8	**Check that the mesh filters are not clogged.** **→Section 5.10 on page 143**
9	**Check that the cleaning case is free of abnormality.** **→Section 5.11 on page 144**
10	**Check that the labels on the reprocessing basin are not peeled.** **→Section 5.12 on page 145**
11	**Check that the disinfectant vapor is not abnormal.** **→Section 5.13 on page 145**

5.3 Inspecting the power activation

Check that the reprocessor can be turned ON.

1 Make sure that the disinfectant solution Heat LCG Timer indicator is not illuminated. If it is lighting up, it is not necessary to inspect the reprocessor power switch again.

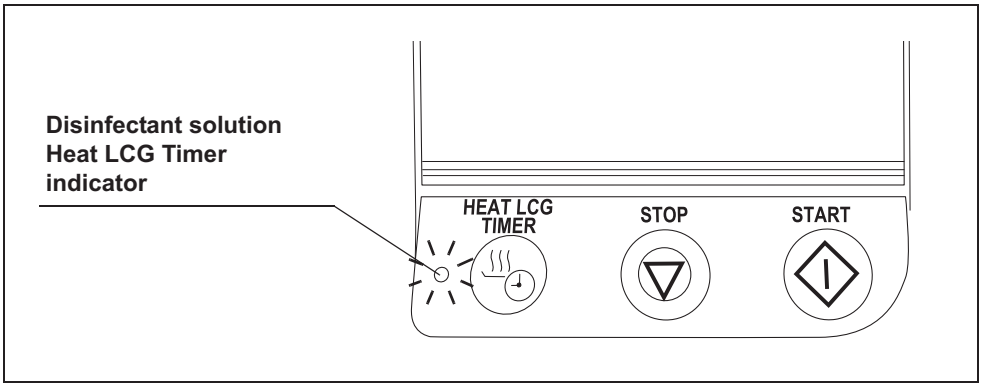


Figure 5.1

NOTE

The lighting of the disinfectant solution Heat LCG Timer indicator indicates that the disinfectant solution Heat LCG Timer is running. For operation of the disinfectant solution Heat LCG Timer process, refer to Section 7.3, “Heat LCG Timer”.

2 When the disinfectant solution Heat LCG Timer indicator does not light up, press the power switch of the reprocessor.

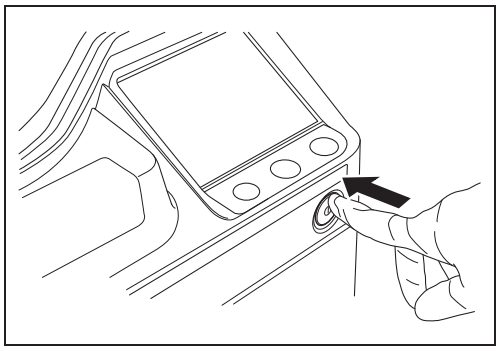


Figure 5.2

3 Make sure that the power indicator lights up and the touch screen displays the following initial screen.

Initial screen

Figure 5.3

NOTE

When the optional bar code reader MAJ-2130 is connected to the reprocessor and the MAJ-2130 is turned ON, the indicator of the bar code reader will light up alternating red and blue. If the indicator of the bar code reader is not lit, refer to the instruction manual for bar code reader MAJ-2130 and Section 13.2, “Troubleshooting guide”.

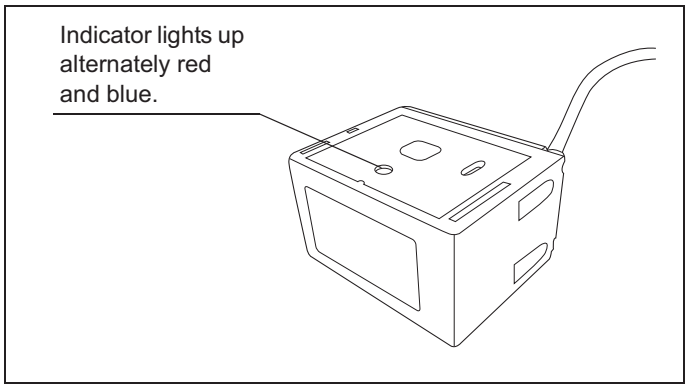


Figure 5.4

4 When the optional printer MAJ-1937 is connected to the reprocessor, press the power button of the printer until the power LED turns ON (about 1 second).

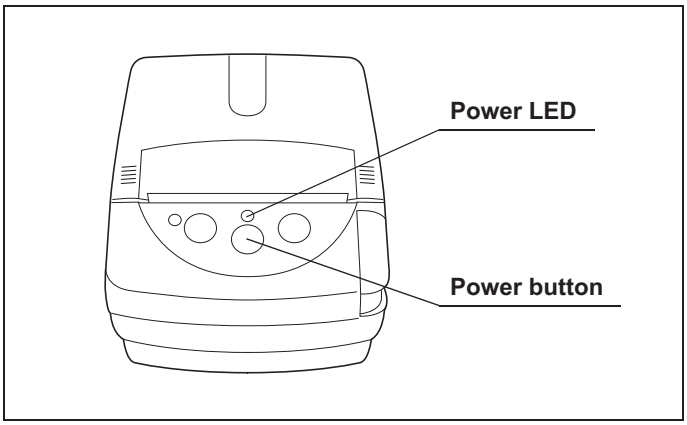


Figure 5.5

If either the touch screen is blanking or the power indicator does not light up

If the initial screen does not appear on the touch screen or the power indicator does not light up, turn the printer OFF by pressing the power switch, wait for a few seconds and press the power switch to ON again. If the problem is not corrected, press the power switch to OFF again, unplug the power cord from the power outlet and contact Olympus.

If the touch screen is blank and the power indicator does not light up

If the initial screen does not appear on the touch screen and the power indicator does not light up, inspect the reprocessor in the procedure described in Section 9.8, “Replacing the fuse”. If the problem is not corrected, press the power switch to OFF again, unplug the power cord from the power outlet and contact Olympus.

5.4 Inspecting for fluid leaks

Confirm that water or fluid does not leak from the water supply piping, inside the reprocessor, drain hose connector, etc.

WARNING

- Do not continue using the reprocessor if it is leaking water. Doing so may result in an electric shock or malfunction.
- If water or fluid leaks from inside the reprocessor, close the water faucet, set the power switch to OFF, unplug the power cord, and contact Olympus.

1. Slowly open the water faucet.
2. Confirm that water is not leaking from where the water supply hose is connected to the water faucet or reprocessor.
3. Confirm there is no water or fluid on the floor underneath the reprocessor.

❍ If water leaks from the water supply hose connector

1. Close the water faucet.
2. Check the loading of the water supply devices by referring to Section 4.4, “Connection of the water supply hose” in “Instructions-Installation Manual”.

❍ If water leaks from the water filter housing

1. Close the water faucet.
2. Check the loading of the water filter housing by referring to Section 4.14, “Installation of the water filter (MAJ-824 or MAJ-2318)” in “Instructions-Installation Manual”.

❍ If water or fluid leaks from inside the reprocessor

1. Close the water faucet.
2. Set the power switch of the reprocessor to OFF.
3. Unplug the power cord from the power outlet.
4. Contact Olympus.

If water leaks from the drain hose connector

1. Close the water faucet.
2. Check the drain hose loading by referring to Section 4.5, “Connection of the drain hose” in “Instructions-Installation Manual”.

5.5 Inspecting the lid and lid packing

Before using the reprocessor, always check that there is no irregularity regarding the following points on the lid and the lid packing. If there is any irregularity, cleaning fluid or disinfectant solution may leak out.

- The lid is not cracked, broken, or otherwise damaged.
- The packing is not cracked, torn, or otherwise damaged.
- The packing is not separated or detached from the lid.
- The lid can be properly opened and closed without restriction or abnormal noise.

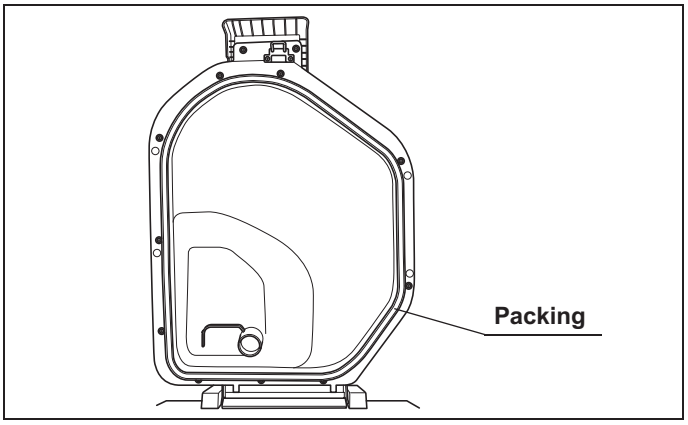


Figure 5.6

If any irregularity is found, do not use the reprocessor and contact Olympus.

WARNING

- Do not use the reprocessor if the lid or the lid packing seems to be damaged or defective. Using the reprocessor when an irregularity has been detected may interfere with reprocessing. Furthermore, fluid leakage may damage peripheral devices or facilities near the equipment. If any irregularity is found with the lid or the lid packing, contact Olympus.
- Do not remove the lid packing. Otherwise, disinfectant solution may leak and damage for the reprocessor and areas near the equipment by reprocessing or opening the lid.

WARNING

- If replacement or adjustment of the lid packing is required, please contact Olympus. Only Olympus-trained personnel are permitted to replace the lid packing or adjust its position. Improper installation or positioning of the lid packing may result in leakage of water, detergent solution, or disinfectant solution. This may result in injury to personnel and/or damage to the equipment.

5.6 Inspecting the connectors

Check the following for each connector.

- The connector should be fixed firmly.
- The O-rings should be free of irregularities such as cracks, tears, or dents.

If any irregularity is found, do not use the reprocessor and contact Olympus.

WARNING

Do not use the reprocessor if any connector seems to be damaged or defective. Using the reprocessor when an irregularity has been detected may interfere with reprocessing. Furthermore, fluid leakage may damage peripheral devices or facilities near the equipment.

CAUTION

Connect each connector firmly by pushing until the connector clicks into place. After connection, pull the connector gently to confirm that it cannot be disconnected easily.

NOTE

After long-term using the OER-Elite, the color of O-rings on each connector may be changed into whitish color. This case is not irregularity.

❍ Connectors inside the reprocessing basin:

Check	Connectors inside the reprocessing basin:
	Connector A1
	Connector A2
	Connector B1
	Connector B2
	Connector C1
	Connector C2
	Connector D1
	Connector D2
	Connector E1
	Connector E2
	Water supply piping disinfection connector

Table 5.1

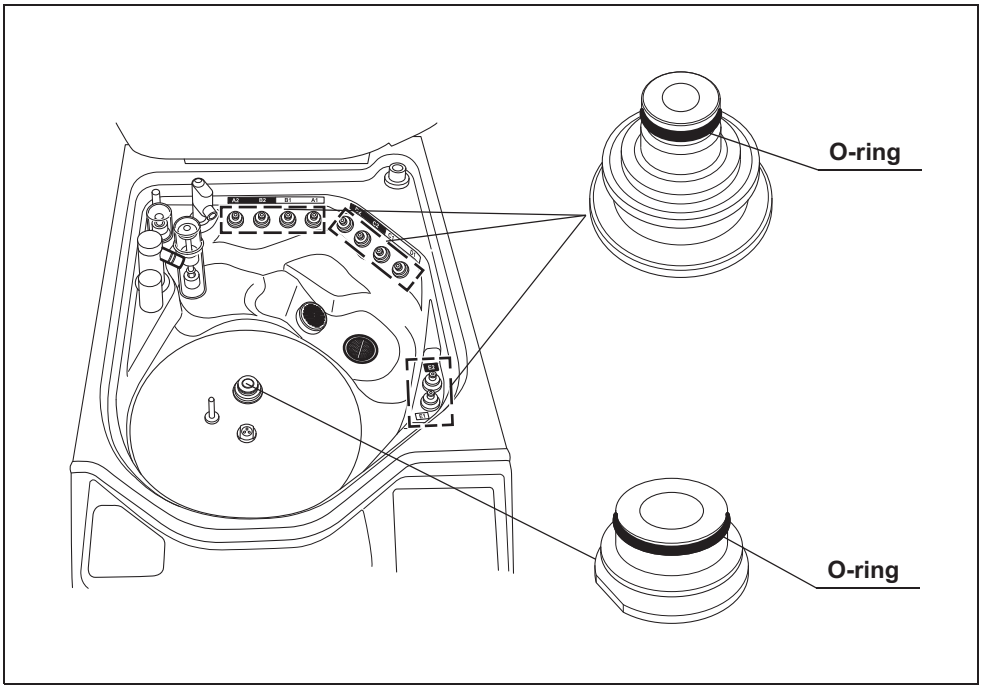


Figure 5.7

❍ Other connectors

Check	Other connectors
	Connector above water filter housing
	Connector below water filter housing
	Disinfectant removal port
	Tube connector on detergent tank
	Tube connector on alcohol tank

Table 5.2

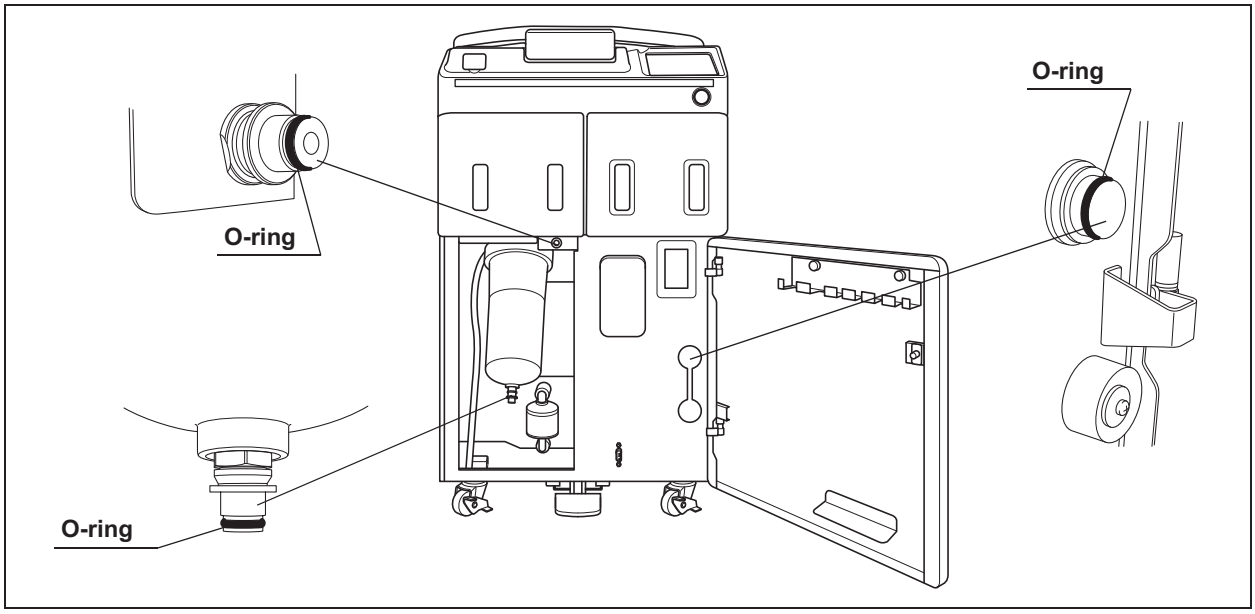


Figure 5.8

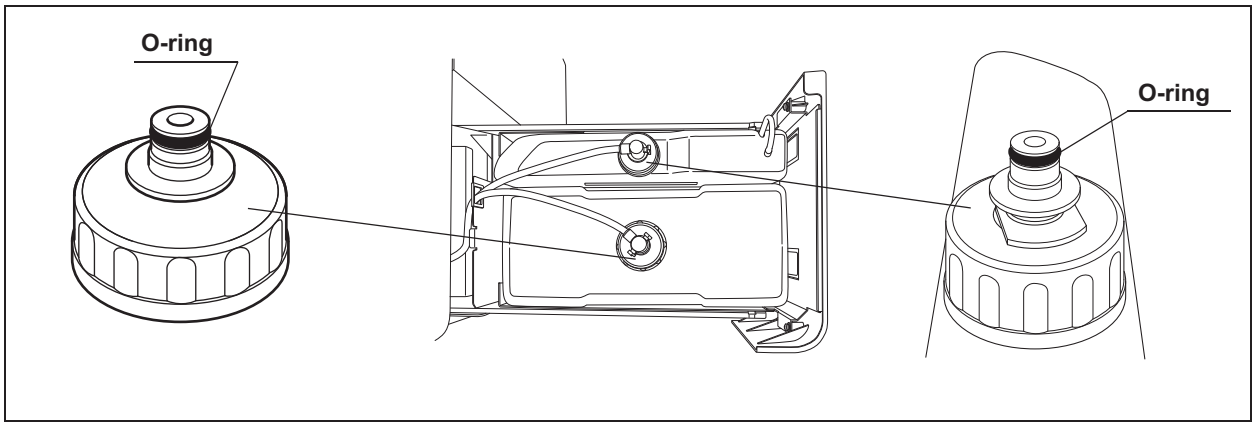


Figure 5.9

5.7 Inspecting the connecting tubes and leak test air tube

Before using the reprocessor, always check that there is no irregularity regarding the following points on the connecting tubes and leak test air tube.

- All tubes should be free of cracks, breaks, fissures, scratches, or stains.
- There should be no cracks in the lock levers of connecting tube connectors and leak test air tube connectors.
- There should be no bends or breaks in the pin of connecting tubes connector and leak test air tube connector.
- The tube should not be easy to disconnect once connected.

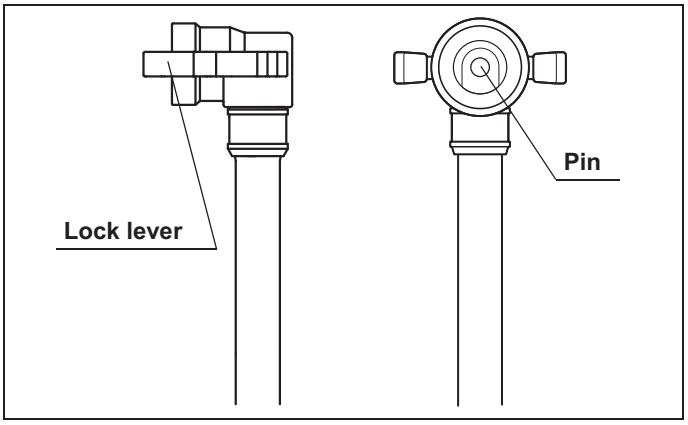


Figure 5.10

If a tube has any irregularity, do not use it and replace with a new one.

WARNING

Do not use the connecting tubes or leak test air tubes if they have any irregularity. Doing so could prevent effective reprocessing or damage the endoscope.

5.8 Inspecting the remaining detergent

Check	Required items
	Olympus-validated detergent

Table 5.3

Check the amount of detergent remaining in the detergent tank through the detergent tank check window on the detergent/alcohol drawer of the reprocessor. If the detergent level cannot be viewed from the window, the detergent in the detergent tank should be replaced after executing the reprocessing process for a few times. When the detergent level is not visible through the window or the touch screen shows the detergent supply insufficiency message (together with the detergent replacement indicator) after the start of a process, replace the detergent tank as described in Section 8.3, “Replacing the detergent tank”.

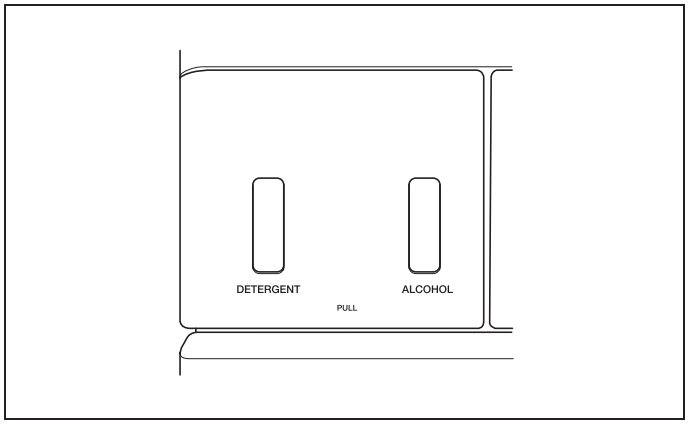


Figure 5.11

5.9 Inspecting and replenishing alcohol

Check how much alcohol is in the alcohol tank and add more as required.

Check	Required items
	70% ethyl alcohol or 70% isopropyl alcohol

Table 5.4

WARNING

- The alcohol used with the reprocessor must be 70% ethyl alcohol or 70% isopropyl alcohol. Using any other kind of alcohol may result in malfunction of the reprocessor or the endoscope, difficulty drying the endoscope, fire hazard, or a hazard due to toxic vapor emitted from the alcohol.
- Alcohol is flammable and should be handled with extra care.
- Remove the alcohol in the alcohol tank and replace it with new alcohol at least once a week. Otherwise, the alcohol in the alcohol tank may degrade.
- Before handling the alcohol, carefully read the cautions for use carefully, and use the alcohol as instructed.

NOTE

- If alcohol flush is initiated without alcohol in the tank, the message screen “Alcohol cannot be supplied” will be displayed and the process will be stopped temporality.
- When reprocessing is performed with newly-installed equipment or with reprocessor after Section 9.9, “Preparing the reprocessor for long-term storage” is performed, reprocessing may stop with the message screen “Alcohol cannot be supplied during the process” displayed even though there is enough alcohol in the tank. Refer to “■ When the message screen “Message 087” is displayed” on page 627 to solve this problem.

■ *Inspection of the amount of alcohol*

Ensure that the alcohol is present through the alcohol tank check window on the detergent/alcohol drawer of the reprocessor. If the alcohol level cannot be viewed from the window, the alcohol in the alcohol tank should be replaced after executing the reprocessing process for a few times. When the alcohol level becomes invisible through the window, replenish the alcohol as described in "■ Replenishing of alcohol" below.

NOTE

If alcohol flush is performed without alcohol, the touch screen shows the Alcohol supply insufficiency message and the flushing pauses.

■ *Replenishing of alcohol*

1 Hold the section on the detergent/alcohol drawer marked "PULL" and pull it out.

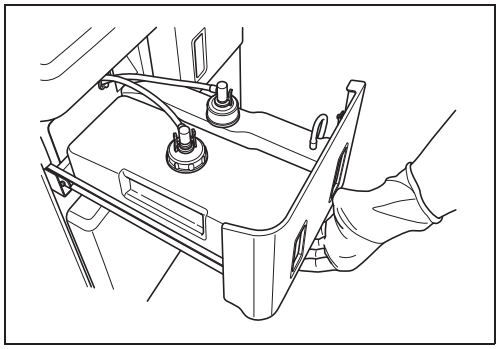


Figure 5.12

2 Push the lock lever on the connector of the tube connected to the cap on the alcohol tank to detach the tube.

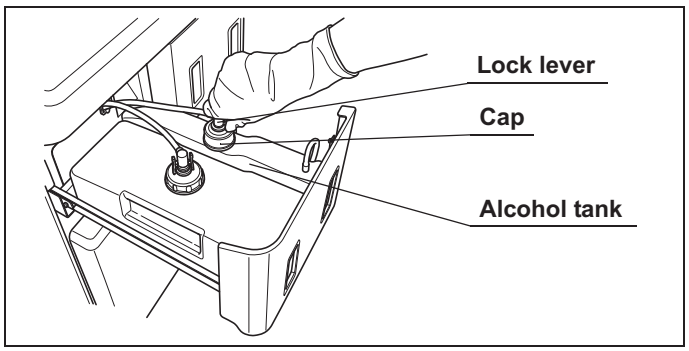


Figure 5.13

3 Remove the alcohol tank and put it in a sink or other tub.

4 Turn the cap on the alcohol inlet in the direction shown to remove the cap.

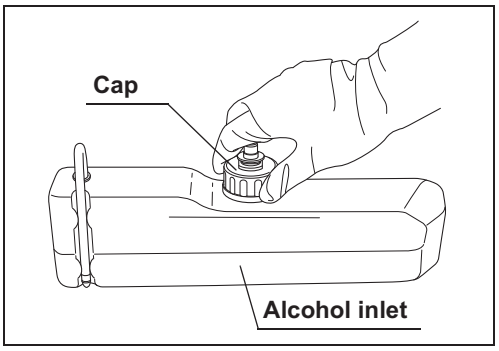


Figure 5.14

CAUTION

- Do not add alcohol while the tank is in the detergent/alcohol drawer. If alcohol is spilled on the tray, it could damage the reprocessor.
- Do not tilt the alcohol tank while there is still alcohol inside. Otherwise, the alcohol may spill.

5 Pour alcohol until it is level with the line inside the alcohol tank. Do not to spill any. If any alcohol spills from the tank, wipe it off with a clean cloth. After adding the alcohol, replace the cap on the alcohol tank.

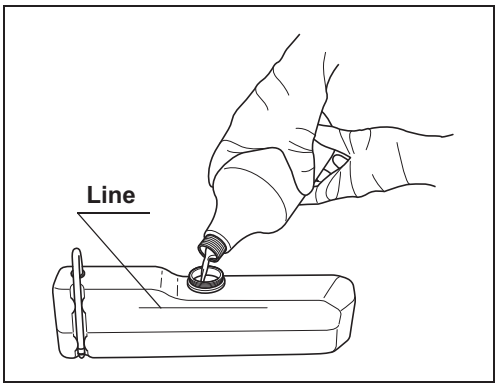


Figure 5.15

NOTE

The amount of alcohol required to fill the tank up to the level line is about 1 L (enough for about 20 alcohol flushes).

6 Place the alcohol tank in the detergent/alcohol drawer so that the ventilation tube of the alcohol tank sits on the front of the tray.

CAUTION

Placing the alcohol tank so that the ventilation tube sits on the deeper side of the tray could damage the alcohol tank.

7 Connect the tube that was originally connected to the cap.

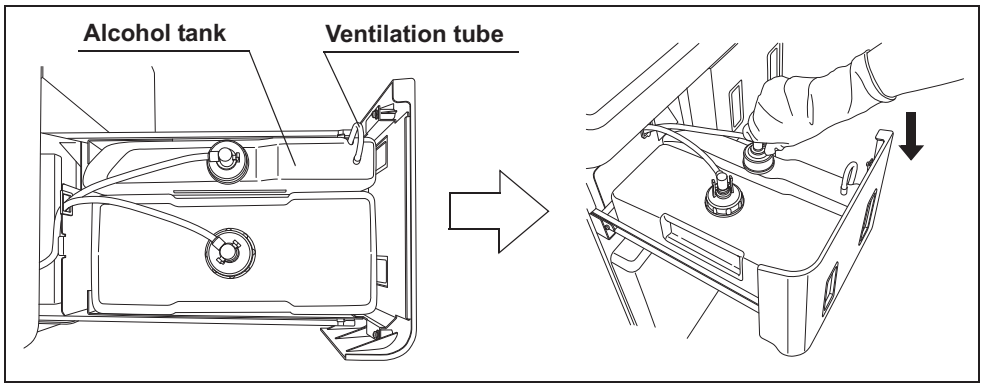


Figure 5.16

8 Turn the connector to correct the tube orientation as shown below. Confirm that the tube is not bent.

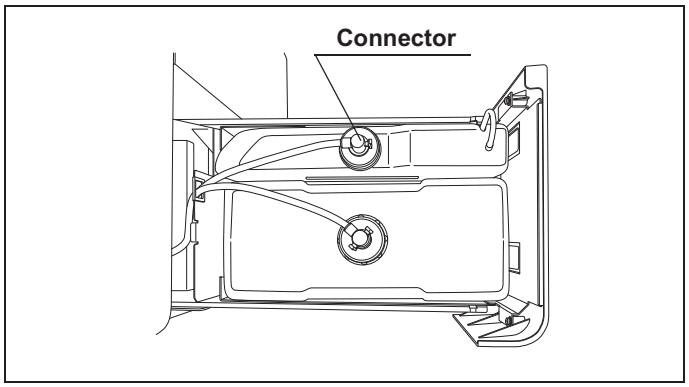


Figure 5.17

9 Close the detergent/alcohol drawer.

5.10 Inspecting the mesh filters

Make sure that the circulation port mesh filters (two types) and the drain port mesh filter are not clogged.

WARNING

A clogged mesh filter not only prevents the reprocessor from functioning properly, but may also result in ineffective reprocessing.

CAUTION

- If the mesh filters have been removed, be sure to put them back in their original positions before using the reprocessor. If you forget to attach the mesh filters, the pump may malfunction and/or foreign objects may clog the endoscope channels including the nozzle.
- When cleaning the mesh filters, take care not to leave brush hair or cotton swab fiber in the meshes. Otherwise, their filtering effectiveness may be reduced.
- If a mesh filter is dropped or subjected to an impact, make sure that the mesh shape is not deformed. Otherwise, the filtering effect may degrade.
- Two-type mesh filters are installed on the outer and inner sides of the circulation port. Be sure to remove, inspect, and clean both of them.

1 Step on the foot pedal to open the lid.

2 Remove the mesh filters from the reprocessing basin.

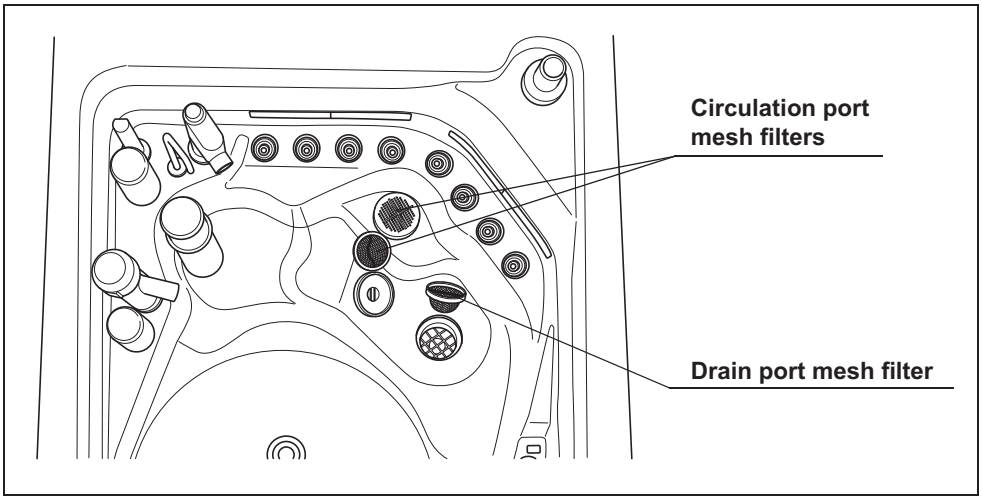


Figure 5.18

3 Check that the mesh filters are not clogged by a foreign object.

4 If any foreign object is found to be clogging the filter, clean the mesh filter in running water using a brush.

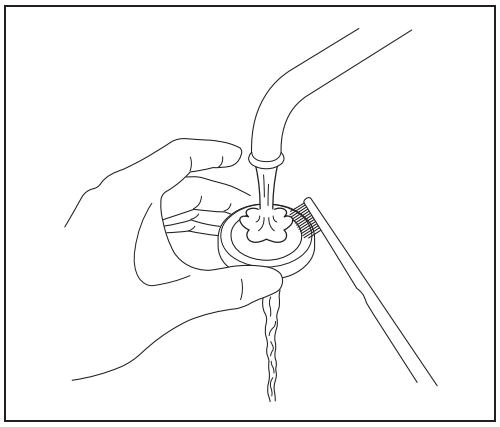


Figure 5.19

5 Attach the mesh filters in their original positions.

5.11 Inspecting the washing case (MAJ-2121)

Make sure that the washing case (with a gray cover) for exclusive use with this reprocessor is attached. Also, check that the washing case is free of irregularity such as a crack or fissure. If any irregularity is found, do not use the washing case and contact Olympus.

WARNING

- Do not use the washing case if any irregularity is found with it. If an abnormal washing case is used, the reprocessing may be insufficient.
- Make sure that the washing case is located in correct position. Otherwise, the reprocessing may be insufficient.

5.12 Inspecting the labels on the reprocessing basin

Check that the labels on the reprocessing basin are not peeled off.
If a label is peeled off, contact Olympus.

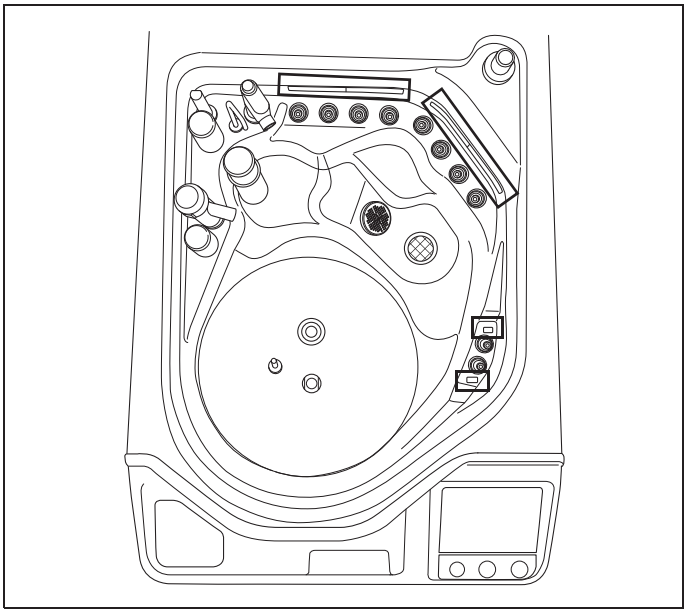


Figure 5.20

5.13 Inspecting for disinfectant solution odor

Check that the disinfectant solution is not producing an abnormal odor.

CAUTION

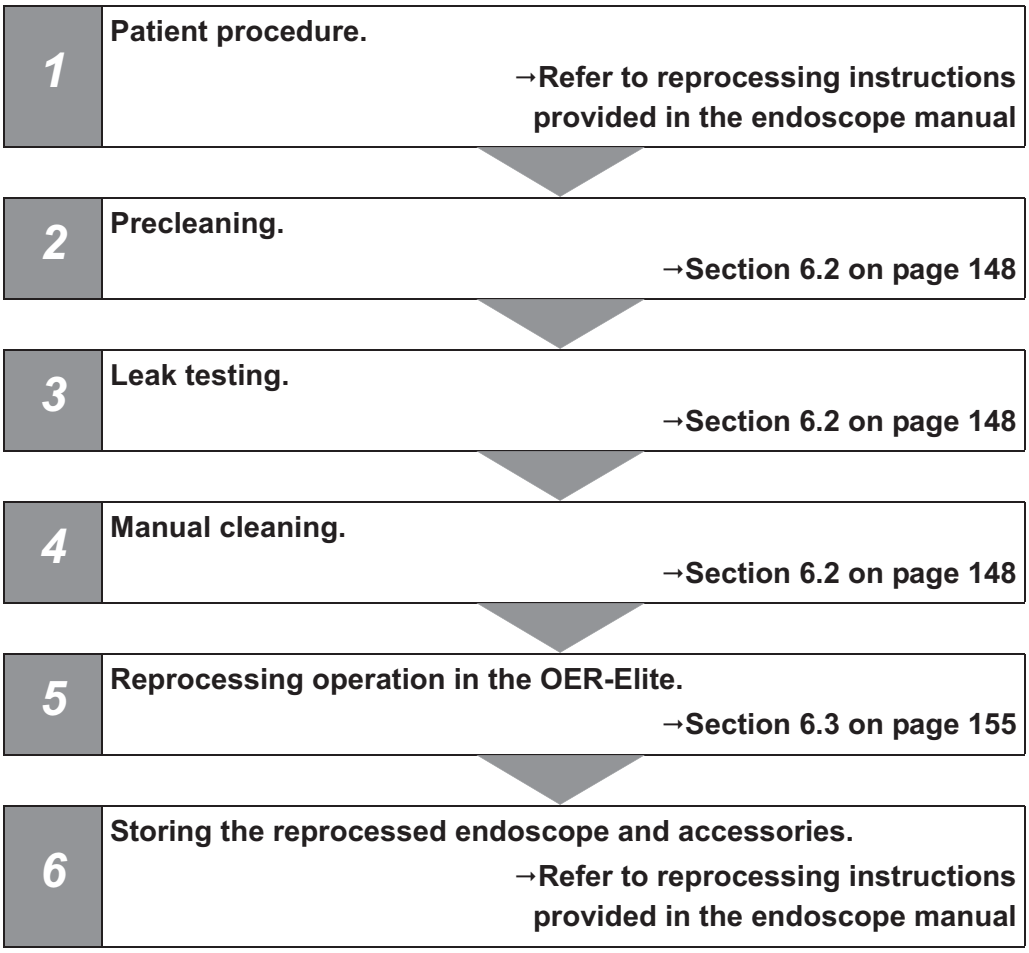
If the odor increases after replacement of the gas filters, contact Olympus.

1. Check that the gas filter is placed properly in the gas filter case (tank).
2. Check that the gas filter case (tank) is attached properly to the disinfectant solution tank.
3. Activate the room's ventilation system.
4. Check that there is no abnormal disinfectant solution odor coming from the reprocessor or its surroundings.

Chapter 6 Reprocessing Operations

6.1 General flow of endoscope reprocessing using OER-Elite

The endoscope reprocessing using OER-Elite is performed in the following flow.



6.2 Precleaning, leak testing, and manual cleaning

Endoscopes must be first cleaned according to one of two ways, prior to reprocessing in the OER-Elite:

❍ Precleaning and manual cleaning

Immediately after each patient examination, perform bedside precleaning, clean the outer surfaces of the endoscope, brush the suction channel, flush and rinse all channels according to the step-by-step cleaning procedure described in the endoscope's reprocessing manual. Complete both the prescribed bedside and manual cleaning procedures. After the endoscope undergoes full manual cleaning, it can be reprocessed in the OER-Elite. The OER-Elite then provides supplemental cleaning and high-level disinfection.

❍ Modified precleaning and manual cleaning

Immediately after each patient examination, perform the bedside-precleaning and manual-cleaning procedures for the endoscope as described in the endoscope's instruction manual, but with the modifications described in this section. This section describes: 1) how certain steps performed at the bedside can be performed using less fluid volume, and using water in place of detergent, 2) how the manual steps for brushing the channels and the elevator (if applicable), and for cleaning the outside surfaces of the endoscope are unchanged, and 3) how the requirement to connect certain flushing tubes, and the need to manually flush detergent and rinse water through the channels can be omitted. The functions of the modified/omitted steps are covered by the cleaning process of the OER-Elite. After cleaning the endoscope following this modified procedure, the endoscope can be placed in the OER-Elite. The OER-Elite completes the cleaning process and follows this with high-level disinfection.

