Mobile Airway Scopes – Channelled

MAF-DM2/GM2/TM2

Cleaning and Disinfection Checklist

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Cleaning and Disinfection Checklist

This checklist is designed for use solely as a customer educational tool and is not intended to replace or in any way modify the Olympus instruction manual/reprocessing manual. Be sure to follow the detailed steps outlined in the reprocessing manual that was included with your Olympus equipment when purchased. While Olympus' training may be used in support of a facility's overall competency program, it shall not constitute certification of the facility's CDS protocol. Olympus shall in no event be held responsible for a facility's proper performance of CDS protocol nor for a facility staying current with ongoing CDS instructional changes and corresponding training updates. Facility owners of Olympus equipment are fully responsible for complying with industry CDS standards and manufacturer's proper use and CDS instructions.

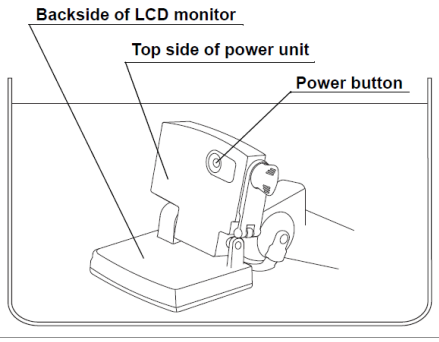
Endoscope Models: Check each model reviewed during this session.

Facility Name	
Date	

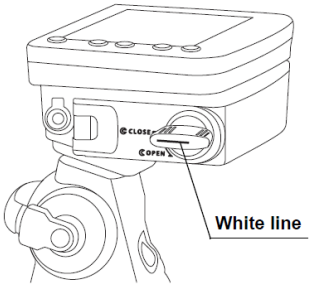
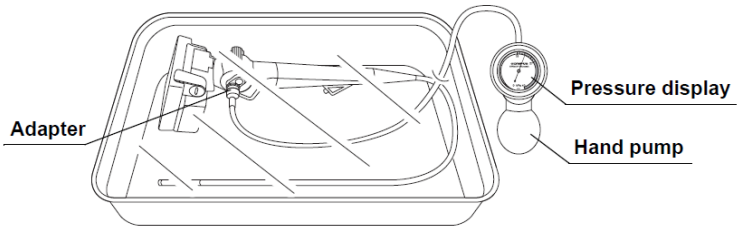
☐ MAF-DM2 ☐ MAF-GM2 ☐ MAF-TM2

Olympus Instructor Name	
Title	
Signature	

Staff Member Name	
Signature	

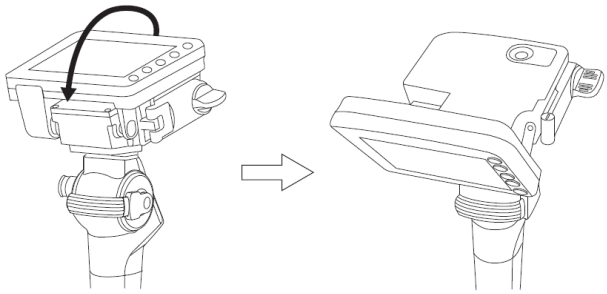
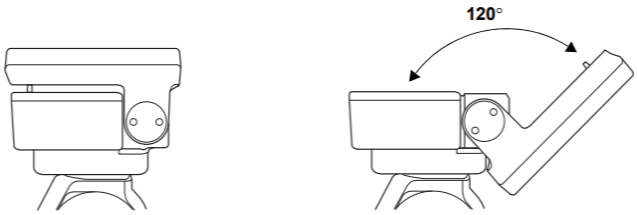
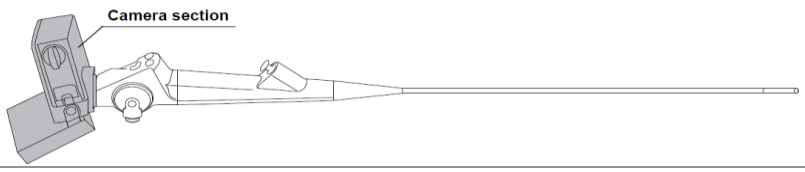
Pre-Cleaning		Demonstrated
1.	Wear appropriate Personal Protective Equipment. (PPE).	
2.	Confirm that the LCD monitor is not lit. If it is still on turn OFF at the power button.  	
3.	Prepare a container of 500mls of water.	
4.	Wipe down the insertion section of the endoscope carefully and gently using a water-soaked lint-free cloth. Wipe from the boot at the control section to the distal end.	
5.	Turn ON the suction source and ensure the biopsy valve cap is closed.	
6.	Immerse the distal tip in detergent and depress the suction valve and aspirate water for 10 seconds or more.	
7.	Remove the distal tip from water and depress the suction valve to aspirate air for 10 seconds or more.	
8.	Turn OFF the suction source.	
9.	Disconnect the suction tube from the suction connector of the single use suction valve.	
10.	Disconnect all removable accessories from the endoscope.	
11.	Transport the endoscope to the reprocessing area in a covered container.	

