



RAM PRODUCTS, INC.®

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www.ramprodinc.com ☎ 1-877-RAM-PROD / 1-732-651-5500

TECH2000 / 45000



INSTRUCTION MANUAL

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**Prices are subject to change without notice*

RAM PRODUCTS INC. *The Source for Quality Approved Products*

A. INSTRUCTIONS FOR CHANGING BRUSHES FOR TECH 2000 / 45,000 RPM HP

The brushes are located in the back of the handpiece, in the section closest to the power cord.

- 1) Hold the front section of the handpiece with one hand and unscrew the rear cover (1¼" long ring) at the back of the handpiece with the other hand.
- 2) Remove both of the old brushes using a small Phillips head screwdriver. Remove the two screws holding the brushes – one on each side and the brushes are easily removed.
- 3) Insert the new brushes and secure with the two Phillips head screws and attach the rear cover.
- 4) New brushes may take several hours during the break in period where the handpiece may run slightly warmer than usual.

B. INSTRUCTIONS FOR CHANGING CHUCKS FOR TECH 2000 / 45,000 RPM HP

The Tech 2000 and 45,000 RPM handpiece were designed for ease and simplicity in changing chucks.

- 1) Turn set ring (part #102WL-10) clockwise to open the chuck (towards you).
- 2) Using the wrench tool (included with handpiece), place the tri angle section of the wrench over the top of the chuck turning counter-clockwise until the chuck is completely unscrewed and is loosened from the spindle.
- 3) Insert a different size chuck or replacement chuck and using the chuck wrench tool with the triangle section over the top of the chuck, turn the wrench tool clockwise until the chuck is completely tightened. (Before adjusting the chuck, make sure there is a blank bur inside).

B. INSTRUCTIONS FOR CHANGING CHUCKS FOR TECH 2000 / 45,000 RPM HP 3

- 4) Final adjustment of the chuck is needed by turning the wrench tool approximately ¼ turn counter-clockwise (to loosen the chuck).
- 5) Turn set ring counter-clockwise (away from you) to lock or secure chuck and bur or mandrel.
- 6) Check carefully to make sure the bur is securely held by the chuck by gently pulling on the bur or mandrel. The bur should be firmly locked in place.
- 7) If the bur is not tightened properly and secured, repeat steps 4 and 5. If the bur is easily removed while the chuck is closed, the chuck needs to be tightened. If the chuck does not properly lock the bur or if it is difficult to remove the bur when the chuck is locked then the chuck needs to be loosened slightly by using the wrench tool counter-clockwise.

Note: Please do not remove nose cone section or remove the complete spindle assembly.

Warning: DO NOT use handpiece without the bur or chuck properly secured. Permanent damage to the motor is possible.

| | | | |
|---------------------|---------------|---|----------------|
| Replacement chucks: | 3/32" -2.35mm | - | Part #T02L-13 |
| | 3mm | - | Part #T02L-13A |
| | 1/8" -3.17mm | - | Part #T02L-13B |

C. SUGGESTED MAINTENANCE

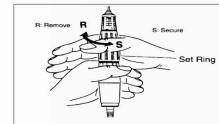
1. Carbon brushes in the handpiece motor are designed for long life (approximately 1,000 hours). Carbon brushes should be replaced periodically (approximately 1 year). Replacement part number is # 8508.
2. Keep clean from dust and grindings as best as possible.
3. Wipe handpiece only with isopropyl alcohol and avoid getting inside wet. DO NOT use rusty or eccentric burs as this will cause excess wear on the bearings. Follow safety speeds and precautions recommended by the bur manufacturer. Always wear a dust mask, eye protection, and use adequate suction or ventilation.
4. Do not drop the handpiece at any time as this may cause damage to the bearings. In the event the handpiece is dropped, please check that the bur is not bent and resume use carefully, checking for excess noise or heat. If any damage, please return to manufacturer for service.

D. PRECAUTIONS

1. When using electric tools, use basic safety precautions in order to reduce risk of fire, electric shock, and personal injury.
2. Do not expose electric tools to water, or use in damp or wet locations.
3. Do not wear loose clothing or jewelry as they can be caught in the drill.
4. Do not attempt to service or repair the handpiece, control box, or the foot pedal. There is no user serviceable part in the equipment other than changing the motor brushes or handpiece cord. Repair should be referred to the manufacturer, dealer or authorized service center.
5. Do not oil, lubricate, or grease the handpiece (This will only lead to further damage of the greased sealed bearings).
6. Do not attempt to open the collet (release bur) while handpiece is running.
7. Do not switch forward or reverse direction until motor has completely stopped.
8. Do not sterilize or autoclave. Do not get handpiece wet (except for the front-end attachments with the "E"-type motor).
9. When machine is not in use, power switch should be turned off.
10. Do not run the handpiece without a bur properly locked in place

WARNING:

NEVER TURN SET RING
WHILE MOTOR IS ROTATING.
PERMANENT DAMAGE TO THE
MOTOR IS POSSIBLE.



PARTS LIST FOR TECH2000 / 45000 HANDPIECE

| ITEM # | DESCRIPTION |
|--------------|---------------------------------------|
| 102-1 | Front C Clip |
| 102WL-1 | Dust Seal A |
| 102WL-2 | Dust Seal B |
| 102-4 | Wave Washer |
| 102-5 | Dust Shield for Bearing |
| 8534 | 1260ZZ Ball Bearing |
| 102WL-3 | Bushing For Spindle |
| 8537 | 1480ZZ Ball Bearing |
| 102-7 | Rear Spindle Collar |
| 102-8 | Rear Spindle Collar Spring |
| 101-7 | Blank Mandrel |
| T02L-13 | 3/32" (2.35mm) Standard Chuck (102-9) |
| T02L-13A | 3mm Collet Chuck |
| T02L-13B | 1/8" (3.17mm) Collet Chuck |
| T02L-13C | 1/16" (1.60mm) Collet Chuck |
| 102WL-4 | Main Spindle Shaft |
| 102-12 | Coil Spring |
| 102WL-5 | Chuck Joint |
| 101-14 | Spring For Delrin Joint |
| 101-15 | Delrin Joint Fitting |
| 102WL-6 | Front Brass Sheath |
| 102WL-6A | Plastic For Brass Sheath |
| 102WL-7 | Spring Cover |
| 101-18 | Coil Spring |
| 102WL-8 | Cam For Multichuck Feature |
| 101-19 | Flat Washer |
| 102WL-9 | Roller Ring |
| 102WL-10 | Set Ring |
| 101-22 | Thrust Ring |
| 101-23 | Thrust Bearing |
| 101-24 | Thrust Ring |
| 102-15 | Motor Housing |
| 102-15A | Plastic For Motor Housing |
| 101-33 | Brush Holder Screw |
| 8504 | 940ZZ Front Motor Bearing |
| 101-26-35000 | 35,000 RPM Motor |
| 101-26-45000 | 45,000 RPM Motor |
| 8506 | 830ZZ Rear Motor Bearing |
| 101-27 | Carbon Brush Holder |
| 101-29 | Terminal Clips |
| 8507 | Round Carbon Brushes (Older Models) |
| 8508 | Square Carbon Brushes (Newer Models) |
| 101-3 | Brush Holder Screws |
| 101-34 | Brush Holder Spacer |
| 101-35 | Rubber D-Ring |
| 101-36 | Brush Holder Cap Screw |
| 101-37 | Plug-In Cord Assembly |
| 102-16 | Motor End Cap |

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TECH 2000 HANDPIECE / 45000 HANDPIECE

