



Concentrix[®] II

High Speed Handpiece

★ ★ ★ Do Not Use for Oral Surgery ★ ★ ★

Instruction Manual

EFFICIENCY IN DENTISTRY[®]

The **Concentrix II** is a conventional non-swivel high speed handpiece. The **Concentrix II** connects to either 2-Line or 2/3-Line ISO tubing.

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Warranty

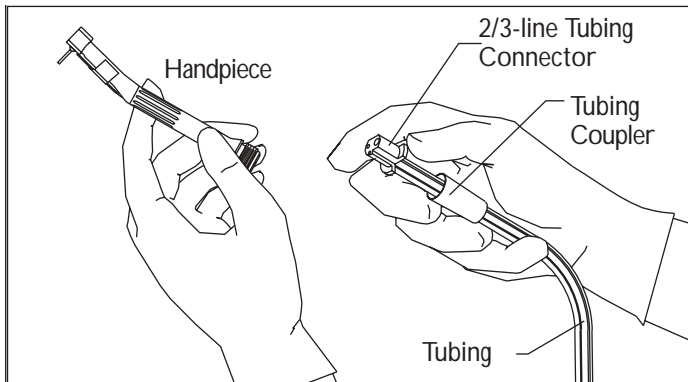
Note: For sterilization instructions refer to the **Sterilization Sheet, StarDental®** Part #62019, and use it as a quick reference.

Concentrix II High Speed Handpiece, **StarDetail**[®] Part #262001

Type:	Stainless Steel, High Speed Handpiece with a replaceable manual chuck turbine
Operating Air Pressure:	30 to 32 psi (2.11 to 2.23 kgs/cm ²)
Air Consumption:	1.9 SCFM (896.8 cms ³ /sec.) @ 30 psi (2.11 kgs/cm ²)
No Load Speed:	300,000 rpm
Connection:	2- or 2/3-line fixed ISO configuration
Power:	12 watts
Weight:	46g
Sterilizable :	Autoclave at 121° C or 135° C

Note: Filter air and water supplies, recommended filtration: 25 microns. Soften and deionize water. Be sure filters operate efficiently.

1. Grasp the **Concentrix II** Handpiece in front of the fixed connection between the thumb and index finger as shown. See illustration below.



Concentrix II (continued)

2. Slide tubing coupler until the end of the tubing connector is exposed; hold in hand as shown with fingers securing the tubing.
3. Align and insert handpiece fixed connection tubes into the tubing connector holes.
4. While applying slight pressure to hold fittings in the connector holes, slide coupler forward and engage threads. Continue threading coupler clockwise until hand is tight against the handpiece.

Air and Water Adjustment

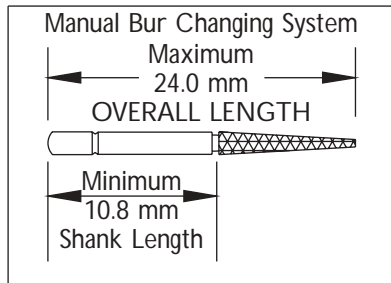
1. Using an air pressure gauge, **StarDental**® Part #257492 for 2/3-Line, set pressure to 30 psi (2.1 kg/cm²).
If a gauge is not available, set pressure at delivery head allowing 1 psi. (.0703 kg/cm²) pressure loss for every foot (30 cms) of tubing. Example:
 for 5 feet (1.52 m.) tubing: set control at 35 psi. (2.46 kgs/cm²)
 or for 12 feet (3.65 m.) tubing: set control at 42 psi. (2.95 kgs/cm²)
2. Water Pressure – Adjust water volume at the delivery head to obtain a satisfactory spray mist.

Use standard length concentric diamond and carbide burs with .0628" (15 mm.) nominal diameter friction grip shanks designed for high speed handpieces. Every **StarDental**[®] Diamond Bur meets specifications below for recommended lengths. Contact your dealer for a complete list of **StarDental**[®] Diamond Burs.