WARNING

Always preclean each endoscope immediately after the examination. If precleaning is not executed promptly, debris will solidify and may prevent effective reprocessing. Failure to preclean will leave excessive amounts of debris adhering to the endoscope and may compromise the effectiveness of the reprocessing. It may also result in debris accumulating in the endoscope, preventing the endoscope from working correctly.

■ *Modified manual cleaning process for preparing endoscopes for processing in the OER-Elite*

Endoscopes must be subject to cleaning by the user prior to reprocessing in the OER-Elite. However, when using the OER-Elite, the endoscope can be reprocessed according to the modified procedure described below.

WARNING

- The cleaning steps for external surfaces and reusable parts must be performed according to the reprocessing instructions provided in the endoscope manual. Failure to preclean may compromise the effectiveness of the reprocessing.
- Valves and accessories must be manually cleaned as per the endoscope manual prior to placement in the OER-Elite. Otherwise, effectiveness of the reprocessing may be compromised.
- Ultrasonic probes must be manually cleaned as per the ultrasonic probe manual prior to placement in the OER-Elite. Otherwise, effectiveness of the reprocessing may be compromised.
- Even when modified precleaning is applied, need to perform the works according to "■ Endoscope precleaning continued (Procedure performed at bedside immediately after patient examination)" on page 150. Omitting the works according to the "■ Endoscope precleaning continued (Procedure performed at bedside immediately after patient examination)" may lead to insufficient reprocessing.
- Follow the modified manual cleaning procedure exactly as described in the "■ Manual cleaning (procedure performed in reprocessing area)" on page 152. Omitting any steps according to the "■ Manual cleaning (procedure performed in reprocessing area)" may lead to insufficient reprocessing.

■ *Endoscope precleaning (Procedure performed at bedside immediately after patient examination)*

Perform the following precleaning procedure when reprocessing Olympus flexible endoscopes with the OER-Elite.

❍ Wipe down the insertion section

Wipe the entire insertion section with a clean, lint-free cloth soaked in clean water. Wipe from the boot of the control section toward the distal end.

■ *Endoscope precleaning continued (Procedure performed at bedside immediately after patient examination)*

Based upon the Olympus endoscope model described below, suction and/or flush endoscope channels as specified to confirm channels are not obstructed.

❍ For endoscopes with an instrument and suction channel, confirm that the instrument and suction channel is not obstructed

1. Aspirate or flush clean water into the instrument and suction channel to confirm that the channel is not obstructed and to remove gross debris. If aspirating, confirm that a continuous water flow to the suction container is observed. If flushing, confirm that water is emitted from that channel at the distal end. Perform this procedure in accordance with the reprocessing instructions provided in the endoscope manual.
2. Aspirate or flush air into the instrument and suction channel in accordance with the reprocessing instructions provided in the endoscope manual.

❍ For endoscopes with an air/water channel, confirm that the air/water channel is not obstructed

1. Feed clean water through the air/water channels in accordance with the reprocessing instructions provided in the endoscope manual. Remove the distal tip from the water. Check for continuous water flow from the air/water nozzle to confirm that the channel is not obstructed.
2. Feed air through the air/water channels in accordance with the reprocessing instructions provided in the endoscope manual.

❍ For endoscopes with an auxiliary water channel, confirm that the auxiliary water channel is not obstructed

1. Slowly flush clean water through the auxiliary water channel in accordance with the reprocessing instructions provided in the endoscope manual. In order to confirm that the auxiliary water channel is not obstructed, check for a continuous flow of water exiting from the channel.

2 Slowly flush air through the auxiliary water channel several times in accordance with the reprocessing instructions provided in the endoscope manual. Perform this operation until a steady stream of air bubbles exits from the distal end.

❍ For ultrasonic endoscopes with balloon channels, confirm that the balloon channel is not obstructed

1 Aspirate or flush clean water through the balloon channel in accordance with the reprocessing instructions provided in the endoscope manual. In order to confirm that the balloon channel is not obstructed, check for a continuous flow of water exiting from the channel.

2 Aspirate or flush air through the balloon channel in accordance with the reprocessing instructions provided in the endoscope manual.

❍ For ultrasonic endoscopes with de-aerated water supply channel, confirm that the de-aerated water supply channel is not obstructed

1 Aspirate clean water through the de-aerated water supply channel in accordance with the reprocessing instructions provided in the endoscope manual. In order to confirm that the de-aerated water supply channel is not obstructed, check for a continuous flow of water exiting from the channel.

2 Aspirate air through the de-aerated water supply channel in accordance with the reprocessing instructions provided in the endoscope manual.

❍ For endoscopes with an elevator wire

In accordance with the reprocessing instructions provided in the endoscope manual.

WARNING

When reprocessing the endoscope that has a forceps elevator using OER-Elite, conduct precleaning and manual cleaning as detailed in each endoscope's reprocessing manual. Otherwise, the effectiveness of the reprocessing may be compromised.

❍ For all endoscopes – Disconnect the endoscope, reusable parts and reprocessing equipment

Disconnect the endoscope, reusable parts and reprocessing equipment according to the reprocessing instruction provided in the endoscope's manual. Place the reusable parts such as air/water valve, suction valve and biopsy valve in a container of clean water.

WARNING

Even when modified precleaning is applied, need to perform the works according to "■ Endoscope precleaning continued (Procedure performed at bedside immediately after patient examination)" on page 150. Omitting any steps according to the "■ Endoscope precleaning continued (Procedure performed at bedside immediately after patient examination)" may lead to insufficient reprocessing.

■ *Leakage testing*

Perform leakage testing on the endoscope according to the reprocessing instruction provided in the endoscope's manual.

NOTE

The OER-Elite can automatically detect whether or not the endoscopes leak in the reprocessing process. The auto leak test supports the user by reducing mistakes that may happen in the visual endoscope leak test leads to the improvement of safety. In addition to this function, also be sure to perform a leak test when performing manual cleaning.

■ *Manual cleaning (procedure performed in reprocessing area)*

After completing the leakage test, perform manual cleaning according to the procedures described below. If manual cleaning was not performed within 1 hour after removing the endoscope from the patient or if you are not sure whether manual cleaning could be performed within 1 hour, perform "Presoak for excessive bleeding and/or delayed reprocessing after each procedure" or "Presoaking the endoscope" according to the reprocessing instructions provided in the endoscope's manual. Refer each endoscope's instruction manual for the procedure of presoaking.

Preparation

Fill a basin with detergent solution at the temperature and concentration recommended by the detergent manufacturer. Use a basin that is at least 40 cm by 40 cm (16” by 16”) in size and deep enough to completely immerse the endoscope.

Manual cleaning of the external surfaces

Perform manual cleaning of the external surfaces in accordance with the reprocessing instructions provided in the endoscope manual.

Brushing the endoscope (i.e., channels, valve cylinders, and other ports if present)

Brush the endoscope in accordance with the reprocessing instructions provided in the endoscope manual, including the instrument and suction channels, balloon channels, de-aerated water supply channel, suction cylinders, instrument channel ports, and distal end as applicable.

Cleaning the endoscope’s accessories

Manually clean the reusable parts such as the air/water valve, suction valve and biopsy valve, according to the instructions provided in the endoscope manual.

Inspection of no residual debris on the external surface of the endoscope

Inspect the external surface of the endoscope for the residual debris. Should any debris remain, repeat the manual cleaning procedure until all debris is removed.

WARNING

Follow the modified manual cleaning procedure exactly as described in the “■ Manual cleaning (procedure performed in reprocessing area)” on page 152. Omitting any steps according to the “■ Manual cleaning (procedure performed in reprocessing area)” may lead to insufficient reprocessing.

■ *Loading the endoscope and their accessories into the OER-Elite*

Carefully lift the endoscope out of the detergent solution, allowing excess fluid to drain into the basin. Carry the endoscope to the reprocessing basin of the OER-Elite. Place the endoscope in the reprocessing basin and connect the required connecting tube(s) to the endoscope. Place the valves in the washing case in the center of the retaining rack according to the instruction manual for the OER-Elite. Continue reprocessing, according to the instruction manual for the OER-Elite.

CAUTION

- Make sure that the detergent solution or water is not dripping from the endoscope after pulling the endoscope out of the detergent solution or water. Otherwise, unexpected interruption of reprocessing process by the OER-Elite may occur error code [E005], etc.
- If detergent is used in the manual cleaning, rinse the endoscope thoroughly. Otherwise, detergent used in manual cleaning remains in the endoscopes and unexpected interruption of reprocessing process in the OER-Elite may occur.

6.3 Reprocessing operation in the OER-Elite

Before using this reprocessor for the first time, full setup is required including installing accessories, connecting power and water supplies, and disinfecting the reprocessor's internal piping. Refer to OER-Elite "Instructions-Installation Manual" for details.

When it has not been used for more than 14 days, refer to Section 9.10, "Care and maintenance after long-term storage".

Be sure to perform the preliminary checks before reprocessing endoscopes with this reprocessor. Otherwise, the reprocessor may not function at optimal levels. Refer to Chapter 5, "Inspection and Preparation before use" for details on the preliminary checks and Chapter 9, "End-of-Day Checks" for details on the final checks at the end of the day.

■ Warnings

WARNING

- When using the disinfectant solution and alcohol, Olympus recommends the use of gas filters and running this reprocessor in well-ventilated areas.
  - Wear a face mask, gloves, and protective clothes to minimize aspiration and skin contact.
  - Wear goggles for eye protection.

  Refer to the following association's guidelines related to ventilation:

  SGNA (Society of Gastroenterology Nurses and Associates)
  ASGE (American Society of Gastroenterological Endoscopy)
  APIC (Association for Professionals of Infection Control and Epidemiology)
  AORN (Association of Preoperative Registered Nurses)
  ASTM (American Society for Testing and Materials)
  OSHA (Occupational Safety and Health Administration)
  ACGIH (American Conference of Governmental Industrial Hygienists)
  NIOSH (National Institute for Occupational Safety and Health)
  AIA (American Institute of Architects)

  If the person operating the reprocessor exhibits an allergic reaction or symptoms, no matter how slight, they should discontinue the task they are performing and vacate the room.

WARNING

- All personal protective equipment should be inspected before use and replaced periodically before it is damaged.
- Before using this reprocessor for the first time, after storage for 14 days or after the integrity of the water system is compromised, such as water filter replacement, disinfection of the reprocessor's internal piping is required. If the reprocessor's internal piping is not properly disinfected, the endoscope will not be properly reprocessed.
- For any endoscope that requires sterilization, always be sure to sterilize the endoscope as instructed in its instruction manual after cleaning/disinfection in the OER-Elite.
- Certain endoscopes cannot be reprocessed with this reprocessor. Refer to the provided "List of compatible Endoscopes/Connecting Tubes <OER-Elite>" to see which endoscopes are compatible. Accessories (e.g., valves) that can be reprocessed with this reprocessor are accessories of endoscopes compatible with this reprocessor. To reprocess accessories, be sure to put them in the washing case. Do not attempt to reprocess an endoscope and its accessories that are not designated as compatible with the OER-Elite or that are modified by a third party repair company; not only will the reprocessor be unable to function at optimal levels, the safety of the patient and operator may be endangered and this reprocessor and/or the endoscope may be damaged. Without knowledge of the materials used or the final quality of repair being provided by third party repair companies, Olympus is unable to validate the compatibility or reprocessing efficacy of the OER-Elite instructions manual.

■ *Outline of reprocessing operation in the OER-Elite*

❍ Inspection before reprocessing

1	**Checking the disinfectant solution concentration level and entering the check result.** **→Section 3.7 on page 69**

❍ Reprocessing operation in the OER-Elite

1	**Select the Reprocessing program.** **→Section 6.5 on page 160**
2	**Loading of endoscopes and accessories.** • **Scope ID entry** • **Loading endoscopes and accessories** • **Attaching the connecting tubes** • **Leak test air tube loading** • **Other data entry** **→Section 6.6 on page 163**
3	**Inspection before starting reprocessing process.** **→Section 6.7 on page 216**
4	**Reprocessing.** **→Section 6.8 on page 220**
5	**Removing the endoscopes and accessories.** **→Section 6.9 on page 228**

6.4 Worst case load condition of endoscopes and accessories

Before placing endoscopes and accessories, confirm that your endoscopes and accessories do not exceed the worst case load condition.

- For worst case load condition of endoscopes, see Table 6.1.
- For worst case load condition of accessories, see Table 6.2.

CAUTION

Endoscopes that exceed the listed specification or present new features that may create additional disinfection challenges should not be reprocessed in the OER-Elite.

❍ Worst case load condition of endoscopes

Item	Condition	Remarks column
Number of endoscopes	Max 2 endoscopes	Some endoscope can be reprocessed simultaneously. For details on combination of endoscope, refer to the provided “List of compatible Endoscopes/Connecting Tubes <OER-Elite>”.
Channel length	Max 1,680 mm (Working length)	Working length of endoscope is specified in the endoscope’s instruction manual. This condition is applied only when two endoscopes are reprocessed at one time. For details on combination of endoscope, refer to the provided “List of compatible Endoscopes/Connecting Tubes” <OER-Elite>.
Channel inner diameter	Min 1.2 mm Max 6.0 mm	Channel inner diameter of the endoscope is specified in the endoscope’s instruction manual.
Number of channel (lumen)	Max 2 instrument/suction channel	
External shape/dimension	Endoscope that is fully submerged is acceptable.	For check point of “fully submerged”, refer to Section 6.7, “Inspection before starting reprocessing process”.

Table 6.1

❍ Worst case load condition of endoscope accessories

Item		Condition	Remarks column
Compatible accessories	Endoscope accessories reprocessed in the washing case	All reusable endoscope accessories (e.g., valves, plugs) except for accessories written in remarks column are compatible.	Following accessories cannot be reprocessed in the OER-Elite. • Cleaning brush, mouth piece and other cleaning accessories except for “AW channel cleaning adapter” and “auxiliary water tube”. For details on combination of endoscope, refer to the provided “List of compatible Endoscopes/Connecting Tubes <OER-Elite>”. • All single-use accessories • Injection adapter (MAJ-1235) • Probe/Irrigation plug (MD-807) • Balloon sheath connector (MAJ-667) • Connector section of MH-246 (Balloon sheath) • Balloon applicator (MAJ-564, MAJ-864) • Light guide cable/adapter • Camera head • Endotherapy accessories except for “Distal hood” and “Distal attachment” • Forceps Suction Plug (MH-405) • Video converter
	Endoscope accessories reprocessed in the reprocessing basin.	Following accessories can be reprocessed in the reprocessing basin. • Ultrasonic probe • UPD probe • Auxiliary water tube	
Number and combination of accessories	Endoscope accessories reprocessed in the washing case	All set of compatible accessories per endoscopes installed in the reprocessing basin can be reprocessed at one time.	For details on combination of endoscope, refer to the provided “List of compatible Endoscopes/Connecting Tubes <OER-Elite>”.
	Endoscope accessories reprocessed in the outside of washing case	Endoscope accessories reprocessed in the outside of washing case should be treated the same as endoscopes reprocessed in the basin.	For details on combination of endoscope, and/or endoscope accessory refer to the provided “List of compatible Endoscopes/Connecting Tubes <OER-Elite>”.

Table 6.2

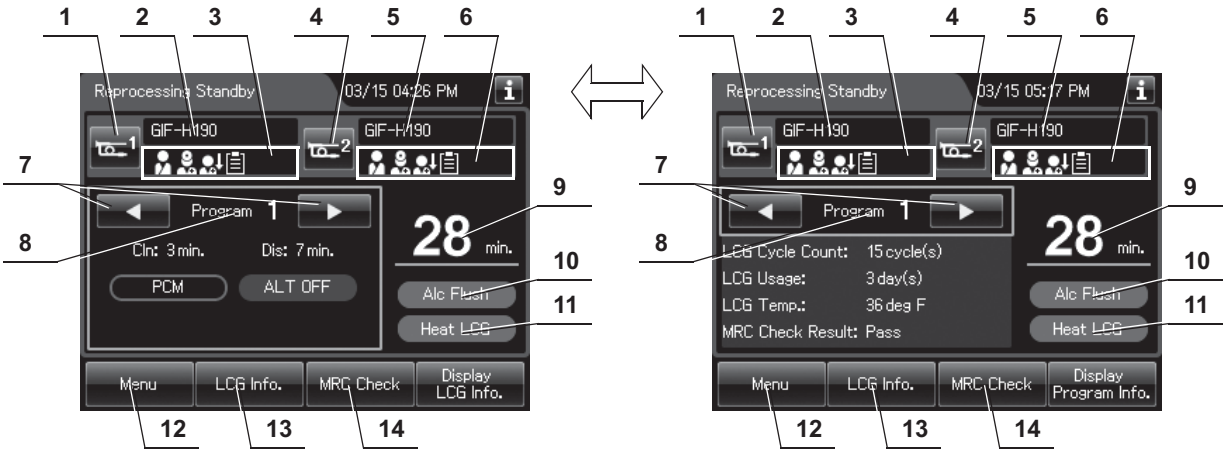
NOTE

Stylus pen can be reprocessed under any condition.

6.5 Basic operation for reprocessing

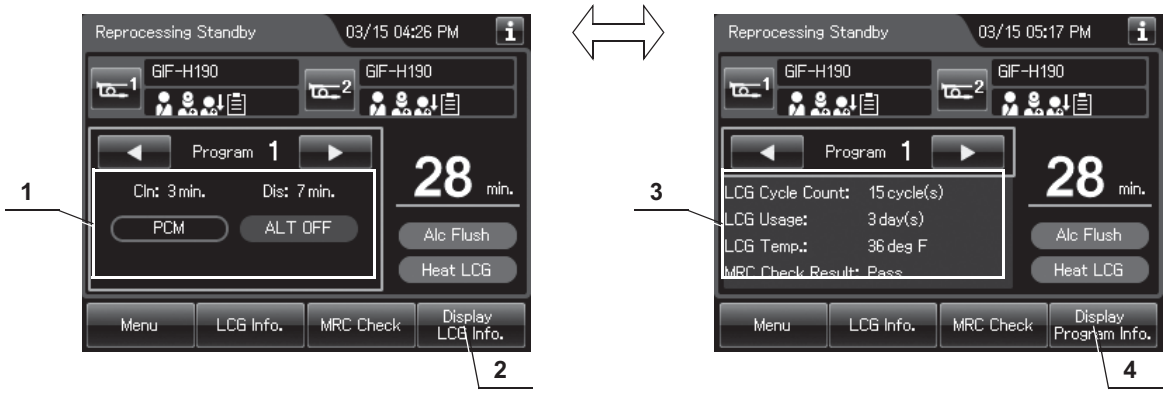
■ Reprocessing standby screen

Select the program by pressing the program selection buttons.



No.	Nomenclature	Description
1	Scope 1 button	Goes to the ID information screen associated with the first endoscope.
2	Model number of scope 1	Displays the model number of the first endoscope. It is blank when the Scope ID is not entered.
3	ID status of scope 1	Displays the input status of patient ID, physician ID, user ID (load), and procedure ID associated with the first scope.
4	Scope 2 button	Goes to the ID information screen associated with the second endoscope.
5	Model number of scope 2	Displays the model number of the second endoscope. It is blank when the Scope ID is not entered.
6	ID status of scope 2	Displays the input status of patient ID, physician ID, user ID (load), and procedure ID associated with the second scope.
7	Program selection button	Press these buttons to select the reprocessing program.
8	Program number display	Displays the selected reprocessing program number. For details of the reprocessing program number, refer to “Reprocessing Program” on the next page.
9	Process time	Displays the process time of the selected reprocessing program. If any of the following methods are used to input the scope ID, the reprocessing time will be extended by 3 minutes. – The scope ID master card is used – The scope ID is entered using the software keyboard – The pre-registered scope ID is recalled Any endoscope with a forceps elevator will take an additional 3 minutes to reprocess.
10	Alcohol flush indicator	Indicate that the Alcohol Flush is incorporated in the reprocessing program. Alcohol flush cannot be eliminated from the reprocessing program.

No.	Nomenclature	Description
11	Heat LCG indicator	Indicate that the Heat LCG is incorporated in the reprocessing program. Heat LCG cannot be eliminated from the reprocessing program.
12	Menu button	Returns to the Menu screen,
13	LCG Info. button	Goes to the LCG info. screen.
14	MRC Check Result button	Goes to the MRC Check Result entry screen.



No.	Nomenclature		Description
1	Program information		Displays information about the selected reprocessing program.
		Cln.	Displays the cleaning time
		Dis.	Displays the disinfecting time.
		Channel Monitor indicator	If “PCM” is displayed, channel monitor is executed in the cleaning and disinfection process. If “FCM” is displayed, channel monitor is executed in the cleaning, disinfection and rinsing process.
		Auto Leak Test indicator	If “ALT ON” is displayed, auto leak test is incorporated in the reprocessing process. If “ALT OFF” is displayed, auto leak test is not incorporated in the reprocessing process.
2	Display LCG Info. Button		Press to display the disinfectant solution information on the area of No.1. Refer to No.3.
3	LCG information		Displays information about the current disinfectant solution.
		LCG Cycle Count	Usage count of the disinfectant solution.
		LCG Usage	Number of days that have elapsed since preparation of the disinfectant solution.
		LCG Temp.	Temperature of disinfectant solution during reprocessing process.
		MRC Check Result	Input result of MRC check.
4	Display Program Info. button		Press to display the information of the selected reprocessing program on the area of No.3. Refer to No.1.

■ *Reprocessing program*

OER-Elite has four reprocessing programs. Selection of the reprocessing programs depends on the settings of ALT and Channel monitoring. See the table below for the details of the programs.

If any of the following methods are used to input the scope ID, the reprocessing time will be extended by 3 minutes.

- The scope ID master card is used
- The scope ID is entered using the software keyboard
- The pre-registered scope ID is recalled

Any endoscope with a forceps elevator will take an additional 3 minutes to reprocess.

No.	Auto Leak Test	Channel Monitoring	(Process that the channel monitoring executes.)		
			Cleaning	Disinfection	Rinse
1	OFF	Partial (PCM)	✓	✓	
2	OFF	Full (FCM)	✓	✓	✓
3	ON	Partial (PCM)	✓	✓	
4	ON	Full (FCM)	✓	✓	✓

NOTE

- The program number to be displayed after turning the power ON the reprocessor is the one which was executed just before turning the power OFF the reprocessor.
- The reprocessing time of the programs in which auto leak test is ON is 2 – 7 minutes longer than that of the programs in which Auto leak test is OFF.
- The reprocessing time of the programs in which Channel monitoring is Full is approximately 8 minutes longer than that of the programs in which Channel monitoring is Partial.

6.6 Loading of endoscopes and accessories

■ Outline of loading operation of endoscopes and accessories

1. Input scope ID of first endoscope.
→on page 165
2. Loading of first endoscope in the reprocessing basin
→on page 166
3. Loading of the accessories of first endoscope (valves, etc.).
→on page 173
4. Attaching the connecting tubes loading to first endoscope.
→on page 177
5. Attaching the Leak test air tube loading to first endoscope. (*)
→on page 189
6. Loading of auxiliary water tube of first endoscope. (*)
→on page 186
7. Input connection port of first endoscope. (*)
→on page 194
8. Input results of manual cleaning and leak test on page of first endoscope. (*)
→on page 195
9. Input user ID, physician ID, and patient ID of first endoscope. (*)
→on page 196

10 Input scope ID of second endoscope.
→on page 197

11 Loading of second endoscope in the reprocessing basin.
→on page 197

12 Loading of the accessories of second endoscope (valves, etc.).
→on page 202

13 Attaching the connecting tubes loading to second endoscope.
→on page 205

14 Attaching the Leak test air tube loading to second endoscope. (*)
→on page 213

15 Loading of auxiliary water tube of second endoscope. (*)
→on page 211

16 Input connection port of second endoscope. (*)
→on page 214

17 Input results of manual cleaning and leak test on page of second endoscope. (*)
→on page 214

18 Input user ID, physician ID, and patient ID of second endoscope. (*)
→on page 214

19 Loading stylus pen.
→on page 215

NOTE

Operations marked with (*) may be skipped depending on the endoscope to be reprocessed or the setting of the reprocessor.

■ *Input scope ID of first endoscope*

To maintain an endoscope reprocessing record, this reprocessor is capable of recognizing the individual scope ID that identifies the endoscope being reprocessed.

The scope ID can be input with the following methods.

- Input from RFID
- Software keyboard input
- Input from pre-registered information

For details on the input methods, refer to Section 3.6, “Entering ID” (If applicable).

When the scope ID is input, the touch screen displays the model number of the first endoscope.

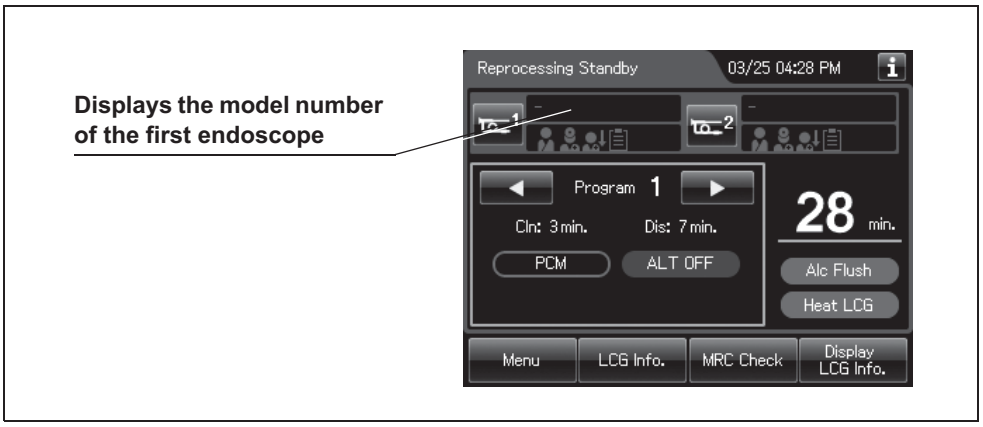


Figure 6.1

NOTE

Before entering scope ID of second endoscope, complete IDs entry associated with first endoscope. If scope ID of second endoscope is entered without completing IDs entry associated with first endoscope, the message is displayed on the touch screen.

■ *Loading of first endoscopes in the reprocessing basin*

OER-Elite can reprocess up to two endoscopes at one time. For details on combination of endoscope that can be reprocessed simultaneously, refer to “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.
Before placing endoscopes and accessories, thoroughly review the worst case load condition of endoscopes and accessories instructed in Section 6.4, “Worst case load condition of endoscopes and accessories”, and confirm that your endoscopes and accessories do not exceed the worst case load condition.

The instruction below is compiled assuming the loading of standard-type gastroenterological endoscopes. If a different type of endoscope(s) is to be reprocessed, refer to the provided “OER-Elite Quick Reference Guide”.

WARNING

- The injection adapter (MAJ-1235) cannot be reprocessed with the reprocessor. If it is placed in the washing case, reprocessing of this adapter will not be effective.
- When placing the endoscopes in the basin, make sure that the major parts such as the insertion tube and universal cord are loaded correctly. If the endoscopes are placed carelessly with many parts overlapping incorrectly reprocessing may be ineffective.
- Do not attempt to reprocess an endoscope that is not designated for use with the reprocessor. Do not reprocess two endoscopes that should not be reprocessed simultaneously with each other. Doing so will prevent the reprocessor from functioning properly and may endanger the safety of the patient and operator. In this case, the durability of the reprocessor and its ancillary equipment cannot be guaranteed.
- Place only the valves and other specified endoscope components in the washing case in the reprocessing basin. If any object other than those specified is placed in the washing case, reprocessing of the endoscope valves will not be effective.
- When reprocessing an endoscope with a forceps elevator, the connecting tube must be connected to the distal end of the insertion tube. Otherwise, the reprocessing may be insufficient. For the appropriate connecting tube, refer to the “List of Compatible Endoscope/Connecting Tubes <OER-Elite>”. For the connection method of the connecting tube, refer to the instruction manual for the connecting tube.
- If the distal end cap of an endoscope is removable, remove the distal end cap before putting the endoscope in the reprocessing basin. Otherwise, reprocessing may be insufficient.
- Do not obstruct the circulation port inside the reprocessing basin. Otherwise, the liquid feed pressure on the endoscopes will be decreased and reprocessing will be insufficient.

WARNING

- Before starting the reprocessing cycle, be sure to confirm that the endoscopes are installed below the disinfectant solution level index line on the cover of float switch (long) and the cover of float switch (long) is attached firmly. If the endoscope is not fully submerged in the disinfectant solution, reprocessing may be insufficient.
- When loading endoscopes, always be sure to disconnect cleaning accessories used for manual process from the endoscope. Otherwise, reprocessing may be insufficient.
- Be sure to check that the whole of endoscope and accessories is installed below the disinfectant solution level index line on the cover of float switch (long). If the endoscope and accessories is installed above the disinfectant solution level index line, the reprocessing may be insufficient. Refer to Figure 6.37.

CAUTION

- When installing an endoscope that requires water-resistant cap, attach water-resistant cap by following the instructions for the endoscope. If a cap is not attached or a cap with moisture inside is attached, the endoscope will fail or malfunction.
- Ensure that each endoscope is free of noticeable damage before placing it in this reprocessor. Otherwise, fluid leak may occur during the reprocessing. If damage is noticed, perform the leaking scope decontamination and contact Olympus for servicing. For details on the leaking scope decontamination, refer to Section 7.15, “Leaking scope decontamination”.
- Do not let the distal end of an endoscope drop from the retaining rack or contact the reprocessing basin directly. Otherwise, the endoscope may be damaged.
- When the leak test air tube is not used, disconnect it from the connector and be sure to remove it from the reprocessing basin. If reprocessing is performed without removing it, water or disinfectant solution may enter inside the tube and may cause a failure of the tube. Also, if the water or disinfectant solution entering the leak test air tube during the scope leak test enters inside the endoscope, endoscope failure may result.
- When reprocessing is started without disconnecting the unused leak test air tube(s), error code [E024] is generated and the process stops. For detail on this error code, refer to “■ When the error code [E024] is displayed during the reprocessing process” on page 614.
- When reprocessing endoscopes, always be sure to attach the retaining rack in the reprocessing basin. Otherwise, external surface of endoscopes may contact the heating portion of the reprocessing basin, resulting in possible damage to endoscopes.

NOTE

- In the ID inputs for each endoscope, there is no determined order for the inputs of the scope ID, user ID (load), physician ID, patient ID, and procedure ID.
- To input the patient ID from a bar code, it is required to connect the optional MAJ-2130 bar code reader.
- Be sure to place the endoscopes into the reprocessing basin in the correct orientation. Otherwise, the water or the detergent solution feed from the endoscope may enter the inside of the nozzle and dilutes disinfectant solution inside of the nozzle. In this case, the next MRC check will be failed even if the concentration of LCG in the tank is above its MRC.

Loading of first endoscope in the reprocessing basin

1

1 Step on the foot pedal to open the lid.

2 Gently place the control section of the first endoscope on the depressed part of the reprocessing basin located on the left of the index pin 1, refer to Figure 6.2 image.

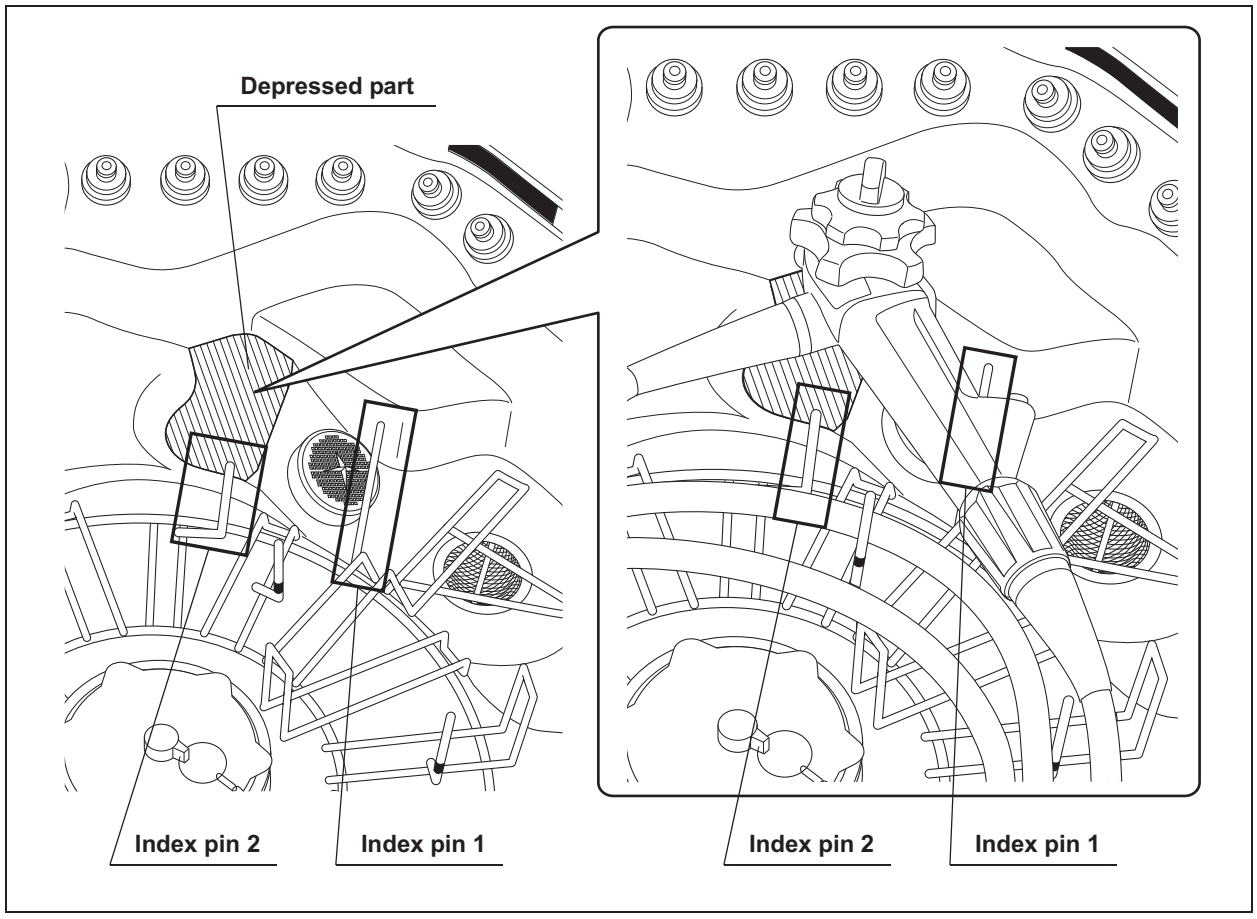


Figure 6.2

3 Wrap the insertion tube clockwise around the retaining rack from the perimeter in. Wrap the first turn of the insertion tube outside the black markings from M1 to M5 and inside the index pin 2 and 3 (shown in light gray). Wrap the second turn inside the black markings from M1 to M5 and outside the hooks (shown in dark gray). Refer to Figure 6.3.

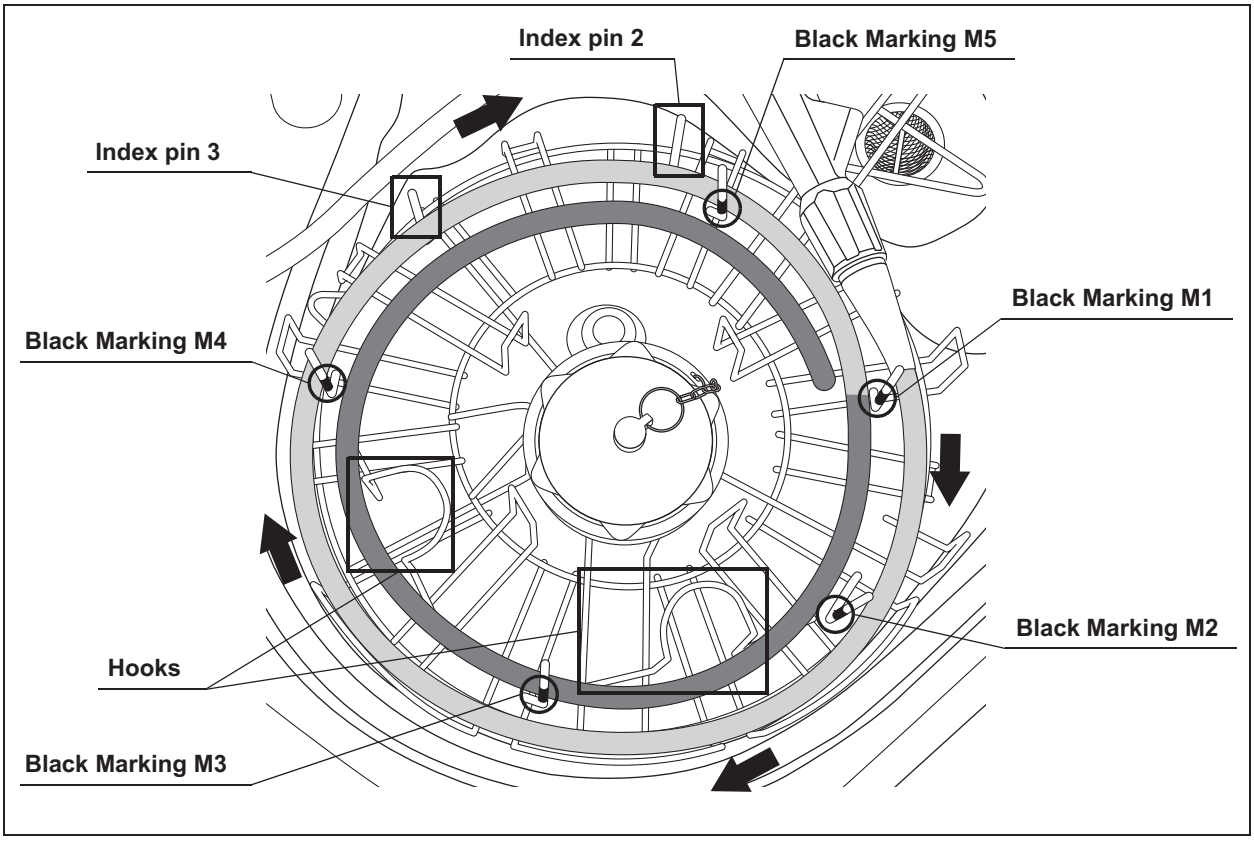


Figure 6.3

4 Wrap the universal cord (light and dark gray) in a counterclockwise direction on the right of index pin 3 in the inside section (for detail, refer to the Figure 6.4) on the retaining rack by placing it under the hooks so that it will not move upward. If the scope ID tag is attached to the endoscope, move the scope ID tag toward the endoscope connector. Straighten the ID tag's band if it is twisted.

