

REVOLUTION50[®]

BRUSHLESS MICROMOTOR SET

OWNERS' MANUAL



Please take a moment to read this manual prior to operation!



RAM PRODUCTS, INC.[®]

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0821-Rev0

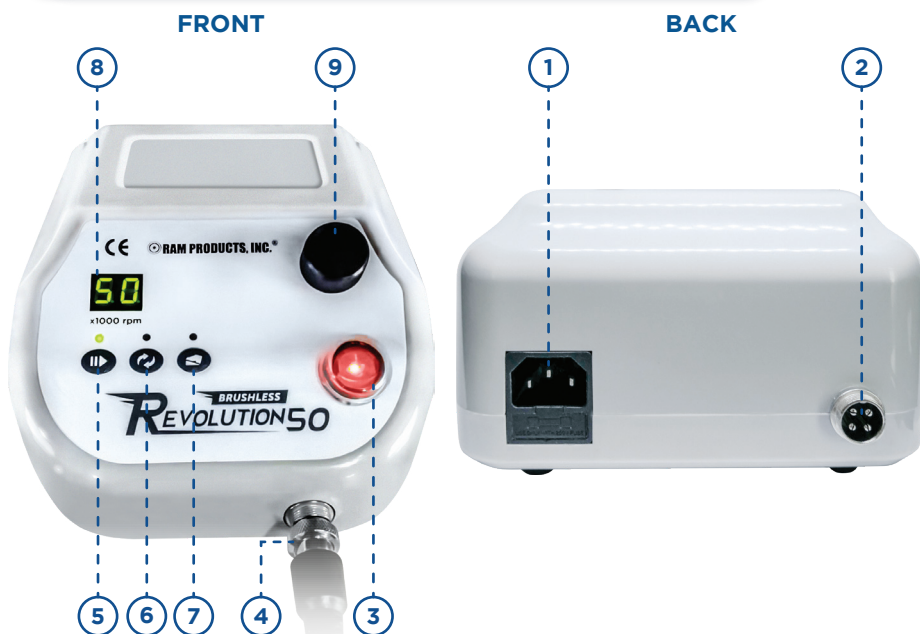


SET INCLUDES

- ✓ Revolution 50 Controller
- ✓ Revolution 50 Brushless Handpiece
- ✓ Variable Speed Handpiece Foot Pedal
- ✓ Handpiece Rubber Stand
- ✓ A/C Power Cord
- ✓ Set of 2 Wrench Tools



RAM REVOLUTION 50 CONTROLLER



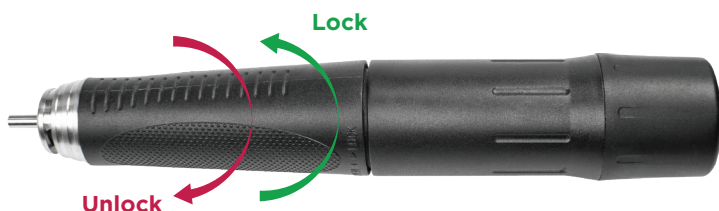
- ① **Power Inlet**
 - Plug-in power cord
- ② **Foot Pedal Connector**
 - Align connector then push in connector. Tighten threaded ring to secure
- ③ **Main Power Switch**
 - Main power switch to turn on/off — connect handpiece first
- ④ **Handpiece Connector**
 - a. Handpiece gets connected here
 - b. Align connector then push in connector. Tighten threaded ring to secure
- ⑤ **Motor Standby**
 - a. Press standby button and the green button will illuminate, this means the handpiece is ready to use — Always start speed setting at 0 for safety
- ⑥ **Forward/ Reverse**
 - a. Press button to illuminate, when illuminated the handpiece will operate in forward direction
 - b. If not illuminated, handpiece will operate in reverse direction

- 7 **Variable Foot Pedal (When Connected)**
 - a. When illuminated the speed is controlled by the foot pedal, by stepping on the foot pedal. When using the pedal it is easier to control the speed by lifting up your foot to reduce speed
 - b. If you set the speed with the speed dial you can limit the maximum speed for safety and ease of control
 - c. If the pedal button is not illuminated, the speed is controlled by the speed dial
- 8 **LCD Speed Display**
 - Displays speed set from 0-50 (x 1,000 RPM)
- 9 **Speed Dial**
 - Turn the speed dial clockwise to increase speed which is indicated by the LCD speed display window