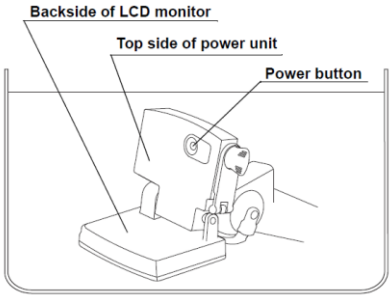
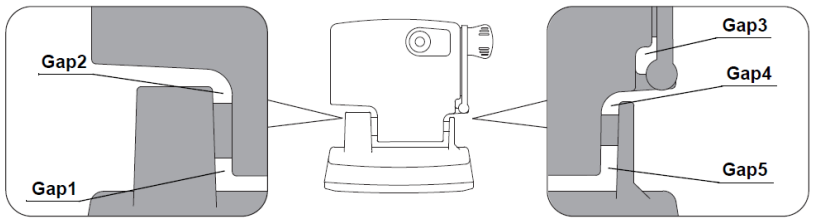
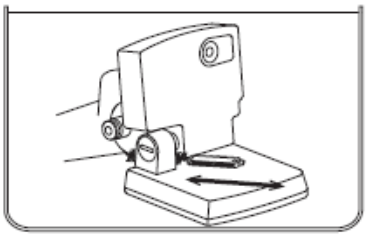
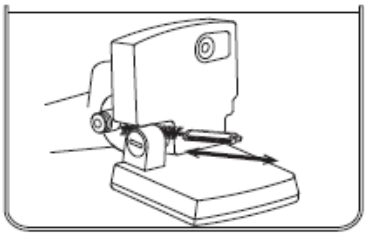
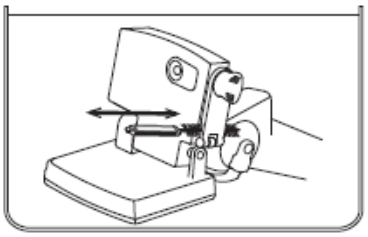
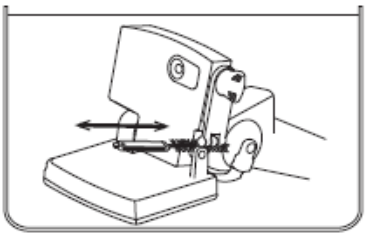
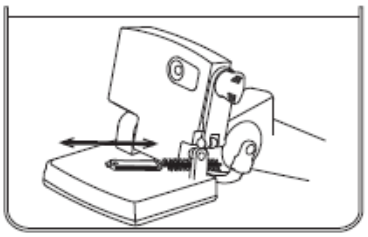
Comments:

