OFL-15 A

GENERAL-PURPOSE PROGRAMMABLE POLISHER

MAINTENANCE MANUAL

AMP-39E1-03

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August 2008
AMP-39E1-03 December 2021

PREFACE

This manual was prepared to provide the information necessary to allow the user to maintain the performance of the OFL-15A General-purpose Programmable Polisher over a long period of time. Before conducting inspection and maintenance on the OFL-15A, please read this maintenance manual thoroughly. Store this manual in a safe place for future reference.

NOTE

When inspecting and servicing the OFL-15A, always set the power switch to the OFF position and unplug the power cable plug from the AC outlet.

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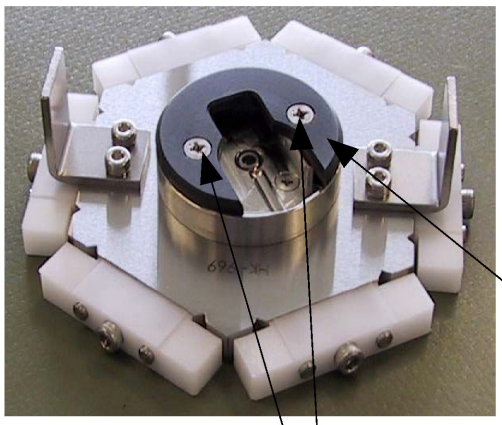
OFL-15A POLISHER MAINTENANCE

1.1 JIG PLATE CBOWN PLATE REPLACEMENT

This section describes how to replace the crown plate.



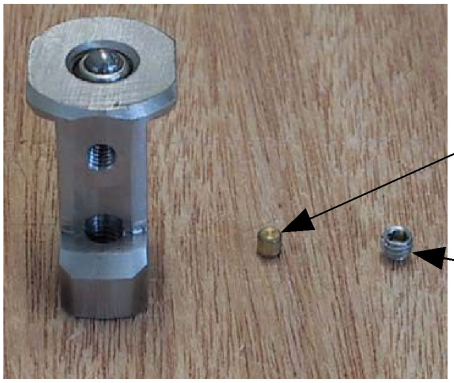
Step 1 The crown plate can be replaced by removing the jig crown screw.

1.2 COMPRESSION BALL PLUNGER ADJUSTMENT

This section describes how to remove and install the jig mounting block and adjust the compression ball plunger.

Step 1 Remove the bolt at the top of the jig mounting block with an Allen wrench. At this time, support the arm at the bottom with one hand and do not apply force to the top. Applying force to the top may cause load cell trouble.

Step 2 Remove the jig mounting block bolt with an Allen wrench.



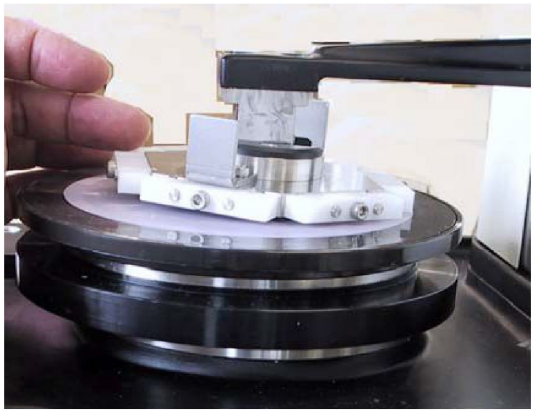
Step 3 Remove the set screw inside the jig mounting block.

Step 4 Insert a flat blade screwdriver from the top and adjust the amount of protrusion of the ball plunger.
(When turned counterclockwise, the ball protrusion decreases. When turned clockwise, the ball protrusion increases.)

Adjust the amount of protrusion to 1.7mm using calipers or a dial gauge.

Step 5 After adjustment, insert the set screw into the jig mounting block and install the jig mounting block with an Allen wrench in the reverse order of Step 2.

Step 6 Install the jig mounting block bolt with an Allen wrench in the reverse order of Step 1.
At this time, support the arm at the bottom with one hand and do not apply force to the top. Applying force to the top may cause load cell trouble.