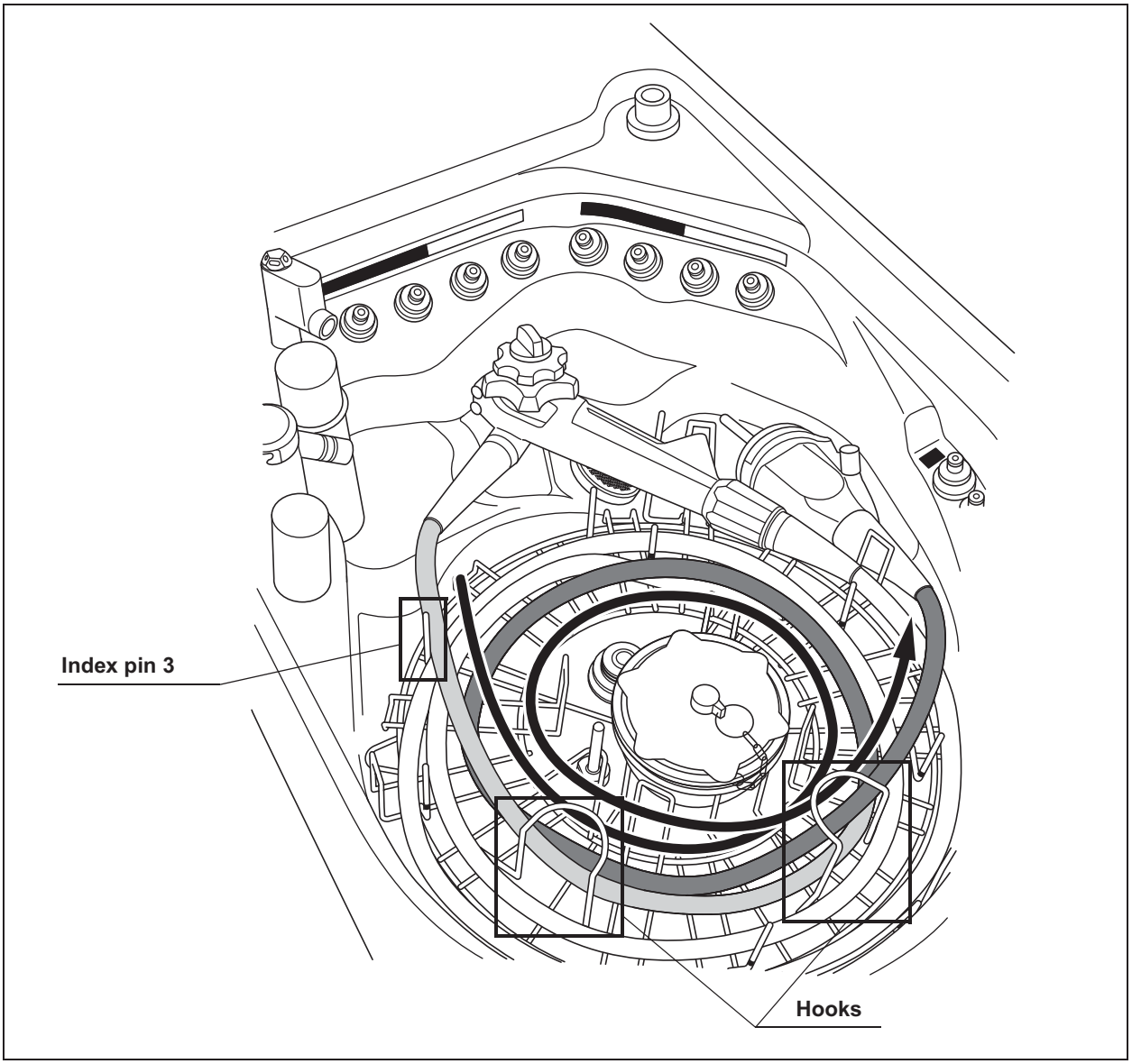


Figure 6.4

5 Gently place the first endoscope connector on the specified position on the right side of the reprocessing basin (above the drain port, and inside the Black Marking: M2). Do not put the endoscope connector in the step area.

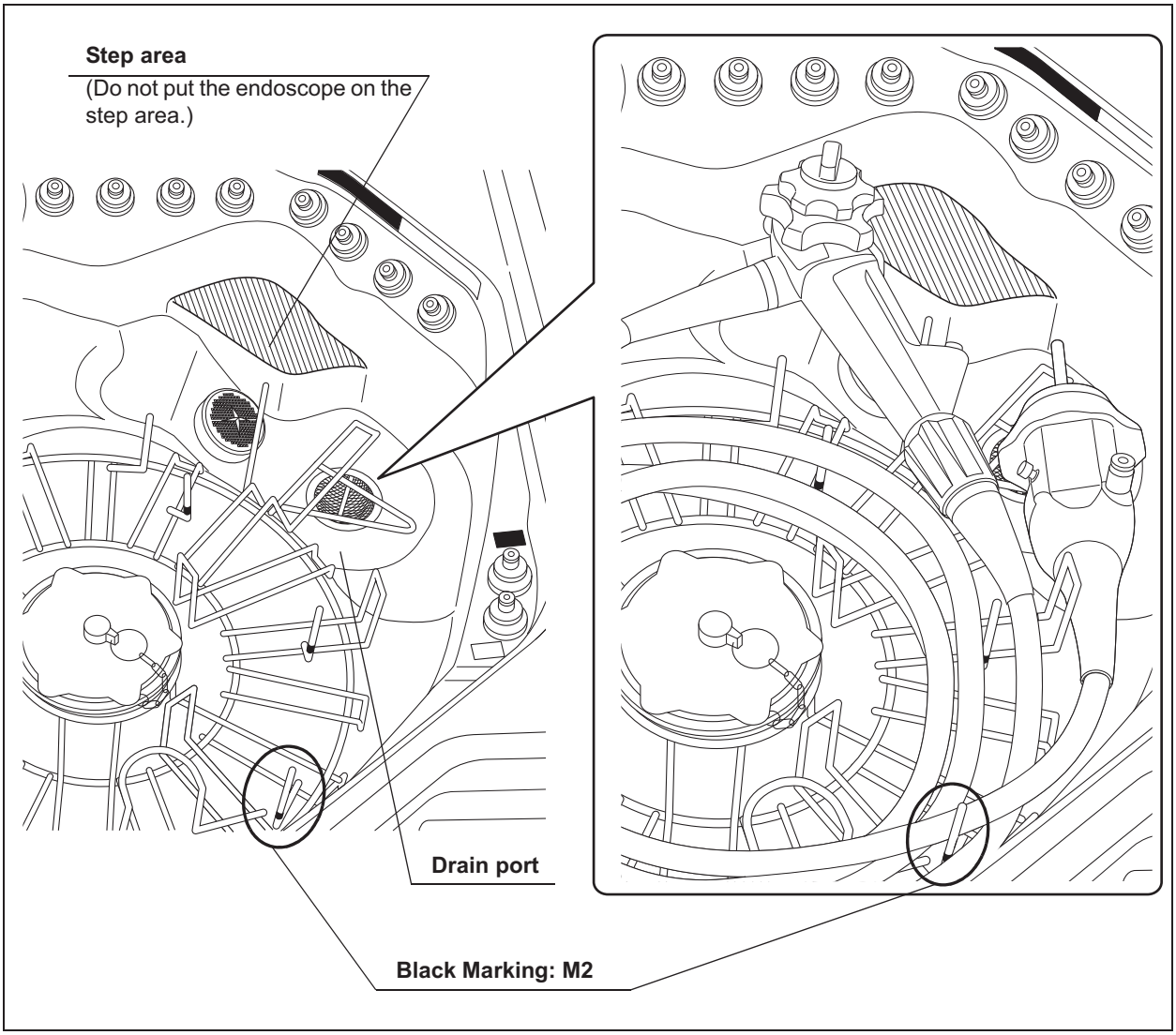


Figure 6.5

6 Adjust the positions of the insertion tube and universal cord to minimize overlapping. Also, adjust the positioning of the insertion tube's distal end by turning the angulation control knobs (lever) on the control section. Again, make sure that the universal cord is placed on the inside of the hooks.

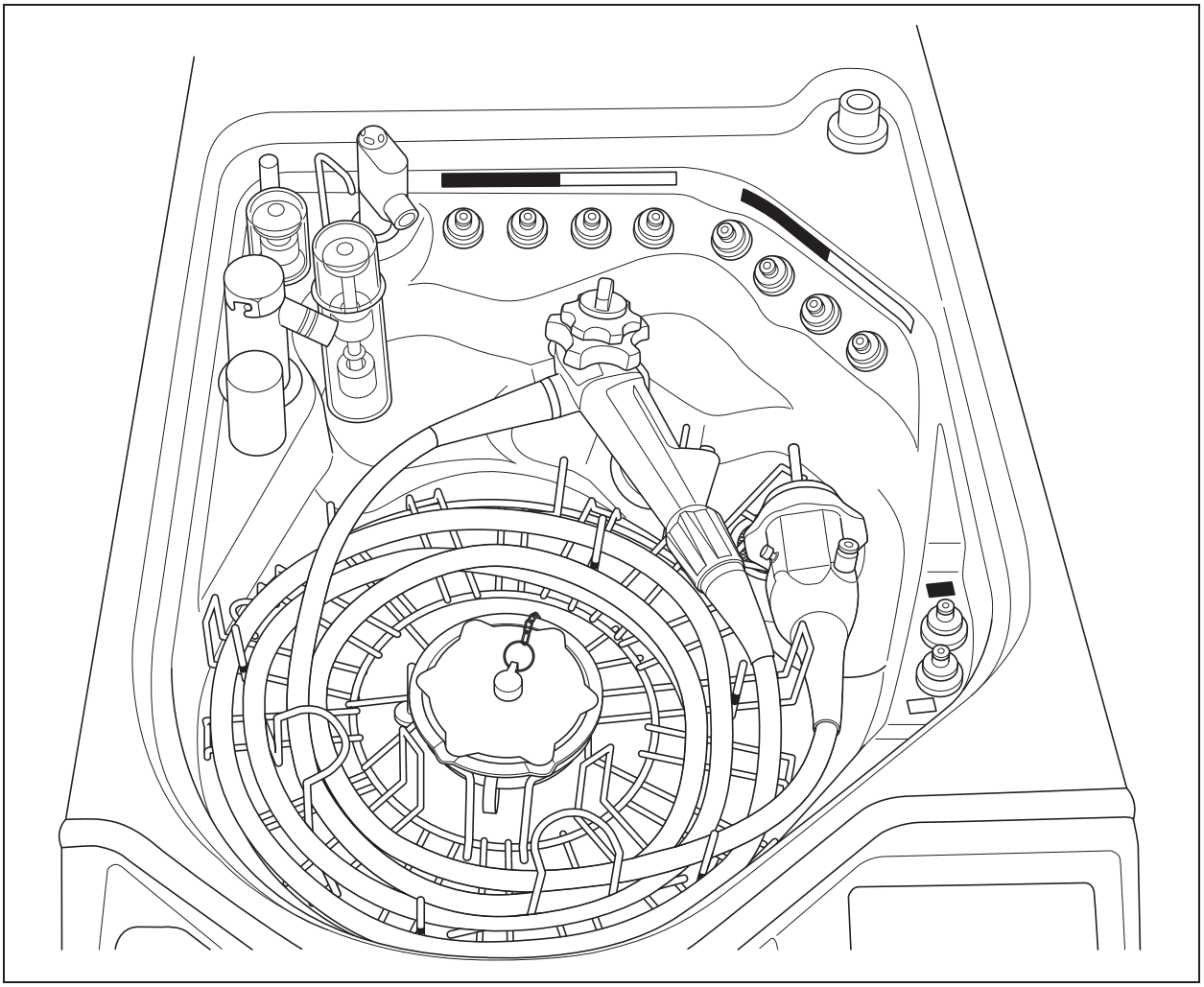


Figure 6.6

■ *Loading of the accessories of first endoscope (valves, etc.)*

The valves and specified parts of the endoscopes installed in the reprocessing basin can be reprocessed in the washing case together with forceps plugs and AW channel cleaning adapters.

Before placing endoscopes and accessories, thoroughly review the worst case load condition of endoscopes and accessories instructed in Section 6.4, “Worst case load condition of endoscopes and accessories”, and confirm that your endoscopes and accessories do not exceed the worst case load condition.

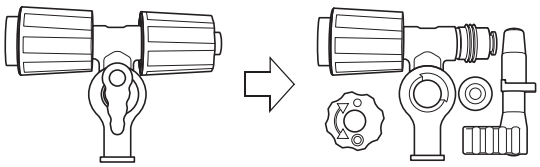
WARNING

- Place only the valves and AW channel cleaning adapters of the endoscopes installed in the reprocessing basin and the specified scope parts in the washing case. If an item other than the valves of the installed endoscopes and specified scope parts are installed, the valves and specified scope parts cannot be reprocessed sufficiently.
- Be sure to clean the accessories manually before placing in the washing case. Otherwise, the reprocessing may be ineffective.
- The biopsy valve should be opened before being placed in the reprocessing basin. Also, other accessories that can be disassembled should be disassembled before being placed in the washing case. Otherwise, they may not be sufficiently reprocessed.
- Do not put endoscope accessories such as valves and plugs on outside of the washing case. Otherwise, reprocessing of endoscope accessories may be insufficient.
- Always be sure to close the lid of washing case before starting reprocessing. Otherwise, reprocessing of endoscope accessories may be insufficient.

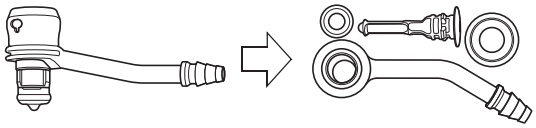
1 Check if the accessories that can be disassembled are disassembled completely.

Example

Forceps/Irrigation plug (MAJ-891)



Suction valve (MAJ-207)



Biopsy valve (MAJ-419)

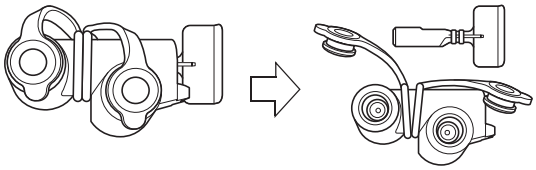


Figure 6.7

2 Open the washing case cover and put the accessories (e.g., biopsy valve, air/water valve, suction valve, auxiliary water inlet cap) into the washing case.

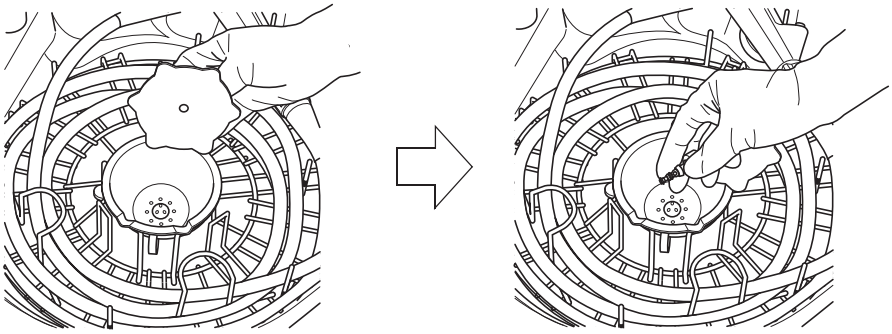


Figure 6.8

3 Put the AW channel cleaning adapter in the washing case and place the indicator plate outside the washing case. Ensure the indicator plate is placed between both hooks. Place the chain of the AW channel cleaning adapter in the designated grooves on the rim of the washing case.

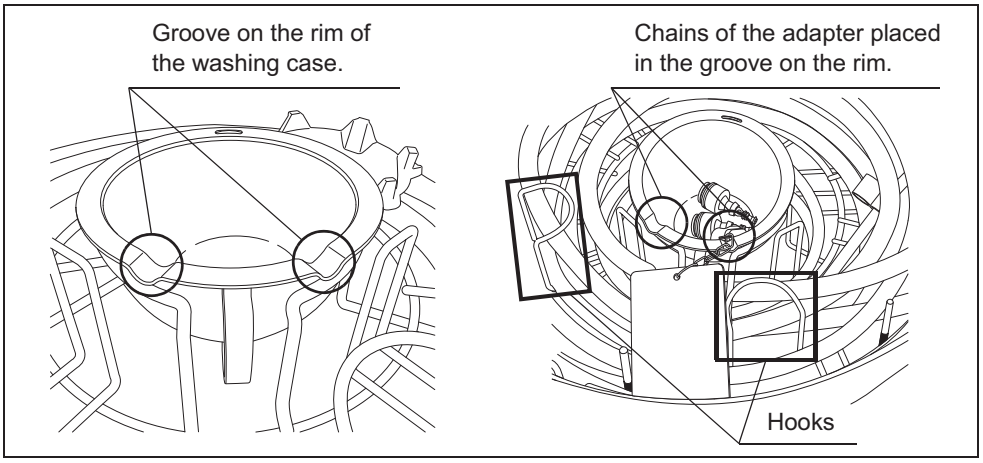


Figure 6.9

WARNING

- Do not pile up the chain of AW channel cleaning adapter. Otherwise, effectiveness of the reprocessing of AW channel cleaning adapter may be compromised.
- Do not place more than two AW channel cleaning adapters in the case. Otherwise, the reprocessing may be insufficient.
- When the chains of AW channel cleaning adapter are set on the rim, make sure that the indicator plates of AW channel cleaning adapters are set between the hooks by referring the Figure 6.43 and 6.53. Otherwise, the reprocessing of AW channel cleaning adapter may be insufficient.

4 Close the washing case cover so that the chains of AW channel cleaning adapter are not caught between the case and the cover. Place the indicator plate of AW channel cleaning adapter on the endoscopes as shown in the Figure 6.10.

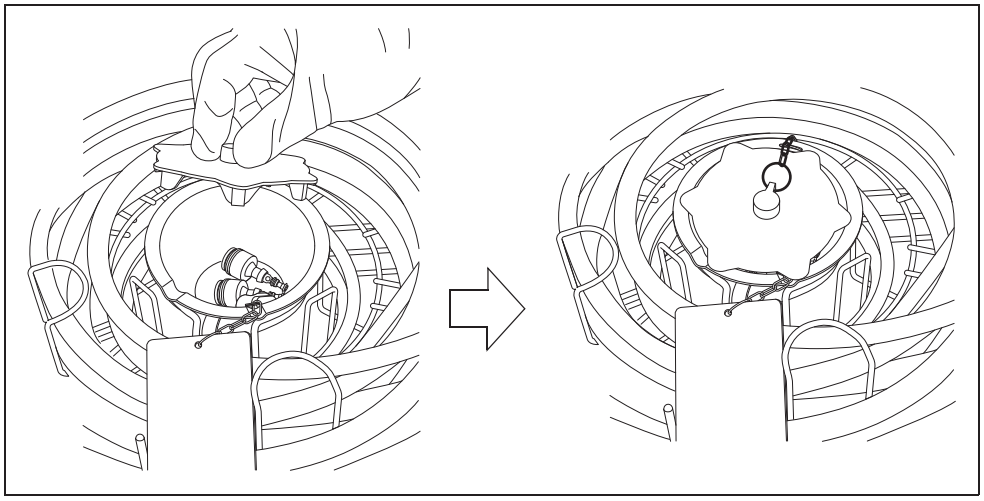


Figure 6.10

WARNING

- Do not place endoscope on the indicator plate of AW channel cleaning adapter. Otherwise, reprocessing of AW channel cleaning adapter may be insufficient.
- The indicator plates of the AW channel cleaning adapters should not be placed in an area other than specified. Otherwise, the adapters may encounter strong force when the lid is closed which may cause damage to the endoscopes, AW channel cleaning adapters, retaining rack and/or lid.

CAUTION

Place the AW channel cleaning adapters in the reprocessing basin without twisting of the chains of the adapters. If a chain is twisted excessively, the chain may be caught by the washing case and the adapter, washing case and/or lid may be damaged.

■ *Attaching the connecting tubes loading to first endoscope*

The OER-Elite is shipped with two sets of four connecting tubes: MAJ-2110, MAJ-2111, MAJ-2112, and MAJ-2113. Check the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>” to confirm whether these connecting tubes are the correct connecting tubes for the particular model endoscope that you are reprocessing. If the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>” indicates that a different connecting tube is required, contact Olympus to obtain the necessary connecting tube. Each Olympus endoscope requires a specific connecting tube (or tubes). Do not attempt to reprocess any endoscope without the correct connecting tube.

Before using connecting tubes, be sure to inspect the connecting tubes as instructed in Section 5.7, “Inspecting the connecting tubes and leak test air tube”.

WARNING

- Each connecting tube is supplied with an instruction manual that describes its method of attachment. Follow these instructions to attach the connecting tube to the OER-Elite and the endoscope. Incorrect attachment will result in insufficient reprocessing.
- After attaching each connecting tube, visually confirm that there are no irregularities such as kinking, accidental detachment or use of wrong connecting tube and confirm that each connecting tube is firmly attached. If any irregularity is observed, it must be corrected. Otherwise, the reprocessing may be insufficient.
- If you are reprocessing two endoscopes in the OER-Elite, and a problem is observed with the connecting tubes on one of the endoscopes, correct the problem and then reprocess both endoscopes again, starting from the beginning.
- Disconnect the connecting tubes from the connectors on the reprocessor whenever the tubes are not used for reprocessing. If reprocessing is performed while the unnecessary tubes are connected, the effectiveness of reprocessing may be reduced.
- When closing the lid, do not get the connecting tube caught between the reprocessing basin and lid and make sure the endoscopes and the washing case are not touching the lid. Otherwise, the endoscopes, the connecting tubes, the washing case and the reprocessor may be reprocessed insufficiently or get damaged or water leakage from the reprocessing basin may occur.
- To confirm the correct connecting tubes are attached to the endoscope, always refer to the instruction manuals for endoscope or the latest “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”. Using incorrect connecting tubes may result in ineffective reprocessing of endoscopes. If you do not have the latest “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”, contact Olympus.

WARNING

- If two endoscopes are reprocessed simultaneously, connect the connecting tube to the connector in the basin in order of number of the connector (e.g., connector A1 should be connected to the 1st endoscope, connector A2 should be connected to the 2nd endoscope).
- If connecting tube is connected to the wrong connector, channel blockage monitoring and channel connectivity monitoring cannot work properly (e.g., connecting tube for 1st endoscope is connected to the connector of 2nd endoscope).

❍ Labels and color of connector used for the first endoscope

Labels are provided in the reprocessing basin to distinguish each connector. It also provides information about which connectors are used for the first endoscope and which are used for the second endoscope.

Each connector has a specified color identical to the color of connecting tubes and leak test air tubes that can connect to the connector.

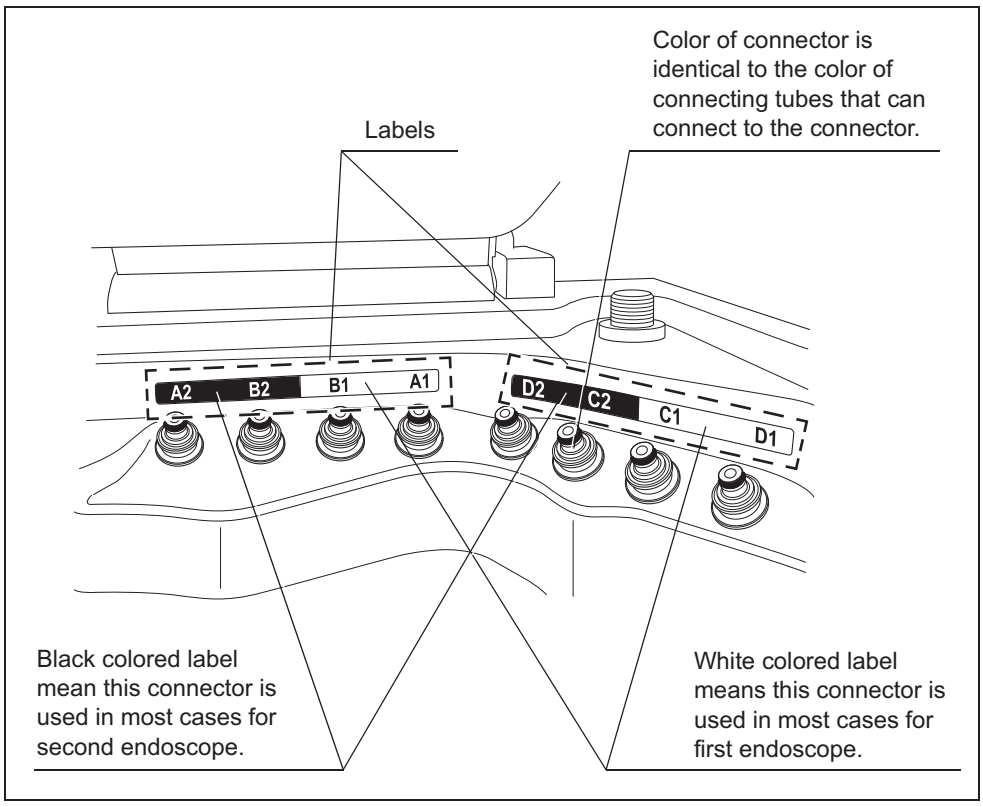


Figure 6.11

Connection guide of first endoscope

When connection guide setting is activated, connection guide screen is displayed after inputting scope ID with RFID.
Connection Guide screen provides the information about the type of connecting tubes required for the endoscope and the location of connectors that these connecting tubes are connected.
The below figure is example case. If endoscope with two instrument channel ports is set, it is required to connect B2. Refer to the connection guide information and “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.

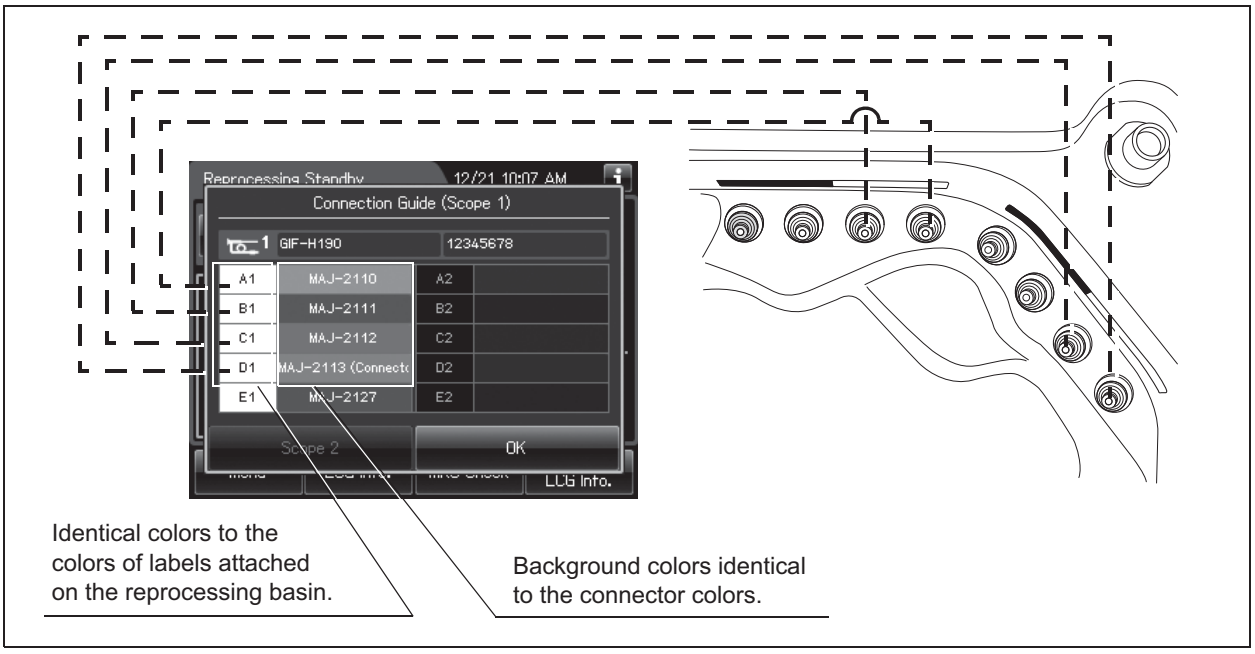


Figure 6.12

NOTE

When the scope ID is input using the master scope ID card or with the manual input, the Connection Guide screen is not displayed. In this case, connect the designated connecting tubes by referring to the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.

❍ Connection of the connecting tubes of first endoscope

The instruction below is compiled assuming the loading of standard-type gastroenterological endoscopes using standard-set of connecting tubes MAJ-2110, MAJ-2111, MAJ-2112, and MAJ-2113.

WARNING

- If two endoscopes are reprocessed simultaneously, connect the connecting tube to the connector in the basin in order of number of the connector (e.g., connector A1 should be connected to the 1st endoscope, connector A2 should be connected to the 2nd endoscope).
- If connecting tube is connected to the wrong connector, channel blockage monitoring and channel connectivity monitoring cannot work properly (e.g., connecting tube for 1st endoscope is connected to the connector of 2nd endoscope).

NOTE

If reprocessing a different type of endoscope(s) requires different types of connecting tubes, refer to the instruction manual for the connecting tube.

1 Insert the endoscope side connector of the MAJ-2110 connecting tube all the way into the suction cylinder and air/water supply cylinder of the endoscope. After the endoscope side connector is inserted until it is stopped at the bottom, keep pushing the connector and slide it toward the eyepiece/remote switch side to secure the connection.

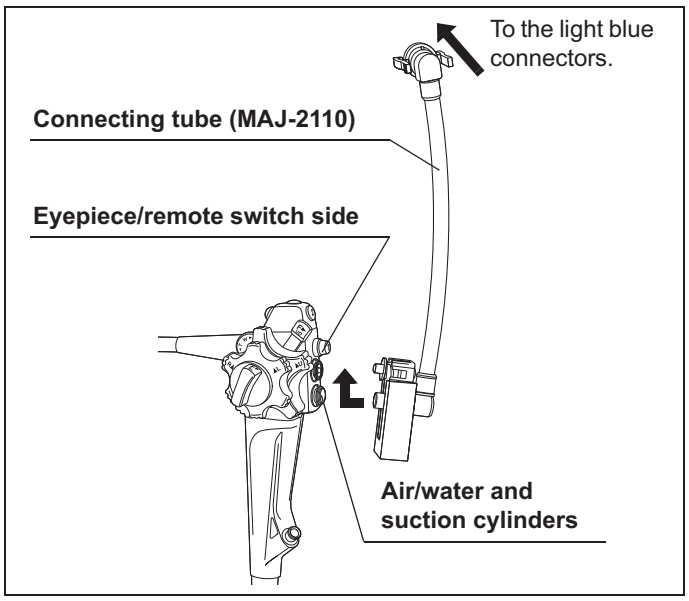


Figure 6.13

2 Insert the reprocessor-side connector of the MAJ-2110 connecting tube into the connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector A1 for the first endoscope.

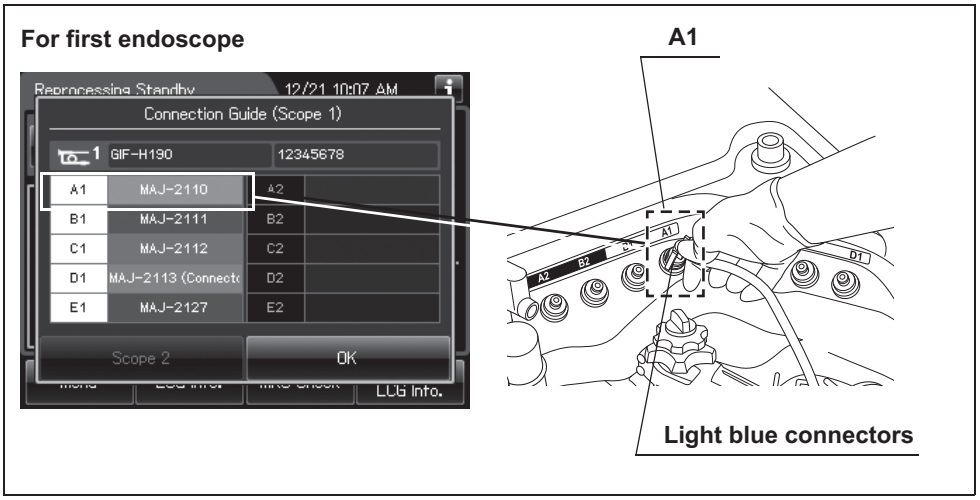


Figure 6.14

3 Insert the MAJ-2111 connecting tube into the instrument channel port of the endoscope until it clicks.

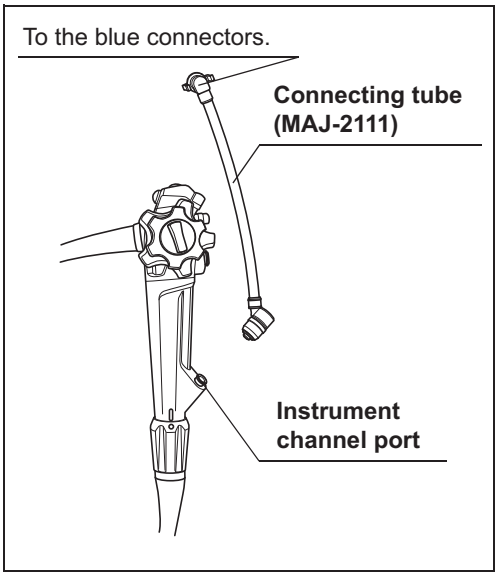


Figure 6.15

NOTE

Conform the control section of the first endoscope on the depressed part of the reprocessing basin located on the left of the index pin. For detail of image, refer to Figure 6.15 and Figure 6.2.

4 Insert the reprocessor-side connector of the MAJ-2111 connecting tube into the connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector B1 for the first endoscope.

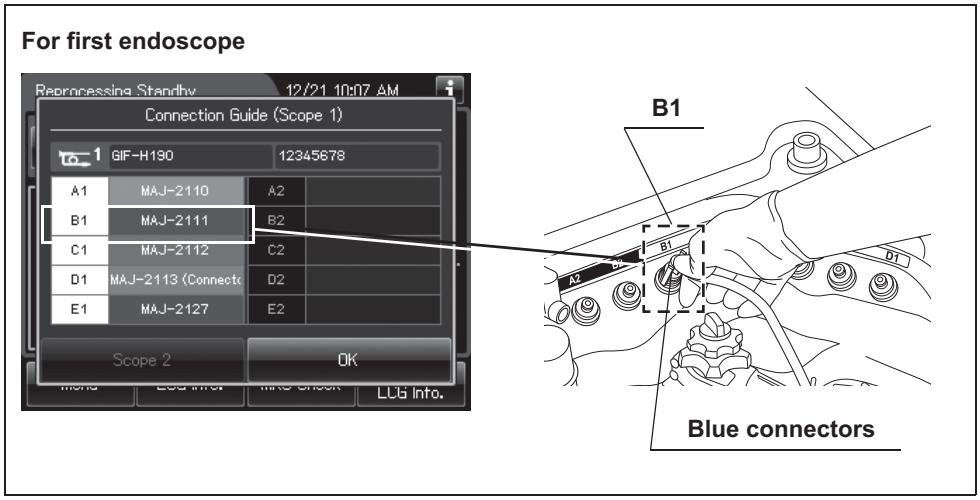


Figure 6.16

5 Insert the MAJ-2112 connecting tube into the suction connector of the endoscope until it clicks. For details, refer to Figure 6.17.

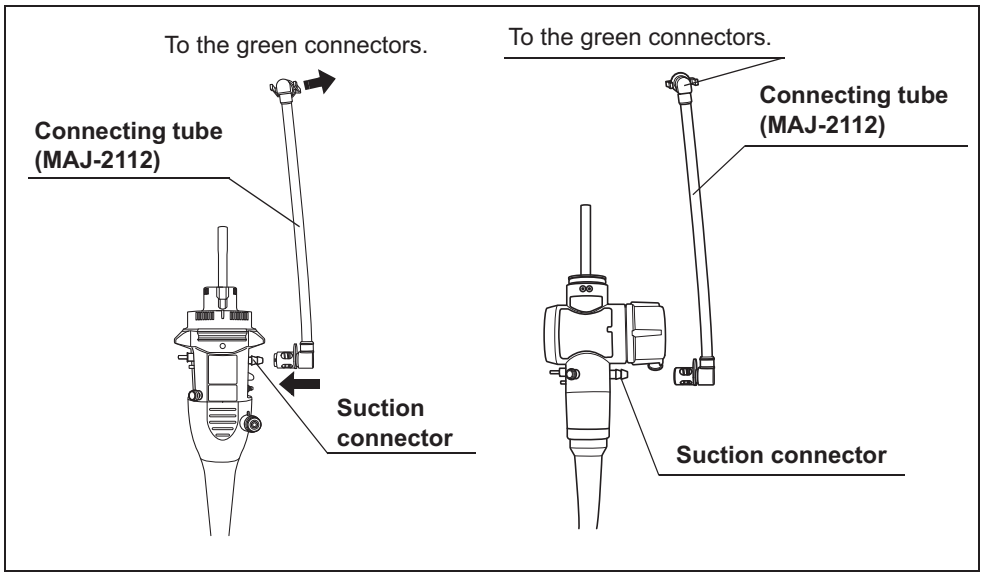


Figure 6.17

6 Insert the reprocessor-side connector of the MAJ-2112 connecting tube into connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector C1 for the first endoscope.

