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OFL-12 SERIES
OFL-126001
OFL-127001
MASS PRODUCTION POLISHER
INSTRUCTION MANUAL

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PREFACE

This manual has been prepared to provide the information necessary to allow the user to operate the OFL-12 Mass Production Polisher (hereafter referred to as OFL-12) correctly and fully utilize its functions. Before using the OFL-12, be sure to read this instruction manual thoroughly. Store the manual in a safe place for future reference.

NOTE

The OFL-12 can only polish ferrules which meet the following conditions:

- Ferrule material Zirconia (ZrO_2)
- Ferrule diameter 2.5 mm (0.0984 inch)

The OFL-12 can polish ferrules after assembly only with ST-type connectors. Please contact SII for options if you wish to polish alumina ceramic capillary ferrules, ferrules with different outer diameter, ferrules that require flat, angled PC, or another style of polishing.

NOTE

The polishing film and polishing fluid used on the OFL-12 are selected especially for the processes performed on the OFL-12. If you use any other polishing film or fluid, we cannot guarantee that the polishing specifications will be met.

Before using the OFL-12, please make sure that all of the following items (shown in figure 0-1) are present.

Table 0-1. Standard Parts

No	Part	Part code	Qty.	Remarks
1	Basic machine	OFL-12	1	
2	Holding jig	KJJ100101	1	for 2.5 mm dia.
3	Polishing disk	KJD100100	1	synthetic rubber disk
4	Adhesive removal pad	KJO100101	1	with synthetic rubber sheet
5	Polishing film (adhesive removal)	(KJW100100)	10* Sheets	abrasive paper
6	Polishing film (grinding)	(KJW100200)	1* Sheet	green label
7	Polishing film (polishing)	(KJW100300)	1* Sheet	yellow label
8	Polishing film (finishing)	(KJW100400)	1* Sheet	white label
9	Polishing fluid	(KJA100100)	1*	100 ml
10	Squeezable dropper bottle	KJO100200	2	50 ml×2
11	Power cord	KKO100420	1	---
12	Fuse	KKO100320	2	250 V, 1 A
13	Ball-end hex wrench	KJO100500	1	---
14	Instruction manual	KKO100220	1	---
15	Soft brush	KJO101000	1	---
16	Setup Stand	KJO100600	1	---
17	Grease	KJO101200	1	---
18	Maintenance Manual	KKO100520	1	---

* The quantity listed is the quantity included in the standard OFL-12 package. See Table 0-2 for the quantities included in additional orders of individual items.

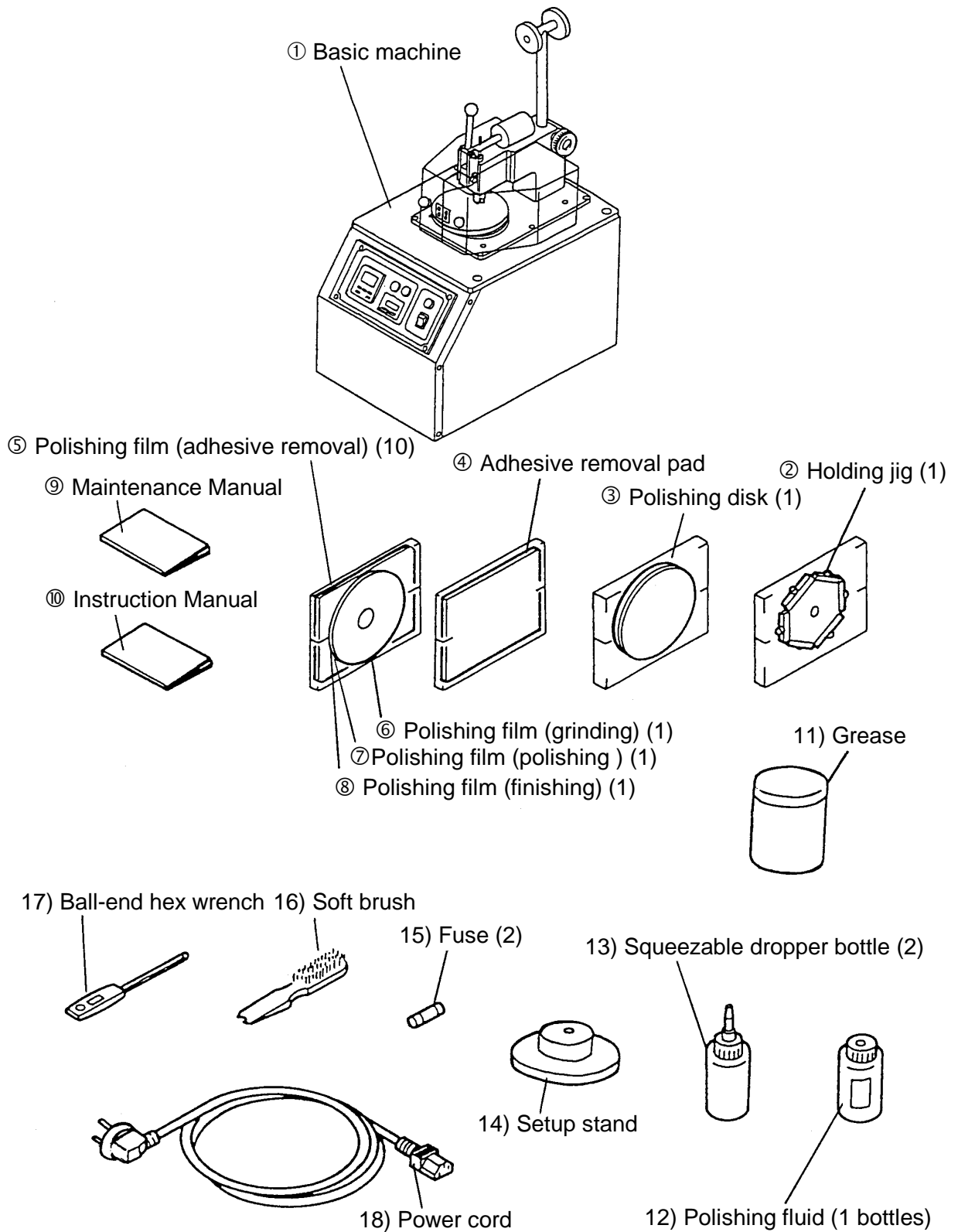


Figure 0-1 Standard Parts

The available consumable items are listed in Table 0-2.

Table 0-2 Consumable Items

Part	Part code	Qty.	Remarks
Polishing film (adhesive removal)	KJW10010 0	100 sheets	change after 1 use
Polishing film (grinding)	KJW10020 0	10 sheets	change after 10 use
Polishing film (polishing)	KJW10030 0	10 sheets	change after 10 use
Polishing film (finishing)	KJW10040 0	10 sheets	change after 10 use
Polishing fluid	KJA100100	2 (100 ml ×2)	can polish approximately 600 ferrules per container (12 ferrules at one time, 50 uses)
Standard consumable supplies kit	KJS100100	1 set	contents: Polishing film adhesive removal ×100 grinding ×10 polishing ×10 finishing ×10 Polishing fluid ×2

The Standard Consumable Supplies Kit (part code 110-S-001) is sufficient to polish about 1200 ferrules.

The available optional items are listed in Table 0-3.

Table 0-3 Options

Part	Part code	Qty.	Remarks
Holding jig for D4	KJJ200100	1	for zirconia capillary ferrule (diameter:2.0mm (0.0787 inch))
Angled PC polishing set (minimum set)	KJS100500	1 set	for angled PC polishing
OFL-12 consumer supplies kit for alumina ceramic capillary ferrule	KJS100200	1 set	for alumina ceramic capillary ferrule

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CHAPTER 1

USER NOTES

In this chapter, important notes for users are given. Please read them carefully before using the OFL-12.

1.1 PRECAUTIONS FOR USING THE OFL-12

To protect the OFL-12 and use it correctly, please pay attention to the following notes:

- Do not leave the OFL-12 outdoors, or where water might damage it.
- Do not subject the OFL-12 to undue vibrations or reckless drops.
- Do not touch the operation panel or the switches with wet hands.
- The OFL-12 is heavy (about 25 kg (55 lbs)), so place it on a sturdy table.
- Be sure to supply electric power at the voltage and frequency specified.
- Be sure to connect the grounding pin of the power cord plug to ground to prevent electric shock.
- Do not touch the rotating parts during use.
- Be sure to disconnect the OFL-12 from the power source before changing the polishing disks or other parts.

