



Johnson-Promident

High Speed Air Turbine Handpiece Challenger, Classic, and Gemini Series

We would like to thank you for your purchase of this Johnson-Promident handpiece. A good familiarization with the handpiece will help maximize its performance and increase its durability. Please read and follow these instructions closely and save them for future reference.

Caution: Federal law restricts this device to sale by or on the order of a licensed dental professional.

INTENDED USE:

- This handpiece is intended for use by dental professionals only. It is intended to be used intra- and extra-orally to cut, shape, grind, and polish teeth, or items related to teeth, and dental devices that may be in the mouth or to be placed in the mouth.

PRODUCT SPECIFICATIONS:

- The handpiece is an air-driven, handheld device that is compatible with all dental tubing
- The handpiece runs at speeds of 360,000 RPM at 28 psi to 420,000 RPM at 35 psi.

ACCESSORIES TO BE USED WITH THE DEVICE:

- This handpiece is to be used only with ISO Standard burs, shank diameter of 0.063", 0.960" maximum length.

INSTRUCTIONS FOR INSTALLATION AND OPERATION:

- Since the air pressure adjustment of the handpiece is in direct relation with its performance, safety, and useful life, install the handpiece to your delivery unit and verify that the air pressure does not exceed 35 psi when pressing down fully on the foot control. Adjust accordingly if needed, or call an authorized technician.
- Operate the handpiece only at pressures of 28 to 35 pounds per square inch. The handpiece is engineered to attain speeds of 360,000 RPM at 28 pounds, and 420,000 RPM at 35 pounds.
- DO NOT exceed a speed of 420,000 RPM!
- DO NOT operate the handpiece without a bur in the handpiece!

INSERTION AND REMOVAL OF BURS:

- Hold handpiece in hand.
- Place thumb on end cap button and push until chuck disengages bur.
- Remove bur and place new bur into chuck until fully seated.
- Release thumb pressure on end cap button.
- New bur is now held securely for resumption of operation.
- Alternate Tool Instructions: Pull the knob of the bur wrench back and attach the head of handpiece. When you push in the knob, the square tip of the wrench must fit into the square hole within the handpiece head. To loosen bur, rotate wrench clockwise.

WARNING: PRIOR TO OPERATION, PLEASE MAKE SURE THAT BUR IS SECURELY HELD BY CHUCK. IF NOT, REPEAT ABOVE STEPS UNTIL THE BUR IS SECURELY HELD TO PREVENT SERIOUS TROUBLE CAUSED BY BUR WALK OUT DURING ROTATION.

REPLACEMENT OF AIR TURBINE CARTRIDGE:

1. Place bur in cartridge.
2. Unscrew head cap with head cap button wrench, turning counterclockwise.
3. Push bur on flat surface until cartridge/turbine is removed.
4. Clean inside of handpiece head to remove moisture and foreign particles.
5. Insert new cartridge/turbine into handpiece head. When replacing the canister style cartridge, the guide projection on the canister must be lined up with concave groove inside handpiece to insure proper fit.
6. All O-rings and gaskets should be replaced.
7. Replace head cap into handpiece by screwing clockwise with cap wrench.

NOTE: WHEN REPLACING HEAD CAP, BE CAREFUL TO ALIGN THREADS CORRECTLY. THESE THREADS ARE VERY FINE AND CAN BE EASILY STRIPPED.

INSTRUCTIONS FOR MAINTENANCE:

- In order to always provide the handpiece with clean air, water accumulated in the compressor must be drained out once a day. DAILY LUBRICATION IS ABSOLUTELY ESSENTIAL.
- Use a brush to remove foreign particles. A fine wire is provided for cleaning the water spray hole and to prevent clogging. Particles can be dislodged by blowing air backward from the contra angle head. NOTE: DO NOT attempt to blow particles from the rear end of the handpiece, as larger particles will be blocked in the water tube.
- Moist air from the compressor can damage the turbine. Check and bleed the compressor if moisture is present. A clean, dry air supply is essential.
- Lubricate the handpiece between each patient and before each cycle of sterilization.
- Apply two drops of lubricant into the drive air hole and in chuck. Make sure to use separate cans of lubricant before and after sterilization to prevent contamination.
- To expel lubricant, reinsert bur into handpiece head, connect handpiece to tubing, and run for 5 seconds to thoroughly expel debris and excess lubricant.

PORT CONFIGURATION:



CLEANING AND STERILIZATION PROCEDURES:

NOTE: THE HANDPIECE MUST BE STERILIZED BEFORE THE FIRST USE AND AFTER EVERY USE. 

The use of safety glasses and puncture-resistant gloves is recommended during preparation of handpiece for sterilization.

