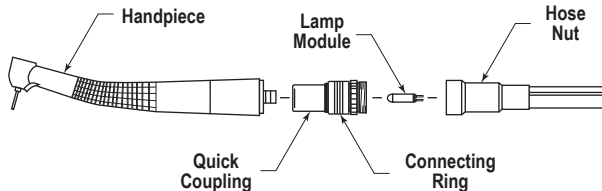


INSTRUCTIONS

VIPER 360 HIGH SPEED HANDPIECE

INSTALLATION AND OPERATION

The Viper 360 swivel handpiece is equipped with a quick connect feature to facilitate fast connection of other Kinetic 360 handpieces as well as easy lubrication and infection control procedures. To disassemble the handpiece at the 360 Quick Coupling, simply pull the connecting ring towards the hose assembly. To reassemble, seat the handpiece onto the coupling until the connecting ring automatically locks the handpiece in place. Handpiece may then be quick-connected to the coupling.



IMPORTANT FOR SAFETY!

Never pull the connecting ring while the handpiece is turning to avoid the danger of the handpiece being forcibly disengaged by the air pressure. Before installing the handpiece, clean and lubricate as outlined under MAINTENANCE AND SERVICING procedures.

Before connecting the handpiece to the Photon illumination system hose, install the lamp module (as shown) into the receptacle on the end of the hose. Be certain to align electrical pins to prevent breakage.

Connect the handpiece to the hose being careful to align all air and water tubes. For maximum performance and bearing life, the VIPER 360 handpiece should be operated with clean, filtered, moisture-free air at a pressure of 38-43 psi as measured at the handpiece coupling.

IMPORTANT OPERATING INFORMATION

1. Bur changing technique may be different than similar handpieces ... follow instructions to avoid turbine damage.
2. Do not operate the handpiece at pressures in excess of 45 psi to avoid premature turbine failure.
3. Never pull the 360 Quick Coupling connecting ring while the handpiece is operating.
4. Never operate the handpiece, even for an instant, without a bur installed to avoid chuck damage.
5. Avoid prolonged "no load" conditions.
6. When switching handpiece delivery hoses, insure that the recommended air pressure is not exceeded.
7. Lubricate the handpiece at least twice a day.
8. Never use short shank burs.

CHANGING BUR

For handpieces equipped with non-push button screw style bur changing, see page 9. To prevent damage to the handpiece and the danger of an ejected rotating bur, NEVER depress the PUSH-LOK while the handpiece is rotating. A flat wound spring is used to lock the bur jaws in place. When removing a bur, be sure to depress the push button all the way down. A click may be felt as the spring is compressed. This is especially important since, under certain heavy cutting situations, the bur may afterwards seem to be "jammed" in the handpiece. This is not a defect in the chuck mechanism but is a result of the increased locking action of the bur jaws under heavy pressure. The chuck is designed to become tighter as greater pressure is applied, preventing bur slippage. If this situation is encountered, apply extra force to the push button.

To install another bur, depress push button completely and insert bur until it bottoms out. After releasing push button, push bur into the handpiece which will increase the locking action of the bur jaws and produce greater holding power.

CHUCK MAINTENANCE

In general, the chuck mechanism is not subject to wear and should easily outlast the turbine and bearing assemblies. However, inadvertent introduction of oral cavity fluids, chemical disinfecting liquids, or other materials into the chuck mechanism may possibly produce residues which could easily interfere with the chucking action. If this situation is encountered and cannot be rectified by cleaning, the turbine should be returned to the factory for disassembly, cleaning and possibly a complete rebuilding.

LAMP CHANGING

Using the quick disconnect, remove the handpiece. Holding the smooth front of the coupling, unscrew the hose nut and separate the coupling from the hose. Unplug the burned out lamp and replace with a new Viper 360 swivel lamp (#1222) carefully aligning the electrical pins. Replace the coupling onto the hose and reconnect the handpiece.

INFECTION CONTROL PROCEDURES

AUTOClave: To use an autoclave as an effective means of infection control requires an autoclave cycle after each patient. Although the Viper 360 handpiece is fully autoclavable the autoclave environment is hostile to any handpiece and will result in slow physical and operational degradation. Less frequent autoclaving is not recommended since this would compromise infection control. If autoclaving is the preferred method, the following directions should be applied to assure maximum longevity:

1. Thoroughly clean handpiece using brush and detergent.
2. Rinse completely.
3. Allow handpiece to dry and then lubricate (optional).
4. Remove all excess lubricant.
5. Remove bur and insert handpiece into autoclave bag.
6. After autoclaving, lubricate prior to use.

