



GB

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A

Reading instructions

1. How to use these operating instructions

- Read the operating and safety instructions before operation!
- We recommend unfolding the picture page at the front of the operating instructions to identify the parts described.
- The individual chapters have been designated with a capital letter and a symbol to facilitate the use of this manual.

2. Explanation of symbols and signs



This warning sign points out important safety instructions which you must heed at all events.



This exclamation mark announces an important comment.

(G1)

These designations mean that you should refer to the chapter in which these parts are described in detail.

e.g. G1 is described in chapter G.



The individual chapters have been designated with capital letters printed on the outside of the page to facilitate use.



Notes





Notes



Safety instructions



Safety instructions

Safety stickers

B



- Do not place hands or objects in drilling area during drilling and insertion.
- Do not remove protective shields - danger of injury!

Safety instructions

- This drilling head has been designed for use with PRO-CENTER 2000 and must only be attached to this machine.

This drilling head has been designed for System 32 and for drilling dowel holes in work pieces of wood, pressboard or plastic laminated wood.

The manufacturer is not liable for any other applications!

- Familiarise yourself with the operation of PRO-CENTER 2000 before working with drilling head MZK.2880. Read the operating instructions of PRO-CENTER 2000 first.
- Set operating mode switch (E2) to position before changing tools, resetting or when working in the drilling area.
- Only use sharp, clean drill bits when working!

- Particular care must be taken when working on work pieces which jut out over the worktable.
- Secure the work piece during work! Use the machine's hold-down clamps to do so. If these are insufficient, find a suitable fastening device.
- Make sure that all safety devices function properly before starting operation. Replace defective parts with genuine spare ones.
- Make sure that no other tools or objects are on the worktable aside from your work piece before turning on the machine!
- For your own safety, use only the accessories recommended or stated in the operating instructions or in Blum's catalogue.





Safety instructions

B

- Noise emissions
Emission standard at work place (operating cycle) = 80 dB(A).

(Measured 1.5 m above and 0.5 m in front of worktable top according to EN 31202 (31204 or ISO 7960. Measuring uncertainty constant K3 is 4 dB(A)).

The operator himself must decide whether ear protection is nevertheless necessary on account of room conditions, additional noise sources and duration of operation.

- Dust emissions
If connected properly to a dust extraction set, dust emissions fall clearly below the technical standard value with air velocity reaching a minimum of 20 m/s at dust extraction connectors. Depression amounts to 1060 Pa.
- Do not yourself make any alterations or modifications to the machine!
- Contact any of Blum's service points if you have any questions or problems.



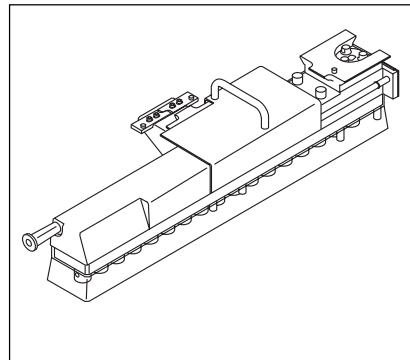
H





Maintenance

Maintenance

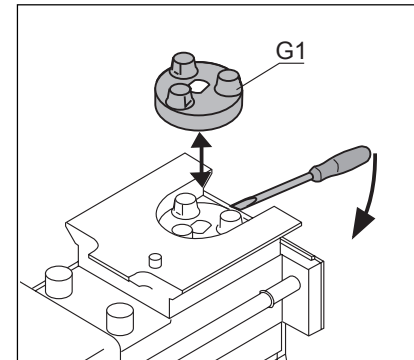


G

1. Maintenance

Caution!
Remove the drilling head from the machine for maintenance.

- Clean drilling head of bore dust regularly
- Check if drilling head is functioning properly. Replace any damaged parts with genuine spare ones immediately
- Replace blunt drill bits with sharp ones



Caution
Replace broken or damaged parts immediately!

Use only genuine spare parts made by Blum!

