



**Contact Midwest Dental
for more information at
(800) 766-2025!**



MPS Service & Maintenance

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Overview: Explanation of the Service & Maintenance

It is Midwest Dental's goal to assist the customer in its continued growth, productivity and financial goal attainment.

Service and Maintenance Outline:

- MPS members will receive priority response on service calls.
- Technical service and maintenance hourly rate of \$189.95 (Standard rate is \$249.95. All rates subject to change without notice). After one hour, time will be prorated in 15-minute increments.
- MPS members receive a 40% discount on weekly rental rates. Midwest Dental's goal is to have critical rental replacement units delivered within 24 hours or sooner. Fees for rental delivery, install and removal will be billed at standard rates. Shipping and insurance fees may apply to some units.
- Midwest Dental will designate a service coordinator to manage all office service/maintenance calls to better understand and manage service needs for the dental office, while helping to manage budgetary goals.

Rely on Midwest Dental for all your equipment service needs!

You can rely on our factory-trained service team to take care of all your repair needs. From new office installations to providing preventive maintenance, our team has the skills and training needed to repair your dental equipment.

Check us out at MidwestDental.com to learn more about our service team or call us today at (800) 766-2025.

Maintenance and repair for all dental equipment!



Annual Maintenance Checklist

Sterilization Room Check

Date/Time: _____ Performed by: _____

Notes: _____

Lab Equipment Evaluation

Date/Time: _____ Performed by: _____

Notes: _____

Operatory Check Evaluation

Date/Time: _____ Performed by: _____

Notes: _____

Compressors/vacuums

Compressor Serial # _____ Compressor Model # _____

Vacuum Serial # _____ Vacuum Model # _____

Notes: _____

Suggested Parts and Labor Needed for Repair

Technician Comments

HANDPIECE MAINTENANCE

Always wear gloves when handling dirty instruments. Clean the external parts with a disinfectant wipe to remove any debris or blood.

Using an alcohol-soaked 2" x 2" sponge, wipe the optics of the handpiece to keep them bright and crisp longer. Use a cotton tip applicator with alcohol to clean the inside of the handpiece's optics.

Lubricate the handpiece or attachment with the manufacturers' approved lubricant. Always properly expel the lubricant from the handpiece or attachment to evenly disburse the lubricant throughout the bearings. We advise not using the dental unit to do this because it will cause the handpiece tubing to become stiff and brittle, resulting in unneeded strain on the wrist. We recommend the use of a handpiece lubricating station. And if you have lube-free handpieces, you still need to clean the optics.

Next, sterilize the handpiece using the proper sterilizing techniques. Slow-speed handpieces are generally left on the dental unit and never removed. It is a good practice to remove them weekly and clean the threads of debris and excess surface disinfectants that are left behind after wiping them down. Also, while it is removed, add a few drops of lubricant to increase the effectiveness of the handpiece. Remember, slow-speeds operate from 0-20,000 rpm and if your handpiece is running out of lubricant, it may only be running at 15,000 rpm - meaning longer procedures.

Have your dental units checked annually for the proper handpiece pressure to ensure you are getting the longest life from your turbines. This can be done during your next service call.

PLANNING MAINTENANCE

Now is the best time to plan your regular maintenance schedule for the next year. It is easy to prepare your office for this with a list of tasks you wish to accomplish in regard to maintaining your equipment. This will help you get maximum performance and help detect any problems that might arise in the future. Ask your service technician for helpful hints so you can spot future problems, which may also help in preventing possible down time. Your plan will also help us perform routine maintenance of your office - to keep you up and running well.

Call Midwest Dental at (800) 766-2025 for more info on preventive maintenance.



Darrell Maraggia
Dallas/Ft. Worth
Regional Service
Manager



Loren Kullhem
Austin
Service Specialist

SUCTION VALVE MAINTENANCE

Weekly - The first part of maintaining your suction valves is cleaning them with a brush that you run through the valve with warm water. The next step is disassembling the valve by taking the lever off and pushing the middle of the valve out and completely cleaning the pieces with the brush. If you have the new style with the metal lever, you need to push the valve assembly out from the opposite side from the lever, and it SHOULD snap out.

