

# MAGNUM

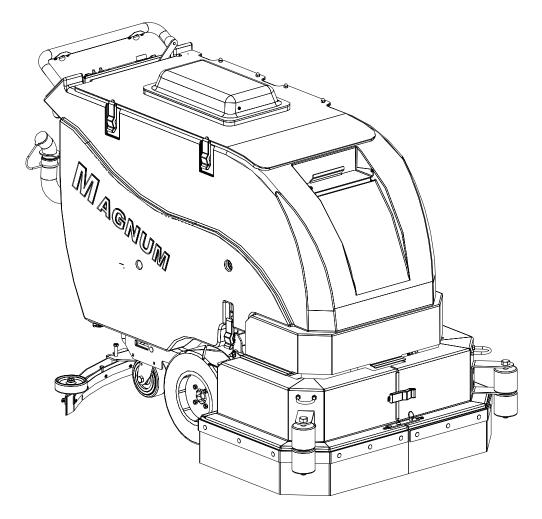
### **Operating Instructions (EN)**

### **MODELS:**

26" DISK 28" DISK 30" DISK 34" DISK

24" CYLINDRICAL 27" CYLINDRICAL 30" CYLINDRICAL 34" CYLINDRICAL

> 28" EDGE 32" EDGE





Read these Instructions before using the machine.



Read these Safety Messages before using the machine.

#### INTRODUCTION

This manual is furnished with each new machine. This manual will allow the Operator to get the best performance out of your RPS manufactured Scrubber-Drier, Sweeper, Burnisher, or Orbital Scrubber. Read this manual thoroughly before operating or servicing the machine.

This machine will provide excellent performance, but the best results will be obtained at the most minimum costs if:

- The machine is regularly maintained per the machine Preventative Maintenance instructions provided.
- The machine is operated with reasonable care and caution.
- The machine is maintained with manufacturer supplied parts.

#### **ABOUT THIS MANUAL**

**TABLE OF CONTENTS:** Tells you where to look in the manual.

**SAFETY MESSAGES**: Section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards are identified that could result in product or personal injury, or severe injury resulting in death.

**OPERATION CONTROLS / MACHINE COMPONENTS**: Shows you the different machine controls and features.

**MACHINE SETUP**: Tells you how to setup machine from un-crating to installing squeegee and brushes.

**MACHINE OPERATION**: Section is to familiarize the operator with the operation and function of the machine.

**BATTERY CHARGING**: Shows you how to charge the batteries (on-board and off board charging).

**MAINTENANCE**: This section contains preventative maintenance to keep the machine and it's components in good working condition. They are listed in this general order:

- Batteries
- Scrub Brushes
- Adjusting Squeegee
- Service Schedule
- Machine Trouble Shooting

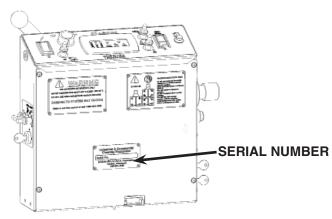
TROUBLE SHOOTING: A list of common problems that may occur.

MACHINE SPECS: Tells you Machine Specifications for the various parts of the machine.

**MACHINE INSTALL FORM**: Should be filled out upon machine installation and faxed to 1-866-632-6961 or on-line at **www.rpscorporation.com**.

WARRANTY POLICY: Tells you coverage, exclusions and limitations to warranty.

**NOTE**: The serial number of your machine is located on the lower half of the control panel of the machine.



AS OUR POLICY IS ONE OF CONSTANT IMPROVEMENT - ALL INFORMATION AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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### SAFETY MESSAGES

You will see four kinds of safety reminders in this manual:

### **ADANGER**

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### **A WARNING**

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

# **A**CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to this machine or nearby objects. CAUTION also can be used to alert against unsafe practices.

### NOTICE

NOTICE indicates information considered important, but not hazard-related. This safety message may be related to property damage or warranty warnings.

Your safety, and that of others, is very important. Operating this machine safely is an important responsibility.

### DO NOT OPERATE THIS MACHINE UNLESS:

- You are trained and authorized to do so
- You have read and understood this Operator's Manual
- On surfaces with greater than a 2% grade unless this machine is equipped with a functional parking brake.

### WHEN OPERATING THIS MACHINE:

- Remove loose objects from the floor that could be projected from the rotating Brushes
- Keep your hands and feet away from the rotating Brushes
- Do not operate this machine where flammable liquids are present
- Use caution when maneuvering

### **BEFORE LEAVING THE MACHINE:**

- Park the machine on a level surface
- Turn the machine off

### BEFORE SERVICING THE MACHINE:

Disconnect the Batteries

### **ADANGER**

Explosive hydrogen gas forms when Batteries are charging. An open flame or spark can cause this gas to explode. Serious personal injury or property damage could occur. Only charge the Batteries in this machine in a well ventilated area.

### **ADANGER**

Flammable materials can cause an explosion or fire. Do not use flammable materials in Tank or pick up.

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### **A** WARNING

The Batteries in this machine produce hazardous voltage which can cause electrical shock, burns and/ or electrocution. Always disconnect Batteries before servicing this machine.

### **A WARNING**

When climbing or descending ramps, always drive machine forward. To avoid overturning the machine, Do not back down ramps. Do not drive across inclines. Do not turn while ascending or descending ramps. Overturning the machine can cause serious injury or death.

### **A** WARNING

Do not use water that exceeds 135°F / 57°C. If water is above said temperature, this will void the Tank Warranty.

### **A** WARNING

Do not park this machine on ramps or slopes. Always park this machine on a level, hard surface. Do not operate this machine outdoors or on uneven surfaces.

### **A WARNING**

The Batteries in this machine contain sulfuric acid, which causes burns to skin. If battery acid contacts clothing or skin, rinse the effected area with cold water immediately. If battery acid gets on your face or in your eyes, flush the area immediately with cold water and seek medical attention.

### WARNING

To avoid electrical shock, do not operate this machine over electrical floor outlets.

# **ACAUTION**

To avoid damage to this machine, use only cleaning solutions and replacement parts recommended by the manufacturer.

### **ACAUTION**

Do not operate this machine if any parts have been damaged or removed.

### **A** WARNING

Dress safely. Do not wear rings or metal wrist watches when servicing this machine, as they can cause an electrical short circuit which can cause serious burns.

### **A WARNING**

Do not remove, paint over or destroy warning decals. If warning decals become damaged, call 1-262-681-3583 for free replacements.

### **A** WARNING

Dress safely. Do not wear a neck tie, scarf, or any loose or dangling clothing while operating this machine. Loose or dangling clothing or neck-wear can tangle in rotating parts, causing serious injury or death.

### **A** WARNING

Always turn off this machine before leaving it unattended. Do not allow untrained persons to operate this machine.

### **A** WARNING

NO RIDERS. Do not carry passengers on this machine. Do not use this machine as a stepladder or work platform.

### **A** WARNING

Understand the dynamic braking system before you operate the machine on ramps. Machine may coast.

### **A** WARNING

Before you service a Battery, always wear face protection, protective gloves and protective clothing. Battery acid or battery explosion can cause serious injuries.

### **ACAUTION**

Always use the automatic battery charger provided by the manufacturer of this machine to charge the Batteries of this machine. It is designed to charge the Batteries at the appropriate rate. If you must use a different charger, disconnect the Batteries before charging to avoid damage to the electronic speed controller.

### **ACAUTION**

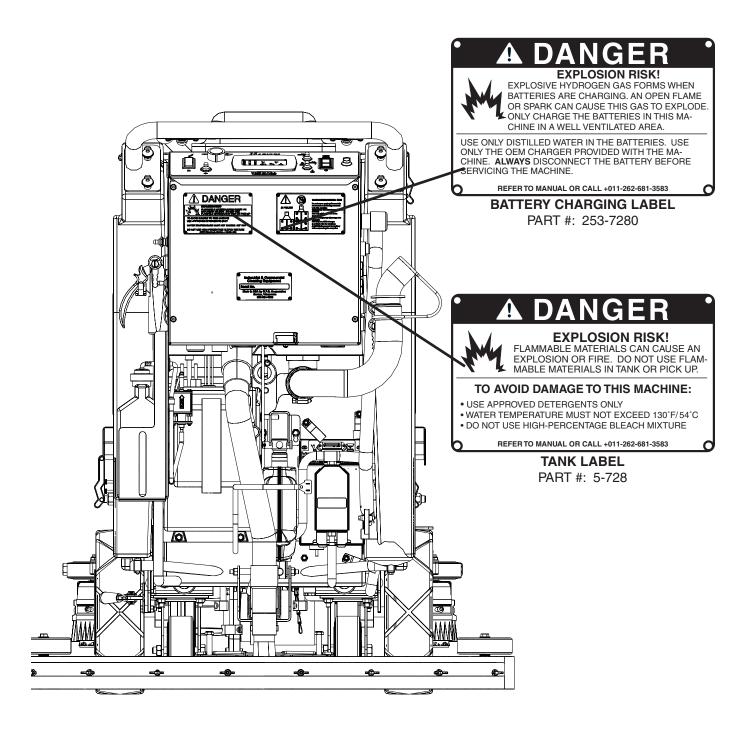
To avoid damage to the electronic control components of this machine, Do not store this machine outdoors. Do not pressure wash this machine.

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### **SAFETY LABEL LOCATIONS**

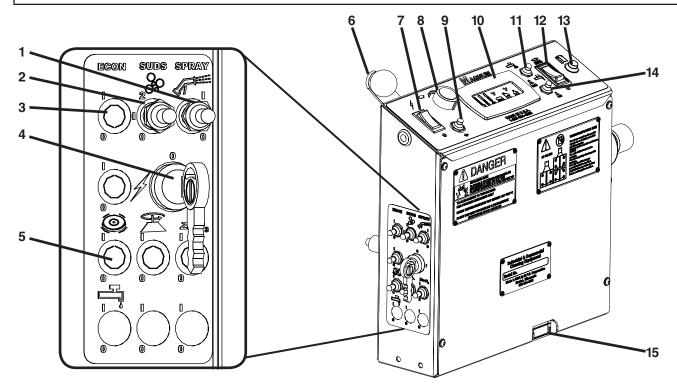
Read and obey all Safety Labels on your Magnum Floor Scrubber. If you have questions about these labels, ask your supervisor.

These images indicate where on the Magnum Safety Labels are located. If ever the labels become illegible, worn off, or torn, promptly report it to your supervisor and replace it.



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### **OPERATION CONTROLS**

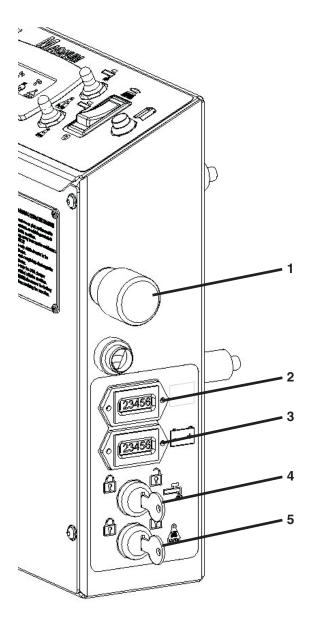


- 1. SPRAY JET [BLUE] (OPTIONAL): Activates Water Pump for remote Spray Wand
- 2. "ON-BOARD" SOAP SYSTEM [GRAY] (OPTIONAL): Dispenses soap directly to the Scrubdeck level
- 3. ECONTOGGLE SWITCH [GREEN] (OPTIONAL): Reduces power to give machine a longer run time
- 4. **KEY SWITCH:** Turns power of the machine *ON* and *OFF*
- 5. LOAD TOGGLE SWITCH [ORANGE] (OPTIONAL): Engages different Scrubdeck parameters for increased RPM for Stripping and Polishing
- 6. SQUEEGEE LIFT LEVER: Raises and lowers the Squeegee
- 7. MAIN POWER SWITCH: Turns power of the machine *ON* and *OFF*
- 8. SPEED CONTROL KNOB: Controls the speed of the Traction Drive Turn counter-clockwise to reduce speed
- 9. REVERSE SWITCH: Pull back for machine drive reverse
- 10. LCD SCREEN: Lists functions and settings of the machine
- 11. SOLUTION FLOW CONTROL TOGGLE [BLUE]: Push down (-) to reduce and push up (+) to increase the solution flow
- 12. SCRUBDECK SWITCH: Raises and lowers the Scrubdeck
- 13. MENU CONTROL: Scrolls through different options on the LCD display there are 3 different screens it will scroll through
- **14. DOWN PRESSURE TOGGLE SWITCH [BLACK]:** Controls the pressure to the Scrubdeck push up (+) for higher down pressure, down (-) for lower pressure
- 15. CHARGER PORT: Red 50 used to receive charger input for optional external charger

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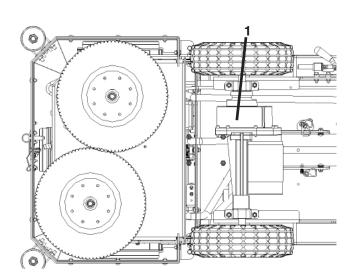
### **OPERATION CONTROLS**

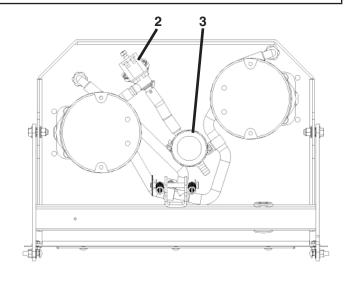
- 1. **EMERGENCY SHUT OFF SWITCH (OPTIONAL):** Shuts *OFF* the machine in case of an emergency
- 2. **HOUR METER:** Hour meter to indicate complete time machine has been *ON*
- **3. RECHARGE CYCLE METER:** Shows the amount of charges on a machine
- 4. MANAGER SOLUTION LOCKOUT (OPTIONAL):
  Allows ability to set Solution Flow and then remove Key to not allow changing of parameters
- MANAGER DOWN PRESSURE LOCKOUT (OPTIONAL): Allows ability to set Down Pressure and then remove Key to not allow changing of parameters



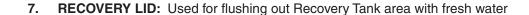
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### **MACHINE COMPONENTS**

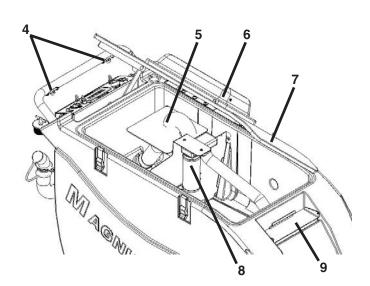




- 1. TRACTION DRIVE: Propels machine forward/backward
- 2. SOLUTION FLOW VALVE: Controls solution flow rate
- **3. SOLUTION FILTER:** Filters water solution prior to scrubbing
- **4. DRIVE BUTTON:** Depress to drive forward release to stop (*This starts and stops the Drive Motor*)
- **5.** "DRAIN SAVER" STRAINER: Helps prevent clogging of Drain Ports
- 6. CLEAR COVER: For viewing inside Recovery Tank area

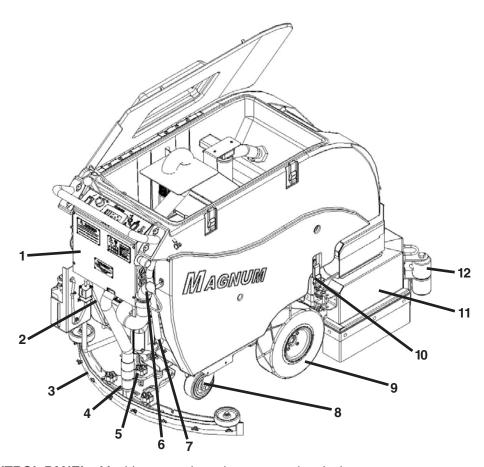


- 8. VAC SCREEN: Protects Vacuum Motor from debris
- 9. SOLUTION FILL LID: Fill port for filling Solution Tank



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### **MACHINE COMPONENTS**

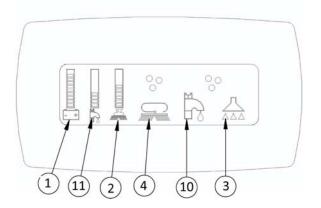


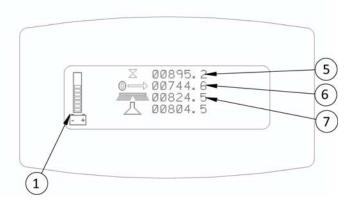
- 1. CONTROL PANEL: Machine controls and access to electrical components
- 2. "ON-BOARD" BATTERY CHARGER: Recharges Batteries
- 3. SQUEEGEE BLADE: Recovers dirty water from the floor to be recovered by Vacuum Hose
- **4. VACUUM HOSE:** Creates vacuum for Squeegee (NOTE: Keep free and clear of blockage)
- **5. SQUEEGEE PITCH ADJUSTMENT:** Adjusts pitch of Squeegee Deflection should be even across entire Blade
- 6. RECOVERY DRAIN HOSE: Allows for controlled draining of the Recovery Tank
- 7. **SOLUTION SIGHT GAUGE & DRAIN TUBE:** Shows precise level of cleaning solution in Tank while also used as a Solution Tank drain hose
- 8. REAR CASTERS: Twin rear casters for stability
- 9. MAINTIRE: Drive tire
- 10. TANK LATCH: Secures tank to frame
- 11. JAWS: Protects Scrubdeck from collision damage
- 12. WALL ROLLERS: Helps protect machine when scrubbing near walls

### **LCD SCREEN MENU DISPLAYS:**

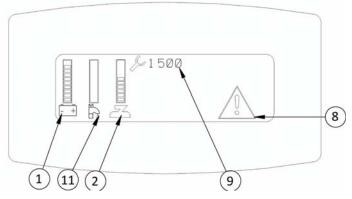
### **SCREEN #1 (OPERATOR)**

### **SCREEN #2 (MAINTENANCE)**





### **SCREEN #3 (WITH ERROR CODE)**



\*\* USE GREEN MENU SELECTION BUTTON ON CONTROL PANEL TO CHANGE SCREENS \*\*

- 1. BATTERY LEVEL INDICATOR Indicates the energy level remaining in the batteries (Shown on all menu displays)
- 2. SCRUBDECK DOWN PRESSURE GAUGE Sets the down pressure on the brushes
- 3. VACUUM ON Indicates the vacuum is ON
- 4. SCRUB MOTORS ON Indicates the brush motors are "running"
- 5. KEY SWITCH HOUR METER Indicates the total number of hours that the machine has been ON
- 6. SCRUB BRUSH HOUR METER Indicates the total number of hours that the brush motors have been used
- 7. TRANSPORT HOUR METER Indicates the total number of hours the drive system has been used
- 8. ERROR WARNING SYMBOL Indicates when there has been a diagnostic code error
- 9. **DIAGNOSTIC CODE** When the machine has detected an error, it will display the warning symbol and a diagnostic code which tells you what's wrong
- 10. WATER ON Indicates the solution flow is ON
- 11. SOLUTION LEVEL Indicates the gallons per minute (GPM) 0 1.0

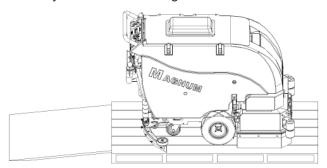
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### **MACHINE SETUP**

#### **UN-CRATING MACHINE:**

Carefully check the crate for any signs of damage and that the batteries are in the unit.

To un-crate the machine, remove banding strips from around the crate. Take off the top and sides and dispose properly. Remove brackets from machine wheels. Remove bolts from pallet, then remove board. Carefully roll the machine off of the base. Notify the carrier immediately if concealed damage is discovered.



### **CONNECTING BATTERIES:**

Your machine is equipped with (4 $\times$ ) 6-Volt/ 245 AH, (4 $\times$ ) 6-Volt/ 325 AH, (4 $\times$ ) 6-Volt/ 360 AH, or (4 $\times$ ) 6-Volt/ 360 AH Wet Lead Acid, AGM, or Deep Cycle Batteries which form a 24 Volt system.

# (SEE PICTURE BELOW OR BATTERY DISCONNECT LABEL FOR CORRECT CABLE CONNECTIONS)

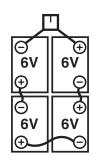
- 1. Turn all switches to the *OFF* position and remove Key (if machine is equipped with Optional Key Switch).
- 2. Attach all Battery Cables to Terminals as shown below.
- Turn ON main power switch and check the battery condition meter to ensure correct installation. Charge Batteries if needed (SEE BATTERY CHARGING).

### **NOTICE**

Batteries are a possible environmental hazard. Consult your Battery supplier for safe disposal methods.

### NOTICE

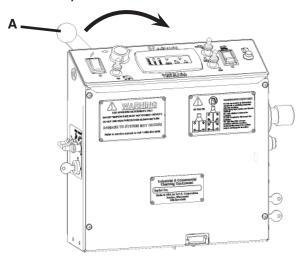
Orientation of Batteries is critical for cables to reach.



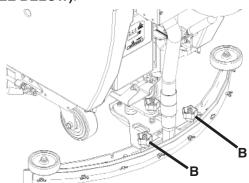
24 VOLTS

#### **ATTACHING SQUEEGEE:**

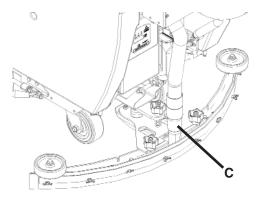
 Lower the Squeegee Mounting Plate by rotating the Squeegee Lift Lever (A) in a clockwise motion (SEE BELOW).



 Loosen the two knobs (B) on the Squeegee and slide them into the slots in the Squeegee Mounting Plate (SEE BELOW).



Tighten the two knobs and connect the Vacuum Hose (C) from the machine to the Squeegee (SEE BELOW).

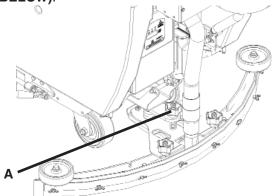


 You may have to adjust the Squeegee Pitch (SEE ADJUSTING SQUEEGEE ON THE NEXT PAGE)

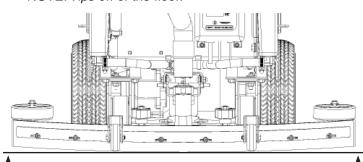
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### **ADJUSTING SQUEEGEE:**

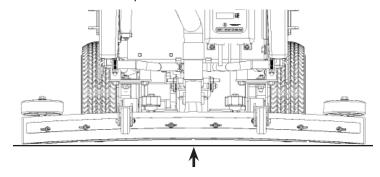
 Turning adjustment knob (A) clockwise (tightening) will lower tips and raise the center of the Squeegee (SEE BELOW).



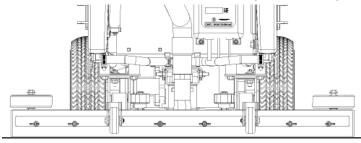
 This Squeegee is adjusted too far back and will not pick up on the corners (SEE BELOW). NOTE: Tips off of the floor.



 This Squeegee is adjusted too far forward and will not pick up in the center (SEE BELOW). NOTE: Center spaced off the floor.

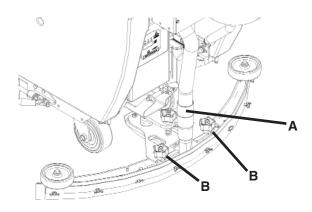


 This Squeegee is adjusted just right with good deflection across the entire rear blade (SEE BELOW).



#### **REMOVING SQUEEGEE:**

- With the Squeegee in the up position, turn machine power OFF.
- 2. Disconnect Vacuum Hose (A) from Squeegee and loosen both knobs (B) (SEE BELOW).



- 3. Pull Squeegee assembly backward from the lifting carrier.
- 4. Inspect or repair as needed and reinstall.

### **REPLACING OR ROTATING SQUEEGEE BLADES:**

### NOTICE

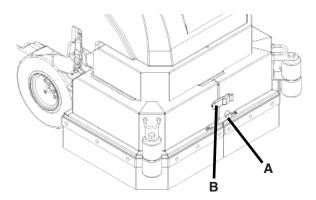
FOR SAFETY: Before leaving or servicing the machine, stop on a level surface, turn off machine and remove key.

- 1. Remove the Squeegee Assembly from the machine. Remove Blade retainer strap and remove Squeegee Blade.
- 2. Rotate the Squeegee to new edge position or replace as required.
- Install Blade on the locating pins of Squeegee Assembly.
- 4. Install Squeegee Retainer Strap.
- 5. Fasten and lock knobs, starting in the center and moving outwards.

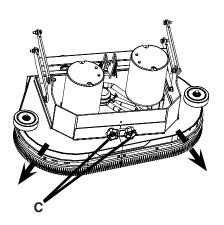
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#### **INSTALLING DISK PAD DRIVER OR BRUSH:**

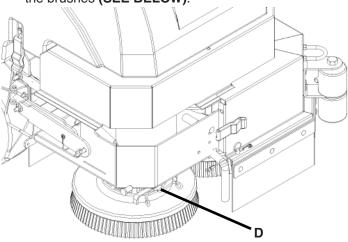
- 1. Turn on machine power.
- Raise the Scrubdeck by depressing the Brush switch to the up and OFF position and turn the machine power back OFF. Remove Key.
- If the machine is equipped with Jaws, remove pin (A) and undo latch (B) on front of Jaws to open them (SEE BELOW).



4. If the machine is equipped with a Shroud, unscrew Shroud Star Knobs *(C)* and pull Shroud forwards - Away from the front of the Scrubdeck (SEE BELOW).

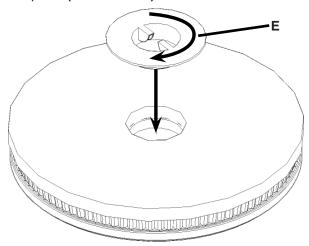


 Attach Brushes or Pads to Motor Drives. Squeeze the scissor locking device and lift brush up on to the motor drive hub. Make sure the scissors close and lock on the brushes (SEE BELOW).



#### **INSTALLING DRIVER PADS:**

- Select the correct Pads that best meet your cleaning application needs. Consult your local dealer for assistance.
- 2. Pad Installation: Attach Pads to Pad Drivers before connecting drivers to motor hub. Screw center clip (E) into place (SEE BELOW).



### **SCRUB BRUSHES / PADS:**

There are many different types of brushes available to cover applications from cleaning heavily soiled floors to polishing. A Pad Driver is also available to take advantage of the many cleaning pads on the market. Please refer to the "Common Wear Parts" page to assist in selecting the proper Brush / Pad for the work at hand.

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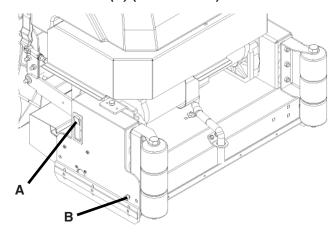
### **INSTALLING CYLINDRICAL BRUSH:**

- 1. Turn on machine power.
- Raise the Scrubdeck by depressing the Brush switch to the up and OFF position and turn machine power back off. Remove Key.

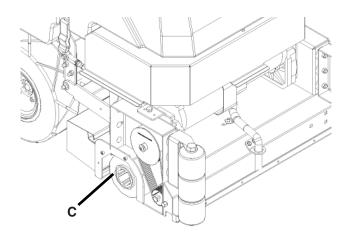
# **ACAUTION**

Disconnect the batteries.

 Remove side access door on each side of the Scrubdeck by depressing latch (A) and unscrewing the Thumb Screw (B) (SEE BELOW).



4. Slide Brush *(C)* into brush area and engage onto the Brush Driver on the opposite side (SEE BELOW).

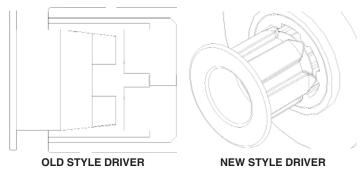


- When Brushes are engaged, replace the side access door.
- 6. Lift up on the Wipers first to close the side door and then depress the latch until the door is secured.

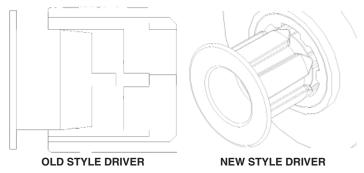
### NOTICE

If the Brushes are not fully engaged with the Drivers, the Brushes will be damaged. Do **NOT** force the access door back on. This usually indicates improper Brush installation.

7. Brush drivers shown misaligned (SEE BELOW).

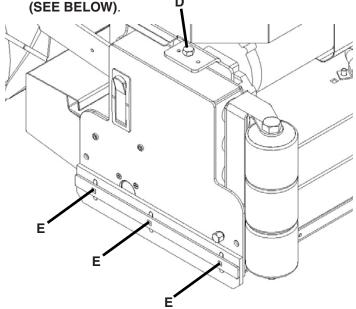


- 8. Brush driver shown properly aligned (SEE BELOW).
- 9. To adjust the tension of the belts, turn adjustment



screw **(D)** clockwise to tighten and counterclockwise to loosen **(SEE BELOW)**.

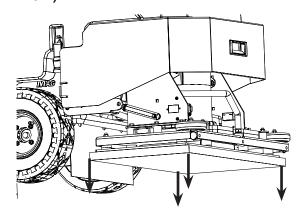
10. To adjust the height of the Wipers, loosen the 3 screws
(E) and slide Wiper Blades up or down in the slots



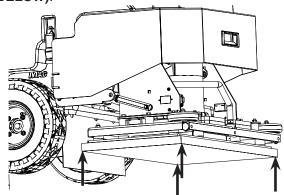
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#### **INSTALLING EDGE PADS:**

- 1. Turn on machine power.
- Raise the Scrubdeck by depressing the Brush switch to the UP and OFF position and turn machine power back off.
- 3. Select the correct Pads that best meet your cleaning application. Consult your local dealer for assistance.
- Remove any Pad previously attached to the EDGE Grip Face by pulling down from the corners (SEE BELOW).



- 5. Once Grip Face is clear of any Pads, place pad wanted for application centered on the Grip Face (*This will leave a ½" overhang on all sides*).
- Press upwards on the Pad to secure it in place (SEE BELOW).



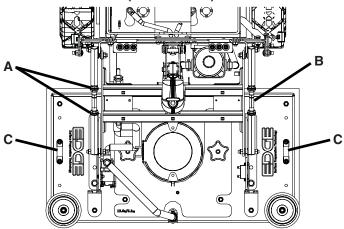
7. With Pad attached securely to Grip Face of EDGE Deck, the machine is ready to use.

#### **LEVELING EDGE DECKS:**

### NOTICE

All Scrubdeck's should be level at time of machine delivery. If machine Scrubdeck is not level - Contact your Servicing Dealer.

- 1. Drive machine to a flat level surface and turn machine *OFF*.
- 2. Ensure that Scrubdeck is in full upright position.
- 3. Turn on machine and depress the brush switch. Just before the Scrubdeck's EDGE Pad touches the ground, turn machine *OFF*.
- 4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
- Loosen the Locking Nut (A) on the Adjustable Deck Arms. Turn the Hexagonal Arm (B) on each side of the Scrubdeck to level it. Use the Scrubdeck Levels (C) built into the deck (SEE BELOW).



 Extending the Adjustable Arms raise the front and lowers the rear of the Scrubdeck. After Scrubdeck has been leveled - tighten Locking Nuts (A).

### NOTICE

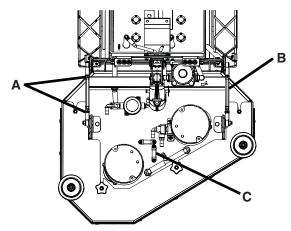
NEVER place aggressive Pads (Maroon Prep, Dominator HD Strip, etc.) directly onto the Grip Face. Always use Red or Blue Spacer pad to prevent Grip Face damage.

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### **NOTICE**

All Scrubdeck's should be level at time of machine delivery. If machine Scrubdeck is not level - Contact your Servicing Dealer.

- Drive machine to a flat level surface and turn machine
   off
- 2. Ensure that Scrubdeck is in full upright position.
- 3. Turn on machine and depress the Brush switch. Just before the Scrubdeck's Brushes touch the ground, turn machine *OFF*.
- 4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
- Loosen the Locking Nut (A) on the Adjustable Deck Arms. Turn the Hexagonal Arm (B) on each side of the Scrubdeck to level it. Use the Scrubdeck Levels (C) built onto the deck (SEE BELOW).



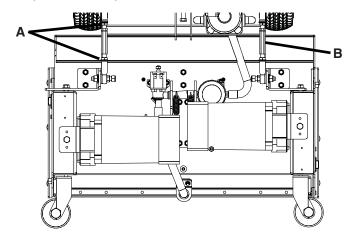
 Extending the Adjustable Arms raise the front and lowers the rear of the Scrubdeck. After Scrubdeck has been leveled (ensure correct pitch backward - if you have) - retighten Locking Nuts (A).

#### **LEVELING CYLINDRICAL DECKS:**

### NOTICE

All Scrubdeck's should be level at time of machine delivery. If machine Scrubdeck is not level - Contact your Servicing Dealer.

- Drive machine to a flat level surface and turn machine
  off
- 2. Ensure that Scrubdeck is in full upright position.
- 3. Turn on machine and depress the Brush switch. Just before the Scrubdeck's Brushes touch the ground, turn machine *OFF*.
- 4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
- Loosen the Locking Nut (A) on the Adjustable Deck Arms. Turn the Hexagonal Arm (B) on each side of the Scrubdeck to level it. Use the levels built into the deck (SEE BELOW).