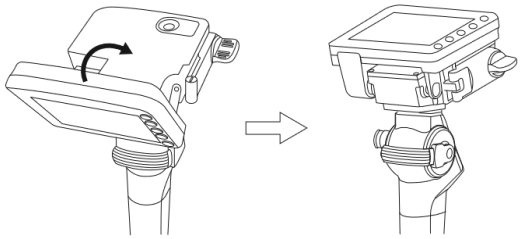
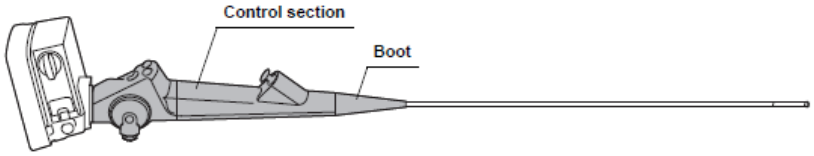
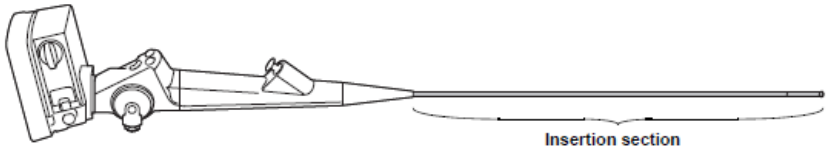
Leakage Testing		Demonstrated
1.	Fill a basin with clean water.	
2.	Before immersing the endoscope, make sure that the battery/card cover are securely closed. Align the white line with “CLOSE”.  ***Caution – Confirm that the battery/card cover is securely closed. If not, water will enter the endoscopes and may cause a short circuit. This may result in damage to the CMOS and the electric circuit.***	
	If using handheld leak tester WA23080A	
3.	Confirm that both the inside of the WA23080A adapter and venting connector of the endoscope are both clean and dry. If wet, dry with a clean lint-free cloth.	
4.	Connect the leakage tester adapter to the endoscope venting connector.	
5.	Confirm that the pressure release lever is closed.	
6.	Squeeze hand pump until pressure between 19 and 27 kPa is indicated on the pressure display. Confirm the pointer is stabilized within the green area on the pressure display.	
	Note: If the pointer continues to fall towards “0” kPa the endoscope may have a serious water leakage, or the leakage tester may be damaged- stop leakage testing immediately and contact Olympus.	
7.	If the pointer is confirmed as stable between 19 and 27 kPa then all sections of the endoscope can be submerged in the water for completion of the leakage test. (Keep the pressure gauge and the hand bulb out of the water). 	
8.	With the leak tester attached, pressurised and stabilised, immerse the endoscope in the water and observe for approximately 30 seconds while deflecting the bending section in all directions of the endoscope. i.e. UP/DOWN.	

9.	If a continuous series of bubbles emerges from any location remove the endoscope from the water with the leak tester still attached, and contact Olympus for further instructions.	
10.	If no leak is detected, remove the endoscope from the water leaving leakage tester attached.	
11.	Once removed from water, press the pressure release lever, allowing the pointer to release to “0” kPa, decompressing the scope.	
12.	Detach the leakage tester WA23080A from the endoscopes venting connector.	
13.	Thoroughly dry the leak tester using a clean lint free cloth.	
	If using MU-1 Leakage tester & MB-155	
1.	Connect the leakage tester to the MU-1 (Maintenance unit).	
2.	Turn ON the MU-1.	
3.	Depress pin inside connector cap to confirm that air is being emitted.	
4.	Confirm that the leakage tester’s connector cap and endoscope venting connector are both clean and dry. If wet, dry with a clean lint free cloth.	
5.	Connect the leakage tester to the endoscope. Ensure the bending section has inflated.	
6.	Completely immerse the endoscope in water.	
7.	Observe for 30 seconds while angulating the bending section carefully in all directions. i.e. UP/DOWN.	
8.	If a continuous series of bubbles emerges from any location, remove the endoscope from the water with the leak tester still attached, and contact Olympus for further instructions.	
9.	If no leak is detected, remove the endoscope from the water and turn off the MU-1 unit.	
10.	Disconnect the leakage tester from the MU-1.	
11.	Wait 30 seconds or until the bending section contracts to its pre-expansion size.	
12.	Disconnect the leakage tester connector cap from the venting connector.	
13.	Thoroughly dry the leak tester using a clean lint free cloth.	

Comments:

Manual Cleaning		Demonstrated
Note: If manual cleaning could not be performed within 1hr after the patient procedure or if you are not sure whether manual cleaning could be performed within 1hr, pre-soak the endoscope in the detergent solution as described in sections 5.10 in the appropriate Reprocessing Manual, before manually cleaning the endoscope.		
1.	Fill a basin with fresh detergent solution prepared as recommended by the detergent manufacturer.	
2.	Confirm that the battery/card cover are securely closed. Align the white line with “CLOSE”. ***Caution – Confirm that the battery/card cover is securely closed. If not, water will enter the endoscopes and may cause a short circuit. This may result in damage to the CMOS and the electric circuit.**	
3.	Open the LCD Monitor until it stops.  **Note:** Do not rotate the camera section in the water, or tilt adjustment of the LCD display in the water more than required.  The LCD display tilts by 120 degrees. This may cause the camera section to malfunction because water may penetrate into the camera section.	
4.	Completely immerse the endoscope in the detergent solution.	
5.	Use a lint-free cloth, or sponge to thoroughly clean all external surfaces.	
6.	Completely immerse the entire endoscope in the detergent solution **for more than 15 minutes.**	
7.	**Clean the external surfaces of the camera section.**  	