2. Replacing damaged coupling

- Remove damaged coupling with a blunt screwdriver
- Push spare coupling (G1) onto shaft until it is flush with top of shaft

Description of parts



Description of parts

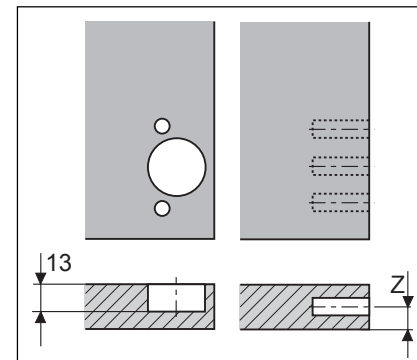
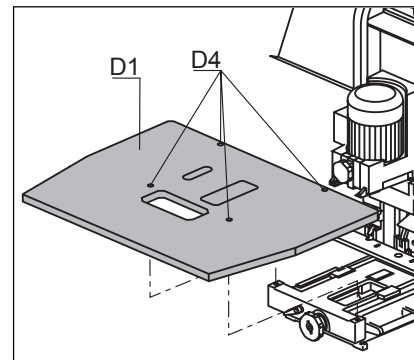
- D1** ... Worktable
D2 ... Centre square
D3 ... Countersunk screws
D4 ... Hex set screws (for worktable)
- E1** ... Coupling cover
E2 ... Additional centring devices
E3 ... Hex set screws
E4 ... Adjusting screw
E5 ... Dovetail guide
E6 ... Adjusting pins, Ø 10 mm
E7 ... Adjusting blocks 28/37
E8 ... Cover plate
- F1** ... Adjusting blocks 16/19
F2 ... Straight pins, Ø 8 mm
- G1** ... Spare coupling

C



Preparing PRO-CENTER 2000

D



1. Mounting the large worktable

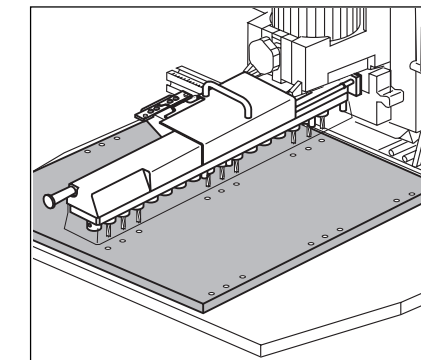
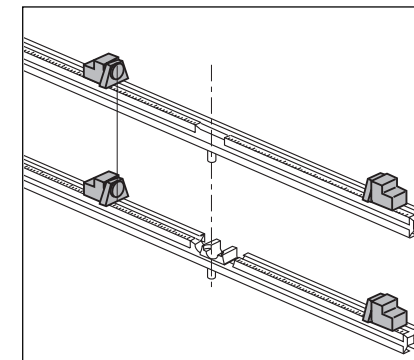
- Turn main switch to position 0
- If the small worktable supplied with the machine has been attached, replace it with large worktable (D1) supplied with drilling head MZK.2880

! Important
Due to possible tolerances, the large worktable might be slightly thicker than the small worktable supplied with the machine. This could have an effect on the drilling depth and drilling distance of the horizontal drilling unit!

- Give the vertical drilling unit a trial run
- Check drilling depth and adjust the pre-positioning screws on the drilling depth revolving handle if necessary
- Give the horizontal drilling unit a trial run

- Check drilling distance and adjust if necessary

(See PRO-CENTER 2000, "Pre-setting revolving handle for drilling depth adjustment", page 31 and "Adjusting drilling distance", page 37)



F

II) Shelves

1. Choose ruler and set stops

- Recommended rulers:
 - Horizontal ruler MZL.2060
 - Standard ruler MZL.2000
- Set the stops at the intervals desired

2. Insert drilling head and ruler

- Insert ruler into machine
- Clamp drill bits in drill chucks
 - 5 x 8 mm Ø, clockwise
 - 4 x 8 mm Ø, anti-clockwise
 - or
 - 5 x 10 mm Ø, clockwise
 - 4 x 10 mm Ø, anti-clockwise
- Insert drilling head at a right angle to ruler

3. Adjust drilling depth

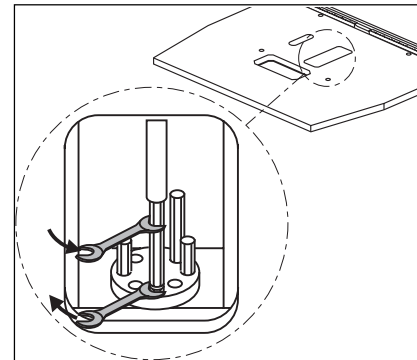
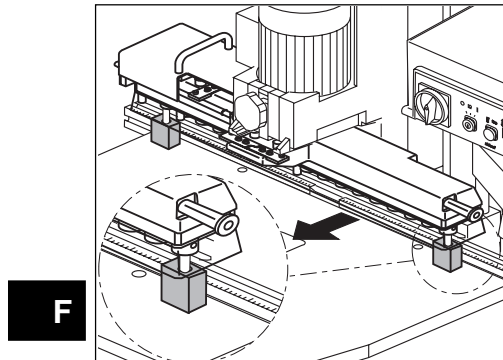
4. Set worktable to drilling distance desired

