

TITAN LOW-SPEED MOTOR

Star

TITAN 3 5K MOTOR
TITAN 3 20K MOTOR
TITAN 3 5K MOTOR FIXED BACKEND
TITAN 3 20K MOTOR FIXED BACKEND
TITAN T 5K MOTOR
TITAN T 20K MOTOR

NON-STERILE

Rx ONLY

MD

DENTALEZ



DENTALEZ, Inc., StarDental® Division
1816 Colonial Village Lane
Lancaster, PA 17601 USA

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Before operating the handpiece, 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.

Rx ONLY Caution: U.S. Federal law restricts this device to sale by or on the order of a licensed physician.

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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)

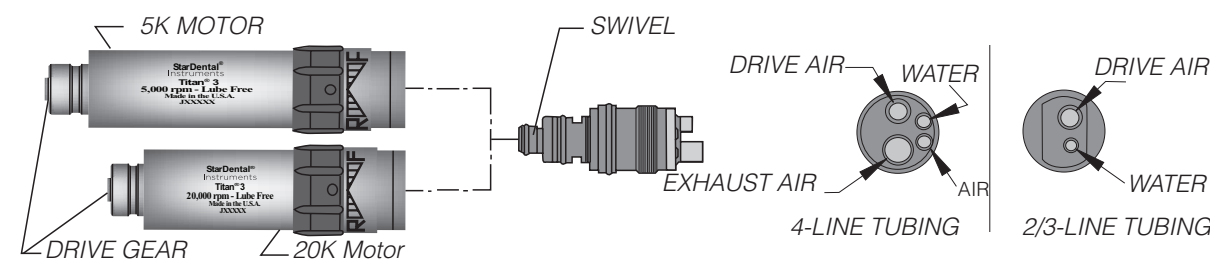
20,000 RPM MOTOR: Titan 3 (StarDental Part #262262); Titan 3 Fixed Back End (StarDental Part 262410); or Titan T (StarDental Part #263941)

- 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)

STERILIZABLE UP TO 135°C

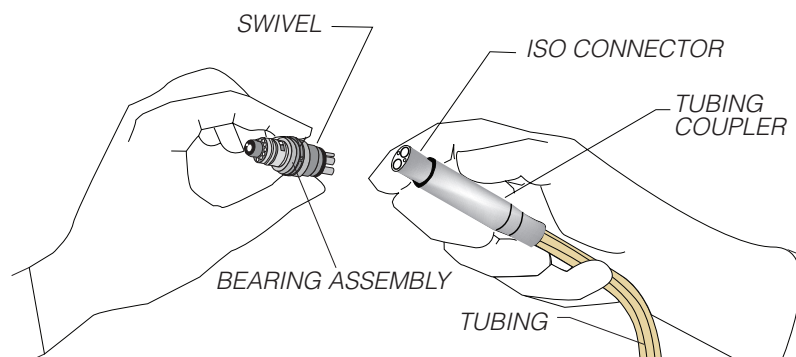
INSTALLATION - SWIVEL MOTORS

FIG. 1



1. Select the motor appropriate for tubing based on power requirements (see FIG.1). Examine connection of the motor and swivel tubing configuration as these must match configuration of delivery system tubing (see FIG. 2).

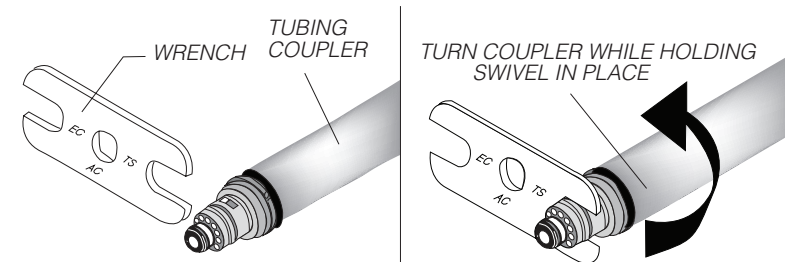
FIG. 3



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, (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 in FIG.3.
 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.

FIG. 4



6. Using the wrench as shown in FIG.4, 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

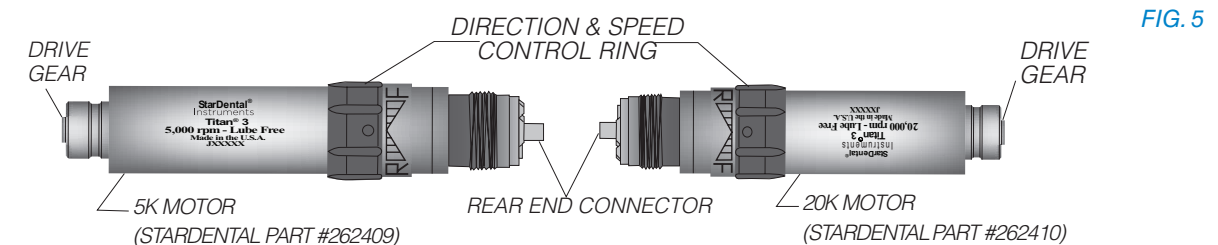


FIG. 5

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, (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(FIG.5). 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. (see FIG.6)

