

StarDental 

Star Advantage[®]

**High Speed Handpieces
Manual Chuck Turbine**

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

Instruction Manual

EFFICIENCY IN DENTISTRY[®]

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The **StarAdvantage**[®] High Speed Handpiece 4-Line with Manual Turbine **StarDental**[®] Part #262189 is a conventional non-swivel handpiece designed to attach to standard 4-Line ISO tubing systems.

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Note: For sterilization instructions refer to the **Sterilization Sheet, StarDental**[®] Part #062385 and use it as a quick reference.

062384 Rev. C

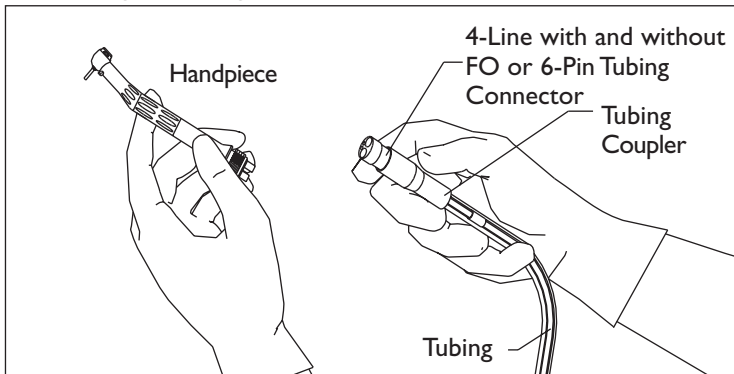
Star Advantage[®] with Manual Chuck Turbine: (StarDental[®] Part #262189)

Type:	High speed handpiece with a replaceable manual chuck
Operating Air Pressure:	30 to 32 psi
Air Consumption:	1.9 SCFM @ 30 psi
No Load Speed:	430,000 rpm
Connection:	4-line fixed ISO configuration
Power:	12 watts
Weight:	46g

Handpiece Installation

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

1. Slide tubing coupler until the end of the tubing connector is exposed; hold in hand as shown with fingers securing the tubing.



2. Align and insert fittings on handpiece into the tubing connector holes.
3. While applying slight pressure to hold fittings in the connector holes, slide coupler forward and engage threads. Continue threading coupler clockwise until hand tight against the **StarAdvantage**[®] handpiece.
4. If a gauge is not available, set pressure at delivery head allowing 1 psi pressure loss for every foot of tubing. (see *page 2* for recommended operational pressure.)
For example to operate at 32 psi and you are using either 5 feet or 12 feet of tubing, then the pressure should be set at the delivery head to compensate for the air pressure losses.

5 feet tubing 32 psi + 5 psi = 37 psi

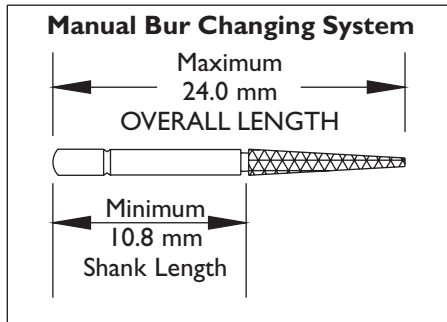
12 feet tubing 32 psi + 12 psi = 44 psi

5. Adjust water volume at the delivery head to obtain a satisfactory spray mist.

Use standard length concentric diamond and carbide burs with .0628" 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.

Use only burs with hardened, tempered steel shanks. Every **StarDental**[®] diamond 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 have bent or 'soft' (non-heat treated) shanks.*

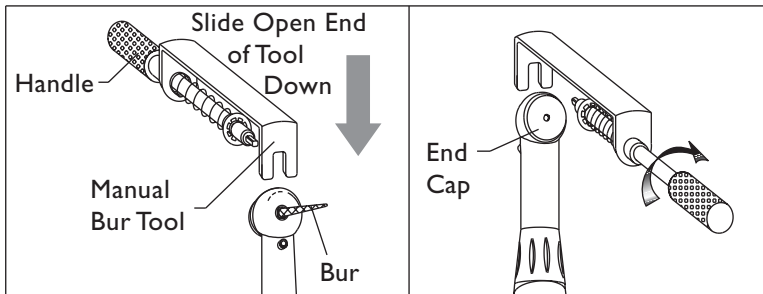


WARNING: Use burs with an overall length of less than 24 mm and a shank length of at least 10.8 mm.

