

NIDEK

Multifunction edger

Me 1200

INSTALLATION MANUAL

This manual is included with the instrument for use by service personnel during installation.

The contents are not intended for customer use and should only be conducted by qualified personnel.



Original instructions



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Install this instrument safely.



BEFORE INSTALLATION, READ THIS MANUAL.

This manual provides precautions and procedures for installing the NIDEK Multifunction edger, Model Me 1200.

Before installation, read and understand this manual and the operator's manual thoroughly.

Safety precautions

In this manual, signal words are used to designate a degree or level of safety alerting. The definitions are as follows.



WARNING • Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION • Indicates a potentially hazardous situation which may result in bodily injury or damage to equipment.

Even situations indicated by "**CAUTION**" may result in serious injury under certain conditions. Safety precautions must be strictly followed at all times.

Installation precautions



WARNING • Never touch the processing wheel while it is turning.

It may result in injury.

- **If the wheels are chipped or cracked, immediately stop the instrument.**
If chipped or cracked wheels are used, they may break or shatter resulting in injury.
- **Use a hand cart to move the instrument to a different location. At least two persons are necessary to lift the instrument.**
Back injury or stumbling may occur when a single person attempts to move the instrument
- **Be sure to wear protective gloves when using a cutter.**
A cutter or sharp edge of the band or corrugated cardboard may cause injury.
In addition, never move the cutter directing it toward hands or the body even if wearing gloves due to its sharp edge.



CAUTION • Installation must be performed only by personnel who know this instrument well.

- **Handle the instrument carefully during transportation to protect from shock.**
- **Use the special packing materials when moving or transporting the instrument.**
- **Unpack the package in an area with ample space, checking the safety of the environment.**
- **Keep the packing materials to move or transport the instrument.**
- **Do not install the instrument in a place exposed to direct sunlight or hot and humid places.**
- **Do not install the instrument in a place which has a tilted floor or vibration.**
- **Leave a space of 10 cm or more behind the instrument.**
If the fan is blocked, the temperature inside the instrument will rise and it may cause malfunction.
- **Be sure to install the instrument where the power source and power voltage as indicated on the label are connect.**
- **Connect the main power plug to a grounded outlet.**
Electric shock or fire may occur in the event of malfunction or power leakage.
- **Install the device in area where the outlet that the power plug is inserted into is easily accessible during use. In addition, ensure that the power cord can be disconnected without the use of a tool.**
Otherwise, it may interfere with disconnecting of the power from the input power source in case of abnormality.
- **Use only the specified pliable cup remover when removing the pliable cup from a lens.**



CAUTION • **Be sure to make the correct material selection for the lens being processed.**

If an improper material is selected, the lens may break or the lifetime of processing wheels may be reduced substantially.

- **Be sure not to drop the removed screws inside the instrument or lose them.**
-

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1.

REQUIREMENTS

1.1 Requirements

1

- Cutter for installation
- Hexagonal wrench (accessory) for installation
- Hexagonal screwdriver (accessory) for installation, calibration
- Digital caliper (marked in 0.01 mm) for adjustment
- $\varnothing 2.0$ (m6) straight pin for adjustment
- Centering device for adjustment
- Axis adjustment jig (40300-1530)
- Graduated loupe for adjustment
- Test lens for adjustment

CR39 SPH: -3.00 to -5.00 D 17 pieces

CR39 SPH: -1.00 D 2 pieces

* The number of test lenses above is necessary for check. Prepare extra lenses for adjustment.

2.

INSTALLATION PROCEDURE

2.1 Installation Location and Instrument Main Body Movement

●Conditions of installation location

CAUTION • Leave a space of 10 cm or more behind the instrument.

If the cooling fan is blocked, the temperature inside the instrument will rise and it may cause malfunction.

- Install the instrument on the specified table (optional) or a support which is strong enough for the weight of the instrument (52 kg).

Vibrations and noises may be produced, and normal processing may not be performed.

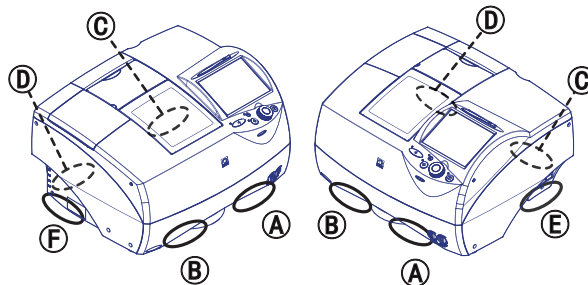
●Instrument main body movement

WARNING • Use a hand cart to move the instrument to a different location. At least two persons are necessary to lift the instrument.

Back injury or stumbling may occur when a single person attempts to move the instrument.

- When lifting the instrument, do not lift it by its cover. Lift it by placing hands at front lower parts (A) and (B), rear lower parts (C) and (D), and right and left side lower parts (E) and (F).

Lifting by the cover may cause the instrument to drop resulting in injury or malfunction.



- Be careful not to get fingers caught when setting the lifted instrument down.

Fingers may get caught between the table and instrument resulting in injury.

2.2 Unpacking

Unpack the shipping carton according to the following procedure.

- 1** Hold the joint levers of the joints (4 units) and turn each of them to the left.

The shipping carton is unlocked.

* Do not remove or cut the tape.

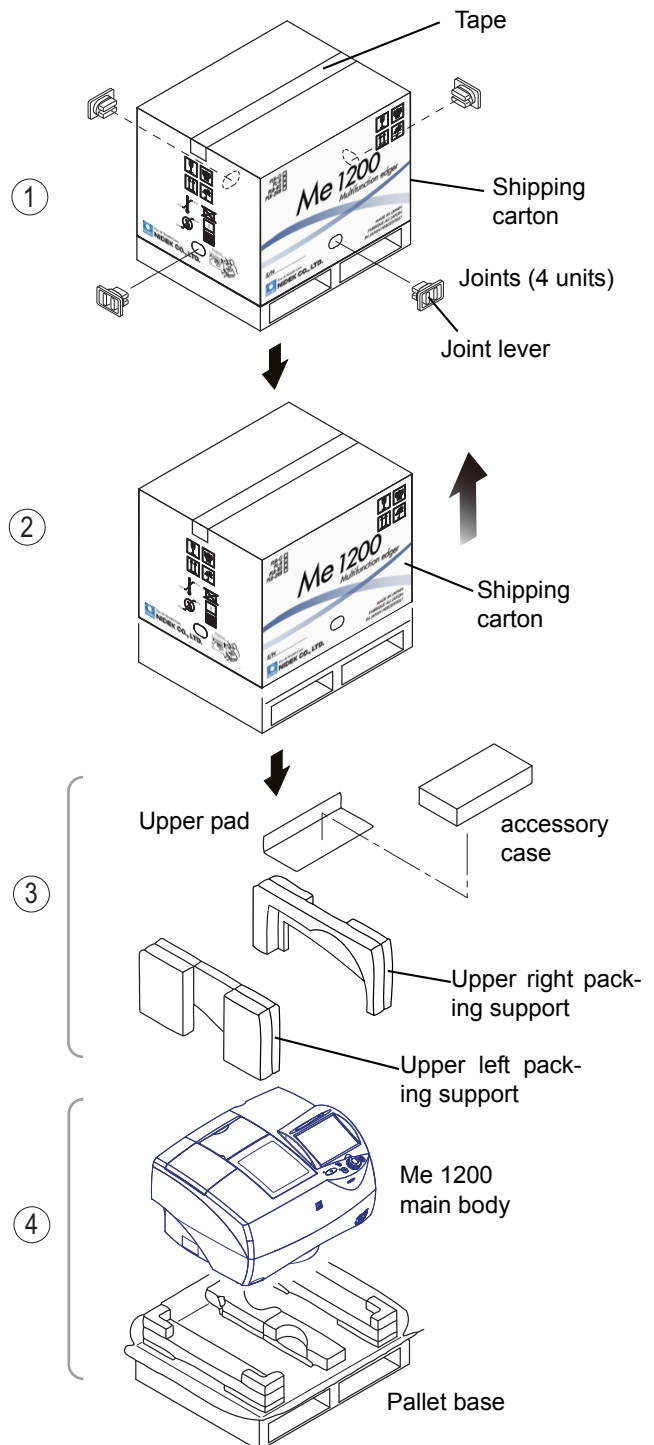
- 2** Hold the shipping carton and lift it up for removal.

- 3** Remove the accessory case, upper pad, and upper right and left packing support in order.

- 4** Place the main body in the installation position by two persons or more.

The weight of the main body is approximately 52 kg.

See “2.1 Installation Location and Instrument Main Body Movement” (page 3).



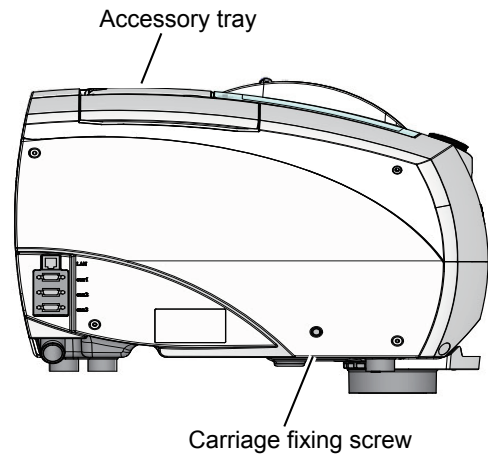
2.3 Accessory Check

Confirm that the following are contained.

<input type="checkbox"/> Pliable cup (red, green)	4 units each
<input type="checkbox"/> Pliable cup for high base curve (red, green)	3 units each
<input type="checkbox"/> Double-coated adhesive pad	1 set (100 sheets)
<input type="checkbox"/> Touch pen	1 unit
<input type="checkbox"/> Cup remover	1 unit
<input type="checkbox"/> RMU/LMU calibration jig	1 unit
<input type="checkbox"/> Hexagonal screwdriver (2.5 mm)	1 unit
<input type="checkbox"/> Hexagonal wrench (3 mm)	1 unit
<input type="checkbox"/> Hexagonal wrench (5 mm)	1 unit
<input type="checkbox"/> Wrench (for attaching/removing grooving wheel)	1 unit
<input type="checkbox"/> Wrench (for attaching/removing drill bit)	1 unit
<input type="checkbox"/> Drill bit (ø0.8, L6.5)	1 set (10 bits)
<input type="checkbox"/> Drain hose adapter set	1 set
<input type="checkbox"/> Feedwater hose	2 units
<input type="checkbox"/> Tray	1 unit
<input type="checkbox"/> Dressing stick for glass roughing wheel (WA80K)	1 unit (types PLB-G, PL-8, PLB-2R8)
<input type="checkbox"/> Dressing stick for finishing wheel (WA320K)	1 unit
<input type="checkbox"/> Compound kit for polishing wheel	1 set
<input type="checkbox"/> Operator's manual	1 volume
<input type="checkbox"/> Power cord	1 unit

2.4 Spacer Removal

- 1 Insert the provided hexagonal wrench (5 mm) into the hole in the center of the left side and unscrew a carriage fixing screw.

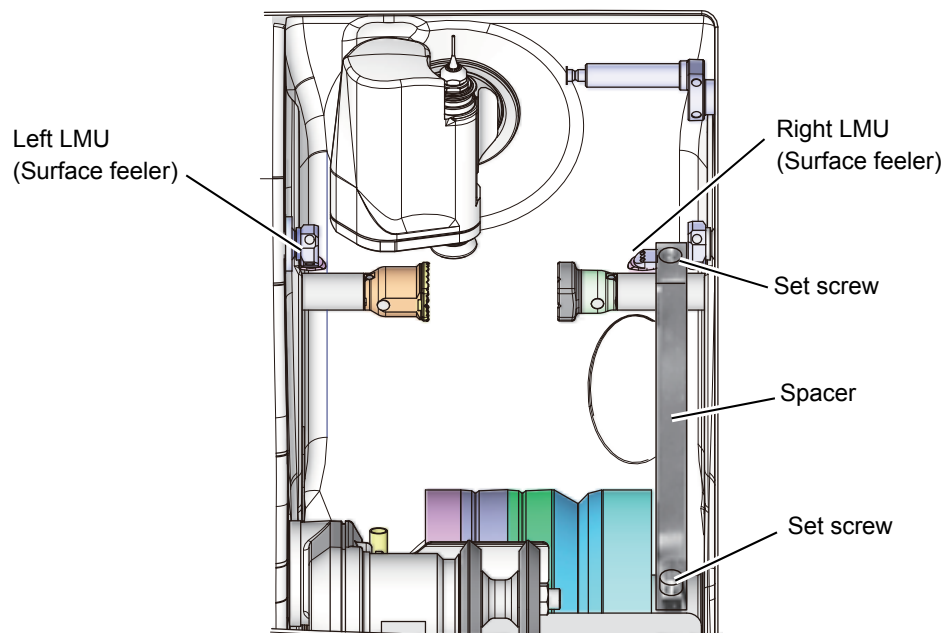


Note

- Store the removed screw in the accessory case.
It is used for securing the carriage when moving the instrument.