Monthly - Once you have it all clean, you simply need to lubricate the O-rings on the valve before reassembling it. Make sure you use a silicone based O-ring lubricant only. There are also O-rings in the tip and the base of the valve where it swivels.

Another piece of the valve that needs attention is the tip. If your rubber tip falls off or just doesn't hold your tips, they are very easily replaced and are inexpensive. Some newer, all metal construction valves have O-rings in the tips instead of a rubber tip and these require a new O-ring.

All of these parts are available by calling Midwest Dental at (800) 766-2025.

AIR COMPRESSOR MAINTENANCE

The air compressor is a very important part of your office. That's why maintenance should be done once a year. People often forget about their air compressor because it's in the back of the building and then trouble starts - water in your air line, crowns not holding or the air compressor won't run. Be sure to check your air compressor (and its oil level) once a week.

There are two types of air compressors - oil-less and oil-filled. For oil-less air compressors, the intake filters on the compressor's head, and in some cases, the coalescing filter, should be changed. For oil-filled air compressors, the oil, coalescing filters and fresh air intake filters should be changed.

Several air compressors have a sight moisture indicator where the air line leaves the compressor and connects to the building. It will be either blue (a good sign) or pink (a bad sign).



Hector Gonzales
El Paso
Service Specialist



Jeff Crossley
Dallas/Ft. Worth
Service Specialist

VACUUM PUMP TIPS

Many reports of low suction in the vacuum pump system stem from the build up of sediment, scale and trash from the municipal water supply. Prophylaxis paste is also a big contributor to this sediment load. The easiest way to fix this is with a whole office water filter. After you change this filter one time you will see what I am talking about!

The small traps in the operatories have filters that should be changed once a week. The main trap at the pump has a filter that should be cleaned once a week. You should make a habit of running a quart of hot water/cleaner through your HVE in each room at the end of the day. This helps the pump pull sediment back to the filter. Otherwise the sediment from the day's work settles out in the vacuum lines. Running some type of vacuum line cleaner through your lines daily will break down the fluids and tissue that are introduced during the work in the operatories. With just a little change in habits and schedules your vacuum system will perform trouble free for years.



Scott Woodall
Waco
Service Specialist

EVACUATION LINE CLEANING

For optimal performance of suction tubing, many manufacturers of evacuation line cleaning solutions recommend daily usage (or after each patient). However, not following this recommended protocol can cause biofilm and other materials to build up over time in the evacuation lines. EPA Best Management Practices states that evacuation line cleaners must have a pH between 6 and 8. Acidic (low pH) evacuation line cleaners have been known to hinder the operation of amalgam separators. Basic (high pH) cleaners can cause premature wear on materials used in amalgam separators. Please contact your Midwest Dental products specialist for information on cleaning solution options.



Selvon Gaskin
Houston
Service Specialist

AIR/WATER SYRINGES

Don't you hate it when you go to use the air on your syringe and you get a quick spurt of water instead? Do you just get used to pre-drying your syringe tip with air before you use it? Well, you don't have to. Most likely the culprit is a simple O-ring. You can easily check this by simply putting a tip in the syringe, pushing the water for a second, and then pushing the air. If you get that spurt of water before you have only dry air, you need a new O-ring. On most syringes, the tip or adapter uses an O-ring to separate the air and water passage. Most of the time the O-ring just wears out, or in today's world of disposable tips, the tip is actually cutting the O-ring when inserted. On most syringes the O-ring can be changed in a matter of minutes with a single allen wrench.



Eric Lehman
Dallas/Ft. Worth
Service Specialist

BUCK/BOOST TRANSFORMERS FOR VACUUMS & COMPRESSORS

Most vacuums and compressors these days run with 220 volts. It is very important for the life of these two pieces of equipment to run as close to 220 volts as possible. Let's say the voltage going to the compressor or vacuum is 208 or 235 volts. Although these are within the range of most manufacturers' specs, we can still have problems. When the voltage is lower or higher than is required, it makes the amperage go up. Amperage causes heat, and excessive heat will cause premature failures.