! Comment
We recommend setting the first bore hole at 32 mm

5. Proceed to drill

- Place work piece on worktable and drill for dowels

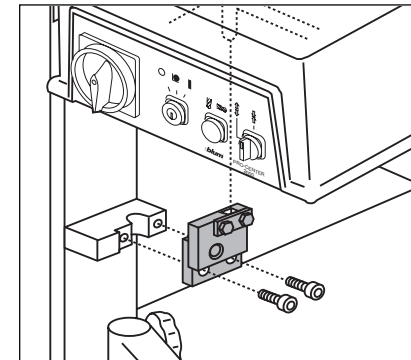




Caution! Make sure that the preselector has been set to position **●** (setting).

- Press start button and keep depressed
 - the vertical drilling unit will move downwards
- Pull worktable forwards till ruler rests snugly against adjusting blocks
- Clamp down table in this position
- Check angle of drilling head and correct if necessary (See chapter E "Setting drilling head parallel to ruler")
- Release start button

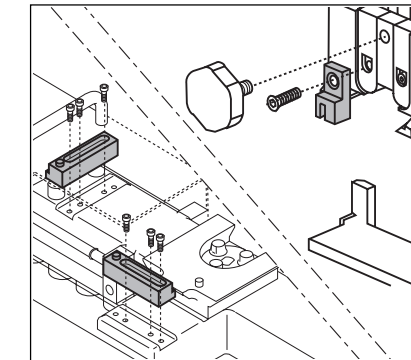
Comment
This worktable setting can be easily recovered by pre-setting revolving handle for worktable adjustment (see PRO-CENTER 2000, chapter E "Pre-setting revolving handle for worktable adjustment")



2. Changing control unit attachment
(This only applies to machines with serial numbers up to AC100)

Caution! Disconnect the machine from the mains and air supply system before changing control unit attachment!

Caution! The control unit attachment of machines with a serial number of up to AC100 must be retrofitted with the "SWIVEL CONTROL UNIT" set!



3. Mounting centre squares to PRO-CENTER 2000

a) Retrofitting machines with serial number AA

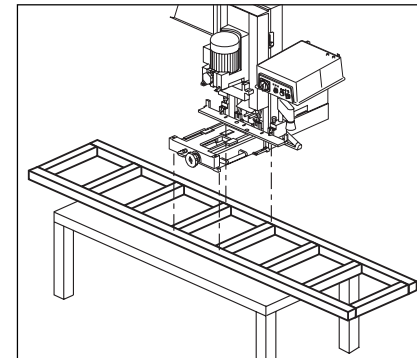
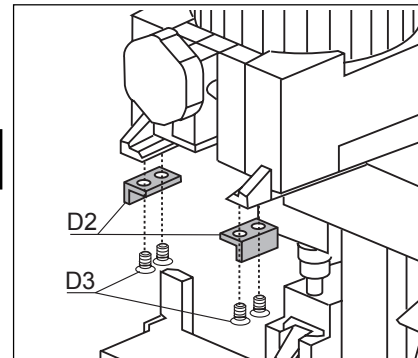
Comment
Retrofit machines with serial number AA with the "ADDITIONAL CENTRING DEVICE"! set

D





D



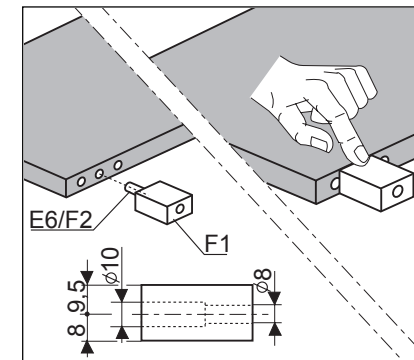
4. Increasing drilling accuracy

b) Retrofitting machines from serial number AB onwards

- Attach centre squares (D2) to the drilling head fixing plate with the countersunk screws (D3) supplied

