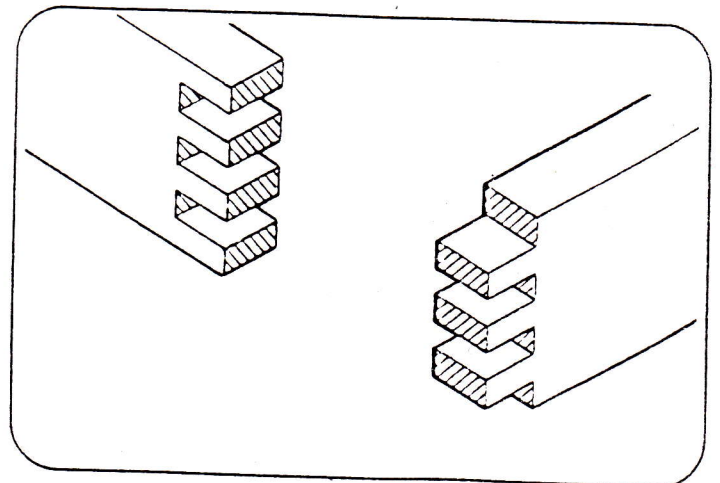


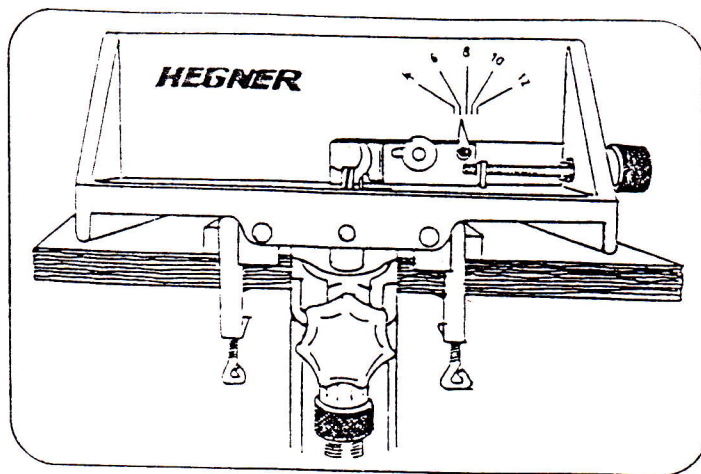
Betriebsanleitung  
Operating instructions  
Instructions de service

## Zinkenfräsgerät ZFG 12

COMB JOINTING MACHINE ZFG 12



## Introduction



Dia.1

The HEGNER ZFG 12 Comb Jointing Machine opens up a world of possibilities for cabinetmakers and those who love to work with wood.

Beautiful finger joints can be easily made in widths from 4 - 12mm.

There are no limits on the length and width of the timber used and only the thickness has an upper limit of 25mm.

The machine is fitted with a dust cowl which is easily fitted to a dust extractor.

The work slide-table is precision guided on two round steel bar guiding mechanisms. Maintenance free slide bearings in the main body guarantee a long, accurate, life.

The ZFG 12 is an extremely stable machine manufactured in a combination of durable synthetics, steel and aluminium.

Easy operation is a hallmark of this machine: The depth of the cut and the width of the tenons is adjusted by means of two micrometer screws. The width of the tenons is dependent on the milling cutter used, and a setting scale.

These operating instructions are restricted to the setting up and use of the ZFG 12 and do not extend to the development of projects.

### Safety

1. When not in use or adjustments are being carried out to the machine or milling cutter, disconnect machine from the mains supply.
2. Use only sharp milling cutters.
3. Never attempt to adjust cutter while the motor is running.
4. Keep the guard covering the cutter and workpiece at all times during operation.
5. Use only HEGNER spare parts and accessories otherwise the guarantee is invalid and we can accept no liability.

