

StarDental® Instruments

Titan® Ball Bearing Latch Angles

(Manual and Auto Latch)

Instruction Manual

Includes Lubricated and LubeFree

Lubricated - smooth neck
LubeFree - 3 rings on neck

Caution: Federal law restricts this device to sale by or on the order of a dentist.

Non-Sterile Medical Device

DentalEZ
DENTAL SOLUTIONS
CE 0344

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DO NOT USE FOR ORAL SURGERY

BEFORE OPERATING THE ANGLE, CAREFULLY READ AND FOLLOW ALL OF THESE INSTRUCTIONS. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE AND OBSERVE ALL WARNINGS AND CAUTIONS.

Indications For Use

Used intraorally by trained dental professionals for drilling and preparation of dental cavities for restoration, such as fillings, disking, cavity and crown preps, polishing, post and pin drilling and pin setting.

WARNING Under normal operating conditions, air is exhausted from the back of the head of this handpiece. If air is directed into an open soft tissue wound or beneath the mucosa or dermis, injury to the patient could result from air emphysema or air embolism.

WARNING This angle has no internal air or water cooling capabilities. External water for cooling may be required.

NOTICE Any serious incident occurring from the use of this device should be reported to StarDental immediately. If incident occurred in a EU Member State the Competent Authority must be notified.

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Features

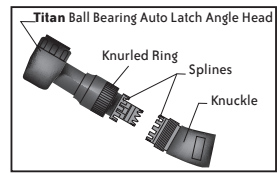
- Rated for use with StarDental Motors and Attachments
- Auto Latch or Manual Bur Latch Contra Angles
- Smooth Running, Low Friction Performance
- Field Replaceable Cartridges and Transmission Gears
- Easy Maintenance
- Long Term Reliability
- Steam sterilization: 275° F (135° C) max.



Motor	5K	5K	20K	20K	20K
Accessories	MTA	16:1 Endodontic Motor to Angle Adapter	MTA	Torque Multiplier & MTA	Torque Multiplier & 16:1 Endodontic Motor to Angle Adapter
Ratio	1:1	16:1	1:1	4:1	64:1
Max Allowable RPM	5,000	300	20,000	5,000	300

Angle Adjustment

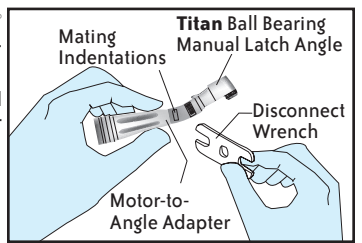
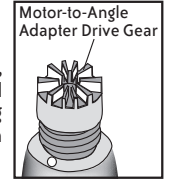
1. Loosen knurled ring enough to disengage splines.
2. Pull head assembly up; turn to desired position.
3. Carefully mesh the splines on the knuckle with the splines of the head.
4. Tighten knurled ring onto knuckle threads until snug.



Angle Installation

1. Thread angle onto the motor-to-angle adapter, **StarDental® Titan® 3 Part #264073** or Titan T Part # 263970, by hand. Seat completely.

NOTE: If angle does not seat on adapter, gears are not meshed correctly. Remove angle; spin motor-to-angle adapter drive gear and repeat Step 1.



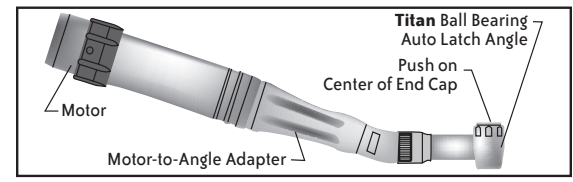
2. Fit angle disconnect wrench, **StarDental® Part #203048**, furnished with every angle, to mating indentations on angle neck; tighten securely.

Bur Installation and Removal

NOTE: A concentric .0925" diameter (2.350 mm) groove & flat shank (ISO 1797-1. Type 1) bur should be used.
NOTE: Before installing bur, install motor to the motor-to-angle adapter; then install latch angle to motor-to-angle adapter as described in Angle Installation.

