



Your cutting edge

- 557 & 757 ULTRALITE™
- 557 & 757 EURO™
- ULTRA-ACCESS MXE & MXL™

HIGHSPEED HANDPIECES

INSTRUCTION MANUAL



FOR PROFESSIONAL USE ONLY

Warning: This product is intended for use by dental professionals only. Before operating handpiece, carefully read and follow these instructions and save them for future reference. Observe all cautions and warnings.

TOLL FREE HOTLINE FOR ORDERING AND TECHNICAL ASSISTANCE: U.S.A.: 1-800-347-3289

NON-TOLL FREE WORLDWIDE: 1-530-345-1767

FAX: 1-530-345-1870

INTERNET: www.laresdental.com

Caution: Never use the back of the handpiece for tissue retraction, or otherwise cause push button to be depressed during operation. Doing so may result in button getting hot and burning the patient.

THANK YOU!

You are now the owner of the most advanced highspeed handpiece available. Protect and prolong the life of your investment by taking the time to read and carefully follow the instructions on Installation, Operation, Maintenance, Problem Diagnosis and Service/Repair found in this Instruction Booklet.

INSTALLATION

AIR QUALITY AND ADJUSTING DRIVE AIR PRESSURE

For long, trouble free operation, operate your handpiece using only dry, filtered air.

Proper drive air pressure is essential to full handpiece performance and long trouble-free operation. Excess air pressure should never be used, because it will cause premature bearing or turbine blade failure and will void warranty.

When testing or adjusting air pressure on a Lares non-swivel handpiece, attach Lares Handpiece Pressure Gauge to the hose (**Figure 1**). When testing or adjusting an Apollo lighted coupler, first remove the bulb from the swivel coupler using the same procedure and precautions as "Fiberoptic Bulb Changing." The delivery air pressure should be 32 psi (220 kPa) to 40 psi (275 kPa) maximum.



Figure 1

Recommended bur/diamond for 557 Turbo+ and 757 Workhorse handpieces are the same as used in the 557 Ultralite/Euro and 757 Ultralite/Euro respectively.

When connecting the Apollo Swivel Coupler to an Apollo handpiece, use the same procedure as “Connecting Handpiece to Swivel Coupler.” **Figure 4**

When adjusting Spray Pattern on the 557 Turbo+ and the 757 Workhorse, adjust the delivery system water flow control valve, as needed.

Note: Do not rely on dental unit pressure gauges as they are often inaccurate and do not allow for varying pressure drops through different hose lengths and configurations.

1. Attach a Lares Handpiece Air Pressure Gauge (for item #, see list of accessories and replacement parts at the end of this booklet) to the end of the MX swivel coupler.
2. Adjust the delivery system drive air pressure to obtain a minimum of 32 psi (220 kPa) at the handpiece end of the swivel coupler. Safe maximum drive air pressure is 40 psi (275 kPa). **Figure 1**

CAUTION: DO NOT use Flash Sterilization Techniques or Damage to Components Will Occur, Voiding Warranty.

INSERTING A BUR/DIAMOND INTO THE HANDPIECE: CHANGING BURS

Lares highspeed handpieces may be used with friction grip burs or diamonds with shank diameters that conform to ISO and ADA size standards. Never use burs with carbide shanks.

Reference the chart below for recommended bur and diamond lengths for each handpiece model:

Model	Recommended	Optional
557 Ultralite/Euro	Standard (19.0 mm)	Short Shank (16.5 mm)
757 Ultralite/Euro	Standard (19.0 mm)	Surgical Length (26 mm) 757 Ultralite/Euro
Ultra-Access	Shorter-Than-Short (14.5mm)	Short Shank (16.5mm)

1. Hold handpiece handle as shown and position end of thumb on push button with index finger wrapped around underside of handpiece neck for support. **Figure 2.**

2. To insert a bur, first be sure bur is clean and free of external debris or corrosion. Without depressing push button, gently insert bur into handpiece as far as possible. Then fully depress push button hard and fast while simultaneously inserting bur into chuck the rest of the way until fully seated. Release push button and insertion is completed.

Caution: Be sure to tug firmly on the bur/diamond immediately after completing the insertion procedure described above to verify full seating and secure retention of the bur/diamond before operation.