! **Important**
Please take note of the following points in order to ensure the greatest possible accuracy when working with MZK.2880:

- Mount PRO-CENTER 2000 onto a stable wooden base

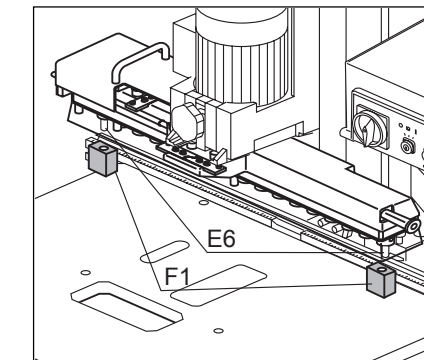


Increasing drilling accuracy

! **Comment**
Use the following setting to achieve a flush dowelled joint

a) Setting horizontal drilling unit

- Set the drilling distance (Z) of the horizontal drilling unit to 8 mm or to 9.5 mm
- Give the machine a trial run
- Check drilling distance with pin (E6) for bore holes with a 10-mm ϕ , or with straight pin (F2) for holes with an 8-mm ϕ and adjusting block (F1)
- Correct drilling distance (Z) if necessary



F

b) Setting worktable to drilling distance

- Clamp adjusting pins (E6) in first and last drill chucks
- Insert drilling head parallel to ruler
- Attach adjusting blocks (F1) to adjusting pins (E6)

! **Comment**
If the drilling distance is to be 8 or 9.5 mm, mount the adjustment blocks with the corresponding dimensions (16 or 19) against the ruler.

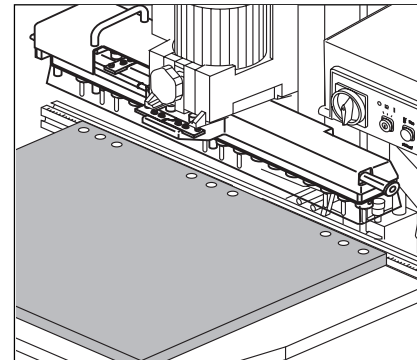
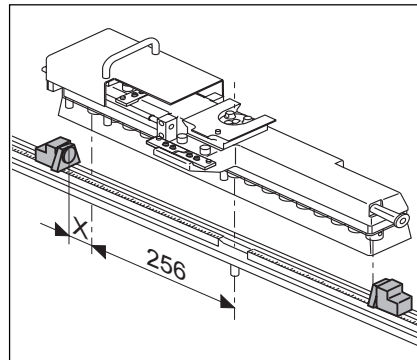
- Set worktable to a drilling distance of approx. 50 mm according to the scale





Dowels

F



I) Tops and bases

1. Choose ruler and set stops

- Recommended rulers:
 - Horizontal ruler MZL.2060
 - Standard ruler MZL.2000
- Set the stops at the intervals desired
- Set the first stop at 256 mm + X*

! **Comment**
If the first bore hole is set at X = 32 mm, use System 32 for setting further stops

2. Insert drilling head and ruler

- Insert ruler into machine
- Clamp drill bits in drill chucks
 - 5 x 8 mm Ø, clockwise
 - 4 x 8 mm Ø anti-clockwise
 - or
 - 5 x 10 mm Ø clockwise
 - 4 x 10 mm Ø, anti-clockwise
- Insert drilling head parallel to ruler

3. Adjust drilling depth

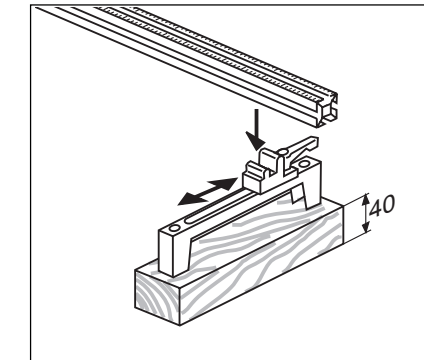
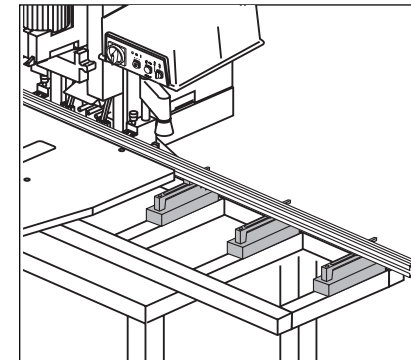
4. Set worktable to drilling distance desired