- 2 Remove the spacer in the processing unit.

- 1) Manually open the processing chamber door when it is closed.
- 2) Loosen two set screws on the spacer with the provided hexagonal screwdriver (2.5 mm).



- 3) Push the bottom of the spacer to remove the spacer from the wheel shaft.
- 4) Push the lens chuck shaft up.

The lens chuck shaft moves slightly upward.

- 5) Pull the top of the spacer to remove the spacer from the lens chuck shaft.
- 6) Remove the tape securing the safety beveling wheels and right and left LMU (surface feeler).
- 7) After manually moving the right LMU (surface feeler) until all the way to the left, return it to the right.
- 8) After manually moving the left LMU (surface feeler) until all the way to the right, return it to the right.

 Note

- Be sure to move the surface feelers as described in Steps 7) and 8).

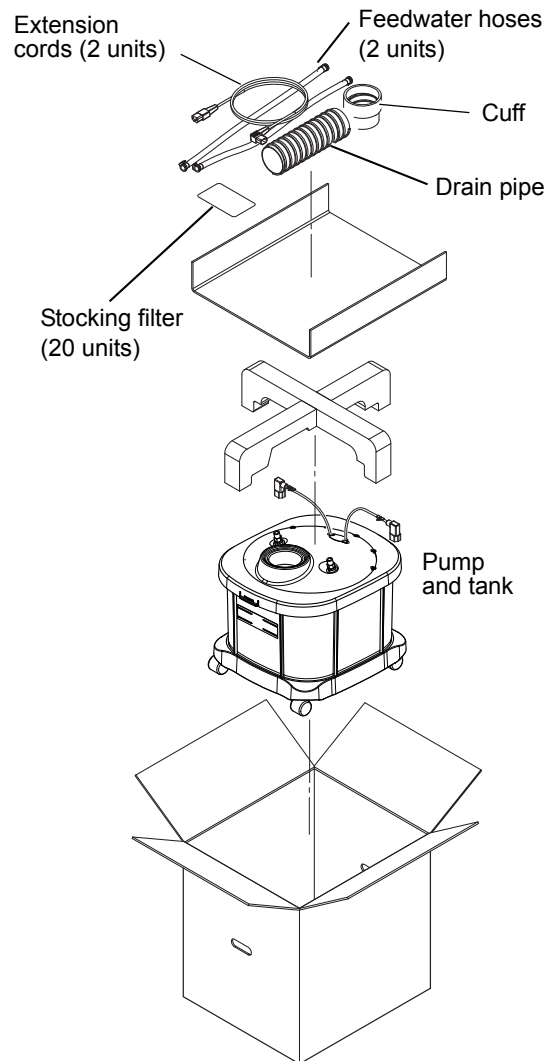
The right and left feelers may be sluggish just after the instrument is unpacked. If the surface feelers are not moved as described, the initialization may not be properly performed.

2.5.2 Pump and tank connection procedure

1 Remove the tank from the box.

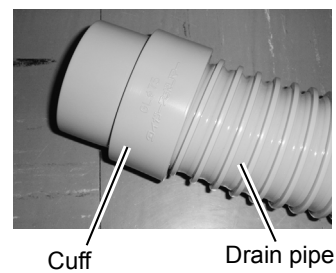
[Contents of the tank box]

- Extension cord 2 units
- Drain pipe 1 unit
- Feedwater hose 2 units
- Cuff 1 unit
- Stocking filter 20 units
- Pump and tank 1 unit

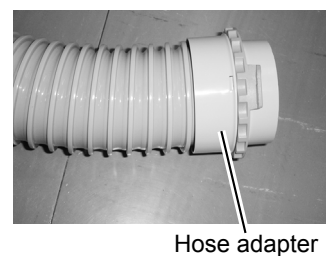


2

2 Screw the drain pipe into the cuff.

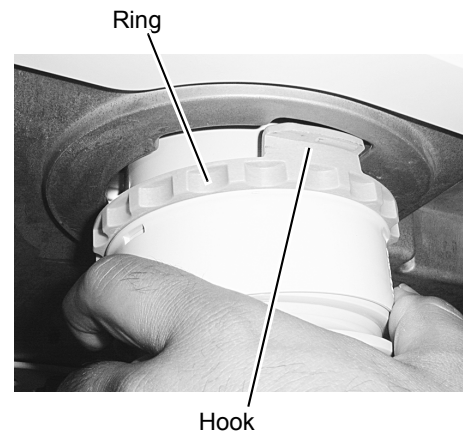


3 Screw the other end of the drain pipe into the hose adapter.



4 Connect the drain pipe to the aperture on the bottom of the main body.

Push the hose adapter while aligning the hook of the hose adapter with the indentations on the underside aperture of the Me 1200 and turn the light blue ring counterclockwise to secure the adapter.



5 Connect the feedwater hose to the main body.

There are two inlets for feedwater hoses on the bottom of the main body. The front is the connection for Pump 1 and the back is that for Pump 2.

- 1) Push the feedwater hose labeled as **1** into the rear inlet.

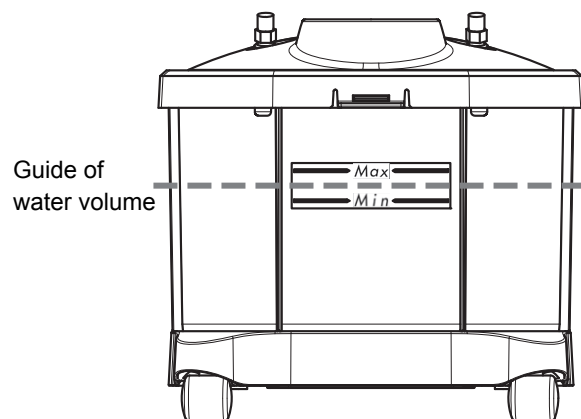
Push the hose until it clicks.

- 2) Push the feedwater hose labeled as **2** into the front inlet.

Push the hose until it clicks.

See “2.5.1 Pump and tank connection diagram” (page 8).

6 Put water into the tanks up to the guide of water volume illustrated in the figure to the right.

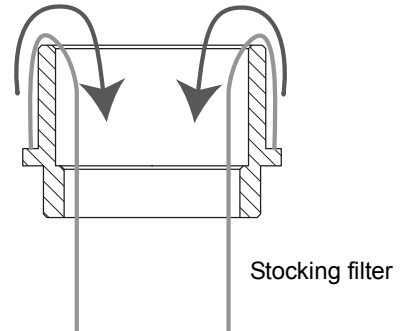


Note

- Do not put a plastic sheet in the tank.
The pump fill may be blocked and it may cause malfunction.
- Do not allow the water level to rise over the maximum line.
Failure to do so may cause malfunction or water leakage.
- Be sure to securely close the cover of the tank.
Foam may overflow if the cover is held up.

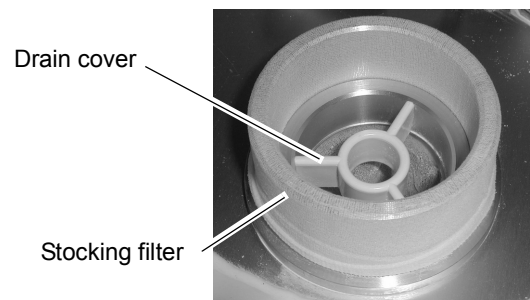
7 Attach a new stocking filter and drain cover to the tank.

- 1) Attach the stocking filter to the drain pipe outlet of the tank.



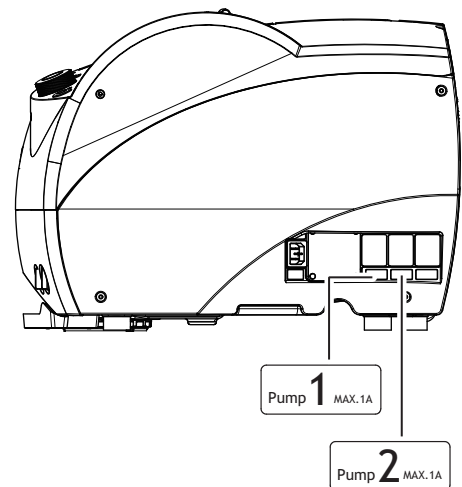
- 2) Put the drain cover in the drain pipe outlet of the tank.

Put the drain cover with the larger side facing up.



8 Plug the power cord of the pump into the main body.

- 1) Connect the power cord with label "1" the extension code with label.
- 2) Route the extension code through the hole on the top or rear of the table and connect it to the outlet for Pump 1 in the right side of the main body.
- 3) Connect the power cord with label "2" with the extension code with label "2".
- 4) Route the extension code through the hole on the top or rear of the table and connect it to the outlet for Pump 2 in the right side of the main body.

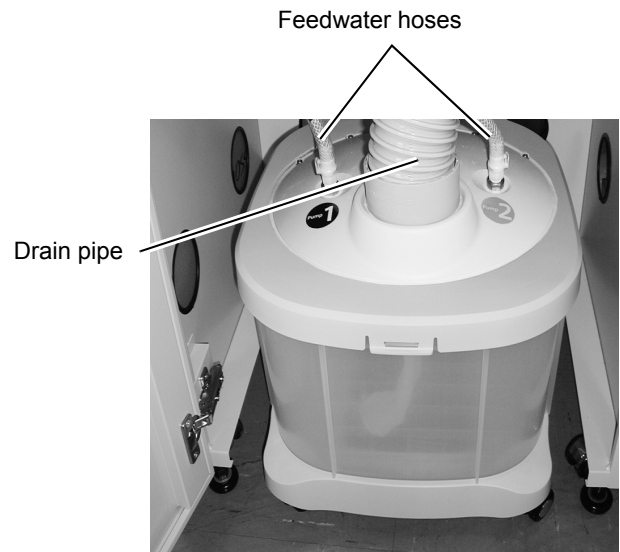


9 Put the tank back into the table.

10 Connect the feedwater hoses to the tank.

- 1) Push the feedwater hose labeled as **1** into the connection labeled as Pump 1. Push the hose until it clicks.
- 2) Push the feedwater hose labeled as **2** into the connection labeled as Pump 2. Push the hose until it clicks.

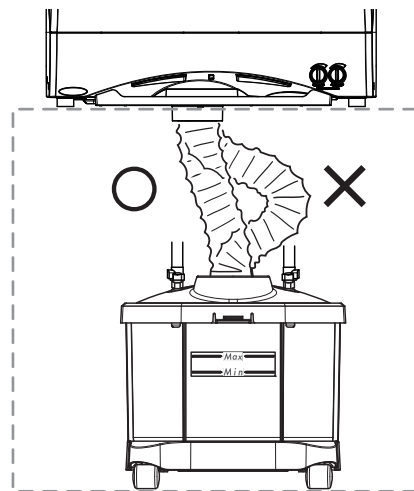
- 11** Insert the cuff attached to the drain pipe into the drain pipe connector.



If the drain pipe length causes it to bend, cut it to the proper length.

- 12** Connect the power cord to the outlet on the rear side of the main body.

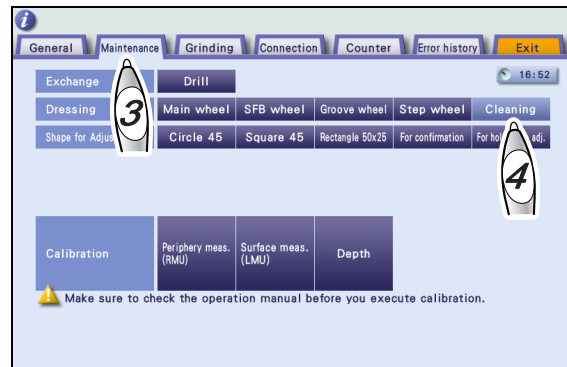
- 13** Connect the plug of the power cord to a wall outlet.



CAUTION • Connect the main power plug to a grounded outlet.
Electric shock or fire may occur in the event of malfunction or power leakage.

2.5.3 Checking the cleaning water and water curtain



- 1 Turn on the power into the Me 1200.
- 2 Press the **Menu** button.
- 3 Press the Maintenance tab.
- 4 Press the Cleaning button to the right of Dressing.

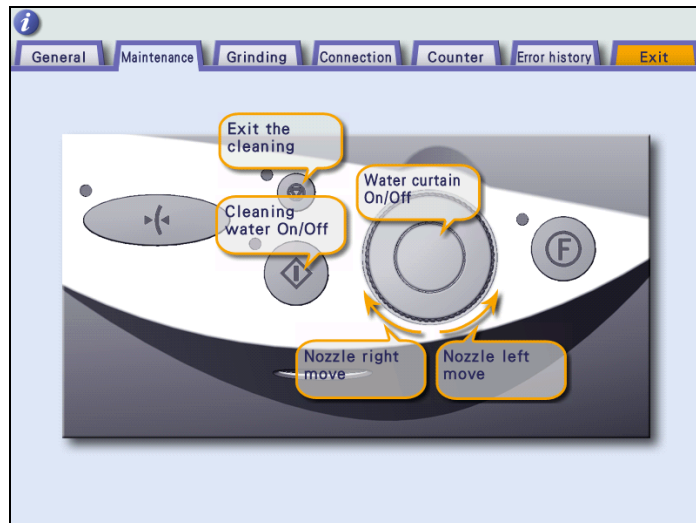


2

- 5 Check the cleaning water and water curtain.