Clean External Surface: Remove bur from handpiece and scrub with a brush or wipe with gauze using water or alcohol to remove debris. DO NOT IMMERSE HANDPIECE.

Dry: Thoroughly dry handpiece using gauze, paper towel or air syringe.

Clean/Lubricate Internal Surface: Apply two drops of lubricant. Spray lubricant into drive air hole and in chuck.

Make sure to use separate cans of lubricant before and after sterilization to reduce the likelihood of contamination.

Expel Cleaner/Lubricant: Reinsert bur into handpiece head, connect handpiece to tubing and run for 5 seconds to thoroughly expel debris and excess lubricant.

Clean Fiber Optic Bundle: Using a cotton swab with isopropyl alcohol, wipe the surface on both ends of the handpiece.

Bag and Cycle in Autoclave: Place handpiece into autoclave bag or pouch. Cycle as per autoclave manufacturer's instructions.

Handpiece must be sterilized for 15 minutes at 270° F or 132° C.

DO NOT EXCEED 275° F (135° C).



Cool Down and Lubricate

Allow handpiece to return to room temperature. Lubricate handpiece as per instructions listed above. Expel excess lubricant as per previous instructions.

MAINTENANCE PROCEDURES TO PREVENT OVERHEATING

WARNING: Improper maintenance can cause the handpiece to overheat, which can result in burns to the user or the patient.



Overheating can be a problem encountered with a high speed handpiece. Under normal usage, there is a slight gap between the rotating chuck and the release push button in order to prevent friction contact and overheating. But if the push button is pressed while the chuck is rotating at a high speed, friction contact may rapidly overheat the push button without warning. Also, as components in the powerhead wear, the gap between the chuck and push button may eventually close and produce the same result. Any tissue touched by a hot push button may experience an undesirable sensation of heat. In extreme cases this could result in tissue burn to either the patient or the dentist.

To avoid this problem, it is critical that you follow the instructions for operation and maintenance. In particular:

- Before using the handpiece, run it to check for any signs of trouble (e.g., noise, loose bur, visible damage)
- Only run the handpiece at the specified speed and pressure (360,000 RPM at 28 pounds to 420,000 RPM at 35 pounds; do not exceed a speed of 420,000 RPM)
- Always use an ISO standard bur with shank diameter of 0.063" and 0.960" maximum length
- Follow the instructions on cleaning, lubricating, and sterilizing
- Service the handpiece regularly.

TROUBLESHOOTING: If your handpiece will not start or lacks power, please use the following guide to help identify and resolve the problem.

Problem: Air pressure too low.

Solution: Adjust dental unit air pressure to read at the motor air entrance between 28-35 psi.

Problem: Connector not threaded on tightly.

Solution: Inspect your connector and make sure it is threaded tightly to the motor.

Problem: Worn Gasket

Solution: Inspect your rear gasket and replace if gasket is brittle or cracked.

Problem: Crimped Tubing

Solution: Repair or replace tubing.

Problem: Bad or Defective Cartridge

Solution: Replace cartridge.

WARRANTY

This handpiece is manufactured from the highest quality materials and the best workmanship. It is warrantied to the original purchaser against defects in materials and workmanship for each product's specified warranty period, provided that the product has been operated in accordance with this Instruction and Maintenance Manual and has not been subjected to apparent misuse, abuse, or accident. Any parts or accessories which fail to operate in accordance with factory specifications at the time of installation will be repaired or exchanged.

For additional information about the maintenance and sterilization of this product, please call Johnson-Promident Customer Service at (800) 210-8945.

✓ DO

- ✓ **Use warm tap water to scrub the exterior of handpiece.**
- ✓ **Expel excess lubricant from handpiece by running it for 5 seconds after cleaning and lubricating.**
- ✓ **Use separate cans of lubricant before and after sterilization to prevent contamination.**
- ✓ **Clean both ends of fiberoptic bundle with a cotton swab dipped in isopropyl alcohol.**
- ✓ **Use autoclave bags and pouches with indicators to protect handpiece from damage and demonstrate to patients your asepsis awareness.**
- ✓ **Allow handpiece to cool down to room temperature before lubricating.**

Ø DON'T

- Ø **DON'T immerse handpiece in water or chemical disinfectants/sterilants.**
- Ø **DON'T use solutions containing phenol, acid or chlorine.**
- Ø **DON'T sterilize handpiece with bur inserted.**
- Ø **DON'T exceed 275° F (135° C) in autoclave or chemiclave.**
- Ø **DON'T dry heat or heat transfer sterilize.**
- Ø **DON'T operate handpiece without bur inserted in chuck.**



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