5. Adjust the drilling depth and drilling distance of horizontal drilling unit

6. Proceed to drill

- Place work piece on worktable and drill for dowels

*)...X = distance to first bore hole



D

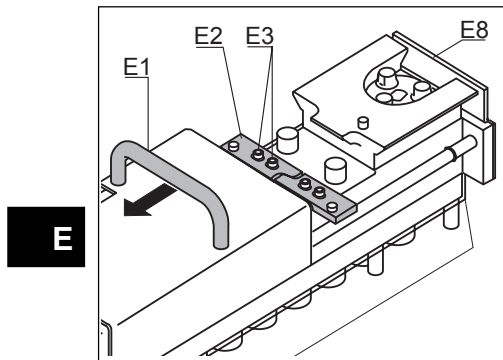
- Use three ruler supports (MZV.2000) per extension ruler to provide the best possible support
- Screw down ruler supports firmly to wooden base





Adjusting MZK.2880 to ruler

Setting drilling head at a right angle to ruler

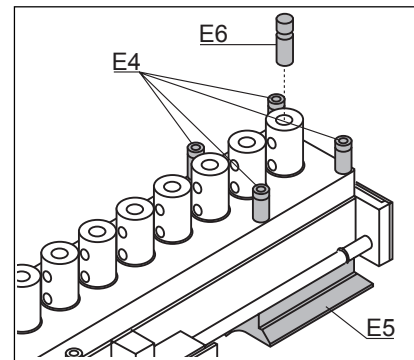


1. Preparing drilling head for adjustment

- Remove drilling head from the machine

Caution!
Remove all drill bits for safety reasons.

- Push coupling cover (E1) to front
- Loosen additional centring devices (E2) by loosening hex set screws (E3)
- Push cover plate (E8) downwards



- Loosen orange adjusting screws (E4) and then tighten slightly

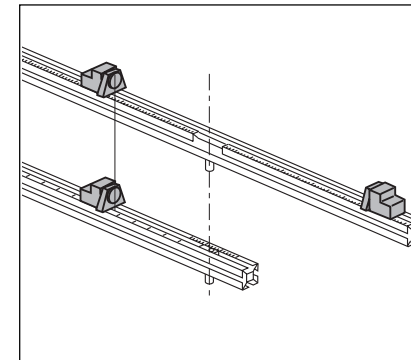
Important
There should be no play between dovetail guide (E5) and gear unit.

- Clamp adjusting pins (E6) in first and last drill chucks



Working with MTZ.2880

Carcase profiles



1. Choose ruler and set stops

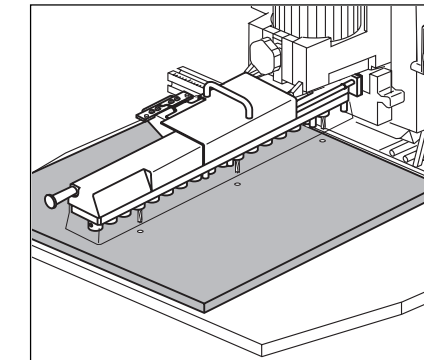
- Recommended rulers:
 - Standard ruler MZL.2000
 - Reversible ruler MZL.2010

a) Standard ruler MZL.2000

- Set stops at intervals desired

b) Reversible ruler MZL.2010

- Clamp down either the right or left side of ruler. The ruler must simply be turned over to drill right and left components. That means higher accuracy as stops need only be set once.
- Sets stops at intervals desired



2. Insert drilling head and ruler

- Insert ruler into machine
- Clamp drill bits in drill chucks
 - 2 x 5 mm Ø, clockwise
 - 2 x 5 mm Ø, anti-clockwise
- Insert drilling head at a right angle to ruler

