

Titan® Low-Speed Handpiece Motor Instruction Manual

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

Non-Sterile Medical Device



CE 0344

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

Indications For Use

The Titan 5K and 20K low speed dental motors are used by trained dental professionals to facilitate various dental procedures requiring cutting, drilling, polishing and pin setting.

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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Specifications

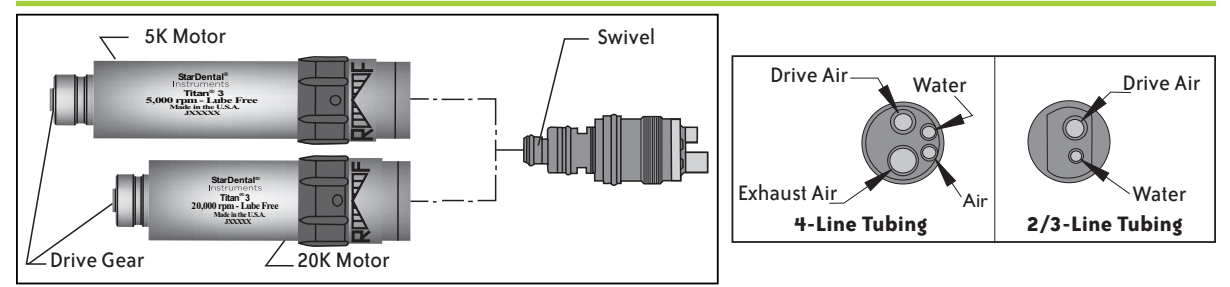
5,000 rpm Motor: Titan®3 (StarDental® Part #262261); Titan 3 For use with Extended Straight Attachment (ESA) (StarDental® Part #265208); Titan 3 Fixed Back End (StarDental Part #262409); or Titan T (StarDental Part #263940)

20,000 rpm Motor: Titan 3 (StarDental Part #262262); Titan 3 Fixed Back End (StarDental Part 262410); or Titan T (StarDental Part #263941)

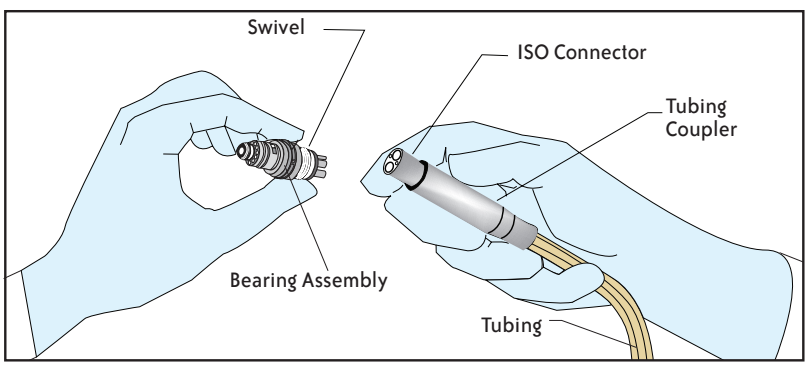
- No Lubrication Required
- Recommended Air Pressure: 40-45 psi (swivel motor)
- Air Flow: 2.1 SCFM @ 40-45 psi at Maximum Power Point (swivel motor)
- Rotation: Forward and Reverse
- 4-Line Connection (Fixed Back End)

135°C SSS	Sterilizable up to 135°C
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Installation - Swivel Motors



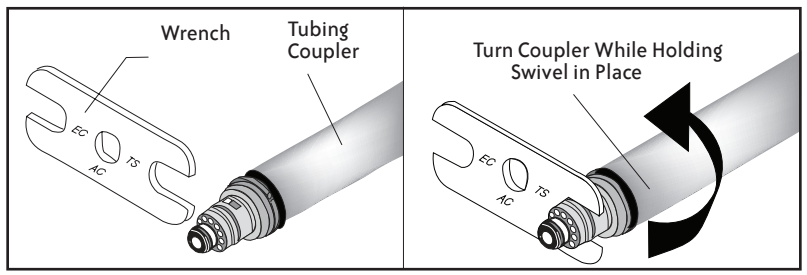
1. Select the motor appropriate for tubing based on power requirements. Examine connection of the motor and swivel tubing configuration as these must match configuration of delivery system tubing.



Note: If delivery unit has oil/mist lubrication, detach and drain; motor needs no lubrication.

NOTICE To prevent damage to bearings, before installing always check drive air pressure by using air pressure gauge, StarDental Part #262591 (4/6-Line) between swivel and tubing and obtain a reading. Adjust air pressure at delivery head until gauge reads 40-45 psi while operating motor in full forward position and with foot control completely depressed.