RAM REVOLUTION 50 HANDPIECE

CHANGING BURS



- 1 **Open/Unlock**
 - a. With the handpiece pointing upwards turn the front section clockwise towards you about quarter turn until it meets resistance then twist again slightly
 - b. You will hear 2 clicks — this is called a double lock chucking mechanism which allows a stronger grip of burs compared to single lock
 - c. When changing burs insert to desired length for safety

- 2 **Changing Collet Chucks**
 - a. Turn set ring to open the chuck
 - b. 2 clicks turning towards you as if to remove the bur
 - c. Take the larger triangle cutout of the wrench tool and place over top of chuck and turn counter clockwise about 10 times until completely unscrewed

*We suggest leaving the blank bur or a skinny bur to support the jaws of the chuck

DESCRIPTION	RAM ITEM #
3/32" Revolution 50 Chuck	OZECOCHUCK332
1/8" Revolution 50 Chuck	OZECOCHUCK1/8
Set of 2 Wrench Tools	OZECHOWRENCH



TIPS

- While the chuck release is in the open position, gently catch the thread of the chuck to be screwed in turning clockwise
- Often it's easiest to start installing with your fingertips and use the wrench tool to tighten
- Close or lock the bur in place and gently tug, pull and/or spin



SAFETY TIPS

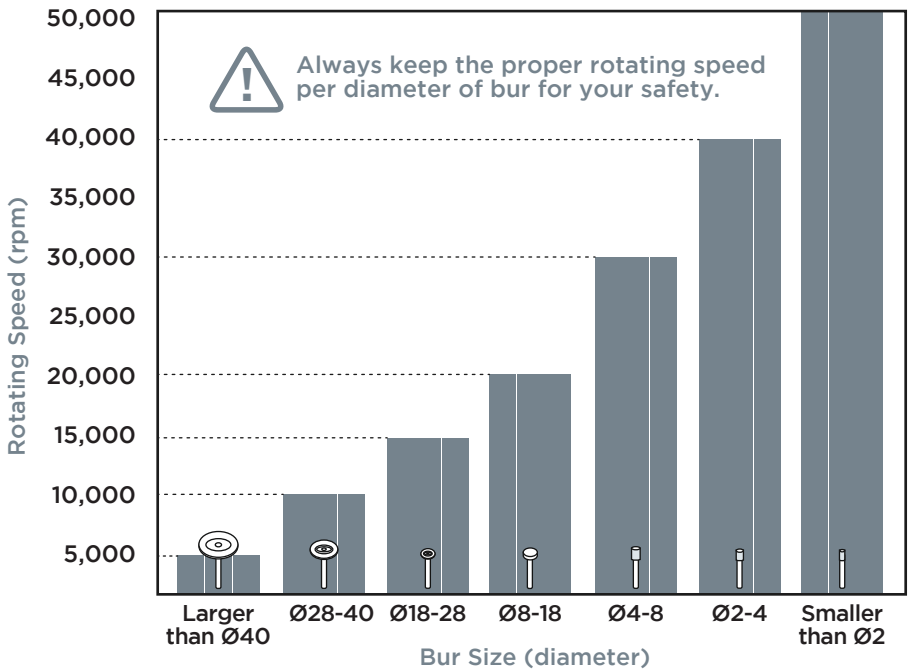
- Always keep a bur locked in the chuck
- Brushless handpieces start to perform above 5,000 RPM
- Often when the chuck is loosened, it is easier to unscrew with your fingertips
- When using the pedal it is easier to control the speed by lifting your foot to reduce speed



RAM REVOLUTION 50 MAINTENANCE

Safety Speed Table Guidelines

This chart for allowable rotation speed can be slightly different depending on bur materials or bur type.



CAUTION:

- The length of the bur as well as the weight of the material, type of type, and durability and precision of the bur construction can also be a major factor for maximum speed.
- Slowly increase the operating speed and stop immediately if any excessive noise or vibration.
- Most cutting burs will perform best by constant gentle movement letting the bur do the work.

Safety Precautions!

- Never use bent or damaged burs.
- Do not force any burs into the collet chuck and always check after insertion the bur is securely locked by pulling the bur.
- Always operate at a safe speed for the size and weight of the bur. Start at 0 while slowly increasing speed and securely gripping the handpiece. Operating at higher speeds often does not cut any better or faster and can increase wear on the bearings in the handpiece as well as the cutting tool.
- Follow basic safe speed operation according to the chart below and also the safety speed ratings of manufacturer of the burs.
- Never operate without a bur properly locked in the handpiece.
- After usage remove any excess dust or debris.
- Do not operate near water or moisture.
- Avoid any chemicals and disinfectants.