3. Adjust drilling depth

4. Set worktable to drilling distance desired

5. Proceed to drill

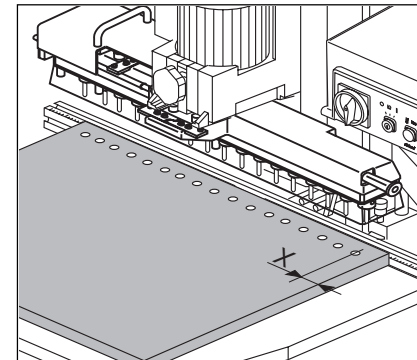
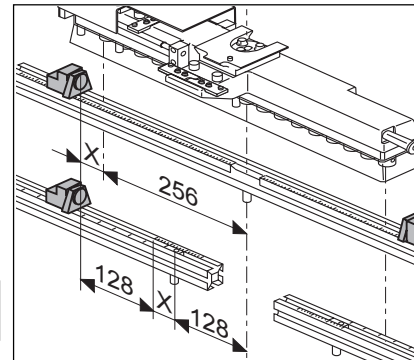
- Place work piece on worktable and drill for carcass profiles





System 32

F



1. Choose ruler and set stops

- Recommended rulers:
 - Standard ruler MZL.2000
 - System 32 ruler MZL.2080

a) Standard ruler MZL.2000

- Set the first stop at 256 mm + X*
- Position all other stops at an interval of 544 mm

b) System 32 ruler MZL.2080

- Set the first stop at 128 mm
- Set X* by means of zero point adjustment (See PRO-CENTER 2000, page 58)
- Set all other stops at an interval of 544 mm

2. Insert drilling head and ruler

- Insert ruler into machine
- Clamp drill bits in drill chucks
 - 9 x 5 mm Ø, clockwise
 - 8 x 5 mm Ø, anti-clockwise
- Insert drilling head parallel to ruler

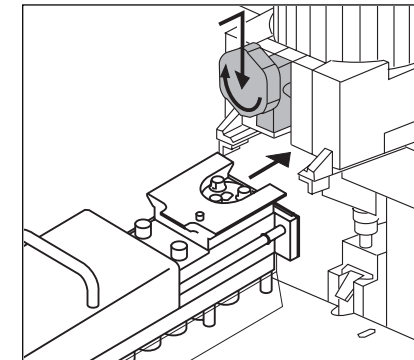
3. Adjust drilling depth

4. Set worktable to drilling distance desired

5. Proceed to drill

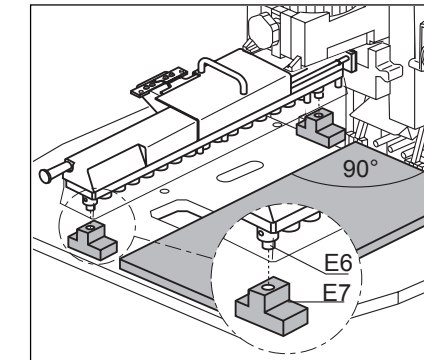
- Place work piece on worktable and drill for System 32

*)...X = distance to first bore hole



2. Mounting drilling head onto machine

- Set main switch to position I
- Set preselector to position I (set-up)
- Mount standard ruler
- Slide drilling head along the guide until it rests against the stop
- Move clamping device downwards then turn clamping knob and tighten until the control lamp for vertical drilling stops blinking



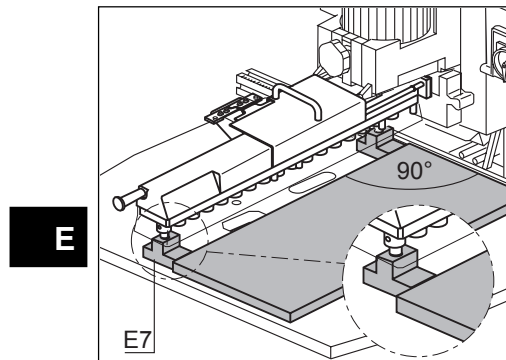
E

3. Mounting adjustment aids

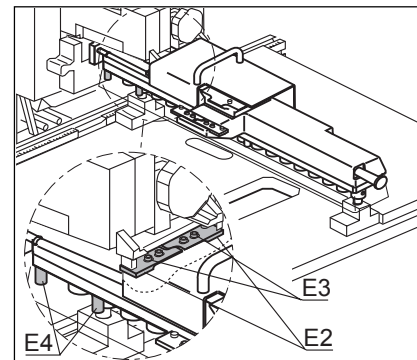
- Set the worktable to a drilling distance of approx. 40 mm according to the scale
- Set drilling depth to 16 mm
- Set the preselector to "Vertical drilling and hinge insertion"
- Attach adjusting blocks (E7) to adjusting pins (E6)
- Prepare a right-angled piece of pressboard measuring approx. 600 x 600 x 16 (19) mm