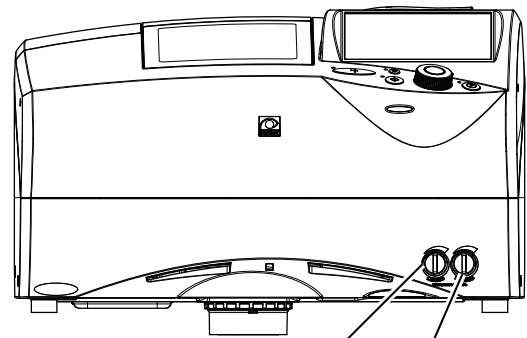
Pressing the Cleaning button displays the screen as below.

- 1) Press the  button and confirm that water flows from the cleaning water nozzle.
- 2) Press the  button and water flows from the water curtain nozzle.




Check connection of the feedwater hoses and pump and tank power codes when the cleaning water and/or water curtain do not flow properly.

- 3) Turn the flow control LEFT valve to the left and right and check that the water volume in the front side of the processing chamber increases or decreases.
- 4) Turn the flow control RIGHT valve to the left and right and check that the water volume in the rear side of the processing chamber increases or decreases.



Flow control LEFT valve

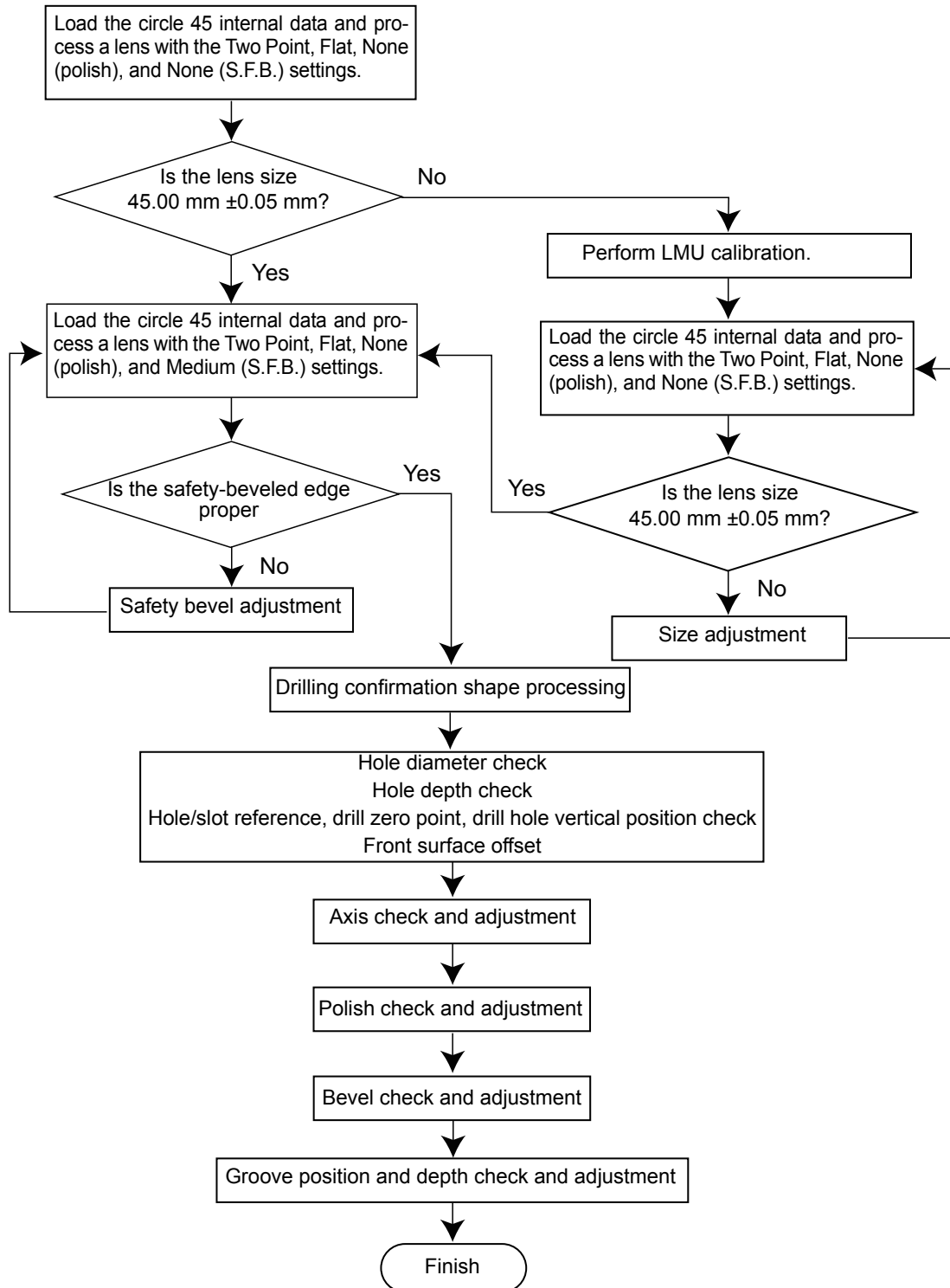
Flow control RIGHT valve

- 6** Press the  button to exit cleaning mode.
- 7** Press the Exit tab to return to the layout screen.

3.

CHECK AND ADJUSTMENT PROCEDURES

3.1 Check and Adjustment Procedure Flowchart





Processing performances may be affected by transport and/or the installation conditions of the instrument. Check and adjust the processing performances and complete the check list (a copy of section 4).

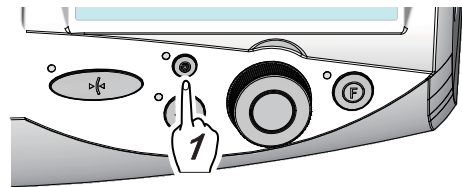
3.2 Service mode

- To perform check or adjustment procedure, enter service mode. There are General, Maintenance, Grinding, Connection Counter, Error history settings.

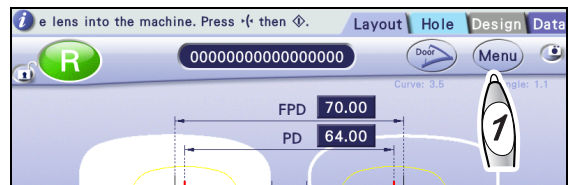
3.2.1 Entering service mode

- 1 Display the menu screen in service mode.

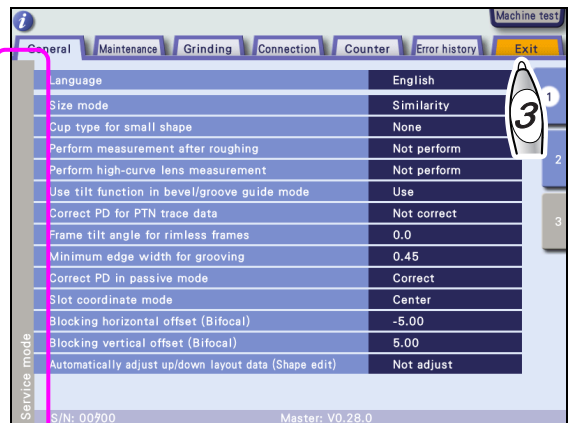
Press the **Menu** button while pressing the button.



The menu screen in service mode is displayed.



- 2 While in service mode, the gray bar indicating service mode is displayed in the left side of the screen.

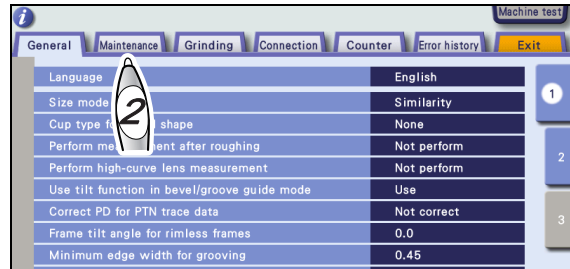


- 3 Press the Exit tab to return to the layout screen.

3.2.2 Loading the shape for adjustment

- 1 Display the menu screen in service mode.
See "3.2.1 Entering service mode" (page 16).

- 2 Press the Maintenance tab.
The Maintenance screen is displayed.



- 3 Load the desired internal shape data.

- 1) Press the desired button to the right of "Shape for adjustment"

Circle 45

⇒ Press the Circle 45 button to the right of "Shape for adjustment".

Square 45

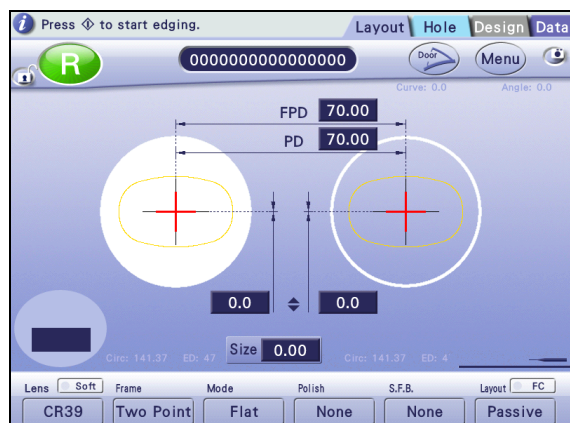
⇒ Press the Square 45 button to the right of "Shape for adjustment".

Rectangle 50×25

⇒ Press the Rectangle 50×25 button to the right of "Shape for adjustment".



- 2) Loading the internal shape data automatically returns to the layout screen.
(The screen to the right is an example of circle 45.)



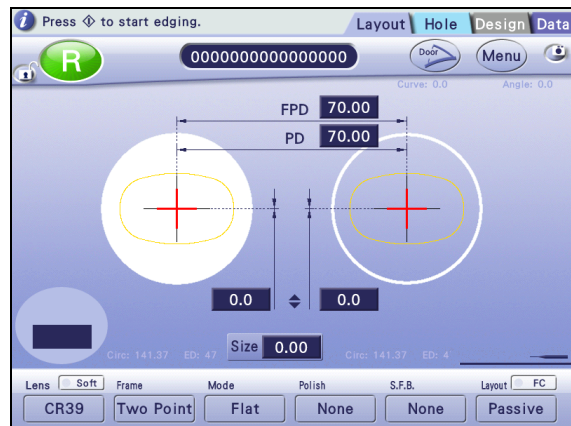
3.3 Size Check and Adjustment

3.3.1 Checking the size

1 Load the circle 45 internal data.

For the circle 45 internal data, see “3.2.2 Loading the shape for adjustment” (page 17).

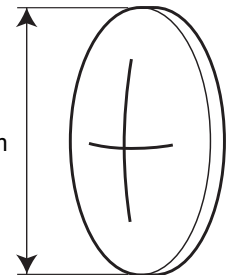
Process a lens with the settings as Two Point, Flat, None (Polish), None (S.F.B.), and Size 0.00.



2 Measure the outer diameter of the processed lens with a caliper and check the size.

The outer diameter of the flat-edged lens is within $\varnothing 45.00\text{mm} \pm 0.05$.

Outer diameter
Within $\varnothing 45.00\text{ mm}$
 ± 0.05



3.3.2 Adjusting the size



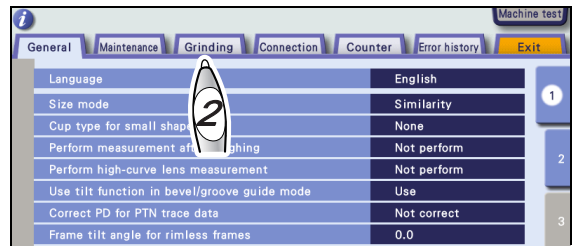
- Calibrate surface measurement (LMU) once when the size is outside the range.
See “3.4 Surface Measurement (LMU) Calibration” (page 20).
- After the surface measurement (LMU) is calibrated, load the circle 45 internal data and process a lens again. When the size is outside the range, adjust the size in the following procedure.

1 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

- 2** Press the Grinding tab on the menu screen.

The Grinding screen is displayed.




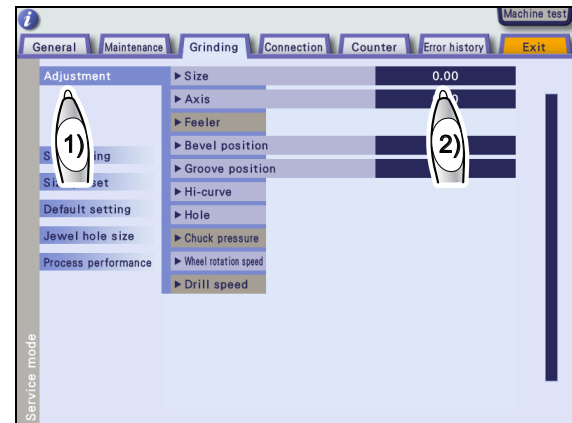
- 1) Press the Adjustment button.