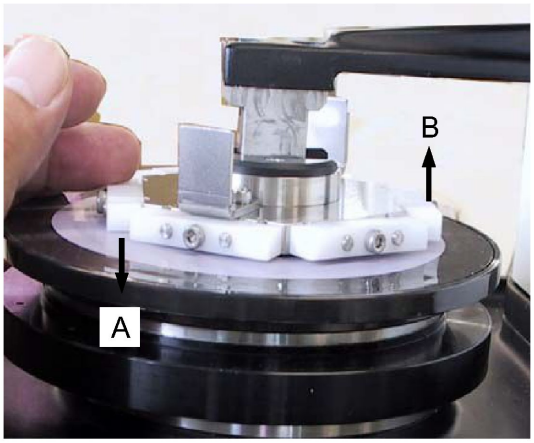


Step 7 Turn on the power and lower the arm to check if adjustment was suitable.

When the amount of protrusion is excessive, the far side load of the jig increases when the arm is down as shown at the left, and the polishing balance may be disturbed and sufficient polishing performance may not be obtained.

How to lower the arm

Press the RUN button from the MAIN screen, then press the STOP button and stop the arm before the jig plate contacts the rubber disk.



When the amount of protrusion is suitable, the jig is tilted to the A and B sides by only touching it lightly with your hand.
The jig plate mounting section is not dislodged during polishing.

When the jig plate is easily dislodged during polishing even when the amount of protrusion is adjusted to 1.6mm, the jig plate crown plate may be worn.
Refer to the crown plate placement method and replace the crown plate.

When the STOP button is pressed two times successively, the arm returns to its initial position.

1.3 CORD SUPPORT AND ARM COVER DISMOUNTING AND MOUNTING

Removal

Step 1 Unplug the power plug from the AC outlet.

Step 2 Remove the two screws holding the cord support.

NOTE

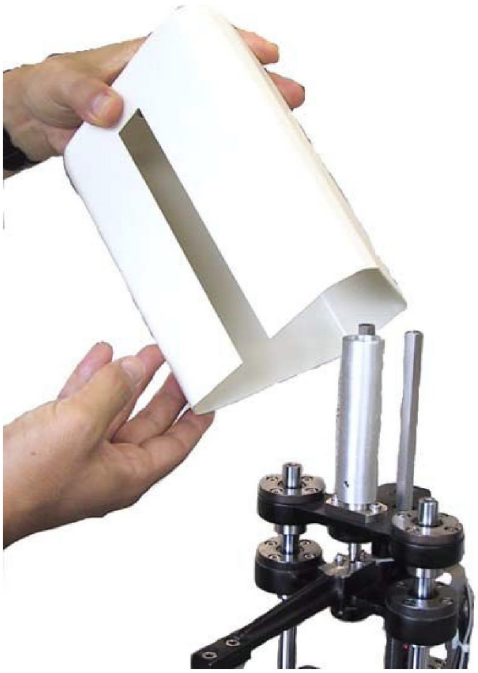
Cord hanger is easy to broken, please be careful to handle it.
Use a size 3 Phillips screwdriver and hold the cord support with one hand and perform operation firmly.
If the screwdriver is too small, or the loosening force is too weak, the screws may strip.

Step 3 Remove the three screws holding the arm cover.

This picture shows OFL15, screw location of OFL-15A is both side and the back.

NOTE

OFL-15A has screw fixing at the back and both sides.Please remove screws at both sides at first, and then remove the screw at the back. There are two kind screw (one for both sides, the other for the back),please be careful not to be confused.
The screws are very tight.
Use a size 3 Phillips screwdriver and hold the arm cover with one hand and perform this operation firmly.
If the screwdriver is too small, or the loosening force is too weak, the screws may strip.



Step 4 Install the arm cover, and install the three screws.

NOTE

Use a size 3 Phillips screwdriver and tight screws at both sides temporarily at first , and the back secondly, and both sides again securely.
(The screw at the back is longer.)

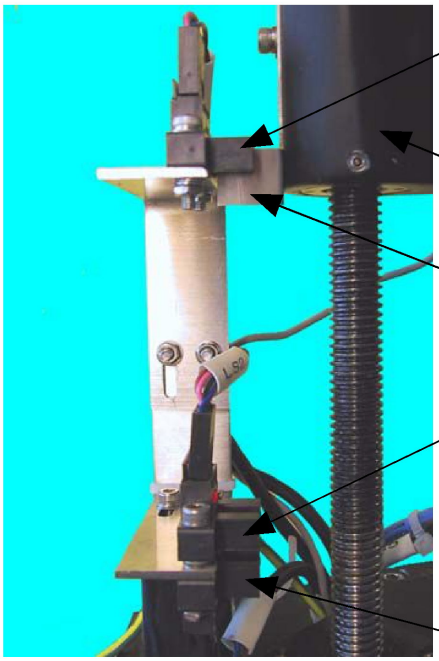
Step 5 Install the cord support, and install the two screws.