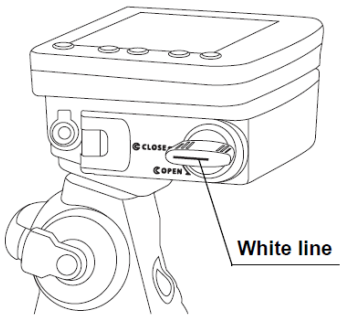
	a. Immerse the entire endoscope in the detergent solution.	
	b. Wipe or brush the external surfaces of the backside of the LCD monitor section and the top side of the power section using lint free cloths, brushes or sponges.  	
	c. Brush the five gaps of the camera section back and forth, using the single use channel-opening cleaning brush, (BW-411B), or MAJ-1339 as illustrated below:   Gap1  Gap2  Gap3  Gap4  Gap5	

	d. Take out the camera section of the detergent solution and confirm that no debris remains on any external surfaces.	
	e. If any debris remains, repeat steps “a-c” until no debris is observed.	
	f. When all debris is removed, close the LCD monitor. 	
	g. Immerse the entire scope in the detergent solution and thoroughly brush or wipe all external surfaces of the camera section with lint free cloths, brushes or sponges.	
	h. Take out the camera section of the detergent solution and confirm that no debris remains on all external surfaces.	
	i. If any debris remains, repeat steps “g-h” until no debris is observed.	
	j. When all debris is removed, immerse the camera section back in the detergent solution.	
8.	**Clean the external surfaces of the control section and boot.** 	
	a. Immerse the entire endoscope in detergent solution.	
	b. Thoroughly wipe or brush all external surfaces of the control section and the boot, using lint free cloths, brushes or sponges.	
	c. Take the control section and the boot out of the detergent solution and confirm no debris remains on the external surfaces.	
	d. If any debris remains, repeat steps “a-c” until no debris is observed.	
	e. When all debris is removed, immerse the control section and boot back in the detergent solution.	
9.	**Clean the external surfaces of the insertion section.** 	

	a. Immerse the entire endoscope in the detergent solution.	
	b. Thoroughly wipe or brush all external surfaces of the insertion section using lint free cloths, brushes or sponges.	
	c. Take the insertion section out of the detergent solution and confirm no debris remains on the external surfaces, particularly the objective lens on the distal end.	
	d. If any debris remains, repeat steps “a-c” until no debris is observed.	
	e. When all debris is removed, immerse the insertion section back in the detergent solution.	
10.	**Use endoscope model - specific brushes to brush channels/cylinders/ports until no visible debris remains.**	
	a. Brush the suction channel to the distal tip. ****BW-411B “long brush” used for the MAF-TM2** **BW-403B used for MAF-DM2/MAF-GM2	
	1. Insert the channel-cleaning brush straight into the opening of the suction cylinder.	
	2. Using short strokes, feed the brush through the suction channel until it emerges from the distal end of the endoscope.	
	3. Remove any debris on the brush bristles with your fingertips and carefully pull the brush back through the suction channel.	
	4. Clean the brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	
	b. Brush the suction cylinder. ****BW-411B “stubby brush” used for the MAF-TM2** **MAJ-1339 used for MAF-DM2/MAF-GM2	
	1. Insert the channel-opening brush into the suction cylinder until half the brush section is inserted.	
	2. Rotate the brush one full revolution and pull the brush out of the cylinder.	
	3. Clean the brush bristles with your fingertips to remove any debris.	
	4. Repeat until no debris is observed on the brush.	
	c. Brush the instrument/fluid feed channel port. ****BW-411B “stubby brush” used for the MAF-TM2** **BW-1339 used for MAF-DM2/MAF-GM2	
	1. Insert the channel-opening brush into the instrument/fluid feed channel port until the brush handles touches the opening.	