- 2) Press the Size numeric field

The numeric keypad appears.

- 3) Change the parameter by the difference from 45.00 mm.

Enter the value with the numeric keypad and press the  button.



Example) When the outer diameter is $\varnothing 45.20$, reduce the parameter value by 0.20.

- 3** Press the Exit tab to return to the layout screen.


- 4** Repeat Steps 1 to 3 until the outer diameter becomes within $\varnothing 45.00 \pm 0.05$ for beveled lens and $\varnothing 45.00 \pm 0.10$ for flat-edged lens.


3.4 Surface Measurement (LMU) Calibration

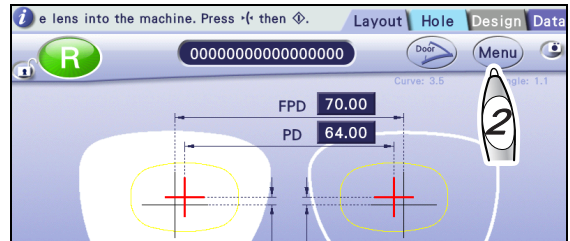
- Perform this calibration as necessary in size adjustment.
- Calibrate surface measurement (LMU) using the provided RMU/LMU calibration jig.

CAUTION Clean the surface feelers (LMUs) before calibration. Dirty feelers may cause improper measurement.

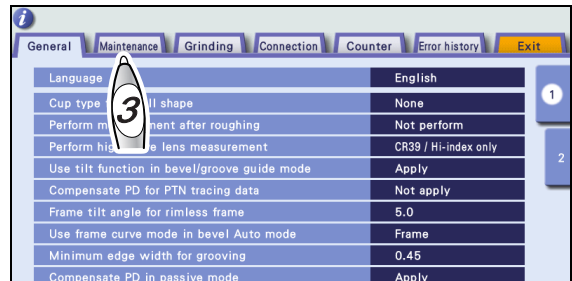
- The RMU/LMU calibration jig easily comes loose from the lens adapter. As it may fall in the processing chamber, be sure to hold the jig by hand to attach or remove the jig.

1 Press the  button to open the processing chamber door.


2 Press the  button.
The menu screen is displayed.

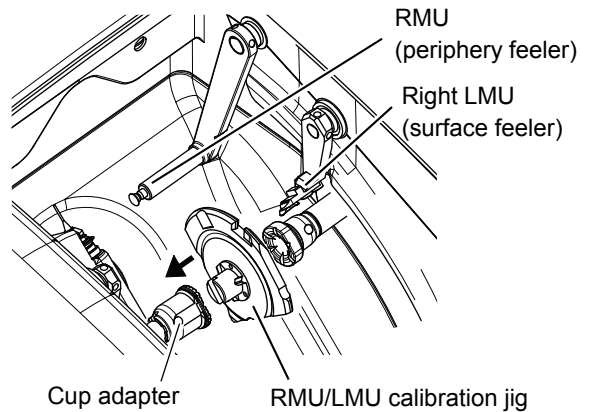


3 Press the Maintenance tab.
The Maintenance screen is displayed.

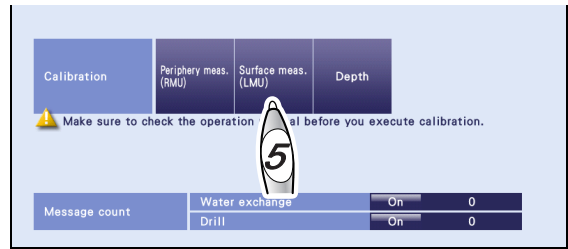


4 Attach the RMU/LMU calibration jig to the lens adapter.


- 1) Set the RMU/LMU calibration jig to the lens adapter as shown to the right.
- 2) Press the  button to secure the jig.



5 Press the Surface meas. (LMU) button to the right of Calibration.



6 The RMU/LMU calibration jig and right and left surface feelers (LMUs) moves and calibration starts.

7 When the calibration is complete, a chime sounds and “Calibration is finished” is displayed on the information bar. Hold the RMU/LMU calibration jig and press the  button to unlock it for removal.

8 Load the circle 45 internal data and process a lens with the settings as Two Point, Flat, None (polish), None (S.F.B.), Size 0.00.

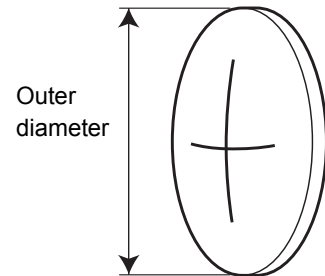
Measure the outer diameter of the processed lens to check the size.

The outer diameter of the flat-edged len must be within $\varnothing 45.00 \text{ mm} \pm 0.05$.

See “3.3.1 Checking the size” (page 18).

9 Adjust the size when the outer diameter is other than $\varnothing 45.00 \text{ mm} \pm 0.05$.

See “3.3.2 Adjusting the size” (page 18).



10 Repeat Steps 7 and 8 until the outer diameter of the lens is within the setting range.

3.5 Safety Bevel Check and Adjustment

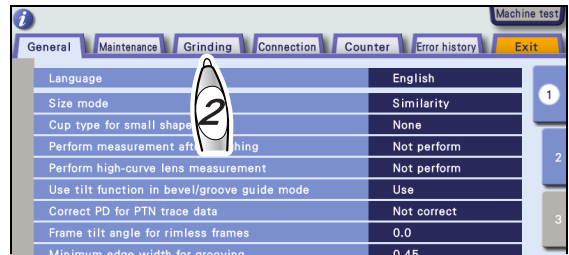
3.5.1 SFB setting

1 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

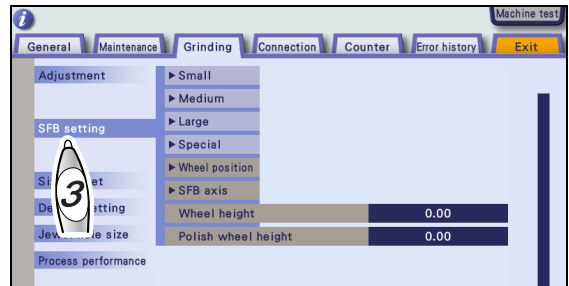
2 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



3 Press the SFB setting button.

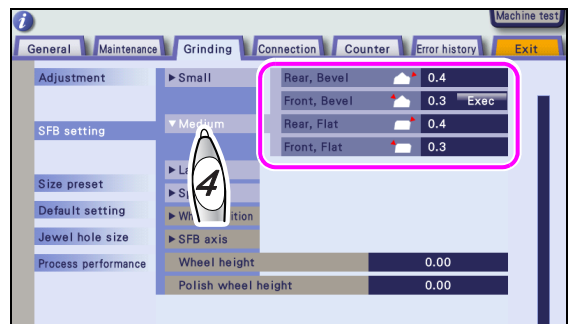
The SFB setting parameters are displayed.



4 Check the safety bevel amount of Medium.

Press Medium.

- Rear, Bevel ⇒ 0.4
- Front, Bevel ⇒ 0.3, Exec
- Rear, Flat ⇒ 0.4
- Font, Flat ⇒0.3

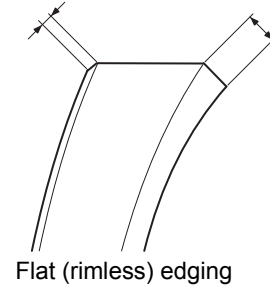
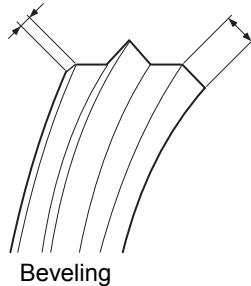


Safety bevel amount of the front surface

Safety bevel amount of the rear surface

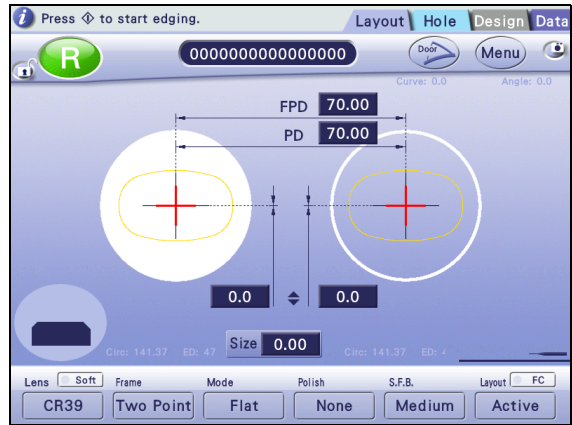
Safety bevel amount of the front surface

Safety bevel amount of the rear surface



5 Load the circle 45 internal shape data.

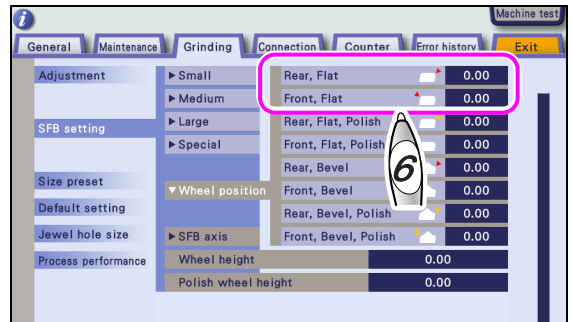
- 1) For the circle 45 internal data, see “3.2.2 Loading the shape for adjustment” (page 17).
- 2) Process a lens with the settings as Two Point, Flat, None (polish), Medium (S.F.B.), and Size 0.0.
- 3) Measure the front and rear safety bevel amounts of the processed lens and check them.



3

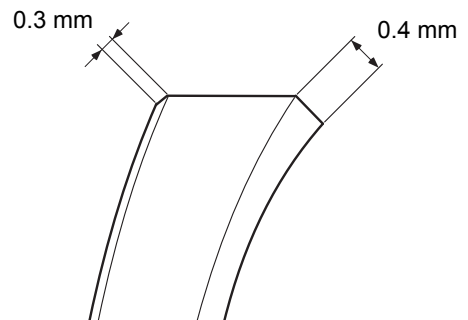
6 Change the parameter corresponding to the wheel position until the safety bevel amount becomes ± 0.2 mm to the value set in Step 4 after flat edging.

- To increase the safety bevel amount, increase the value.
- To reduce the safety bevel amount, decrease the value.



7 Check and adjust the bevel including the bevel position check in the same manner.

8 Press the Exit tab to return to the layout screen.



3.6 Drilling Check and Adjustment

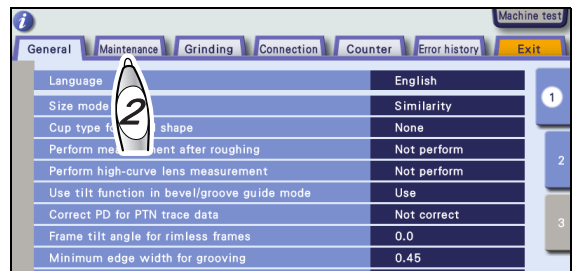
3.6.1 Loading the drilling confirmation shape data

1 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

2 Press the Maintenance tab.

The Maintenance screen is displayed.



3 Load the drilling confirmation shape data.

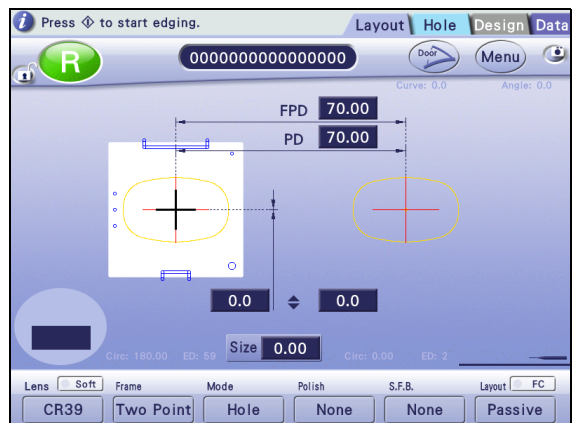
1) Press the desired drilling confirmation shape button.

- Confirmation (Hole)
- Hole diameter
- Hole position
- Front surface offset
- Hole depth



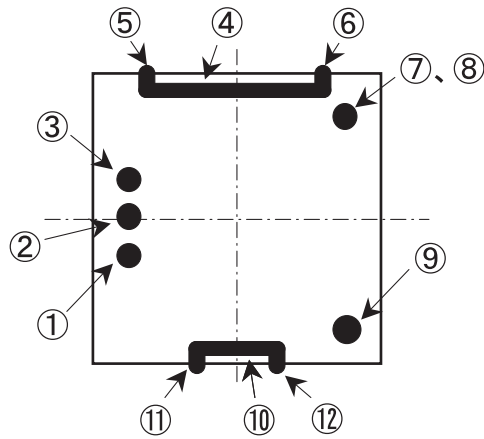
2) Loading the internal shape data automatically returns to the layout screen.