1.2 PREPARATION

In addition to the main Mass Production Polisher and its accessories, please prepare the following items:

- | | | |
|---|-------------------|--|
| ① | Cleaning paper | lint-free synthetic cleaning tissue |
| ② | Ethyl alcohol | |
| ③ | Water | Tap water |
| ④ | Washing container | 3 (one for each polishing unit), approximately 3 ℓ(0.75 gal) each.(for washing the ferrules and holding jig) |

1.3 PRECAUTIONS FOR USING POLISHING FLUID

Please pay attention to the following when using the polishing fluid:

- If you get the polishing fluid on your skin or into your eyes, rinse with water quickly and thoroughly.
- Make sure the area where the polishing fluid is being used is well ventilated.
- If the polishing fluid gets on your clothes, they should be washed thoroughly.
- After using, seal the container and store in a place that is between 0° and 50°C (32° and 122°F).

CHAPTER 2

OVERVIEW

In this chapter, the parts of the OFL-12 basic machine and operational procedure are explained.

In section 2.1, the names of the parts of the OFL-12 basic machine and their function are explained.

In section 2.2, the standard operating procedure for polishing the ferrules is explained.

2.1 PARTS NOMENCLATURE

The parts of the OFL-12 basic machine are explained in this section. Figure 2-1 shows the OFL-12 after the polishing disks have been installed on the machine.

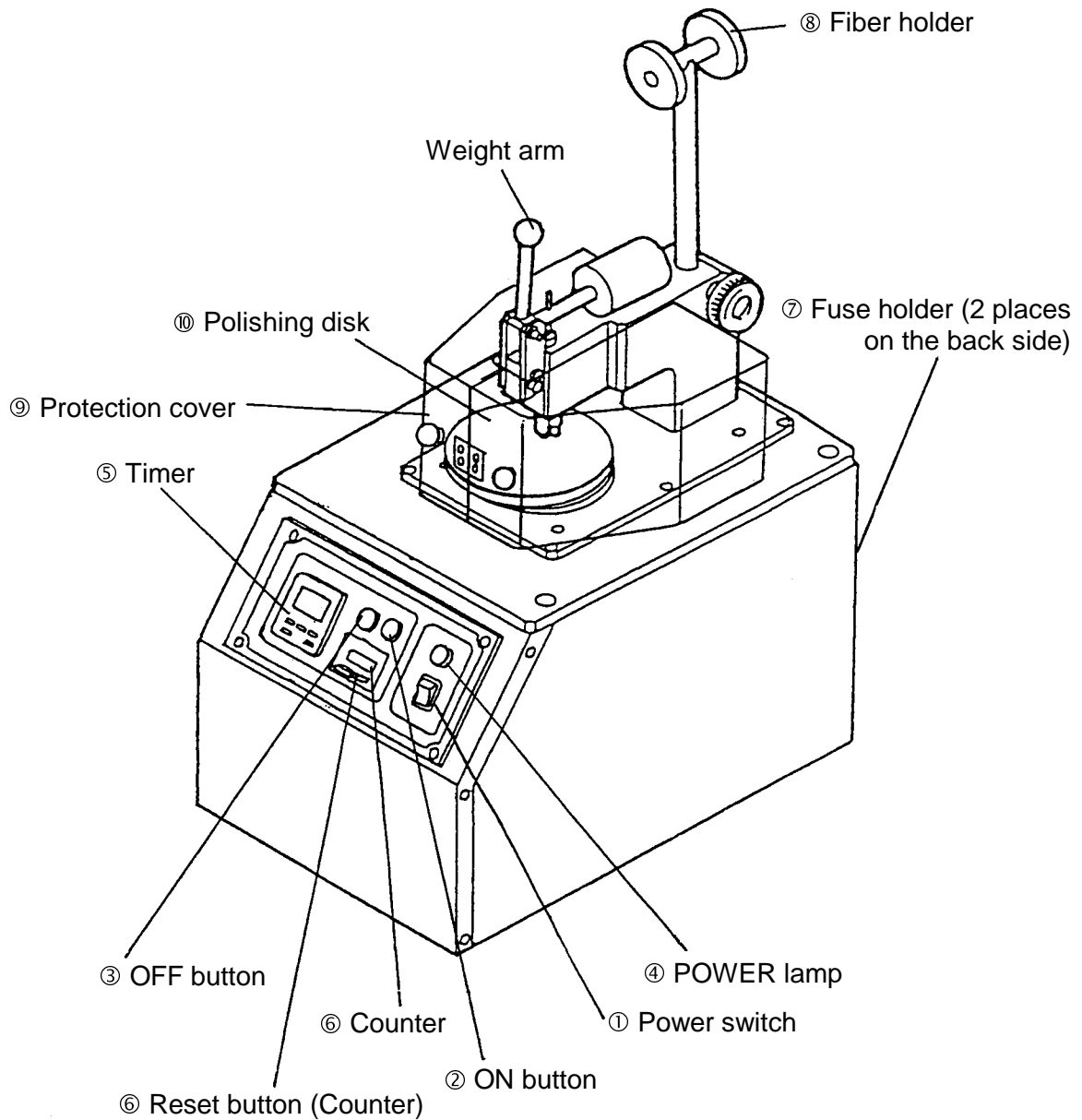


Figure 2-1 External View of OFL-12 and Operating Panel

- ① Power switch
Switches the power ON/OFF.
- ② ON button (green)
When this button is pressed, the polishing disk begins to rotate. When the time limit expires as set by the timer, the polishing disk stops rotating.
- ③ OFF button (red)
When this button is pressed, the polishing disk stops rotating and the polishing operation stops immediately.
- ④ POWER lamp
Lights when power is input.
- ⑤ Timer
Specifies polishing time. The remaining time is displayed during polishing operation.
- ⑥ Counter
The number of polishing operations can be checked on this counter. The counter increments each time the ON button is pressed. To reset the counter, press the reset button underneath the counter.
- ⑦ Fuse holder (2 places)
Holds a 250 V, 1 A fuse.
- ⑧ Fiber holder
The fibers are hung on this pole during polishing. The height is adjustable according to the length of the fiber by loosening the black clamping knob, sliding the pole to the appropriate height, then tightening the knob.
- ⑨ Protection cover
When the cover is open, the polishing machine does not work if the switch is turned on.
- ⑩ Polishing disk
Has a rubber disk on top onto which the polishing film is placed. The softness of the rubber means that the tip of the ferrule will have a convex surface polished onto it.

11) Weight arm

Provides the correct polishing pressure to the ferrule tips. There are three setting positions for the weight on each arm.

12) Thrust pin

Applies the polishing pressure to the center of the holding jig so that a high level of polishing can be obtained.