2. Disconnect swivel from motor if necessary. Grasp the swivel in front of the bearing assembly between the thumb and index finger as shown.
3. Slide tubing coupler until the end of the ISO connector is exposed; hold in hand as shown with fingers securing the tubing.
4. Align and insert swivel tubes into the ISO connector holes.
5. 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 swivel.

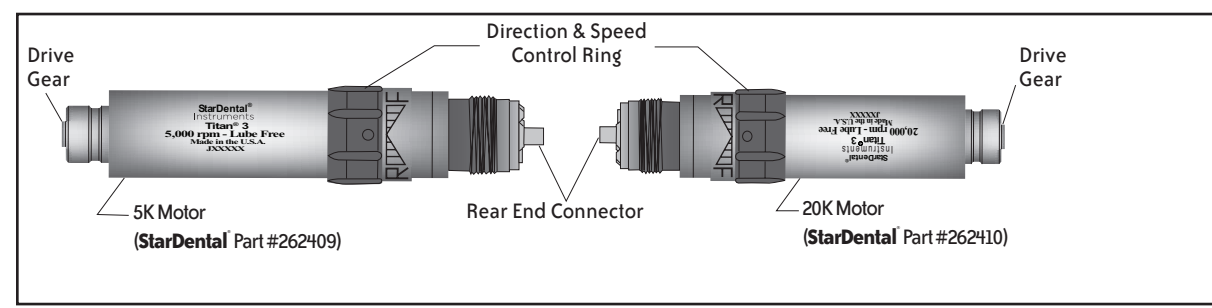


6. Using the wrench as shown, tighten the swivel to the tubing coupler. Be sure to turn tubing coupler, not swivel. DO NOT OVER TIGHTEN.

Note: This joint loosens over time, resulting in air leakage and loss of power. Check for tightness periodically.

7. Connect motor to swivel.

Installation - Non Swivel Motors



Note: If delivery unit has oil/mist lubrication, detach and drain; motor needs no lubrication.

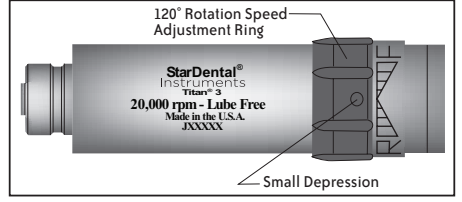
NOTICE To prevent damage to bearings, before installing always check drive air pressure by using air pressure gauge, StarDental Part #262591 (4/6-Line) between motor and tubing and obtain a reading. Adjust air pressure at delivery head until gauge reads 40-45 psi while operating motor in full forward position and with foot control completely depressed.

1. Examine rear end connector of motor. Verify motor matches tubing connector of delivery system.
2. To connect motor to tubing, align drive air and exhaust tubes with mating ISO connector holes in coupler.
3. While applying slight pressure to hold tubing in connector holes, slide tubing coupler forward and engage threads. Continue threading tubing coupler clockwise until hand tight against the motor. DO NOT OVER TIGHTEN.

Note: This joint loosens over time, resulting in air leakage and loss of power. Check for tightness periodically.

Operation

The 120° rotation speed adjustment ring sets direction and speed. To run motor forward at full speed, rotate ring towards the letter 'F' while operating the foot control. Rotate to the letter 'R' to yield full speed in reverse. Vary speed by rotating ring in either direction towards center. Note the small depression for the current setting. After setting, the motor runs at current speed and direction until reset. Pausing the motor is not needed to alter direction or speed using the ring.

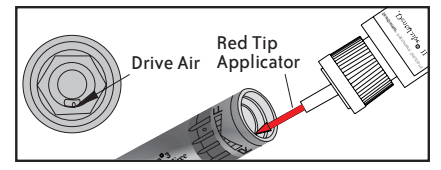
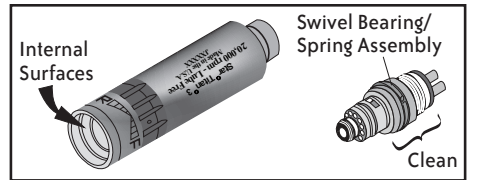


Cleaning & Sterilization

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 Do not use: <ul style="list-style-type: none"> • dry heat sterilizer • immersion techniques • detergents • cold sterilizers • sterilizer bags containing disinfectants • surface wipes • ultrasonic cleaners • chemical disinfectors • hand soaps • surgical milk
Limits on Reprocessing	Repeated processing has minimal effect on these attachments. End of life is normally determined by wear and damage due to use.