## Mains Supply

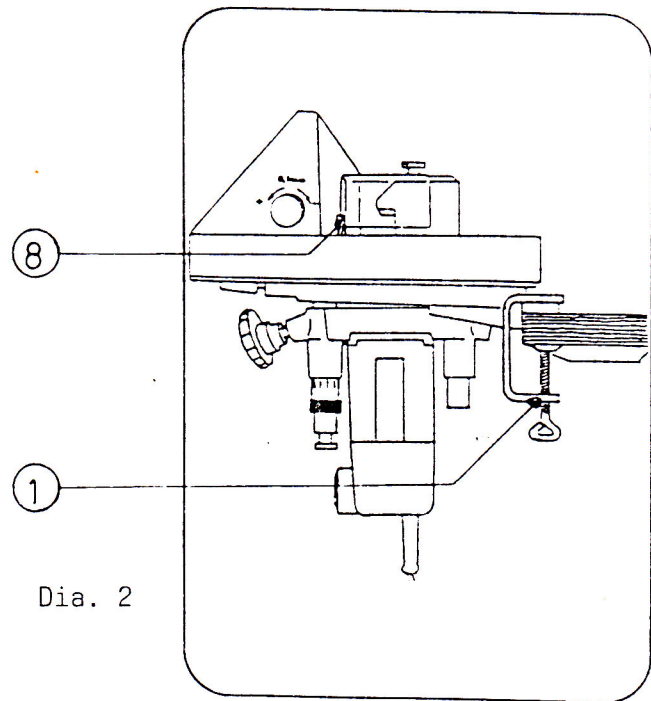
The Comb Jointing Machine ZFG 12 operates on single phase alternating current. It is double insulated to class II VDE 0740 resp. CEE 20 and has interference suppression to VDE 0875. Before connecting to the mains ensure the operating voltage indicated on the label approximates to the mains supply voltage.

**Caution!** This machine should only be used for cutting comb joints in all types of wood, except chip and fibre boards. Do not use when there are knots in the jointing area.

Usage not in accordance with the above can lead to damage.

When performing any adjustments to the machine always disconnect from the mains.

## Machine Mounting



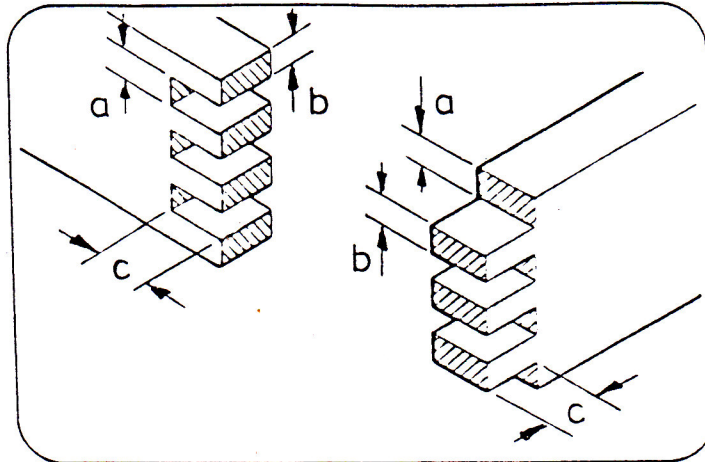
Dia. 2

Fix the machine to a workbench using the two "C" clamps (1) provided, locating them in the two channels on the machine baseplate. Make sure the machine is securely fastened.

**Caution!** Only operate the machine in dry environments and where it is stable under load!

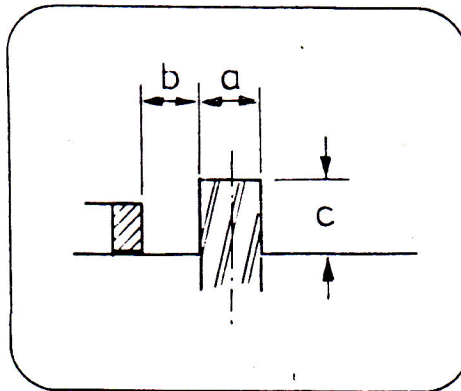
Dimension designations used in the following instructions and descriptions