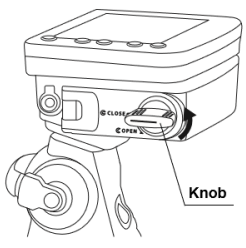
	2. Rotate the brush one full revolution and pull the brush out of the instrument/fluid feed channel port.	
	3. Clean the brush bristles with your fingertips to remove any debris.	
	4. Repeat until no debris is observed on the brush.	
	d. Brush the instrument/fluid feed channel in the insertion tube. ****BW-411B used for the MAF-TM2** **BW-403B used for MAF-DM2/MAF-GM2	
	1. Insert the channel-cleaning brush straight into the opening of the instrument/fluid feed channel port.	
	2. Using short strokes, feed the brush through the instrument/fluid feed channel until it emerges from the distal end of the endoscope.	
	3. Remove any debris on the brush bristles with your fingertips and carefully pull the brush back through the instrument/fluid feed channel.	
	4. Clean the brush bristles with your fingertips to remove any debris.	
	5. Repeat until no debris is observed on the brush.	
11.	Attach the port cap of the suction-cleaning adapter *(MAJ-1077 for the MAF-GM2/DM2 OR **MAJ-222 for the MAF-TM2**)* to the fluid feed/instrument channel port and the suction cylinder cap to the suction cylinder.	
12.	Connect the suction tube from the suction source to the suction opening of the suction-cleaning adapter.	
13.	Turn ON the suction source.	
14.	Immerse the distal end in detergent, and aspirate detergent for 30 seconds or more.	
15.	Remove the distal end of the endoscope from the detergent solution and put endoscope in a clean large basin.	
16.	Turn OFF the suction source.	
17.	Detach the suction tube from the suction cleaning adapter.	

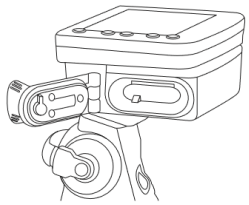
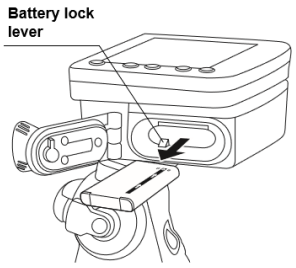
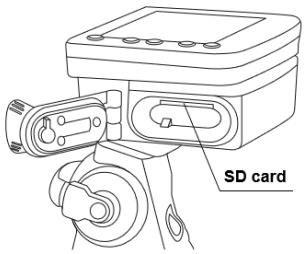
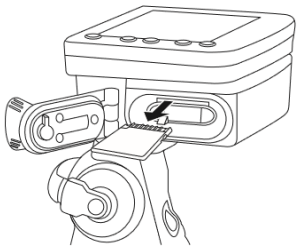
Comments:

Manual Cleaning Manual Flushing of Endoscope Channels		Demonstrated
1.	Ensure the suction-cleaning adapter *(MAJ-1077 for the MAF-GM2/DM2 OR **MAJ-222 for the MAF-TM2**)* are still attached to the endoscope.	
2.	Align the white line with “CLOSE”.  ***Caution – Confirm that the battery/card cover is securely closed. If not, water will enter the endoscopes and may cause a short circuit. This may result in damage to the CMOS and the electric circuit.***	
3.	Completely immerse the endoscope and the suction cleaning adapter *(MAJ-1077 for the MAF-GM2/DM2 OR **MAJ-222 for the MAF-TM2**)* in the detergent solution.	
3.	Attach a 30ml syringe to the suction cleaning adapter.	
4.	Pull the plunger of the syringe to fill all channels and the suction cleaning adapter with the detergent solution.	
5.	Detach the syringe from the suction cleaning adapter.	
6.	Detach the suction cleaning adapter from the endoscope.	
7.	Wipe all external surfaces of the endoscope and suction cleaning adapter (MAJ-222 of the MAJ-1077) to remove debris, with a clean lint free cloth, brush, or sponge.	
8.	Soak the endoscope and accessories in detergent solution for the time specified by the detergent manufacturer.	
9.	Remove the endoscope and the suction cleaning adapter from the detergent solution.	
10.	Inspect the suction cleaning adapter. If debris remains on the suction cleaning adapter, ultrasonically clean at 33-48 kHz for 5 minutes.	
11.	Put the endoscope and the suction cleaning adapter in a clean large basin.	
12.	Fill a large clean basin with water and immerse the endoscope and the suction cleaning adapter completely. Gently sway the endoscope and suction cleaning adapter.	
13.	Attach the port cap of the suction-cleaning adapter *(MAJ-1077 for the MAF-GM2/DM2 OR MAJ-222 for the MAF-TM2)* to the fluid feed/instrument channel port and the suction cylinder cap to the suction cylinder.	