INSTRUCTIONS

WARNING	The handpiece motor must be cleaned and sterilized before first use and between patient use.
Containment and transportation:	It is recommended that handpieces are reprocessed as soon as is reasonably practical following use.
Preparation for cleaning:	Remove motor from swivel if applicable or tubing.
Cleaning-Automated:	Washer-disinfectors are not recommended.
Cleaning-Manual:	<p><u>Cleaning the Swivel & Mating Motor Part:</u> To optimize operation of the swivel connector, clean all internal surfaces of the motor with a cotton swab soaked in isopropyl alcohol until clean. Clean area around bearing/spring assembly at rear of swivel using isopropyl alcohol and a toothbrush. Dry both using syringe air.</p> <p><u>Sterilizing Handpiece Motor:</u> After each patient, flush air by running handpiece motor for 20 seconds. Remove attachment. Clean all internal surfaces at rear of handpiece motor with a cotton swab soaked in isopropyl alcohol until clean. Clean all external surfaces using a small toothbrush with isopropyl alcohol. Dry thoroughly. Place handpiece motor and swivel in sterilization bag – . Follow the sterilization guidelines as stated by the manufacturer of your sterilizer.</p>
Maintenance & Lubrication:	<p>The Titan Motor is LubeFree and, therefore, requires no lubrication. However, at times debris from the delivery system's drive air tubing collects in the motor. This build-up may cause sluggish motor operation. To ease, place 3 drops of DentaLube II, StarDental Part #262539 into the drive air tube of motor, and alternately operate the motor in forward and reverse.</p>



Motor should be routinely maintained, checked for corrosion, worn parts, etc. and should be replaced on an as needed basis.

Disinfection:	Use steam sterilization exclusively for complete sterility as outlined below.
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.
Wrapped Instrument Sterilization:	<p>Gravity Type Autoclave:</p> <ul style="list-style-type: none"> • Minimum of 15 minutes at 132° C • Minimum of 30 minutes at 121° C <p>Pre-Vacuum Autoclave:</p> <ul style="list-style-type: none"> • Minimum of 4 minutes at 132° C <p>Do not exceed 135° C</p>
Drying:	Dry the motor for 30 minutes minimum using the sterilization dry cycle and allow the motor 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.

Application Guide

	Titan® 3		Titan T™	
	Lubricated	LubeFree	Lubricated	LubeFree
PROPHY RPM Range: 1,000 to 3,000 Systems Configuration Options: 5,000 RPM Motor Motor-to-Angle Adapter 5 Star Prophy Angle 20,000 RPM Motor Torque Multiplier Motor-to-Angle Adapter 5 Star Prophy Angle	265803	262261 264073 265801 262262 258443 264073 265801		263940 263970 265802 263941 263944 263970 265802
GRINDING & TRIMMING (Fabrication) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor Straight Nose Cone		262262 257506		263941 263942
POST & PIN DRILLING Systems Configuration Options: 5,000 RPM Motor RPM Range: 1,000 to 5,000 Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle 20,000 RPM Motor RPM Range: 1,000 to 5,000 Torque Multiplier Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	259005 264182	262261 264073 262738 264146 262262 258443 264073 262738 264146	263947 263949	263940 263970 263948 263950 263941 263944 263970 263948 263950
PIN SETTING Systems Configuration Options: 5,000 RPM Motor RPM Range: 1,000 to 5,000 Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle 20,000 RPM Motor RPM Range: 500 to 2,000 Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle 20,000 RPM Motor RPM Range: 500 Torque Multiplier Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle	259005 264182	262261 264073 262738 264146 262262 264073 262262 258443 264073	263947 263949	263940 263970 263948 263950 263941 263970 263941 263944 263970
ENDODONTIC (Canal enlargements) Systems Configuration Options: 20,000 RPM Motor RPM Range: 500 to 2,000 Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle 5,000 RPM Motor RPM Range: 350 to 5,000 Motor-to-Angle Adapter Auto Latch Endodontic Angle - -for Standard Files & Reamers (90° reciprocating motion) OR Manual Latch Endodontic Angle - -for Latch Type Files & Reamers (90° reciprocating motion)	264180	262262 264073 262261 264073	263951	263941 263970 263940 263970
ENDODONTIC (Condensing gutta percha) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	259005 264182	262262 264073 262738 264146	263947 263949	263941 263970 263948 263950

Application Guide, con't.

