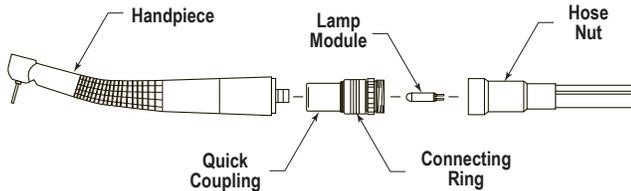


# INSTRUCTIONS

## VIPER<sup>2</sup> HIGH SPEED HANDPIECE

### INSTALLATION AND OPERATION

The Viper<sup>2</sup> 360 swivel handpiece is equipped with a quick connect feature to facilitate fast connection of additional Kinetic Viper<sup>2</sup> 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 tubing assembly. To reassemble, seat the handpiece onto the coupling until the connecting ring automatically locks the handpiece in place.



### 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 explained under MAINTENANCE AND SERVICING procedures.

Before connecting the handpiece to the light source illumination system tubing, install a Kinetic swivel lamp module (as shown) into the receptacle on the end of the tubing. Be certain to align electrical pins to prevent breakage.

Connect the handpiece to the tubing being careful to align all air and water tubes.

For maximum performance and bearing life, the Viper<sup>2</sup> 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

The Viper<sup>2</sup> chucking mechanism is designed to always be operated with a bur installed. 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, extra force can be applied to the push button.

### 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 tubing nut and separate the coupling from the tubing. Unplug the burned out lamp and replace with a new Viper<sup>2</sup> 360 swivel lamp while carefully aligning the electrical pins. Replace the coupling onto the tubing assembly 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<sup>2</sup> 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.

**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.

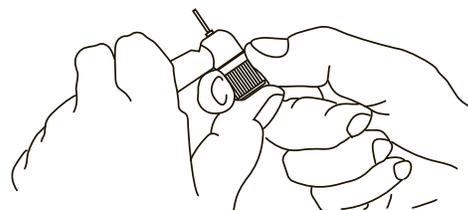
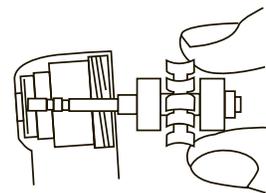
**CHEMIClave:** Chemiclave may be used for infection control as long as there are not high levels of residue left on the handpiece after the cycle. Be certain the chemiclave solution used is compatible with those materials found in high speed handpieces. A chemiclave is essentially an autoclave and therefore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

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

### TURBINE CARTRIDGE REPLACEMENT

Remove bur from handpiece. Remove handpiece head back end cap using the cap wrench as illustrated. Push out the turbine cartridge assembly from the head cavity using a bur or bur blank if necessary.

**Note:** Although the assembly drawing shows the location of the dust sealing washer, dust washer retainer and two turbine cartridge o-rings, it is not recommended that these parts be replaced without prior experience. Therefore, do not attempt to remove these parts. If unlikely damage has occurred, consult the factory for further instructions.



Supplied with the new turbine are two new turbine o-rings, one dust sealing washer, one dust washer retainer and one wave washer. These parts should only be installed by an experienced technician. Otherwise, remove these parts and save them for a later time if required.

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

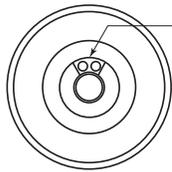
Insure that the spring wave washer and end cap o-ring are in their proper position and replace the end cap. Tighten securely using the cap wrench. Turn the bur blank by hand and feel for free rotational movement of the turbine. If the rotation feels tight or "scratchy", disassemble and re-install the turbine.

**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:** The Viper<sup>2</sup> handpiece employs a triple port water spray system to provide maximum cooling. Depending on the water supply, the water spray tubes may become clogged with mineral deposits from the water. It may be possible to use very fine pieces of wire to dislodge foreign material from the tiny water ports. However, attempting this is rarely effective. Return to the factory for repair.

**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 and the front, near the bur, with alcohol on a cotton applicator stick. Remove any remaining residue. If the residue cannot be removed with alcohol, that may indicate permanent damage. Return to the factory for evaluation.