NOTE

Use a size 3 Phillips screwdriver, and install the two screws firmly and equally. Please be careful that the cover can be broken if a screw is tightened too much.

1.4 ARM DECELERATION POSITION ADJUSTMENT

Description of arm sensor section



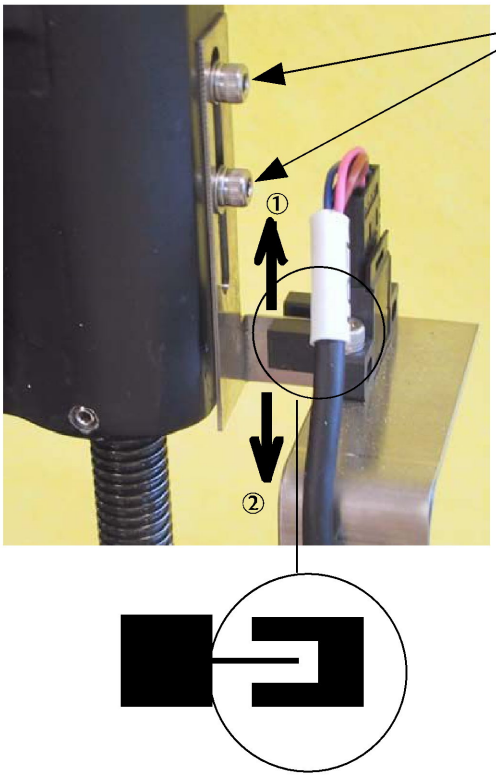
Arm upper limit sensor (When the detection piece is detected, the arm stops at the upper limit position.)

Arm section (Moves up and down with movement of the arm.)

Detection piece (Moves up and down with movement of the arm.)

Arm low-speed variable sensor (When the detection piece is detected when the arm is being lowered, the arm decelerates.)

Arm lower limit sensor (When the detection piece is detected, the arm stops at the lower limit position.)



Step 1 Loosen the two screws.

Step 2 Move the detection piece.

Direction (1) : When you want to lower the deceleration position
Direction (2) : When you want to raise the deceleration position.

Make the amount of movement per turn within 1mm and adjust the deceleration position while performing Step 3 "Arm deceleration position check" below.

NOTE

If moved too much at one time, erroneous operation may occur. Adjust so that the detection piece is at about the center of the groove as shown in the figure at the left.

Step 3 Arm deceleration position check

Press the Press Set button in the MANUAL window and check the arm deceleration position.

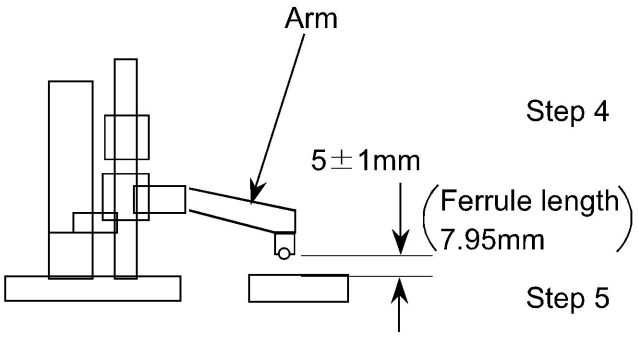
When you want to know the exact deceleration position, press the RUN button in the MAIN window, then stop the arm by pressing the STOP button when the arm decelerates.

If pressure is applied at the MAIN window, the polisher mechanism may start to rotate.

1.5 ARM UPPER LIMIT POSITION AND LOWER LIMIT POSITION INSPECTION

Inspect the arm upper limit and lower limit positions as described below. If a limit position does not pass the inspection, repeat the deceleration position adjustment described in par. 1.4 until the bad limit position passes inspection.

Arm lower limit measurement



Step 1 Unplug the power plug from the AC outlet.

Step 2 Remove the jig plate and rubber disk.

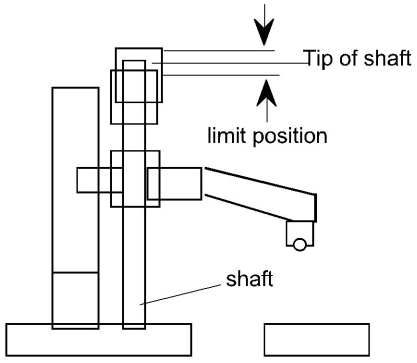
Step 3 In this state, connect the power plug and turn on the power and press the PRESS SET button in the MAIN window.