INSTALLATION into the Auto Latch Angle

1. Grasp angle firmly so that your thumb touches the cap; push on center of cap.



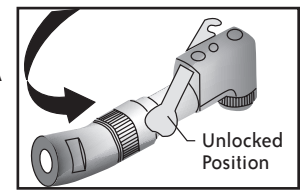
2. While continuing to hold cap down, insert a concentric .0925" diameter (2.350 mm) shank RA (standard length for Contra Angle) bur the full length of chuck.
3. Rotate bur until fully engaged in latching mechanism and release thumb.
4. Tug on bur to verify proper seating and retention.

REMOVAL from Auto Latch

Grasp angle firmly so that your thumb touches the cap; push on center of cap and hold cap down while pulling bur straight out.

INSTALLATION into the Manual Latch Angle

1. Open latch.
2. Insert a concentric .0925" diameter (2.350 mm) shank RA (standard length for Contra Angle) bur the full length of chuck.
3. Engage latch lock firmly in latch of instrument.
4. Tug on bur to verify proper seating and retention.



REMOVAL from Manual Latch

Open latch, pull bur straight out.

SAFETY INSTRUCTIONS

To minimize risk of serious injury:

- 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 possibly injure you or your patient.
- Use only recommended burs to prevent damage to the autochuck 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 latched properly to retain the bur or a bent bur is inserted.



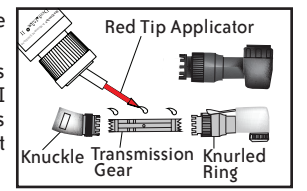
To minimize risk of injury or damage to angle:

- Replace cartridge when handpiece does not run at full speed or runs noisily.
- Follow these safety instructions:
 - Confirm bur is secure by tugging on it after it is loaded
 - Verify concentric rotation by operating handpiece outside oral cavity. Do not use if it does not run concentrically or runs with excessive noise.
 - Do not operate angle without an installed bur.
 - Always use burs with overall length of less than 24mm. Shank length must be at least 7.3mm.
 - When using auto chuck angle, never depress end cap while bur is rotating.

Lubrication - For Lubricated Angles ONLY

Lubricate the Transmission Gear Daily

1. To disassemble angle: unthread knurled ring. Remove knuckle and transmission gear from angle head.
2. Place a drop of DentaLube II in the two transmission gear joints between the gear and gear housing and a drop of DentaLube II in the hole in the center of the gear housing. Rotate the gears to allow DentaLube II to work into the bearings. Apply a light coat of DentaLube II to the gear teeth.
3. To reassemble angle, insert transmission gear into angle head. Engage splines of knuckle with mating splines of head to achieve proper alignment.
4. Tighten knurled ring onto knuckle threads until snug.
5. Place angle on motor, connect to handpiece tubing; insert bur and run for 20 seconds to evenly distribute lubricant and disperse any residual lubricant.
6. Proceed to Cleaning & Sterilization procedures before use.



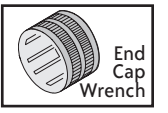
NOTICE

LubeFree Angles denoted by having 3 rings on neck - see image on first panel - are lubricated for life. Never clean ultrasonically or immerse in solvent that would dilute the lubricant.

Cartridge Replacement

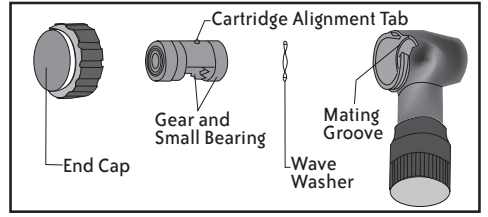
REPLACEMENT of the Auto Latch Cartridge

1. Unthread knurled ring.
2. Remove knuckle and transmission gear from head.
3. Unthread end cap using end cap wrench, **StarDental® Part #261339**. Note the order and orientation of components when removed from head. Reverse the order when reassembling cartridge.

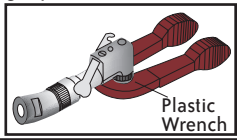


NOTE: Remove transmission gear first before removing cartridge from head.