(The screen to the right is an example of Confirmation (Hole)).



[Explanation of drilling confirmation shape data]

The drilling confirmation shape data contains the following drilling data.



Hole No.	Hole position 1 (X, Y)	Hole position 2 (X, Y)	Hole diameter	Hole tilt	Hole depth
(1)	-18.50, -5.00	-	0.8	Auto	-
(2)	-18.50, 0.00	-	0.8	Auto	-
(3)	-18.50, +5.00	-	0.8	Auto	-
(4)	-9.60, +18.90	+9.60, +18.90	0.8	Angle 0.0	0.0 (drilled through)
(5)	-9.60, +21.00	-9.60, +18.90	0.8	X-Y 0.0, 0.5	0.0 (drilled through)
(6)	+9.60, +21.00	+9.60, +18.90	0.8	X-Y 0.0, 0.5	0.0 (drilled through)
(7)	+17.00, +17.00	-	0.8	Angle 0.0	0.0 (drilled through)
(8)	+17.00, +17.00	-	0.8	Angle 30.0	0.0 (drilled through)
(9)	+17.00, -17.00	-	2.0	Auto	0.0 (drilled through)
(10)	-4.00, -18.90	+4.00, -18.90	0.8	Angle 0.0	0.0 (drilled through)
(11)	-4.00, -21.00	-4.00, -18.90	0.8	X-Y 0.0, 0.5	0.0 (drilled through)
(12)	+4.00, -21.00	+4.00, -18.90	0.8	X-Y 0.0, 0.5	0.0 (drilled through)

1) Load the drilling confirmation shape data and process a lens.

Use the standard $\phi 0.8$ drill bit.

2) Check the hole diameter.

It is normal when the diameter of hole (9) becomes 2.0 ± 0.1 mm.

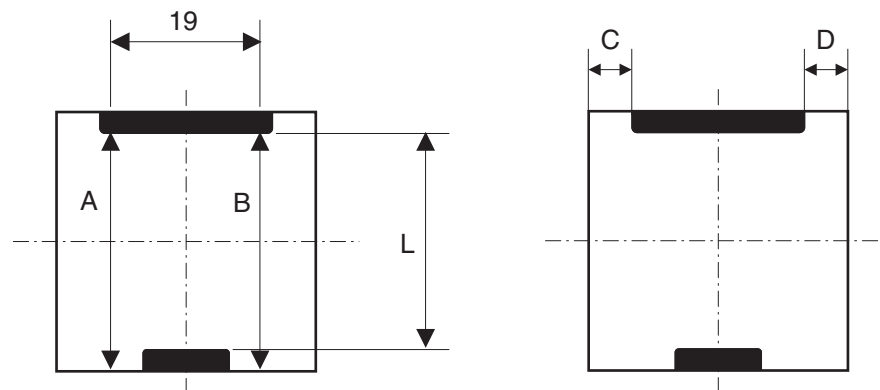
3) Check the hole depth.

Check the depths of holes (1) to (3). It is normal when hole (3) is drilled and hole (2) is slightly made on the lens surface.

4) Check the hole/slot reference, drill zero point, and drill hole vertical position.

Check the hole/slot reference, drill zero point, and drill hole Vertical position at the holes (4) to (6) and (10) to (12).

- Hole/slot reference: It is normal when the difference between A and B in the figure below is within 0.1 mm.
- Drill zero point: It is normal when the difference between C and D in the figure below is within 0.1 mm.
- Drill hole vertical position: It is normal when the L in the figure below is 37.0 ± 0.1 mm.



5) Check the front surface offset.

It is normal when holes (7) and (8) are drilled in the same position on the lens front surface.

 Note

- Adjustment is necessary when the specified values are not obtained.

See "3.6.2 Adjusting the hole diameter" (page 27).

See "3.6.3 Adjusting the hole depth" (page 28).

See "3.6.4 Adjusting the hole/slot reference, drill zero point, and drill hole vertical position" (page 29).

See "3.6.5 Adjusting the front surface offset" (page 31).

3.6.2 Adjusting the hole diameter

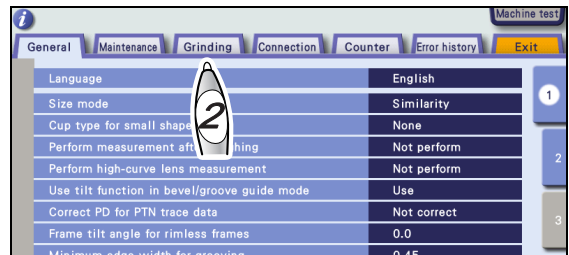
- Adjust the hole diameter in the following procedure when the hole diameter is not $\varnothing 2.0 \text{ mm} \pm 0.1 \text{ mm}$ after the drilling confirmation shape is checked.

1 Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

2 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



1) Press the Adjustment button.

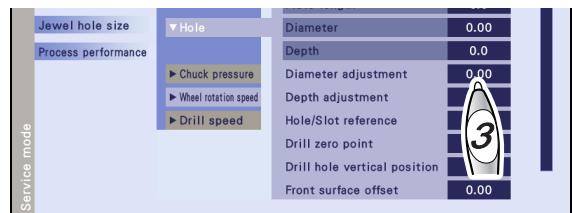
2) Press the Hole button.



3 Adjust the hole diameter.

Press the "Diameter adjustment" numeric field.

Change the parameter value with the numeric keypad. Enter the value and press the **←** button.

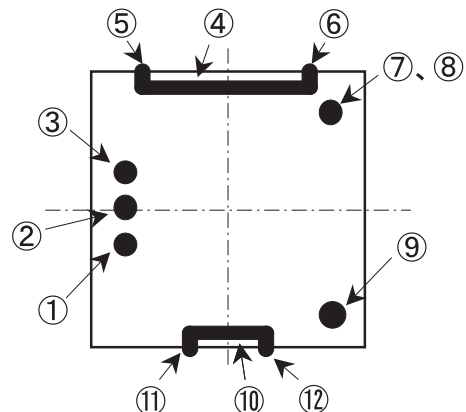


When the $\varnothing 2.0$ straight pin does not pass through the hole, increase the hole diameter.

When the $\varnothing 2.0$ straight pin is loose around the hole, reduce the hole diameter.

4 Press the Exit tab to return to the layout screen.

5 Repeat processing the lens with drilling confirmation shape data and Steps 1 to 4 until the hole diameter becomes proper.



3.6.3 Adjusting the hole depth

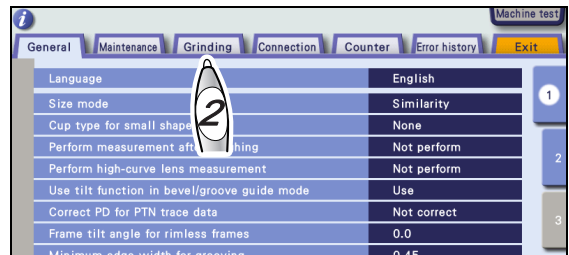
- Adjust the hole depth in the following procedure when the hole depth is outside the setting range after the drilling confirmation shape is checked.

1 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

2 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



1) Press the Adjustment button.

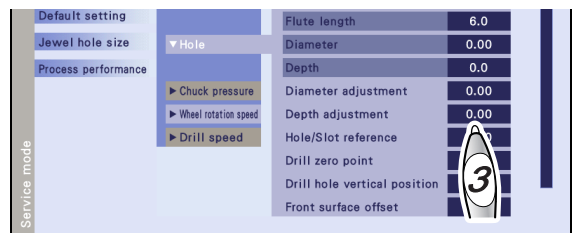
2) Press the Hole button.



3 Adjust the hole depth.

Press the "Depth adjustment" numeric field.

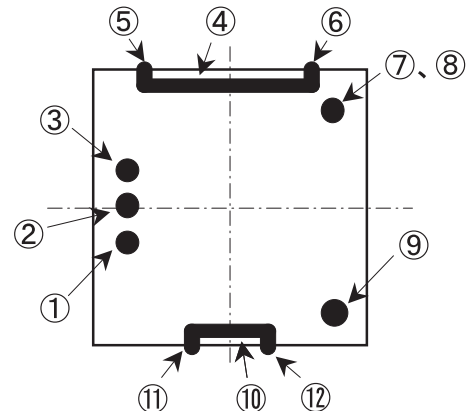
Change the parameter value with the numeric keypad. Enter the value and press the **←** button.



When holes (1) to (3) are all drilled,
the reference value of Depth adjustment is -0.2 mm.
When holes (1) to (3) are not drilled at all,
the reference value of Depth adjustment is 0.2 mm.

4 Press the Exit tab to return to the layout screen.

5 Repeat processing the lens with drilling confirmation shape data and Steps 1 to 4 until the hole depth becomes proper.



3.6.4 Adjusting the hole/slot reference, drill zero point, and drill hole vertical position

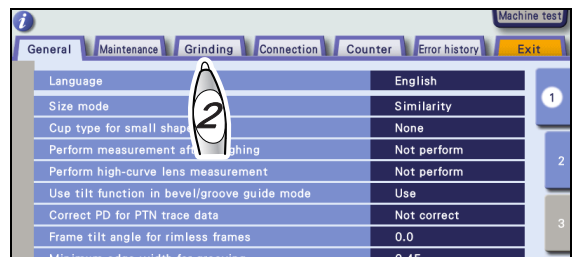
- Adjust the hole/slot reference, drill zero point, and hole vertical position in the following procedure when these are outside the setting range after the drilling confirmation shape is checked.

1 Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

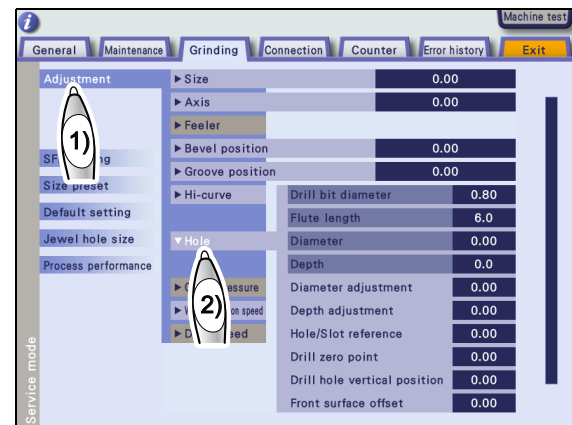
2 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



1) Press the Adjustment button.

2) Press the Hole button.

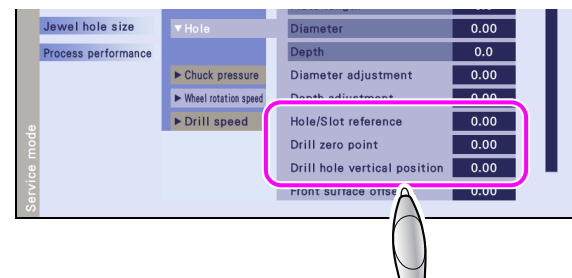


● Adjusting the hole/slot reference

When the difference between A and B is 0.1 mm or more, press the "Hole/slot reference" numeric field.

Change the parameter value with the numeric keypad. Enter the value and press the button.

- A < B Increase the adjustment value.
- A > B Decrease the adjustment value.



●Adjusting the Drill zero point

When the difference between C and D is 0.1 mm or more, press the "Drill zero point" numeric field.

Change the parameter value with the numeric keypad. Enter the value and press the  button.

When $D > C$ and the difference between C and D is 1.0 mm,

set the parameter to 0.5.

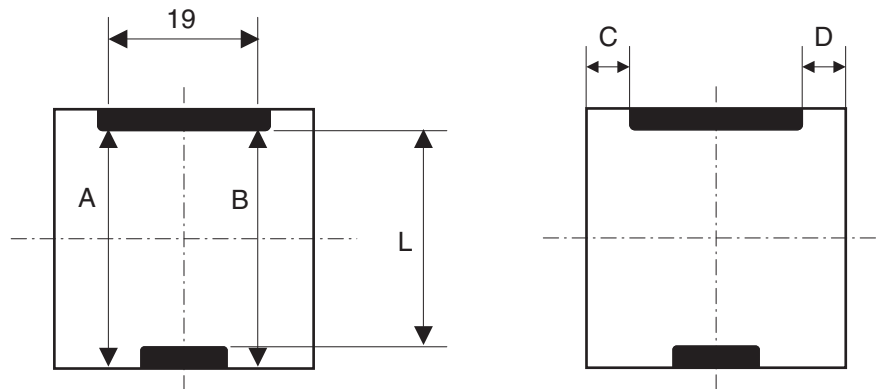
●Adjusting the drill hole vertical position

Press the "Drill hole vertical position" numeric field when the L length is not $37.0 \text{ mm} \pm 0.1 \text{ mm}$.