The ideal voltage for both vacuums and compressors is 218-221 volts. There is a very easy way to fix this problem and it is with a buck/boost transformer. What these transformers do is take the incoming voltage and either knock it down or boost it up to get the ideal voltage we are looking for. This will make your compressor and/or vacuum work more efficiently and last longer. My suggestion is the next time you have your service technician in for any repair is to have him check the incoming voltage of both your vacuum and compressor just to ensure that your equipment is running with the proper voltage.



TY Oatman
San Antonio
Service Specialist

STEAM STERILIZER TIPS

The sterilizer is an essential part of every dental practice. It, like all equipment, requires maintenance. Follow the manufacturer's suggested guidelines.

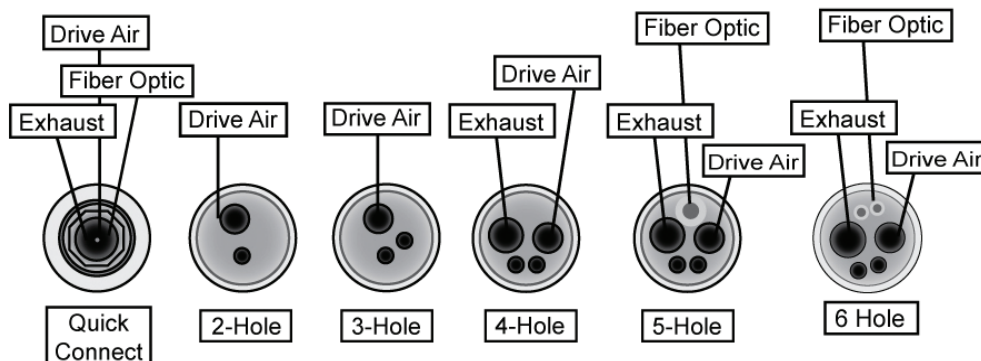
Remember the importance of frequently changing the water in your sterilizer. Do you see brownish colored film on the trays of your sterilizer (that started out bright stainless steel)? That is the result of oily paper-filled water being baked onto your trays. The oil is from the lubricated handpieces and the paper is from the sterilization bags. If it's on the trays, it's on the instruments that come out of the sterilizer. They are sterile, but over multiple cycles the stain builds up. Change the water at least weekly (using steam-distilled water only) and wipe down the trays and inside of the sterilizer to keep it looking brighter and to minimize bacteria and algae growth.

Clean the sterilizer monthly with the suggested sterilizer cleaner and run a cycle with the cleaner in it. Drain and flush the sterilizer. Wipe down the inside of the chamber. Flush the sterilizer with fresh water and run a cycle. Run a final cycle to flush the cleaner from the system. Wipe down the inside of the chamber. Run a spore test weekly to document the sterilizer's operation. All manufacturers suggest this as routine maintenance. Keep an extra door seal on hand and change every 6 months to prevent steam leaks.



Robert Newman
Oklahoma
Service Specialist

Handpiece Maintenance Guide



PRE-STERILIZATION

1. Clean external surface of handpiece by wiping with a damp toothbrush or paper towel. Do **NOT** run under water
2. Wipe dry after cleaning
3. Insert bur into chuck
(Disregard steps 3 - 8 if you have a Ceramic Turbine)
4. Spray cleaner into Drive Air line for 2-3 seconds. (see diagram)
5. Oscillate bur between your fingers to loosen any debris inside the head
6. Operate handpiece over a paper towel to purge used lubricant and debris
7. Repeat steps 3 - 5 until discharged fluid is clear
8. Operate handpiece until all cleaner is discharged
9. Wipe external surface with a dry towel to remove any remaining fluids
10. Sterilize handpiece according to manufacturer's instructions

POST-STERILIZATION

1. Allow sterilized handpiece to cool to room temperature
(Disregard steps 2 - 4 if you have a Ceramic Turbine)
2. Verify that the bur is securely in the chuck
3. Apply 2 drops of lubricant into drive airline, or spray lubricant into drive air line for 2-3 seconds
4. Operate handpiece for 30 seconds over a paper towel to discharge excess lubricant
5. Wipe external surfaces with a dry towel, before use