4. Pushing from the front of the head, remove the cartridge by using a 3/32" pin.



5. Clear housing of all dirt, debris, and/or remaining parts of previous cartridge. Install new wave washer - supplied with new cartridge. Insert new cartridge by installing gear and small bearing end first. Slide cartridge into housing with alignment tab of cartridge mating with groove in head. Install end cap.
6. To reassemble angle, insert transmission gear into angle head. Engage splines of knuckle with mating splines of head to properly align.
7. Tighten knurled ring onto knuckle threads until snug.

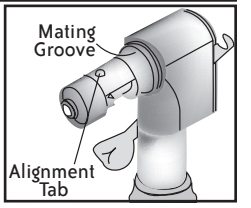
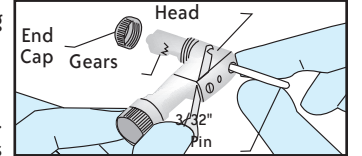


REPLACEMENT of the Manual Latch Cartridge

1. Unthread knurled ring.
2. Remove knuckle and transmission gear from head.

NOTE: Remove transmission gear first before removing cartridge from head.

3. Unthread end cap using plastic wrench
4. Position latch arm in the unlocked position.
5. At rear of head, push out old cartridge using a 3/32" pin.
6. Clear housing of all dirt, debris, and/or remaining parts of previous cartridge. Insert new cartridge with alignment tab of cartridge and gears toward end cap and align with mating groove in head. Install end cap.
7. To reassemble angle, insert transmission gear into angle head. Engage splines of knuckle with mating splines of head to achieve proper alignment.
8. Tighten knurled ring onto knuckle threads until snug.



Cleaning and Sterilization

⚠ CAUTION	It is the responsibility of the user to use only FDA compliant sterilizing equipment and accessories that are capable of meeting the manufacturers recommendations below.
⚠ CAUTION	Do not exceed 135°C To prevent damage to the bur, use an autoclavable bur block. Do not use: • dry heat sterilizer • cold sterilizers • ultrasonic cleaners • chemical disinfectors • immersion techniques • hand soaps • surface wipes • surface sprays • surgical milk • detergents • sterilizer bags containing disinfectants
Limits On Reprocessing	Repeated processing has minimal effect on these angles. End of life is normally determined by wear and damage due to use.
INSTRUCTIONS	
⚠ WARNING	Clean and sterilize angle as soon as practical before first use and after each patient.
Containment and transportation:	It is recommended that angles are reprocessed as soon as is reasonably practical following use.
Preparation for cleaning:	Remove bur. Remove angle from motor to angle adapter.
Cleaning - Automated:	Washer-disinfectors are not recommended.
Cleaning - Manual:	Remove debris from external surfaces using a small brush and isopropyl alcohol. Dry thoroughly. Clean auto latch daily. Remove bur from chuck. Aerate with syringe air.
Lubrication:	Lubricate - For Lubricated Angles ONLY - See 'Lubrication' instruction section
Disinfection:	Use steam sterilization exclusively for complete sterility as outlined below.
Maintenance:	Angle should be routinely maintained, checked for corrosion, worn parts, etc. and should be replaced on an as needed basis.
Inspection & function testing:	See Installation, Operating Recommendations, and/or Troubleshooting sections of this manual.
Packaging:	Single: A standard sterilization packaging material must be used. Ensure that the pack is large enough to contain the item without stressing the seals. In sets: Angles may be loaded into dedicated instrument trays or general purpose sterilization trays. Ensure that cutting edges are protected and do not exceed the tray manufacturer's limit per tray. Wrap the trays using appropriate packaging materials and methods.
Wrapped Instrument Sterilization:	Gravity Type Autoclave: • Minimum of 15 minutes at 132° C • Minimum of 30 minutes at 121° C Pre-Vacuum Autoclave: • Minimum of 4 minutes at 132° C Do not exceed 135° C
Drying:	Dry the angle for 30 minutes minimum using the sterilization dry cycle and allow the angle to cool to room temperature in bag prior to use. If moisture is present, increase your sterilizer dry cycle appropriately.
Storage:	Store in bag after sterilization until ready to use.
Additional information:	Do not exceed the sterilizer manufacturer's guidelines for load capacity. Use only paper or paper/plastic bags.
Manufacturer contact:	See first or last panels of this manual.