For first endoscope

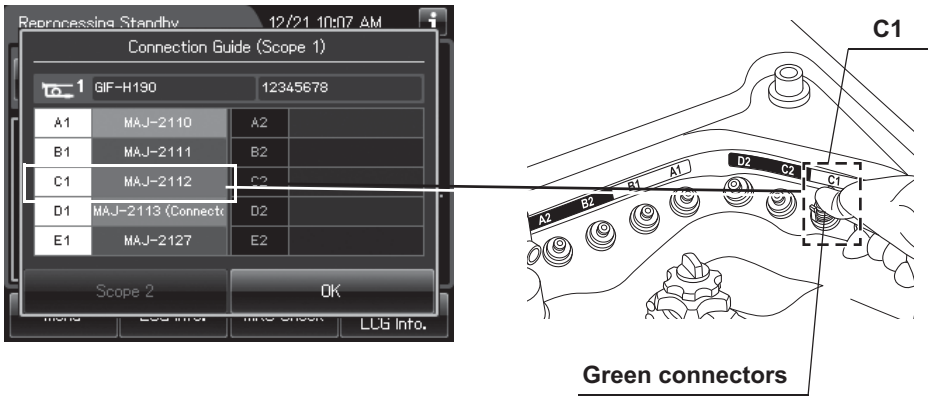


Figure 6.18

7 Insert the MAJ-2113 connecting tube into the endoscope side connector straight into the endoscope's auxiliary water inlet/elevator channel plug, and turn the outer ring clockwise to connect firmly. Refer to Figure 6.19 for the three options for mounting the MAJ-2113.
When using the MAJ-2138 refer to "■ Loading of auxiliary water tube of first endoscope" on page 186 and Figure 6.21 on page 186.

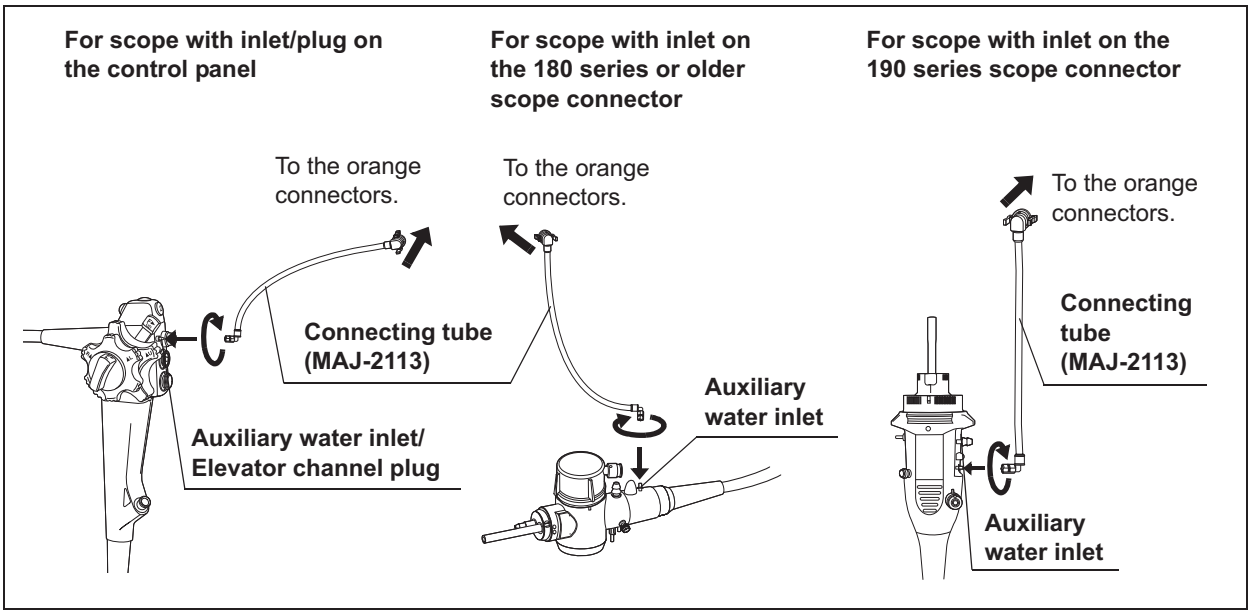


Figure 6.19

NOTE

If reprocessing the auxiliary water tube together with the endoscope, optional MAJ-2138 connecting tube is used instead of MAJ-2113. Also, the auxiliary water tube cleaning setting should be activated when using optional MAJ-2138 connecting tube. For details on setting, refer to Section 4.16, "Auxiliary water tube cleaning setting".

8 Insert the reprocessor-side connector of the MAJ-2113 connecting tube into connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector D1 for the first endoscope.

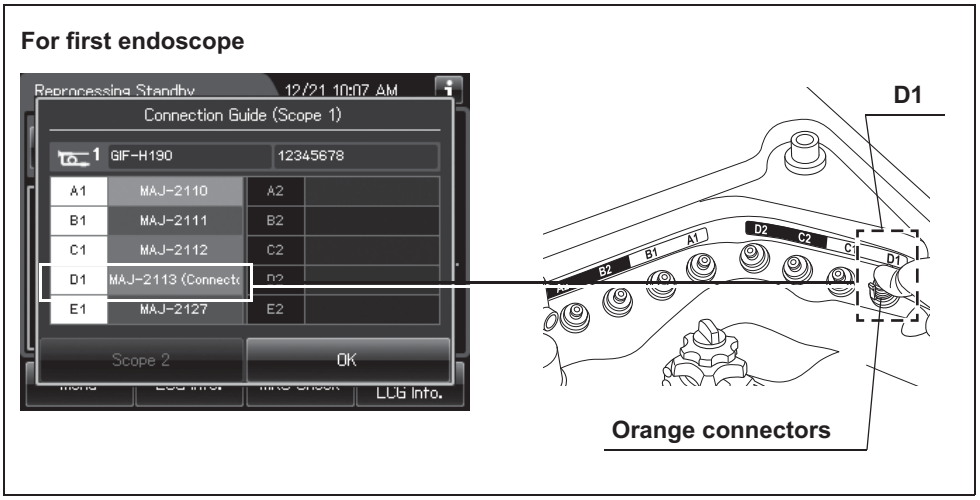


Figure 6.20

NOTE

When reprocessing an endoscope with a forceps elevator, the connecting tube must be connected to the distal end of the insertion tube.
For the appropriate connecting tube, refer to the “List of Compatible Endoscope/Connecting Tubes <OER-Elite>”.
For the connection method of the connecting tube, refer to the instruction manual for the connecting tube.

9 If the auto leak test is not included in the reprocessing program, press the OK button on the touch screen. If the auto leak test is programmed, perform the operation in “❍ Connection of the leak test air tubes of first endoscope” on page 192.

■ *Loading of auxiliary water tube of first endoscope*

When the auxiliary water tube cleaning setting is activated, an endoscope with the auxiliary water supply function can be reprocessed together with the auxiliary water tube.
To reprocess the auxiliary water tube together with the endoscope, the optional MAJ-2138 connecting tube is required. For the setting change method, refer to Section 4.16, “Auxiliary water tube cleaning setting”.

WARNING

If an endoscope incorporating the auxiliary water supply function is not reprocessed together with the auxiliary water tube, do not use the MAJ-2138 connecting tube. Otherwise, the auxiliary water tube connection port is left open and the fluid may not be supplied to the endoscope channels. When reprocessing an endoscope incorporating the auxiliary water supply function alone without the auxiliary water tube, be sure to use only the provided MAJ-2113 connecting tubes.

1. Insert the endoscope side connector of the MAJ-2138 connecting tube into the auxiliary water inlet of first endoscope. Turn the outer ring clockwise to connect firmly. Refer to right of the Figure 6.21.
2. Insert the auxiliary water tube side connector of the MAJ-2138 connecting tube into the Luer port of the auxiliary water tube. Turn the outer ring clockwise to connect firmly. Refer to left of the Figure 6.21.

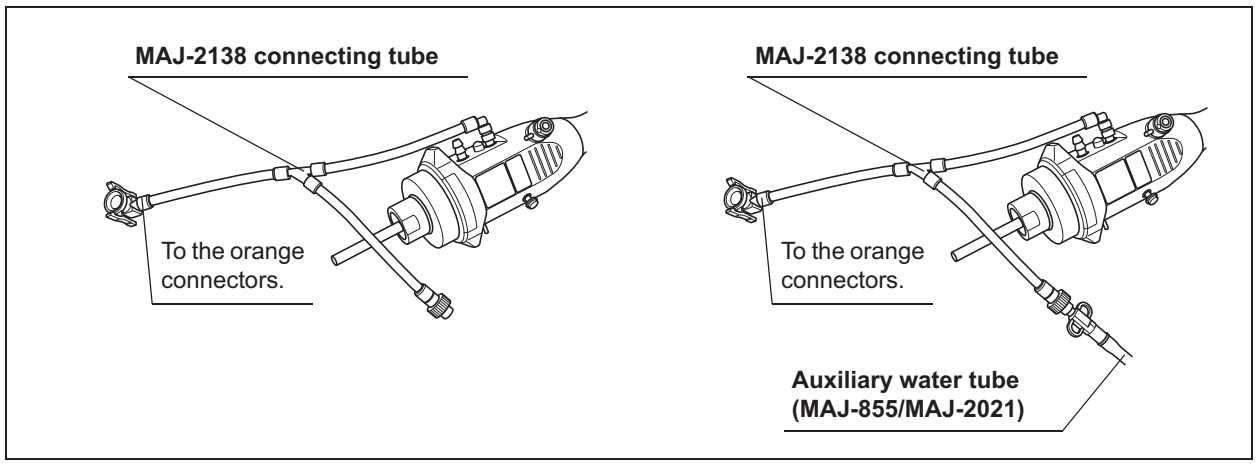


Figure 6.21

3 Insert the reprocessor-side connector of the MAJ-2138 connecting tube into the connector of the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. For detail, refer to Figure 6.22.

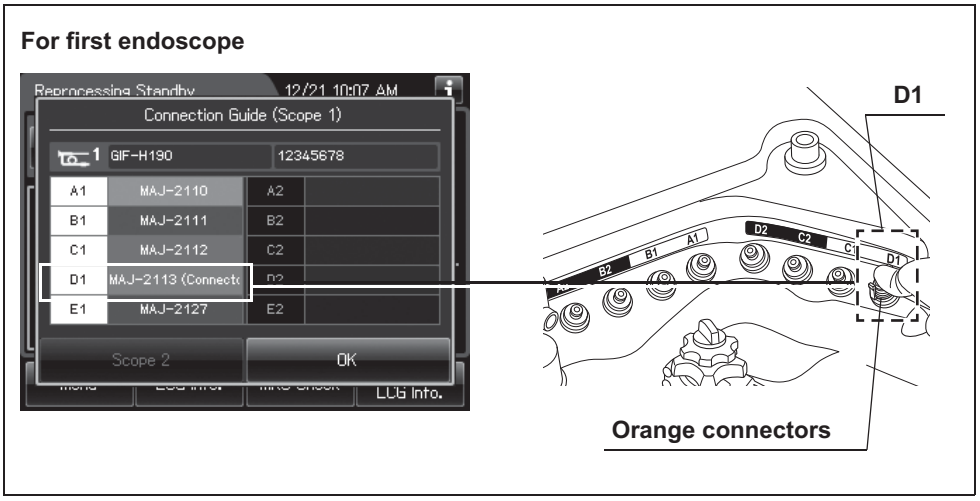


Figure 6.22

4 Temporarily place the indicator plate of the AW channel cleaning adapter on the washing case. Wrap the auxiliary water tube clockwise around on the inner section of the retaining rack. Do not to place the first endoscope and auxiliary water tube on the indicator plate of the AW channel cleaning adapter.

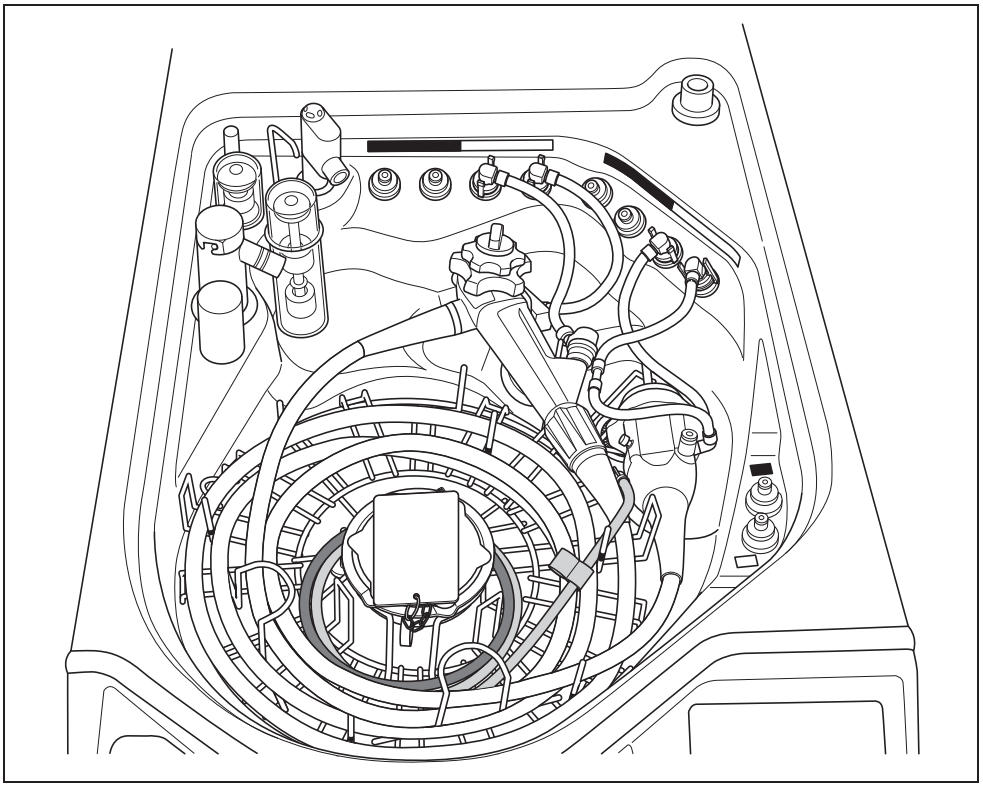


Figure 6.23

5 After loading the first endoscope and auxiliary water tube, place the indicator plate of the AW channel cleaning adapter on the first endoscope and auxiliary water tube. Make sure that the indicator plates of AW channel cleaning adapters are set between hooks.

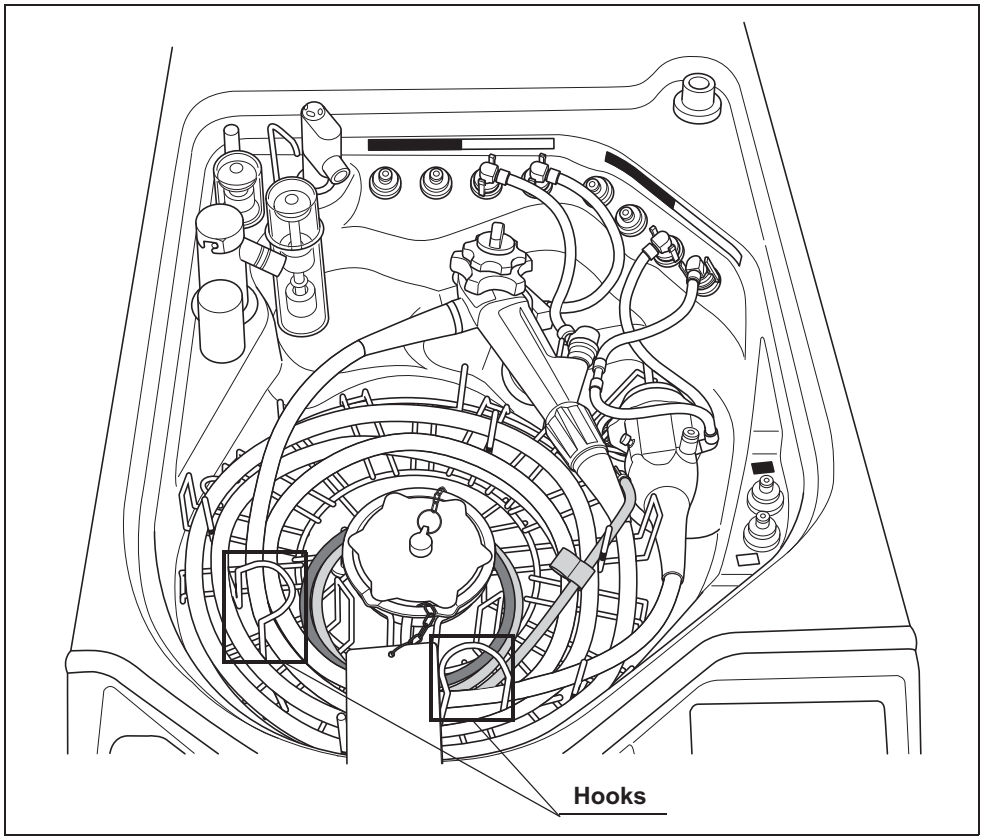


Figure 6.24

WARNING

Do not wrap the auxiliary water tube on the AW channel cleaning adapters. If the auxiliary water tubes are on the plate or the chain of the AW channel cleaning adapters, the reprocessing of AW channel cleaning adapter may be insufficient.

■ *Attaching the Leak test air tube loading to first endoscope*

When the auto leak test is included in the reprocessing program, connect the leak test air tube.

CAUTION

- Disconnect the leak test air tube from the connectors on the reprocessor whenever the tubes are not used for leak test. If reprocessing is performed while the unnecessary tubes are connected, fluid may get inside the leak test air tube and could cause it to malfunction. The fluid inside the tube may also damage the endoscope when the leak test is performed next time.
- The leak test air tube will disconnect easily if it is not attached properly or if the lock lever is degraded. Air cannot be fed properly if the leak test air tube is bent. In these cases, an accurate leak test is not possible.
- Make sure that there are no cracks, breaks, fissures, scratches, or stains on the leak test air tube according to Section 5.7, “Inspecting the connecting tubes and leak test air tube”. Using an abnormal or damaged leak test air tube may result in an inaccurate leak test or cause the endoscope to malfunction. If an irregularity is found with the leak test air tube, replace it with a new one and retry the leak test.
- Do not connect the leak test air tube if the inside of the tube, the endoscope’s venting connector, or the reprocessor’s leak test connector is wet. Doing so could allow water to get inside the endoscope and cause the endoscope to malfunction.
- When connecting the leak test air tube, ensure that the tube connector is fully and properly attached. Improper connection will prevent the endoscope from being pressurized, preventing an accurate leak test. This could also allow water to get inside the endoscope and cause the endoscope to malfunction.

Labels and color of connector used for the first endoscope

Labels are provided in the reprocessing basin to distinguish each connector. It also provides information about which connector is used for the first endoscope or the second endoscope. Each connector has a specified color identical to the color of the connecting tubes and leak test air tubes that can connect to the connector.

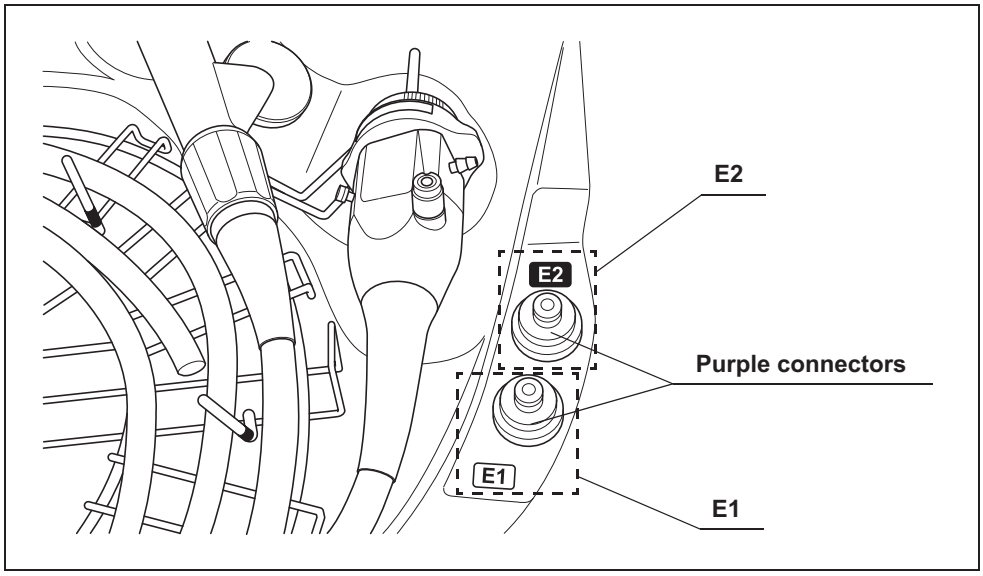


Figure 6.25

Connection guide of first endoscope

When the scope ID was input by reading the ID tag with the RFID reader of the reprocessor, connect the specified connecting tubes to the connectors on the endoscope and reprocessing basin by following the instructions given by the Connection Guide screen displayed on the touch screen. The position relationship between the connectors shown on the Connection Guide screen and those in the reprocessing basin is shown below.

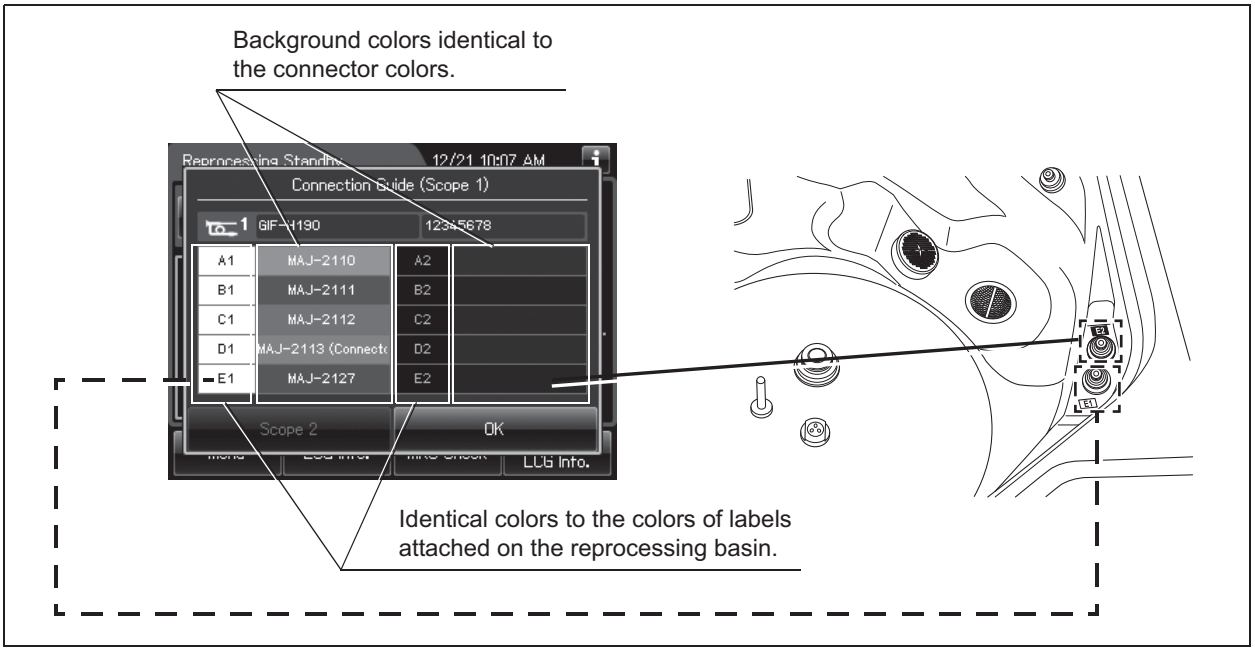


Figure 6.26

NOTE

When the scope ID is input using the master scope ID card or with the manual input, the Connection Guide screen is not displayed.

Connection of the leak test air tubes of first endoscope

Connect the leak test air tube to connectors on the endoscope and reprocessing basin by following the instructions.

NOTE

- Certain endoscopes are incapable of auto leak test. For the endoscopes which are compatible with the auto leak test, refer to the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.
- Do not connect the leak test air tube to the wrong connector (e.g., leak test air tube for 1st endoscope is connected to the connector for 2nd endoscope). Otherwise, auto leak testing cannot work properly since the error occurs.

1 Wipe the venting connector of the first endoscope or that of the waterproof cap with a clean cloth immersed in 70% ethyl alcohol or 70% isopropyl alcohol.

2 If the leak test connector E1 in the reprocessing basin is wet, remove moisture by wiping the whole connector with a clean cloth.

3 Aligning the groove on the metal connector of the MAJ-2127 leak test air tube with the pin on the venting connector of the first endoscope or that of the waterproof cap, insert the connector into the port by turning the connector by 90° in the clockwise direction while pushing it.

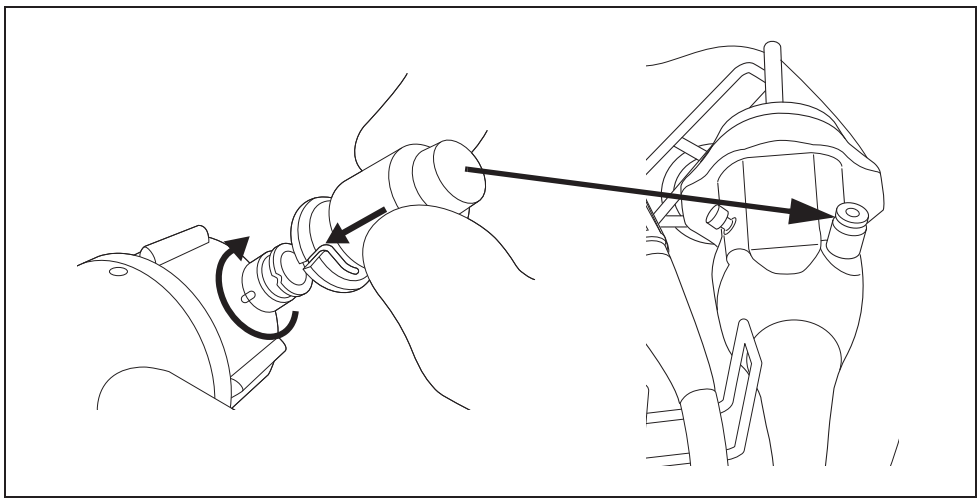


Figure 6.27

NOTE

Conform the first endoscope connector on the specified position on the right side of the reprocessing basin (above the drain port). For detail of image, refer to Figure 6.5 on page 171.

CAUTION

Be sure to connect the leak test air tube to the specified leak test connector in the reprocessing basin. If auto leak test is performed while the leak test air tube is connected to a wrong connector, the auto leak test may become incapable of correct leak detection.

4 Insert the reprocessor-side connector of MAJ-2127 leak test air tube into the connector E1 until its lock lever is securely engaged with a snap.

First endoscope

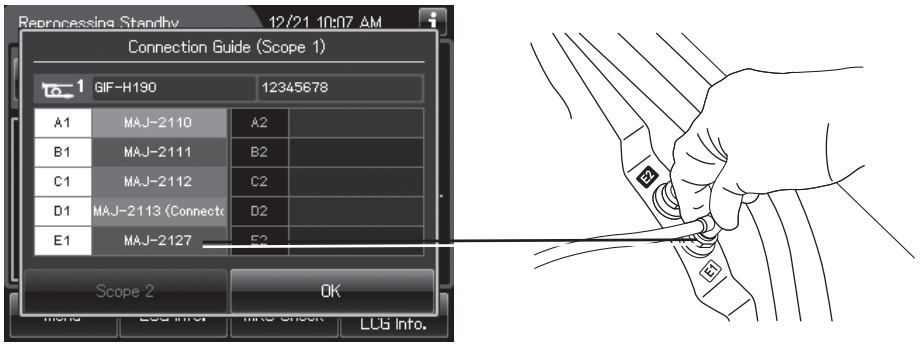


Figure 6.28

5 Press the “OK” button on the touch screen to close the Connection Guide screen.

■ *Input connection information of first endoscope*

When the scope ID is entered by method other than RFID, connection information screen described below is displayed on the touch screen. In this case, input of connection information is required.

NOTE

According to the input of connection information, the OER-Elite monitors the channel flow to check the internal valves are properly operated. This function does not support the detection of channel blockage and disconnection of connecting tube of endoscope side.

1 On the Connection information screen, press the “No Connection” buttons corresponding to the reprocessing basin connectors to which the connecting tubes are connected. The “No Connection” indicator will now change to “Connection”.

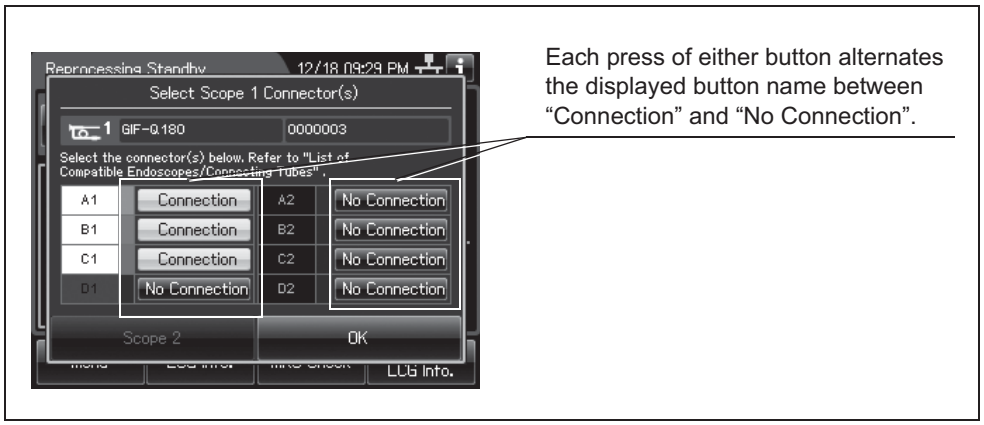


Figure 6.29

NOTE

If status other than the actual connecting tube connection status is selected, error code [E024] is generated during reprocessing and the reprocessing process stops.

2 Press the “OK” button.

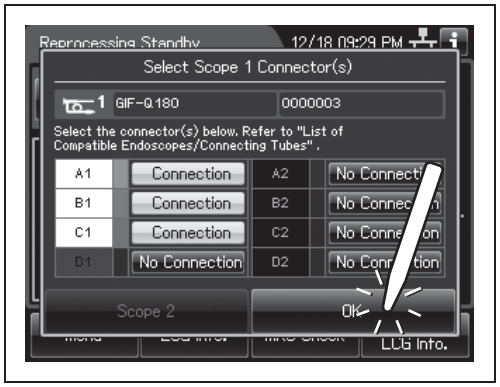


Figure 6.30

3 When the “OK” button is pressed, the following warning message is displayed. After reading the message, press the “OK” button again.

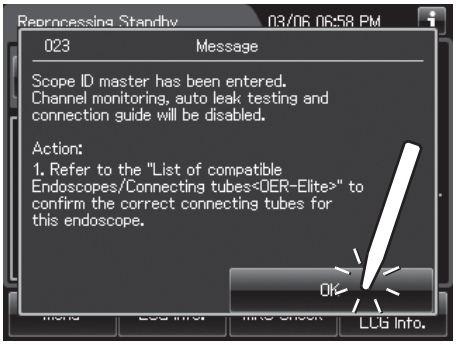


Figure 6.31

■ *Input results of manual cleaning and leak test of first endoscope*

When the manual cleaning and leak test setting is activated, result of manual cleaning and leak test can be entered and associated with the endoscope.

NOTE

- The input of the result of manual cleaning and leak test can be disabled by changing a setting. For details, refer to Section 4.4, “Manual cleaning and leak test setting”.
- When No is selected either of them, reprocessing process cannot be started.

Select whether or not the endoscope has been cleaned manually and whether or not leak was found during the leak testing, and press the “OK” button.

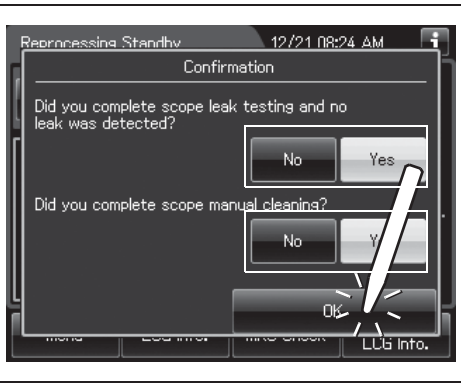


Figure 6.32

■ *Inputs user ID, physician ID, patient ID, and procedure ID of first endoscope*

User ID (load), physician ID, patient ID, and procedure ID can be entered and associated with the endoscope. Each ID entry can be changed by settings, refer to Section 4.5 – 4.9. For details on the input methods, refer to Section 3.6, “Entering ID” (If applicable). When ID is input, the icon of input ID is displayed with a white icon.

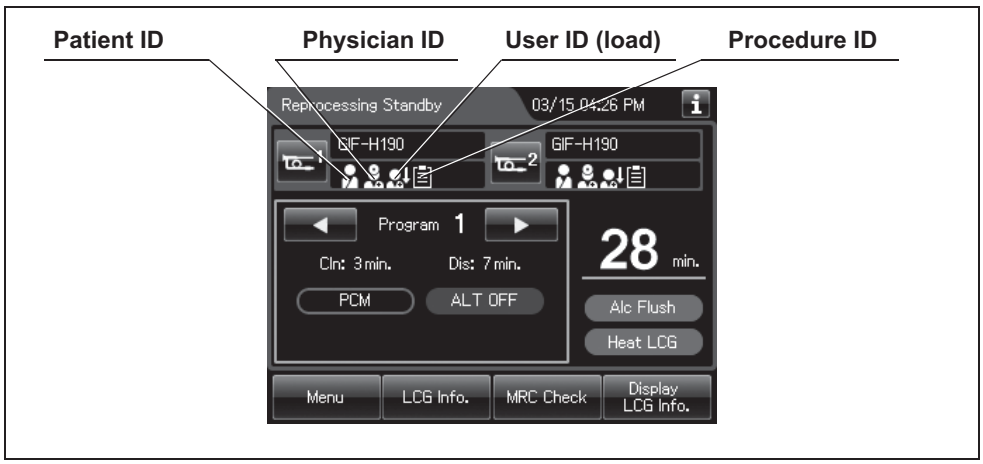


Figure 6.33

NOTE

- Before entering user ID (load), physician ID, patient ID, or procedure ID of second endoscope, complete IDs entry associated with first endoscope. If user ID (load), physician ID, patient ID or procedure ID of second endoscope is entered without completing IDs entry associated with first endoscope, message is displayed on the touch screen.
- The user ID setting provides options of 2 users, 1 user and OFF as the number of user IDs to be set. For the method of changing the use ID setting, refer to Section 4.5, “User ID Setting”.
- The physician ID input can be omitted by changing the physician ID setting. For the physician ID setting, refer to Section 4.6, “Physician ID setting”.
- The patient ID input can be omitted by changing the patient ID setting. For the patient ID setting, refer to Section 4.7, “Patient ID setting”.
- The procedure ID input can be omitted by changing the procedure ID setting. For the procedure ID setting, refer to Section 4.9, “Procedure ID setting”.

■ *Input scope ID of second endoscope*

To maintain an endoscope reprocessing record, this reprocessor is capable of recognizing the individual scope ID that identifies the endoscope being reprocessed.

The scope ID can be input with the following methods.

- Input from RFID
- Software keyboard input
- Input from pre-registered information

For details on the input methods, refer to Section 3.6, “Entering ID” (If applicable).

When the scope ID is input, the touch screen displays the model number of the second endoscope.

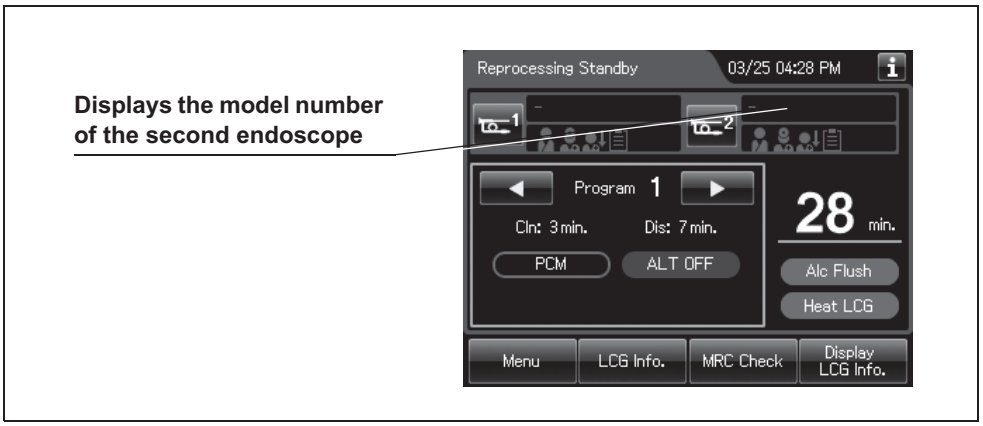


Figure 6.34

■ *Loading of second endoscopes in the reprocessing basin*

For detail of warning and caution, refer to “■ Loading of first endoscopes in the reprocessing basin” on page 166.

❍ Loading of second endoscope in the reprocessing basin

1 Confirm the lid is opened. If the lid is closed, step on the foot pedal to open the lid.

2 Place the indicator plate of the first AW channel cleaning adapter on the washing case (if applicable).

3 Place the control section of the second endoscope on the left of the control section of the first endoscope between index pin1 and index pin 2. Adjust it to be below the disinfectant solution level index line indicated in the float sensor protection cover.