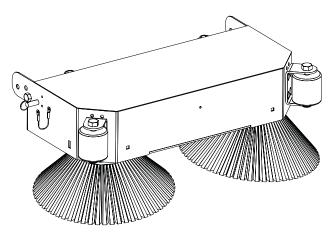


 Extending the Adjustable Arms raise the front and lowers the rear of the Scrubdeck. After Scrubdeck has been leveled - retighten Locking Nuts (A).

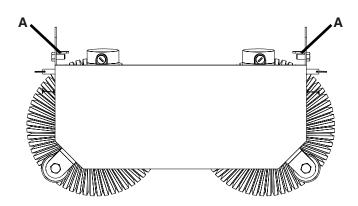
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### **SIDE BROOM SYSTEM:**

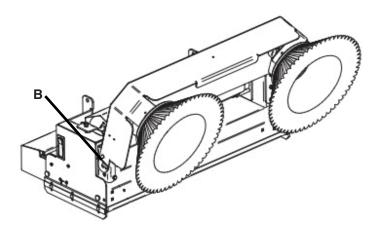
1. Your machine may come equipped with the *Optional* Side Broom System **(SEE BELOW)**.



- 2. Flip Side Broom switch (Yellow Toggle on the left side of the Control Panel) to engage broom.
- 3. To adjust the Side Broom height, turn adjustment screws (A) clockwise to raise and counterclockwise to lower the Side Brooms (SEE BELOW).



4. To move Side Broom system out of the way when not in use, just pull the pin (B) on each side of the Scrubdeck and rotate Side Broom System to the up position and reinsert pin (SEE BELOW).



5. Brooms adjusted too low (SEE BELOW).



Brooms adjusted too high (SEE BELOW).



7. Brooms adjusted just right (SEE BELOW).



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### **MACHINE OPERATION**

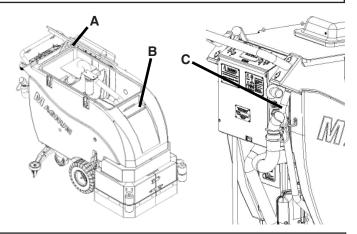
#### **PRE-CLEANING CHECKLIST:**

Read and understand the Safety Messages section on Pages 3 and 4 before operating the machine.

- Check Battery Condition Gauge on the Control Panel.
   Make sure Batteries are fully charged before using.
- 2. Check the condition of the Pads or Brushes.
- 3. Check the condition of the Squeegee Blades.
- Raise the Scrubdeck and Squeegee before transporting then transport the machine to the filling station.
- 5. Turn the machine OFF.
- Fill the Tank with up to 17 gallons of clean water either at the front fill port (A) or rear fill port (B) (SEE BELOW).
- Add APPROVED cleaning chemical to the Tank.
   Use the proper dilution ratio indicated on the bottle.
   Contact us at 1(800)-634-4060 or +011-262-681-3583 if unsure.

### NOTICE

The clear tube (Solution Sight Tube) (C) at the rear of the machine indicates the amount of water in the Tank (SEE BELOW).



### **A DANGER**

EXPLOSION RISK! Flammable materials can cause an explosion or fire. Do NOT use flammable materials in Tank or pick up.

# **ACAUTION**

### TO AVOID DAMAGE TO THIS MACHINE:

- Use APPROVED detergents only
- Water temperature must not exceed 130°F/54°C
- Do NOT use high-percentage Bleach mixture

### **OPERATING HINTS:**

- Observe the amount of solution the machine is dispensing on the floor and adjust to the desired flow. To increase the solution flow rate, press the Solution Control Toggle up. To shut the solution OFF completely, just release the Drive button, or use dash mounted switch.
- Keep an eye on the clear Vacuum cover to make sure that there is not any foamy buildup in the Recovery Tank. If excess foam begins to develop, pour a recommended foam control solution into the Recovery Tank. Foam is usually an indication of excessive soap.
- Always operate at lower speeds when scrubbing around walls and objects. You should reduce the speed to maintain control when turning.
- 4. If Squeegee starts to streak, raise and wipe the Blades with a clean cloth. if the problem continues, check the Squeegee Blades for wear or damage and rotate if needed. You may need to pre-sweep before scrubbing. (Only Use OEM Parts)
- 5. Change or turn over Brushes / Pads when dirty.
- Stay clear of objects protruding from the floor such as sockets, grates, etc, for they will damage the Brushes / Pads and Squeegee Blades.
- Always keep an eye on your gauges. They let you know the status of a particular system at a glance. If your battery gauge is reading low you much stop immediately and recharge. Running the Batteries dead will result in damage to the Batteries.
- 8. When you run out of solution, raise the Scrubdeck and continue to Vacuum the remaining water until it is all consumed. The Solution Sight Tube is used to indicate the level of detergent remaining in the Tank.
- 9. When you are ready to stop, raise the Scrubdeck, turn *OFF* the solution switch, raise the Squeegee and drive the machine back to the charging area. Be sure to drain both Tanks before storing the machine.

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#### **ONE PASS SCRUBBING:**

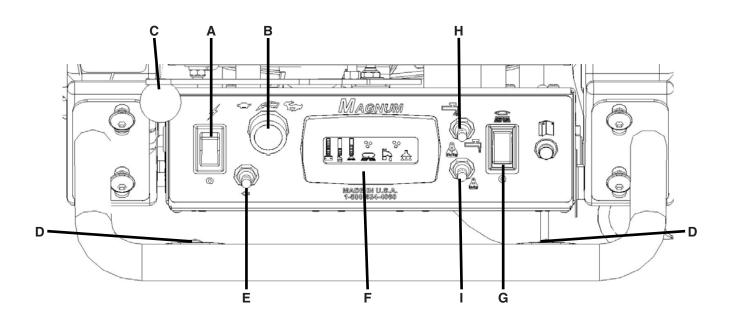
- Turn on machine Power Switch (A), make sure the Speed Control Knob (B) is at a lower setting.
- Lower the Squeegee by rotating the Squeegee Lift Lever (C) all the way to the right (Vacuum Motor will turn on automatically).
- Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel (G).
- 4. Press up or down on the Solution Flow Toggle (H) to regulate the amount of solution flow.
- Begin scrubbing by pressing one of the green
  Drive Buttons (D) on the handle bars. Adjust the
  Speed Control Knob (B) to the desired setting.
- 6. Once the machine begins to move, check the down pressure on the LCD screen (F). To adjust the down pressure, push toggle switch (I) forward to increase pressure backward to decrease pressure. Start scrubbing at the #1 or #2 marks. Do not use the #4 or #5 marks without management's approval.
- To operate the machine in reverse, simply pull the Reverse switch (E) back towards the Handlebar. The reverse speed is set to approximately 50% of the forward speed.
- 8. To stop the machine, let go of the Drive Buttons (D).

#### **SCRUB ONLY:**

- 1. Turn on machine Power Switch (A) while making sure the Speed Control Knob (B) is at a lower setting.
- Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel (G)
- 3. Press the Solution Flow Toggle button *(H)* up or down to regulate the amount of solution flow.
- 4. Begin scrubbing by pressing one of the green Drive Buttons *(D)* on the Handlebars. Adjust the Speed Control Knob *(B)* to the desired setting.
- To operate the machine in reverse, simply pull the Reverse Switch (E) back towards the Handlebar. The reverse speed is set to approximately 50% of the forward speed.
- 6. To stop the machine, let go of the Drive Buttons (D).

#### **VACUUM ONLY:**

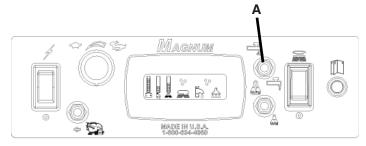
- 1. Turn on machine Power Switch (A) while making sure the Speed Control Knob (B) is at a lower setting.
- 2. Lower the Squeegee by rotating the Squeegee Lift Lever (C) all the way to the right (Vacuum Motor will turn on automatically).
- 3. Begin vacuuming by pressing one of the green Drive Buttons **(D)** on the Handlebars.



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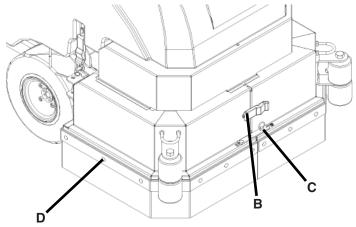
#### **ADJUST SOLUTION FLOW:**

 Push UP (+) on the Solution Flow Toggle (A) to increase the solution flow and push DOWN (-) on the toggle to decrease solution flow (SEE BELOW).



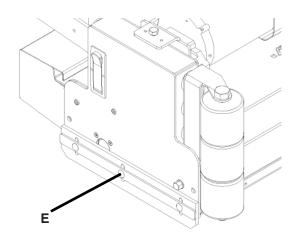
#### **ADJUST CURTAINS:**

- For Jaw curtains, release Jaw latch (B) and remove Jaw Pin (C) on the front of the Jaws to open them (SEE BELOW).
- 2. Loosen curtain band screws (D) (SEE BELOW).
- 3. To adjust curtain to the desired height, just slide the curtain up or down in the slits and tighten screws.
- 4. Close Jaws reconnect the latch and reinsert the pin.



### **ADJUST WIPERS:**

- For Cylindrical side Wipers, loosen Wiper band screws (E) (SEE BELOW).
- 2. To adjust Wiper to the desired height, just slide the Wiper up or down in the slots and tighten the screws.

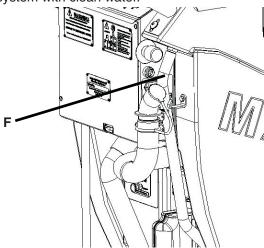


#### **DRAINING SOLUTION TANK:**

To drain unwanted cleaning solution from the Solution Tank, perform the following steps:

### (SEE BELOW)

- 1. Pull the clear Sight Tube/Drain Hose *(F)* off barbed fitting.
- 2. Rinse out Tank and solution flow system with clean water.



#### **DRAINING RECOVERY TANK:**

Always empty Recovery Tank when refilling the Solution Tank. You can refill the Solution Tank while the Recovery Tank is draining.

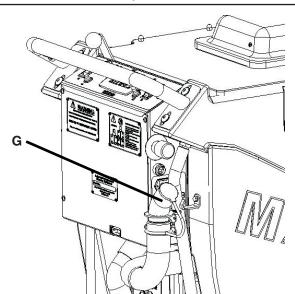
To drain the Recovery Tank remove Drain Hose
 (G) from hook at rear of Tank and pop off cap (SEE BELOW).

### **NOTICE**

Leave Recovery Lid open while draining Tanks. Rinse thoroughly.

### **NOTICE**

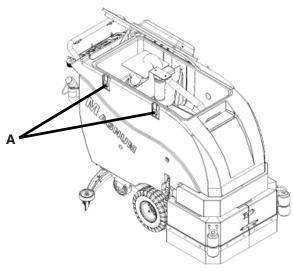
Get Supervisor APPROVAL first and drain at APPROVED locations only.



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### **OPEN RECOVERY LID:**

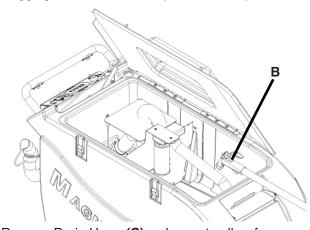
 Release both latches (A) on Recovery Tank lid (SEE BELOW).



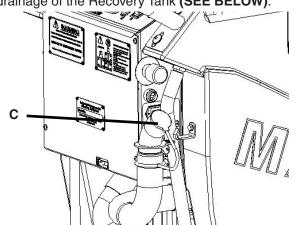
2. Rotate lid fully open.

#### **FLUSH RECOVERY TANK:**

 Rinse the Recovery Tank after every use (B). This will prevent heavy build-up on the bottom of the tank, foul odors as well as clogging of the Drain Hose (SEE BELOW).



Remove Drain Hose (C) and open to allow for drainage of the Recovery Tank (SEE BELOW).



- 3. Flush Recovery Tank with water hose.
- 4. After rinsing, reattach the Drain Hose *(C)* on hook (SEE ABOVE).

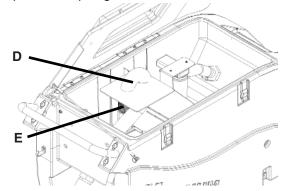
### **NOTICE**

Keep water off of Control Panel.

### **CLEAN "DRAIN SAVER":**

With Recovery Lid open and Tank fully drained:

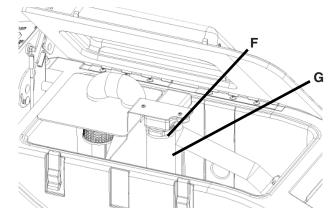
- Remove 2" Squeegee Intake Hose (D) from "Drain Saver" strainer (E) (SEE BELOW).
- 2. Remove stainless screen and dispose of debris.
- Rinse screen with fresh water from the outside while holding the screen upside down. This will allow for better cleaning.
- 4. Replace the screen into the bracket.
- 5. Replace 2" Squeegee Intake Hose.



#### **CLEAN VACUUM SCREEN:**

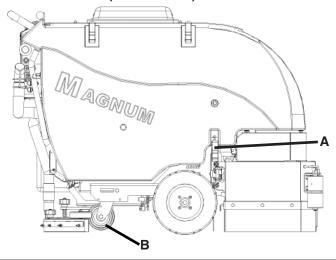
With Recovery Lid open and Tank fully drained:

- Remove Vacuum Screen retaining clip (F) (SEE BELOW).
- 2. Pull Vacuum Screen and float ball assembly *(G)* off of the Vacuum Box.
- 3. Rinse with hot water.
- 4. Dry thoroughly.
- 5. Replace the Vacuum Screen onto box.
- 6. Replace and tighten retaining clip.



### **TIP TANK:**

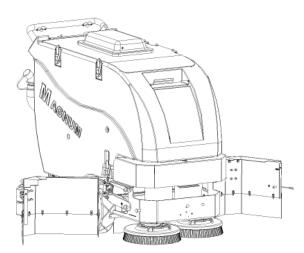
- 1. Fully drain Solution Tank and the Recovery Tank.
- 2. Remove Squeegee.
- 3. Unlatch Tank Latch *(A)* on each side of the machine (SEE BELOW).



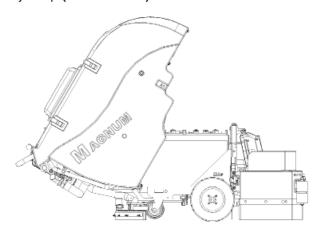
# **ACAUTION**

Casters need to be swiveled back (B) as shown, otherwise machine will tip.

4. Open Jaws (SEE BELOW).

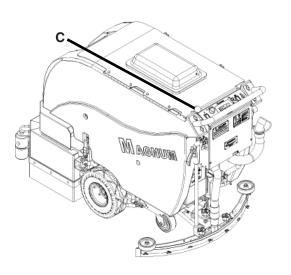


5. Tip Tank Back carefully until supported by strap (SEE BELOW).



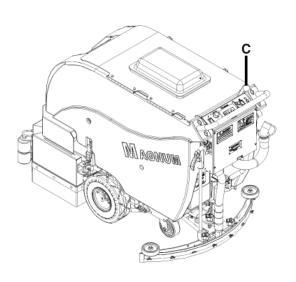
### **SQUEEGEE UP:**

1. To raise the Squeegee off the floor, rotate Squeegee Lift Lever *(C)* counter-clockwise all the way to the left **(SEE BELOW)**.



### **SQUEEGEE DOWN:**

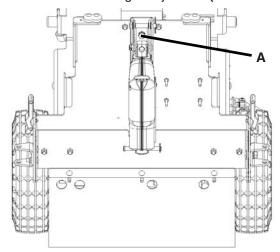
 To Lower the Squeegee to the floor, rotate Squeegee Lift Lever (C) clockwise all the way to the right (SEE BELOW). Vacuum motor will turn on automatically. Use with remote Vacuum Wand.



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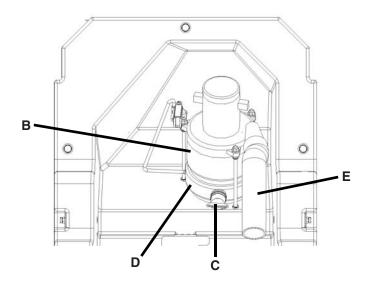
#### **DECK HEIGHT ADJUSTMENT:**

 To adjust deck height for Brush clearance, loosen jam nut on adjustment bolt (A), turn adjustment bolt clockwise to raise Scrubdeck - counterclockwise to lower Scrubdeck. Retighten jam nut (SEE BELOW).



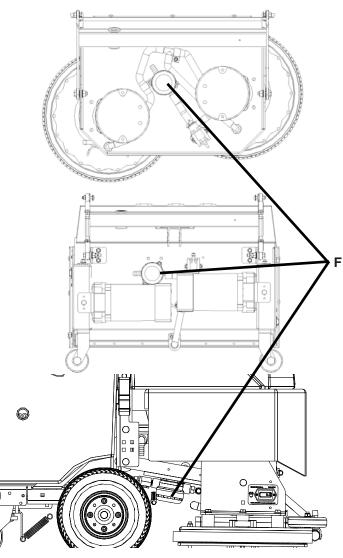
### **VACUUM MOTOR:**

- The machine is equipped with a 24 volt,
   .75HP Vacuum Motor (B) (SEE BELOW).
- 2. If foam or water gets past the Recovery Tank's Vac Screen/Ball system, the "Unloader Valve" (C) will drain it from the "Vac Box" (D) (SEE BELOW).
- 3. The Vacuum Motor has an *(Optional)* "Foam Muffler" *(E)* available to quiet machine operation.



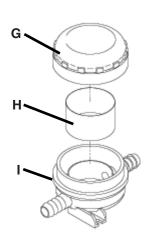
#### **SOLUTION FILTER:**

The solution system has an "Inline Filter" (F) to filter out cleaning solution prior to scrubbing (SEE BELOW).



### **CLEANING SOLUTION FILTER:**

- To clean the Solution Filter, first unscrew the clear cap (G) from house (I) and remove the stainless steel screen (H) (SEE BELOW).
- 2. Rinse any debris from the screen with clean water.
- Reinstall screen and screw cap back on tightly.



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### **BATTERY CHARGING**

#### **Charger Specifications**

- Output voltage of 24 Volts
- Output current of 18 amps max (Optional)
- Input voltage of 110 Volts/ 60 Hz (220V/50 Hz available)
- · Automatic shut off circuit
- Made for Deep Cycle Batteries

### **ADANGER**

Explosive hydrogen gas forms when Batteries are charging. An open flame or spark can cause this gas to explode. Serious personal injury or property damage could occur. Only charge the Batteries in this machine in a well ventilated area.

### **A** WARNING

Before you service a Battery, always wear face protection, protective gloves and protective clothing. Battery acid or battery explosion can cause serious injuries.

### **▲** WARNING

The Batteries in this machine contain sulfuric acid, which causes burns to skin. If battery acid contacts clothing or skin, rinse the effected area with cold water immediately. If battery acid gets on your face or in your eyes, flush the area immediately with cold water and seek medical attention.

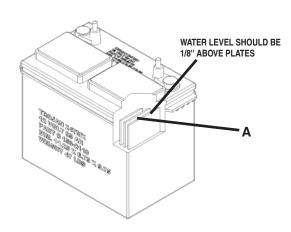
# **ACAUTION**

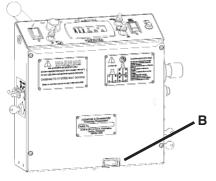
Always use the automatic battery charger provided by the manufacturer of this machine to charge the Batteries of this machine. It is designed to charge the Batteries at the appropriate rate. If you must use a different charger, disconnect the Batteries before charging to avoid damage to the electronic speed controller.

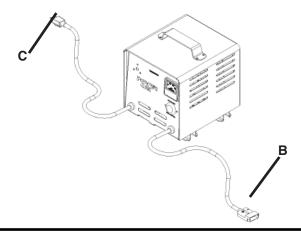
#### **EXTERNAL BATTERY CHARGING:**

- Transport machine to a well ventilated area for charging.
- 2. Turn the machine off. Tip Tank back.
- Check the water in each Battery (A). Do not charge the machine unless the water is slightly higher than the plates. If needed, add enough distilled water to just slightly cover the plates. Be careful not to over fill. Batteries can overflow during charging. Replace caps before charging.
- 4. First, plug the red 50 Charger plug into the machine's Charger Port (B). While the Charger plug

- is connected, plug the charger power cord into a grounded 110 Volt standard wall outlet *(C)*.
- 5. The Charger will automatically begin charging and automatically shut off when fully charged *(check Battery gauge)*.
- 6. After the Charger has turned off First, unplug the Charger from the wall outlet. Second, unplug the red 50 Charger plug from the machine.
- 7. Recheck the cell level after charging. If needed, add distilled water up to the correct level. Be certain to replace the caps securely and to wipe off the top of the Batteries with a clean cloth.







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#### **ON-BOARD CHARGER**

#### **Charger Specifications**

- Output voltage of 24 Volts
- Output current of 12 amps max
- Input voltage of 110 Volts/ 60 Hz (220V/50 Hz available)
- Automatic shut off circuit
- Made for Deep Cycle Batteries

### **ADANGER**

Explosive hydrogen gas forms when Batteries are charging. An open flame or spark can cause this gas to explode. Serious personal injury or property damage could occur. Only charge the Batteries in this machine in a well ventilated area.

### **A** WARNING

Before you service a Battery, always wear face protection, protective gloves and protective clothing. Battery acid or battery explosion can cause serious injuries.

### **AWARNING**

The Batteries in this machine contain sulfuric acid, which causes burns to skin. If battery acid contacts clothing or skin, rinse the effected area with cold water immediately. If battery acid gets on your face or in your eyes, flush the area immediately with cold water and seek medical attention.

### **ACAUTION**

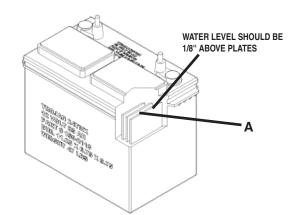
Always use the automatic battery charger provided by the manufacturer of this machine to charge the Batteries of this machine. It is designed to charge the Batteries at the appropriate rate. If you must use a different charger, disconnect the Batteries before charging to avoid damage to the electronic speed controller.