StarDental[®] Manual turbines have the following bur requirements:

Use only burs with hardened, tempered steel shanks. Every **StarDental**[®] Diamond Bur maintains required hardness. Before use, verify concentric rotation by operating handpiece outside the oral cavity in a safe place.

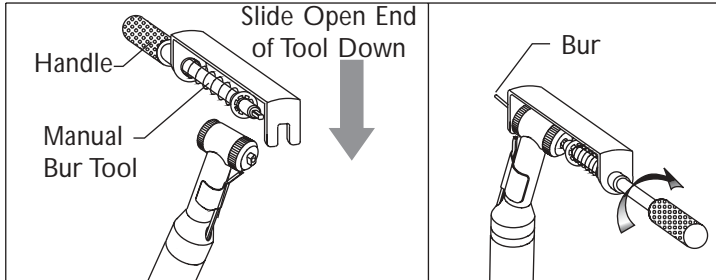
Note: *Do not use burs that produce excessive noise or do not run concentrically. Do not use burs that are modified, eccentrically designed, or are bent or soft (non-heat treated) shanks.*



WARNING: Use burs with an overall length of less than 24 mm and a shank length of at least 10.8 mm.

Manual Turbine Bur Changing System

1. Pull handle back on manual bur tool, **StarDenal**[®] Part #203108, and slide open end of tool onto square nut as shown below; release spring loaded handle and seat shaft of tool into the opening in the rear of turbine housing.
2. To unlock chuck, turn manual bur tool handle counterclockwise.



3. After inserting a 1.6 mm diameter friction grip bur fully into chuck, turn handle of tool clockwise to tighten chuck.
4. Disengage tool and tug on bur to verify that it is completely engaged and holding securely. If chuck does not hold bur securely, clean or replace chuck.

CAUTION: *Be careful to keep bur tool aligned with handpiece. If tool is side-loaded while engaged in chuck, tool may be damaged.*

REMOVAL of Bur from the Manual Chuck

1. Use manual bur tool and turn counterclockwise one full turn, 360° rotation.
2. Pull bur straight out.

PLEASE OBSERVE SAFETY RULES

1. Always tug on bur after chuck is loaded to confirm that the bur is secured.
2. Before use, verify concentric rotation by operating the handpiece outside of the oral cavity in a safe place. Do not use burs that do not run concentrically or produce excessive noise.
3. Never operate handpiece without a bur installed.
4. Use burs with an overall length of less than 24 mm. Shank length must be at least 10.8 mm.
5. Use only recommended burs to prevent damage to handpiece cartridge and/or chuck and in some cases to prevent burs from improper or incorrect placement. An improperly clamped bur may dislodge during use, causing injury to you or your patient. A sudden high-pitched sound or increased vibration while handpiece is operating alerts the operator to the possibility that the chuck is not clamped sufficiently to retain the bur or a bent bur is inserted.

Cleaning

The **Concentrix II** Handpiece's bearings are lubricated and sealed to keep the dirt out, therefore never clean ultrasonically or immerse in solvent that would dilute the lubricant.

Clean chuck prior to sterilization. Remove bur from chuck. Aerate with syringe air.

Sterilization

CAUTION: *Use autoclave sterilization exclusively for complete sterility. Never dry heat sterilize, ultrasonically clean, or expose handpiece to chemical disinfection or cold sterilization by:*

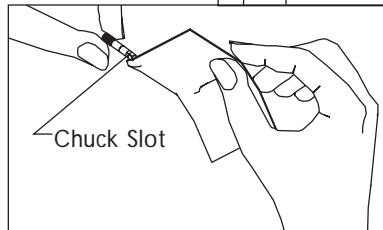
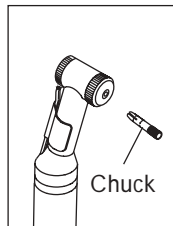
- Immersion techniques or Surgical milk.
- Surface wipes, Handsoaps, or Detergents.
- Surface spray.
- Sterilization bags containing disinfectants.

Cleaning the Chuck

Clean the chuck once a day or as required. Remove bur from chuck; place 2 drops of **DentaLube II**, **StarDental**® Part #262539, into chucking mechanism. Aerate with syringe air.