14.	Attach the suction tube from the suction source to the suction opening of the suction-cleaning adapter.	
15.	Turn ON the suction source.	
16.	Aspirate water for 30 seconds or more.	
17.	Remove the endoscope from the water with the suction cleaning adapter attached.	
18.	Put the endoscope in a clean basin.	
19.	Aspirate air for 20 seconds or more.	
20.	Turn OFF the suction source.	
21.	Detach the suction tube from the suction cleaning adapter.	
22.	Detach the suction cleaning adapter from the endoscope.	
23.	Dry all external surfaces of the endoscope and suction cleaning adapter by wiping with clean lint free cloths.	
24.	Inspect all items for residual debris, and if any debris remains repeat the manually cleaning procedure until all debris is removed.	
25.	Reprocess the accessories as described in the Olympus Reprocessing Manual, Chapter 6, *Reprocessing the Accessories.*	

Comments:

Replacement of the battery and SD card		Demonstrated
	Note: Before Disinfection or Sterilisation, it is recommended the battery and SD card are exchanged for ones that have enough battery power and memory capacity. ***Do not open the battery/memory card cover with wet hands.***	
1.	Confirm that the LCD monitor disappears. If the LCD monitor is on, press the power button to turn off the power.	
2.	Rotate the knob “OPEN” 	

3.	Open the battery/card cover. 	
4.	While sliding the battery lock lever, remove the battery from the battery slot. 	
5.	Push the SD card all the way in and release slowly. 	
6.	Confirm the SD card protrudes slightly.	
7.	Remove the SD card. 	
8.	Remove pictures recorded in the SD card to a personal computer.	
9.	Put the other battery and the other SD card in the endoscope. Refer to the operation Manual with your endoscope model listed on the cover.	

Comments:

Automated Endoscope Reprocessor (AER) High-Level Disinfection		Demonstrated
AER Type:		
High Level Disinfectant Type:		
1.	Test disinfectant concentration (i.e. MRC) according to the manufacturer's instructions.	
2.	Inspect the endoscope connectors/adapters according to the AER manufacturer's instructions.	
3.	Attach the endoscope connectors/adapters to the AER and endoscope as per the AER manufacturer's instructions.	
4.	Operate the AER according to the AER manufacturer's instructions.	
5.	Remove the endoscope promptly after the AER cycle has been completed.	
6.	Perform the terminal steps that the AER does not perform (e.g., alcohol and air purge).	

Comments:

Manual High-Level Disinfection		Demonstrated
1.	Fill a basin with disinfectant solution at the temperature and concentration recommended by the disinfectant manufacturer.	
2.	Test the disinfectant concentration (i.e., MRC) according to the manufacturer's instructions.	
3.	Attach the suction cleaning adapter MAJ-222/MAJ-1077 to the endoscope.	
4.	Align the white line with “CLOSE” and open the LCD monitor until it stops.	
5.	Completely immerse the endoscope and the suction cleaning adapter in the disinfectant solution.	
6.	Attach a clean 30ml syringe to the suction cleaning adapter and pull the plunger of the syringe to fill the channels and the suction-cleaning adapter with disinfectant solution.	
7.	Confirm that no bubbles exit the fluid feed/instrument channel port or suction cylinder of the endoscope during aspiration.	
8.	If air bubbles still exit during aspiration, detach syringe form the suction cleaning adapter and repeat aspiration steps 3-7 until no bubbles exit.	

9.	Disconnect the suction cleaning adapter from the endoscope.	
10.	Remove any air bubbles that adhere to the surfaces with a gloved finger or a clean, lint-free cloth.	
11.	Cover the basin with a tight-fitting lid to minimize the release of disinfectant vapors.	
12.	Soak the endoscope and suction cleaning adapter for the time and at the temperature recommended by the disinfectant manufacturer.	
13.	Attach the suction cleaning adapter MAJ-222/MAJ-1077 to the endoscope.	
14.	Remove the endoscope from the disinfectant solution with the suction cleaning adapter attached and place in a sterile large basin.	
15.	Close the LCD Monitor.	
16.	Fill a 30ml sterile syringe with air and attach syringe to the suction cleaning adapter and inject with 90mls of air.	
17.	Detach the suction cleaning adapter from the endoscope.	