	Titan® 3		Titan T™	
	Lubricated	LubeFree	Lubricated	LubeFree
CARIES REMOVAL Systems Configuration Options: 5,000 RPM Motor RPM Range: 2,000 to 5,000 Motor-to-Angle Adapter Ball Bearing Friction Grip Angle OR Ball Bearing Autochuck Friction Grip Angle Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle 20,000 RPM Motor RPM Range: 2,000 to 5,000 Torque Multiplier Motor-to-Angle Adapter Ball Bearing Friction Grip Angle OR Ball Bearing Autochuck Friction Grip Angle Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	258965 264149 259005 264182	262261 264073 262740 264151 262738 264146 262262 258443 264073 262740 264151 262738 264146	263952 263953 263947 263949	263940 263970 263955 263954 263948 263950 263941 263944 263970 263955 263954 263948 263950
FINISHING (Cavity and crown preps) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor Motor-to-Angle Adapter Ball Bearing Friction Grip Angle OR Ball Bearing Autochuck Friction Grip Angle Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	258965 264149 259005 264182	262262 264073 262740 264151 262738 264146	263947 263949	263941 263970 263955 263954 263948 263950
POLISHING (Amalgam, composites, gold margins) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	259005 264182	262262 264073 262738 264146	263947 263949	263941 263970 263948 263950

Troubleshooting

Problem: LACK OF POWER

- Cause:** Air pressure
Correction: Verify proper motor air pressure. Refer to applicable Installation section.
- Cause:** Crimped tubing
Correction: Straighten tubing inside and outside delivery head.
- Cause:** Swivel or Fixed Back End Motor not threaded fully onto tubing
Correction: Refer to applicable Installation section.
- Cause:** Brittle swivel or Fixed Back End Motor silicone rubber seal
Correction: Replace silicone rubber seal for 2/3-line swivel with **StarDental**® Part #203103 and 4-line with **StarDental** Part #202897.
- Cause:** Swivel O-rings worn
Correction: Replace swivel O-rings, **StarDental** Part #259884.
- Cause:** Debris build-up in motor or attachment
Correction: Clean motor and attachment. Refer to Cleaning section in this manual and applicable attachment's manual(s).

Problem: SWIVEL WILL NOT DISENGAGE FROM MOTOR

- Cause:** Build-up of debris
Correction: Place 3 drops of DentaLube II, **StarDental** Part #262539, into the swivel/tubing connector. Rotate swivel to circulate lubricant. Disengage motor. Contact dealer if unable to disengage swivel. To prevent reoccurrence, refer to Cleaning.

Note: If a problem persists, contact dealer for further assistance or contact **StarDental** technical service at 1-866-DTE-INFO.

Replacement Part Numbers

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

Description	Titan 3 Item Number	Titan T Item Number
Straight Nose Cone	257506	263942
Motor-to-Angle Adapter	264073	263970
Torque Multiplier	258443	263944
Swivel, Motor 2/3-Line	260152	260152
Swivel, Motor 4-Line	260144	260144
LubeFree Ball Bearing Auto Latch Angle	264146	263950
LubeFree Ball Bearing Manual Latch Angle	262738	263948
LubeFree Ball Bearing Autochuck Friction Grip Angle	264151	263954
LubeFree Ball Bearing Manual Chuck Friction Grip Angle	262740	263948
LubeFree 5 Star Prophy Angle	265801	263950
Ball Bearing Auto Latch Angle	264182	263948
Ball Bearing Manual Latch	259005	263947
Ball Bearing Autochuck Friction Grip Angle	264149	263952
Ball Bearing Manual Chuck Friction Grip Angle	258965	263952
Titan Endodontic Angle, Auto Latch	262570	262570
Titan Endodontic Angle, Manual Latch	262571	262571
Air Pressure Gauge for 4/6-Line	262591	262591
Silicone Rubber Seal, 2/3-Line (Pkg. of 3)	203103	203103
Silicone Rubber Seal, 4-Line (Pkg. of 3)	202897	202897
Swivel O-Rings Kit (2 large, 2 small)	259884	259884
DentaLube II	262539	262539
Titan T 20K, 4 Line, Stainless Steel Back End, Motor		264430
Titan 3 5K Motor - Used with Extended Straight Attachment (ESA)	265208	



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

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.

Limited Warranty

O-Rings and Seals are specifically excluded from this warranty.

DentalEZ warrants the **Titan Low Speed Handpiece Motor** for 1 year from the date of purchase*.

Please note the following additional terms of our warranty 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 STARDENTAL 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