3. To remove a bur, fully depress push button hard and fast while simultaneously pulling bur until removed from chuck. **Figure 2.** Push button may then be released until next bur is inserted.



Figure 2

Caution: Never force bent, rusted or oversize bur into chuck or damage may occur voiding warranty. Never depress push button during handpiece operation or while turbine is still rotating. Be sure to remove bur at end of day.

CONNECTING HANDPIECE TO SWIVEL COUPLER

1. Lubricate the handpiece (See Maintenance and Infection Control).
2. Attach the coupler to the dental unit hose securely.
 - A. Align pins on the coupler with the tubing.
 - B. Thread the hose nut onto the coupler
 - C. Fit the coupler wrench to the flats and tighten the hose nut. **Figure 3.**
3. Holding the swivel coupler in straight alignment with the back of the handpiece, gently insert the swivel coupler into the back of the handpiece, pushing more firmly when fully inserted until the coupler snaps with a “click”



Figure 3

sound on the back end of the handpiece indicating complete engagement. Never force engagement or swivel coupler will be damaged. **Figure 4.**

4. With bur engaged, operate handpiece to expel excess lubricant. Wipe off any excess lubricant expelled with a towel or cloth.

ADJUSTING SPRAY PATTERN

On a properly adjusted delivery system, the spray pattern of your Lares handpiece covers all bur/diamond lengths with a consistent, homogeneous air/water mixture.

1. Holding handpiece over cuspidor, depress the foot control to test spray pattern. To increase or decrease the amount of water present in the spray, adjust the coupler water flow ring as needed. **Figure 5.**

Your handpiece is now ready to operate. Be sure to follow the maintenance instructions that follow.

INITIAL MAINTENANCE

Clean, lubricate and sterilize a new handpiece before its first use. Follow the maintenance and infection control procedure on pages 7-9.



Figure 4

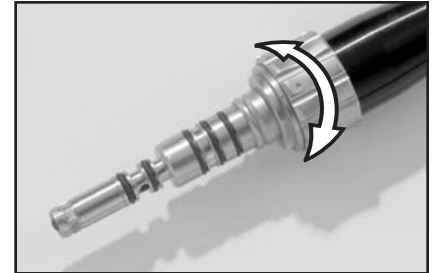


Figure 5

OPERATION

Lares highsPEEDS should be operated using the same techniques and procedures used with other highsPEED handpieces. There are, however, several unique procedural tips that can significantly extend problem-free operating life.

TO EXTEND OPERATING LIFE

1. Detach swivel handpiece from swivel coupler at the end of each day and prior to other extended periods of nonuse to avoid water mineral deposit freeze up. Cover swivel coupler with dust cap when handpiece is detached.
2. Remember to follow all recommended maintenance and operation procedures religiously. Like most ultra high performance machinery, highsPEED handpieces are intolerant of maintenance neglect and improper operation.

IMPORTANT SAFETY PRECAUTIONS

All highsPEED handpieces are potentially dangerous if safety precautions are not followed. Be sure to read and observe the following precautions.

Caution: Never use the back of the handpiece for tissue retraction, or otherwise cause push button to be depressed during operation. Doing so may result in button getting hot and burning the patient.

1. Never operate handpiece with a bent or damaged bur/diamond engaged in chuck.
2. Never insert or remove handpiece from oral cavity before rotation of bur/diamond is completely stopped.
3. Never operate handpiece at air pressure in excess of recommended maximum settings.
4. Never operate handpiece after turbine cartridge replacement without double checking that head cap is tightened securely.
5. Never depress push button during operation.
6. Never operate handpiece without fully inserting bur in chuck. Do not extend burs.
7. Never use burs that do not conform to I.S.O. and ADA shank diameter standards or utilize carbide shanks.

8. Do not use this or any other highspeed handpiece for surgical procedures including, but not limited to, the removal of bone, dividing a tooth for extraction, or any other procedure that must be performed in the presence of an open wound. Doing so may result in subcutaneous emphysema and accompanying serious patient health hazards, including permanent disability or death.

For cutting procedures that must be performed in the presence of an open wound, a surgical handpiece specifically indicated for this purpose and designed to exclude the escape of air from the surgical field must be used.

9. Do not use this handpiece without heat sterilizing between patients to prevent cross-contamination which could result in serious illness or even death from infectious organisms such as HIV (the virus that causes AIDS) or hepatitis B.