Step 4 Lower the arm and observe operation until STOP (takes 15 seconds or longer) , then push the emergency button.

Step 5 Measure the dimension shown at the left.
If this dimension is 5±1mm, the lower limit position passes inspection.

Step 6 Release emergemcy bottom then press the RESET button in the ERROR window and return the OFL-15 to the READY state.

Arm upper limit position measurement



Step 7 Perform steps 1 and 2.

Step 8 In this state, connect the power plug and turn on the power and press the RESET button in the MANUAL window.

Step 9 Raise the arm and stop at the arm upper limit position.

Step 10 Measure the dimension shown at the left.

Step 11 If this dimension is ±1mm, the upper limit position passes inspection.

2. GREASING

This section describes how to grease each part.

2.1 BASE DISK REAR SIDE AND DRIVE SHAFT

Step 1 Unplug the power plug from the AC outlet.

Step 2 Remove the polishing disk.

Step 3 Remove the base disk.

Step 4 Coat the drive shaft and its surrounding area with the accessory grease using a bamboo spatula, etc.

Grease :

Type	KMPZM21C02G
Name	Powerlite WR No2

Step 5 Also coat the rear side of the base disk with the accessory grease using a bamboo spatula, etc.

Step 6 Fit the base disk to the guide pins.

NOTE

Securely install the base disk onto the guide pins and confirm that it is firmly fixed.

Step 7 Install the polishing disk.

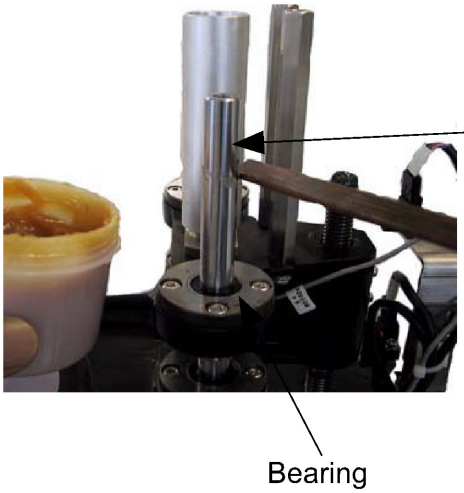
2.2 SCREW SHAFT AND LINEAR SHAFT

Screw shaft greasing

Step 1 Remove the cord support and arm cover as described in par. 1.3.

Step 2 Coat the area around the screw shaft hole with the accessory grease using a bamboo spatula, etc.

Linear guide greasing



Step 3 In this state, connect the power plug and turn on the power and lower the arm.
For a description of how to lower the arm, refer to the Instruction Manual.

Step 4 Coat the two linear guides (left and right) with a small amount of the accessory grease.

NOTE

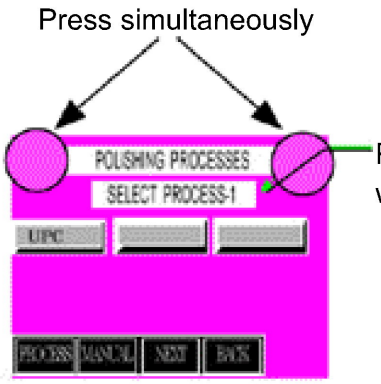
Be sure not to get too much grease on the linear guide.
Too much grease may cause compression performance to deteriorate.

Step 5 At the end of greasing, raise the arm, turn off the power, and disconnect the power plug from the AC outlet.
For a description of how to raise the arm, refer to the Instruction Manual.

Step 6 Install the cord support and arm cover as described in par. 1.3.

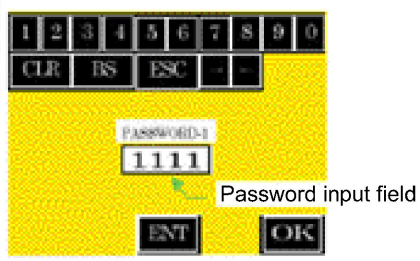
3.1 PASSWORD 2 CHANGE

The arm movement speed (high speed, low speed), pressure monitor offset value, and pressure control offset ± of the OFL-15 Polisher can be set and changed.
However, the arm movement speed (high speed, low speed) and pressure control offset ± value are initially set so that pressure is controlled normally, and should not be changed.
Change only the pressure monitor offset value.
A password is necessary to access this setting screen. Careless modification of the setting contents of the device parameters mentioned above can be prohibited by changing password 2. When you want to change password 2, proceed as described below.