Comments:

Rinsing after Manual High-Level Disinfection		Demonstrated
1.	Fill a basin with sterile water, filtered water or potable tap water.	
2.	Align the white line with “CLOSE” and open the LCD monitor until it stops.	
3.	Completely immerse the endoscope and suction-cleaning adapter in the rinse water.	
4.	Wipe all external surfaces of the endoscope and suction cleaning adapter with a sterile, lint-free cloth.	
5.	Attach the suction cleaning adapter and to the endoscope.	
6.	Attach a sterile suction tube from the suction pump to the suction opening of the suction cleaning adapter.	
7.	Completely immerse the sterile suction tube and the suction cleaning adapter in the rinse water.	
8.	Turn ON the suction source.	
9.	Aspirate the rinse water for 30 seconds or more.	
10.	Remove the endoscope with the suction cleaning adapter attached from the water, place them in a sterile large basin and aspirate air for 60 seconds or more.	

11.	Turn OFF the suction source.	
12.	Detach the sterile suction tube from the suction opening of the suction cleaning adapter.	
13.	Hold the control section with the fluid feed channel/instrument channel port pointing down and detach the suction cleaning adapter from the endoscope.	
14.	Repeat steps 1-14 for the necessary number of times described in the disinfectant manufacturer's instructions.	
15.	Wipe all external surfaces of the endoscope and suction cleaning adapter with a sterile, lint-free cloth.	
16.	Close the LCD monitor.	
17.	Using sterile cotton swabs, dry the inside of the suction cylinder and fluid feed/instrument channel port.	

Comments:

Alcohol Flush		Demonstrated
1.	Fill a sterile, small basin either 70% isopropyl or ethyl alcohol.	
2.	Attach suction cleaning adapter MAJ-222/MAJ-1077 to the endoscope and sterile suction tube from the suction source to the suction cleaning adapter.	
3.	Turn ON the suction source.	
4.	Immerse the distal end of the endoscope in the alcohol.	
5.	Aspirate alcohol for 5 seconds or more.	
6.	Remove the distal tip of the endoscope from the alcohol, and aspirate air for 20 seconds or more.	
7.	Turn OFF the suction source.	
8.	Detach the sterile suction tube from suction cleaning adapter, and suction cleaning adapter from the endoscope.	
9.	Thoroughly wipe the external surfaces of the endoscope including the electrical contacts and the suction cleaning adapter with a sterile lint free cloth.	
10.	Using sterile cotton swabs, dry the inside of the suction cylinder and fluid feed/instrument channel port.	

Comments:

Sterilisation with Ethylene Oxide Gas		Demonstrated
After performing precleaning, leakage testing, and manual cleaning, perform the following:		
1.	Dry all external and internal surfaces of the endoscope before ethylene oxide gas (ETO) sterilisation.	
2.	Dry the external surface of the sterilisation cap (MAJ-1538) by wiping with sterile lint free cloths.	
3.	Attach the sterilisation cap to the venting connector on the light guide connector.	
4.	Place endoscope on the sterilisation tray as per manufacturer recommendations.	
5.	Seal the instrument in a package appropriate for sterilisation according to your hospital's protocol.	
6.	Sterilise and aerate the package according to the recommended ETO parameters described in the endoscope instruction manual and the steriliser manufacturer's instructions.	

Comments:

Sterilisation with Sterrad 100S/NX/100NX or V-PRO MAX		Demonstrated
After performing precleaning, leakage testing, and manual cleaning, perform the following:		
1.	Dry all external and internal surfaces of the endoscope.	
2.	Dry the external surface of the sterilisation cap (MAJ-1538) by wiping with sterile lint free cloths.	
3.	Attach the sterilisation cap to the venting connector on the light guide connector.	
4.	When sterilising with the STERRAD 100S sterilisation system, depending on the internal diameter/length of the channel, it is necessary to attach the booster (REF15400) to fluid feed/instrument channel of the endoscope according to the instructions of the steriliser manufacturer.	
5.	Place endoscope upon instrument tray and double wrap the tray with sterilisation wraps according to your hospital's protocol and compatible instrument trays.	
6.	Sterilise the packaged endoscope according to the recommendations of steriliser manufacturer.	

Comments:

Endoscope Storage		Demonstrated
1.	Detach all equipment from the endoscope.	
2.	Confirm that all surfaces of the endoscope are completely dry.	
3.	Store the sterilised endoscope in a proper storage cabinet, following policies in your institution, professional society guidelines and recommended practices.	
4.	If storing an endoscope that has been sterilised, record the sterile expiration date on the sterile packaging. Do not damage the packaging. Sterile endoscopes may be stored flat in their sterile packaging.	

Comments: