

# **ROTOVAC**



## ***360° Extraction System Owner's Manual***

360/4/24/2008

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## **Congratulations on owning the new Rotovac 360° Extraction System.**

The Rotovac 360° is the most advanced carpet cleaning power head ever developed. The patented rotary extraction cleaning head of the 360° produces unparalleled cleaning results while greatly reducing operator fatigue

### **Operator's responsibility**

As with all equipment, proper operation and maintenance play a vital role in the performance of the 360°. It is therefore extremely important that this operations manual is read and understood before operating your 360°.

### **CALL BEFORE USING FOR THE FIRST TIME !**

If you are using the 360° for the first time read the owners manual, and then call Rotovac toll-free **before using** for valuable tips and pointers at **1-888-768-6822**. (Office hours: 8:00 a.m. to 5:00 p.m. Monday through Friday P.S.T.)

### **OVERVIEW**

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The Rotovac 360 operates in the same manner as a rotary floor buffer with a “heel and toe” left to right cleaning motion. If you have never operated a rotary floor type machine, this will take a little practice to learn how to control properly. Once mastered, you will find operating the **360°** is a nearly effortless self propelled side to side motion. It may take you a few jobs to learn how to operate the **360°** efficiently. Be patient and try it on some really dirty carpets and you will soon discover that the Rotovac **360°** cleans better, leaves it drier and is much more impressive to your customers than a traditional wand cleaning. When presented and used properly, the **360°** will impress your customers which will lead to a major increase of referral and repeat business.

## **OPERATION**

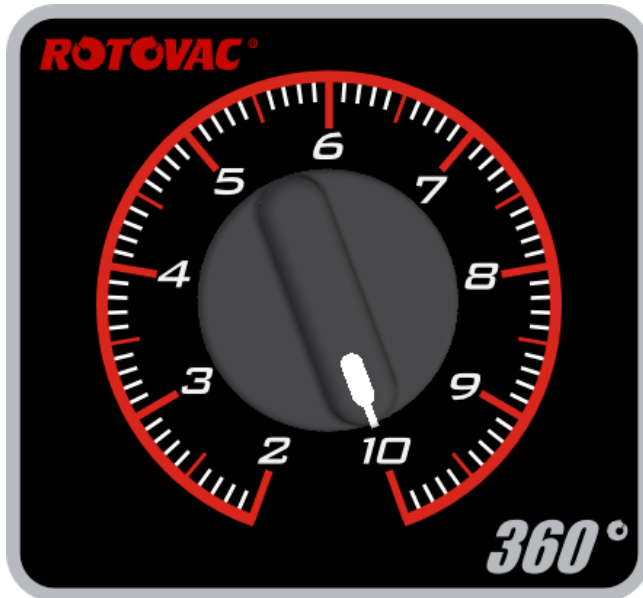
When operating the **360°** for the first time, run it in an open carpeted area to get used to the handling characteristics. Extend the telescoping handle up to near its fully extended length. Adjust the handle angle to a low enough position so that your arms are extending almost straight down during operation. Before turning on, make sure the cleaning head is flat and level on the carpet and the speed control dial is turned all the way up to 10. Learn how to “hover” the **360°** in one spot without fighting it. Once you have found the center of balance and proper technique, you will find the **360°** is very easy to control. The **360°** maneuvers left and right like a rotary floor machine (heel and toe). Lifting up on the handle causes the **360°** to move to the right. Letting down on the handle causes the **360°** to move to the left. Rotating the handles clockwise moves forward, counterclockwise rearward. Combined handle movements allow motion in any direction. The on/off trigger is located under the left handle grip. The speed control dial is located at the front of the control box. This allows adjusting the head speed rpm to the application. The solution valve trigger is located under the right handle grip. A red lever solution flow control valve allows for the adjustment of flow rate. With the solution flow control valve open and the solution trigger activated, make cleaning passes in a slow left and right motion allowing the **360°** to do the work. Overlap your cleaning passes 50% to assure thorough cleaning. The more soiled the carpet, the slower you should make the cleaning passes. After the cleaning step, let off the solution valve trigger and go back over the carpet with a vacuum only "dry pass" to provide maximum extraction for faster drying. Residual water in the spray jets may drip a little when you stop cleaning, so carry a small towel to throw under the 360

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to avoid leaving a wet spot on the carpet or floor. For normal carpet cleaning spray pressure we recommend operating between 100 and 300 PSI.

**The 360° does not require super strong vacuum for good extraction.** When using with a powerful truck-mount, adjust your vacuum power down to a maximum 10" of mercury lift for best performance. Too much vacuum power may cause the 360° motor to bog down and/or overheat. It is also much less wear and tear and fuel cost to run your truck mount at lower speed.

## Speed Control Dial



The head rotation speed is adjustable from low to high speed (up to 200 RPM). This allows the operator to customize the head speed for different types of carpets. When cleaning berber or commercial glue down, a slower speed will sometimes give better cleaning and/or drying results. Experiment for best performance. Examples of when you may want to use slower speed: 1) Over spraying-slinging water 2) Not handling properly, chattering or jumping on hard glue down carpet 3) Cleaning close to an obstacle you don't want heads to impact such as, where the tile floor meets the carpet, floor heat registers, metal thresholds, furniture legs or anything else you don't want the rotary heads to impact. 4) Dry pass on carpet that is difficult to dry such as Berber, 5) Hard surface cleaning.

## Brush Head Operation

## Overview:

The hard surface cleaning brush head has nylon brush bristles to scrub the floor, 3 spray jets to rinse the floor and 3 flexible rubber squeegee vacuum pick ups to dry the floor. The hard surface brush head is designed for use on most **smooth flooring** surfaces such as tile, linoleum, smooth concrete etc. **Do not use on carpet or rough surfaces** such as brushed concrete, pavement or any other surface which causes excessive drag or torque as this could lead to over heating of the drive motor and gearbox.

**Notes:** 1) Always double check to make sure the cleaning solution you are using will not cause any damage to the surface you are planning to clean. 2) If a truck mount vacuum system creates excessive drag on the brush head, an in-line thumb slide vacuum release fitting is available from Rotovac.

## Operation:

**Recommended cleaning procedure:** Pre-spray a section of the floor with the proper cleaning solution and then clean with the rotary brush head. When cleaning a tile floor with deep recessed grout lines you may want to use the broom stick grout brush to pre-scrub the grout lines and edges before cleaning and rinsing with the **360°** brush head. You can pre-scrub with or without the vacuum turned on, and then clean rinse and extract by activating the solution valve. A vacuum only dry pass can then be made for faster drying if needed. The brush head works well at 100 psi and it works even better at 800 psi when cleaning deep recessed grout lines. The brush head is equipped with 1.0 spray jets as standard; however you can customize with larger or smaller spray jets to suit your needs. The flexible rubber squeegee blades are easily replaceable should they become worn to the point where the vacuum pick up is impaired. When the nylon brush bristles become worn out, a new brush head block can be purchased and be refitted with all the other components.

**Note:** Always assure that the vacuum is disabled and the felt seal remains seated in position on the 6 small studs when replacing the cleaning head.

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## **Precautions**

Be careful not allow the rotating vacuum heads to strike any stationary objects such as **metal thresholds, floor vent registers, furniture legs etc.** Be extra careful when cleaning up next to where the carpet meets the hard floor as the rotating vacuum shoes could scratch and damage the hard floor. You may want to reduce the head speed to avoid hard impact.

## **Transporting**

Be careful that the **360°** cleaning head does not come loose, unscrew and fall off while you are carrying or rolling it around.

Before carrying or rolling the **360°** assure the head is screwed on tight.

## **Warnings-**

\* Never allow unit to freeze. Damage due to freezing water expansion will **NOT** be covered under warranty.

\* Do not use **360°** in standing water, such as on a flooded carpet.

\* Always use a grounded electrical outlet. Keep the control box on the handle dry. If the control box becomes wet, do not operate, call Rotovac for instructions.

\* Always wear rubber-soled shoes when operating the **360°**

\* Only trained personnel who have read this manual and understand completely the information herein should operate the **360°**.

\* Regularly inspect the cleaning heads for any nicks or burrs. Grind or sandpaper away any sharp edges, nicks or burrs before use.