Adjusting MZK.2880 to ruler



E



4. Setting angles

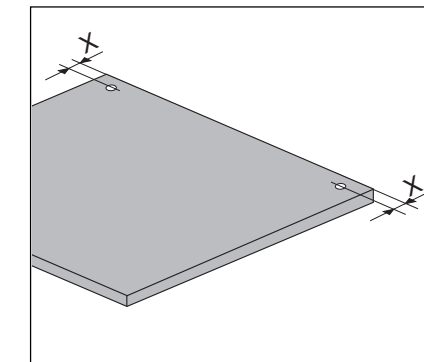
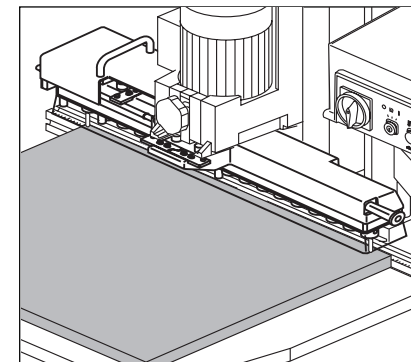
Caution! Make sure that the preselector has been set to position **●** (set-up).

- Press start button and keep depressed
 - the vertical drilling unit will move downwards
- Insert prepared pressboard so that it rests against the ruler and move it in until it is positioned against adjusting blocks (E7)
- Check angle of drilling head and correct if necessary

- Firmly tighten adjusting screws (E4) on the left
- Push additional centring devices (E2) outwards until they rest against centre squares and fasten with hex set screws (E3)
- Release start button
 - the vertical drilling unit will return to its initial position
- Tighten adjusting screws (E4) on the right



Adjusting MZK.2880 to ruler



E

5. Checking parallel setting

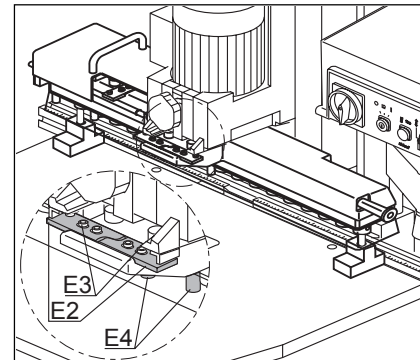
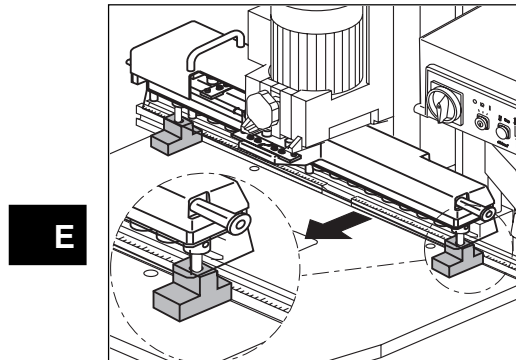
- Remove drilling head from machine
- Remove adjusting blocks (E7) and adjusting pins (E6)
- Clamp drill bits in drill chucks
- Re-insert drilling head into machine
- Give machine trial run

- Check dimensions of borings
- Correct parallelism if necessary





Adjusting MZK.2880 to ruler



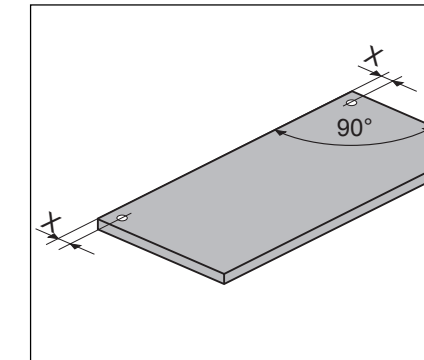
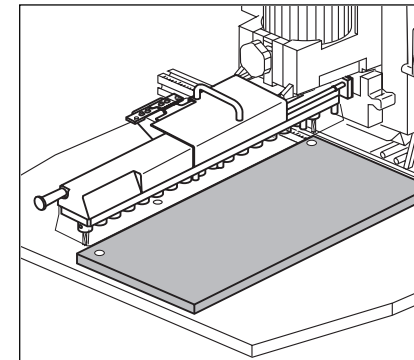
4. Parallel setting

Caution! Make sure that the preselector has been set to position **●** (set-up).