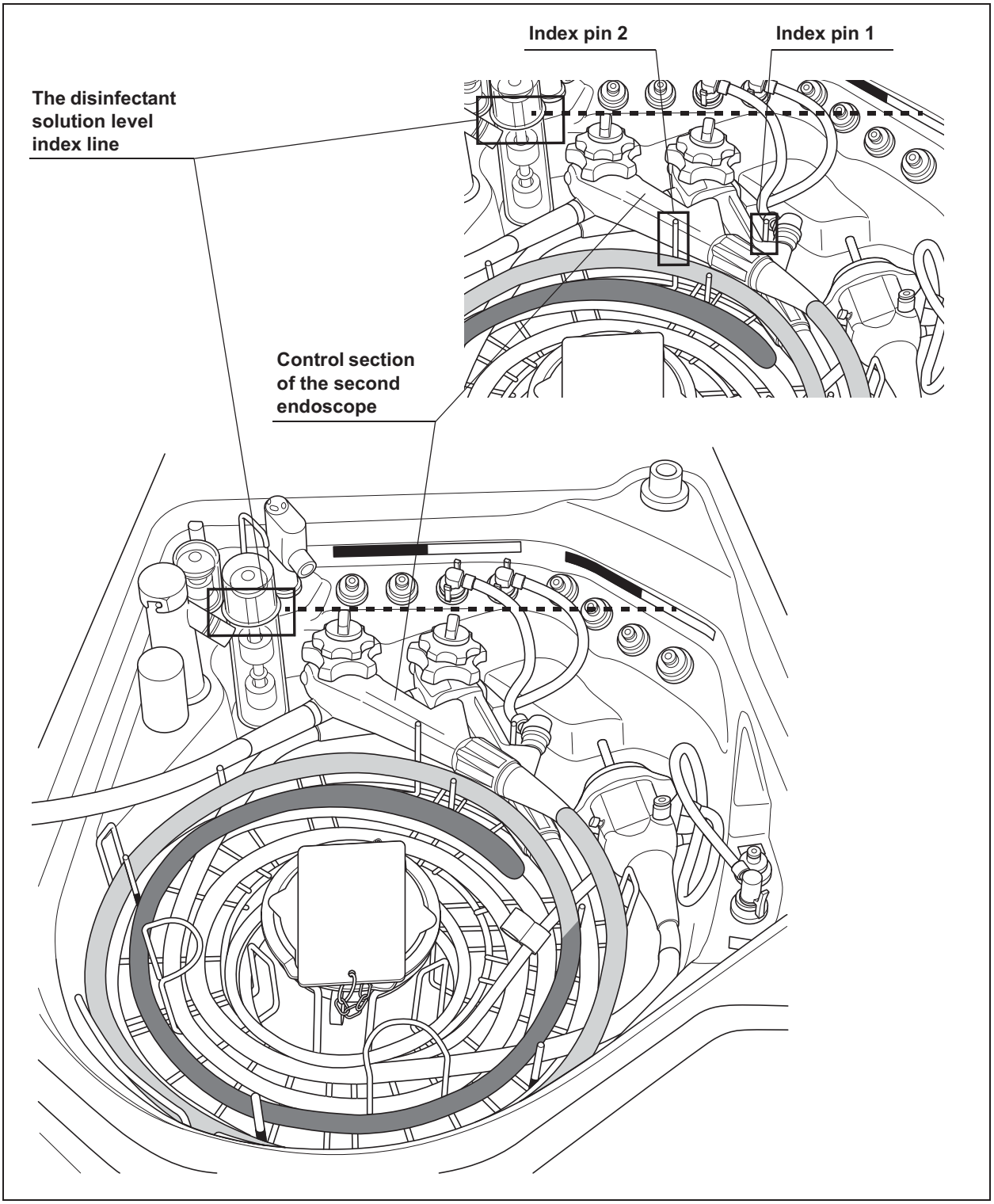


Figure 6.35

4 Wrap the insertion tube clockwise around the retaining rack from the perimeter in.
Wrap the first turn of the insertion tube outside the black markings from M1 to M5 and inside the index pin 2 and 3 (shown in light gray).
Wrap the second turn inside the black markings from M1 to M5 and outside the hooks (shown in dark gray). Refer to Figure 6.36. Do not wrap the insertion tube of second endoscope on the AW channel cleaning adapters.

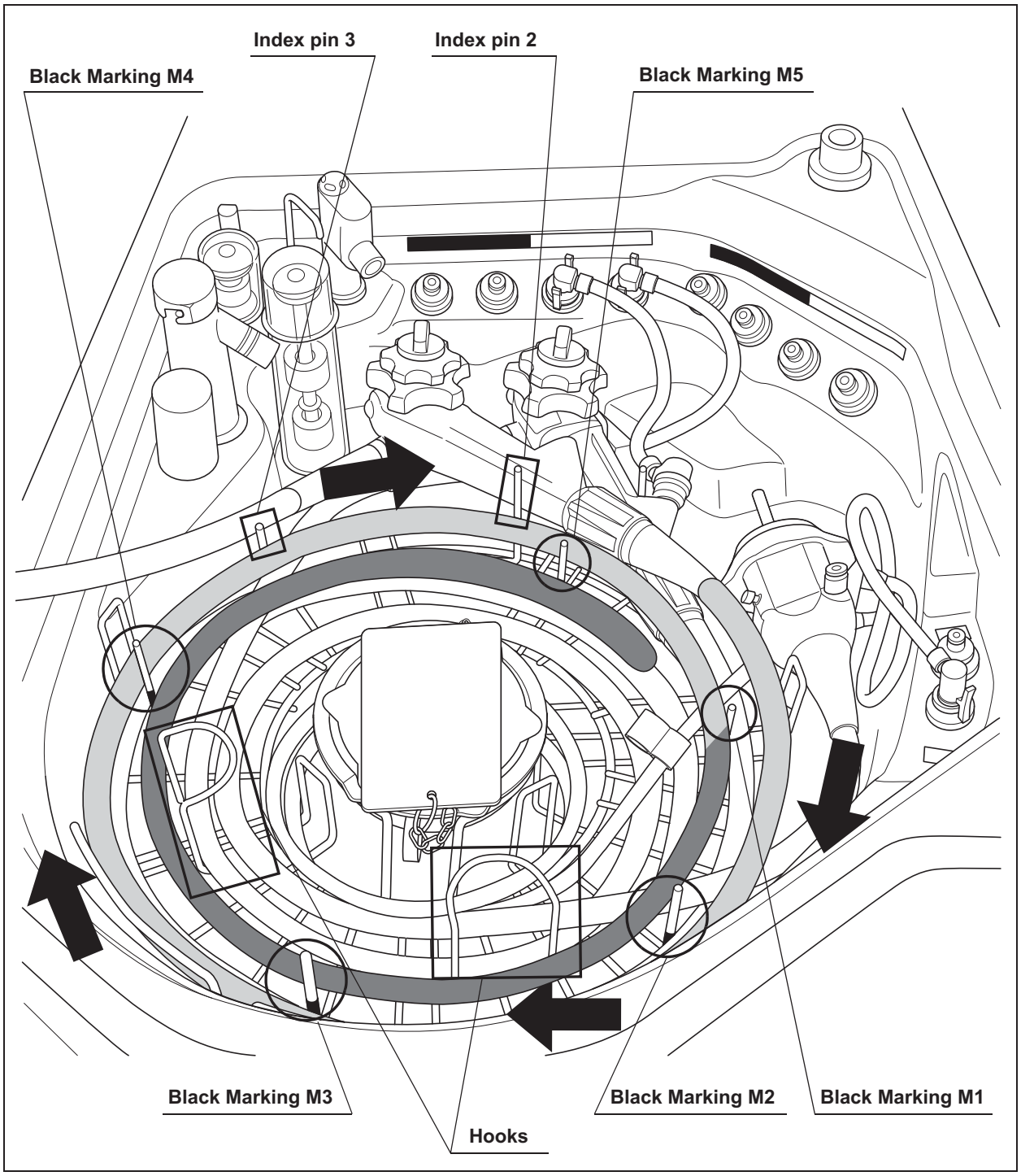


Figure 6.36

5 Wrap the universal cord (light and deep gray) in a counterclockwise direction on the left of index pin 3 in the inside section (for detail, refer to the Figure 6.37) on the retaining rack by placing it under the hooks so that it will not move upward.
If the scope ID tag is attached to the endoscope, move the scope ID tag toward the endoscope connector. Straighten the ID tag's band if it is twisted. Do not wrap the universal cord of second endoscope on the AW channel cleaning adapters.

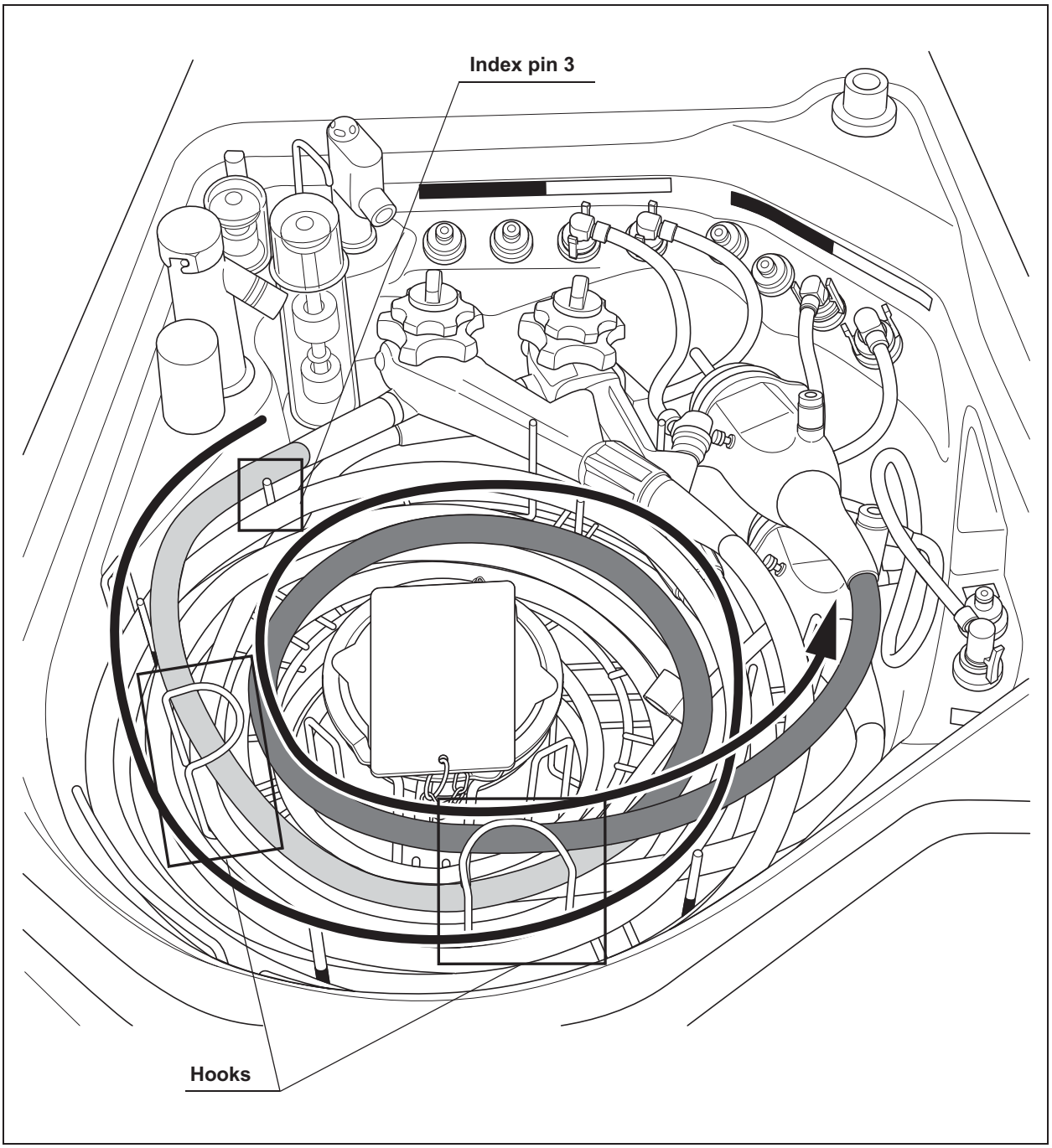


Figure 6.37

6 Gently place the second endoscope connector on the first endoscope connector as shown in Figure 6.38.

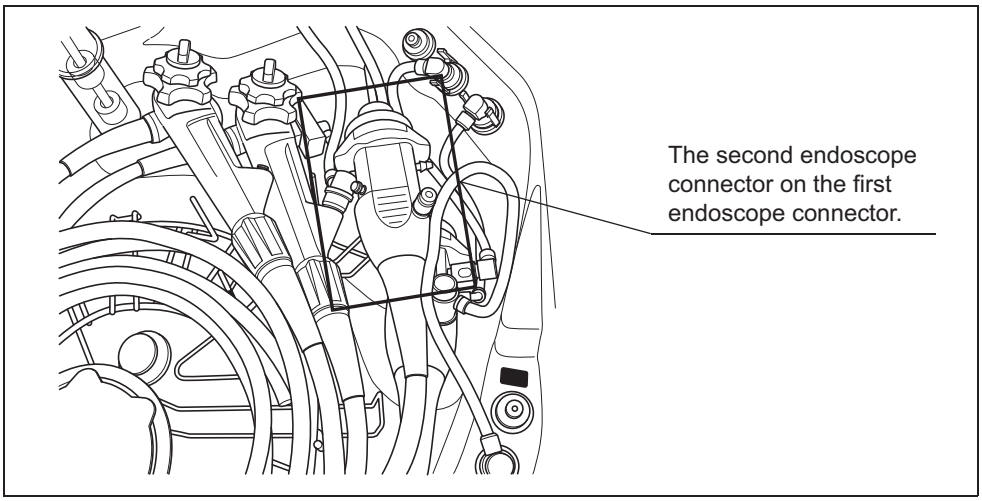


Figure 6.38

7 Adjust the positions of the insertion tube and universal cord to minimize overlapping. Also, adjust the positioning of the insertion tube's distal end by turning the angulation control knobs (lever) on the control section. Again, make sure that the universal cord is placed on the inside of the hooks.

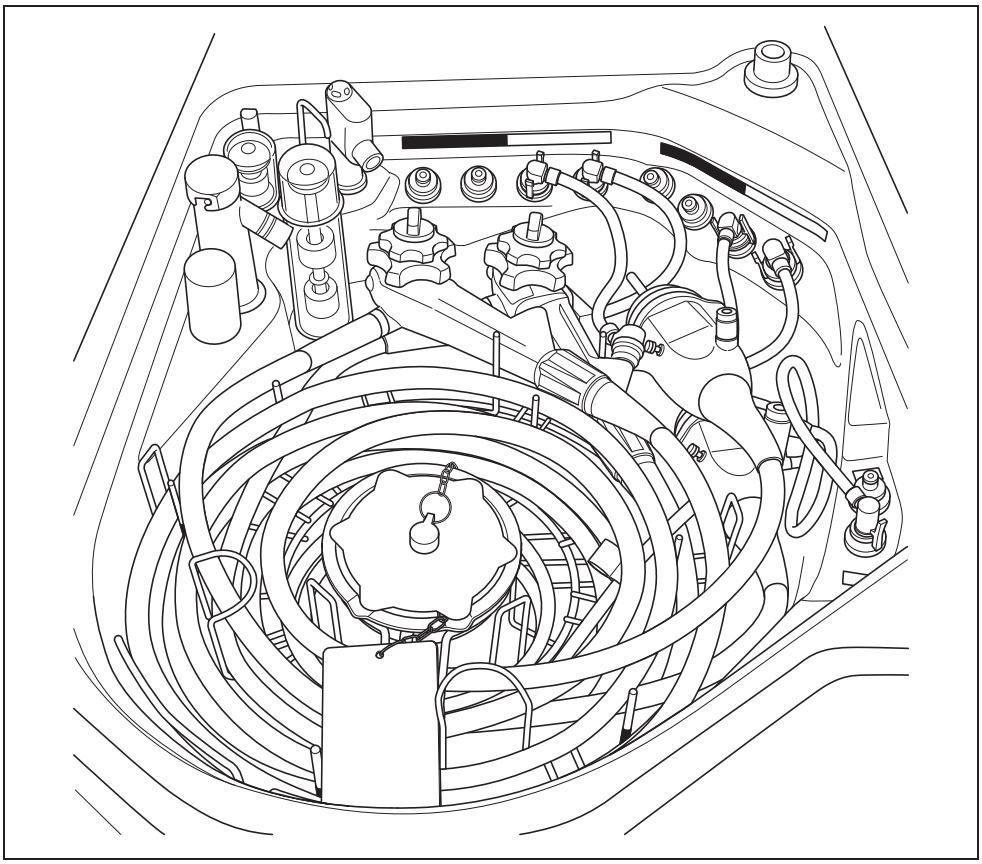


Figure 6.39

■ *Loading of the accessories of second endoscope (valves, etc.)*

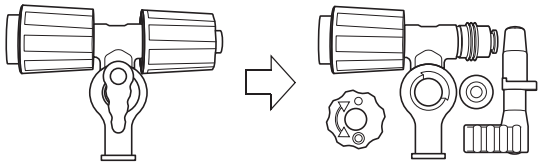
The valves and specified parts of the endoscopes installed in the reprocessing basin can be reprocessed in the washing case together with forceps plugs and AW channel cleaning adapters.

For detail of warning and caution, refer to “■ Loading of the accessories of first endoscope (valves, etc.)” on page 173.

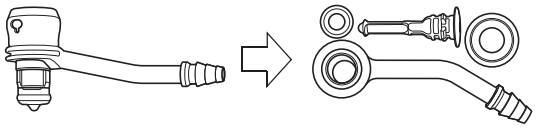
1 Check if the accessories that can be disassembled are disassembled completely.

Example

Forceps/Irrigation plug (MAJ-891)



Suction valve (MAJ-207)



Biopsy valve (MAJ-419)

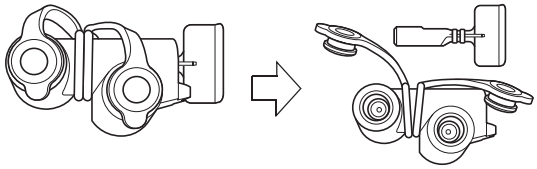


Figure 6.40

2 Open the washing case cover and put the accessories (e.g., biopsy valve, air/water valve, suction valve, auxiliary water inlet cap) into the washing case. Make sure that the auxiliary inlet cap is removed from endoscope.

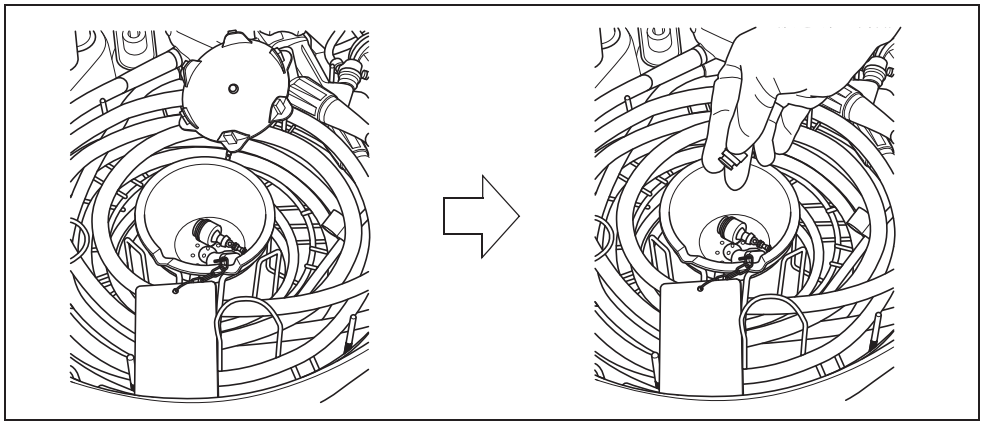


Figure 6.41

3 Put the AW channel cleaning adapters in the washing case and place the indicator plates outside the washing case. Ensure the indicator plates is placed between both hooks. Place the chain of the AW channel cleaning adapter in the designated grooves on the rim of the washing case.

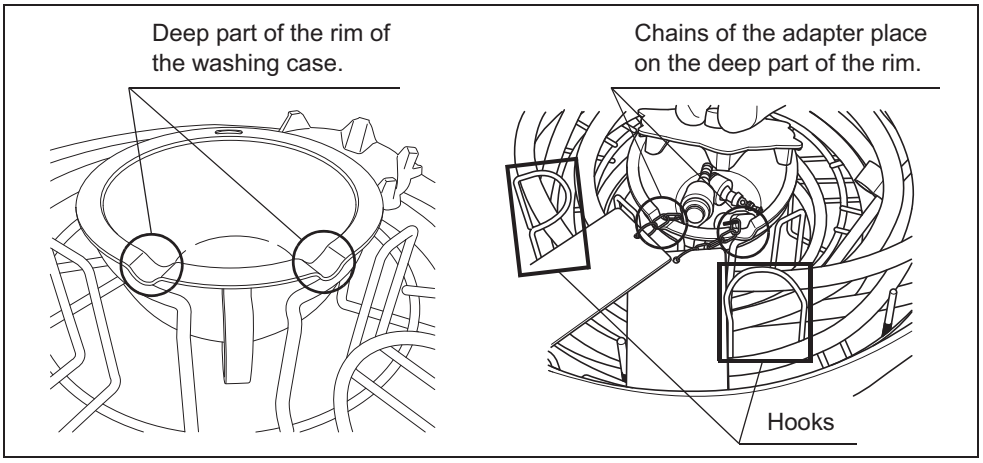


Figure 6.42

WARNING

- Do not pile up the chain of AW channel cleaning adapter. Otherwise, effectiveness of the reprocessing of AW channel cleaning adapter may be compromised.
- Do not place three or more AW channel cleaning adapters in the case. Otherwise, the reprocessing may be insufficient.
- When the chain of AW channel cleaning is set on the rim, make sure that the indicator plates of AW channel cleaning adapters are set between the hooks by referring the Figure 6.43 and 6.53. Otherwise, the reprocessing may be insufficient.

4 Close the washing case cover so that the chains of AW channel cleaning adapter are not caught between the case and the cover. Ensure the indicator plates of AW channel cleaning adapter between the hooks.

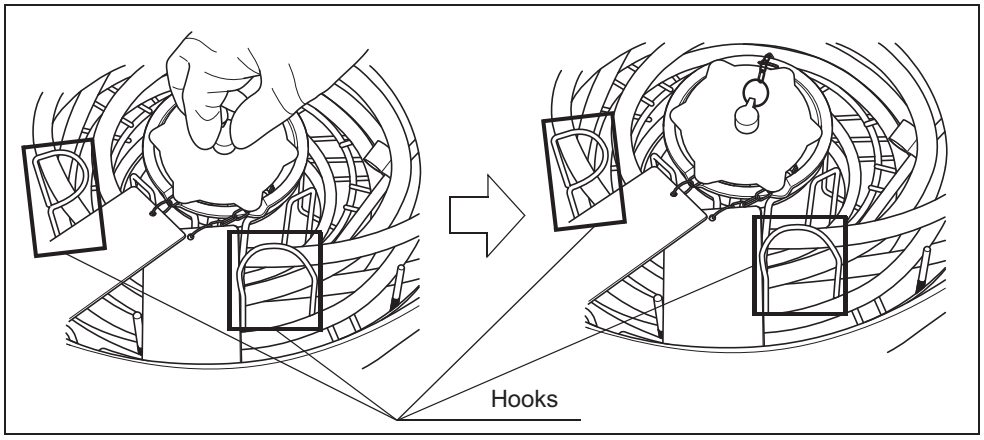


Figure 6.43

WARNING

- Do not place endoscope on the indicator plate of AW channel cleaning adapter. Otherwise, reprocessing of AW channel cleaning adapter may be insufficient.
- The indicator plates of the AW channel cleaning adapters should not be placed in an area other than specified. Otherwise, the adapters may encounter strong force when the cover is closed which may cause damage to the endoscopes, AW channel cleaning adapters, retaining rack and/or lid.

CAUTION

Place the AW channel cleaning adapters in the reprocessing basin so that twisting or overlapping of the chains of the adapters is minimized. If a chain is twisted or overlapped excessively, the chain may be caught by the washing case and the adapter, washing case and/or lid may be damaged.

■ *Attaching the connecting tubes loading to second endoscope*

The OER-Elite is shipped with two sets of four connecting tubes: MAJ-2110, MAJ-2111, MAJ-2112, and MAJ-2113. Check the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>” to confirm whether these connecting tubes are the correct connecting tubes for the particular model endoscope that you are reprocessing. If the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>” indicates that a different connecting tube is required, contact Olympus to obtain the necessary connecting tube. Each model Olympus endoscope requires a specific connecting tube (or tubes). Do not attempt to reprocess any endoscope without the correct connecting tube.

For detail of warning and caution, refer to “■ Attaching the connecting tubes loading to first endoscope” on page 177.

❍ Labels and color of connector used for the second endoscope

Labels are provided in the reprocessing basin to distinguish each connector. It also provides information about which connectors are used for the first endoscope and which are used for the second endoscope.
Each connector has a specified color identical to the color of connecting tubes and leak test air tubes that can connect to the connector.

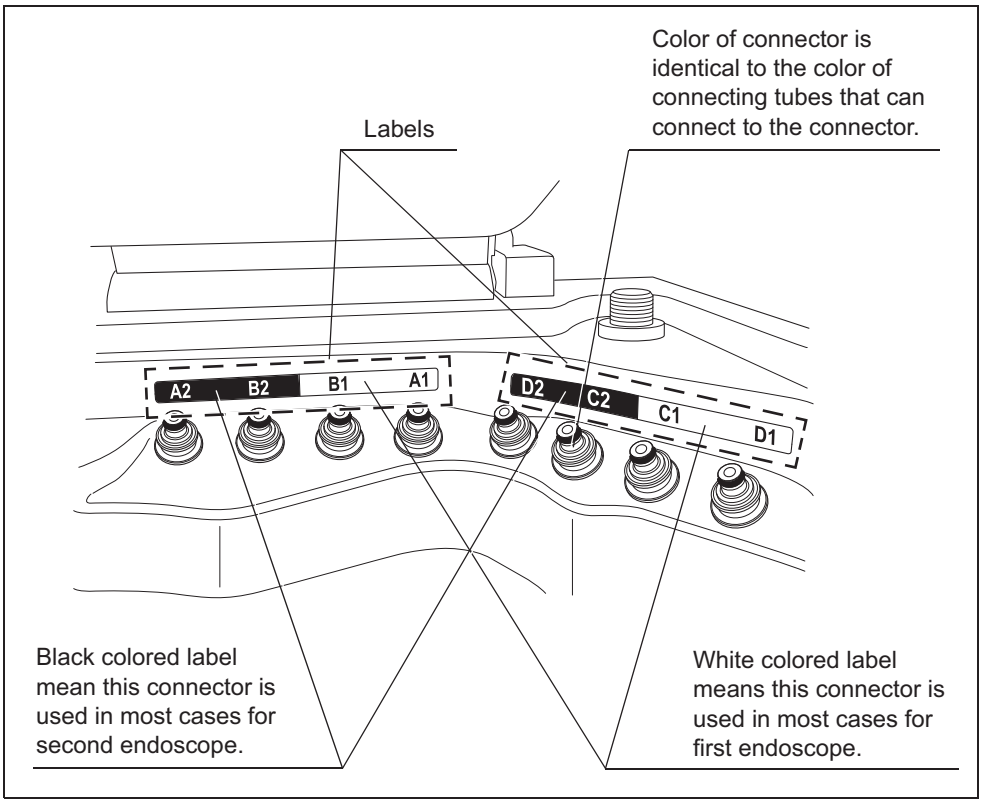


Figure 6.44

❍ Connection guide of second endoscope

When connection guide setting is activated, connection guide screen is displayed after inputting scope ID with RFID.
Connection Guide screen provides the information about the type of connecting tubes required for the endoscope and the location of connectors that these connecting tubes are connected.

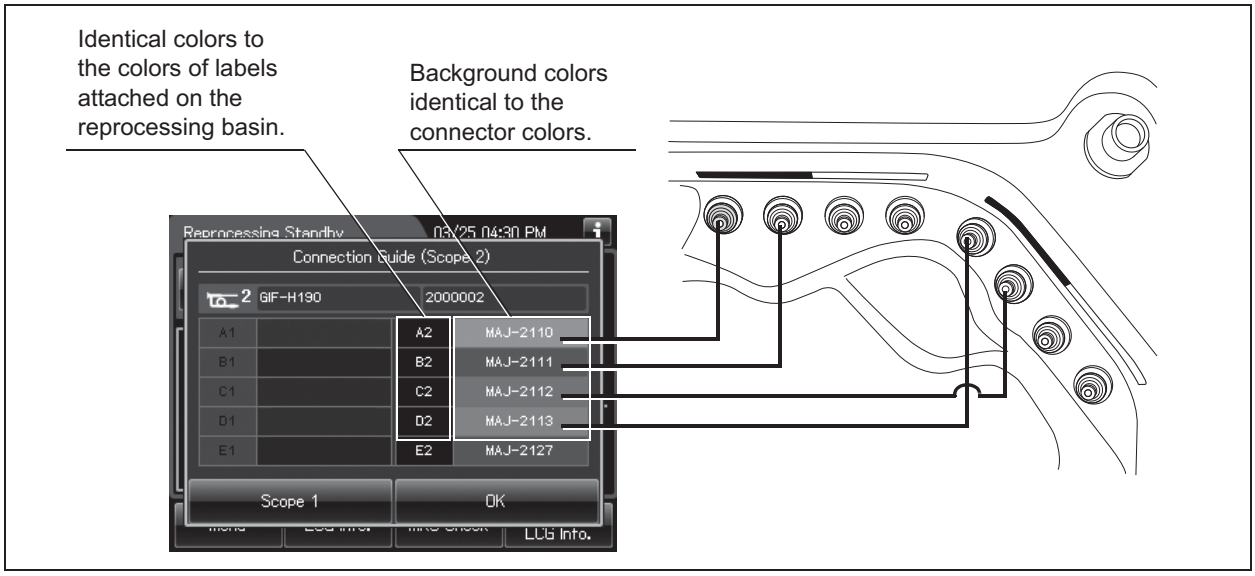


Figure 6.45

NOTE

When the scope ID is input using the master scope ID card or with the manual input, the Connection Guide screen is not displayed. In this case, connect the designated connecting tubes by referring to the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.

❍ Connection of the connecting tubes of second endoscope

The instruction below is compiled assuming the loading of standard-type gastroenterological endoscopes using standard-set of connecting tubes MAJ-2110, MAJ-2111, MAJ-2112, and MAJ-2113.

WARNING

- If two endoscopes are reprocessed simultaneously, connect the connecting tube to the connector in the basin in order of number of the connector (e.g., connector A1 should be connected to the 1st endoscope, connector A2 should be connected to the 2nd endoscope).
- If connecting tube is connected to the wrong connector, channel blockage monitoring and channel connectivity monitoring cannot work properly (e.g., connecting tube for 1st endoscope is connected to the connector of 2nd endoscope).

NOTE

If reprocessing a different type of endoscope(s) requires different types of connecting tubes, refer to the instruction manual for the connecting tube.

1 Insert the endoscope side connector of the MAJ-2110 connecting tube all the way into the suction cylinder and air/water supply cylinder of the endoscope. After each connector is inserted until it is stopped at the bottom, keep pushing the connector and slide it toward the eyepiece/remote switch side to secure the connection.
For detail of MAJ-2110, refer to “■ Attaching the connecting tubes loading to first endoscope” on Figure 6.13 on page 180.

2 Insert the reprocessor-side connector of the MAJ-2110 connecting tube into the connector with same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector A2 for the second endoscope.

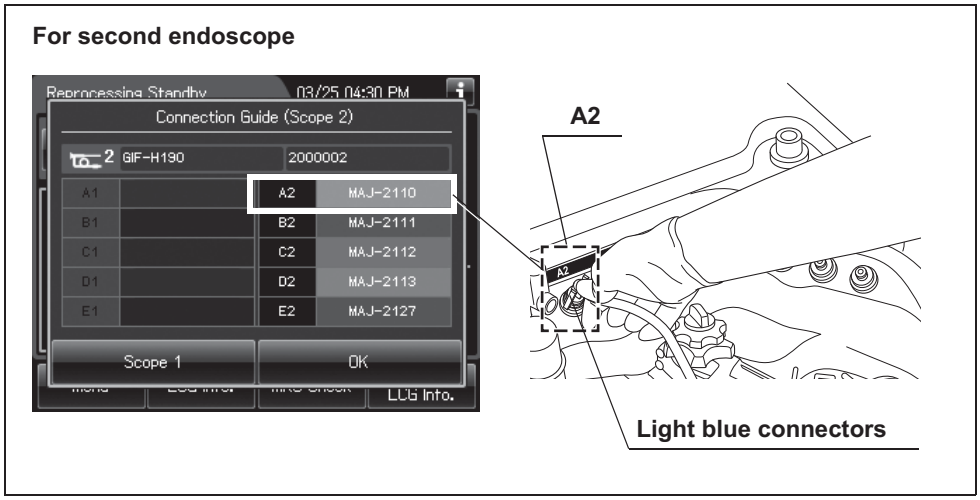


Figure 6.46

3 Insert the MAJ-2111 connecting tube into instrument channel port of the endoscope until it clicks. For detail of MAJ-2111, refer to "■ Attaching the connecting tubes loading to first endoscope" on Figure 6.15 on page 181.

4 Insert the reprocessor-side connector of the MAJ-2111 connecting tube into the connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector B2 for the second endoscope.

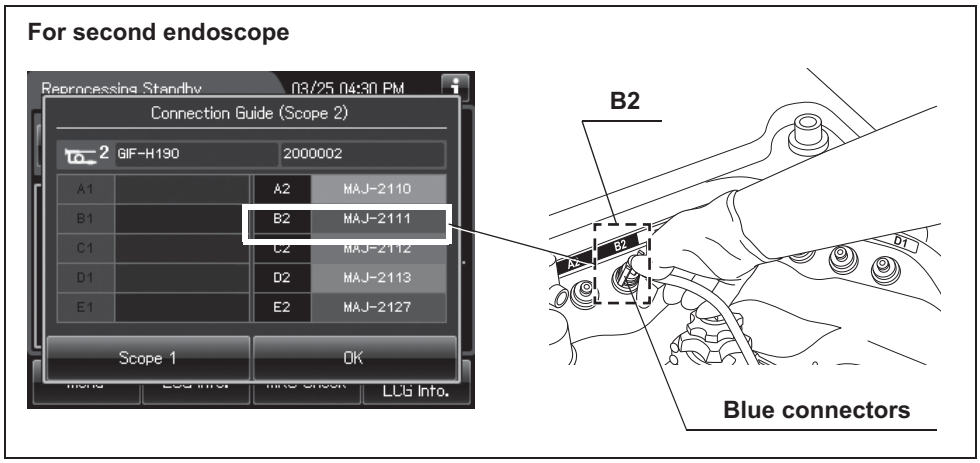


Figure 6.47

5 Insert the MAJ-2112 connecting tube into the suction connector of the endoscope until it clicks. For details, refer the Figure 6.45 of "❍ Connection guide of second endoscope" on page 206.
For detail of MAJ-2112, refer to "■ Attaching the connecting tubes loading to first endoscope" on Figure 6.17 on page 182.

6 Insert the reprocessor-side connector of the MAJ-2112 connecting tube into connector with the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector C2 for the second endoscope.

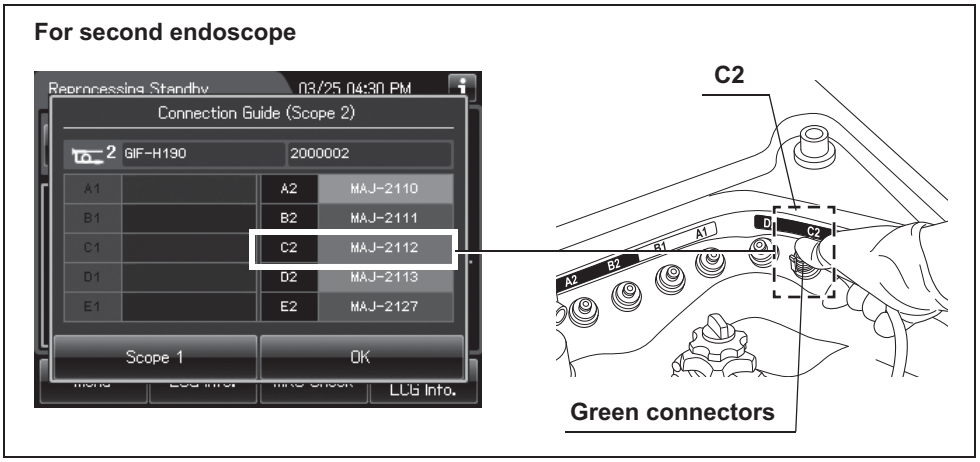


Figure 6.48

7 Insert the MAJ-2113 connecting tube into the auxiliary water port of the endoscope until it clicks.
For detail of MAJ-2113, refer to "■ Attaching the connecting tubes loading to first endoscope" on Figure 6.19. When using the MAJ-2138 refer to "■ Loading of auxiliary water tube of first endoscope" on page 186 and Figure 6.21 on page 186.

NOTE

If reprocessing the auxiliary water tube together with the endoscope, optional MAJ-2138 connecting tube is used instead of MAJ-2113. Also, the auxiliary water tube cleaning setting should be activated when using optional MAJ-2138 connecting tube. For details on setting, refer to Section 4.16, "Auxiliary water tube cleaning setting".

8 Insert the reprocessor-side connector of the MAJ-2113 connecting tube into connector with the same color (refer to the Connection Guide screen) on the deeper side of the reprocessing basin by pushing in until it clicks. In this case, connect to the connector D2 for the second endoscope.

For second endoscope

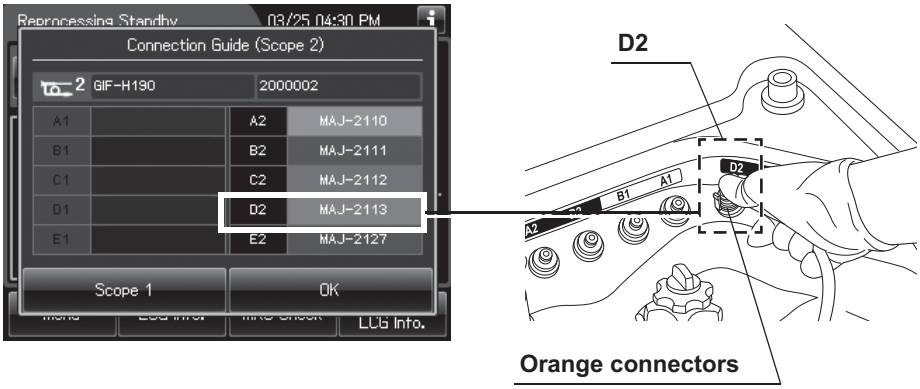


Figure 6.49

NOTE

When reprocessing an endoscope with a forceps elevator, the connecting tube must be connected to the distal end of the insertion tube.
For the appropriate connecting tube, refer to the “List of Compatible Endoscope/Connecting Tubes <OER-Elite>”.
For the connection method of the connecting tube, refer to the instruction manual for the connecting tube.

9 If the auto leak test is not included in the reprocessing program, press the OK button on the touch screen. If the auto leak test is programmed, perform the operation in “❍ Connection of the leak test air tubes of second endoscope” on page 213.

■ *Loading of auxiliary water tube of second endoscope*

When the auxiliary water tube cleaning setting is activated, an endoscope with the auxiliary water supply function can be reprocessed together with the auxiliary water tube.

For detail of warning and caution, refer to "■ Loading of auxiliary water tube of first endoscope" on page 186.