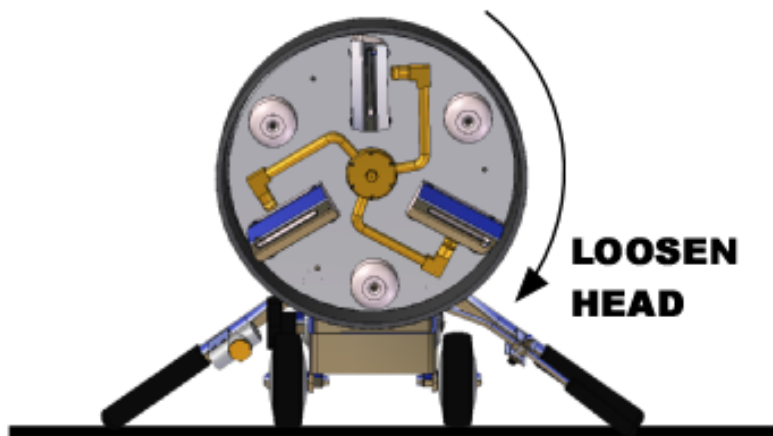
\* Maintain tightness of all screws at all times.

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## Routine Maintenance

### Removing the Cleaning Head

To familiarize yourself with the **360°** the first thing to learn is how to remove and replace the rotary cleaning head assembly for maintenance and cleaning. This is the single most important procedure of regular maintenance.



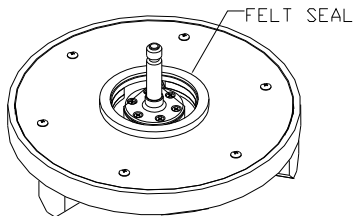
**IMPORTANT!!** Remove the cleaning head by unscrewing it in the same direction that it rotates during operation, which is clockwise from the bottom point of view. Tap on a vacuum shoe of the cleaning head with a rubber mallet or your foot to loosen the head. Now it will spin off for cleaning or adjustment. Excessive force in the wrong direction may damage gears.

**Note:** Always assure that the vacuum is disabled and the felt seal remains seated in position on the 6 small studs when replacing the cleaning head.

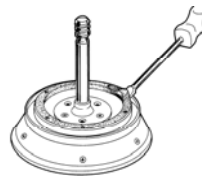
## Felt Vacuum Seals

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Check the felt vacuum seals on the vacuum head for damage or wear. **A good felt seal is important for maximum vacuum extraction performance.** An excessively worn or torn felt seal will result in more water left in the carpet than is desirable. The felt seal will perform better and last longer if treated with a non-oily silicone spray. We prefer Dupont Silicone/Teflon spray.



Carpet and hard floor head  
Felt Vacuum Seal



Optional 7" stair cleaning head  
Felt Vacuum Seal

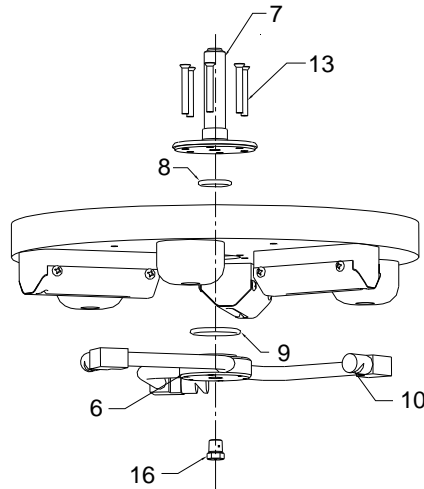
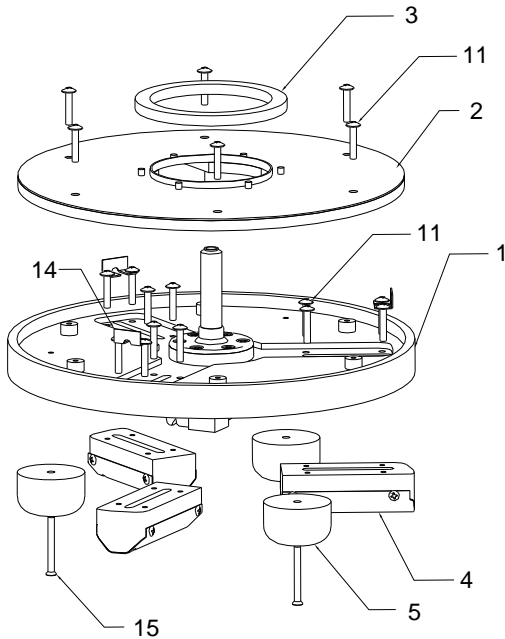
## **Vacuum System Maintenance**