13) Rotation stop pin

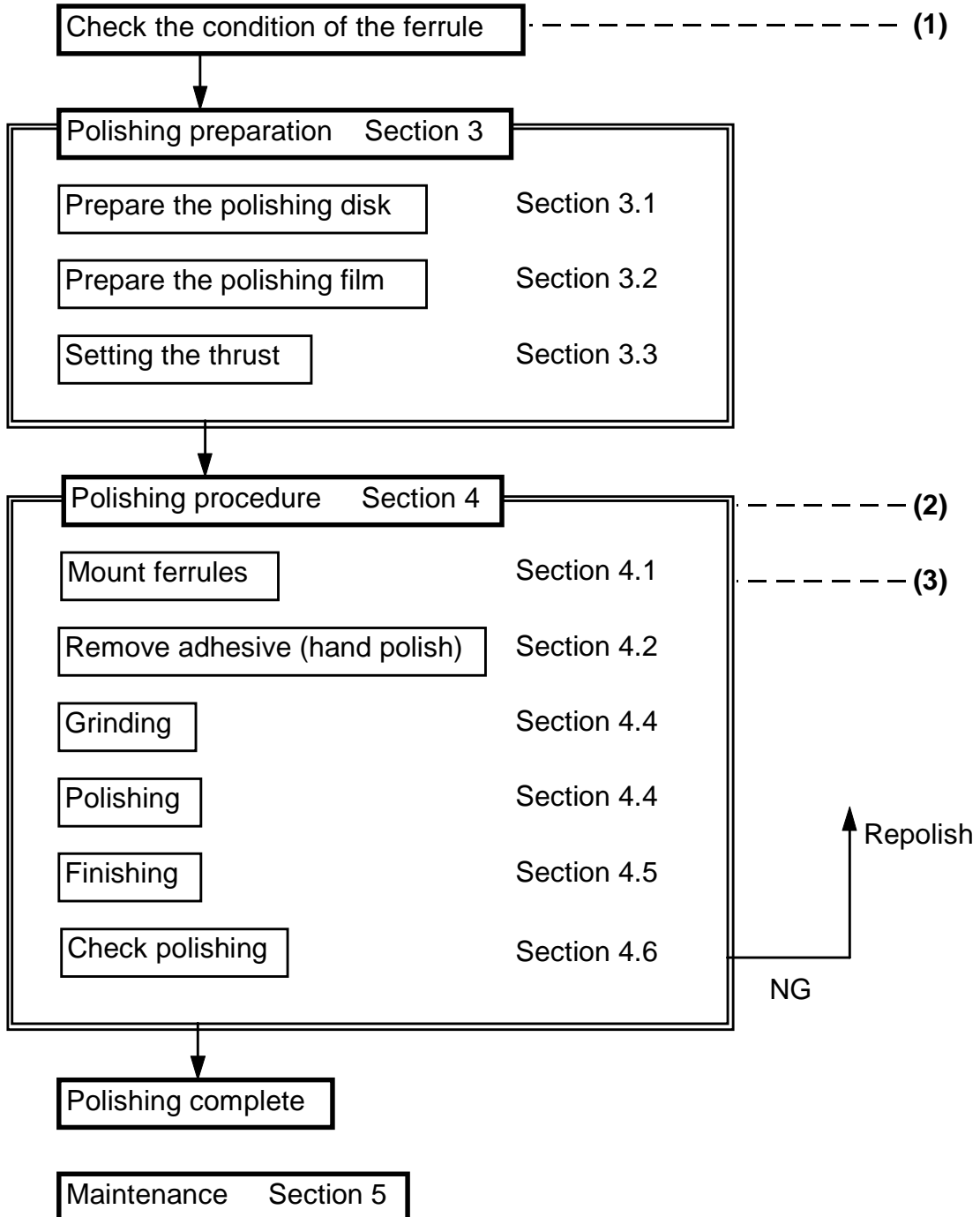
Keeps the holding jig from rotating while the polishing disk is rotating.

Protection Cover

- Protection covers are provided with this machine to prevent operator from touching the moving parts.
- Open the covers with the knobs. Each covers are fixed with magnets when they are closed.
- When the cover is open, the machine does not operate if the switch is turned on.
- Do not pinch your fingers when you open or close the covers.
- Do not force the cover open.
- If the cover is damaged, stop using the machine and contact your dealer. Take care not to cut your hand on the damaged cover.
- When the machine operates abnormally, for example, the machine operates with the covers open, stop using the machine and contact your dealer.

2.2 OPERATIONAL PROCEDURE

The standard operating procedure for polishing the ferrules is shown below. The numbers on the right hand side of the diagram correspond to the explanations on the next page.



- (1) It is best to use only a small amount of adhesive on the tip of the ferrule. If too much is used, sometimes it cannot be removed within the standard 30 seconds of hand polishing used to remove the adhesive.
- (2) The polishing film, polishing fluid, and polishing conditions used in each of the polishing steps are listed in Table 2-1. Refer to the details for each of the polishing steps in the corresponding sections.

Table 2-1 Polishing Media and Conditions

Polishing Step	Polishing Film	Polishing Fluid	Thrust ¹ (Std.)	Polishing Time (Std.)	Polishing Film Life
Adhesive removal (hand polishing)	abrasive paper (KJW100100)	none	approx. 1 to 2 kg (2.2 to 4.4 lbs)	30 sec.	dispose of every time (max. 12 ferrules)
Grinding (1st polishing)	green label (KJW100200)	water	Point 1	1 min. 30 sec.	10 times (max. 120 ferrules)
Polishing (2nd polishing)	yellow label (KJW100300)	water	Point 2	1 min. 30 sec.	10 times (max. 120 ferrules)
Finishing (3rd polishing)	white label (KJW100400)	Polishing fluid (KJA100100)	Point 2	1 min.	10 times (max. 120 ferrules)

1 The polishing thrust (pressure) varies according to the number of ferrules mounted in the holding jig. Refer to section 3.3 for setting the thrust.

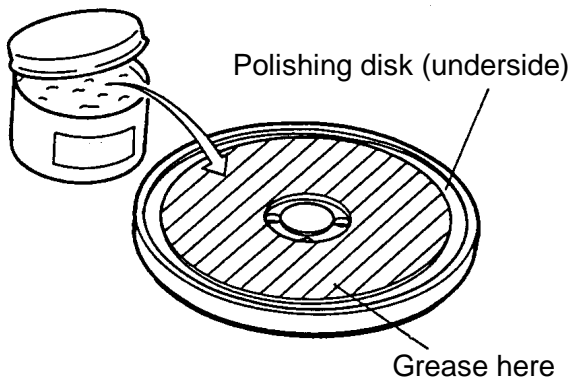
- (3) Mount the ferrules in the holding jig evenly according to the explanation given in section 4.1. When the ferrules are mounted incorrectly, the ferrules can slip and the tips of the ferrules may not be polished correctly. When mounting less than 12 ferrules in the holding jig, make sure they are arranged in a balanced pattern, according to the explanation given in section 4.1. An unbalanced arrangement of ferrules in the holding jig may not be polished evenly.

CHAPTER 3

POLISHING PREPARATION

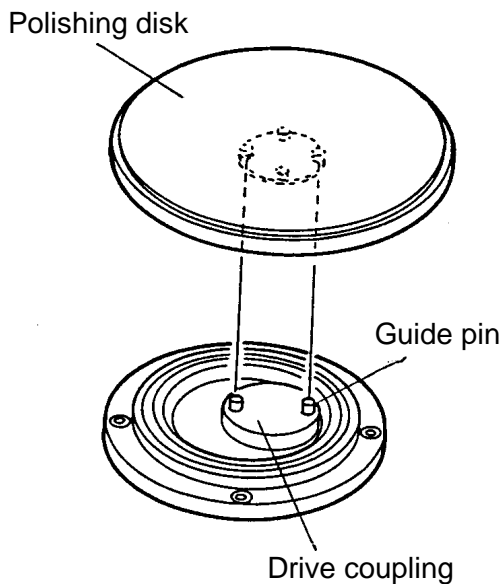
In this chapter, all the preparations prior to starting polishing are explained.

3.1 POLISHING DISK PREPARATION



Step 1 Disconnect the power cord from the outlet.

Step 2 Apply grease included in the product to the underside of the polishing disk. Also apply grease to the center hole of the underside.



Step 3 Attach the polishing disk to the drive coupling, fitting the guide pins on the drive coupling into the holes on the underside of the polishing disk.

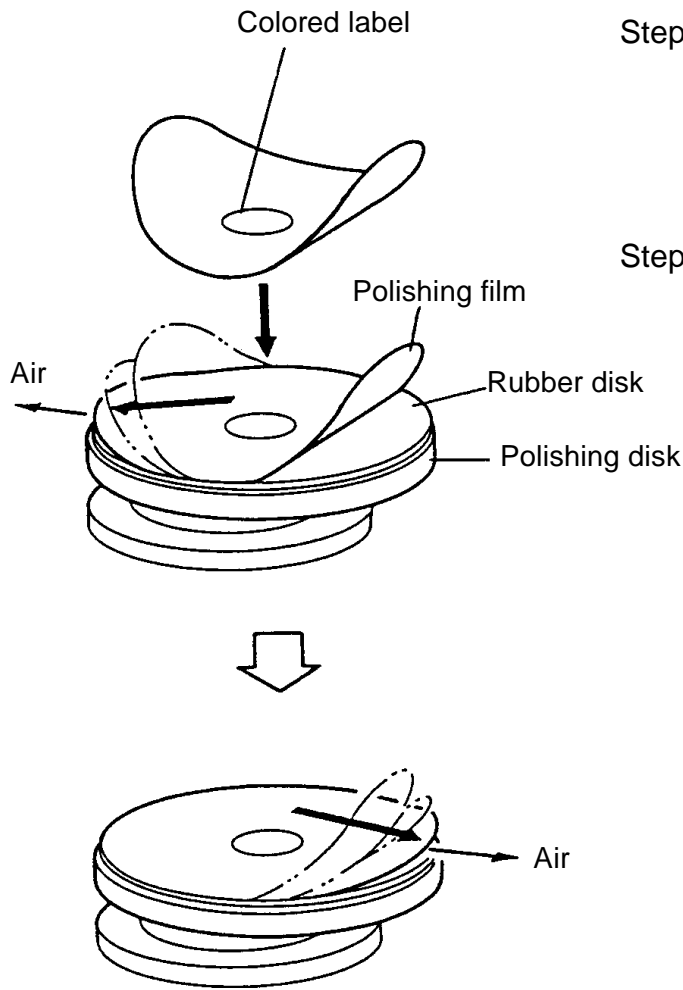
NOTE

Make sure the pins on the drive coupling go into the holes on the underside of the polishing disk.