Manual Turbine Bur Changing System

1. Pull handle back on manual bur tool, **StarDental**® Part #257629, 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.

Note: Insert and remove burs without excessive force.



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 for manual chuck.
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.

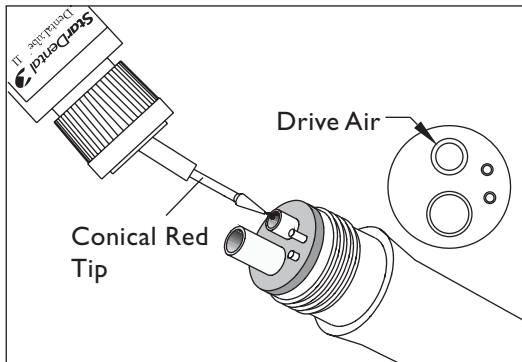
WARNING: Always insert bur the full length of the chuck. If you attempt to extend it from the chuck, the bur may dislodge during use and cause injury to you or your patient.

LUBRICATING the Steel Bearing Manual Turbine

For maximum turbine life do not exceed recommended pressure.

Note: Lubricate handpiece with **DentaLube II**, **StarDental**® Part #262539, **prior** to each sterilization procedure.

1. Disconnect handpiece.
2. Assemble the conical red tip applicator, **StarDental**® Part #202954, into the *DentaLube II* bottle cap.
3. Find drive air tube at rear of handpiece and place three drops of *DentaLube II*. (See illustrations for details).



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.

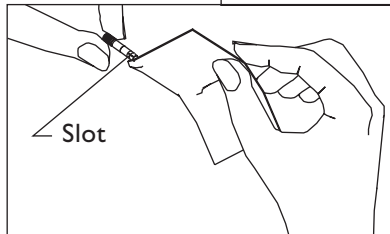
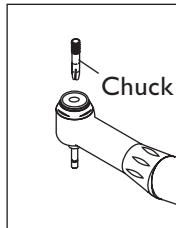
Monthly Cleaning of the Chuck

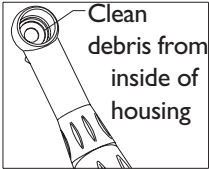
1. Loosen chuck with bur tool; remove bur.
2. Turn bur tool knob counterclockwise until chuck emerges from end cap.
3. Remove bur tool; turn chuck with fingers to free.
4. Clean chuck with alcohol
5. Run paper through 3 slots of chuck; remove debris.

Cleaning

The **StarAdvantage**® 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.



Problem	Cause(s)	Correction
Lack of Power	Air pressure	Verify proper handpiece air pressure. Refer to Specifications, Page 2.
 A line drawing of a handpiece tip. The tip is angled upwards and to the left. Inside the hollow part of the tip, there is a coiled line representing debris. A leader line points from the text 'Clean debris from inside of housing' to this coiled debris. The handpiece has a textured grip area on the lower part of the shaft.	Crimped tubing	Straighten the tubing inside and outside delivery head.
	Debris build-up in handpiece	Clean inside of housing and end caps with cotton swab and alcohol. Before installing turbine and end caps lubricate the turbine O-rings with DentaLube II using the soft end of a cotton swab.
Water or Air Leakage	Brittle handpiece rear seal	Replace Rear Seal , for 4-Line StarDental ® Part #202897
	Handpiece not threaded fully onto tubing	Refer to appropriate Handpiece Installation, Pages 3-4.

