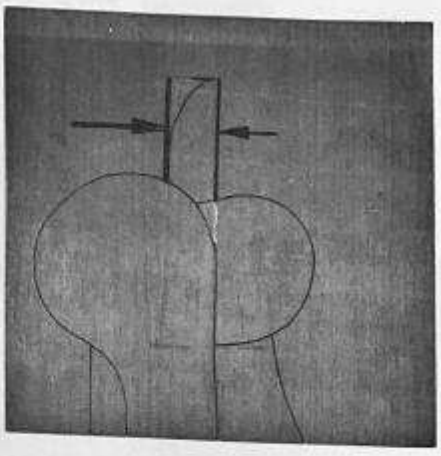


The two cut pieces (1,2) are again pinned to the block with wire nails, the cuts C,D,E,F are made.

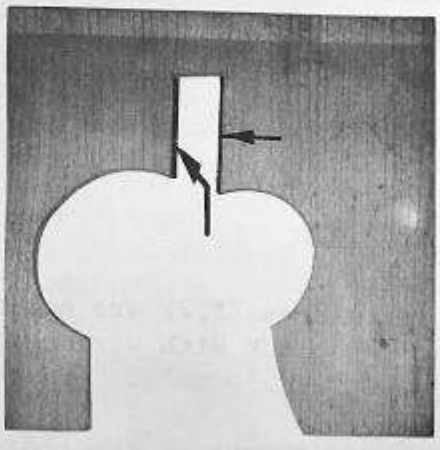
Hammer the nails outside the contour of the item (outside the profile line E,F) so that the item is not damaged.



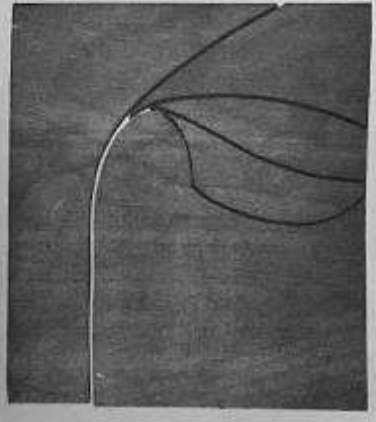
CONTOUR CUTTING



Thought should be given to the most favourable cutting sequence prior to cutting, thus avoiding tedious retracing. Since retracing is not always avoidable, the cutting sequence should be made in such a way, that only short cuts are necessary for retracing.



In the example shown here, only the strong solid cut must be retracted.



Where very narrow radii must be cut, several tangential (or also radial) cuts must be made.