OTHER HELPFUL TIPS

- Drive Air pressure should be 30-35 psi
***Do not exceed 40 psi**
- Always ensure bur is completely seated into chucks
- Never use the push button to stop the bur
- Avoid dropping the handpiece

EXTERNAL MAINTENANCE

- Never use any type of alcohol, or disinfectant on your handpiece
 - Do **NOT** submerge handpiece in running water or place in ultrasonic cleaner
1. To remove debris from the outside of the handpiece, use a damp toothbrush and then dry the outside with a paper towel
*****Discard the paper towel in a biohazard bin when complete*****
 2. Clean toothbrush with a cold sterile wipe or in an ultrasonic cleaner for 1 cycle
 3. Rinse toothbrush thoroughly in water before repeating the cleaning process
 4. Sterilize per Pre-Sterilization section above at a temperature no higher than 276°F (135°C)

MANUAL PUSH BUTTON / CHUCK MAINTENANCE - Twice a week

1. Remove bur from handpiece
2. Place 2 drops of handpiece oil into the chuck
 - *If your push button chuck is stiff, hold the chuck open and work the bur in and out to flush out debris*
3. Insert bur into the handpiece
4. Run handpiece over a paper towel at 35 psi to remove any excess lubricant

- Do NOT use cold sterile, alcohol or disinfectant on handpiece
- Sterilizer temperature not to exceed 276°F/135°C
- Before using handpiece or applying a load, run it for 10-15 seconds

HANDPIECE REPAIR FORM

Customer's name: _____
 Contact: _____ Account #: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____
 Doctor's e-mail: _____
 Signature: _____

HANDPIECE #1	
Manufacturer: _____	Model: _____
Serial number: _____	
Description of problem: _____	

HANDPIECE #2	
Manufacturer: _____	Model: _____
Serial number: _____	
Description of problem: _____	

HANDPIECE #3	
Manufacturer: _____	Model: _____
Serial number: _____	
Description of problem: _____	

HANDPIECE #4	
Manufacturer: _____	Model: _____
Serial number: _____	
Description of problem: _____	

HANDPIECE #5	
Manufacturer: _____	Model: _____
Serial number: _____	
Description of problem: _____	

MidwestDental®

EQUIPMENT • SERVICES • SUPPLIES

Toll-free phone (800) 766-2025 • www.midwestdental.com

Follow these steps to ensure your handpieces are repaired in a timely manner:

- 1. Pre-sterilize handpieces and leave inside the processed pouches to avoid additional charges.***
- 2. Contact customer service at (800) 766-2025 to receive a UPS Call Tag.**
- 3. Choose a repair option:**
 - NON-WARRANTY REPAIRS**
 PLEASE CHOOSE TYPE OF TURBINE:
 House Brand
 Factory New (OEM)
There is \$15.00 labor charge per handpiece for factory new (OEM) turbine replacement.
 - WARRANTY REPAIRS**
Repair time is based upon the handpiece manufacturers' turnaround.
 - ESTIMATE FIRST**
Factory-trained technician will contact you prior to beginning any repairs. This may delay repairs. Turnaround time is based upon doctor's approval of quote.

PLEASE CONTACT ME (CHOOSE ONE):

 - Phone
 - Fax
 - E-mail
- 4. Securely pack handpieces and this completed form (keep a copy) in the provided shipping box.**
- 5. Seal the box, securely attach Call Tag and give to UPS driver.**

PLEASE NOTE:

All turbine replacements will be house brand unless doctor requests original manufacturer's turbines. There is a \$20.95 labor charge per handpiece for factory new turbine installation. Warranty replacement turbines may require 3-4 weeks of repair time.

*If handpieces are not pre-sterilized, there will be a \$25.95 charge for sterilization.

Midwest Dental is not responsible for lost or misdirected packages.

Shipping charges may apply if customer refuses repair. Same-day turnaround is available only when no estimate is required. Slow-speed handpieces and attachments are excluded.