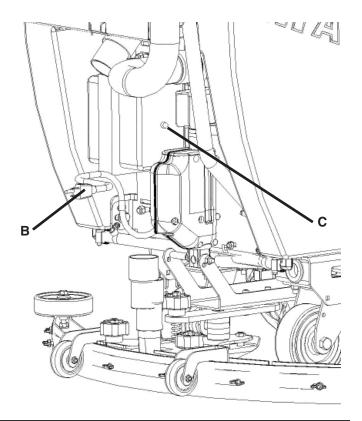
### ON-BOARD BATTERY CHARGING (OPTIONAL):

- Transport machine to a well ventilated area for charging.
- 2. Turn the machine off. Tip Tank back.
- Check the water in each Battery (A). Do not charge
  the machine unless the water is slightly higher than
  the plates. If needed, add enough distilled water to
  just slightly cover the plates. Be careful not to over fill.
  Batteries can overflow during charging. Replace caps
  before charging.
- 4. Plug the Charger power cord into a grounded standard

wall outlet (B).

- 5. The green Indicator Light (C) will come on and the Charger will automatically begin charging. When finished, the Charger will automatically shut off as well as the green indicator light (check Battery gauge).
- 6. After the Charger has turned off, unplug the Charger from the wall outlet.
- 7. Recheck the cell level after charging. If needed, add distilled water up to the correct level. Be certain to replace the caps securely and to wipe off the top of the Batteries with a clean cloth.





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### **BATTERY MAINTENANCE GUIDE**

#### **SAFETY:**

### **ADANGER**

Explosive hydrogen gas forms when Batteries are charging. An open flame or spark can cause this gas to explode. Serious personal injury or property damage could occur. Only charge the Batteries in this machine in a well ventilated area.

### **A** WARNING

Before you service a Battery, always wear face protection, protective gloves and protective clothing. Battery acid or battery explosion can cause serious injuries.

### **A** WARNING

The Batteries in this machine produce hazardous voltage which can cause electrical shock, burns and/ or electrocution. Always disconnect Batteries before servicing this machine.

### **A** WARNING

The Batteries in this machine contain sulfuric acid, which causes burns to skin. If battery acid contacts clothing or skin, rinse the effected area with cold water immediately. If battery acid gets on your face or in your eyes, flush the area immediately with cold water and seek medical attention.

### **AWARNING**

Dress safely. Do not wear rings or metal wrist watches when servicing this machine, as they can cause an electrical short circuit which can cause serious burns.

#### **INSPECTION AND CLEANING:**

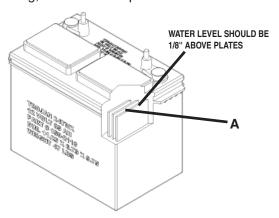
- Keep Batteries clean and dry from residue
- Check that all vent caps are tight
- Use a solution of baking soda and water to clean if acid residue on Batteries or corrosion on the terminals
- Protective spray of petroleum jelly should be applied to terminals to reduce corrosion

### **STORAGE:**

- Batteries should be fully charged prior to and during storage
- Never store discharged Batteries
- Store Batteries in a cool, dry place but never below freezing - Recharge in storage a minimum of every 30 days
- Recharge Batteries before putting them back into service

#### **WATERING:**

- Add water, NEVER ACID, to cells (distilled water recommended).
- Do not over water
- Before charging the Batteries, only add water if the plates are exposed. Add just enough water to cover the plates, then charge the batteries. Once fully charged, add water to the proper level as indicated below.
- For full charge plus series Batteries add water to the maximum water level indicator (A).
- Water watering, secure vent caps back on Batteries.



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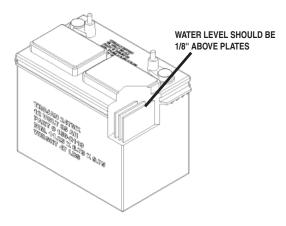
### **MAINTENANCE**

#### **DAILY MAINTENANCE:**

- Remove the clean Pads or Brushes. Never use soiled Pads when cleaning. Replace Pads when they become packed with residue.
- 2. Remove and clean debris from the float shut-off screen and Drain Saver located inside the Recovery Tank.
- Drain and rinse Tanks thoroughly and flush out Solution Feed to deck.
- Inspect Vacuum Hose for any objects obstructing the air flow.
- Raise Squeegee and wipe Blades with a clean cloth.
   Store Squeegee in the raise position to prevent damage or setting of the Blades.
- 6. Wipe down machine if needed. Use a non-abrasive, non-solvent cleaner or a clean damp cloth.
- 7. Recharge the Batteries if needed.

#### **WEEKLY MAINTENANCE:**

1. Check Battery water level in each cell of the Batteries and fill as needed. Always use distilled water to refill Batteries. Batteries should be filled approximately ¾" to 1" above the plates. Overfilling will cause the Batteries to leak during charging. The charging process creates gas bubbles inside the Battery, which effectively increases the volume of the electrolyte.



- 2. Clean Battery tops to prevent corrosion.
- 3. Flip Scrubdeck Brushes / Pads.
- 4. Drain and rinse tanks thoroughly. To thoroughly flush out any solution chemicals in solution line valves, refill solution tank with a few gallons of warm, clean water and run the machine until tank is empty.

#### **MONTHLY MAINTENANCE:**

- Check Scrubdeck and Squeegee lifting cables for wear and spring tension.
- Check machine for water leaks and loose nuts and holts
- 3. Check to see if Battery cables are tightened. Tighten,

if needed, 8-10 ft/lb MAX.

4. Grease caster swivel and Squeegee Pivot Point.

#### **YEARLY MAINTENANCE:**

Call your local dealer for yearly maintenance.

#### **STORING MACHINE:**

- Be sure to flush the Tanks out completely. To thoroughly flush out any solution chemicals in solution line and valves, refill Solution Tank with a few gallons of warm clean water and run machine until Tank is empty.
- 2. Open the Recovery Tank lid to promote air circulation.
- 3. Raise Scrubdeck and Squeegee.

#### **CHECKING BATTERY SPECIFIC GRAVITY:**

Use a hydrometer to check the Battery specific gravity. Checking Gravity:

- Hydrometer
- Battery

### **NOTICE**

Do not take readings immediately after adding distilled water. If water and acid are not thoroughly mixed, the reading may not be accurate.

### Check the hydrometer against this chart

SPECIFIC GRAVITY @ 80°F (27°C)	BATTERY CONDITION
1.265	100% Charged
1.225	75% Charged
1.190	50% Charged
1.155	25% Charged
1.120	Discharged

### **NOTICE**

If the readings are taken when the battery electrolyte is any temperature other than  $80^{\circ}F(27^{\circ}C)$ , the reading must be temperature corrected. To find the corrected specific gravity reading when the temperature of the battery electrolyte is other than  $80^{\circ}F(27^{\circ}C)$ : add (+) to the specific gravity reading 0.004 (4 points), for each  $10^{\circ}F(6^{\circ}C)$  above  $80^{\circ}F(27^{\circ}C)$ . Subtract (-) from the specific reading 0.004 (4 points), for each  $10^{\circ}F(6^{\circ}C)$  below  $80^{\circ}F(27^{\circ}C)$ .

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### PM RECORDS

CUSTOMER INFORMATION							
CUSTOMER			EMAIL				
ADDRESS					PHONE		
CITY	STATE		ZIP		CONTACT		
MACHINE INFORMATION							
MODEL #:			SERIAL #:				
WORK ORDER#:			HOUR ME	TER (Ka)	<i>γ</i> \·		
CHASSIS HOUR METER:			HOUR ME	` '	,		
RECHARGE NUMBER:			HOUR ME	•	,		
			t	•	•		
ISOLATOR HOUR METER: RE-CHARGE COUNTER:  NOTE: Isolators need to be replaced on Scrubber Machines at 250 Hours or Annually							
NOTE: Isolators need to be re	epiaced on Scrubbe	er Machines	at 250 Hou	rs or Ann	ually		
BATTERY CONDITION		CELL 1	CELL 2	CELL	3 CELL 4	CELL 5	CELL 6
BATTERY 1 HYDROMETER							
BATTERY 1 WATER CONDIT	TON						
BATTERY 2 HYDROMETER							
BATTERY 2 WATER CONDIT	ION						
BATTERY 3 HYDROMETER							
BATTERY 3 WATER CONDIT	ION						
BATTERY 4 HYDROMETER				ĺ			
BATTERY 4 WATER CONDITION				ĺ			ĺ
CLEAN BATTERY TOPS. CH	IECK BATTERY CA	ABLE AND	TERMINAL (	CONDITI	ON.	•	
NOTES:							

PAD/BRUSH CONDITION						
SCRUB BRUSH FIBER LENGTH		ROTATED BRUSHES				
BROOM DRIVER SOCKETS (4)	GOOD	WORN	NEEDS REF	PLACEMENT		
DRIVER IDLER HUBS	GOOD	WORN	NEEDS REF	PLACEMENT		
SIDE BROOM CONDITION	GOOD	WORN	NEEDS REPLACEMENT	ROTATED SIDE TO SIDE		
DISK PAD DRIVER	GOOD	WORN	NEEDS REF	PLACEMENT		
EDGE PAD GRIP FACE	GOOD	WORN	NEEDS REF	PLACEMENT		

CHECK OPERATION AND CONDITION OF:	IN SPEC	REPAIR	PROBLEM
MAIN POWER SWITCH OR KEY SWITCH			
LCD DISPLAY			
PAGE BUTTON			
BRUSH PRESSURE TOGGLE			
MANAGERS LOCK OUT			
REVERSE SWITCH			
BRUSH SWITCH			
SOLUTION +/- SWITCH			
SOLUTION SOLENOID			
LOW SOLUTION LIGHT			

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BRUSH DECK LIFT SYSTEM								
BRUSH MOTORS								
VACUUM SWITCH								
VACUUM MOTOR PERFORMANCE								
OFF-BOARD VAC SWITCH								
SQUEEGEE LIFT SYSTEM								
SQUEEGEE ADJUSTMENT PITCH AND HEIGH	Т							
SQUEEGEE BLADES								
DRAIN HOSE AND PLUG								
SIDE BROOM OPERATION								
SPRAY JET PUMP, HOSE & NOZZLE								
BATTERY CHARGER CONNECTION & FUNCTION	NC							
PITCH OF SCRUBDECK (MUST BE LEVEL)								
PITCH OF EDGE DECK (MUST BE LEVEL)								
HANDLEBAR SWITCHES								
CLEAN AND / OR LUBRICATE	IN	SPEC	RE	PAIR	PR	OBLEM		
SOLUTION TANK CONDITION								
SQUEEGEE PIVOT POINTS & KNOBS								
SOLUTION FILTER CLEANING								
SCRUB DECK LINKAGE								
VISUALLY INSPECT	INI	SPEC	RE	PAIR	PR	OBLEM		
SOLUTION TANK CONDITION		01 20		171111		OBELINI		
RECOVERY TANK & GASKET CONDITION					t			
DRAIN SAVER								
VACUUM FLOATS & SCREENS	İ							
VACUUM HOSES	İ		T		T			
SOLUTION HOSES								
BLADE RETAINERS & HARDWARE	İ							
SQUEEGEE WHEELS								
BRUSH SKIRTS								
CASTER CONDITION					İ			
DRIVE WHEELS CONDITION	İ							
COMMENTS								
SERVICING DISTRIBUTOR								
TECHNICIAN'S NAME		DATE				SIGNATURE		
CUSTOMER'S NAME		DATE				SIGNATURE_		