MAINTENANCE AND INFECTION CONTROL

Be sure to use only Lares Handpiece Conditioner for this handpiece. Use of lubricants/conditioners other than Lares approved conditioner or failure to follow the maintenance schedule described above will automatically void the limited warranty for this product.

All Lares Highspeed Handpieces may be steam autoclaved or chemiclaved.

How you treat your highspeed handpieces before and after autoclaving/chemiclaving will have a dramatic impact on how well they withstand repeated cycles.

Prior to cycling, be sure to have available a Lares Handpiece Conditioner can with the required nozzle hardware attached.

PROCEDURE

This procedure should be performed after every patient to prevent cross-contamination and to assure long, trouble-free operation.

1. Detach handpiece from swivel coupler. (Do not autoclave/chemiclave swivel coupler). Clean external surface of handpiece thoroughly to remove saliva, blood, and other organic soil. Scrub handpiece with small brush under running water. Rinse and dry thoroughly.

CAUTION:

NEVER Submerge Components In Any Cleaning Or Disinfecting Solution

DO NOT Use Ultrasonic Cleaners

2. Apply Lares Handpiece Conditioner. Follow specific instructions detailed on can.

3. Remove bur from chuck.

4. Place handpiece in autoclave bag. The use of autoclave bags dramatically reduces fiber optic light output deterioration and handpiece cosmetic damage.

5. Load autoclave bag containing handpiece into autoclave or chemiclave. Be sure to load autoclave bags for maximum penetration of steam or chemical vapor.

6. Cycle the handpiece according to the autoclave/chemiclave manufacturer's instructions. Do not exceed 275°F (135°C).

CAUTION:

DO NOT Autoclave or Chemiclave For Extended/Unusual Periods Of Time (Such As Overnight).

DO NOT Leave Handpiece Components In Sterilizer After Cycle Is Completed.

7. Immediately remove handpiece from autoclave or chemiclave. Allow to cool sufficiently prior to handling.

8. As soon as handpiece is cool enough to handle, wipe fiber optic light transmitting surfaces clean at front and back ends of handpiece with isopropyl alcohol and cotton swab. This step is particularly critical to maintaining light output.

WEEKLY CLEANING OF SWIVEL COUPLER ROTATING SURFACE

Once each week prior to application of Lares Handpiece Conditioner remove swivel handpiece from swivel coupling and clean external surface of male swivel connection with isopropyl alcohol and gauze pad. This will keep swivel rotating freely.

DRYERS AND FILTERS

Be sure to periodically check and maintain your dental unit air filter and dryer to assure a steady supply of clean, moisture free air which allows longer bearing life.

FIBEROPTIC BULB CHANGING

Caution: Electrical shock and burn hazard. Before removing bulb, be sure swivel coupler is detached from hose for 3 minutes.

1. Grasp metal sheath covering bulb and rotate counterclockwise (when viewed from end of bulb) to loosen and remove.
2. Pull bulb straight out to remove from coupler.
3. Reinstall bulb by carefully aligning bulb pins with holes in coupler bulb socket and fully inserting bulb into socket. Then slide metal bulb sheath over bulb, threaded end first. Rotate clockwise (when viewed from end of bulb) tighten sheath into coupler.

DIFFUSER CHANGING 757 MODELS

1. Unscrew the diffuser using the wrench (Item # 10109) by aligning the posts on the wrench with the holes on the diffuser. **Figure 6.**
2. Clean the surfaces of the head and diffuser. Do not leave the o-ring inside the head. When refitting, position the o-ring on the diffuser, then fit the threads into the head and tighten moderately.

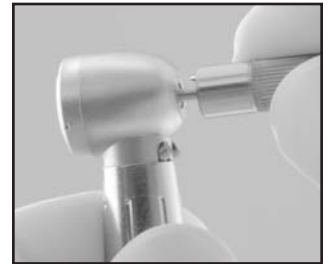


Figure 6

PROBLEM DIAGNOSIS

The inconvenience of handpiece downtime can often be avoided by following the common sense problem diagnosis and corrective action procedures that follow. If the problem cannot be corrected using these procedures, return the handpiece directly to Lares Research (outside U.S.A. return to your authorized Lares distributor). Do not attempt to perform procedures other than those described.

SYMPTOM: Excessively loud or shrill operating noise or high vibration.