NOTE

Do not use the polishing disk without applying grease to prevent the machine from being worn out. Apply grease to the disk before it dissipates. It is recommended that you should apply grease once a month.

3.2 POLISHING FILM PREPARATION



Step 1 Clean the rubber surface of the polishing disk using cleaning paper and ethyl alcohol. Be sure to remove all dirt and other foreign matter.

Step 2 Place the polishing film on the polishing disk so it is centered. With your hand, spread the polishing film from the center outward to squeeze out the air.

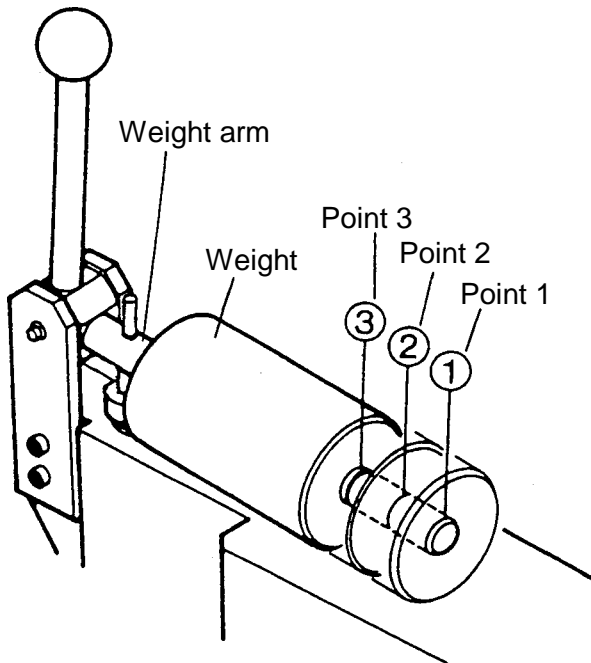
NOTE

Polishing film for Grinding:
Polishing film for Polishing:
Polishing film for Finishing:

Green label
Yellow label
White label

3.3 THRUST (POLISHING PRESSURE) SETTING

The polishing pressure (thrust) is set according to the polishing step and the number of ferrules mounted in the holding jig. The polishing pressure is set by moving the weight on the weight arm.



Step 1 Set the weight at one of the three set positions for the weight on the weight arm. When you move the weight along the weight arm, you can feel the weight click at the set positions. Do not set the weight inbetween the set positions.

Step 2 The weight set position to be used depends on the polishing set up and number of ferrules mounted in the holding jig. Refer to Table 3-1.

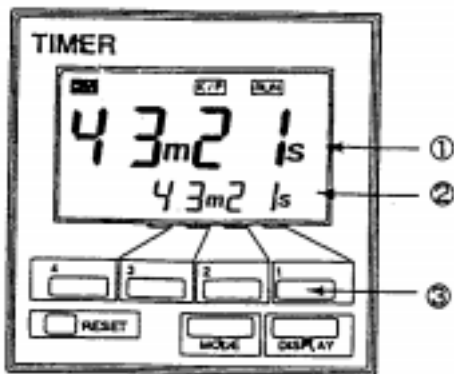
NOTE

If you have less than six ferrules to polish, use dummy and/or unusable ferrules so there are at least six ferrules mounted in the holding fixture. This is so that the ferrules will get polished at an equal quality level. Refer to section 4.1.

Table 3-1 Weight Set Points

No. of Mounted Ferrules	Weight Set Point		
	Grinding	Polishing	Finishing
12	1	2	2
10	1	2	2
8	2	3	3
6	3	3	3

3.4 SETTING UP POLISHING TIME

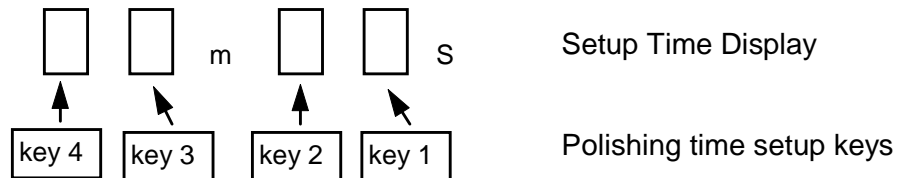


SETUP PANEL

- ① Remaining time display
Displays remaining polishing time during polishing operation.
- ② Setup time display
Displays the setup polishing time.
- ③ Polishing time setup keys
Sets up the polishing time.

Procedure of setting up polishing time

Press the polishing time setup keys to specify the polishing time. The polishing time setup keys 1 through 4 correspond to each digit of the setup time display.



Each time you press either of the polishing time setup keys, the number of the corresponding digit increases by 1.

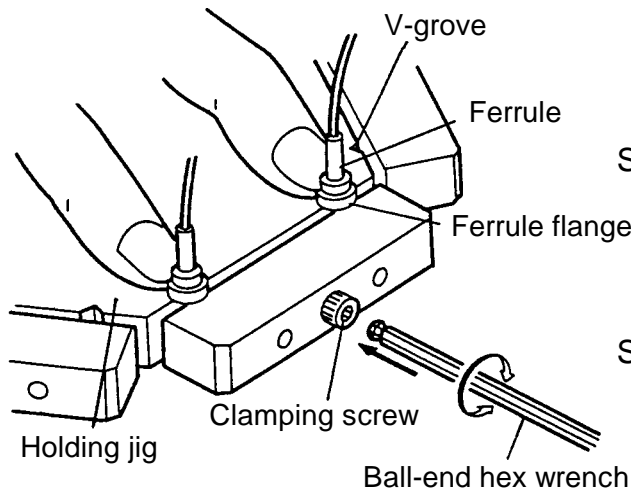
If you press “Reset”, “MODE”, or “DISPLAY” key, they do not function.

CHAPTER 4

POLISHING PROCEDURE

When all of the polishing preparations have been made, ferrule polishing can begin.

4.1 MOUNTING THE FERRULES



Step 1 Place the setup stand on a desk or table and put the holding jig onto the setup stand, fitting the hole in the holding jig onto the pin on the setup stand.

Step 2 Loosen the clamping screws on the holding jig, turning about 3 turns using the ball-end hex wrench.

Step 3 Place the ferrules into the V-grooves in the holding jig. See Figure 4-1 for where to place the ferrules to have a balanced pattern.

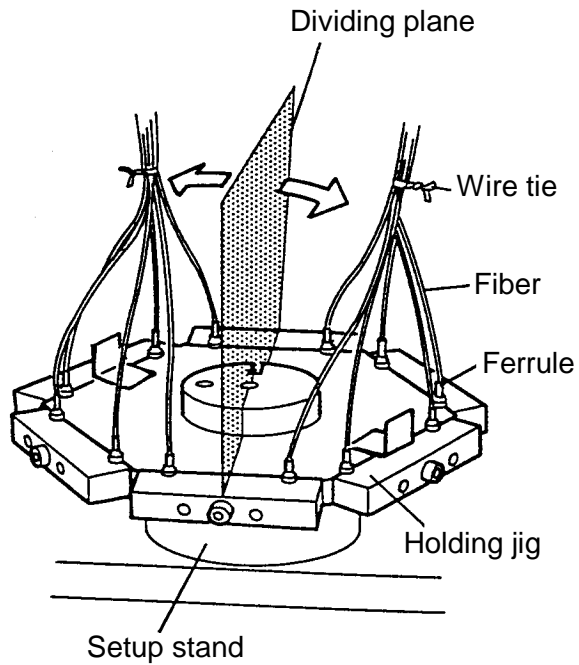
Step 4 On each side of the holding jig, tighten the clamping screw with the ball-end hex wrench while lightly pushing the flange on the ferrules against the holding jig.