Problem

Improper Spray

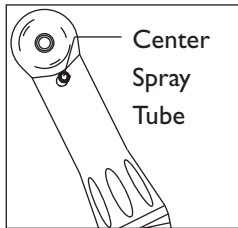
Cause(s)

Clogged filters, tubes
or water ports

Correction

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 tube near handpiece head to clear debris. Remove wire; aerate spray tube with syringe air.



Problem	Cause(s)	Correction
Bur Locks in Manual Turbine	Use of non-ISO burs	Always use ISO burs.
Bur Slips in Manual Turbine	Debris build up in in chucking mechanism	To clean mechanism, remove bur and place 2 drops of DentaLube II into the chucking mechanism; aerate with syringe air.
	Use of non-ISO burs	Always use ISO burs.

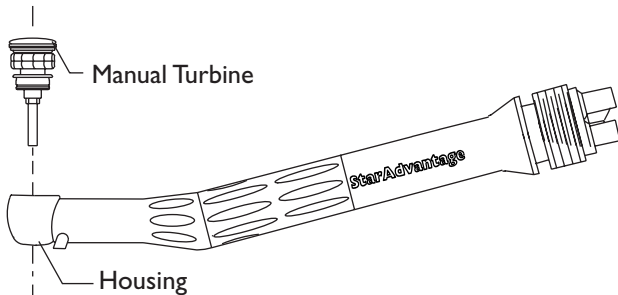
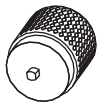
Note: *Always use ISO burs to prevent locking and slipping of burs in the Manual Turbine. If problems of locking and slipping continue, replace worn manual turbine immediately with: Replacement Kit **StarDental**® Part #258661, Manual Turbine.*

*If a problem persists, contact dealer for further assistance; or, contact **StarDental**® Technical Service at 1-866-DTE-INFO.*

1. Remove old end cap and turbine assembly with end cap wrench shown on next page.
2. Inspect housing before cleaning. Remove any obvious debris to prevent damage and to insure performance of turbine.
3. Clean housing thoroughly with cotton swab and isopropyl alcohol. Dry with syringe air.
4. Place new turbine assembly into housing and gently insert as shown on next page.
5. Position and engage threads of end cap into the housing by hand until snug.
6. Tighten end cap with the end cap wrench.

End Cap Wrench:

Manual



Always insist on StarDental® parts for best performance.

Description	Item Number
Manual Turbine Replacement Kit	258661
Manual Chuck	258659
Manual Bur Tool	257629
Manual End Cap Wrench	258739
Manual Turbine End Cap	254204
Rear Seal, 4-Line (package of 3)	202897
Air Pressure Gauge (ISO Fiber Optic 4-Line)	259875
Cleaning Wire, .008 Gauge (package of 2)	256719
DentaLube II	262539

Important Notice About Returning Product To The DentaleZ Group

Anyone wishing to return any DentaleZ® Group product to a DentaleZ® facility MUST obtain the proper RETURN AUTHORIZATION NUMBER from the Customer Service Department.

The RA Number *must* appear clearly marked on both the outside and inside of the returned product carton. When calling for a return authorization number you will be asked to provide the following information:

- Product Name, Model Number or Part Number
- Serial Number of Product
- Dealer Return Purchase Order Number
- Reason For Return
- Copy of Invoice Showing Purchase

To Obtain A Return Authorization Number Call **1-866-DTE-INFO**

Items will be evaluated. Return Authorization Number is not a guarantee for credit. Your cooperation with this procedure will help us expedite processing of any returns.



Limited Warranty

StarDental® StarAdvantage® Handpiece is warranted against defects in material and workmanship for one year from date of purchase. The Manual Turbine Cartridge and Chuck are warranted for 3 months from the day of the purchase. This warranty is subject to the following conditions:

The **StarAdvantage®** handpiece 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.

Warranty validation card must be completed and returned within 15 days of purchase.

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.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE.

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Product complies
with MDD 93/42/EEC

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