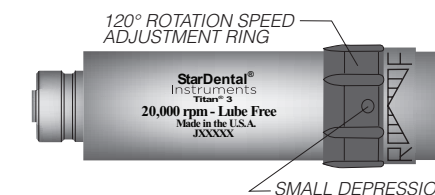


FIG. 6

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: • dry heat sterilizer • cold sterilizers • ultrasonic cleaners • hand soaps • surface sprays • surface wipes • chemical disinfectors • surgical milk • detergents • immersion techniques • sterilizer bags containing disinfectants
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:	Cleaning the Swivel & Mating Motor Part: (FIG.7) 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. Sterilizing Handpiece Motor: 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.
LUBRICATION:	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 (see FIG 8). 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.
MAINTENANCE:	See "Lubrication" Section.
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:	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



FIG. 7

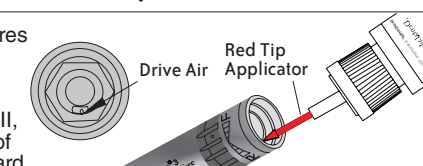


FIG. 8

CLEANING & STERILIZATION, CONTINUED

<i>DRYING:</i>	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.
<i>STORAGE:</i>	Store in bag after sterilization until ready to use.
<i>ADDITIONAL INFORMATION:</i>	Do not exceed the sterilizer manufacturer's guidelines for load capacity. Use only paper or paper/plastic bags.
<i>MANUFACTURER CONTACT:</i>	See first or last panels of this manual.

APPLICATION GUIDE

	<i>TITAN3</i>		<i>TITAN T</i>	
	Lubricated	LubeFree	Lubricated	LubeFree
<i>PROPHY</i> 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		262261 264073 265801 262262 258443 264073 265801		263940 263970 265802 263941 263944 263970 265802
<i>GRINDING & TRIMMING</i> (Fabrication) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor Straight Nose Cone		262262 257506		263941 263942
<i>POST & PIN DRILLING</i> 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		262261 264073 262738 264146 262262 258443 264073 264073 262738 264146	263949	263940 263970 263941 263944 263970 263949
<i>PIN SETTING</i> 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		262261 264073 262738 264146 262262 264073 262262 258443 264073 264180	263949	263940 263970 263941 263970 263941 263944 263970 263951 263941 263970 263940 263970
<i>ENDODONTIC</i> (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)		262262 264073 262261 264073	263951	263941 263970 263940 263970

APPLICATION GUIDE, CONTINUED

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

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

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

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

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.

TITAN3

Lubricated	LubeFree
259005 264182	262262 264073 262738 264146
	262261 264073
264149 259005 264182	264151 262738 264146
	262262
	264073
264149 259005 264182	264151 262738 264146
259005 264182	262262 264073
	262262 264073
	264149 259005 264182
	262262 264073
	264149 259005 264182
	262262 264073
	264149 259005 264182

TITAN T

Lubricated	LubeFree
263949	263941 263970
	263940
263953	263970 263955
263949	263941
	263944 263970 263955
263953	263941 263970 263955
263949	263941 263970 263955
	263941 263970 263955
263949	263941 263970 263955
	263941 263970 263955
263949	263941 263970 263955
	263941 263970 263955
263949	263941 263970 263955

REPLACEMENT PART NUMBERS

ALWAYS INSIST ON STARDENTAL PARTS FOR BEST PERFORMANCE.

<i>DESCRIPTION</i>	<i>TITAN 3</i>	<i>TITAN T</i>
	<i>ITEM NUMBER</i>	<i>ITEM NUMBER</i>
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	
LubeFree Ball Bearing Manual Latch Angle	262738	
LubeFree Ball Bearing Autochuck Friction Grip Angle	264151	
LubeFree 5 Star Prophy Angle.....	265801	
Ball Bearing Auto Latch Angle	264182	
Ball Bearing Manual Latch.....	259005	
Ball Bearing Autochuck Friction Grip Angle	264149	
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	

DENTALEZ

IMPORTANT NOTICE ABOUT RETURNING PRODUCT TO 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 | 1. | Product Name, Model Number or Part Number |
| Return Authorization | 2. | Serial Number of Product |
| Number Call | 3. | Dealer Return Purchase Order Number |
| 1-866-DTE-INFO | 4. | Reason For Return |
| | 5. | 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

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:

- Warranty covers manufacturing defects only and does not cover defects resulting from abuse, accidents, misuse, improper handling, cleaning, care or maintenance or the failure to follow or observe our operating/use, maintenance and/or installation instructions. Damage resulting from the use of chemicals, cleaners, disinfectants or sterilization is not covered under this warranty nor is normal wear and tear. Failure to use authorized parts or an authorized repair facility voids this warranty.
- Liability is limited to repair or replacement of the defective part(s) or products at our sole discretion. All other liabilities, in particular liability for damages, including, without limitation, special, exemplary, 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