Monthly Cleaning of the Chuck

1. Loosen chuck with bur tool; remove bur.
2. Turn bur tool knob counterclockwise until chuck emerges from end cap.
3. Remove bur tool; turn chuck with fingers to free.
4. Clean chuck with alcohol
5. Run paper through 3 slots of chuck; remove debris.
6. Reinstall chuck by reversing steps 1-3.

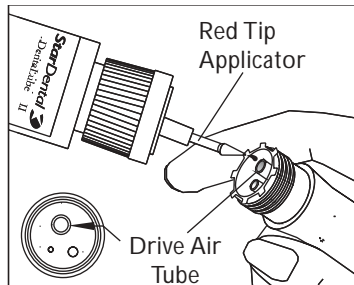


LUBRICATING the Turbine

For maximum turbine life, do not exceed recommended pressure.

Note: Lubricate handpiece **prior** to each autoclave sterilization procedure. The use of the grease syringe is no longer necessary. Use **DentaLube II** as described in this section.

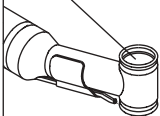
1. Disconnect handpiece from tubing.
2. Insert the red tip applicator, **StarDental**® Part #202954, into the DentaLube II bottle cap.
3. Identify drive air tube at rear of handpiece and place three drops of DentaLube® II, **StarDental**® Part #262539. (See illustrations for more detail).
4. With bur in place connect handpiece to tubing, operate for 20 seconds to expel excess lubricant.



Problem**Cause(s)****Correction**

Lack of Power

Air pressure

Verify proper handpiece air pressure. Refer to **Specifications Page 2**.Clean debris from
inside of housing

Crimped tubing

Straighten the tubing inside and outside delivery head.

Debris build-up in
handpieceClean inside of housing and end caps with cotton swab and alcohol. Before installing turbine and end caps lubricate inside of the O-Rings with **DentaLube II** using the soft end of a cotton swab.Air silicone tubing not
sealingRefer to **Silicon Tubing Replacement, Page 17**.Water or Air
LeakageBrittle handpiece
rear sealRefer to **Rear Seal Replacement, Page 16**.Handpiece not threaded
fully onto tubingRefer to appropriate **Handpiece Installation Page 3-5**.

Problem	Cause(s)	Correction
Water or Air Leakage	Air silicone tubing not sealing	Refer to Silicone Tubing Replacement, Page 17.
Improper Spray	Clogged filters, tubes or water ports	Inspect water filter in delivery head.

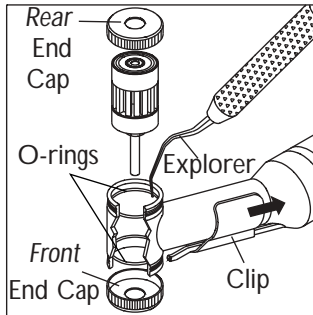


Disconnect handpiece. Depress foot control; verify that water exits tubing. Insert cleaning wire, provided (**StarDental**® Part #256719), into Spray tubes near handpiece head to clear debris. Remove wire; aerate spray tubes with syringe air.

No Spray	Air or water silicone tubing not sealing	Refer to Silicone Tubing Replacement, Page 17.
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Replacing the O-rings

1. Slide the spray clip down. Remove *front* end cap by unthreading counterclockwise.
2. Remove *rear* end cap turning counterclockwise.
3. Push turbine cartridge out back of handpiece.
4. Remove the O-rings using an instrument such as an explorer.
5. Clean housing with a cotton swab soaked in isopropyl alcohol.

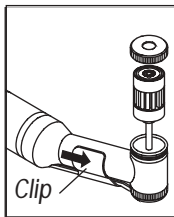
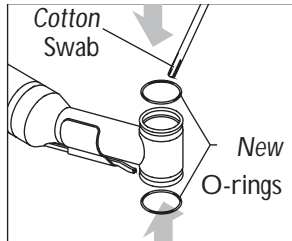


6. Use blunt end of cotton swab to install *new* O-rings.
7. Apply **DentaLube® II** to inside of O-rings with soft end of cotton swab before installing turbine.