Possible Cause	Test to Identify Cause	Corrective Action
a) Bent or damaged bur.	Replace bur with a new one and operate handpiece.	Discard defective bur.
b) Dry bearings due to lack of lubrication.	—	Lubricate handpiece with Lares Handpiece Conditioner.
c) Hose kinked, twisted, or blocked, slowing turbine speed.	Inspect entire length of hose for kinks, twists, or blockage.	Straighten hose or replace if blocked.

SYMPTOM: Bur slips/walks out of chuck during operation.

Possible Cause	Test to Identify Cause	Corrective Action
a) Use of incompatible burs not made to (or worn beyond) I.S.O./ADA shank diameter standards (.0626-.0630 in.) [1.59-1.60mm] or with identifying grooves located from .16 -.24 in. (4mm to 6mm) from non-cutting end of bur, has damaged push button chuck.	Measure groove (if present) location with suitable scale.	Discard or return incompatible burs. Purchase replacement push button chuck and install at chairside. Purchase replacement burs from reputable supplier only.
b) Chuck is worn from long use.	—	Purchase replacement Push button chuck and install at chairside.

SYMPTOM: Insufficient fiber optic light output.

Possible Cause	Test to Identify Cause	Corrective Action
a) Optic light output obscured by contamination.	Clean optic light elements at front and back of handpiece and ends of swivel coupler with alcohol and cotton swab.	Follow routine maintenance schedule for cleaning optics.
b) Light source intensity adjustment set too low.	Check intensity adjustment control for maximum setting position.	Maintain full intensity setting.
c) Worn or damaged fiber optic tubing.	Remove fiber optic tubing Sleeve from light source and hold up to light while viewing optic bundle exiting from swivel coupler. Presence of significant dark areas indicates extensive optic fiber damage.	Replace fiber optic tubing.

SYMPTOM: Light output is not sufficiently white.

Possible Cause	Test to Identify Cause	Corrective Action
a) Optic light guide output obscured by contamination.	Clean optic light elements at front and rear of handpiece and ends of swivel coupler with alcohol and cotton swab.	Follow routine maintenance schedule for cleaning optics.
b) Light source bulb output discolored due to low intensity setting.	Increase intensity setting.	Operate light source at increased intensity.

SYMPTOM: Intermittent or spitting spray, insufficient or excessive spray pattern or poor water atomization.

Possible Cause	Test to Identify Cause	Corrective Action
a) Insufficient water flow.	—	Adjust unit water flow needle valve or coupler valve to increase water flow.
b) Excessive water spray or leakage at coupler interface.	—	Adjust water flow needle valve to decrease water pressure.
c) Hose kinked, twisted or leaking.	Inspect entire length of hose for kinks, twists, or leaks.	Straighten hose or replace if leaking.
d) Clogged water or air ports.	—	Clean out head spray port with ligature wire or replace 757 diffuser.
e) Clogged unit water or air filters or screens.	Inspect water/air filters and screens in dental unit for clogged or saturated condition.	Clean or replace filters.
f) Gasket not sealing due to insufficient handpiece.	—	Be sure hose nut is fully tightened on end of tightening of hose nut.

SYMPTOM: Water leak at coupler.

Possible Cause	Test to Identify Cause	Corrective Action
a) Damaged swivel coupler O-rings.	Visually inspect for damage.	Replace O-rings and lubricate coupler.

SYMPTOM: Handpiece fails to turn freely or engage easily on swivel coupler.

Possible Cause	Test to Identify Cause	Corrective Action
a) Swivel coupler contaminated with debris or other foreign matter.	Clean swivel coupler with alcohol. Dry thoroughly and <u>re-lubricate</u> with Lares Handpiece Conditioner.	Clean weekly with alcohol to prevent debris buildup.
b) Lack of lubrication.	—	Lubricate with Lares Handpiece Conditioner.
c) Dented swivel coupler.	Check for small dents on coupler.	Return for repair.
d) Damaged O-rings on coupler.	Visually inspect coupler for damage.	Change O-rings and lubricate coupler.

SYMPTOM: Low rpm and poor torque.