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### TROUBLE-SHOOTING

PROBLEM	CAUSE	SOLUTION
NO POWER - NOTHING OPERATES	FAULTY POWER SWITCH	CONTACT LOCAL SERVICING DEALER
	BATTERIES NEED CHARGING	SEE CHARGING BATTERIES
	FAULTY BATTERIES	REPLACE BATTERY
	LOOSE BATTERY CABLE	TIGHTEN LOOSE CABLE
	MAIN CIRCUIT BREAKER TRIPPED	WAIT 5 MINUTES FOR AUTO RESET
		DETERMINE CAUSE AND CORRECT
SCRUBMOTOR DOES NOT OPERATE	GREEN DRIVE BUTTON IS NOT DEPRESSED	DEPRESS BUTTON ON HANDLE BAR
	CIRCUIT BREAKER TRIPPED	RESET & REDUCE PRESSURE
	FAULTY SCRUBDECK MOTOR OR WIRES	CONTACT LOCAL SERVICING DEALER
VACUUM MOTOR DOES NOT OPERATE	FAULTY VACUUM SWITCH	REPLACE SWITCH
	CIRCUIT BREAKER TRIPPED	RESET & CHECK HOSE DETERMINE CAUSE AND CORRECT
	FAULTY VACUUM MOTOR	CONTACT LOCAL SERVICING DEALER
	CARBON BRUSHES WORN	CONTACT LOCAL SERVICING DEALER
INSUFFICIENT SOLUTION FLOW	SOLUTION TANK LOW	REFILL SOLUTION TANK
	FLOW LEVER TURNED DOWN	TURN LEVER MORE OPEN
	SOLUTION FILTER CLOGGED	REMOVE COVER AND CLEAN
	SOLUTION LINE CLOGGED	REMOVE AND BLOW OUT WITH COM- PRESSED AIR
	SOLUTION VALVE CLOGGED	REMOVE COVER AND CLEAN
NO SOLUTION FLOW	NO SOLUTION IN TANK	FILL SOLUTION TANK
	SOLUTION SWITCH IS OFF	TURN SOLUTION SWITCH ON
	SOLUTION SCREEN CLOGGED	REMOVE AND CLEAN SCREEN
	FAULTY SOLUTION SOLENOID	CONTACT LOCAL SERVICING DEALER
	FAULTY SOLUTION SWITCH	CONTACT LOCAL SERVICING DEALER
POOR WATER RECOVERY	RECOVERY TANK IS FULL	EMPTY RECOVERY TANK
	BALL / SCREEN IS CLOGGED	REMOVE SCREEN AND CLEAN
	VACUUM HOSE IS CLOGGED	REMOVE DEBRIS
	SQUEEGEE IS CLOGGED	REMOVE DEBRIS
	SQUEEGE BLADE IS WORN	ROTATE OR REPLACE BLADES
	FAULTY VACUUM HOSE	CONTACT LOCAL SERVICING DEALER
	VACUUM MOTOR GASKET TORN	CONTACT LOCAL SERVICING DEALER
	TANK GASKET FAULTY	CONTACT LOCAL SERVICING DEALER
	DRAIN PLUG LOOSE	TIGHTEN PLUG
	VACUUM MOTOR FAULTY	CONTACT LOCAL SERVICING DEALER
	BATTERY CHARGE LOW	CHARGE BATTERIES OVERNIGHT

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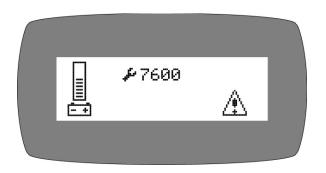
PROBLEM	CAUSE	SOLUTION
POOR WATER RECOVER ON TURNS	WIPERS WORN	REPLACE WIPER MATERIAL
	WIPERS CHATTER	TIGHTEN PIVOT POINTS
	SQUEEGEE SWING IS BINDING	CONTACT LOCAL SERVICING DEALER
	INCORRECT SQUEEGEE SIZE	CONTACT LOCAL SERVICING DEALER
TIRES NOISY	BEARING DRY	GREASE BEARINGS
	FAULTY HUBS	CONTACT LOCAL SERVICING DEALER
POOR TRACTION	EXCESSIVE BRUSH PRESSURE	REDUCE PRESSURE WITH SWITCH
	WORN DRIVE TIRE	REPLACE TIRES
	HEAVY SOAP CONCENTRATION	CONTACT LOCAL SERVICING DEALER
SHORT RUN TIME	BATTERIES RUN DOWN	CHARGE BATTERIES TWICE
	BATTERIES STILL DOWN	CONTACT LOCAL SERVICING DEALER
	BATTERIES LOW ON WATER	FILL WITH DISTILLED WATER TO ¾" ABOVE THE LEAD PLATES
	BATTERIES OVER CYCLED	CONTACT LOCAL SERVICING DEALER

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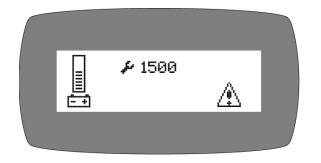
### TROUBLE-SHOOTING CENTRAL COMMAND

NOTE: This machine is operated by a sophisticated electronic "controller" that has many fail safes within it. It self-analyzes problems and flashes a four-digit alpha-numeric code of what is wrong in the LCD window.

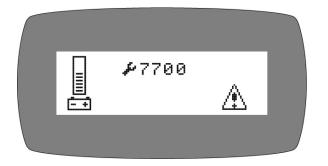
Most of these codes require a technician attention. You should not attempt repairs you are unfamiliar with, especially if you are not authorized to work on this equipment.



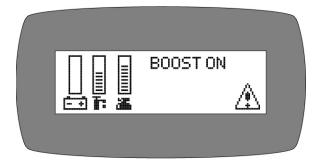
**1.7601 and 7602 ERROR:** Scrubdeck current over load. This can occur when driving over a bump in the floor. To restart, turn *OFF* the Key and turn it on again. To avoid this error, either slow down on bumpy parts of the floor, or reduce down pressure on the Scrubdeck.



**2. 1500 ERROR:** There is an open in the parking brake circuit. Check the parking brake wiring and the parking brake coil to find the open circuit.

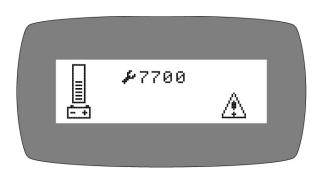


**3. 770, 7701, 7702, and 7703 ERROR:** The vacuum motor has exceeded their authorized power limits. Turn *OFF* Key and turn *ON* again to clear.

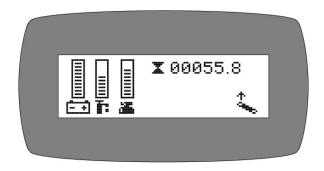


**4. BOOST ON:** Allows front wheel drive to draw more power when needed to climb ramps for 30 seconds.

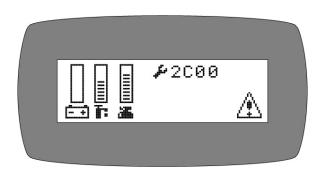
Magnum-OP-EN - 33 -



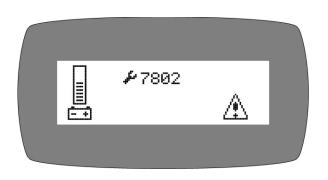
**5. 7700:** Vacuum Motor circuit is open.



**6. Throttle ERROR:** You pressed the foot pedal before turning on the key. Turn *OFF* the key and try again, leaving foot off of the pedal.



**7. 2C00 and 2C01 ERROR:** Low voltage warning. Voltage has dropped down below the minimum required to operate the machine. If you wait a few minutes, the Batteries may come up in voltage, allowing you to drive very slowly to the recharge station. If not, you will have to release the parking brake (on the front wheel, pull lever toward the front of the machine to release) and push the machine to recharging station. You must disconnect the traction motor! (+ cable first)



**8. 7802 ERROR:** The traction motor pulled excessive current perhaps running a ramp for more than the 60 seconds allowing for this. Turn *OFF* the Key, turn on again, and continue. You should not use this machine to climb ramps so steep and so long that this code comes up repeatedly, or you could overheat the traction motor.

- **9. All other ERROR codes:** Turn *OFF* the Key, and disconnect the positive battery cable from the Batteries for more than one minute (the time is needed to drain the controller on-board capacitor). Reconnect cables, being sure that it is tight. Too loose and you will burn Battery. If you over tighten the cables you can damage the Battery lead terminal. Try again.
- 10. If the problems cannot be solved by any of this solution, call your local dealer service department.

#### **MACHINE SPECS**

**BODY CONSTRUCTION/DIMENSIONS** 

TANK MATERIAL:

CHASSIS CONSTRUCTION:

FRONT WHEELS:

**REAR CASTERS:** 

SIZE  $(L \times W \times H)$ :

WEIGHT (WITHOUT BATTERIES):

WEIGHT (WITH BATTERIES):

**SCRUBDECK SYSTEM** 

DISK BRUSH SIZE:

DISK SCRUBDECK MOTOR:

OPTIONAL SCRUBDECK MOTOR:

CYLINDRICAL BRUSH SIZE:

CYLINDRICAL BRUSH SPEED:

CYLINDRICAL SCRUBDECK MOTOR:

HD CYLINDRICAL SCRUBDECK MOTOR: NOTE: HD Option is Standard on 30"/34" Cylindrical Decks

EDGE PAD SIZE:

EDGE SCRUBDECK MOTOR:

OPTIONAL EDGE SCRUBDECK MOTOR:

SCRUBDECK DOWN PRESSURE:

SOLUTION SYSTEM

SOL. TANK CAPACITY:

SOLUTION FLOW RATE:

SOLUTION FILTER:

RECOVERY SYSTEM

REC. TANK CAPACITY:

VACUUM POWER:

DRAIN HOSE:

VACUUM SPECS (LIFT / AIRFLOW):

DEMISTING CHAMBER:

DRAIN SAVER:

**BATTERY SYSTEM** 

SYSTEM VOLTAGE: STANDARD BATTERY AH RATING:

OPTIONAL BATTERY AH RATING:

BATTERY RUN TIME (STANDARD):

CHARGER (AUTOMATIC):

DRIVE SYSTEM

STANDARD DRIVE: 0.75 hp (559 watts), ALL GEAR/

FORWARD SPEED: 0-230 FT/MIN (4 mph) (6 kph)

REVERSE SPEED: 0-125 FT/MIN (2 mph) (3 kph)

**PRODUCTIVITY** 

SCRUBBING WIDTH: 24", 26", 27", 28", 30", 32", 34"

SCRUBBING RATE/HOUR: 26,400 - 37,400 FT/HR

MAGNUM

POLY (7/16") (1.11 cm)

3/16" STEEL (.2 cm)

 $(2\times)$  12"  $\times$  3.5" [ $(2\times)$  30.5  $\times$  8.9 cm]

 $(2\times)$  5"  $\times$  2" [ $(2\times)$  12.7  $\times$  5 cm]

 $56" \times 24" \times 43" (142 \times 61 \times 109 \text{ cm})$ 

494 LB.

886 LB.

26-D: (2×) 13" (56 cm)

30-D: (2×) 15" (38 cm)

34-D: (2×) 17" (43 cm)

(1x) .75 HP (559 watts) / 200 RPM

(1x) 1 HP (746 watts) / 350 RPM

24-C: (2×) 22" (55.8 cm)

27-C: (2×) 25" (63.5 cm)

30-C: (2×) 28" (71 cm)

34-C: (2×) 32" (81 cm)

750 RPM

(2×) .75 HP (559 watts) / 350 RPM

(2x) 1.0 HP (746 watts) / 350 RPM

28-E: (1x) 28"x14"

32-E: (1×) 32"×14"

(1x) 1.0 HP (746 watts) / 2500 RPM

(1x) 1.2 HP (746 watts) / 2900 RPM

0-250 LB (0-113 kg)

30 GAL (113 liters)

0 - 0.75 GPM (0 - 4 lpm)

STAINLESS / INLINE

30 GAL (113 liters)

0.8 HP (559 watts)

1.5" DIAMETER (4 cm)

68" / 72 cfm (172 cm / 21cmm)

1.25 GAL (5 liters)

60 in<sup>3</sup> (152 cm<sup>3</sup>)

24 VOLTS

(4x) 245 AH

UP TO (4x) 420 AH

UP TO 5 HRS.

