

OPTIMUS HANDPIECE

OWNER'S MANUAL



 **RAM PRODUCTS, INC.®**

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CONTENTS

| | |
|-----------------------------------|-------|
| INSTRUCTIONS FOR CHANGING BRUSHES | ... 1 |
| INSTRUCTIONS FOR CHANGING CHUCKS | ... 1 |
| MAINTENANCE | ... 3 |
| PRECAUTIONS | ... 3 |
| PARTS LIST FOR HANDPIECE | ... 4 |
| SCHEMATIC DIAGRAM | ... 5 |

A. INSTRUCTIONS FOR CHANGING BRUSHES FOR OPTIMUS 35/OPTIMUS 45 HANDPIECE

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 OPTIMUS 35/OPTIMUS 45 HANDPIECE

The Optimus 35 and Optimus 45 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 triangle 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).
4. Final adjustment of the chuck is needed by turning the wrench tool approximately $\frac{1}{4}$ 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.

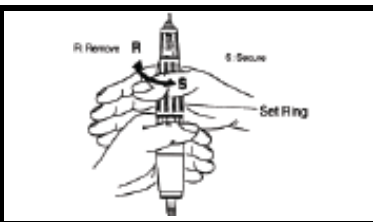
D. PRECAUTIONS

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

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.



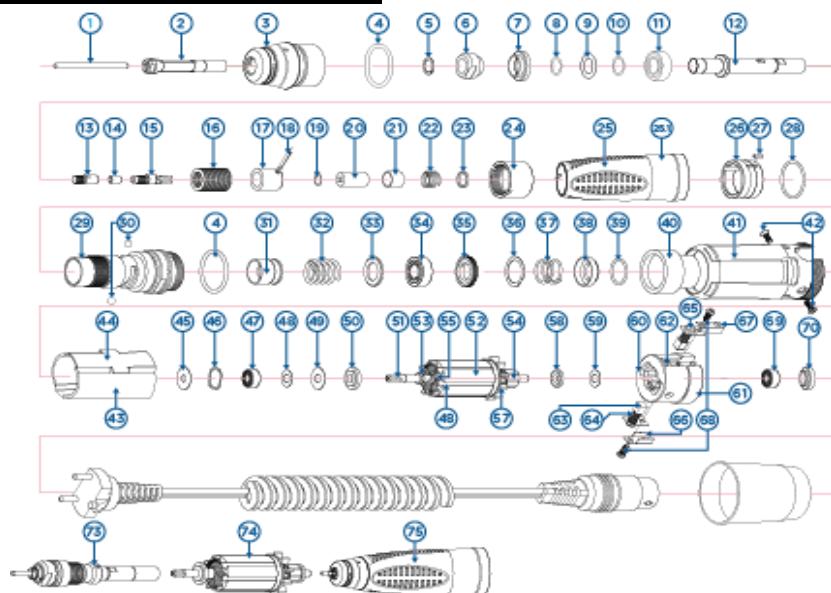
PARTS LIST FOR OPTIMUS 35/OPTIMUS 45 HANDPIECE

| NO. | PARTS NAME |
|-----|----------------------|
| 1 | TEST BUR |
| 2 | COLLET CHUCK 2.35 |
| 3 | NOSE CAP |
| 4 | NOSE CAP O-RING |
| 5 | RING |
| 6 | COLLAR |
| 7 | B/R STOP COLLAR |
| 8 | 814 WAVE WASHER |
| 9 | 814 WASHER 2 |
| 10 | 814 WASHER 1 |
| 11 | BALL BEARING (814ZZ) |
| 12 | CHUCK HOUSING |
| 13 | CONNECTION PIN |
| 14 | SPACER |
| 15 | JOINT SHAFT |
| 16 | DISC SPRING |