DISINFECTANT SOLUTIONS: Various bactericidal and virucidal solutions are available which provide high level disinfection and sterilization. In addition to following the manufacturer's recommendations for use, it is essential to develop a procedure to remove the solutions after disinfecting. The residues that remain after evaporation of the solution can easily interfere with all mechanisms in the handpiece. Do not allow the disinfectant solution to dry on the handpiece. If the procedures suggest drying, modify them by soaking gauze in the solution and leave it in contact with the handpiece for the required time duration.

Immediately after disinfecting, wash the handpiece thoroughly with tap water or sterile water. Complete immersion in water will not harm the handpiece. After washing, shake the handpiece to remove excess water, blow dry with Triplex syringe and lubricate.

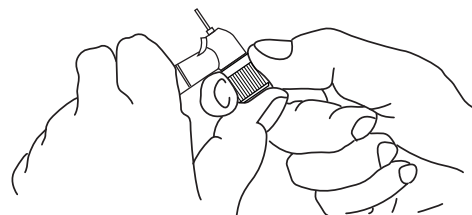
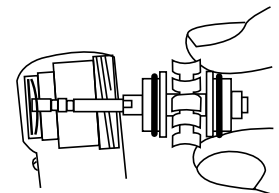
CHEMIClave: Chemiclave may be used for infection control as long as there are not high levels of residue left on the handpiece after the cycle. Be certain the chemiclave solution used is compatible with those materials found in high speed handpieces. A chemiclave is essentially an autoclave and therefore follow all considerations under AUTOCLAVE.

DRY HEAT STERILIZATION: Do not use dry heat sterilizers for handpieces.

TURBINE CARTRIDGE REPLACEMENT

Remove the bur from handpiece. Remove handpiece head back end cap using the cap wrench as illustrated. Push out the turbine cartridge assembly from head cavity using a bur or bur blank if necessary. Remove the dust sealing washer, spring wave washer and o-ring (if o-ring did not come out with turbine assembly) from the head of the handpiece and clean internal surfaces of the head thoroughly.

Remove the new turbine cartridge assembly from its packaging and insert new dust sealing washer and spring wave washer into the head cavity. The dust sealing washer is inserted first and then the wave washer, making sure the convex side of the wave washer faces toward the bearing cartridge to provide proper preload.



Align the dust sealing washer and spring wave washer and insert the new turbine cartridge into the head cavity, as is, being certain that the two new o-rings are in position on the cartridge. Discard the two old o-rings. **Be certain to remove old o-rings from the head.**

Gently push the back of the turbine cartridge while making sure that front bushing is aligned with front hole in handpiece head. Turbine will "snap-in" when o-ring enters the seat properly. Wiggling the turbine cartridge using the bur blank helps alignment of the front o-ring into its seat.

Replace end cap and tighten with the end cap wrench. If substantial resistance is felt when tightening the end cap, disassemble again and inspect for proper alignment.

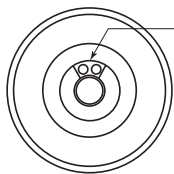
Grasping the bur blank, move turbine cartridge in an "in and out" motion to seat o-rings. Turn bur blank by hand and feel for free movement. If the rotation feels tight or "scratchy", disassemble and re-seat the o-rings.

MAINTENANCE AND SERVICING

LUBRICATION: To provide maximum performance and bearing life, the handpiece should be lubricated twice a day. When the handpiece is used for more than 30 minutes continuously, intermediate lubrication is recommended.

To lubricate, disconnect the handpiece at the 360 Quick Coupling and insert 3 - 4 drops of oil into the two drive air holes on the swivel shaft as shown. If Viper Spray lubricant is used, insert the handpiece into the spray adapter as shown in the diagram on the spray can. Operate the spray can in an upright position for approximately 1 second.

Replace the handpiece and activate the drive air for a few seconds to distribute the lubricant throughout the turbine and remove debris and old oil. Use only appropriate high speed handpiece lubricants. Any other lubricants may cause bearing damage with resultant premature turbine failure. Viper 360 high speed spray lube or bottle lube is recommended for maximum effectiveness.



Lube Here if Using Squeeze Bottle Viper 360 Lubricant

CLEANING WATER PORTS: Periodically, the water spray tubes may become clogged with mineral deposits from the water. Use fine pieces of wire to dislodge foreign material by running them in and out of the tiny water exit holes in the handpiece head.

DO NOT attempt to dislodge blockages with explorers or burs. If one of these instruments should break in the water exit hole, the handpiece will have to be replaced.