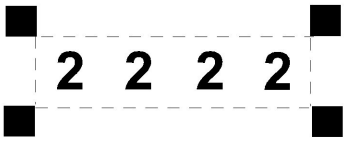
Step 1 Display the SELECT PROCESS-1 window of the POLISHING PROCESSES selection window.

Step 2 Simultaneously press the two "hide buttons" at the two top corners of the screen.
The password change "hide button" cannot be pressed from a window other than the PROCESS-1 window.



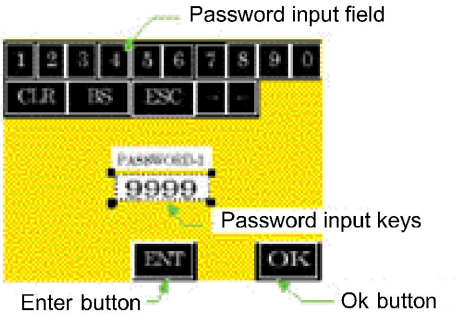
Step 3 Press the password input field and set to the password change state.

The displayed numbers are the currently set password.
If the state of the input field is as shown below, input is possible.



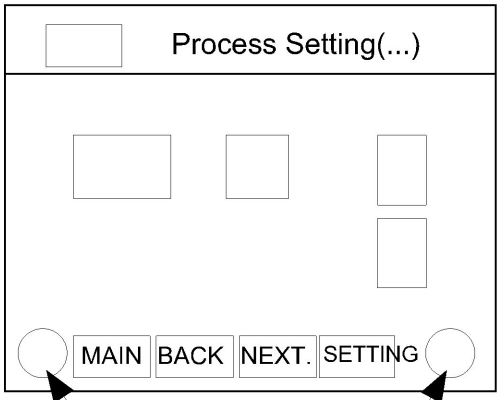
Domestic, for USA

For EU



Step 4 Input the new password, using the password input keys.
Set the new password with the ENTER button and end password change by pressing the OK button.
When password change ends, the display returns to the POLISHING PROCESSES selection window.
If the ENTER button is not pressed, the password will not change.
Up to a 4-digit password can be set.

3.2 PRESSURE MONITOR OFFSET VALUE CHANGE

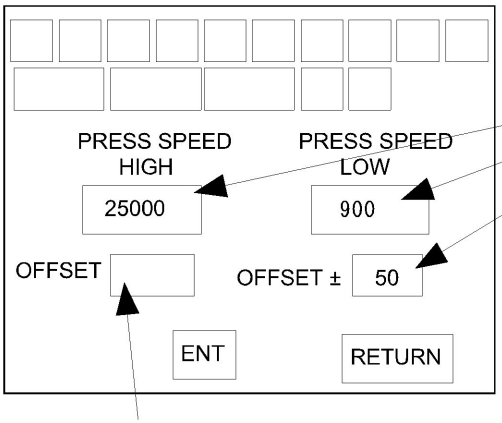


Touch both bottom sides of the displayed screen simultaneously.

Step 1 Press the SETTING button from the MAIN MENU window and shift to the SETTING check window.
Touch both sides of the displayed window simultaneously The OFFSET Setting window appears.

Step 2 Press the SETTING button in the OFFSET Setting window. The password window appears.
Input the password [2222] (password 2 is standard setting at shipment). Press ENT → OK.The device parameter setting window shown below appears.
If this window is not displayed, the password may be incorrect.
Check and change the password as descried in "Password 2 change".

Step 3 Set the OFFSET input field value as described below.



Do not change these values.
(These parameters are related to pressure control. If they are changed, the OFL-15 may not operate normally.)

OFFSET input field

The OFFSET value in the figure above depends on the device. When the jig plate is not mounted, set this value so that the pressure monitor value becomes almost 0 g.

For example, when the pressure monitor value is 0 g, and you want to make it 100g,

100 [g] X 3. 25=325

Add this 325 grams to the current OFFSET value.
Input this value at OFFSET and press the ENT and RETURN buttons.