Equipment Maintenance Guide

DAILY (MORNING)

1. Turn on office water valves
2. Turn on vacuum and compressors
3. Turn on nitrous oxide and oxygen tanks (open fully before alarm panel is active, if applicable)
4. Flush water through handpiece and syringe water lines (on self-contained water systems, fill bottles and flush)
5. Check sterilizer water or solution levels
6. Fill ultrasonic cleaner

DAILY

1. Sterilize and lubricate handpieces, prophy angles, contra angles and straight nose cones after every patient
2. Disinfect operatory equipment and room after every patient
3. Flush handpiece water lines between patients
4. Turn off flowmeters between patients
5. Check bottle water level on self-contained water systems

DAILY (AFTERNOON)

1. For bottled water systems, flush handpieces, syringes, scalers and prophy jets with cleaning solution. Leave solution in system per manufacturer's recommended time. Place empty bottle on system, flush with air and let dry overnight
2. Drain ultrasonic tank and clean unit
3. Turn off dental units, X-rays, sterilizers, prophy jets, ultrasonic scalers and any miscellaneous equipment
4. Clean all vacuum lines and solid collectors in each operatory and flush line with vacuum system cleaning solution (atomizer recommended)
5. Turn off water lines to office
6. Turn off nitrous supply and oxygen tanks (close fully after alarm panel has been deactivated, if applicable)
7. Turn off vacuum and compressor
8. Turn off office water valve master switch (where available)

WEEKLY

1. Clean solids collector on vacuum pumps
2. Check oil level on compressor, if applicable
3. Check air moisture indicator on compressor
4. Check and record amalgam separator solid waste levels
5. Drain reservoirs and clean sterilizer according to manufacturer's instructions and run a spore test
6. Drain water from compressor tank
7. Clean dental light according to manufacturer's instructions (use a soft cloth only and make sure light is cool before touching)
8. Check operational status of vacuum pump and compressor (including Amalgam Separator levels)
9. If your office uses a dual vacuum pump, check each pump individually for proper operation
10. Remove all handpieces from tubing, clean and lubricate before reassembly
11. Disassemble, clean and lubricate vacuum valves and O-rings on HVEs and SEs

MISCELLANEOUS

- Save all equipment invoices for reference and warranty. Keep maintenance log (especially for handpiece and equipment picked up/sent for repair).
- Save copies of all service work orders.
- Save booklets, manuals, troubleshooting guides, etc., for all equipment in one location for quick reference.
- Maintain an itemized list of all maintenance parts required for in-office maintenance.

Equipment Maintenance Guide, continued

MONTHLY

1. Check or replace master water filter element in the utility room
2. Check or clean plaster trap
3. Clean and lubricate lab handpiece
4. Clean model trimmer
5. Clean panoramic/ceph cassettes and intensifying screen with intensifying screen cleaner
6. Check rubber goods on analgesia systems for leaks, cracks, tears, etc., and inspect inline scavenger valve
7. Check controls of emergency oxygen unit and rubber goods for deterioration
8. Check water bacteria with test kit (sink, syringes, handpieces, etc.)
9. Flush clean water system (shock water lines every 3 months)
10. Check filters on lab vacuum system
11. Check curing light intensity with light meter
12. Check handpiece operating pressures
13. Inspect all wall and ceiling mounted equipment to be sure it is securely fastened, and loose equipment should be looked at immediately by a service technician
14. Check that all secondary solution containers are properly labeled and identified
15. Check ultrasonic cleaner performance per manufacturers specifications
16. Evaluate X-ray units with step wedges (record results every 3 months), test all functions, check for drift, check arms, etc.

SEMI-ANNUALLY

1. Change handpiece coupler O-rings
2. Perform maintenance on digital X-ray scanners per manufacturer's specifications
3. Check oil and air filters on compressor (based on use and manufacturer's suggested interval)
4. Clean water filters and check inches of mercury adjustment on vacuum pumps
5. Replace sterilizer door and cassette gaskets along with water and air filters
6. Change unit air and water filters (typically located in utility or J-box)
7. Perform maintenance on air abrasion units as recommended by manufacturer
8. Check or replace amalgam separator and/or canister if present
9. Review all staff maintenance assignments