CLEANING FIBER OPTICS: Oil or dirt which gets on the fiber optic may reduce the brightness of the handpiece or discolor the light. Disassemble the handpiece at the 360 Quick Coupling and clean the fiber optic at the back with alcohol on a cotton applicator stick. Remove residue with a clean, dry cotton applicator stick. If the residue cannot be removed with alcohol, that may indicate permanent damage

O-RING REPLACEMENT: If it is suspected that the swivel o-rings have worn, replace all five o-rings as follows:

Disconnect the handpiece from the 360 Quick Coupling. Unscrew the swivel cover (identified by the Viper 360 logo and serial number) from the back of the handpiece. Lift and remove the worn o-rings with an explorer or cotton pliers.

Replace with new o-rings being careful to slide them into position with gentle finger pressure. Lightly lubricate o-rings with handpiece oil.

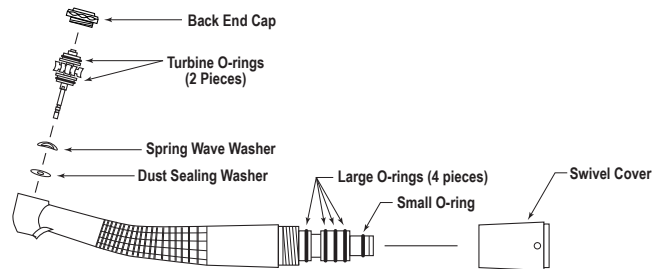
Replace the swivel cover on the handpiece and hand tighten to prevent air and/or water leaks.

IMPORTANT! Use only Viper 360 o-rings. Other o-rings will not be the proper size or durometer and will interfere with the operation of the handpiece and/or the swivel mechanism.



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ASSEMBLY DETAIL

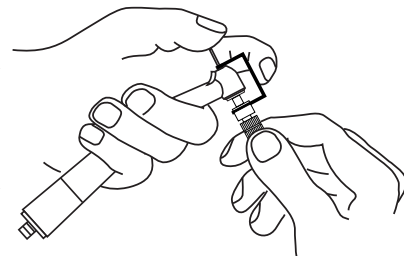


INSTRUCTIONS FOR SCREW STYLE BUR CHANGER

A metal chuck plunger is used within the turbine cartridge for clamping and releasing the bur. A special bur wrench is used to loosen the chuck.

Position the bur wrench over the handpiece head as illustrated and pull back on the knurled knob. Insert the square pin of the bur wrench into the square socket of the chuck. At the same time, be certain that the slotted plate on the front of the bur wrench engages the square nut on the front of the turbine assembly. Holding the bur wrench in position, turn the knurled knob 1/4 turn COUNTER CLOCKWISE which will loosen the bur. **IMPORTANT!** After installing the bur changer onto the head of the handpiece, it is required that you tightly hold down the bur changer with your forefinger while tightening or loosening the chuck. This will prevent the chuck nut from pushing the bur changer up and disengaging it from the chuck nut. Failure to follow this procedure may cause "rounding" of the chuck nut which will prevent adequate tightening of the bur.

CAUTION: All that is needed to loosen bur is a 1/4 to 3/4 turn counterclockwise. Any further loosening will cause the chuck screw to bind against the end cap possibly causing damage. Insert a new bur and, using thumb as shown, insure that bur is completely bottomed out. Tighten securely.



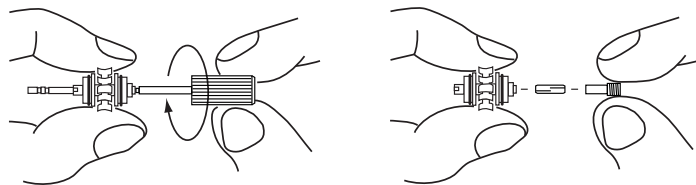
CAUTION: Over tightening of bur chuck can cause bearing damage and shorten the life of the turbine cartridge. Never tighten chuck without a bur installed.

CHUCK REPLACEMENT

Following the TURBINE CARTRIDGE REPLACEMENT instructions, remove the turbine cartridge from the handpiece head. Holding the turbine as shown, insert the special knurled tool provided into the square socket of the chuck screw. Unscrew completely and remove the chuck screw. Using a bur blank or other small pointed tool, push out the precision chuck from the cartridge assembly. Push chuck from the bur end of the cartridge toward the rear.

NOTE: Chuck is fitted snugly into cartridge assembly and requires slight but firm pressure to remove. Replace with new precision chuck and reassemble chuck screw into turbine assembly. **DO NOT TIGHTEN CHUCK WITHOUT A BUR OR BUR BLANK INSTALLED.**

Follow closely the TURBINE CARTRIDGE REPLACEMENT instructions in order to properly reassemble turbine, o-rings, dust sealing washer, spring wave washer and end cap into the handpiece head.



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