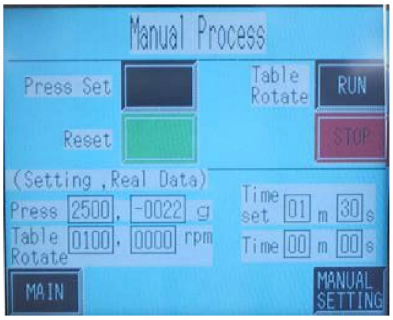
NOTE

Set the pressure monitor value within the -200g to +200g range. Setting outside this range may cause trouble.
The pressure monitor value immediately after the arm returns to the initial position and becomes static may fluctuate.
If this occurs, to view the pressure monitor value accurately, apply vibration by lightly tapping the side of the body with your hand.
This will stabilize the pressure monitor value.

Step 4 Return to the OFFSET SETTING window. Press the MAIN button. The display returns to the MAIN MENU. Confirm that the pressure monitor value is the desired value.

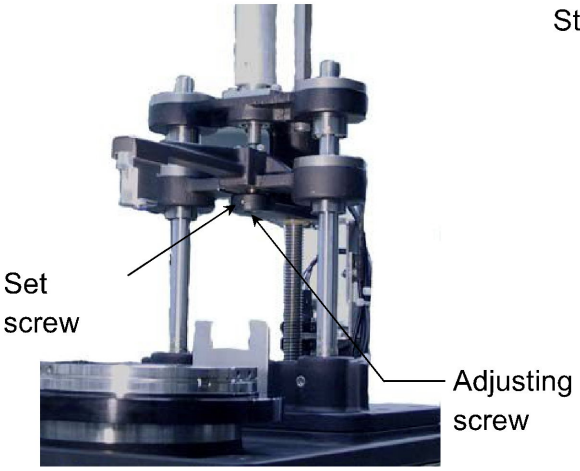
3.3 PRESSURE MONITOR VALUE ZERO ADJUSTMENT

The OFL-15 is factory-adjusted so that when the jig plate is not mounted, the pressure monitor value becomes almost 0g.
This section describes readjustment when adjustment has changed because the OFL-15 was relocated or for some other reason.



Step 1 With the jig plate removed, turn on the power and call the MANUAL PROCESS window.
When the pressure value in this state is ± 200g or greater, adjustment by the following procedure is necessary.

Step 2 Remove the cord support and arm cover as described in par. "1.3 CORD SUPPORT AND ARM COVER DISMOUNTIG AND MOUNTING".

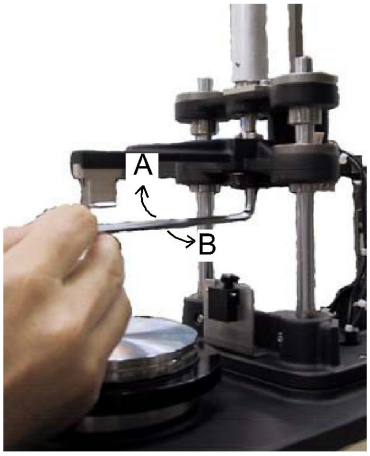


Step 3 Loosen the set screw shown in the figure at the left.

NOTE

The set screw is locked at the factory so that it will not work loose.
If the allen wrench is not inserted firmly, the hexagonal screw hole may strip.

Step 4 In this state, turn on the power and call the MANUAL PROCESS window.



Step 5 Insert the allen wrench into the adjusting screw, and adjust the screw while watching the pressure monitor value.
When the screw is turned in direction A in the figure at the left, the screw is lightened (pressure value increases and when the screw is turned in direction B, the screw is loosened (pressure value decreases).

Step 6 The adjusting screw has a backlash.
When the pressure value is near "0", lightly tap both sides of the OFL-15 body several times with your wrists as shown in the figure at the left and proceed with adjustment while eliminating the backlash.

Step 7 At the end of adjustment, tighten the set screw and check that the pressure value in this state is ± 10g or less.

Step 8 Install the cord support and arm cover as described in par. "1.3 CORD SUPPORT AND ARM COVER DISMOUNTING AND MOUNTING".

Step 9 Turn on the power and call the MANUAL PROCESS window.
If the pressure value in this state is within ± 50g, it is OK.

4. MAINTENANCE PERFORMED BY SG

This section describes the maintenance that must be performed by sending the polisher to us.

4.1 TOUCH PANEL AND POWER SUPPLY CONSUMABLES REPLACEMENT

There are the following consumables for the touch panel and power supply.
When a consumable reaches the end of its life, please contact us.
After removal and replacement, we will return the polisher to you.

Part Name	Life
LCD backlight	20,000 hours
Memory back-up battery	5 years or greater (25 °C)
Power supply	5 years or greater (25 °C)

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