1. PURPOSE

This maintenance guideline covers preventative maintenance for the irrigation system, including routine maintenance and replacing handpiece components. Performing maintenance on irrigation is essential for avoiding leaks, blockages, and slowing a practice's operation. A maintenance routine in the office and cycling consumable parts will help prevent potential issues. For complete operation, specifications, and troubleshooting information, refer to 65-OS07, Operation & Service Manual – Micro Irrigation.

2. APPLICABLE SERVICE PRODUCTS

- 95-0500, Irrigation Bottle *(annual maintenance replacement)*
- 95-0192W, Standard Irrigator Button Valve *(annual maintenance replacement)*
- 95-0245P, Active Irrigator Button Valve *(annual maintenance replacement)*
- 95-0234, Standard Irrigator Connector Valve *(annual maintenance replacement)*
- 95-0225, Active Irrigator Connector Valve *(annual maintenance replacement)*
- 95-0171, In-line Regulator/Check Valve Assembly *(replace if needed)*
- 95-0511, Active Irrigator Orbiter Assembly *(annual maintenance replacement)*
- 95-0512, Active Irrigator Orbiter O-Ring Kit *(replace if needed)*
- 95-0503, Standard Irrigator Connector Valve O-Ring Kit *(replace if needed)*
- 95-0504, Active Irrigator Connector Valve O-Ring Kit *(replace if needed)*
- 95-0085-1, Dielectric O-Ring Lubricant *(reapply as needed)*

3. ROUTINE MAINTENANCE

3.1. Daily Maintenance for Micro Irrigation

- Clean and disinfect the outside of the micro irrigation system housing, tubing, and handpieces with wipes rated for dental surfaces.
- Remove any build-up of dried solution from around the buttons on the handpieces or Luer connections.
- Turn the pressure OFF on the irrigation bottle bracket.
- Fill the irrigator rinse cup halfway with warm water and place it into the handpiece holder. Place the irrigator tip down into the cup and soak overnight. This will help to break down crystallization that may have built up during use.

> **i** ***IMPORTANT: If dried solution is left undissolved too long, O-rings may dry out and crack, creating leaks.***

3.2. Daily Maintenance for Active Irrigation

- For active irrigators, fill the irrigator rinse cup halfway with warm water, and place it into the handpiece holder.
- Loosen the nose cone 2-3 turns. Do not remove.
- Place the irrigator tip down into the cup. Soak overnight to dissolve crystallization on the orbiter assembly.

> **i** ***Do not remove the orbiter assembly from the handpiece body. If removed, the O-rings will need to be re-lubricated with silicone O-ring grease (PN 95-0085-1) to prevent leaking.***

- Retighten the nose cone and test the irrigator for proper function.

4. WEEKLY MAINTENANCE

- Clean the inside of the pressure heads where the bottles thread and wipe away any build-up of solution.
- Check the system air pressure gauge on the irrigation bottle bracket. The pressure should be set from 10 to a maximum of 20 psi. To adjust the pressure, rotate the knob counter-clockwise to decrease, clockwise to increase. If the pressure cannot be set to the recommended settings, replace the in-line regulator (P/N 95-0171) or contact ASI for assistance.
- For each irrigation solution, fill the blue-labeled accessory bottle with warm water and exchange with solution bottles.
- Run water through the irrigation handpieces to flush out and dissolve chemical residue crystallization. Replace the accessory bottle with the irrigant solution bottle.
- Inspect the handpiece tubing for damage, kinks, or cuts.

5. ANNUAL MAINTENANCE

5.1. Replace Bottles and Connector Valves

Replace the irrigation bottles (P/N 95-0500), the button valves, and the irrigator connector valves annually.

5.2. Replacing Button Valve Assembly

Check the button valve assembly for sticking or leaks. ASI recommends replacing the button annually:

- Standard micro irrigator: P/N 95-0192W
- Active irrigator: P/N 95-0245P

Step 1 - Turn the pressure OFF on the bottle bracket. The pressure on/off toggle will relieve the air pressure in the system.

Step 2 - Using an 11/32” nut driver, loosen the valve by unscrewing it counter-clockwise.

> **i** ***For the round valve style, a piece of a plastic bag with a hole punched in the center, placed around the valve, will prevent the tool from scratching the handpiece.***

Step 3 - Pull the button valve straight out to remove it from the handpiece.

Step 4 - Thoroughly clean and dry the handpiece.

> **i** ***For handpieces that have a dry buildup, soak in warm water to loosen the scale.***

Step 5 - Using a foam applicator swab, clean all inside features of the handpiece body including the threads.

> **i** ***Do not use cotton.***

Step 6 - Apply silicone O-ring grease (P/N 95-0085-1) to the O-rings on the exterior of the new button valve.