- 1** Avoid dropping the controller and handpiece. Carefully check the handpiece and bur for damage.



- 6** When using your Revolution 50 always wear safety glasses and a dust mask.



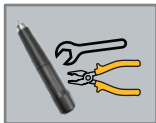
- 2** Select the proper burs to be used based on the material being worked on.



- 7** If any abnormal vibration begins during use, stop operating and fix the cause. Always check the nose tip is screwed on tight to the front section.



- 3** Inspect your Revolution 50 before use without fail. Before using your product, through visual inspection, make sure that your product has no flaw, crack or faulty adhesion. Inspect daily upon use and remove any excess dust daily.



- 8** Never use the product for any purpose other than the original intended use.



- 4** When installing any kind of bur to your handpiece, insert it properly to the final depth. Proper installation should avoid any extended distance from the chuck to reduce vibration but be sure the bur is not touching the nose tip of the handpiece with distance to spin freely.



- 9** We suggest to store in a cool and dry place when not being used and to avoid humidity and moisture if possible.



- 5** Use the proper speeds and speed safety chart as a guideline. Always listen to the handpiece as it is the bur that should be doing the cutting and to find the optimal speed for performance. Excessive speed or an overly extended bur can become dangerous.



- 10** Never leave your Motor Handpiece with the switch turned on, an accident may occur if it is over-heated.

WARRANTY PERIOD

Warranty is valid within the United States only.

ELECTRICAL EQUIPMENT — These products are under warranty for a period of ONE YEAR from the date of original installation.

HANDPIECES — These products are under warranty for a period of SIX MONTHS from the date of original installation. IT DOES NOT COVER MISUSE, NORMAL BEARING WEAR.

IN HOUSE OR FACTORY REPAIR — WARRANTY CLAIMS — Please visit our website, www.ramprodinc.com, to download the Customer Service Request Form located at the bottom of the website page. For warranty claims, please include a copy of your invoice or refence purchase date. It is your responsibility to get the unit to us. Return shipping and handling is covered by Ram Products, Inc.

SERVICE

All returned items shall be free from defects/alterations in material, workmanship and original product design.

- The product shall have been used under the conditions for which it has been intended, and in a manner for which it has been designed.
- The product shall have been operated in a manner for which it was intended and in the proper environmental conditions.

Bearings, chucks, cords are normal wearing parts to replace over time. We suggest a periodic cleaning over time as well.

Go to www.ramprodinc.com and at the bottom right is the customer service form to include when sending repairs.

WARRANTY CLAIMS

Should your product require service within the warranty period, we will elect to make the necessary repair or replacement at no charge including return shipping in the usa only. It is your responsibility to return the product to Ram Products and it is recommended that returns have tracking information and to be adequately insured against carrier loss or damage.

All claims should describe the specific problem for accurate analysis and evaluation, the return date of the warranty card along with the supply house and/or dealer name.

Electrical and mechanical equipments which are mishandled, used incorrectly, and/or used for a purpose other than that for which they were designed and intended, will void the product warranty.

PRODUCT: _____
SERIAL NO.: _____
PURCHASE FROM: _____
PURCHASE DATE: _____
INSTALLATION DATE: _____

WARRANTY REGISTRATION

REGISTER ONLINE at www.ramhp.com/warranty

In order to validate your warranty, this card must be filled out completely and mailed within 10 days of purchase/installation.

PLEASE PRINT OR TYPE

NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP CODE: _____

PRODUCT: _____

SERIAL NO(S): _____

PURCHASE DATE: _____

DEALER NAME AND ADDRESS: _____

The short survey below is designed to improve the service and quality of product supplied to our customers.

Did the item arrive in a satisfactory condition? **YES** or **NO**?

If **NO** please explain: _____

Did the instruction manual provide all details clearly for proper installation and operation? **YES** or **NO**? If **NO** please explain: _____

What factor(s) were involved in your decision to purchase this product:

☐ Advertisement ☐ Previous Purchase of a Ram Product

☐ Distributor Recommendation ☐ Recommendation by Colleague


Any feedback, comments or suggestions: _____

Thank you for your feedback.




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