ANNUALLY

1. Check handpiece and vacuum tubing for cracks, splits and stiffness, and check handpiece gasket and O-rings
2. Change oil and air filters on compressor (based on use and manufacturer's suggested intervals)
3. Change dental unit water system filters per manufacturer's specification
4. Replace drive belts on dry vacuums
5. Review due dates for Radiation Equipment Performance Evaluations (EPE) per state requirements (Texas requires all X-rays every 4 years, and every year on CBCT X-rays)

ITEMS NECESSARY TO PERFORM PROPER MAINTENANCE

- Handpiece lube and cleaner
- Compressor oil and filters
- Sterilizer cleaner, spare gaskets and filters
- Vacuum line cleaner
- Vacuum traps and screens
- Spare chuck/turbine, bur tool for handpieces
- Air/water syringe repair kit
- Spare bulbs (handpiece, curing light, and dental lights)
- Basic tool set
- Spare handpieces
- Handpiece gaskets and O-rings
- Miscellaneous fittings, connectors, gaskets and O-ring kits
- Replacement amalgam separator or cartridges

CDC Sterilization Failure Information

Biological indicators (BIs) are the most accepted means of monitoring the sterilization process because they directly determine whether the most resistant microorganisms (e.g., *Geobacillus* or *Bacillus* species) are present rather than merely determine whether the physical and chemical conditions necessary for sterilization are met. Because spores used in BIs are more resistant and present in greater numbers than are the common microbial contaminants found on patient care equipment, an inactivated BI indicates that other potential pathogens in the load have also been killed.

How often should I perform biological monitoring (BI) (spore testing)?

Correct functioning of sterilization cycles should be verified for each sterilizer by the periodic (at least weekly) use of BIs. Users should follow the manufacturer's directions concerning the appropriate placement of the BI in the sterilizer. A control BI (not processed through the sterilizer) from the same lot as the test indicator should be incubated with the test BI. The control BI should yield positive results for bacterial growth. In addition to conducting routine biological monitoring, equipment users should perform biological monitoring.

- Whenever a new type of packaging material or tray is used.
- After training new sterilization personnel.
- After a sterilizer has been repaired.
- After any change in the sterilizer loading procedures.

If sterilizing an implantable device, should users perform biological monitoring (spore testing) more frequently?

Any load containing implantable devices should be monitored. Ideally, implantable items should not be used until the results of tests are known to be negative. As previously noted, the manufacturer's directions concerning the appropriate placement of the biologic indicator (BI) in the sterilizer must be followed. A control BI (not processed through the sterilizer) from the same lot as the test indicator should be incubated in the same manner as the test BI. The control biological indicator should yield positive results for bacterial growth.

What should I do if a spore test result is positive?

If the mechanical (e.g., time, temperature, pressure) and chemical (internal or external) indicators suggest that the sterilizer is functioning properly, a single positive spore test result probably does not indicate sterilizer malfunction. Items other than implantable items do not necessarily need to be recalled; however, sterilizer operators should repeat the spore test immediately using the same cycle that produced the positive BI. The sterilizer should be removed from service and sterilization operating procedures reviewed to determine whether operator error could be responsible.

If the result of the repeat spore test is negative and operating procedures were correct, then the sterilizer can be returned to service. If the repeat spore test result is positive, do not use the sterilizer until it has been inspected or repaired and rechallenged with BI tests in three consecutive empty-chamber sterilization cycles. When possible, items from suspect loads dating back to the last negative BI should be recalled, rewrapped, and resterilized.

Results of biological monitoring and sterilization monitoring reports should be recorded.

Common Factors Influencing the Effectiveness of Sterilization

Causes	Potential Problems
Improper cleaning of instruments:	Protein and salt debris may insulate organisms from direct contact with the sterilizing agent and interfere with the efficacy of the sterilization agent.
Improper packaging: Wrong packaging material for the method of sterilization: Excessing packaging material:	Prevents penetration of the sterilizing agent; packaging material may melt. Retards penetration of the sterilizing agent.
Improper loading of the sterilizer: Overloading: No separation between packages or cassettes even without overloading:	Increases heat-up time and will retard penetration of the sterilizing agent to the center of the sterilizer load. May prevent or retard thorough contact of the sterilizing agent with all items in the chamber.
Improper timing and temperature: Incorrect operation of the sterilizer:	Insufficient time at proper temperature to kill organisms.