Possible Cause	Test to Identify Cause	Corrective Action
a) Hose kinked, twisted, or leaking.	Inspect entire length of hose for kinks, twists, or leaks.	Straighten hose or replace if leaking.
b) Insufficient air pressure at handpiece.	Check air pressure at end of handpiece tubing using Lares Handpiece Pressure Gauge.	Adjust pressure to achieve 32-40 psi (220-275 kPa) at end of handpiece tubing.
c) Dry bearings due to lack of lubrication.	—	Lubricate handpiece with Lares Handpiece Conditioner.
d) Worn or damaged bur or diamond.	Replace bur or diamond and test torque.	Discard defective bur.
e) Turbine contaminated with debris due to dirty air system.	Flush repeatedly with Lares Handpiece Conditioner.	Obtain air filter and dryer if currently not in use. If air filter and dryer present, periodically inspect filters and replace or clean if dirty.

REPAIR SERVICE

For factory repair, send your handpiece directly to Lares Research, Attention: Technical Services Department, shipping prepaid (in U.S.A. only). For repair outside the U.S.A., send your handpiece to your authorized Lares distributor.

REPLACEMENT PARTS AND ACCESSORIES

The following replacement parts and accessories may be ordered directly from Lares Research (in U.S.A. only) or from your authorized Lares distributor outside the U.S.A. All replacement parts are accompanied by full replacement instructions for easy installation in your operatory.

<i>Description</i>	<i>Item#</i>
AIR PRESSURE GAUGES	
Handpiece Air Pressure Gauge for all Swivel Handpieces	10011
Handpiece Air Pressure Gauge for 4-hole and 5-hole Optic Non-swivel Handpieces	10012
Handpiece Air Pressure Gauge for 2-hole and 3-hole Non-swivel Handpieces	10013
Handpiece Air Pressure Gauge for MX Swivel Coupler	10062
HANDPIECE CONDITIONER & NOZZLES	
Lares Handpiece Conditioner, Can Only	10083
Nozzle for Ultralite and Euro Swivel Handpieces	10085
O-Ring Replacement Kit for MX Swivel Nozzle	10086
Nozzle for Swivel Handpieces	10033
Nozzle for 4/5-hole Handpieces	10035
Nozzle for 2/3-hole Handpieces	10036
O-ring Replacement Kit for Swivel Nozzle	10042
REPLACEMENT PARTS	
557 Replacement Turbine Cartridge Kit	10005-021
757 Tri-port Turbine Cartridge Kit	10071-021
Ultra-Access Turbine Cartridge	10070-021
557 Replacement Push Button Chuck	10227
757 Replacement Push Button Chuck	10228
Ultra-Access Push button Chuck	10079
Replacement Bulbs for MX Swivel Coupler, .7 Amp*	10260
Replacement Bulbs for MX Swivel Coupler, 1.5 Amp*	10271
Bulb Sleeve, MX Coupler	10111
557 Head Cap Push Button	10050
557 Head Cap Non-Push Button	10008
757 Head Cap Push Button	10307
Ultra-Access Head Cap Push Button	10080
557/757 Head Cap Wrench	10308
Ultra-Access Head Cap Wrench	10078
Gasket, MX Coupler	10905
O-ring Kit, MX Coupler	10074
Wrench, MX Coupler	10363
Spray Diffuser Kit, 757	10220
Tool, Spray Diffuser	10219

*NOTE: The replacement bulbs for the MX Swivel Coupler are also used on the Apollo Swivel Coupler.

LIMITED WARRANTY

Your Lares handpiece has been precision engineered and critically tested. It is the highest quality product available. Each Lares handpiece and swivel coupler is warranted against defects in materials and workmanship for a period of one (1) year from date of purchase.

ADDITIONAL CONDITIONS OF WARRANTY

1. Warranty registration is done automatically through our computer system as of the shipping date and warranty registration cards are not necessary (outside U.S.A. warranty registration cards may be required).
2. The handpiece must be operated and maintained in accordance with procedures outlined in the instructions.
3. The handpiece must not be subjected to abuse or neglect.
4. The handpiece must not have been repaired or disassembled by anyone other than Lares Research or your authorized Lares distributor.

Lares Research will repair or replace, at its discretion, without charge, any defective parts covered by this warranty provided the handpiece is returned to the factory, transportation prepaid. (Outside U.S.A., return to your authorized Lares distributor). Lares Research makes no other warranties, expressed or implied. If using the Lares account number for pickups or sending items in for repair, Lares Research will recuparate charges.



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