Change the parameter value with the numeric keypad. Enter the value and press the  button.

For $L = 37.2 \text{ mm}$,

set the parameter to -0.1.



3 Press the Exit tab to return to the layout screen.

4 Repeat processing the lens with drilling confirmation shape data and Steps 1 to 4 until each value becomes proper.

3.6.5 Adjusting the front surface offset

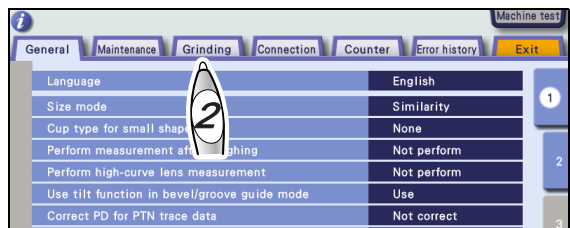
- Adjust the front surface offset in the following procedure when the front surface offset is outside the setting range after the drilling confirmation shape is checked.

1 Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

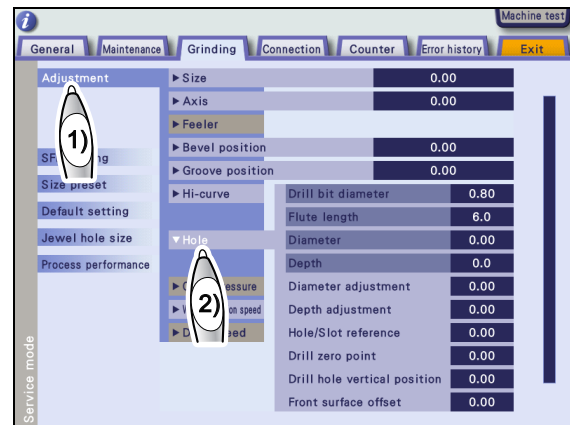
2 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



1) Press the Adjustment button.

2) Press the Hole button.



3 Adjust the front surface offset.

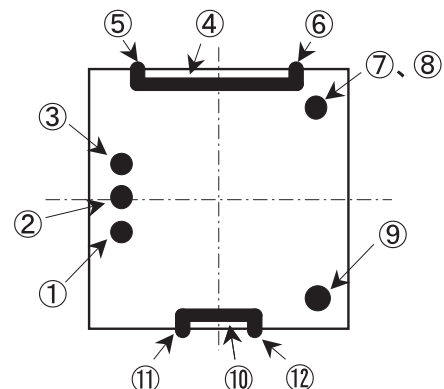
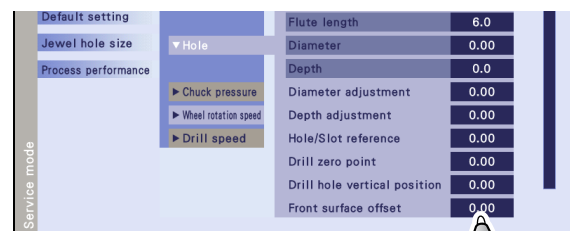
1) Press the "Front surface offset" numeric field when the hole positions of (7) and (8) are not aligned.

The numeric keypad appears.

2) Change the parameter value with the numeric keypad. Enter the value and press the button.

When the 30° tilt hole is drilled on the 0° hole, decrease the parameter value.

When the 30° tilt hole is drilled under the 0° hole, increase the parameter value.

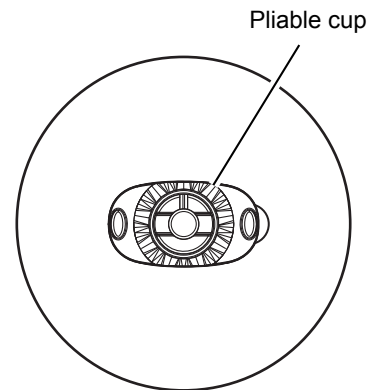


3.7 Axis Adjustment

3.7.1 Adjusting the axis shift

1 Check the axis shift.

- 1) Block the lens with a pliable cup



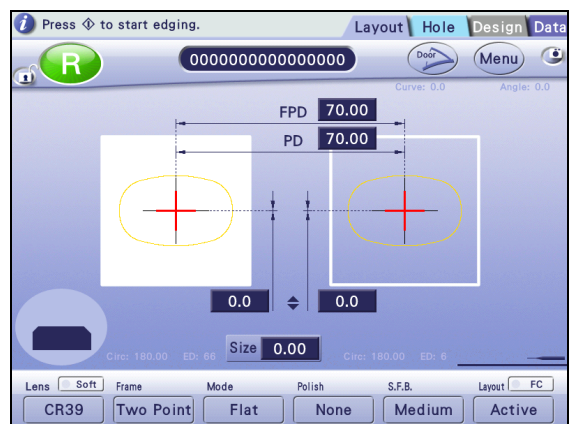
2 Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

3 Load the square 45 internal data

See "3.2.2 Loading the shape for adjustment" (page 17).

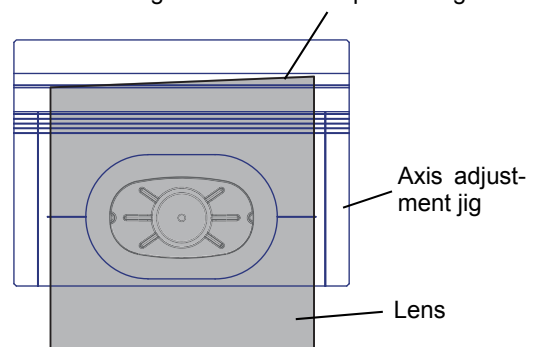
Process a lens with the settings as Two Point, Flat None (polish), Medium (S.F.B.), and Size 0.00.



4 Check the axis angle using the axis adjustment jig.

Adjust the axis angle when it is not $\pm 0.5^\circ$.

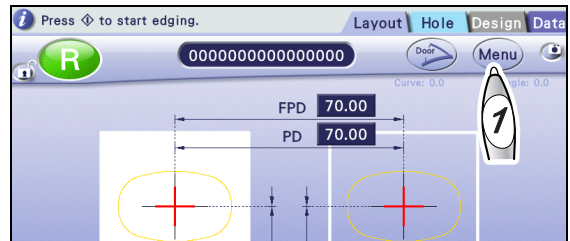
The edged surface rises up to the right.



5 Adjust the axis angle.

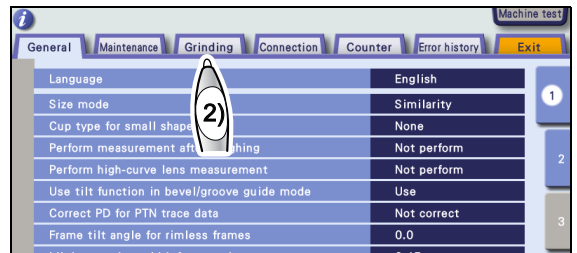
- 1) Press the **Menu** button on the layout screen while pressing the **R** button.

The menu screen in service mode is displayed.



- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.

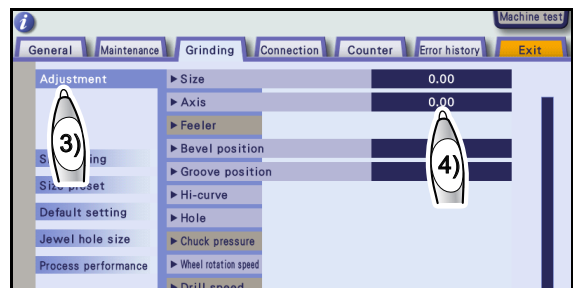


- 3) Press the Adjustment button.

- 4) Press the Axis numeric field.

The numeric keypad appears.

- 5) Change the parameter value with the numeric keypad. Enter the value and press the **←** button.



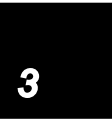
Change the parameter value by the shifted axis angle.

When the lens edge is shifted in the upper right direction when viewed from the rear surface, increase the value.

Example) When lens edge is shifted 1° in the upper right direction, increase the parameter value by 1.00.

- 6) Press the Exit tab to return to the layout screen.

- 7) Repeat Steps 1 to 6 until the shifted axis angle becomes $\pm 0.5^\circ$.



3.7.2 Safety bevel amount is not consistent

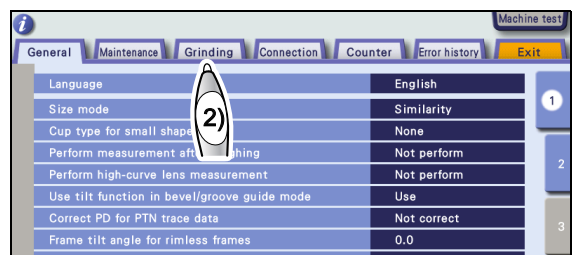
- When the safety bevel amount of the processed lens is not consistent in circumference after the shifted axis angle is adjusted “3.7.1 Adjusting the axis shift” (page 32), the safety bevel axis may be shifted. Adjust the safety bevel axis angle.

1 When the safety bevel amount is different between the upper right and upper left of the processed lens, change the "Rear, Flat" or "Front, Flat" parameter to adjust the safety bevel axis angle.

- 1) Display the menu screen in service mode.
See “3.2.1 Entering service mode” (page 16).

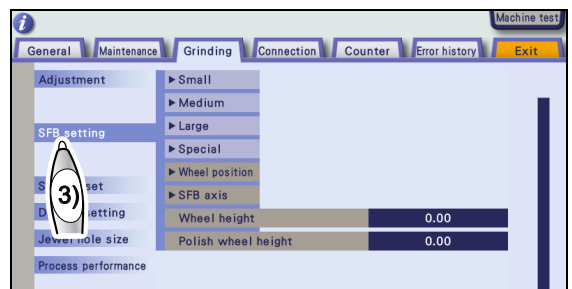
- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



- 3) Press the SFB setting button

The SFB setting parameters are displayed.

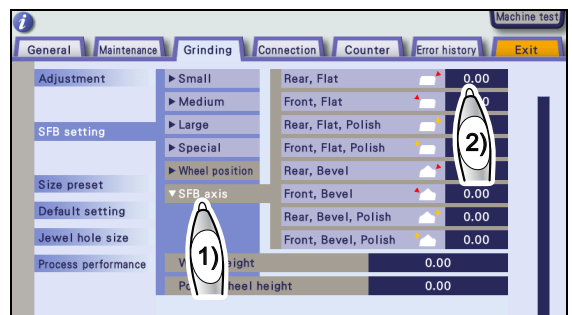


2 Set the safety bevel amount on the SFB axis parameter.

- 1) Press the SFB axis button.
- 2) Press the "Rear, Flat" numeric field.

The numeric keypad appears.

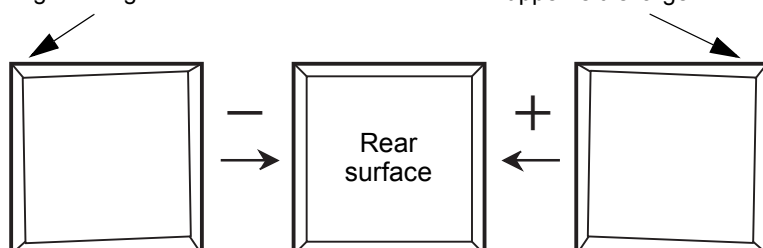
- 3) Change the parameter value with the numeric keypad. Enter the value and press the **←** button.



When the safety bevel amount of the upper right is larger when viewed from the rear surface, increase the value. When the safety bevel amount of the upper left is larger, decrease the value.


The safety bevel amount of the upper right is larger.

The safety bevel amount of the upper left is larger.

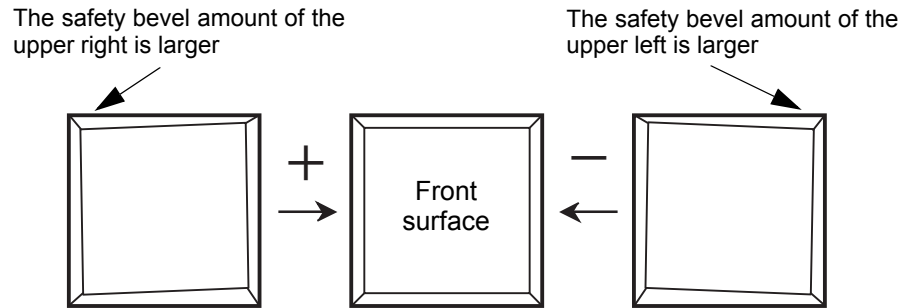


- 4) Press the "Front, Flat" numeric field.

Pressing the numeric field displays the numeric keypad.

- 5) Change the parameter value with the numeric keypad. Enter the value and press the  button.

When the safety bevel amount of the upper right is larger when viewed from the front surface, increase the value. When the safety bevel amount of the upper left is larger, decrease the value.