NOTE

To tighten the clamping screws with the appropriate tightness, tighten finger tight, then use the ball-end hex wrench to tighten one quarter turn more.

CAUTION

Make sure that the ferrules do not move after clamping them in the holding jig.



Step 5 Separate the fibers into two bundles, one on each half of the holding jig, and tie each bundle with a wire tie.

NOTE

If you have less than six ferrules to polish, use dummy or unusable ferrules so there are at least six ferrules mounted in the holding fixture. This is so that the ferrules will get polished at an equal quality level.

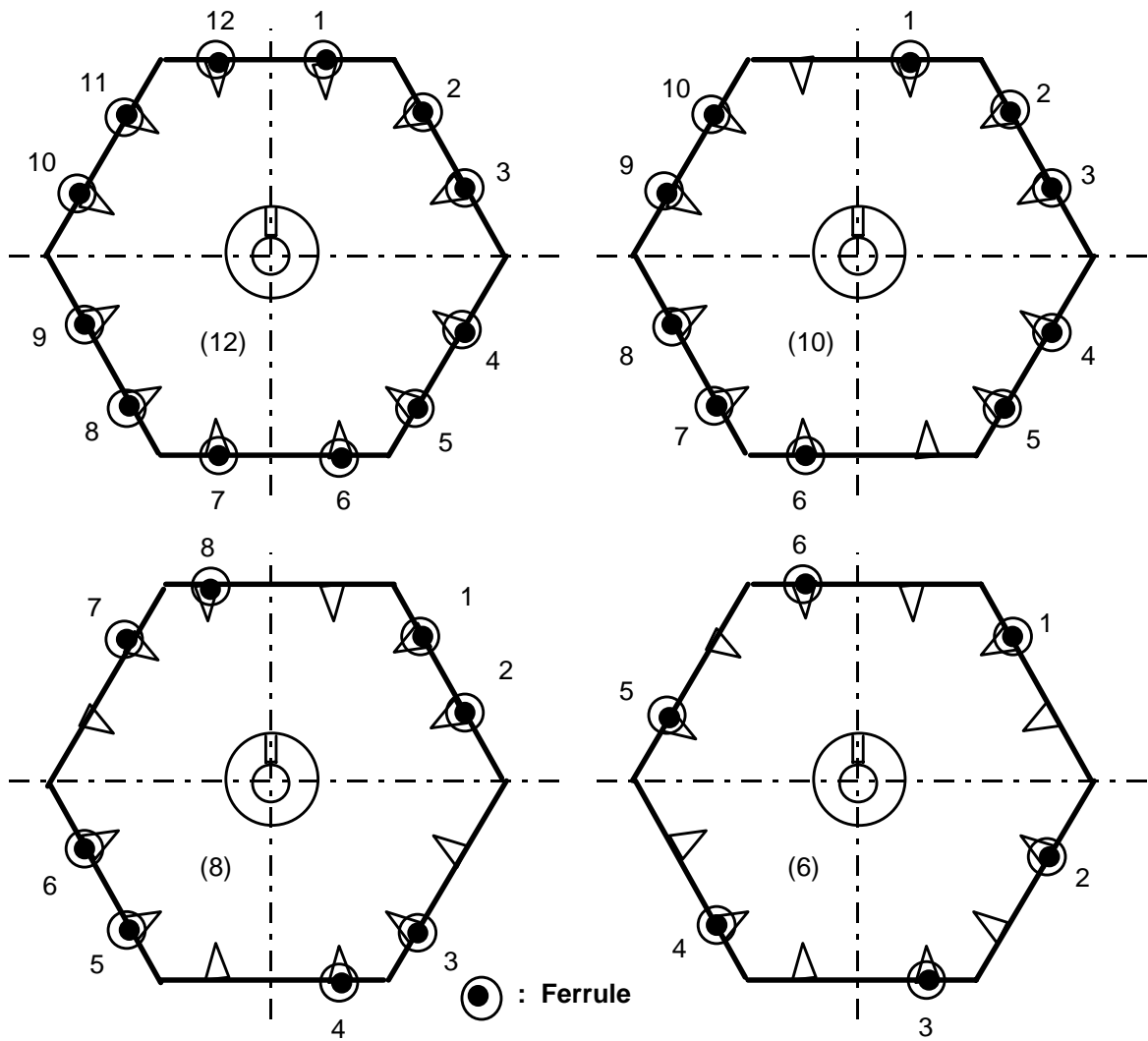
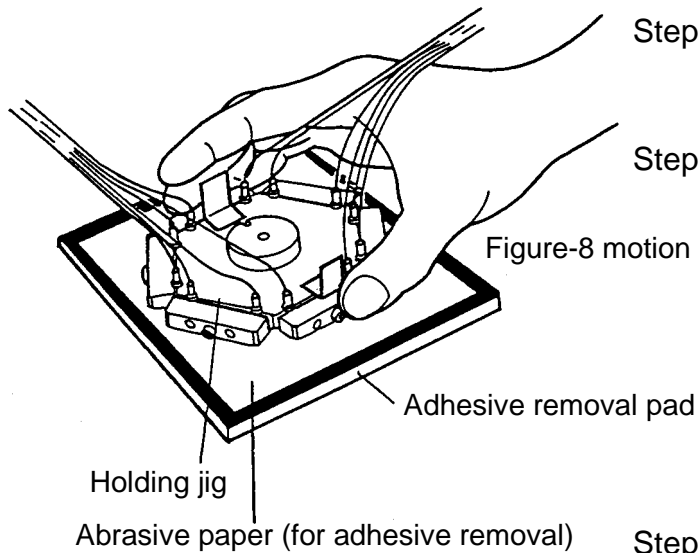


Figure 4-1 Balanced Ferrule Arrangements

Ferrule mounting is complete.

4.2 REMOVING ADHESIVE (HAND POLISHING)



Step 1 Clean the surface of the synthetic rubber sheet with ethyl alcohol. Make sure all dirt and other foreign matter is removed.

Step 2 Place a new piece of abrasive paper onto the rubber pad.

Step 3 Take the holding jig with the ferrules mounted in it and rub the tips of the ferrules against the abrasive paper using a figure-8 motion. Rub for about 10 seconds using only the weight of the holding jig, then for about 20 seconds with about 1 to 2 kg (2.2 to 4.4 lbs) of hand pressure.

Step 4 Clean the tips of the ferrules with cleaning paper. Make sure that there is no adhesive remaining on the tips of the ferrules. Use a new piece of abrasive paper every time this polishing step is done.

NOTE

If the ferrules are mounted incorrectly, the ferrule can slip and the tip of the ferrule may not be polished correctly.

4.3 ADJUSTING FIBER HOLDER

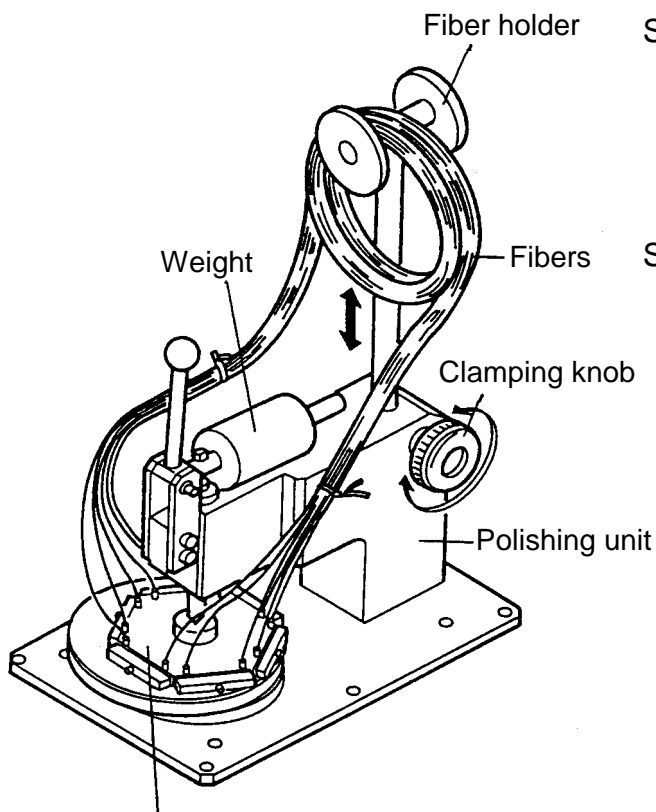
This section describes how to adjust the height of the fiber holder. This adjustment is done when mounting the holding jig onto the polishing unit. Refer to sections 4.4 and 4.5.