On the comb jointed timber



Dia.3

On the machine and milling cutter



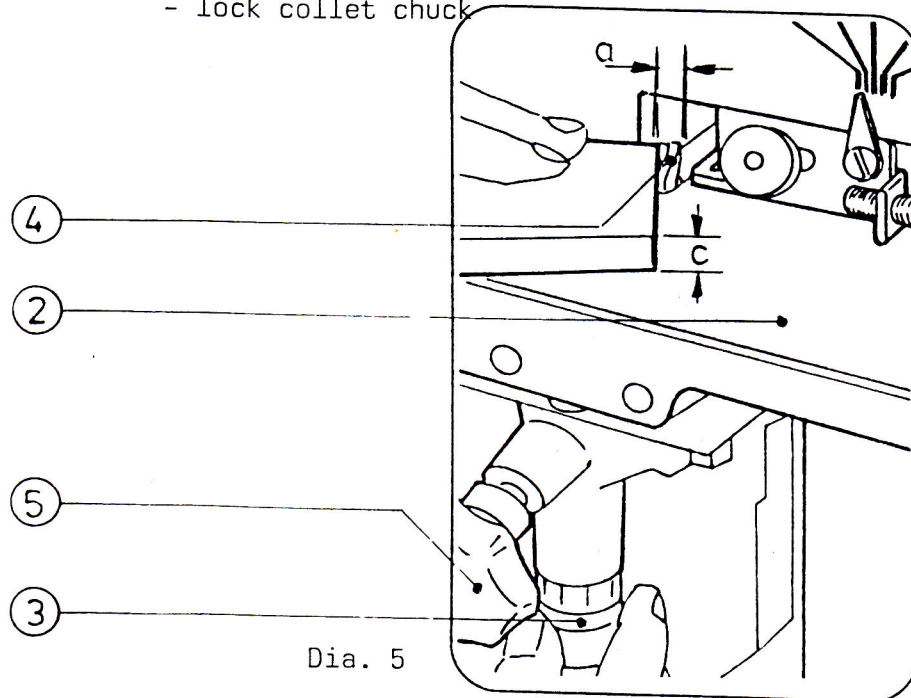
Dia.4

- a = width between fingers, corresponds to the diameter of the milling cutter
- b = width of finger tenons, 0,4 to 1mm narrower than the milling cutter diameter
- c = cutting depth (length of finger tenons), slightly deeper than the thickness of the board (machining allowance).



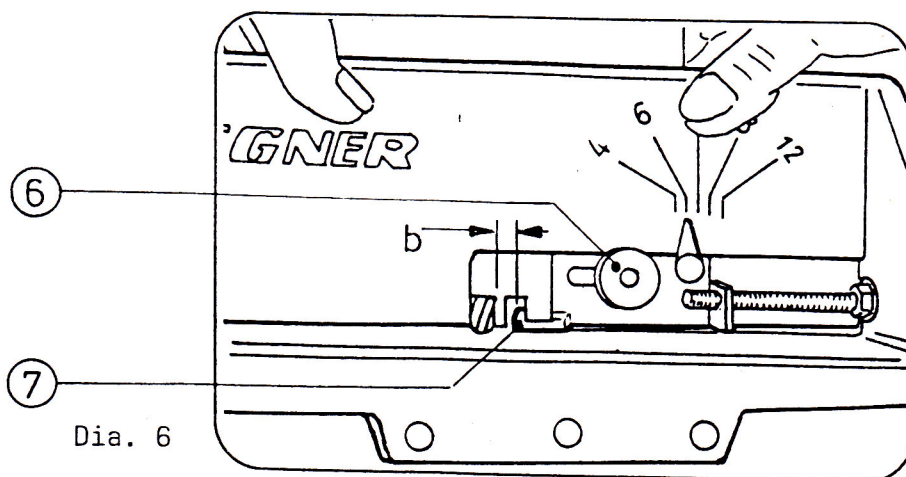
Width between finger tenons "a" corresponds with the diameter of the milling cutter in the machine.

- To change the milling cutter:
- unlock collet chuck
  - exchange milling cutter (4), watch out for sharp edges!
  - lock collet chuck



#### Adjusting cutter depth "c"

- Lay workpiece on the sliding worktable (2).
- Adjust cutter depth with the micrometer (3) until the cutter (4) is located fractionally above the workpiece.
- Lock cutter in position using the locking screw (5).

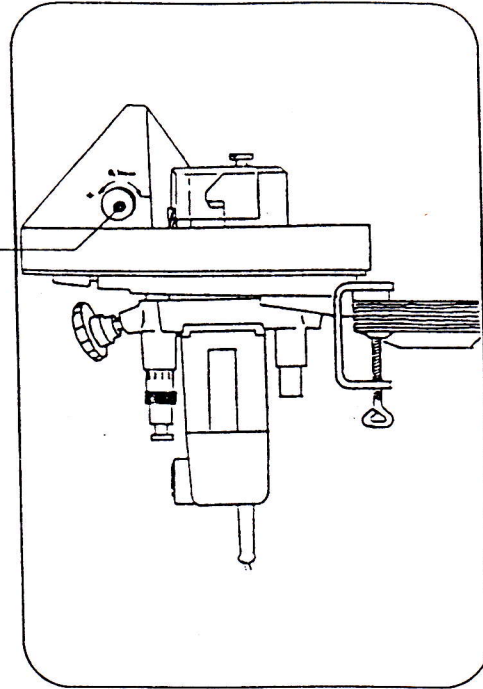


#### Adjusting width of finger tenons "b)

- Loosen clamping screw (6)
- Adjust the gauge (7) with micrometer screw (8) to read the size corresponding to the milling cutter diameter of the calibrated scale.
- Retighten clamping screw.