- Press start button and keep depressed
 - the vertical drilling unit will move downwards
- Pull worktable forwards till ruler rests snugly against adjusting blocks
- Clamp down table in this position
- Check angle of drilling head and correct if necessary
- Firmly tighten adjusting screws (E4) at the front
- Push additional centring devices (E2) outwards until they rest against centre squares and fasten with hex set screws (E3)
- Release start button
 - the vertical drilling unit will return to its initial position
- Tighten adjusting screws (E4) at the back



Adjusting MZK.2880 to ruler



5. Checking angle setting

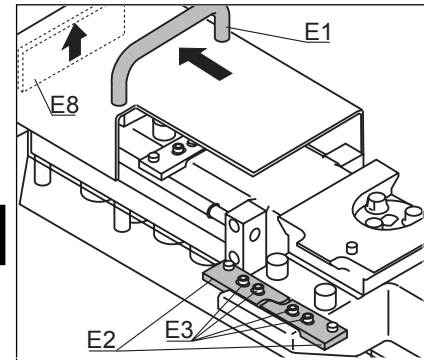
- Remove drilling head from machine
- Remove adjusting blocks (E7) and adjusting pins (E6)
- Clamp drill bits in drill chucks
- Re-insert drilling head into machine
- Give machine trial run
- Check dimensions of borings
- Correct angle settings if necessary





Adjusting MZK.2880 to ruler

Setting drilling head parallel to ruler

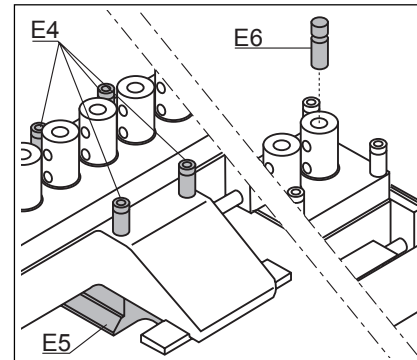


1. Preparing drilling head for adjustment

- Remove drilling head from machine

Caution!
Remove all drill bits for safety reasons.

- Push cover plate (E8) upwards
- Push coupling cover (E1) back
- Loosen additional centring devices (E2) by loosening hex set screws (E3)



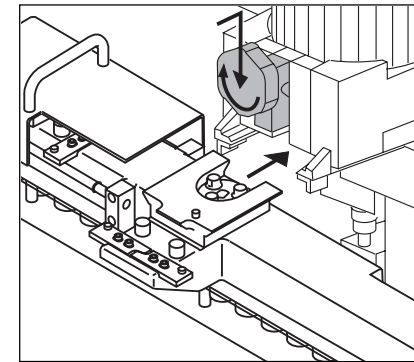
- Loosen orange adjusting screws (E4) and then tighten slightly

Important
There should be no play between dovetail guide (E5) and gear unit.


- Clamp adjusting pins (E6) in first and last drill chucks



Adjusting MZK.2880 to ruler

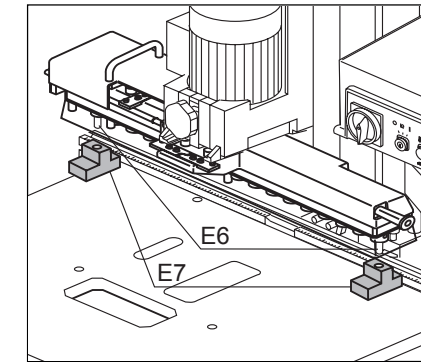


2. Mounting drilling head onto machine

- Set main switch to position I
- Set preselector to position  (set-up)
- Mount standard ruler

Important
Make sure that there are no positioning stops in the position of the first and last drill chucks when making adjustments!

- Set revolving handle of worktable to position "H" and push right back
- Slide drilling head along the guide until it rests against the stop
- Move clamping device downwards then turn clamping knob and tighten until the control lamp for vertical drilling stops blinking



3. Mounting adjustment aids

- Set drilling depth to 16 mm
- Set the preselector to "Vertical drilling and hinge insertion"
- Attach adjusting blocks (E7) to adjusting pins (E6)

Comment
If the drilling distance is 37 or 28 mm, mount the adjusting blocks with the corresponding dimensions against the ruler.