1. Insert the endoscope side connector of the MAJ-2138 connecting tube into the auxiliary water inlet of second endoscope. Turn the outer ring clockwise to connect firmly. Refer to Figure 6.21 on page 186.
2. Insert the auxiliary water tube (MAJ-855) side connector of the MAJ-2138 connecting tube into the Luer port of the auxiliary water tube. Turn the outer ring clockwise to connect firmly. Refer to Figure 6.21 on page 186.
3. Insert the reprocessor-side connector of the MAJ-2138 connecting tube into the connector of the same color (refer to the Connection Guide screen) of the reprocessing basin by pushing in until it clicks.
4. Temporarily place the indicator plate of both AW channel cleaning adapters on the washing case. Wrap the auxiliary water tube clockwise around on the inner section of the retaining rack. Do not to place the second endoscope and auxiliary water tube on the indicator plate of the AW channel cleaning adapter.

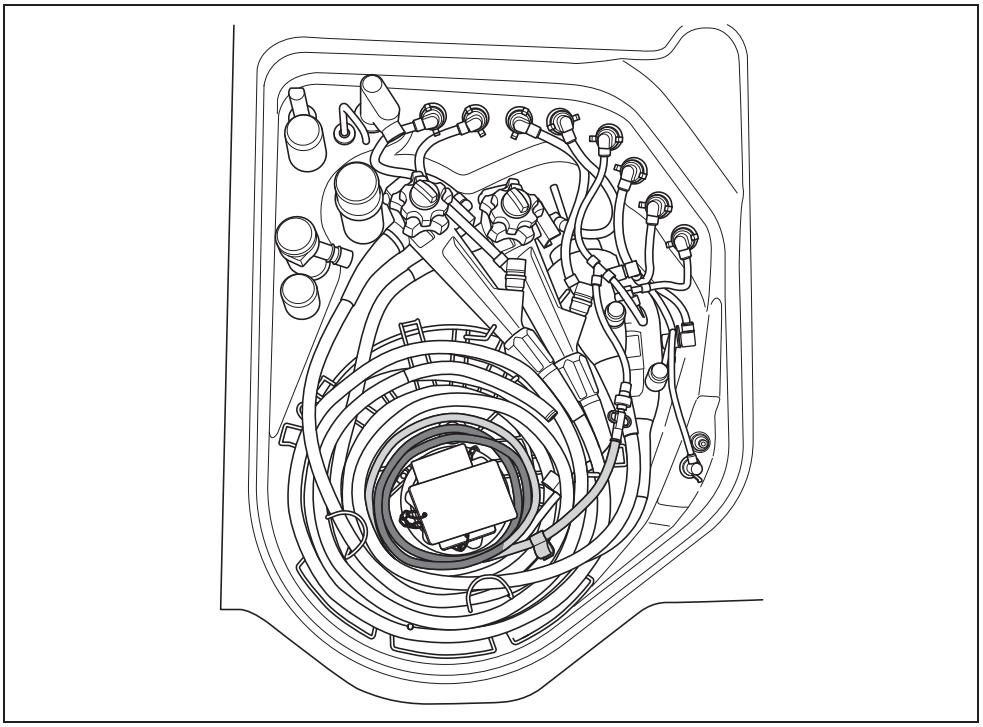


Figure 6.50

5 After loading the second endoscope and auxiliary water tube, place the indicator plates of the AW channel cleaning adapter on the second endoscope and auxiliary water tube. Make sure that the indicator plates of AW channel cleaning adapters are set between the hooks.

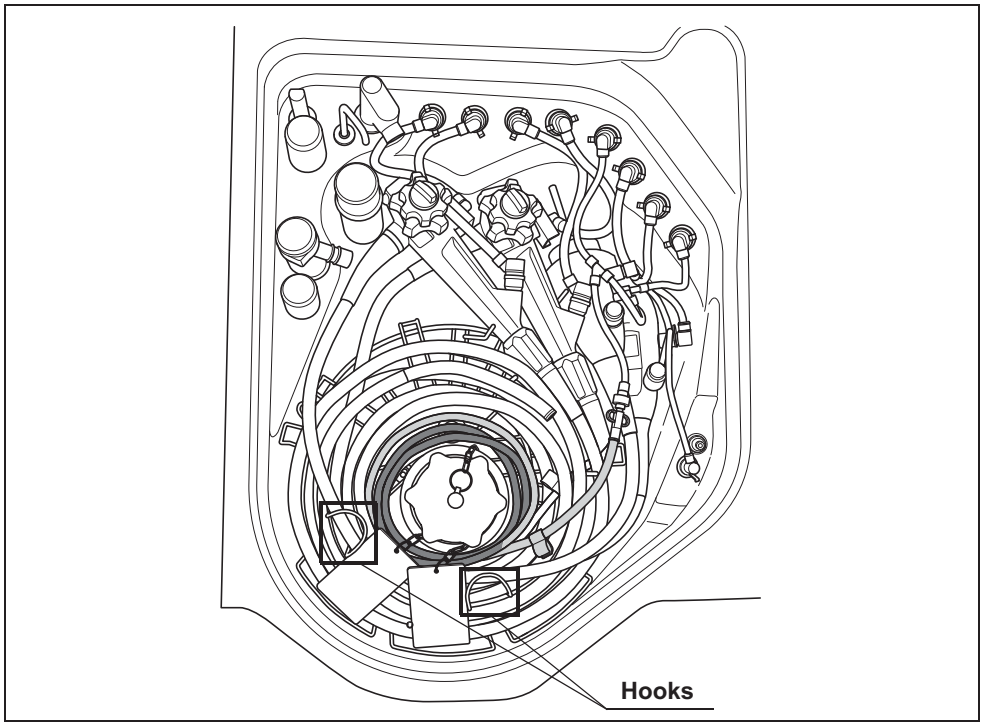


Figure 6.51

WARNING

Do not wrap the auxiliary water tube on the AW channel cleaning adapters. If the auxiliary water tubes are on the plate or the chain of the AW channel cleaning adapters, the reprocessing of AW channel cleaning adapters may be insufficient.

■ *Attaching the Leak test air tube loading to second endoscope*

When the auto leak test is included in the reprocessing program, connect the leak test air tube.

For detail of warning and caution, refer to "■ Attaching the Leak test air tube loading to first endoscope" on page 189.

❍ Connection of the leak test air tubes of second endoscope

NOTE

- Certain endoscopes are incapable of auto leak test. For the endoscopes which are compatible with the auto leak test, refer to the "List of Compatible Endoscopes/Connecting Tubes <OER-Elite>".
- Do not connect the leak test air tube to the wrong connector (e.g., leak test air tube for 1st endoscope is connected to the connector for 2nd endoscope). Otherwise, auto leak testing cannot work properly.

1. Wipe the venting connector of the second endoscope or that of the waterproof cap with a clean cloth immersed in 70% ethyl alcohol or 70% isopropyl alcohol.
2. If the leak test connector E2 in the reprocessing basin is wet, remove moisture by wiping the whole connector with a clean cloth.
3. Aligning the groove on the metal connector of the MAJ-2127 leak test air tube with the pin on the venting connector of the second endoscope or that of the waterproof cap, insert the connector into the port by turning the connector by 90° in the clockwise direction while pushing it.
   For detail of MAJ-2127, refer to "❍ Connection of the leak test air tubes of first endoscope" on Figure 6.28 on page 193.

CAUTION

Be sure to connect the leak test air tube to the specified leak test connector in the reprocessing basin. If auto leak test is performed while the leak test air tube is connected to a wrong connector, the auto leak test may become incapable of correct leak detection.

4 Insert the reprocessor-side connector of MAJ-2127 leak test air tube into the connector E2 until its lock lever is securely engaged with a snap.

Second endoscope

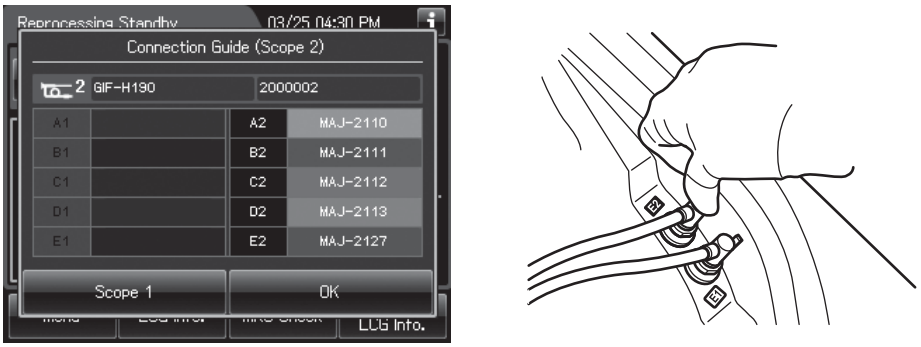


Figure 6.52

5 Press the “OK” button on the touch screen to close the Connection Guide screen.

Ch.6

■ *Input connection information of second endoscope*

When the scope ID is entered by method other than RFID, connection information screen described below is displayed on the touch screen. In this case, input of connection information is required.

For detail, refer to “■ Input connection information of first endoscope” on page 194.

■ *Input results of manual cleaning and leak test of second endoscope*

When the manual cleaning and leak test setting is activated, result of manual cleaning and leak test can be entered and associated with the endoscope.

For detail of warning and caution, refer to “■ Input results of manual cleaning and leak test of first endoscope” on page 195.

■ *Inputs user ID, physician ID, patient ID, and procedure ID of second endoscope*

User ID (load), physician ID, patient ID, and procedure ID can be entered and associated with the endoscope. Each ID entry can be changed by settings, refer to Section 4.5 – 4.9. For details on the input methods, refer to Section 3.6, “Entering ID” (If applicable). When ID is input, the icon of input ID is displayed with a white icon.

For detail of warning and caution, refer to “■ Inputs user ID, physician ID, patient ID, and procedure ID of first endoscope” on page 196.

■ *Loading the stylus pen*

The stylus pen can be reprocessed together with the endoscope. When reprocessing the stylus pen, set the stylus pen by fitting the hole of the stylus pen around the Pin (Black marking M4) of the retaining rack in the reprocessing basin. Make sure that the indicator plates of AW channel cleaning adapters are set between the hooks by referring the Figure 6.53.

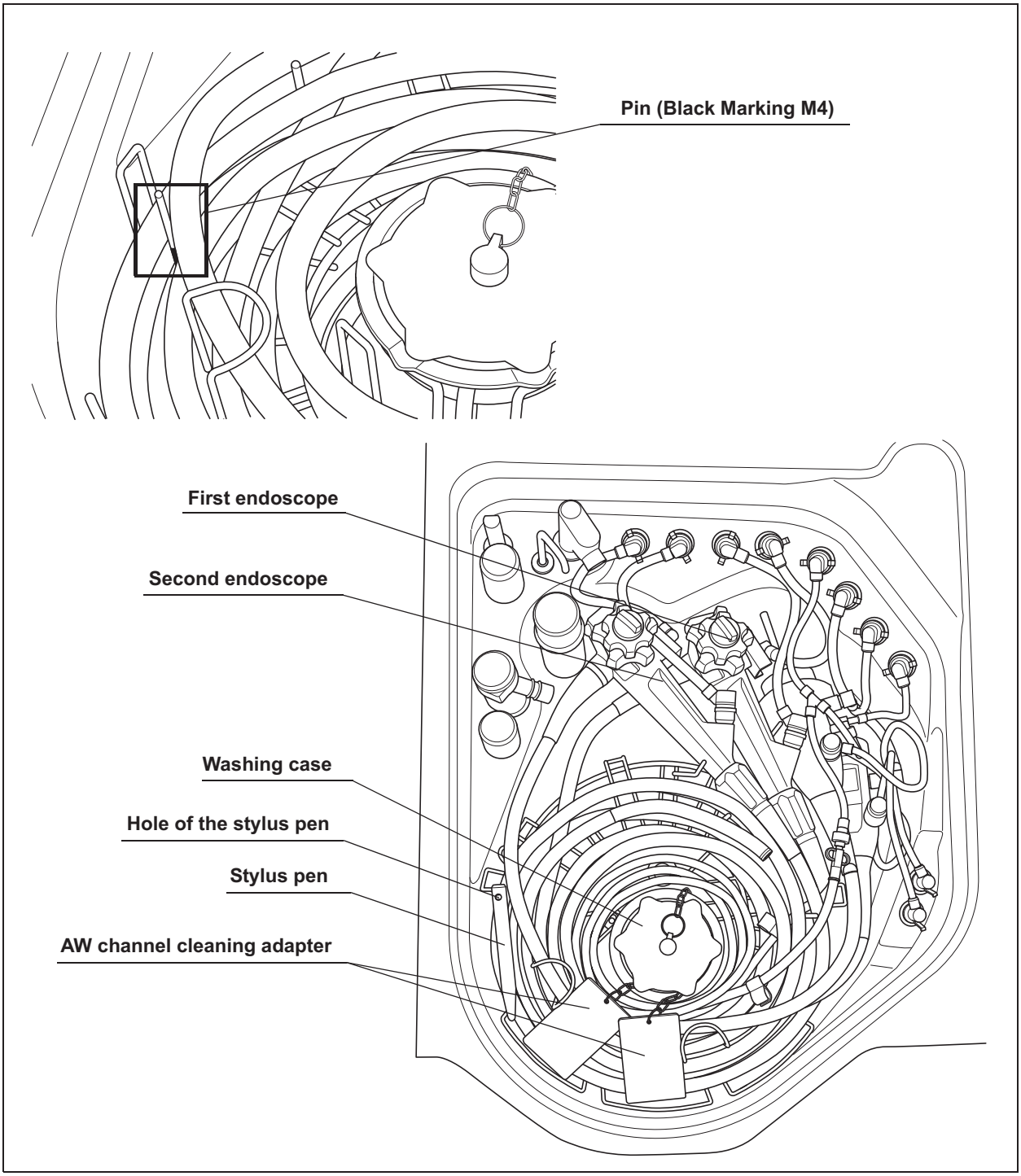


Figure 6.53

6.7 Inspection before starting reprocessing process

Before starting the reprocessing program, be sure to check all descriptions on page149 to page208 to avoid process interruption and compromise of reprocessing efficacy.

1 Check the connections between endoscope and the OER-Elite.

- The connecting tubes and leak test air tube are not kinked and bent.
- The unnecessary connecting tubes and leak test air tube are not connected to the OER-Elite.
- The wrong connecting tube is not used.
- The connecting tube is not connected to the wrong connector in the basin (e.g., connector B1 should be connected to the 1st endoscope, connector B2 should be connected to the 2nd endoscope).
- The connecting tubes should be connected firmly to the connectors.

2 Check the washing case.

- The cover of the washing case should be closed.
- The washing case should be located on the washing case mount.
- Any accessories are placed only in the washing case.
- The chains of AW channel cleaning adapter are not piled up.
- The indicator plate of AW channel cleaning adapter should be located between the hooks.

3 Check the endoscopes placed in the reprocessing basin.

– The whole of endoscope is installed below the disinfectant solution level index line on the cover of float switch (long). The cover of float switch (long) should be attached firmly.

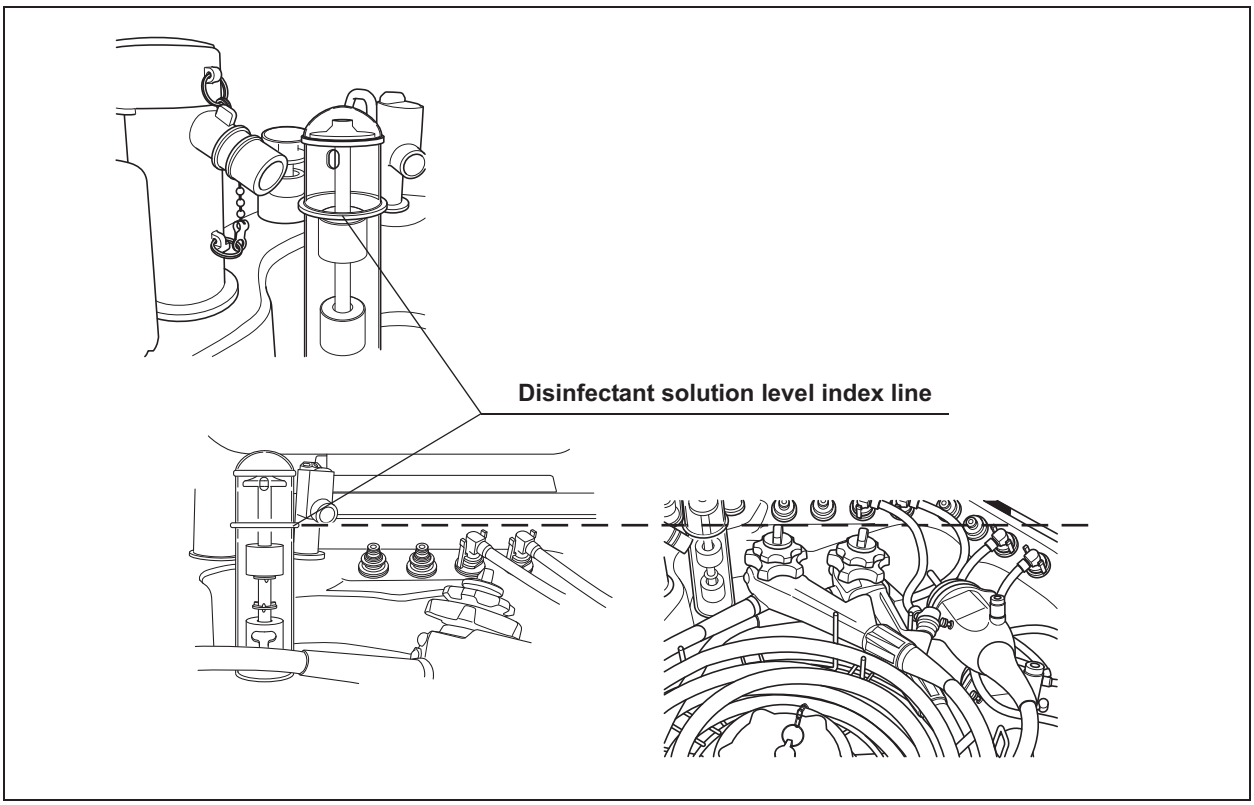


Figure 6.54

WARNING

- Be sure to check that the entire endoscope and all accessories are installed below the disinfectant solution level index line on the cover of float switch (long). If the endoscope and all accessories are installed above the disinfectant solution level index line, the reprocessing may be insufficient.
- When reprocessing an endoscope with a forceps elevator, the connecting tube must be connected to the distal end of the insertion tube. Otherwise, the reprocessing may be insufficient. For the appropriate connecting tube, refer to the “List of Compatible Endoscope/Connecting Tubes <OER-Elite>”. For the connection method of the connecting tube, refer to the instruction manual for the connecting tube.

4 Close the lid by pushing until it clicks and check that any parts of endoscopes do not touch the lid. Figure 6.55 shows the case of the reprocessing one endoscope. Figure 6.58 shows the case of reprocessing two endoscopes.

WARNING

When closing the lid, do not get the connecting tube caught between the reprocessing basin and lid and make sure the endoscopes and the washing case are not touching the lid. Otherwise, the endoscopes, the connecting tubes, the washing case and the reprocessor may be reprocessed insufficiently or get damaged or water leakage from the reprocessing basin may occur.

When reprocessing one endoscope

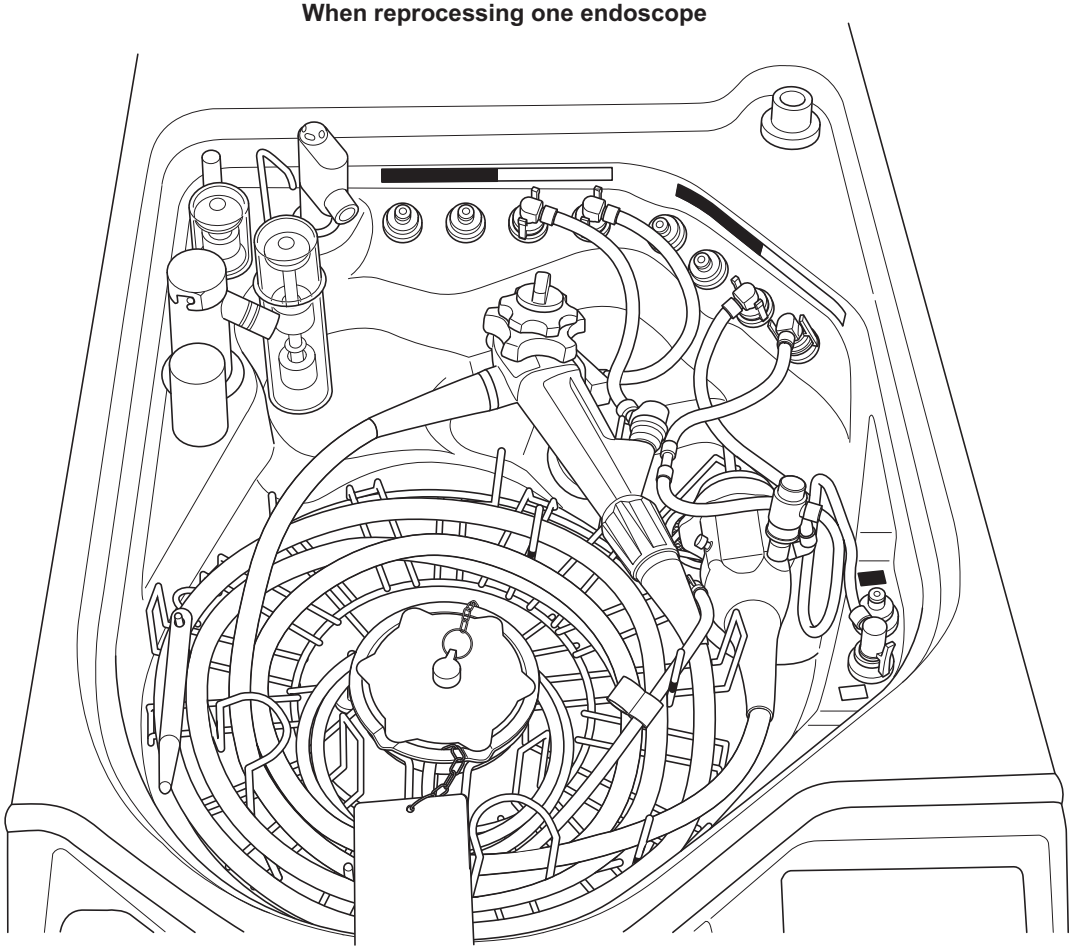


Figure 6.55

When reprocessing two endoscopes

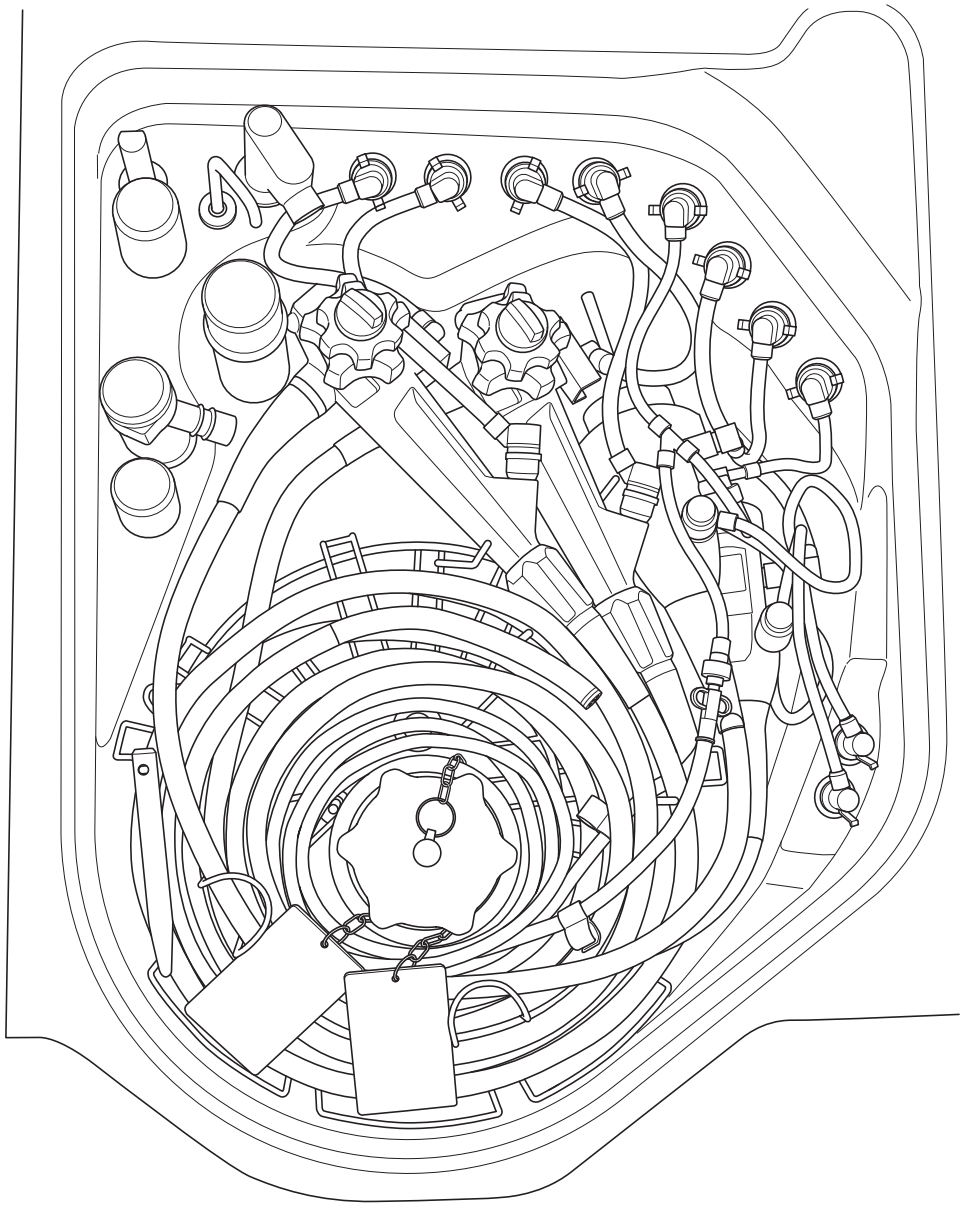


Figure 6.56

5 Check the contents of the selected reprocessing program and status of IDs entry. Confirm that the checking of concentration of disinfectant solution and MRC check result entry is completed.

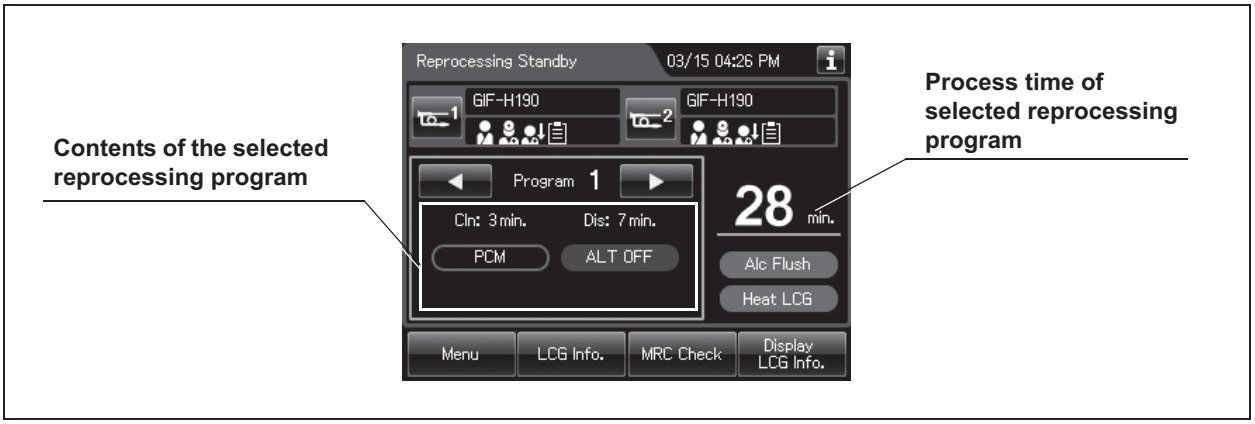


Figure 6.57

Ch.6

6.8 Reprocessing

The reprocessing time can be selected from four reprocessing programs [1] to [4]. The auto leak test and channel monitoring will be performed following the selected reprocessing program.

If any of the following methods are used to input the scope ID, the reprocessing time will be extended by 3 minutes.

- The scope ID master card is used
- The scope ID is entered using the software keyboard
- The pre-registered scope ID is recalled

Any endoscope with a forceps elevator will take an additional 3 minutes to reprocess.

No.	Auto leak Test	Channel Monitoring	(Process that the channel monitoring executes.)		
			Cleaning	Disinfection	Rinse
1	OFF	Partial (PCM)	✓	✓	
2	OFF	Full (FCM)	✓	✓	✓
3	ON	Partial (PCM)	✓	✓	
4	ON	Full (FCM)	✓	✓	✓

Table 6.3

■ *Auto leak test*

This reprocessor can automatically detect a leak in the endoscope during the reprocessing cycle. The results can be recorded in the reprocessing record. The auto leak test can reduce the mistakes of manual leak test. In addition to this function, also be sure to perform a leak test before performing manual cleaning.

Not all endoscopes are capable of auto leak test. For the endoscopes with the auto leak test capability, refer to the “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>”.
If the scope ID is input by using the scope ID master card, input by the software keyboard or input by recalling the pre-registered ID, the auto leak test is not available.
The timing of the auto leak test can be selected at the start of reprocessing or at the end of reprocessing by ALT setting. Refer to Section 6.8, “Reprocessing”.

At the start of reprocessing

When warm water is used in manual cleaning, the result of the auto leak test may be erroneous because the internal pressure of endoscope(s) is unstable due to temperature change. If the auto leak test is to be performed at the start of reprocessing, begin the reprocessing process after the endoscope temperature has returned to the room temperature. To return the room temperature, it takes 15 minutes for endoscopes other than ultrasonic endoscopes and 30 minutes for ultrasonic endoscopes. When the auto leak test is performed at the start of reprocessing, the reprocessing time is extended for about 2 minutes. If leak is detected with an endoscope, follow the procedure for leaking scope decontamination on it and contact Olympus for servicing. For details on the leaking scope decontamination, refer to Section 7.15, “Leaking scope decontamination”.

At the end of reprocessing

When the auto leak test is performed at the end of reprocessing, the reprocessing time is extended for about 2 – 7 minutes depending on the type of endoscopes and the atmospheric temperature surrounding the reprocessor.
If there is a leak with an endoscope, water may enter the endoscope from the leakage point.

When the reprocessor detects disconnection of the leak test air tube during the reprocessing process, it generates error code [E024] and stops the process.

For the related setting changes, refer to Section 4.2, “Auto leak test setting”.

WARNING

- When water leak is detected with one endoscope, the other endoscope without water leak might be reprocessed insufficiently. In this case, perform the reprocessing process again.
- Avoid exposure to direct sunlight or air conditioning vents. If there is drastic temperature change due to the exposure to direct sunlight or air conditioning, the leak test result may be erroneous.
- If the leak test result is “Fail”, do not execute reprocessing process. In this case, perform the leaking scope decontamination process with the leaking endoscope and contact Olympus for servicing. For details on the leaking scope decontamination process, refer to Section 7.15, “Leaking scope decontamination”.

CAUTION

- Even if the auto leak test is incorporated in the reprocessing program, be sure to perform manual leak test before manual cleaning. If water leaks occur with an endoscope, fluid invasion and damage to the endoscope may occur during manual cleaning.
- The touch screen may display error code [E114] (Leaked) due to the effect of the temperature of the endoscope(s). If this happens, execute the auto leak detection again after the endoscope temperature has returned to the room temperature. If error code [E114] is displayed again, perform the leaking scope decontamination process with the leaking endoscope and contact Olympus for servicing. For details on the leaking scope decontamination, refer to Section 7.15, “Leaking scope decontamination”.

NOTE

- The covering of the bending section of the endoscope may dilate slightly during the leak test. This is not malfunction.
- The auto leak test may sometimes be incapable of detecting a very small hole.

■ *Channel monitoring*

This reprocessor has the channel monitoring function, which monitors the fluid flow of each endoscope channel during the reprocessing process and checks clogging of the endoscope's suction channel (channel blockage monitoring) and the connection status of the connecting tubes (channel connectivity monitoring).
The channel monitoring function can detect the following status during the reprocessing process.

Channel blockage monitoring

Complete blocking of the endoscope's suction channel (stoppage by foreign object or buckling of suction channel).

NOTE

- Channel blockage monitoring cannot detect a partial blockage of the endoscope's suction channel.
- The "Channel Blockage Monitoring" is not available for some endoscopes. See "List of Compatible Endoscopes/Connecting Tubes <OER-Elite>" for the compatible endoscopes.
- If the scope ID is input by any of the following methods, the Channel blockage monitoring is not available.
  - Using the scope ID master card,
  - Software keyboard.
  - Recalling the pre-registered ID.

Channel connectivity monitoring

(A) Disconnection of the necessary connecting tube from the connector on the endoscope.

(B) Disconnection of the necessary connecting tube from the connector on the reprocessing basin.

(C) Connection of the unnecessary connecting tube to the connector on the reprocessing basin.

NOTE

- Disconnection of the necessary connecting tube from the connector on the endoscope cannot be detected for some endoscopes. See “List of Compatible Endoscopes/Connecting Tubes <OER-Elite>” for the compatible endoscopes.
- If the scope ID is input in any of the following methods, the function (A) would not work.
  - The scope ID master card is used
  - The scope ID is entered using the software keyboard
  - The pre-registered scope ID is recalled
- If a connecting tube is disconnected, the channel blockage monitoring may not work properly and this reprocessor may detect disconnection of the other connecting tubes from the connector on the endoscope despite the fact that they are connected properly.

When the channel monitoring is detected during the reprocessing process, the reprocessor displays error code [E024] on the touch screen and stops the process.

The detection timings can be selected from “PCM (partial channel monitoring)” for detection in the cleaning and disinfection processes and “FCM (full channel monitoring)” for detection in the cleaning, disinfection and rinsing processes. The selected detection timings are recorded in the reprocessing process record. When “FCM (full channel monitoring)” is selected, the process time extends by about 8 minutes. For the setting change, refer to Section 6.5, “Basic operation for reprocessing”.

CAUTION

The following procedures must be performed. Otherwise, the channel monitoring may not be able to detect clogged suction channel of the endoscope or improper connection of the connecting tubes.

- Clean the Circulation port mesh filters at the end of every working day.
- Check that the connectors on the reprocessing basin are not damaged prior to every use.
- Check that the connecting tubes are not damaged prior to every use.
- The endoscope(s) must be placed in the reprocessing basin in accordance with the instructions in Chapter 6.

■ *Reprocessing operation*

1 Press the “START” button. The reprocessing process starts.

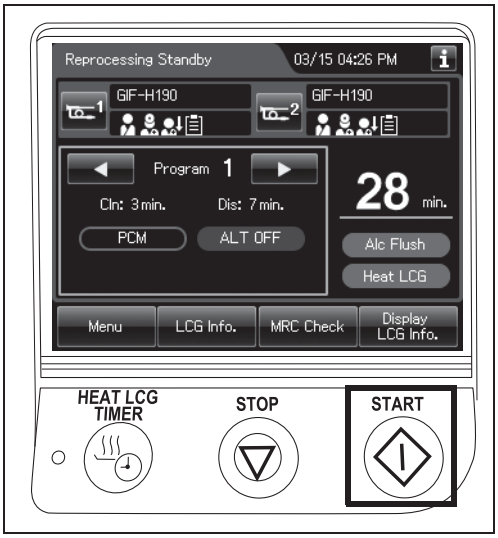


Figure 6.58

2 When the reprocessing process starts, the touch screen displays the following.

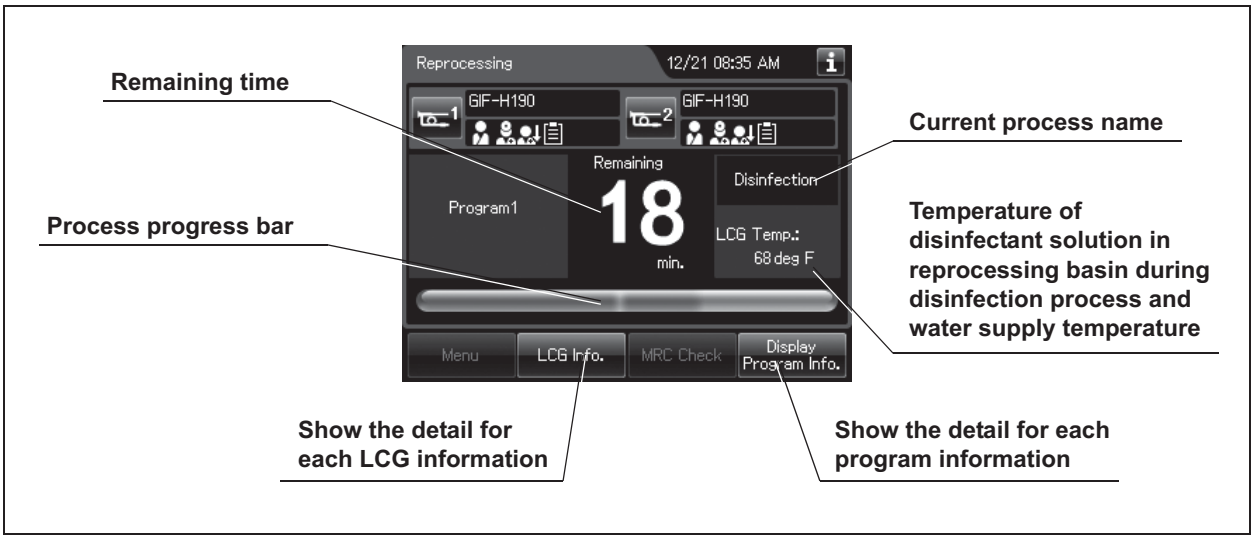


Figure 6.59

NOTE

- When the disinfectant solution temperature is below 20°C (68°F), it is heated to 20°C (68°F). During heating the disinfectant solution, the remaining time countdown and progress bar on the touch screen stops and turns gray. The remaining time countdown restarts after completion of heating the disinfectant solution.