To replace worn or damaged Vacuum Shoes, first remove the Head from the machine (see previous). The cover can then be removed by removing the 6 screws holding it in place. This allows access to the vacuum channels and ports for cleaning. It also allows access to the screws holding the vacuum shoes in place. If the shoes are being changed, remove the screws, and reattach new shoes. Tighten screws down securely. Assure that the seal retainers are returned to their original position. When reinstalling the cover assembly, **make sure that the vacuum channels in the cover/seal match up with the channels in the molded head,** and retighten. The Round Glide Discs are accessible from the underside without disassembly.

## **Sprayer System Maintenance**

Periodically tilt the **360°** back and visually inspect the spray pattern of the jets to make sure they are not clogged or aimed in the wrong direction. The spray fan pattern should be aligned with the vacuum slots and should never go beyond the outer edge of the vacuum slot.

## **Carpet Cleaning Head (RA -105 complete)**

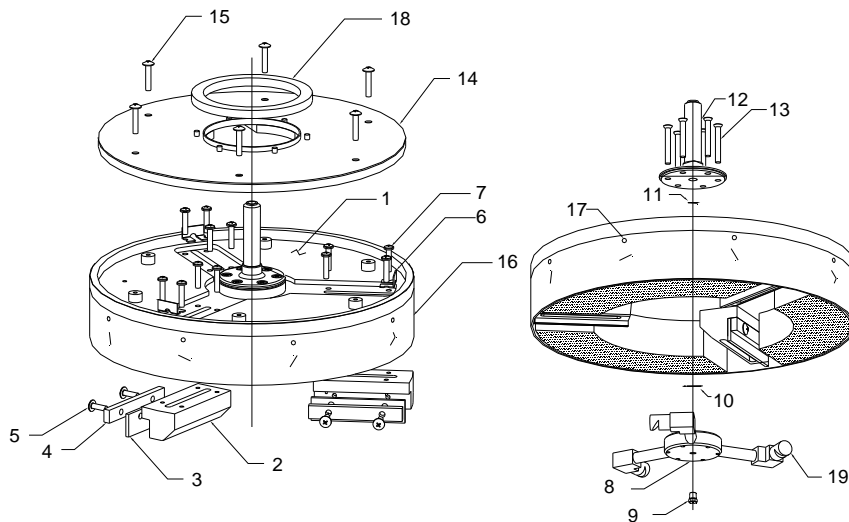


## Vacuum System Maintenance

## Sprayer System Maintenance

| ITEM # | QUANTITY | ROTOVAC P/N | DESCRIPTION                           |
|--------|----------|-------------|---------------------------------------|
| 1      | 1        | RP-203A     | VACUUM DISC                           |
| 2      | 1        | RA-106      | COVER/SEAL ASSEMBLY                   |
| 3      | 1        | S-027       | FELT SEAL                             |
| 4      | 3        | RA-113      | SMOOTHGLIDE VACUUM SHOE ASSEMBLY-L.H. |
| 5      | 3        | RP-207A     | GLIDE SHOE                            |
| 6      | 1        | RA-108      | SPRAYER ASSEMBLY                      |
| 7      | 1        | A-2329AL    | MALE SHAFT (LH)                       |
| 8      | 1        | RV-412      | SMALL O-RING                          |
| 9      | 1        | S-023       | O-RING                                |
| 10     | 3        | S-026       | SPRAY JET                             |
| 11     | 18       | RV-401      | ROUND HEAD SCREW                      |
| 13     | 6        | RV-402      | FLAT HEAD SCREW                       |
| 14     | 3        | RP-224      | GASKET RETAINER                       |
| 15     | 3        | RV-439      | FLAT HEAD SCREW                       |
| 16     | 1        | RP-269      | VENT CHECK (FROM S/N 1803)            |