- 3** Press the Exit tab to return to the layout screen.
- 4** Repeat Steps 1 to 3 until the safety bevel amount is proper.
- 5** Perform beveling. Change "Rear, Bevel", "Front, Bevel" in the same manner.

3.8 Polishing Adjustment

3.8.1 Lens edge is left unpolished or burnt

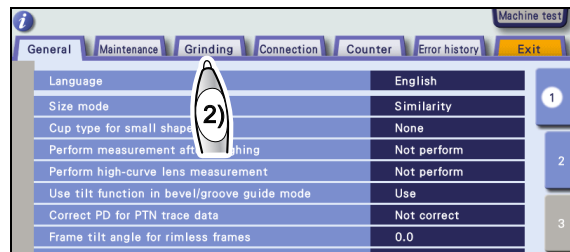
- Check the bevel polished surface of a plastic lens processed with the circle 45 internal data. If the lens edge is left unpolished or burnt, change the Polish differential parameter.

1 Change the Polish differential parameter.

- 1) Display the menu screen in service mode.
See "3.2.1 Entering service mode" (page 16).

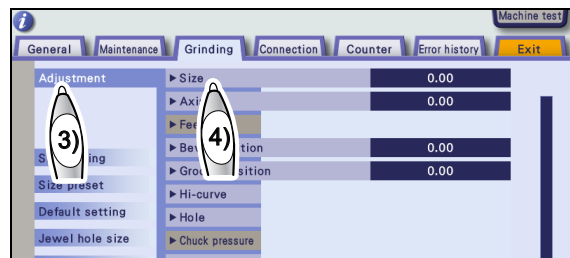
- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



- 3) Press the Adjustment button.


- 4) Press the Size button.



- 5) Press the "Polish differential" button.

- 6) Press the "CR39, Bevel" numeric field.

The numeric keypad appears.

- 7) Change the parameter value with the numeric keypad. Enter the value and press the  button.



When the lens edge is left unpolished,

increase the Polish differential parameter by 0.05.

When the lens edge is burnt,

decrease the parameter by 0.05.

2 Press the Exit tab to return to the layout screen.

- 3 Repeat Steps 1 and 2 until no unpolished or burnt portions are left.
- 4 Process the other lens materials and precisely change the other Polish differential parameters in the same manner.

3.8.2 One side of beveled edge is left unpolished

- Check the bevel polished surface of a plastic lens processed with the circle 45 internal data. If one side of the beveled edge is left unpolished, change the Bevel position (Polish) parameter.

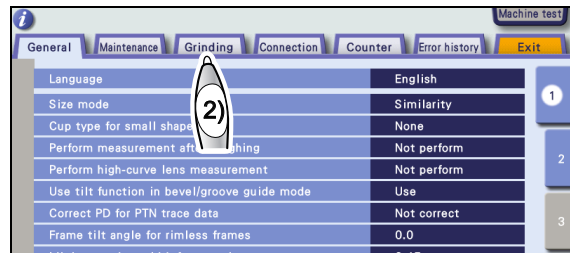
1 Change the Bevel position (Polish) parameter.

- 1) Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

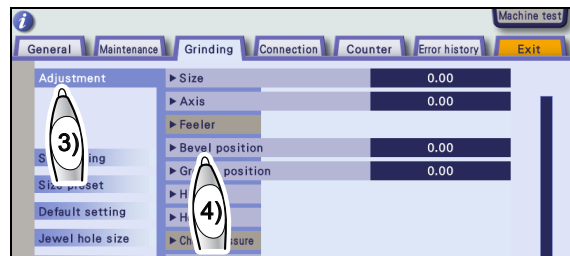
- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



- 3) Press the Adjustment button.

- 4) Press the "Bevel position" button.



- 5) Press the Polish numeric field.

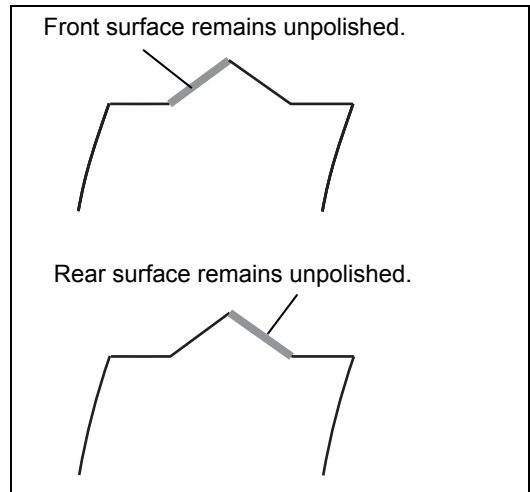
The numeric keypad appears.



- 6) Change the parameter value with the numeric keypad. Enter the value and press the **←** button.

When the front surface of the bevel remains unpolished, increase the value.

When the rear surface of the bevel remains unpolished, decrease the value.



- 2** Press the Exit tab to return to the layout screen.

- 3** Repeat Steps 1 and 2 until the bevel is properly polished.

- 4** Process the other lens materials and change the other Bevel position parameter in the same manner.



• When the bevel position is changed, the polish bevel position is also moved. As long as the polish bevel position is properly adjusted, it does not need to be adjusted again even if the bevel position is changed afterward.

3.8.3 Adjusting the polish axis

- Check the bevel polished surface of a plastic lens processed with the circle 45 internal data. If the right or left of the lens edge remains unpolished, change the Polish axis parameter.

- 1** Decrease "CR39, Flat" of the Polish differential parameter by 0.2.

See "3.8.1 Lens edge is left unpolished or burnt" (page 36).

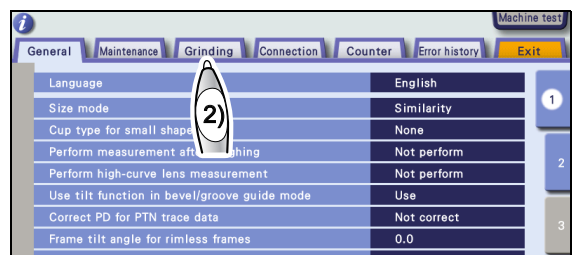
- 2** Change the Polish axis parameter.

- 1) Display the menu screen in service mode.

See "3.2.1 Entering service mode" (page 16).

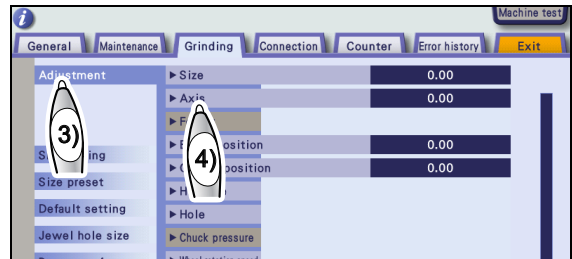
- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.




3) Press the Adjustment button.

4) Press the Axis button.



5) Press the "Polish axis" numeric field.
The numeric keypad appears.

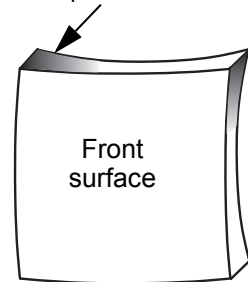


6) Change the parameter value with the numeric keypad. Enter the value and press the  button.

3

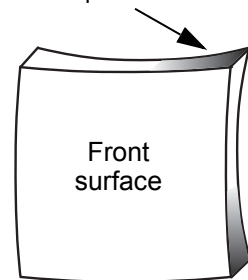
Example) When viewed from the lens front, the upper left of the edge remains unpolished.
increase the value.

The upper left of the edge remains unpolished.



Example) When viewed from the lens front, the upper right of the edge remains unpolished.
decrease the value.

The upper right of the edge remains unpolished.



3 Press the Exit tab to return to the layout screen.

4 Repeat Steps 1 and 2 until the polishing becomes uniform in circumference.

5 Set the parameter values of "CR39, Flat" of the Polish differential parameter back to their original values.

3.8.4 Adjusting the polish size

- Check the polished surface of a lens processed with the circle 45 internal data. If the outer diameter is not within $\varnothing 45.00 \pm 0.10$ mm, change the Polish size parameter.

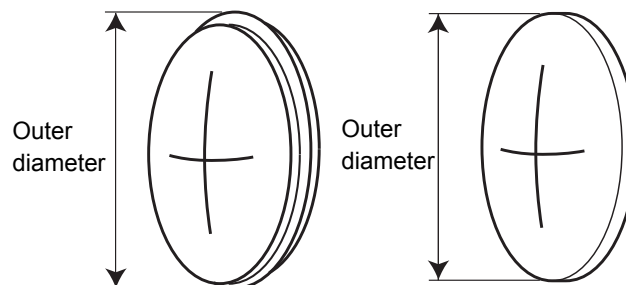
1 Check the Polish size parameter.

- 1) Load the circle 45 internal data and bevel-polish and flat-polish a lens.
- 2) Measure the outer diameter of the processed lens.

When the outer diameter is not within $\varnothing 45.00 \pm 0.10$ mm, change the Polish size parameter.

See “3.2.2 Loading the shape for adjustment” (page 17).

See “3.3 Size Check and Adjustment” (page 18).

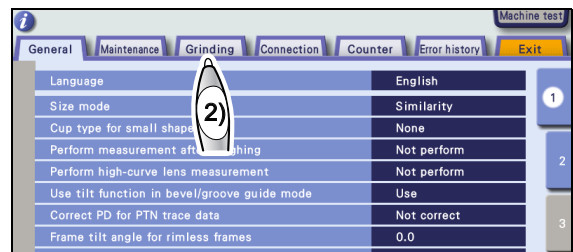


2 Adjust the polish size.

- 1) Display the menu screen in service mode.
See “3.2.1 Entering service mode” (page 16).

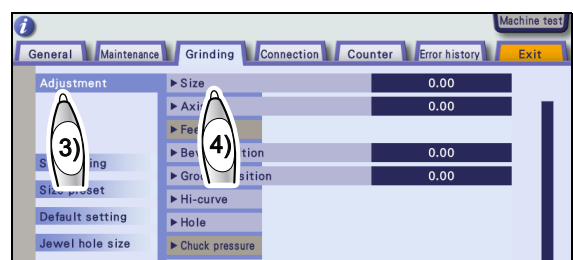
- 2) Press the Grinding tab on the menu screen.


The Grinding screen is displayed.

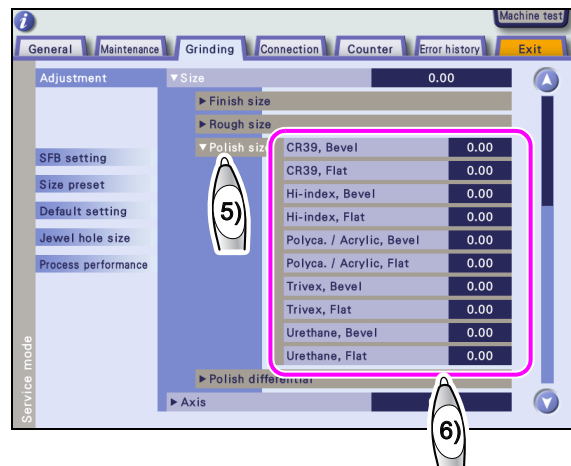


- 3) Press the Adjustment button.

- 4) Press the Size button.



- 5) Press the "Polish size" button.
- 6) Press the numeric field of the desired parameter item.
The numeric keypad appears.
- 7) Change the parameter value with the numeric keypad. Enter the value and press the  button.



○Parameter items

Select parameter items according to the lens material and processing method.

- With the lens material set to "CR39", the bevel-polished lens size is not correct.
⇒ CR39, Bevel
- With the lens material set to "CR39", the flat-polished lens size is not correct.
⇒ CR39, Flat
- With the lens material set to "Hi-index", the bevel-polished lens size is not correct.
⇒ Hi-index, Bevel
- With the lens material set to "Hi-index", the flat-polished lens size is not correct.
⇒ Hi-index, Flat
- With the lens material set to "Polycy." or "Acrylic", the bevel-polished lens size is not correct.
⇒ Polycy./Acrylic, Bevel
- With the lens material set to "Polycy." or "Acrylic", the flat-polished lens size is not correct.
⇒ Polycy./Acrylic, Flat
- With the lens material set to "Trivex", the bevel-polished lens size is not correct.
⇒ Trivex, Bevel
- With the lens material set to "Trivex", the flat-polished lens size is not correct.
⇒ Trivex, Flat
- With the lens material set to "Urethane", the bevel-polished lens size is not correct.
⇒ Urethane, Bevel
- With the lens material set to "Urethane", the flat-polished lens size is not correct.
⇒ Urethane, Flat

8) Change the parameter by the difference between 45.00 mm and the outer diameter.

Change the parameter value with the numeric keypad. Enter the value and press the  button.

Example) When the outer diameter is $\varnothing 45.15$, decrease the parameter value by 0.15.

3 Press the Exit tab to return to the layout screen.

4 Repeat Steps 1 to 3 until the outer diameter becomes $\varnothing 45.10 \pm 0.10$ mm.

3.9 Bevel Position Adjustment

- The bevel position can be moved toward the front or back by changing the bevel position parameter for a lens being processed in Auto mode.