Step 1 Hang the looped fibers (which have been tied into two bundles) on the spool at the end of the fiber holder (at the lowest position).

Step 2 Mount the holding jig onto the polishing unit as described in steps 4 and 5 of sections 4.4 and 4.5.

Step 3 Loosen the clamping knob for the fiber holder and slide the fiber holder up so that the fibers will not interfere with the polishing.

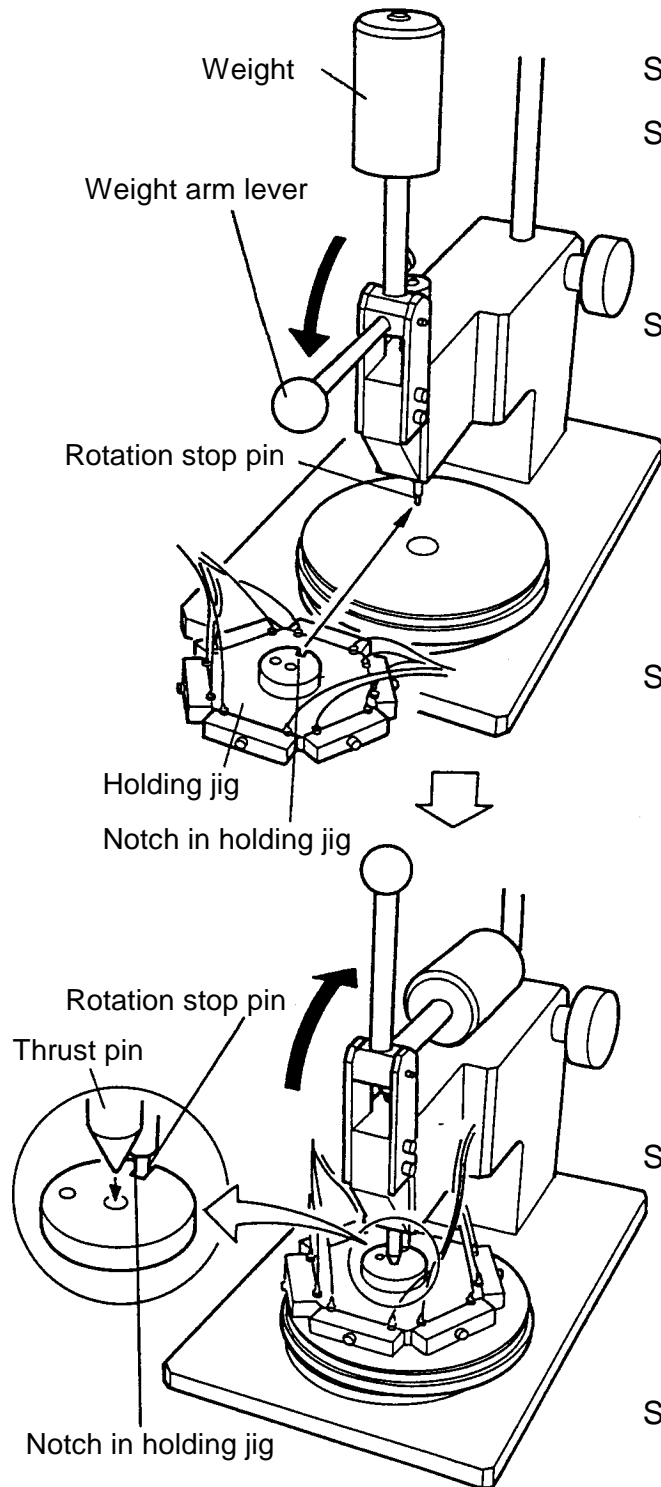
Step 4 Tighten the clamping knob to clamp the fiber holder in place.



NOTE

Always hang the fibers on the fiber holder so that they do not affect the weight. In this case polishing may not be done correctly because the adequate polishing pressure is not applied to the holding jig.

4.4 GRINDING (1ST POLISHING) AND POLISHING (2ND POLISHING)



Step 1 Open the protection covers.

Step 2 Place the polishing film for grinding (green label) on the polishing disk, then set the weight position for grinding.

Step 3 Pull the weight arm lever toward you.

NOTE

Set the weight arm lever to the shown position with the protection covers open.

Step 4 Clean the polishing film using cleaning paper and water. Using the squeezable dropper bottle, wet the polishing film with about 2 ml of water.

NOTE

When you supply water, use the squeezable dropper bottle to avoid spilling water on the operation panel.

Step 5 Put the holding jig (after completing the previous polishing step) onto the polishing film with the rotation stop pin in the notch in the holding jig.

Step 6 Lift the weight arm lever up, setting the thrust pin into the hole in the center of the holding jig.

NOTE

Make sure that the weight arm lever goes to the full up position. If it does not, the correct polishing pressure will not be applied to the holding jig and polishing will not be performed correctly.

NOTE

Take care not to pinch your hand with the weight when you attach or detach the holding jig to or from the machine.

Step 7 Close the protection covers.

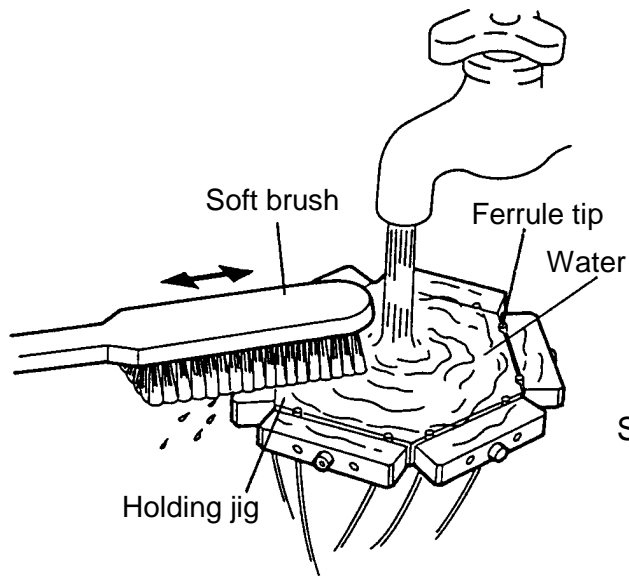
Step 8 Set the timer to 1 min. 30 sec. (standard).
Preparation for polishing is complete.

Step 9 Press the ON button. The polishing disk begins to rotate and polishing begins.

NOTE

Press the OFF button if there is any problem. The polishing disk will stop rotating and polishing will stop.

Step 10 The polishing will automatically stop when the time set on the timer is up. After the polishing is completed, pull the weight arm lever toward you and remove the holding jig from the polishing disk.



NOTE

When removing the holding jig from the polishing unit, lift the holding jig up so the ferrules do not touch the polishing film.

Step 11 Clean the holding jig and the tips of the ferrules under running water using the brush. After cleaning, clean the brush, removing all polishing grit or other matter.

This illustration shows running water being used for washing. (There is no problem if washing is done in the washing container, but using running water is preferred.)

NOTE

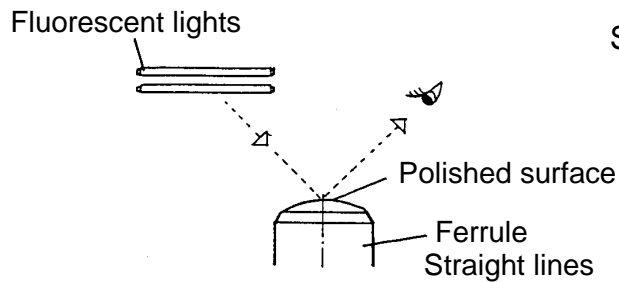
After cleaning, remove waterdrops completely from the holding jig.

NOTE

Do not touch the operation panel with wet hands.

Step 12 Clean the tips of the ferrules with cleaning paper.

Step 13 (Only after grinding.) Make sure that the polished surface is clean.



NOTE

Don't take the ferrules out of the holding jig yet.