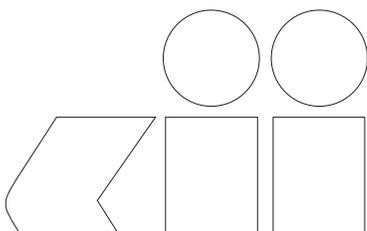
**O-RING REPLACEMENT:** If it is suspected that the swivel o-rings have worn, replace all five o-rings as follows:

Disconnect the handpiece from the 360 Quick Coupling. Unscrew the swivel cover (identified by the Viper<sup>2</sup> 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.

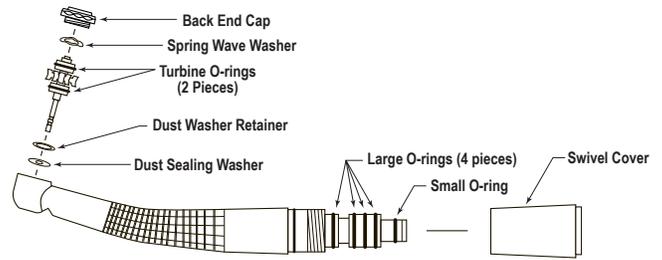
Replace the swivel cover on the handpiece and hand tighten to prevent air and/or water leaks.

**IMPORTANT!** Use only Viper<sup>2</sup> 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**



**OPTIONAL HANDPIECE CONNECTIONS**

In addition to the standard Kinetic 360 swivel style back end tubing connection, Viper<sup>2</sup> is also available in various optional configurations that can be used to adapt to or connect directly to other styles of existing tubings that have been manufactured by Kinetic Instruments as well as others.

One common tubing configuration currently employed and highly popular is the 6-pin or ISO-C connection. In this case, an adaptor is available that attaches to the ISO-C tubing and permits the connection of the Kinetic Viper<sup>2</sup> 360 swivel quick connect coupler. When using this adaptor it is important to remember to set the lamp voltage correctly.

Also available is an entirely different back end configuration that is designed to permit the Viper<sup>2</sup> to be compatible with manufacturers of unique styles that utilize a tubing assembly with a dedicated connector that cannot be removed.

Generally, these tubing assemblies differ considerably and require the utilization of specialized connections. Most, if not all, of these styles are carried by Kinetic Instruments. When a situation such as this is encountered, it is advisable to speak directly with one of our handpiece specialists to insure that the connection is the most convenient and least expensive.

Another possibility is a tubing assembly that uses the older and still available 5-hole or ISO-B connection. Very early versions of this assembly employed a large light generation box that produced illumination via actual glass fibers that were contained in the center of the tubing. Although it is strongly recommended that the entire system be replaced, an adaptor is available for this scenario as well.

Kinetic Instruments, from the late 1970's, continues to highly specialize in the development of handpiece connections and is able to provide expert assistance for any application.

**MANUFACTURING WARRANTY**

Kinetic Instruments warrants this product to be free of manufacturing defects for a period of six months from date of purchase. Kinetic Instruments will repair or replace free of charge any defective parts during that time, provided that such defects occurred during normal use, and, at our discretion, such parts were properly installed and were not subject to abuse, misuse or accident. This warranty was made expressly in place of all other warranties or guarantees, express or implied, with respect to quality, merchantability or fitness for a particular purpose.

**CORPORATE CONTACT INFORMATION**

Kinetic Instruments maintains a principal headquarters for customer support and selected manufacturing located in Bethel, Connecticut, U.S.A. This office receives telephone calls Monday to Friday, 9 am to 5 pm EST (Eastern Time).

**Mailing address:** Kinetic Instruments Inc.  
17 Berkshire Blvd.  
Bethel, CT 06801

**Telephone (local):** 203-743-0080  
**Telephone (toll free):** 800-233-2346  
**Fax (24 hours, 7 days):** 203-790-1227

**Internet e-mail:** sales@kineticinc.com

**Internet website:** www.kineticinc.com

**Telephone: 203-743-0080**  
**Toll Free: 800-233-2346**  
**24hr Fax: 203-790-1227**  
**Website: www.kineticinc.com**  
**e-mail: sales@kineticinc.com**

**17 Berkshire Boulevard**  
**Bethel, Connecticut 06801**