CAUTION: Take care to prevent damage to housing and O-rings when installing O-rings.

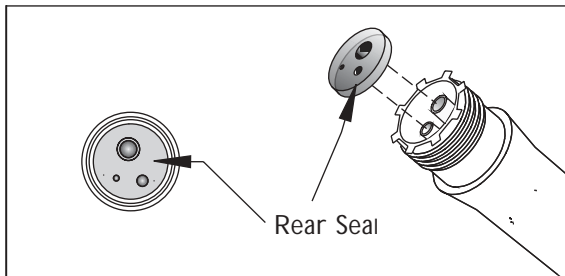
8. Thread *front* end cap on.
9. Install *new* turbine.
10. Thread *rear* end cap on.
11. Slide the spray clip to its original position.

Turbine Replacement Kit **Star®** Part #3111

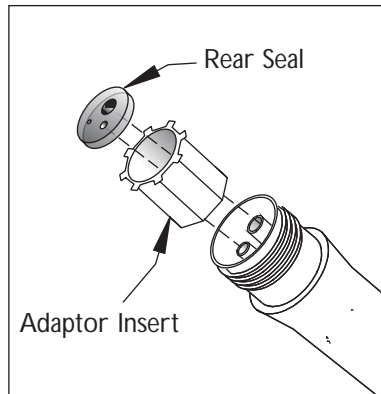


Rear Seal Replacement

Seals wear with repeated use. Once a year or as needed, replace the rear seal for the 2/3-line handpiece with **StarDental®** Part #203103.



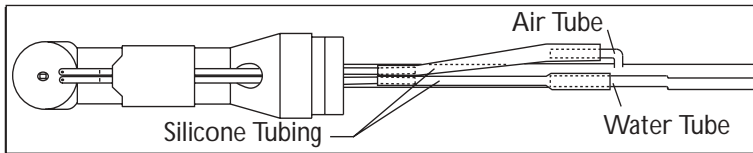
1. Remove rear seal from the back of the Concentrix II Handpiece.
2. Pull the adaptor insert from the handle without bending the water and air lines.
3. Unthread handle counterclockwise.



4. Locate chip air and water spray tubing.
5. Grasp silicone tubing end and pull from stainless steel tubing.

Warning: *Be careful not to bend Stainless steel tubing.*

6. Remove opposite end of silicone tubing in similar fashion and dispose of it.
7. Unpackage Silicone Tubing Replacement, **StarDental**® Part #203344.
8. Place a drop of liquid Soap on both ends of stainless steel tubing.
9. Insert silicone tubing on the ends of the stainless Steel tubes.
10. Reinstall handle, adaptor insert and rear seal.
11. Flush handpiece to remove liquid soap and verify there is no leakage.



Always insist on StarDental® Parts for best performance.

Description	Item Number
Cleaning Wire (Package of 2, 0.008 Gauge)	56719
Rear Seal, 2/3-Line (Pkg. of 3)	3103
Turbine and O-Rings Replacement Kit	3111
Spray Clip	2979
Chuck	3098
Bur Tool	3108
Air Pressure Gauge for 2/3-Line	57492
End Cap	3099
Silicone Tubing Replacement (Pkg. of 3)	3344
DentaLube II	62539

Limited Warranty

StarDental® Concentrix® II Handpiece is warranted against defects in material and workmanship for 6 months from date of purchase. The Manual Chuck Turbine is warranted for 3 months. O-rings and Seals are specifically excluded from this warranty.

This warranty is subject to the following conditions:

The product must not be abused and must have been operated in accordance with procedures detailed in this manual.

Any replacement parts must be genuine **StarDental®** parts.

StarDental® will, without charge, repair or replace (at its sole discretion) any defective part(s) covered in this warranty, providing above conditions are met and the handpiece is returned through an authorized **StarDental®** dealer. You **must** have a copy of your original invoice to qualify.

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with MDD 93/42/EEC

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