Important hints:

7



Dia. 7

1. Pull sliding worktable back toward your body.  
This is the normal position before you start each operation!
2. The sliding worktable moves easily if the sliding guide bearings are greased regularly.
3. Blow the chips off the worktable or use an extractor, never use your fingers. The danger of an accident is great!

\* Before milling the workpiece you must construct a sample joint in waste wood to test for play in the joint fingers. Mill all fingers on the sample pieces and assemble them. If they go together too easily, the gauge adjuster (7) must be corrected towards the "-". If the tenon fingers are too tight correct towards the "+". The finger tenons must fit together without applying force and without play, but must however have enough "air" between them to allow room for an adequate amount of glue.

Depending on the type of wood the tenons should be narrower than the timber thickness.

With the sample comb joint finished and the necessary adjustments made, it is recommended to proceed with the work starting with sides 1 and 3 and thereafter completing sides 2 and 4.

Lay the workpiece against the left hand side of the gauge and mill the first slot. All the remaining tenons are machined by transferring the newly milled slot against the left hand side of the gauge. Attention must be paid to ensure that the workpiece is always held tight against the gauge.

After one end of side (1) has been milled it is turned vertically by  $180^{\circ}$ , and the opposite end is machined in a similar way.

Side (3) is milled in exactly the same way as side (1).

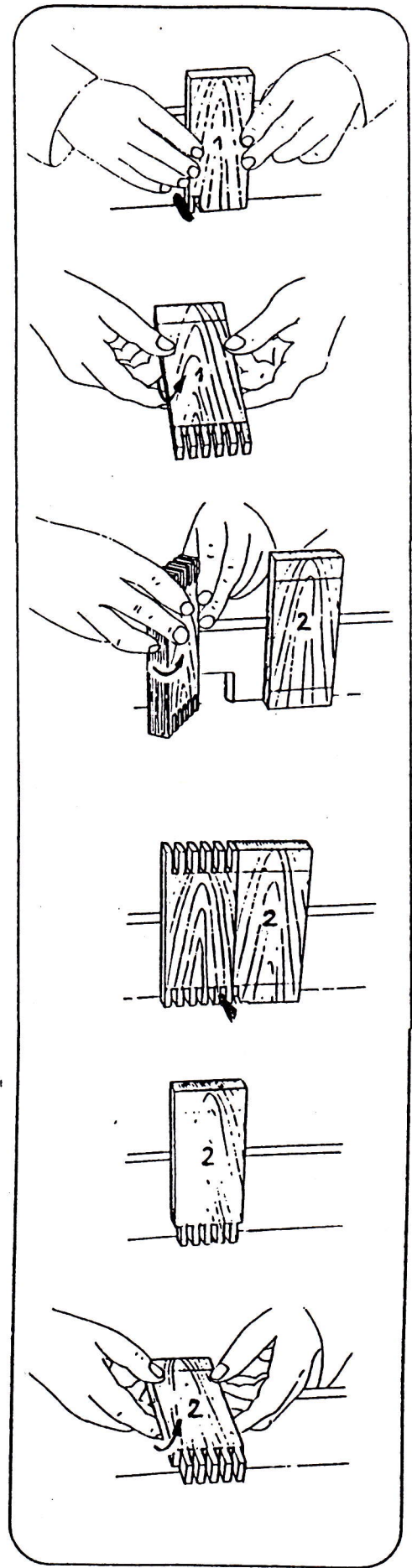
For milling both sides (2) and (4), place side (1) to the gauge and turn it horizontally through  $180^{\circ}$  in such a way that your side numbering is now facing toward you.

The last gap between the tenons of side (1) is now placed against the left side of the gauge and the side (2) to be machined is placed against the left side of side (1) and then the first slot of side (2) is machined.

When this is done remove side (1) and mill the remaining slots as before.

Now side (2) is turned vertically through  $180^{\circ}$  and then the first slot is milled with reference to side (1) as on the other end and the remaining slots milled.

The same procedure is used for side (4).





## Technical Data

Comb Jointing Machine ZFG 12 for making  
finger tenons

4mm - 12mm

Adjustable width of tenons using scale and micrometer screw  
Adjustable fit using micrometer screw  
Connection for dust extraction

## Accessories

Milling Motor with Euro-collar  
and collet chuck  
Power consumption  
Spindle speed

∅ 43mm  
∅ 6,35mm (8mm)  
450 Watt  
27.000 rpm

Collet chuck with clamping nut

HSS-Milling cutter set

∅ 4, 6, 8, 10mm

We reserve the right to change the technical specifications in the  
interests of product development.