Troubleshooting

Manual Latch Angle

Problem: **BUR DOES NOT ENGAGE LATCH**

Cause: Incorrect position of cartridge shaft

Correction: Attach angle to motor to 'lock' gearing in one place. Locate bur as necessary.

Problem: **LATCH ARM HAS VIBRATION**

Cause: Latch screw loose

Correction: Tighten latch screw.

Cause: Latch arm bent

Correction: Open latch arm; gently press arm down 1/8". Close latch arm.

Auto Latch Angle

Problem: **BUR LOCKS IN AUTO LATCH**

Cause: Debris buildup in latching mechanism

Correction: Place 2 drops of DentaLube II on latching mechanism and run handpiece briefly.

Problem: **DIFFICULTY ENGAGING AUTO LATCH**

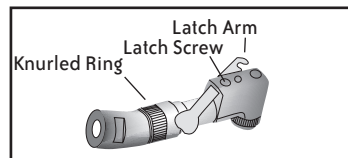
Correction: Place 2 drops of DentaLube II on latching mechanism and aerate with syringe air.

Troubleshooting, con't.

NOTE: Always use ISO burs to prevent locking and slipping of burs in latch angle. If a problem persists, contact dealer for further assistance; or, contact **StarDental**® Technical Service at 1-866-DTE-INFO.

Latch Replacement

1. Remove latch screw and arm. Install new latch arm, **StarDental** Part #203371, and align latch hole with hole in the angle head. Install latch screw and tighten.
2. If latch arm does not lock onto knurled ring, open latch and press down on arm to bend slightly.



Replacement Part Numbers

Always insist on **StarDental** parts for best performance.

Description	Item Number
Titan® Ball Bearing Auto Latch Angle	
Titan 3	LubeFree: 264146.....Lubricated: 264182
Titan T.....	LubeFree: 263950
Angle Cartridge.....	LubeFree: 264088.....Lubricated: 263961
Transmission Gear.....	LubeFree: 263960.....Lubricated: 264093
End Cap.....	263962
Auto Latch End Cap Wrench.....	261339
Titan® Ball Bearing Manual Latch Angle	
Titan 3	LubeFree: 262738.....Lubricated: 259005
Titan T.....	LubeFree: 263948.....Lubricated: 263947
Angle Cartridge.....	LubeFree: 262721.....Lubricated: 259009
Transmission Gear.....	LubeFree: 262724.....Lubricated: 259008
End Caps (Pkg. of 2).....	259010
Latch Arms and Screw (Pkg. of 3).....	203371
Titan 3 BB Motor-to-Angle Adapter.....	264073
Titan T BB Motor-to-Angle Adapter.....	263970
Angle Disconnect Wrench.....	203048
DentaLube II.....	262539

Important Notice About Returning Product To The DentalEZ Inc.

Anyone wishing to return any DentalEZ Inc. 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:

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

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

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.



For new products, manuals and technical information, call
1-866-DTE-INFO or visit our web site @ www.dentalez.com

Limited Warranty

DentalEZ® warrants the Titan® Lubricated Latch Angles for 3 months from the date of purchase*; and the Titan® LubeFree Latch Angles for 1 year from the date of purchase*:

Please note the following additional terms of our warranty and return policy:

- Warranties cover manufacturing defects only and do not cover defects resulting from abuse, improper handling, cleaning, care or maintenance, normal wear and tear or non-observance of operating, maintenance or installation instructions. **Failure to use authorized parts or an authorized repair facility voids this warranty.**
- **Liability is limited to repair or replacement of the defective product at our sole discretion. All other liabilities, in particular liability for damages, including, without limitation, consequential or incidental damages are excluded.**
- THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, REPRESENTATIVE OR DEALER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

* Provided conditions in warranty are met.

WARRANTY REGISTRATION

- ★ PLEASE VISIT THE WEBSITE BELOW TO REGISTER YOUR STAR DENTAL PRODUCT. THIS WILL ENSURE PROPER REGISTRATION AND PROMPT AND ACCURATE SERVICE SHOULD ANY OF YOUR PURCHASES NEED EVALUATION OR REPAIR DURING THE WARRANTY PERIOD.

StarDental® Products: www.dentalez.com/warranty