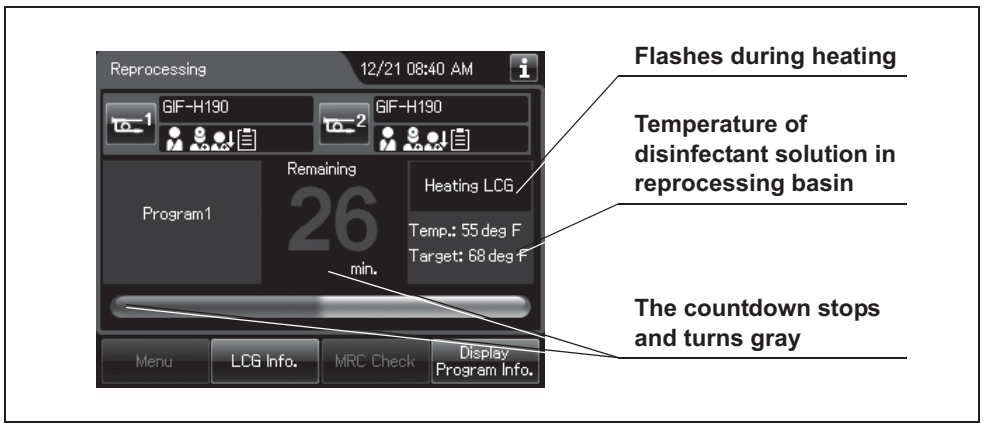


Figure 6.60

- It takes about 6 minutes to raise the temperature of the disinfectant solution by 1°C.
- To display the remaining time, the reprocessor measures the water supply time at the first time the reprocessing process. During each reprocessing process, the reprocessor measures the water flow and correct the remaining time.

3 When reprocessing process is complete, the buzzer beeps and the touch screen shows the following.

When the user ID (remove) setting for end of reprocessing is activated

Model number of reprocessed first endoscope

Number given to each record in the order of reprocessing

Model number of reprocessed second endoscope

Date and time of completion of reprocessing

Displays the input status of patient ID, physician ID, user ID (remove), and procedure ID associated with the first scope

Press to check the ID information related to the second endoscope

Displays the input status of patient ID, physician ID, user ID (remove), and procedure ID associated with the second scope

Press to check the ID information related to the first endoscope

Usage count of the disinfectant solution

Cleaning time/ disinfection time (minutes)

Number of days that have elapsed since preparation of the disinfectant solution

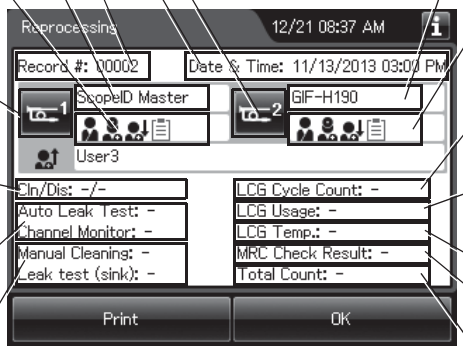
Setting of reprocessing program

Temperature of disinfectant solution during water line disinfection

Input results of manual cleaning and leak test

Input result of MRC check

Total count of the reprocessor



When the user ID (remove) setting for end of reprocessing is disabled

Figure 6.61

6.9 Removing the endoscopes and accessories

This section describes how to take the endoscopes out of the reprocessing basin after disconnecting the connecting tubes. Also, be sure to remove the valves and other items from the washing case.

WARNING

- If there is an irregularity of the connecting tube on either endoscope, it must be corrected and both endoscopes must be reprocessed again. Otherwise, the reprocessing of endoscopes may be insufficient.
- After reprocessing, maintain appropriate transportation and storage procedures to keep reprocessed endoscopes and accessories away from contaminated equipment. If the reprocessed endoscope or accessories become contaminated before subsequent patient procedures, they could pose an infection control risk to patients and/or operators who touch them.
- Wear sterilized gloves when taking reprocessed endoscopes out of the reprocessor. Otherwise, the endoscopes may be contaminated and cause infections. If this happens, you must reprocess the endoscopes again.
- After reprocessing, always confirm that no liquid has leaked from the outside surface of lid and lid packing.
- Dry the external surface and all channels before storing the endoscope. Otherwise, miscellaneous bacteria and other sources of contamination may contaminate the endoscope.
- When taking the endoscopes out of the reprocessor, make sure the endoscopes do not touch any parts of the reprocessor that has not been disinfected. This may contaminate the endoscopes. If this happens, you must reprocess the endoscope again.

CAUTION

Prevent water from getting into the leak test air tube. Otherwise, the endoscope may be damaged the next time it is used.

NOTE

Disinfectant vapor may still be in the reprocessing basin immediately after the lid is opened.

1 When the user ID (remove) setting for end of reprocessing is activated, enter the operator's user ID as instructed in Section 3.6, "Entering ID" (If applicable). When the user ID (remove) is input from the RFID, the touch screen switches to the Reprocessing Compete screen. When the input is performed manually or from the previous registration, press the "OK" button to switch the screen.

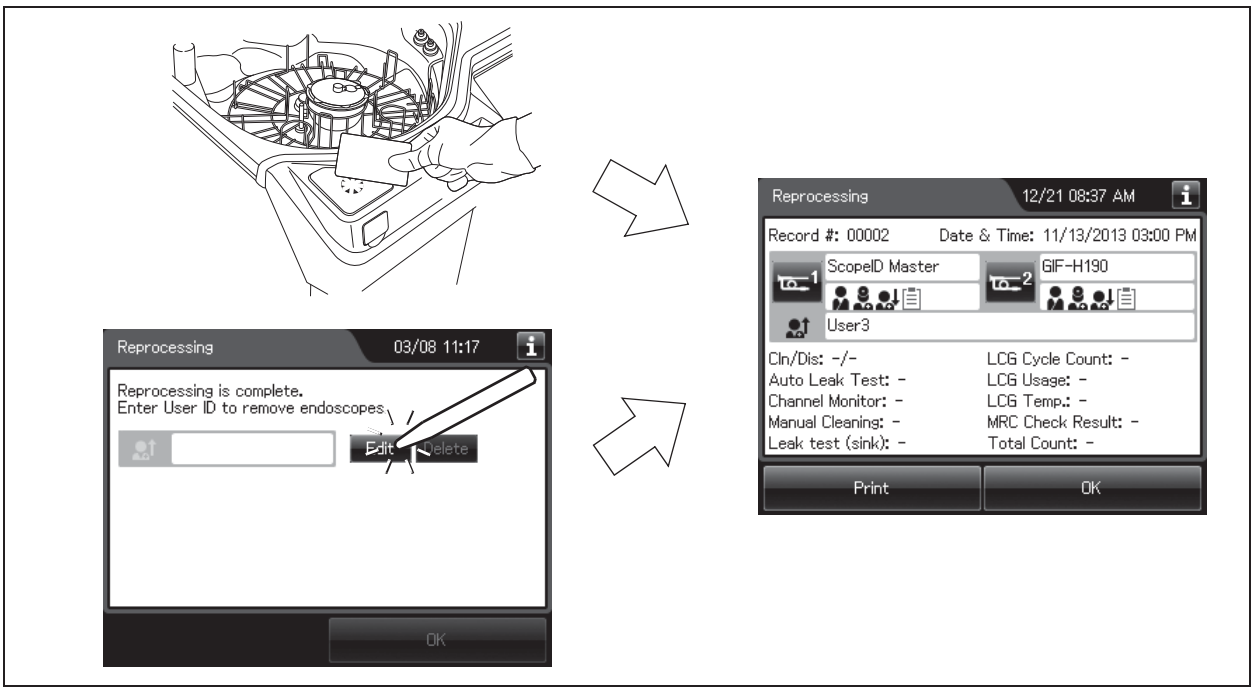


Figure 6.62

NOTE

- When the MAJ-1937 printer included in the optional MAJ-2144 printer set is connected and the auto print setting is activated, the result of reprocessing is printed automatically. To set the auto print setting, refer to Section 4.17, “Print option”.
- To print the result of reprocessing, press the “Print” button.
- The lid is locked until user ID (remove) entry is completed.
- When the user ID (remove) setting for end of reprocessing is disabled, completion screen is displayed after the reprocessing is complete.

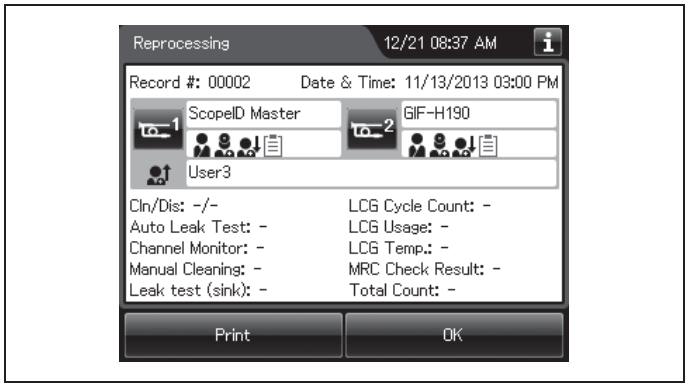


Figure 6.63

2 Wear a face mask, gloves, and protective clothes. Step on the foot pedal to open the lid.

3 Check the condition of the connecting tubes.

- The connecting tubes should not be bent.
- The connecting tubes should be connected firmly to the connectors.
- The connecting tubes should be free of irregularities including cracks, scratches, etc.

WARNING

Before disconnecting a connecting tube, visually confirm that there are no irregularities such as kinking, accidental detachment or use of wrong connecting tube and confirm that each connecting tube is firmly attached. If any irregularity is observed, it must be corrected and the endoscope must be reprocessed again. Otherwise, the reprocessing may be insufficient.

NOTE

If the connecting tube is connected to the wrong connector in the reprocessing basin (e.g. a connecting tube for the 1st endoscope is connected to the connector for the 2nd endoscope), the endoscope does not have to be reprocessed again.

4 Take out the stylus pen from the reprocessing basin.

5 Take out the accessories from the washing case.

6 If using the auxiliary water tube (MAJ-855/MAJ-2021), disconnect and take out the auxiliary water tubes (MAJ-855/MAJ-2021) from connecting tube MAJ-2138.

7 Disconnect and take out all connecting tubes and leak test air tubes from each endoscope and reprocessor.

8 Take out the endoscope(s) from the reprocessing basin. When taking out the endoscope(s), make sure the endoscopes do not touch any parts of the reprocessor that have not been disinfected.

9 Wipe off any water on the endoscopes using a piece of sterile gauze.

10 If the endoscopes have the auxiliary water inlet, attach the auxiliary water inlet cap to the auxiliary water inlet.

WARNING

After reprocessing, maintain appropriate transportation and storage procedures to keep reprocessed endoscopes and accessories away from contaminated equipment. If the reprocessed endoscope or accessories become contaminated before subsequent patient procedures, they could pose an infection control risk to patients and/or operators who touch them.

11 According to the endoscope's instruction manual, store the endoscopes and valves in a clean place.

12 Take the connecting tubes and leak test air tubes out of the reprocessing basin, wipe off any water on the tubes using a piece of sterile gauze, and store them in a clean place.

13 Press the “OK” button.

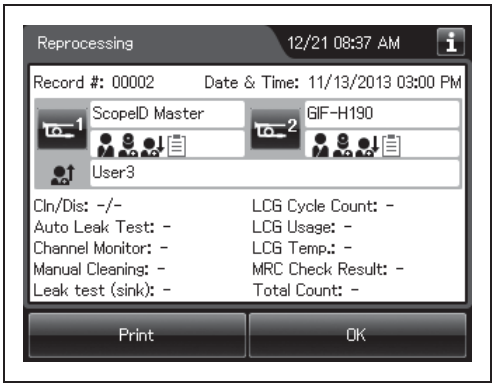


Figure 6.64

14 Reprocessed endoscopes are now ready for use.

6.10 Printing of the reprocessing records

Ch.6

When the MAJ-1937 printer included in the optional MAJ-2144 printer set is connected to this reprocessor, the results of reprocessing and the information on the error code, if generated, after the completion of reprocessing.
For how to install the printer set, refer to Section 3.11, “Loading of the optional accessories” in “Instructions-Installation Manual” and to the instruction manual for the printer set.
Auto printing after the end of reprocessing or in the case of error generation is possible by a setting change. For the setting change method, refer to Section 4.17, “Print option”.

WARNING

Do not touch the thermal head or its surroundings immediately after printing. They will be very hot and cause burns.

CAUTION

- The printed information does not guarantee the reprocessing of endoscopes. Use the printed sheets as a record of the reprocessor’s operations.
- Printed data may be lost as the paper ages and deteriorates. If you want to store this information for a month or more, transfer it to a medium with long-term storage capability.
- To prevent printer failure or printer paper roll discoloration, do not touch the printer or printer paper roll with wet hands.
- To prevent the printer from malfunctioning, do not moisten it or printer paper roll.
- Be sure to attach the printer hood. Otherwise, the printer and/or printer paper roll may get wet and cause a malfunction.

CAUTION

- To avoid damage to or deterioration of the printout, do not allow the paper to make contact with the following:
  - Alcohol or detergent
  - Oil, fat, organic solvents, or chemicals (medical, industrial or cosmetic)
  - Stamp ink
  - Water
  - Materials containing plasticizer (PVC film, desk mat, leather products, journal cover, etc.)
  - Certain stationery (plastic tape, mending tape, fluorescent-ink pen, oil-ink pen, adhesives other than starchy paste)
- To prevent discoloration of unused paper, store unused printer paper rolls according to the following conditions.
  - Dark, cool place
  - Not to exceed 25°C (77°F)
  - Not to exceed 65%RH
  - Not exposed to NOx (nitrogen oxide(s)), SOx (sulfur oxide(s)), or O3 (ozone)
- To prevent discoloration of paper after printing, store it in a place of the following conditions. If it is required to store the printed results for a month or more, it is recommended to copy the information printed on the paper to durable sheets and store the copies.
  - Dark, cool place
  - Not exceed 25°C (77°F)
  - Not exceed 65%RH
  - Not exposed to NOx (nitrogen oxide(s)), SOx (sulfur oxide(s)), or O_3 (ozone)
- When red lines appear on both sides of the printer paper roll during printing, replace the printer paper roll.
- Do not touch the paper cutter of the printer when cutting the printed paper. Otherwise, it may injure your hand.
- Cut the printed paper after every printing. Otherwise, the printer paper roll may jam and/or be damaged.
- Pay attention to handle the portable memory and printed paper that include patient information exported from the OER-Elite.

■ *Printing reprocessing results after completion of reprocessing*

1 After completion of the reprocessing process, ensure that the following screen is shown on the touch screen.

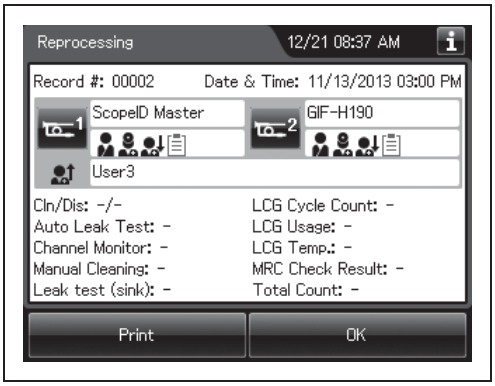


Figure 6.65

NOTE

If the “OK” button is pressed here, the touch screen switches to the Reprocessing Standby screen. If the Reprocessing Standby screen appears, select “Log, Info” from the menu to open the screen of each record and press the “Print” button to start printing. For how to view a record, refer to Section 11.2, “Log display and output”.

2 Press the “Print” button.

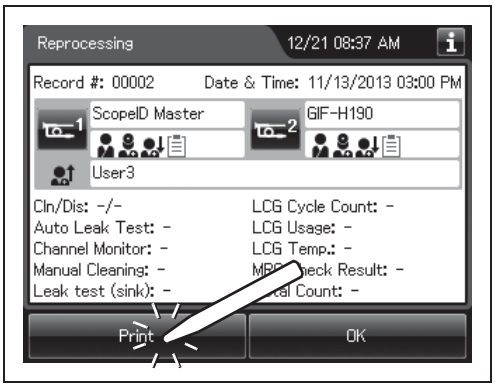


Figure 6.66

3 A buzzer beep and stopping of paper feed mean that the printing is complete. Cut the printed paper and ensure that the required information is printed correctly.

❍ Print format (reprocessing result)

The reprocessing result is printed in the following 2 options. To change the option, refer to Section 4.17, “Print option”.

(a) Separate

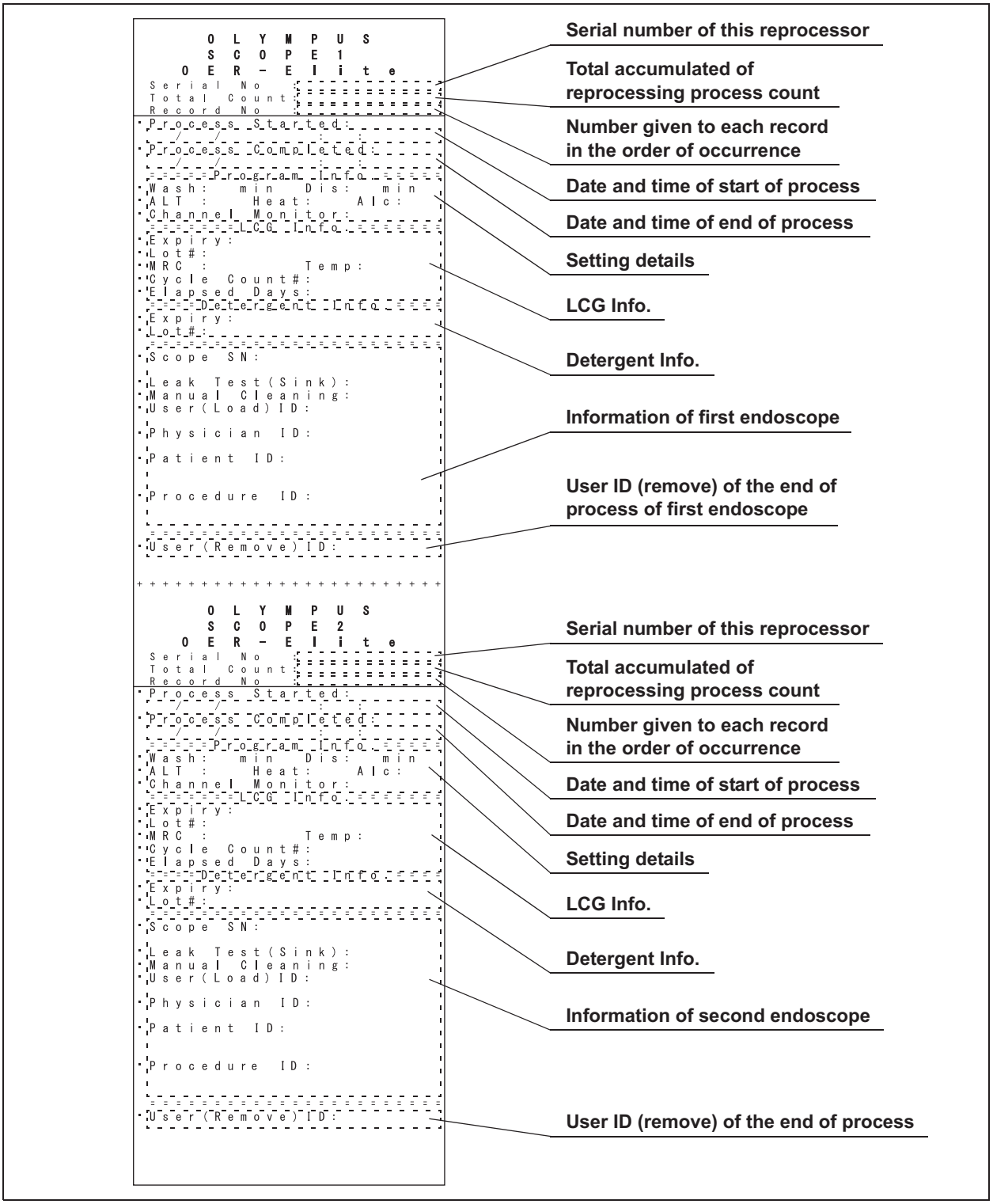


Figure 6.67

(b) Combine

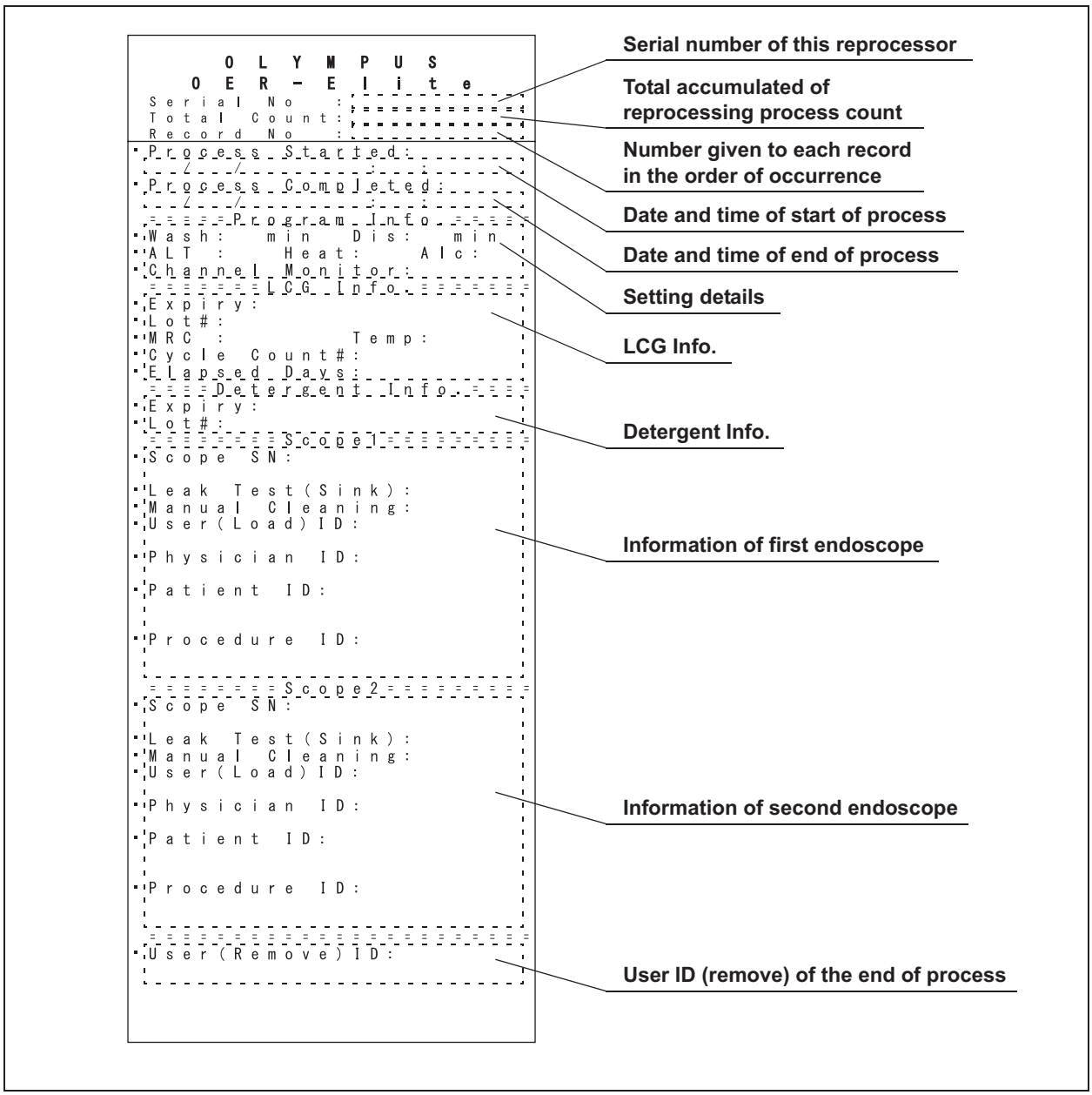


Figure 6.68

■ *Printing error code details in case of error*

1 The following screen appears after auto processing of a generated error. On this screen, press the “Error Info.” button.

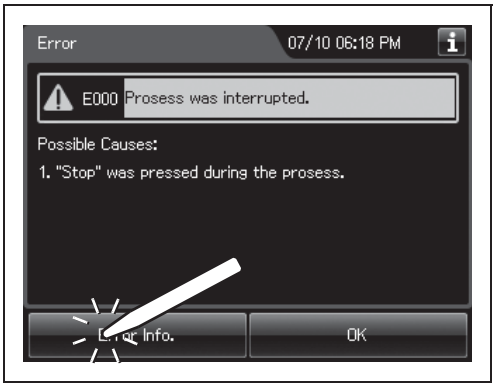


Figure 6.69

NOTE

The displayed information varies depending on the generated error.

2 Press the “Print” button.

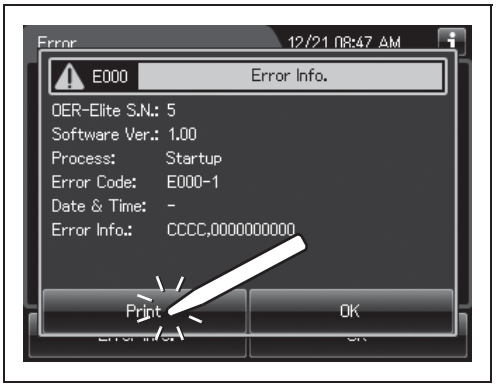


Figure 6.70

3 A buzzer beep and stopping of paper feed mean that the printing is complete. Cut the printed paper and ensure that the required information is printed correctly.

Print format (error result)

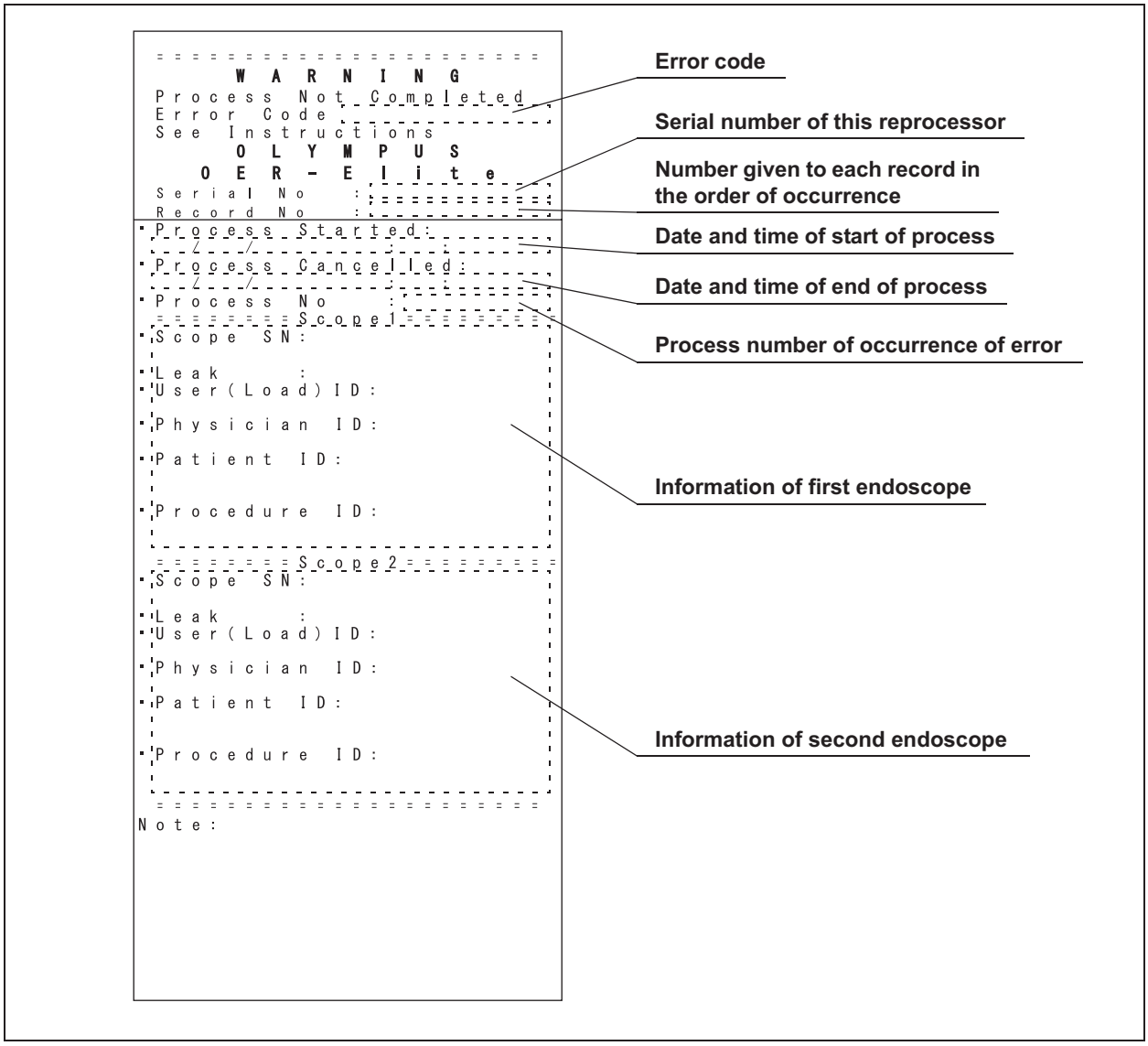


Figure 6.71

Chapter 7 Functions

7.1 Function menu

■ Function menu

This menu is composed of two pages. To go between the pages, press the next page button or previous page button.

NOTE

To set the Heat LCG Timer, press the “HEAT LCG TIMER” button on the control panel. For details, refer to Section 7.3, “Heat LCG Timer”.

No.	Button		Description
1	Function item button		Press to display the buttons for starting various functions.
	Page 1	Heat LCG	Press to heat the disinfectant solution. →Refer to Section 7.2, “Heat LCG”.
		Mix LCG	Press to mix the disinfectant solution. →Refer to Section 7.4, “Mix LCG”.
		Rinse	Press to rinse the disinfected articles. →Refer to Section 7.5, “Rinse”.
		Air Purge	Press to perform air purge. →Refer to Section 7.6, “Air purge”.
		Water Line Disinfection	Press to disinfect the water supply line. →Refer to Section 7.7, “Water line disinfection”.
		Self-Disinfection & Water Sampling	Press to perform self-disinfection. →Refer to Section 7.8, “Self-disinfection and water sampling”.
		Detergent Line Disinfection	Press to disinfect the detergent line. →Refer to Section 7.9, “Detergent line disinfection”.
		Alcohol Line Disinfection	Press to disinfect the alcohol line. →Refer to Section 7.10, “Alcohol line disinfection”.

No.	Button		Description
1	Page 2	Manual Leak Test	Press to perform manual leak test. →Refer to Section 7.11, “Manual leak test”.
		Auto Leak Test	Press to perform the auto leak test. →Refer to Section 7.12, “Auto leak test”.
		ALT Self-Check	Press to perform the self-check of the auto leak test function. →Refer to Section 7.13, “Self-check of auto leak test”.
		Alcohol Flush	Press to perform alcohol flush. →Refer to Section 7.14, “Alcohol flush”.
		Leaking Scope Decontamination	Press to perform the leaking scope decontamination. →Refer to Section 7.15, “Leaking scope decontamination”.
2	Menu button		Press to open the Menu screen.
3	LCG Info. button		Press to open the LCG Info. screen. →Refer to Section 3.5, “LCG Info. screen”.
4	Previous page button		Press to return to the previous page. When there is no further page to go forward to, the button turns gray and becomes unavailable.
5	Next page button		Press to go to the next page. When there is no further page to turn back to, the button turns gray and becomes unavailable.

7.2 Heat LCG

This section explains how to heat the disinfectant solution independently of the reprocessing programs. The operation consists of heating disinfectant solution to 22°C (72°F) when the disinfectant solution temperature is below 20°C (68°F).

CAUTION

Before starting heating the disinfectant solution, always confirm that there is no foreign material on the ventilation openings on the gas filter cases. Blocking the ventilation not only hinders deodorization but may also cause the reprocessor to malfunction.

NOTE

- Before performing the Heat LCG, disconnect the leak test air tube from the connector on the reprocessor and take the tube out of the reprocessing basin. If leak test air tubes are left in the basin, it becomes wet through the Heat LCG process.
- For how to check the disinfectant solution temperature, refer to Section 3.5, “LCG Info. screen”.

1 Press the “Functions” button on the Menu screen.

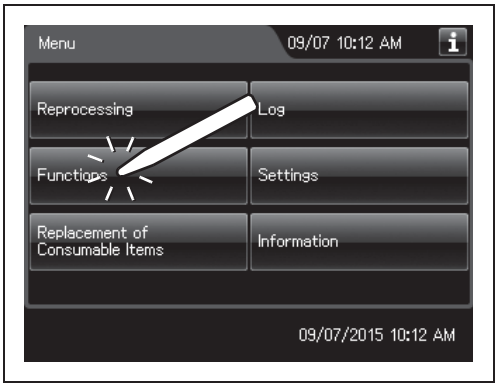


Figure 7.1

2 Press the “Heat LCG” button on the 1st page of the Function menu.

Figure 7.2

3 Close the lid by pushing until it clicks and make sure water faucet is open.

4 Enter the user ID. (If applicable)

NOTE

For the detailed procedure of ID entry, refer to Section 3.6, “Entering ID” (If applicable).

5 Press the “Start” button. The Heat LCG process will begin. Put the duration time on the same page as this step.

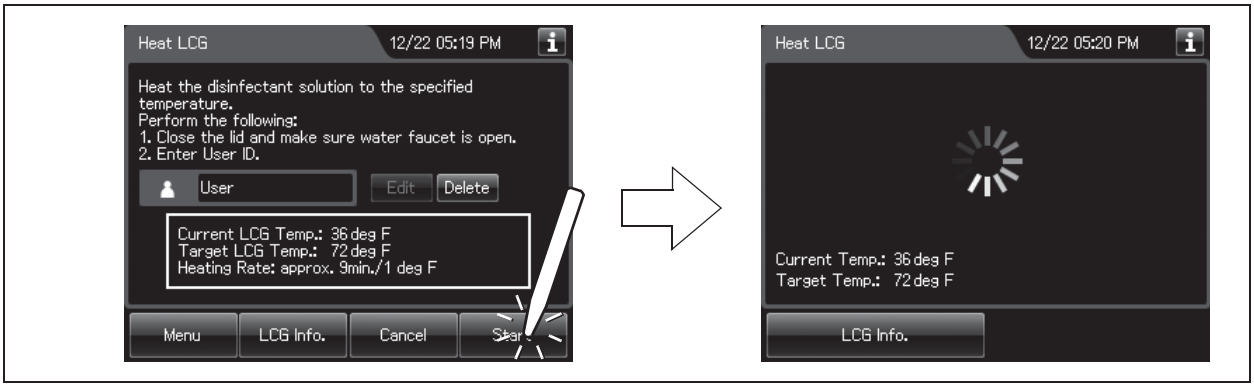


Figure 7.3

NOTE

Heating normally takes approximately 5 minutes for every 1°C temperature rise.

6 When the disinfectant solution is heated to the specified temperature, the disinfectant solution is collected automatically and the reprocessing basin is rinsed.

7 When the Heat LCG process completes, the reprocessor generates a buzzer beep and will display the following screen on the touch screen. Press the “OK” button to finish.

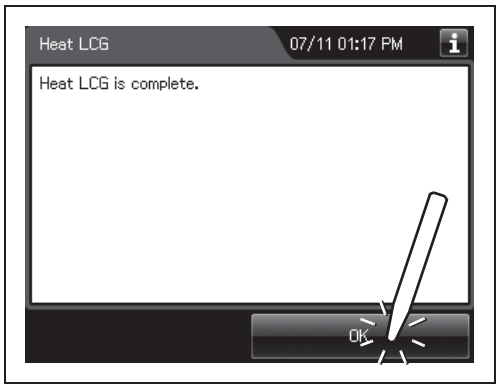


Figure 7.4

7.3 Heat LCG Timer

This function heats the disinfectant solution to the appropriate temperature by a specified time. When the temperature of the disinfectant solution is below 20°C (68°F), the OER-Elite will heat the disinfectant solution to 22°C (72°F).

WARNING

Before performing the Heat LCG Timer, clean and inspect the reprocessor by following the instructions in Chapter 10, “End-Of-Day Checks”. Otherwise, the functions and performance of the reprocessor would be unable to be maintained.

CAUTION

- Before performing to Heat LCG Timer function, disconnect the leak test air tube from the connector on the reprocessor and be sure to take the tube out of the reprocessing basin. Otherwise, penetration of water or disinfectant solution inside the leak test air tube may cause its failure. Also, the endoscope may also fail if the water or disinfectant solution penetrating in the leak test air tube enters the endoscope during the leak test.
- Keep the water faucet closed during standby of the Heat LCG Timer. Otherwise, the change in the water pressure could disconnect the water supply hose and cause water leak.

NOTE

- The user ID can be recorded in the Heat LCG record. For setting change of the user ID input function, refer to Section 4.5, “User ID Setting”.
- Heating normally takes approximately 5 minutes for every 1°C temperature rise.

■ *Flow of Heat LCG Timer*

1	**Starting the Heat LCG Timer.** **→on page 245**
2	**Standing by and starting the Heat LCG Timer.** **→on page 253**
3	**Finishing of the Heat LCG Timer.** **→on page 254**

■ *Starting the Heat LCG Timer*

1 Close the water faucet.

2 Ensure that the reprocessor is ON.

3 Close the lid by pushing until it clicks.

4 Press the “HEAT LCG TIMER” button on the control panel.

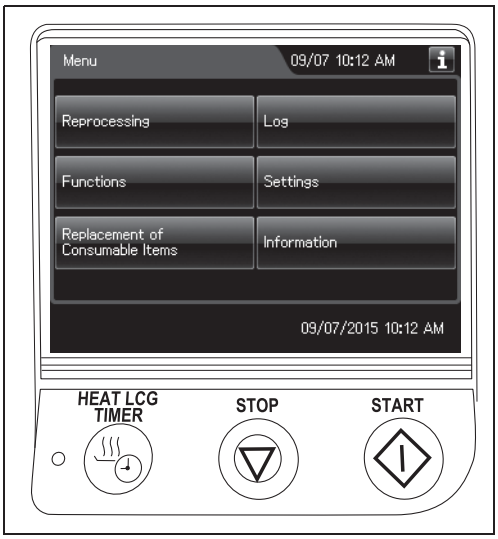


Figure 7.5

5 Input the user ID. For the detailed procedures, refer to Section 3.6, “Entering ID” (If applicable).

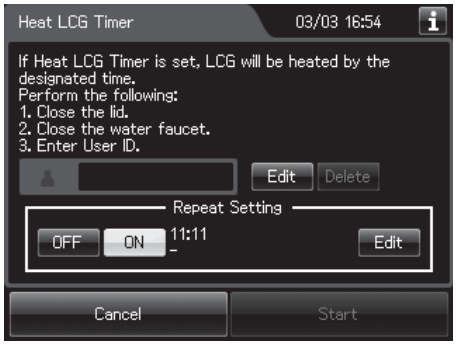


Figure 7.6

NOTE

- The user ID input can be omitted according to the user ID input setting. For details, refer to Section 4.5, “User ID Setting”.
- When the user ID setting (Heat LCG Timer) is not activated, this screen is not displayed. Skip this step.