| NO. | PARTS NAME |
|-----|------------------|
| 17 | SPRING STOPPER |
| 18 | SPRING PIN |
| 19 | O-RING |
| 20 | CONNECTOR |
| 21 | SPRING SPACER |
| 22 | COIL SPRING 1 |
| 23 | SPRING SHEET |
| 24 | HAND CAP STOPPER |
| 25 | HAND CAP (BLUE) |
| 26 | SET RING |
| 27 | SET KEY |
| 28 | CAM O-RING |
| 29 | CAM |
| 30 | BALL |
| 31 | MOVING HOUSING |
| 32 | COIL SPRING 2 |

| | |
|----|-------------------------|
| 33 | B/R COLLAR |
| 34 | BALL BEARING(1360ZZ) |
| 35 | B/R STOP BOLT |
| 36 | MOTOR CASE C-RING |
| 37 | MOTOR CASE COIL SPRING |
| 38 | MOTOR CASE SPRING SHEET |
| 39 | 1030 FIX O-RING |
| 40 | MOTOR CASE |
| 41 | MOTOR CASE COVER(BLUE) |
| 42 | MOTOR CASE BOLT |
| 43 | MAGNET |
| 44 | MAGNET GUIDE |
| 45 | COPPER WASHER |
| 46 | 1030 WAVE WASHER |
| 47 | BALL BEARING 1040ZZ |
| 48 | 1040 COPPER WASHER |
| 49 | 1040 TEFLON WASHER |
| 50 | 1040 SPACER |
| 51 | SHAFT Ø4 |
| 52 | CORE |
| 53 | FRONT SHAFT BUSH Ø4 |
| 54 | COMMUTATOR |

| | |
|----|----------------------------|
| 55 | COIL |
| 56 | WEDGE |
| 57 | FAN |
| 58 | 830 SPACER |
| 59 | TEFLON WASHER |
| 60 | BEARING HOUSING |
| 61 | BACK BEARING SIT |
| 62 | BRUSH HOLDER |
| 63 | CARBON BRUSH |
| 64 | CARBON BRUSH SPRING |
| 65 | CARBON BRUSH CAP |
| 66 | TERMINAL (L) |
| 67 | TERMINAL (R) |
| 68 | CARBON BRUSH BOLT |
| 69 | BALL BEARING (1030ZZ) |
| 70 | BEARING BRUSH BOLT |
| 71 | MOTOR CORD |
| 72 | CARBON HOUSING COVER(BLUE) |
| 73 | SPINDLE ASS'Y |
| 74 | ARMATURE ASS'Y |
| 75 | BHS1 ASS'Y |



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 by the purchaser.

HANDPIECES - These products are under warranty for a period of SIX MONTHS from the date of original installation by the purchaser. IT DOES NOT COVER MISUSE, NORMAL BEARING, OR CARBON BRUSH 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.

PRODUCT WARRANTY

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.
- The customer must maintain the product as specified within the individual product instruction booklet.

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.

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. 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.

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

WARRANTY REGISTRATION

Register online at www.ramprodinc.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 _____

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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CUSTOMER SERVICE REQUEST DATE _____

NAME _____ CONTACT _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

BEST WAY TO CONTACT YOU:

PHONE# _____ CELLPHONE# _____

FAX# _____ EMAIL _____

ITEM: _____ REQUEST FOR WARRANTY YES ___NO___

BILL THROUGH DISTRIBUTOR NAME _____

BILL CHARGES DIRECTLY _____

PROBLEM _____

1. Have you been satisfied with your purchase of a Ram Product?

1 - Very satisfied ____

2 - Satisfied / Acceptable to comparable models ____

3 - Not Satisfied ____

2. Would you recommend this product to colleagues:

YES____ MAYBE____ NO____

3. - We appreciate your comments and read all notes if you have any suggestions for us to serve you better!

INSTRUCTIONS:

1) Fill out this Customer Service Request form to be included with your unit.

2) Ensure that your item for repair/return is properly labeled, packed, protected and insured.

We suggested you get a tracking number for your shipment.

3) Send to the address above..

4) We will contact you about the status of your repair or return, usually within 72 hours of receipt.

RAM PRODUCTS INTERNAL NOTES:

JOB ID# _____ MODEL# _____ DATE: _____





The
Micromotor Experts
since
1986

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