## Hard Surface Brush Head (RA-109A complete)



## Vacuum System Maintenance

## Sprayer System maintenance

| ITEM # | QUANTITY | ROTOVAC P/N | DESCRIPTION                            |
|--------|----------|-------------|--|
| 1      | 1        | RP-264      | VAC DISC W/ BRUSHES (BLUE STAGGERED)   |
| 2      | 3        | RP-221      | VACUUM/SQUEEGEE SHOE                   |
| 3      | 3        | RP-223      | SQUEEGEE BLADE                         |
| 4      | 3        | RP-222A     | SQUEEGEE CLAMP                         |
| 5      | 6        | RV-437      | SQUEEGEE CLAMP SCREW (#10-32UNF X 5/8) |
| 6      | 3        | RP-224      | GASKET RETAINER                        |
| 7      | 12       | RV-438      | SCREW (#10-24UNC X 7/8)                |
| 8      | 1        | RA-110      | BRUSH SPRAYER ASSEMBLY                 |
| 9      | 1        | RP-269      | VENT CHECK (FROM S/N 1803)             |
| 10     | 1        | S-023       | O-RING                                 |
| 11     | 1        | RV-412      | SMALL O-RING                           |
| 12     | 1        | A-2329AL    | MALE SHAFT (LH)                        |
| 13     | 6        | RV-402      | FLAT HEAD SCREW                        |
| 14     | 1        | RA-106      | COVER/SEAL ASSEMBLY                    |
| 15     | 6        | RV-401      | ROUND HEAD SCREW                       |
| 16     | 1        | RV-435A     | BRUSH SKIRT                            |
| 17     | 9        | RV-450      | SHEET METAL SCREW                      |
| 18     | 1        | S-027       | FELT SEAL                              |
| 19     | 3        | S-0261      | SPRAY JET (1.0)                        |

## **360 TROUBLE SHOOTING GUIDE**

### **1. Motor bogging down or stopping**

\*The **360°** has a built in torque governor that will cause the motor to bog down or stop if overloaded or used improperly. This feature ensures long motor and gear box life because it forces the operator to use the **360°** correctly and not “fight” or abuse the machine during operation. When operated correctly, the torque governor will put out plenty of power to do the job while also protecting the motor gear box from premature wear.

\*NOTE: If you are using a truck mounted vacuum system and the unit is bogging down, we recommend using our vacuum relief attachment P/N RV-449. If that does not improve the performance, we recommend reducing the vacuum lift to 9” hg (mercury).

### **2. Motor running Hot.**

\*The **360°** drive motor is made to safely run at temperatures up to 160° F. Note that metal surfaces at 120° F can be comfortably handled for only several seconds.

### **3. Overspray from cleaning head, slinging water.**

\*Make sure spray jets are pointing slightly inward and your psi is not turned up too high. Recommend 100 to 300 psi

\*Turn down the motor speed rpm.

### **4. Leaving carpet too wet.**

\*Make sure felt vacuum seal is not worn or torn.

\*Turn down psi.

\*Make slower vacuum only dry pass. \*Turn down motor speed during dry pass. \*Check to make sure your vacuum system is working properly and the filters in your extractor are not clogged with carpet lint.

### **5. Other problems**

\*Call our service department toll free 888-768-6822

## **WARRANTY**

Rotovac Corporation products are warranted to be free of defects in material for 1 year as noted below:

During this warranty period, we will repair or replace, at our sole option, free of charge, any parts shown to be defective in either material or workmanship. Said parts must be returned with postage or freight pre-paid. Specific parts, such as switches, vacuum motors, pumps, fittings, etc., are also warranted for a period of 1 year from date of original purchase.

This warranty is for replacement of defective parts or workmanship only. IT DOES NOT PROVIDE FOR REPLACEMENT OF COMPLETE UNITS DUE TO DEFECTIVE PARTS. It does NOT cover normal wear items such as hoses, power cords, bumpers, carbon brushes, gaskets, etc., which require replacement as a result of ordinary usage. Also, failures caused by abuse, neglect, alterations or operation contrary to manufacturer's recommendations are not warranted.

Replacement parts are warranted only for the remainder of the original warranty period.

This warranty does not cover labor or other charges in connection with replacement parts. NO LOCAL SERVICE OR REPAIR CHARGES ARE ALLOWED UNLESS PRIOR AUTHORIZATION IS OBTAINED.

There are no other warranties, expressed or implied, made with respect to this equipment. The manufacturer assumes no responsibility for damages resulting from the use or misuse of this equipment. NOTE: This warranty is not transferable.

## Rotovac Corporation

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