6 When set Heat LCG Timer just for one time, press the “OFF” button in the repeat setting. Then Press “OK” button. Refer to “(a) When repeat setting is selected “OFF”” on page 248. When you want to set Heat LCG Timer repeatedly, press the “ON” button in the repeat setting. Refer to “(b) When repeat setting is selected “ON”” on page 250.

Figure 7.7

NOTE

- Do not turn the main power off. Doing so disables the Heat LCG.
- To display the touch screen again, press the touch screen or any button on the control panel.
- To stop the Heat LCG Timer setting, press “STOP” button on the reprocessor.
- The Heat LCG Timer Indicator light even when the touch screen displays nothing.

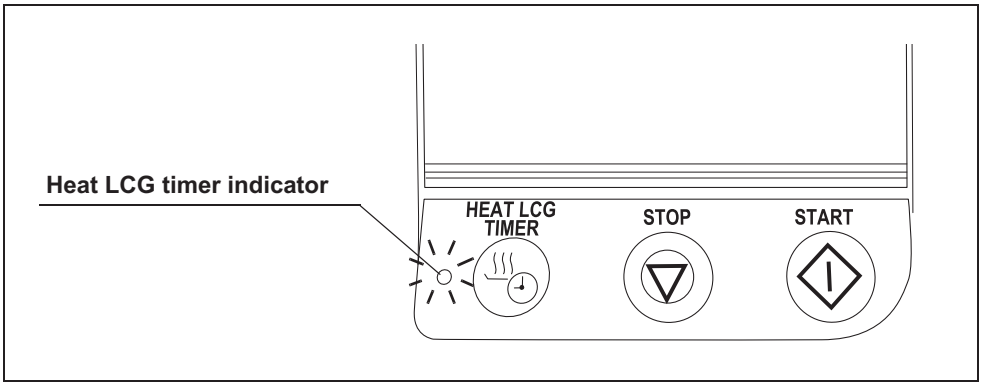


Figure 7.8

(a) When repeat setting is selected “OFF”

1 Change the completion date/time and press the “OK” button.

No.	Item/Button	Description
1	Change completion date	Sets the date of Heat LCG Timer completion. Pressing the + button increments the setting and pressing the – button decrements it.
2	Change completion time (Hour)	Sets hour of Heat LCG Timer completion. Pressing the + button increments the setting and pressing the – button decrements it.
3	Change completion time (Min.)	Sets minute of Heat LCG Timer completion. Pressing the + button increments the setting and pressing the – button decrements it.
4	Cancel	Cancels the setting change.
5	OK	Goes to the next screen page after saving the edited information.

2 The touch screen display changes as shown Figure 7.9 and appear to turn off after 5 minutes of inactivity, the touch screen appears to turn off and the Heat LCG Timer enters the standby mode.

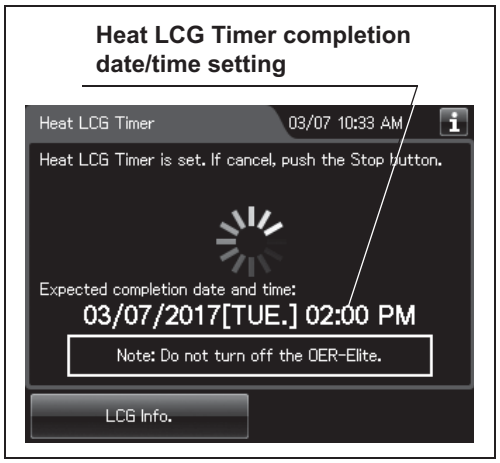


Figure 7.9

NOTE

- If no operation is made more than 5 minutes, the touch screen appears to turn off. To display the touch screen again, press the touch screen or the button on the control panel. For detail of executing, the touch screen displays a screen as shown Figure 7.10.

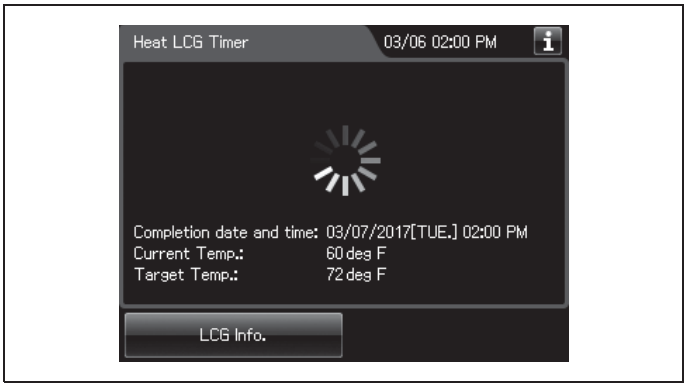


Figure 7.10

- The Heat LCG Timer Indicator light even when the touch screen displays nothing.

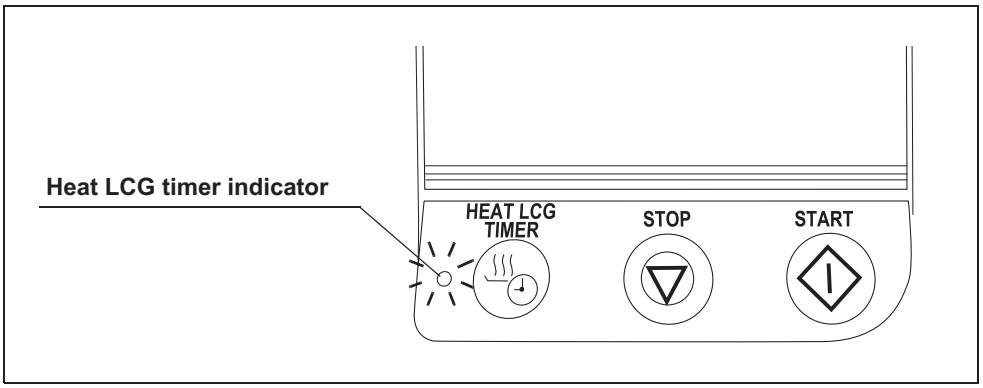


Figure 7.11

(b) When repeat setting is selected “ON”

Under the repeat setting, the Heat LCG Timer is repeated weekly based on the specified day(s).

1 Press the “Edit” button in the repeat setting.

Figure 7.12

2 Select the day(s) of you want to run the Heat LCG Timer and press the “OK” button. “✓” is marked on the selected day(s).

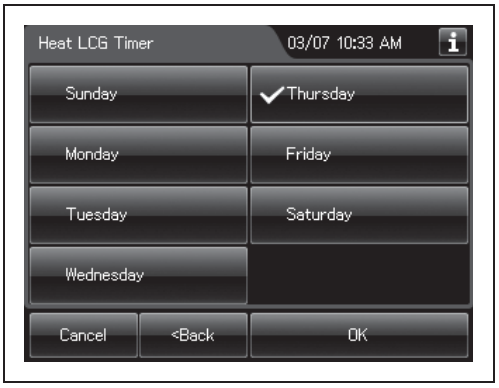
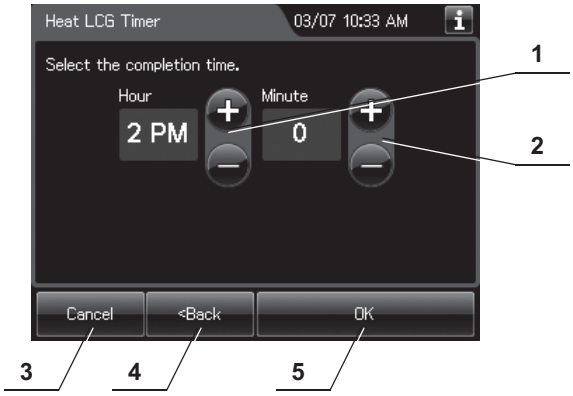
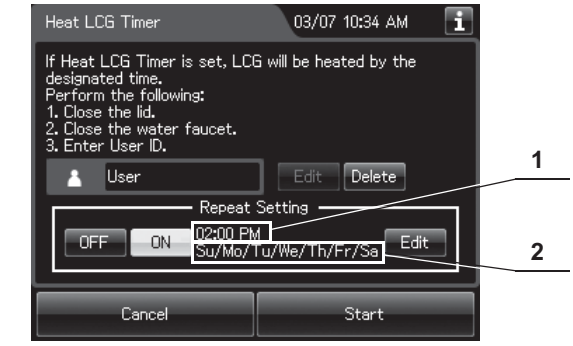


Figure 7.13

3 Set the Heat LCG Timer completion time and press the “OK” button.



No.	Item/Button	Description
1	Change completion time (Hour)	Sets hour of Heat LCG Timer completion. Pressing the + button increments the setting and pressing the – button decrements it.
2	Change completion time (Min.)	Sets minute of Heat LCG Timer completion. Pressing the + button increments the setting and pressing the – button decrements it.
3	Cancel	Cancels the setting change.
4	Back	Returns to the days of the week selection menu.
5	OK	Returns to the setting menu of Heat LCG Timer after saving the edited information.



No.	Item	Description
1	Completion Time	Sets the time of Heat LCG Timer completion.
2	Completion day of week	Sets the day of week of Heat LCG Timer completion. Su: Sunday, Mo: Monday, Tu: Tuesday, We: Wednesday, Th: Thursday, Fr: Friday, Sa: Saturday

4 Press the “Start” button on the touch screen. Then, the Heat LCG Timer is started. The touch screen display changes as shown Figure 7.14 and appear to turn off after 5 minutes of inactivity, the touch screen appears to turn off and the Heat LCG Timer enters the standby mode.

Figure 7.14

NOTE

- If no operation is made more than 5 minutes, the touch screen appears to turn off. To display the touch screen again, press the touch screen or the button on the control panel. For detail of executing, the touch screen displays a screen as shown Figure 7.15.

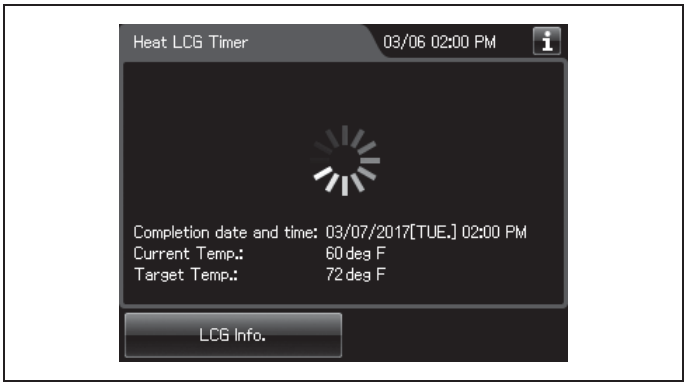


Figure 7.15

- The Heat LCG Timer Indicator light even when the touch screen displays nothing.

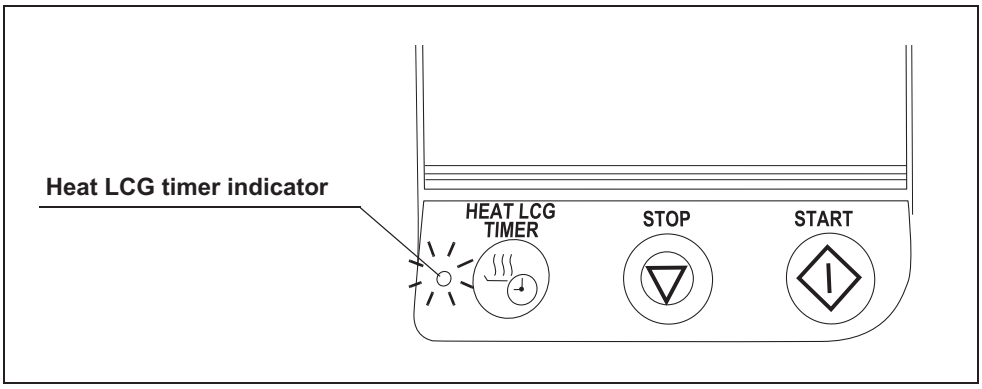


Figure 7.16

■ *Standing by and starting the Heat LCG Timer*

During standby and the heating process, the Heat LCG indicator lights and the touch screen appears to turn off.
If the touch screen or any button on the control panel is pressed during heating process, the touch screen displays the following screen.

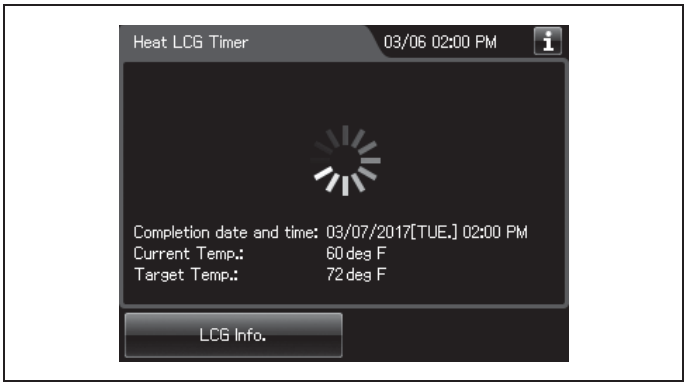


Figure 7.17

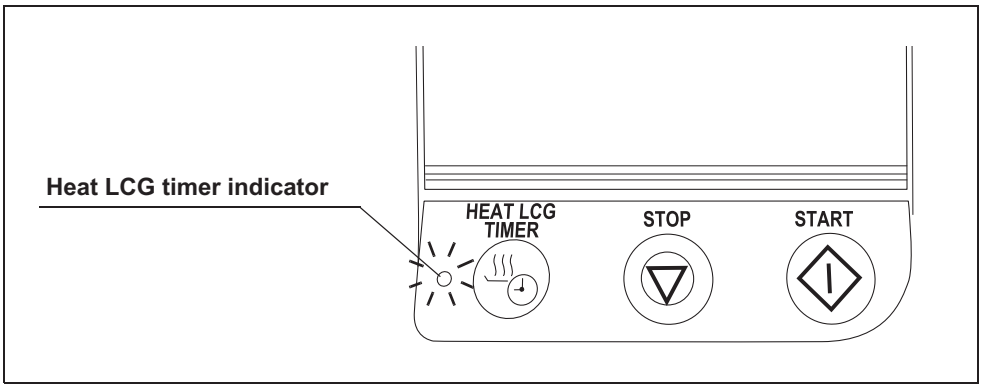


Figure 7.18

NOTE

Heating normally takes approximately 5 minutes for every 1°C temperature rise.

■ *Finishing the Heat LCG Timer*

1 When heating process completes, the touch screen display changes as shown on the Figure 7.19.

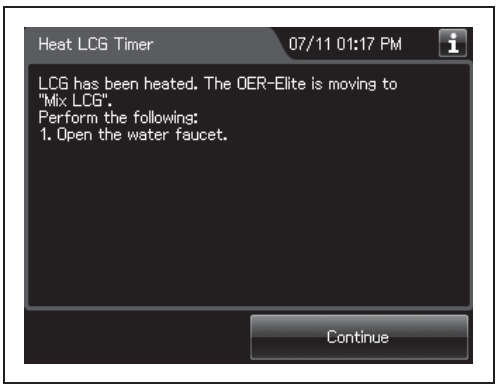


Figure 7.19

NOTE

When heating process completes, the reprocessor starts the mixing LCG process. Because the MRC check result may become erroneous.

2 Open the water faucet.

3 Press the “Continue” button to start mixing the disinfectant solution.

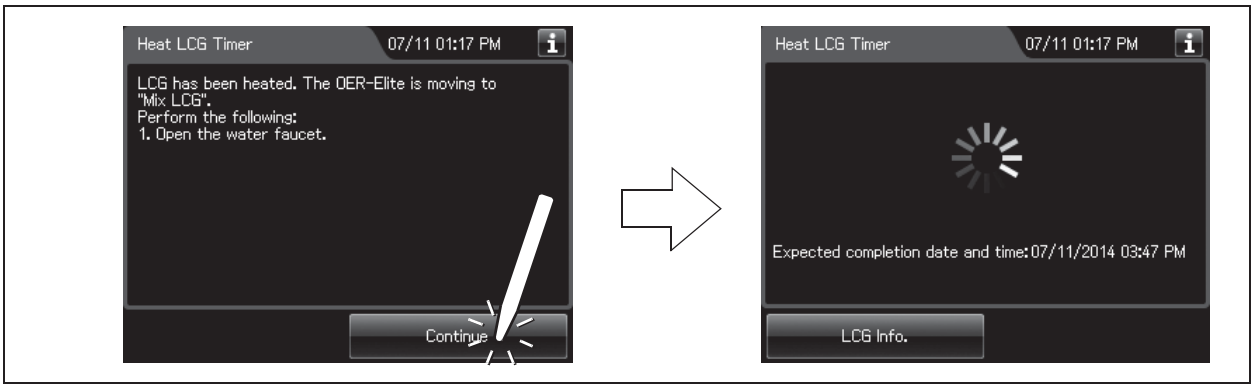


Figure 7.20

4 When the mixing the disinfectant solution completes, the touch screen displays the following screen. Press the “OK” button. Then, the OER-Elite will reboot automatically.

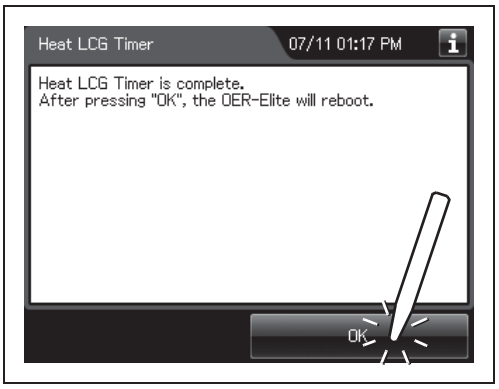


Figure 7.21

7.4 Mix LCG

This function mixes the disinfectant solution to enable an accurate concentration check.

WARNING

If Mix LCG is performed while the endoscopes are placed in the reprocessing basin, the endoscopes must be reprocessed after the Mix LCG. Otherwise, the endoscopes cannot be reprocessed sufficiently.

NOTE

- To ensure accurate MRC check, mix LCG is generally required at the first use of the day. Also, mix LCG is required when the interval of reprocessing operation is beyond 4 hours. If the mix LCG is required, the message is automatically displayed on the touch screen.
- If the MRC check is entered a long time (maximum 5 days) after the previous use of the disinfectant, the touch screen may display the guidance for the request of the Mix LCG.

1 Press “Functions” on the Menu screen.

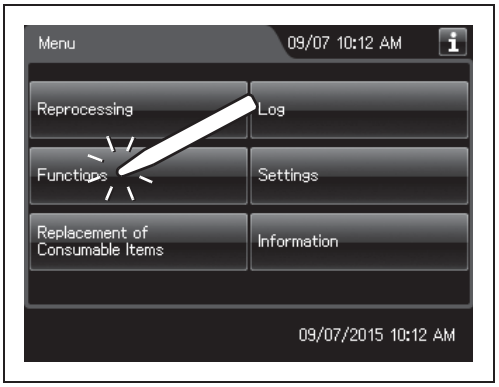


Figure 7.22

2 Press the “Mix LCG” button on the Function menu.

Figure 7.23

3 Follow the guide displayed on the touch screen. Close the lid by pushing until it clicks and make sure the water faucet is open.

4 Enter the user ID. (If applicable)

NOTE

The user ID input can be omitted according to the user ID input setting. For details, refer to Section 4.5, “User ID Setting”.

5 Press the “Start” button. Mix LCG process starts.

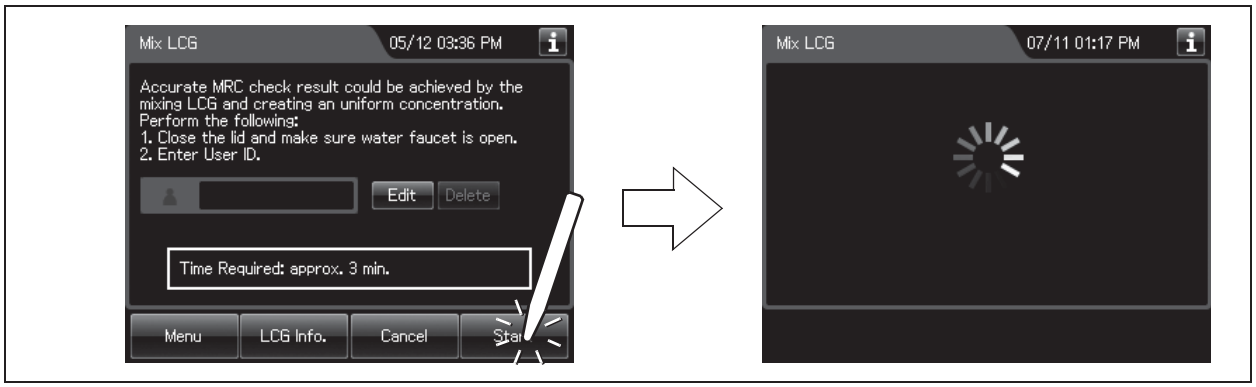


Figure 7.24

6 When the Mix LCG process completes, the reprocessor generates a buzzer beep and displays the following screen on the touch screen. Press the “OK” button to finish.

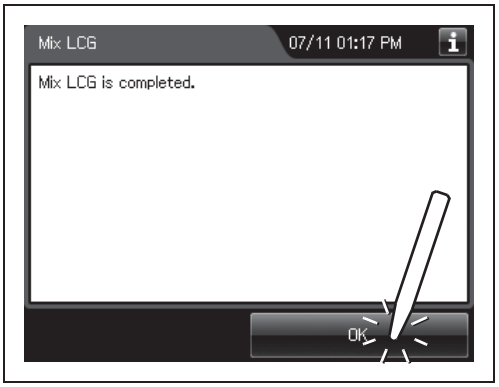


Figure 7.25

7.5 Rinse

If cleaning fluid or disinfectant solution remains in the reprocessing basin or inside the lumens of the endoscope after an irregularity occurs or if the process is stopped before it completes, please the rinse process after the completion of the air purge process.

After disinfection, a water rinse is performed three times. Rinse conditions such as number of rinses performed and rinse time cannot be changed. Worst case time and water volume of each rinse cycle are shown below. Time and water volume can vary depending on endoscope models, number of endoscopes loaded and water supply conditions.

Rinse cycle	1st cycle	2nd cycle	3rd cycle
Time	100 s	110 s	130 s
Rinse water volume	14.7 L 3.9 gallons	17.9 L 4.7 gallons	17.9 L 4.7 gallons

Table 7.1

CAUTION

- Be sure to perform the air purge first if cleaning fluid or disinfectant solution is still in the reprocessing basin or endoscopes. Otherwise, rinse may be insufficient.
- Before starting the rinse, always confirm that there is no foreign material on the ventilation openings on the gas filter cases. Blocking the ventilation not only hinders deodorization but may also cause the reprocessor to malfunction.

1 Press the “Functions” button on the Menu screen.

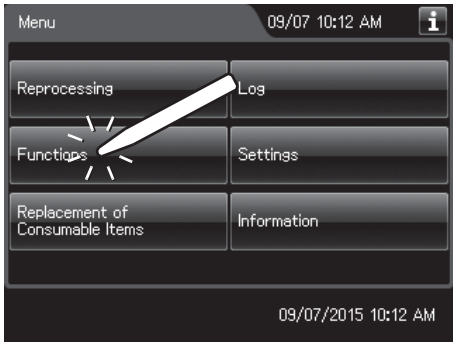


Figure 7.26

2 Press the “Rinse” button on the Function menu.

Figure 7.27

3 Follow the guide displayed on the touch screen. Close the lid by pushing until it clicks and make sure water faucet is open.

4 Enter the user ID. (If applicable)

NOTE

The user ID input can be omitted according to the user ID input setting. For details, refer to Section 4.5, “User ID Setting”.

Ch.7

5 Press the “Start” button. Rinse starts and the touch screen displays the remaining time, which will count down every minute.

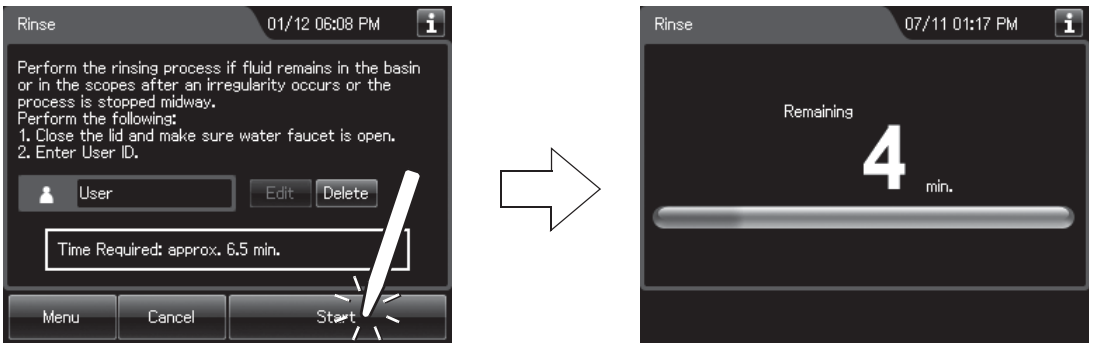


Figure 7.28

6 When the rinse process completes, the reprocessor generates a buzzer beep and displays the following screen on the touch screen. Press the “OK” button to finish.

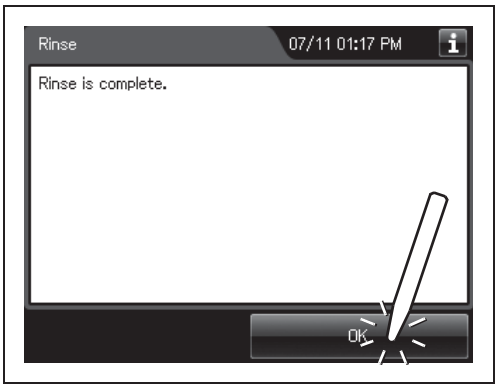


Figure 7.29

7.6 Air purge

Air purge is performed to drain the remaining cleaning fluid and disinfectant solution from the basin after an irregularity occurs, or if the process is stopped before it completes. Air purge also eliminates residual fluid from the endoscope channels.

1 Press the “Functions” button on the Menu screen.

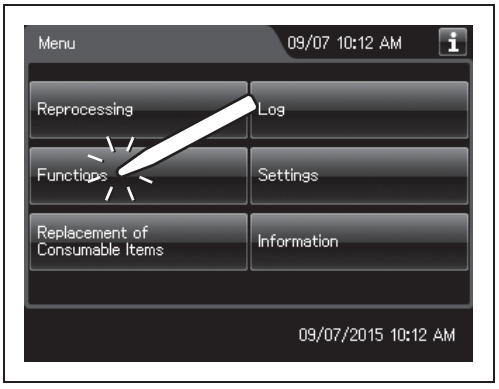


Figure 7.30

2 Press the “Air Purge” button on the Function menu.

Figure 7.31

3 Follow the guide displayed on the touch screen. Close the lid by pushing until it clicks.

4 Enter the User ID (If applicable).

NOTE

The user ID input can be omitted according to the user ID input setting. For details, refer to Section 4.5, “User ID Setting”.

5 Press the “Start” button. Air purge starts and the touch screen displays the remaining time, which will count down every minute.

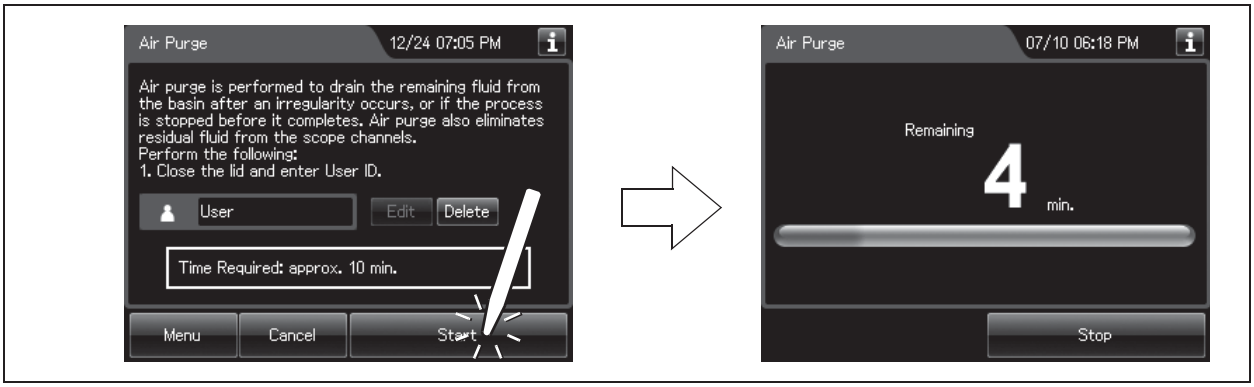


Figure 7.32

NOTE

To finish the process in the middle, press the “Stop” button on the touch screen.

6 When the air purge process completes, the reprocessor generates a buzzer beep and displays the following screen on the touch screen. Press the “OK” button to finish.

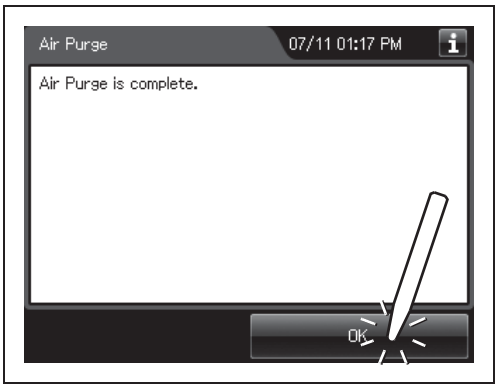


Figure 7.33

7.7 Water line disinfection

Disinfection of water supply piping is required in the following cases.

- Before using this reprocessor for the first time (after loading of the water filter).
- Immediately after replacement of water filter.
- Whenever bacteria in the water supply piping is identified.
- Conduct the water line disinfection at least every month.
- Before using the reprocessor if it has not been used for more than 14 days.

The disinfectant solution stored in the reprocessor is used for disinfection of the water supply piping.

WARNING

- Before disinfecting the water supply piping, check the concentration of the disinfectant solution with the test strip, and replace the disinfectant solution if the disinfectant concentration is below the required level. If this check is not performed, disinfection may be insufficient.
- Disinfection of the water supply piping is required each time the water filter is replaced (i.e., at least once a month). There may be other circumstances where this is required, for example a flood or hurricane. Microbiological sampling of the OER-Elite rinse water may indicate disinfection is required.
- Disconnect the connecting tubes from the connectors on the reprocessor before disinfecting the water supply piping. Otherwise, a jet of disinfectant solution may be output from the connecting tubes and leak from a connector such as the gas filter case connector.
- Before handling the disinfectant solution, read the cautions carefully and use it as instructed. It is especially important to know what to do if the disinfectant solution comes in contact with your skin and eyes.
- When handling the disinfectant solution, wear personal protective equipment to prevent any disinfectant from getting on your skin and eyes or being inhaled. Avoid direct physical contact and inhalation of vapors. If any disinfectant solution gets in your eyes, immediately rinse with a large amount of fresh water and then consult a medical specialist. Personal protective equipment, such as eyewear, face mask, moisture-resistant clothing, and chemical-resistant gloves that fit properly and are long enough so that your skin and eyes is not exposed. All personal protective equipment should be inspected before use and replaced periodically before it is damaged.

NOTE

- Olympus recommends performing microbiological sampling of the OER-Elite rinse water quality right after performing the water supply piping disinfection if the reprocessor has not been used for more than 14 days. For details on sampling rinse water, refer to Section 7.8, “Self-disinfection and water sampling”.
- When disinfection of water supply piping is required, Olympus recommends performing it prior to replacement of the disinfectant solution. The disinfectant solution must still meet the MRC using the test strip. After disinfection of water supply piping, drain the disinfectant solution according to the instructions in the instruction manual and the facility policy. Fill the OER-Elite with fresh disinfectant solution prior to proceeding with endoscope reprocessing.
- After disinfection of the water supply piping, the quantity and/or concentration of the disinfectant solution might be reduced, which prevents additional reprocessing cycles from being performed. Do not add fresh disinfectant solution to the used disinfectant solution. Drain the disinfectant solution completely and replace with fresh disinfectant solution after disinfection of the water supply piping. It is recommended to perform disinfection of the water supply piping immediately before routine replacement of the disinfectant solution.
- Disinfecting the water supply piping also disinfects the water filter and other components in the piping.

■ *Workflow of water line disinfection*

1	**Checking the MRC level and entering the check result.** **→on page 264**
2	**Water line disinfection.** **→on page 266**

■ *Required items*

Check	Required items
	Chemical indicator (test strip)
	Container with 2 L (67 ounces) or larger capacity (wide-mouthed container such as a vat)
	Filter tube (× 2)
	Water supply piping disinfecting hose

Table 7.2

NOTE

For the test strip, refer to Section 2.8, “Consumable accessories (Optional)”.

■ *Checking the MRC level and entering the check result*

1 Press the “Functions” button on the Menu screen.

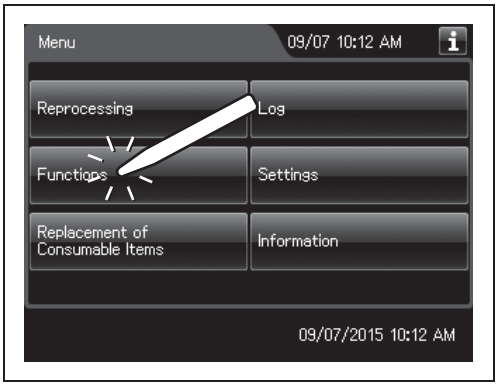


Figure 7.34

2 Press the “Water Line Disinfection”.

Figure 7.35

3 Press the “LCG Info.” button.

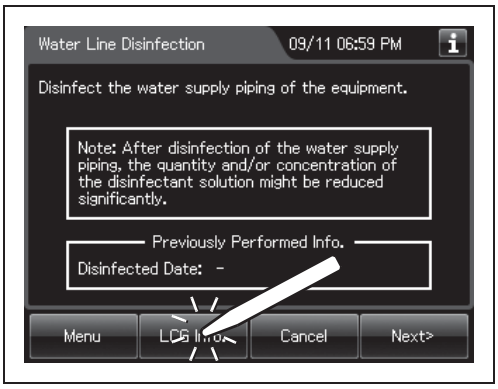


Figure 7.36

4 Check the concentration of the disinfectant solution with a test strip, and enter the result of the concentration of the disinfectant solution as described in Section 3.7, “Checking the MRC level and entering the check result”. If the disinfectant concentration is below required level and the disinfectant solution is beyond shelf-life of disinfectant solution, replace the disinfectant solution.

5 Press the “OK” button to close the LCG Info screen and press the “Next” button.

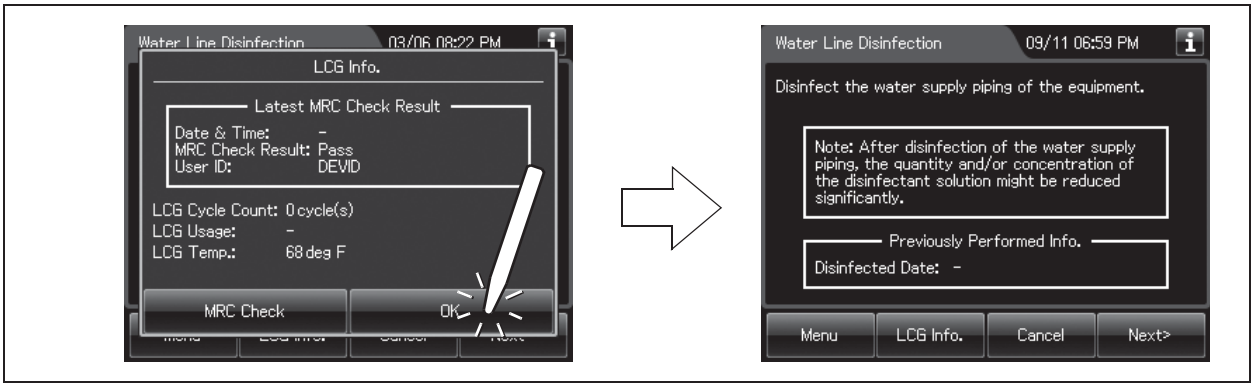


Figure 7.37

■ *Water line disinfection*

1 Make sure that the water faucet is open.

2 Follow the guide displayed on the touch screen. Press the “Next” button.

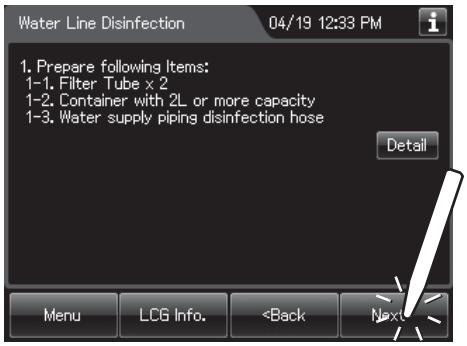


Figure 7.38

3 Input the operator's user ID. For the detailed procedures, refer to Section 3.6, “Entering ID” (If applicable).

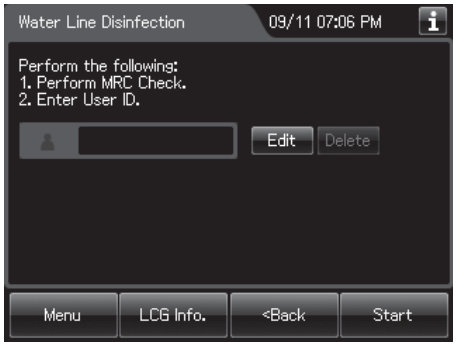


Figure 7.39

NOTE

- The input of the user ID can be omitted by modifying the user ID input setting. For details, refer to Section 4.5, “User ID Setting”.
- If the “Delete” button is pressed, the entered ID can be deleted.

4 Press the “Start” button.

5 Push the area marked “PUSH” on the front door to open it.

6 Prepare a container with a capacity of 2 L (67 ounces) or more in front of the reprocessor.