1 Check the bevel position.

- 1) Load the circle 45 internal data (see “3.2.2 Loading the shape for adjustment” (page 17)) and in Auto mode, process a lens of a thickness commonly used.
- 2) Check the bevel position of the processed lens.

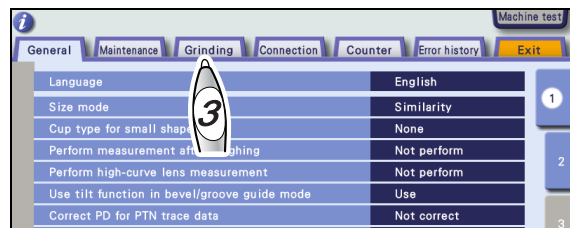
To move the bevel position toward front or back, adjust the bevel position in the following procedure.

2 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

3 Press the Grinding tab on the menu screen.

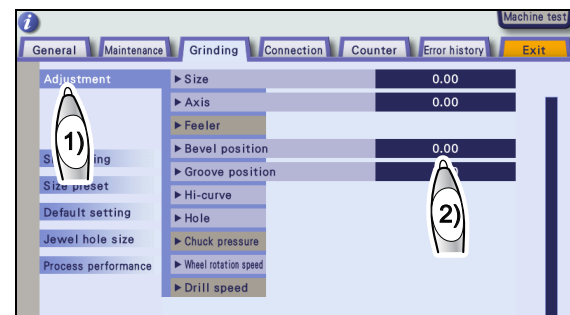
The Grinding screen is displayed.



- 1) Press the Adjustment button.

- 2) Press the "Bevel position" numeric field.

The numeric field turns orange and the numeric keypad appears.



- 3) Change the parameter value.

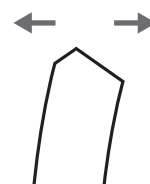
Enter the value and press the  button with the numeric keypad.

Decrease the numeric value. ⇒ The bevel moves toward the front surface.

Increase the numeric value. ⇒ The bevel moves toward the rear surface.

Example) To move the bevel position toward the rear surface by 0.5 mm, decrease the value by 0.50.

Decrease the value. Increase the value.



- 4 Press the Exit tab to return to the layout screen.

- 5 Repeat Steps 1 to 4 until the bevel is produced in the proper position.

3.10 Groove Position Adjustment

- The auto-processed groove position can be adjusted toward the front or rear surface of the lens.

1 Check the groove position.

- 1) Load the circle 45 internal data (see “3.2.2 Loading the shape for adjustment” (page 17)) and in Auto mode, process a lens of a thickness commonly used.
- 2) Check the groove position of the processed lens.

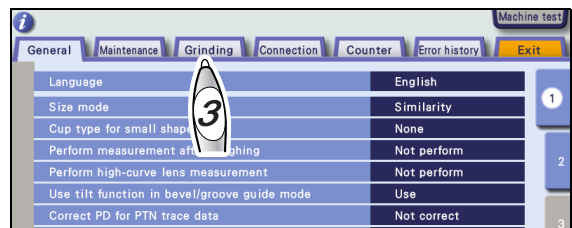
To move the groove position toward the front or back, adjust the groove position in the following procedure.

2 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

3 Press the Grinding tab on the menu screen.

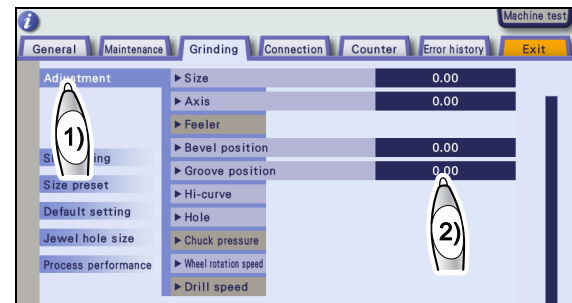
The Grinding screen is displayed.



- 1) Press the Adjustment button.

- 2) Press the "Groove position" numeric field.

The numeric field turns orange and the numeric keypad appears.



- 3) Change the parameter value.

Enter the value and press the  button with the numeric keypad.

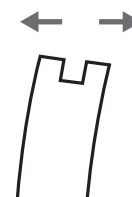
Decrease the value. ⇒ The groove moves toward the front surface.

Increase the value. ⇒ The groove moves toward the rear surface.

Example) To move the groove position toward the front surface, decrease the value by 0.50.

Decrease the value.

Increase the value.



- 4) Press the Exit tab to return to the layout screen.

- 5) Repeat Steps 1 to 4 until the groove position becomes proper.

3.11 Groove Depth Adjustment

- When the groove depth differs from a specified value, adjust the groove depth.

1 Check the groove depth.

- 1) Load the circle 45 internal shape data (see “3.2.2 Loading the shape for adjustment” (page 17)) and process a lens with the groove depth 0.0 mm in auto grooving mode.

Use a CR-39 lens of -3 to -5 D.

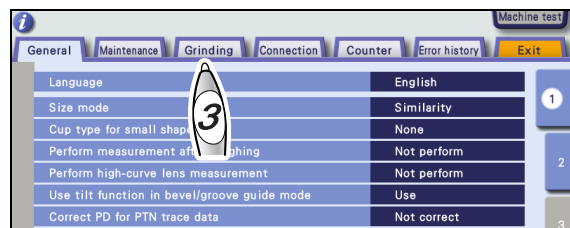
- 2) Check that the groove is slightly made (the depth is within 0.10 mm) on the processed lens.

2 Display the menu screen in service mode.

See “3.2.1 Entering service mode” (page 16).

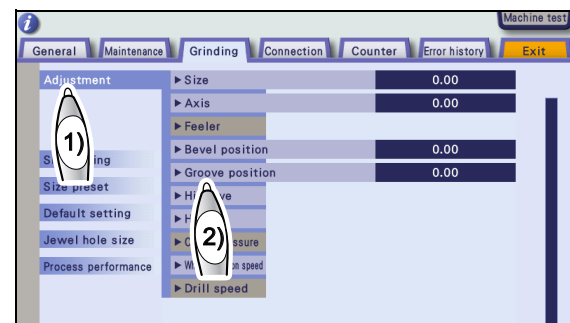
3 Press the Grinding tab on the menu screen.

The Grinding screen is displayed.



- 1) Press the Adjustment button.


- 2) Press the "Groove position" button.

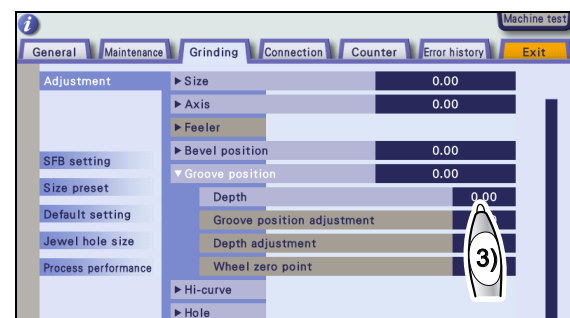


- 3) Press the Depth numeric field in the Groove position parameter.

The numeric field turns orange and the numeric keypad appears.

- 4) Change the parameter value.

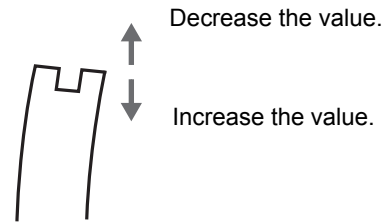
Enter a value with the numeric keypad and press the  button.



Decrease the numeric value. ⇒ The groove becomes shallower.

Increase the numeric value. ⇒ The groove becomes deeper.

Example) To deepen the groove depth by 0.5 mm,
increase the value by 0.50.



- 4** Press the Exit tab to return to the layout screen.
- 5** Repeat steps 1 to 4 until the groove depth becomes proper.

3.12 Bevel Width and Height Adjustment for Step Beveling (Type PLB-8S only)

- Change the parameters when the bevel width and height are different from the specified value in step beveling.

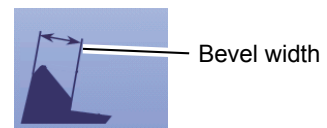
3.12.1 Bevel width in step beveling

1 Check the bevel width.


- Load the circle 45 internal data and process a lens with 2 mm in step width and 1.5 mm in step height.
Process a lens of CR39 and -4 to -5 D.
- Check that the bevel width of the processed lens is the same as the setting.

2 When the bevel width is not 2 mm, change the parameter in the following procedure.

- Display the menu screen in service mode. See "3.2.1 Entering service mode" (page 16).
- Press the Grinding tab on the menu screen.
The Grinding screen is displayed.

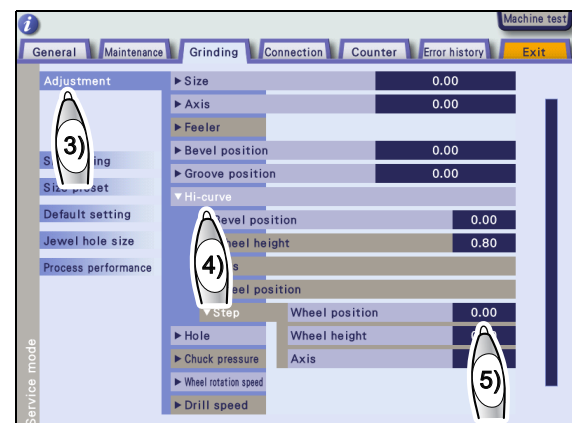
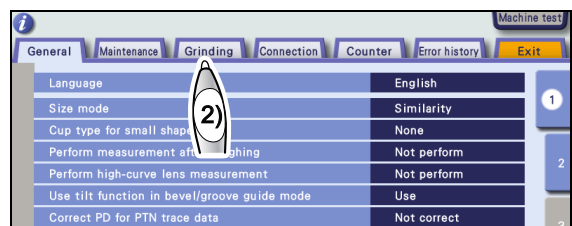


- Press the Adjustment button.
- Press the Hi-curve button.
- Press the "Wheel position" numeric field.
The numeric keypad appears.
- Change the parameter value.

Enter the value and press the  button with the numeric keypad.

Increase the value. ⇒ The width becomes narrower.

Decrease the value. ⇒ The width becomes wider.



3 Press the Exit tab to return to the layout screen.

4 Repeat Steps 1 to 3 until the bevel width becomes proper.

3.12.2 Bevel height in step beveling

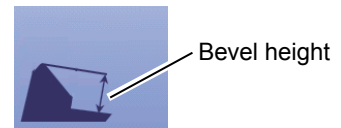
1 Check the bevel height.

- 1) Load the circle 45 internal data and process a lens with 2 mm in step width and 1.5 mm in step height.

Use a lens of CR39 and -4 to -5 D.

- 2) Check that the bevel height of the processed lens is the same as the setting.

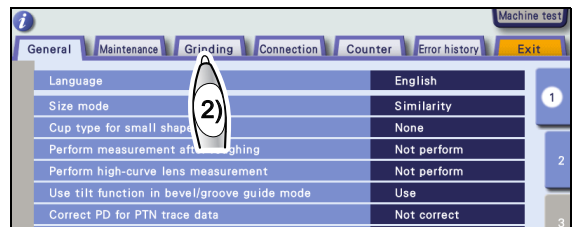
2 When the bevel height is not 1.5 mm, change the parameter.



- 1) Display the menu screen in service mode. See "3.2.1 Entering service mode" (page 16)

- 2) Press the Grinding tab on the menu screen.

The Grinding screen is displayed.




- 3) Press the Adjustment button.

- 4) Press the Hi-curve button.

- 5) Press the "Wheel height" numeric field.

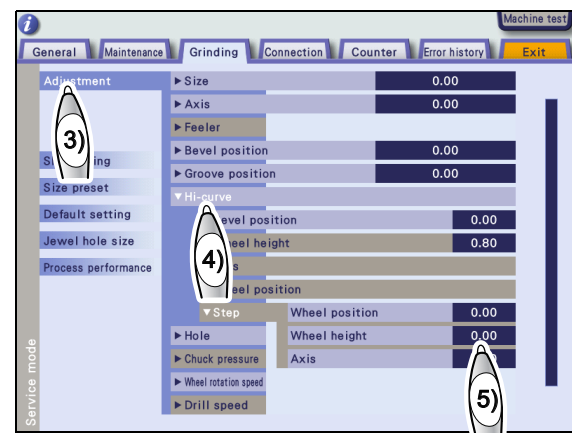
The numeric keypad appears.

- 6) Change the parameter value.

Enter the value and press the  button with the numeric keypad.

Increase the value. ⇒ The height becomes higher.

Decrease the value. ⇒ The height becomes lower.



3 Press the Exit tab to return to the layout screen.

4 Repeat Steps 1 to 3 until the bevel height becomes proper.

3.13 Clock Check

Check the date and time of the internal clock.

Change the time and date referring to “Date and time” in the operator's manual.