Step 7 - Using the nut driver, thread the new valve into the handpiece clockwise until it is lightly seated in the handpiece.

Step 8 - Wipe excess lubricant off of the handpiece body.

Step 9 - Test the function and check for leaks through the handpiece and around the valve.

5.3. Replacing the Active Orbiter Assembly

Replace the active orbiter assembly (P/N 95-0511) annually, or sooner if it stops working properly and the problem persists after soaking and verifying air pressure.

Step 1 - Turn the pressure OFF on the bottle bracket.

Step 2 - The pressure on/off toggle will relieve the air pressure in the system.

Step 3 - Unscrew and remove the nose cone.

Step 4 - Remove the existing orbiter by pulling it away from the body of the handpiece.

Step 5 - Apply silicone O-ring grease (P/N 95-0085-1) to all O-rings on the new orbiter assembly. Insert the new orbiter assembly into the handpiece body.

Step 6 - Rethread and tighten the nose cone.

Step 7 - Test the irrigator for proper function.

5.4. Replacing O-Rings on the Active Orbiter

Active Orbiter O-Ring Kit: P/N 95-0512

Step 1 - Turn the pressure OFF on the irrigation bottle bracket.

Step 2 - The pressure switch on/off toggle will relieve the air pressure in the system.

Step 3 - Unscrew and remove the nose cone.

Step 4 - Remove the orbiter by pulling it away from the body of the handpiece.

Step 5 - The entire orbiter assembly can be replaced (P/N 95-0511), or just the O-rings can be replaced (P/N 95-0512).

Step 6 - Tweezers, needle-nose pliers, a scaler, or other small tools may help remove the O-rings.

> ***IMPORTANT: When replacing O-rings, roll them into place. Pulling them on with a tool might damage them, causing them to leak.***

Step 7 - Apply silicone O-ring grease (P/N 95-0085-1) to each O-ring on the orbiter assembly.

Step 8 - Reassemble the orbiter, nose cone, and handpiece body.

Step 9 - Test the handpiece function.

6. GENERAL SAFETY PRECAUTIONS

In addition to observing the normal precautions associated with standard dental practices and procedures, the following additional precautions should be strictly noted and observed during the set-up, operation, and maintenance of this system.

⚠ WARNING

QUALIFIED PERSONNEL ONLY

The product should only be operated by qualified personnel only. The operator bears responsibility for the correct settings and proper use of the system. ASI Dental (ASI) cannot be held liable for any malfunction of this product, or performance failure and/or its designed or desired utility, nor can ASI be held liable for injuries to persons or animals, in any case when the device is misused or not operated, applied or maintained in strict accordance with user/owner instructions set out in the operation manual. In the event of any doubt or question, the user is to contact ASI for clarification or assistance.

Improperly maintained or operated systems or instruments may void the associated warranties.

⚠ WARNING

COMPRESSED AIR

The compressed air system that operates this unit is under pressure. Compressed air can propel dust or loose particles and can cause bodily injury or damage. Always turn the system off and bleed off air pressure before attaching or removing air lines or accessories or servicing this unit. All air lines should be periodically inspected and replaced if worn or damaged.

If an outside compressed air supply is used to power this unit, the air supply must be regulated to 80 psi or below. Excessive air pressure could cause certain components to rupture.

⚠ WARNING

ELECTRICAL VOLTAGE

This system is powered by high voltage electricity. Like any other electrically powered device, if it is not used properly, it can cause electrical shock. Always plug the power cord into an electrical outlet with adequate fuse protection and proper grounding. In the event of a short circuit, grounding reduces the risk of shock by providing an escape wire for the electric current. Improper grounding of the unit can result in a risk of electric shock. Always unplug the unit before doing any service or repair to the unit.

⚠ WARNING

PRESENCE OF HEAVY METALS/AMALGAM

This system may be equipped with optional suction instruments. As part of dental procedures, particles of amalgam may be suctioned into the dental suction handpieces and collected within the system and trap filter.

⚠ WARNING

INFECTIOUS MATERIALS

Infectious disease workplace safety protocols to safeguard against cross contamination of infectious disease should always be observed. When maintaining the suction system or emptying the contents of the suction waste container, safe precautions and practices including the wearing of face mask, eye protection and gloves are to be followed.

REVISION HISTORY

CO #	Rev	Description of Change	Author	Approval Date
TG-PM-0002				
CO-15-091	A	Initial release.	K. McPeek T. Johnson	07/16/15
65-0139				
CO-20-167	B	Reviewed and updated as needed; renumbered to 65-0139 with updated formatting.	J. Marshall N. Boatright	09/09/20
	C	Aligned with 65-OS07 Rev B: updated part numbers, removed pressure head gaskets, corrected max pressure to 20 psi, added connector valves and lubricant, and Moved General Safety Precautions to end of document.	W. McPeek	