GOOD		
BAD		

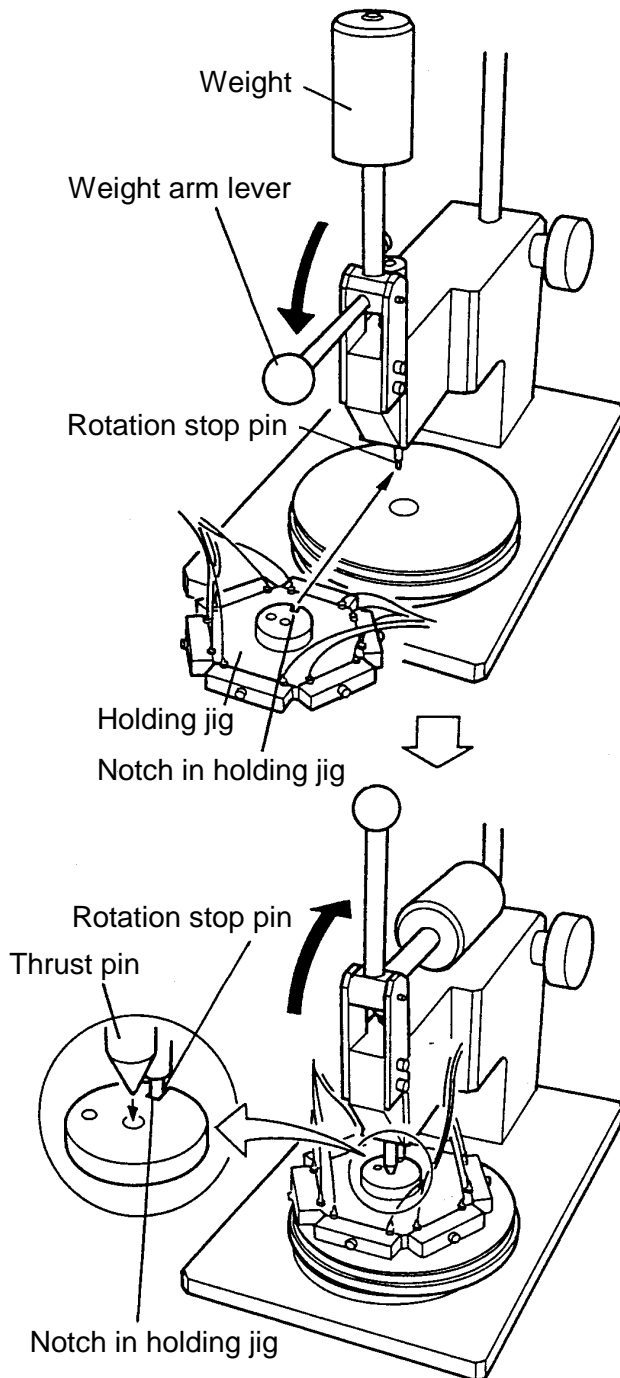
Distorted lines

Check the ferrule tip surface. If the reflection of two parallel fluorescent light tubes is parallel, the polishing is satisfactory. If the reflection is not parallel, redo the grinding step.

Step 14 Clean the surface of the polishing film with cleaning paper and water.

Step 15 Replace the polishing film for grinding with the polishing film for polishing (yellow label), then set the weight position for polishing. Repeat procedures 2 through 12 (except for step 11) using the polishing film for polishing.

4.5 FINISHING (3RD POLISHING)



Step 1 Replace the polishing film for polishing with the polishing film for finishing (white label), then set the weight position for finishing.

Step 2 Pull the weight arm lever toward you.

Step 3 Using the squeezable dropper bottle, apply polishing fluid to the entire surface of the polishing film.

NOTE

Apply 2 ml or more polishing fluid

Step 4 Put the holding jig (after completing the polishing step) onto the polishing film with the rotation stop pin in the notch in the holding jig.

Step 5 Lift the weight arm lever up, setting the thrust pin into the hole in the center of the holding jig.

NOTE

Make sure that the weight arm lever goes to the full up position. If it does not, the correct polishing pressure will not be applied to the holding jig and polishing will not be performed correctly.

Step 6 Set the timer to 1 min. (standard).
Preparation for polishing is complete.

NOTE

The first time a sheet of finishing polishing film is used, the polishing fluid will not completely soak into the polishing film. Therefore, when using a sheet of finishing polishing film for the first time, polish twice (1 minute each).

Step 7 Press the ON button. The polishing disk begins to rotate and polishing begins.

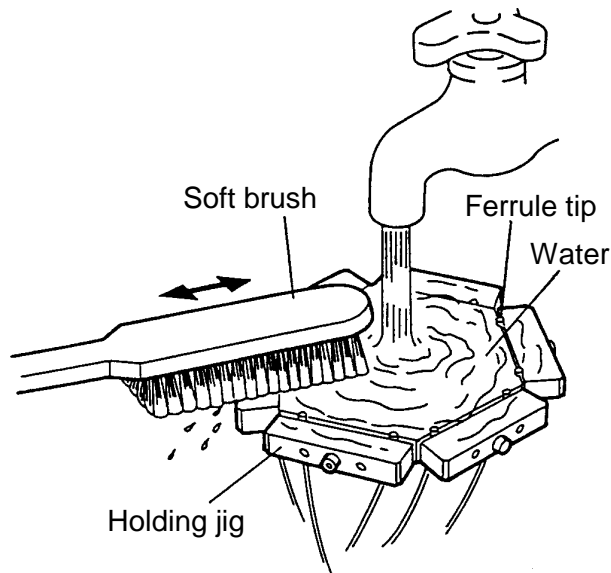
NOTE

Press the OFF button if there is any problem. The polishing disk will stop rotating and polishing will stop.

Step 8 The polishing will automatically stop when the time set on the timer is up. After the polishing is completed, pull the weight arm lever toward you and remove the holding jig from the polishing disk.

NOTE

When removing the holding jig from the polishing unit, lift the holding jig up so the ferrules do not touch the polishing film.



Step 9 Clean the holding jig and the tips of the ferrules under running water using the brush. After cleaning, clean the brush, removing all polishing grit or other matter.

NOTE

There is no problem if washing is done in the washing container, but using running water is preferred.

Step 10 Take the ferrules out of the holding jig, undo the wire ties, wash the ferrule tips with water and dry the tips of the ferrules with cleaning paper.

Step 11 Clean the ferrules with cleaning paper and ethyl alcohol. Clean the surface of the polishing film with cleaning paper and water.

NOTE

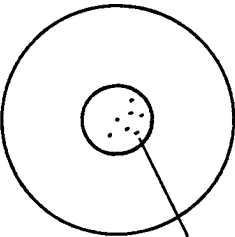
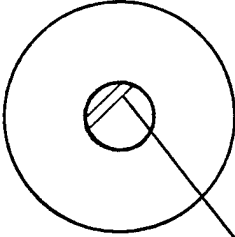
Do not leave any polishing fluid on the polishing film because the polishing fluid can dry on the polishing film, scratching the ferrules if the film is used again. If polishing will not be done for a period of time, keep the polishing film immersed in water so that any polishing fluid on it will not dry.

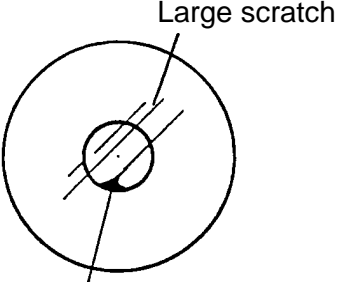
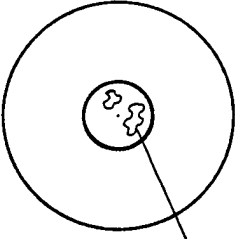
4.6 POLISHING CONDITION CHECK

Check the condition of the ferrule tips after polishing. If there was a deep scratch caused in the fiber during the adhesive removal step, satisfactory polishing cannot be obtained. In this case, repolish.

NOTE

When repolishing ferrules that have an unsatisfactory polished condition, polish from the grinding step to the finishing step to obtain consistent polished quality.

(1) Speckles	(2) Slight Scratch
 <p style="text-align: center;">Speckles</p>	 <p style="text-align: center;">Slight scratch</p>
<ul style="list-style-type: none"> · Repolish, doing the polishing and finishing steps. · Occurs near the end of the life of the polishing film. · Occurs when the ferrule mounting in the holding jig is poor. 	<ul style="list-style-type: none"> · Repolish, doing the polishing and finishing steps. · Occurs when there is insufficient cleaning between polishing steps. · Occurs when you rub the tips of the ferrules against the polishing film when mounting the holding jig to and removing it from the polishing unit.

(3) Fiber Scratch or Large Scratch	(4) Polishing Fluid Remaining
 <p>A circular diagram representing a fiber cross-section. A smaller circle in the center represents the core. Several diagonal lines cross the core and extend into the cladding, representing scratches. One line is labeled 'Large scratch' and another is labeled 'Fiber scratch'.</p>	 <p>A circular diagram representing a fiber cross-section. A smaller circle in the center represents the core. Inside the core, there are irregular, wavy shapes representing polishing fluid. A line points from the label 'Polishing fluid' to these shapes.</p>
<ul style="list-style-type: none"> · Repolish, doing the grinding, polishing, and finishing steps. · Scratch was made during the adhesive removal step. · Make sure you correctly follow the procedure for adhesive removal (10 seconds with only the weight of the jig, 20 seconds with 1 to 2 kg hand pressure). 	<ul style="list-style-type: none"> · Clean the tip of the ferrule. If you cannot remove the polishing fluid, do the finishing step again. · Clean the ferrules carefully after every polishing step.

CHAPTER 5

MAINTENANCE

In order that the machine functions correctly, the following maintenance operations must be carried out after completion of polishing operations.

5.1 CLEANING AFTER POLISHING

- After finishing polishing, or when stopping polishing for a period of time, clean the OFL-12 as well as all of the polishing films carefully with water. If no cleaning is done, the remaining polishing fluid will harden. Also make sure that no waterdrops remain on the operation panel.
- When the OFL-12 won't be used for a long time, ultrasonically clean the holding jig in ethyl alcohol, then oil the holding jig and keep it in a vinyl envelope.

5.2 CHANGING THE POLISHING FILM

- The standard lifetime of a sheet of polishing film is 10 uses (120 ferrules maximum) (for the abrasive paper for adhesive removal the lifetime is only one use).

CHAPTER 6

TROUBLESHOOTING

Figure 6-1 is a list of anticipated problems during machine operation along with items to check. If a problem develops, refer to the appropriate section in Figure 6-1 to find what is out of the ordinary, and solve the problem. If the problem cannot be solved, please contact SII.

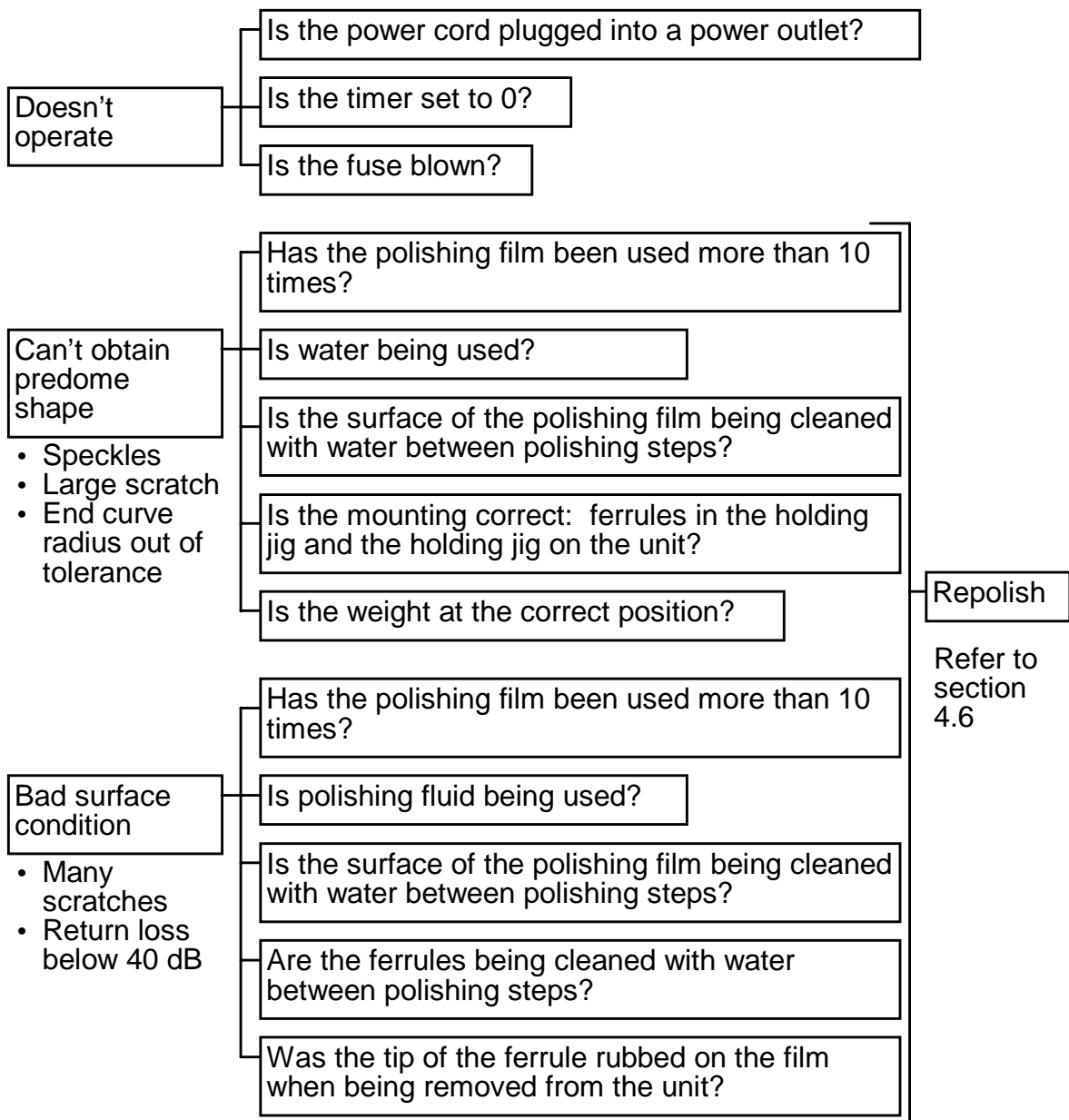


Figure 6-1 Troubleshooting Chart

APPENDIX

STANDARD POLISHING EFFICIENCY AND SPECIFICATIONS

Applicable EC Directives & Standards

<u>Directives</u>	<u>Title</u>
89/392/EEC	Machinery
89/336/EEC	Electromagnetic Compatibility

Standards

Machinery:	<ul style="list-style-type: none">• EN292-1 (1991)• EN292-2 (1991)• EN294 (1992)• EN418 (1992)• EN60204-1 (1992)
EMC:	<ul style="list-style-type: none">• EN55022 (1987 and 1994) / Class B• EN50082-1 (1992)• IEC801-2 (1984)• IEC801-3 (1984)• IEC801-4 (1988)

Standard polishing efficiency (R20 convex surface polishing) :

Standard polishing time (excluding adhesive removal)	
Grinding	1.5 minutes
Polishing	1.5 minutes
Finishing	1.0 minutes
Polishing process	3 steps (excluding adhesive removal)
Return loss	40 dB or more
End curve radius	10 to 25 mm (0.394 to 0.984 inch)
End curve offset	50 μ m (0.00197 inch) or less
Fiber under-cut	0.1 μ m or less
Noise	60 dB (A) or less

General specifications:

Power supply	220/230 VAC, 50/60 Hz (OFL-126001) 230/240 VAC, 50/60 Hz (OFL-127001)
Power consumption	55 W
Operating temperature	10° to 40°C (50° to 104°F) (noncondensing)
Physical dimensions	240 (W)×390 (D)×530 (H) mm (9.45×15.4×20.5 inches) (with fiber holder at the lowest position)
Weight	approximately 25 kg (55 lbs)
Timer	0 through 99 min. 59 sec. (Unit: second)

Operating environmental specifications :

Operating temperature	10° to 40°C (50° to 104°F) (noncondensing)
Relative humidity	15% to 85%
Vibration	operating: 0.25 G 5 to 100 Hz 10min. powered-off: 0.50 G 5 to 100 Hz 20min.
Acceptable impact	50 mm (1.97 inch) drop (one side)

Storing environmental specifications :

Storing temperature	-25° to 65°C (8° to 149°F) (noncondensing)
Relative humidity	15% to 85%