**25 AMP** 

SEALED

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MAGNUM-OP-EN

### **COMMON WEAR PARTS**

### **ROUND DISK BRUSHES:**

BRUSHES	MODEL 26" DISK	MODEL 28" DISK	MODEL 30" DISK	MODEL 34" DISK
Super Grit	13-421SS	14-421SS	15-421SS	17-421SS
Tough Grit	13-421S	14-421S	15-421S	17-421S
Midi Grit	13-421C	14-421C	15-421C	17-421C
Light Grit	13-421PS	14-421PS	15-421PS	17-421PS
Poly (.028)	13-421P	14-421P	15-421P	17-421P
Nylon (.016)	13-421N	14-421N	15-421N	17-421N
Tampico	13-421T	14-421T	15-421T	17-421T
Pad Driver	13-421D	14-421D	15-421D	17-421D
Diamond Driver	13-421DD	14-421DD	15-421DD	17-421DD

### **ROUND DISK PADS:**

# NOTICE

The ## in Disk Column Denotes Desk Pad Size: 13", 15" or 17"

DISK PADS	DISK	LEVEL	COLOR
Super Black	##-422BB	Very High	Black
Black	##-422B	High	Black
Brown	##-422BR	High	Brown
Green	##-422G	Medium	Green
Blue	##-422BL	Moderate	Blue
Red	##-422R	Moderate	Red
White	##-422W	Light	White

### **EDGE PADS AND SCREENS:**

DESCRIPTION	28"×14" SCRUBDECK	32"×14" SCRUBDECK
White Pad	EDGE-4054	EDGE-5005
Red Pad	EDGE-4053	EDGE-5004
Blue Pad	EDGE-4052	EDGE-5009
Green Pad	EDGE-4051	EDGE-5002
Black Pad	EDGE-4050	EDGE-5001
White Driver Pad	EDGE-4058	N/A
60 Grit Sand Screen	EDGE-4059	N/A
80 Grit Sand Screen	EDGE-4060	N/A
100 Grit Sand Screen	EDGE-4061	EDGE-5028
120 Grit Sand Screen	EDGE-4062	EDGE-5029
150 Grit Sand Screen	EDGE-4063	N/A
Tile/Grout Renovator Pad	EDGE-4048	N/A
Dominator HD Strip Pad	EDGE-4055	N/A
Maroon ECO Prep Pad	EDGE-4056	EDGE-5007

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Remover Burnishing Pad	EDGE-4057	EDGE-5008
Porko Burnishing Pad	EDGE-4047	N/A
Velcro Pad	300-4024	N/A

#### **NEW STYLE CYLINDRICAL BRUSHES:**

For Machine Serial #50000 & Greater

BRUSHES	MODEL 24" CYLINDRICAL	MODEL 27" CYLINDRICAL	MODEL 30" CYLINDRICAL	MODEL 34" CYLINDRICAL
Super Grit	N/A	N/A	N/A	N/A
Tough Grit	225-821S	255-821S	285-821S	325-821S
Midi Grit	225-821C	255-821C	285-821C	325-821C
Light Grit	225-821PS	255-821PS	285-821PS	325-821PS
Poly (.028)	N/A	N/A	N/A	N/A
Nylon (.016)	225-821N	255-821N	285-821N	325-821N

### **OLD STYLE CYLINDRICAL BRUSHES:**

For Machines Prior To Serial #50000

	1 01 1110		iai 1100000	
BRUSHES	MODEL 24" CYLINDRICAL	MODEL 27" CYLINDRICAL	MODEL 30" CYLINDRICAL	MODEL 34" CYLINDRICAL
Super Grit	N/A	N/A	N/A	N/A
Tough Grit	22-521S	25-521S	28-521S	32-521S
Midi Grit	22-521C	25-521C	28-521C	32-521C
Light Grit	22-521PS	25-521PS	28-521PS	32-521PS
Poly (.028)	N/A	N/A	N/A	N/A
Nylon (.016)	22-521N	25-521N	28-521N	32-521N

### **SQUEEGEE BLADE KITS & COMPLETE SQUEEGEE ASSEMBLIES:**

SQUEEGEE SIZE	24" - 28" DECKS	30" - 34" DECKS	GUM RUBBER BLADE KIT	LINATEX BLADE KIT	COMPLETE SQUEEGEE ASSEMBLIES
32" Squeegee	Optional	Optional	22-770G	22-770L	23-7180
35" Squeegee	Standard	Optional	25-770G	25-770L	25-7180
38" Squeegee	Optional	Standard	28-770G	28-770L	28-7180

### **NOTICE**

Squeegee blade kits include (1) Rear Blade, (1) Front Blade, and (2) Backup Wheels with hardware.

### **NOTICE**

Size is stamped into the top of the painted steel squeegee body on all squeegee's.

### **NOTICE**

Squeegee Assemblies (complete) listed above all come with Linatex blades.

### **NOTICE**

The 32" squeegee is designed for narrow aisles and may not have the same water control around tight turns as the large squeegees.

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### **SOAP CHOICES**



Industrial • Commercial • Environmentally Safe

### **TRADITIONAL DRUMS / TOTES**



### **DEMO / RENTAL QUARTS**



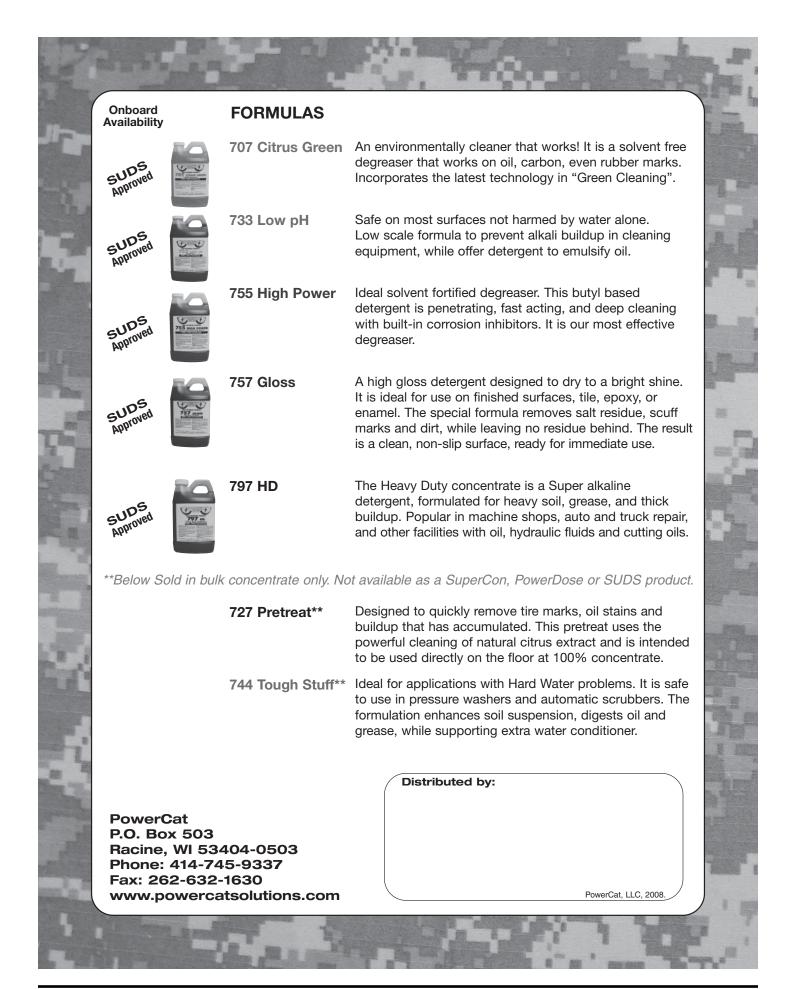
**WALL-MOUNTED SUPERCON** 



**ONBOARD AUTO DISPENSING** 



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#### STANDARD WARRANTY POLICY

RPS Corporation warrants its machines, parts and accessories to be free of manufacturer's defects for the periods specified below. Warranty will be granted at the sole discretion of RPS Corporation and is subject to final claim and parts review by R.P.S. Corporation and its vendors. This policy is effective January 1, 2014 and is subject to change on production units at a future date.

### **COVERAGE, EXCLUSIONS AND LIMITATIONS:**

Coverage: All Models Except Floor Machines: 1 Year Parts / 2 Years (1,500 hrs) Motor / 90 Days Labor / No Travel

ZerO3 Wall Mount Units: 6 Months Parts

Parts: 36 months / 1,500 hours on "Power On" hour meter

**Labor:** 12 months

**Travel:** 3 months (150 mile maximum)

**Poly Tanks:** 7 Years (Water must not exceed 135°F/57°C) / 3,000 Hours

**OEM Parts:** 90 Day New Part Warranty

**Validity:** Fully completed Machine Delivery Form (online or fax) is on record at RPS and machine is

serviced by Factory Authorized Personnel.

**Limitation:** Warranty will begin on date of machine installation to end-user or 6 months after shipment from RPS Corp. to the distributor if unsold at that time.

This warranty includes all parts on the machine except normal wear parts. Some examples of wear parts are:

- EDGE / ORBITZ isolators with evidence of deck damage (images required) or > 1,000 hours.
- Squeegee Blades, Wiper Blades, Skirts and Curtains.
- Caster Wheels, Squeegee Wheels and Bumpers.
- Lights (Strobe, Headlights, or Bulbs).
- · Chains and Belts.
- Filters, Screens, and Vacuum Bags.
- Motor Brushes and commutater wear.
- Brooms, Brushes, Pads and Pad Retainers.
- Hoses and Tubing.
- Drive Tires, Pneumatic Wheels and Tubes.
- Rubber Floor Seals and Gaskets.
- Vacuum motors with evidence of moisture or debris intrusion or > 400 hours.
- The Batteries (see below).
- **NOT COVERED:** Routine maintenance, adjustments or parts damaged from abuse, neglect, improper use of the machine, or lack of scheduled "daily, weekly, monthly" maintenance in accordance with our published PM Sheets.

**POLY TANKS:** 7 Years Coverage against leakage due to manufacturer's defect in materials or workmanship. Tank warranty void if water used exceeds 135°F/57°C

**NOTE:** Freight coverage for 3 Years under the parts section of warranty.

**BATTERIES:** Warranted through battery manufacturer for **One (1) Year** (pro-rated) from the date of delivery. The battery manufacturer approves or denies the warranty coverage after analysis. We rely solely on their review.

**NOTE NOT COVERED:** Damage from lack of water, failure to use OEM charger, or non-distilled water. Battery terminals – Battery terminals and cable connections are covered for 30 days from the shipment of the machine. (Battery terminals tightness should be inspected every 30 days and performed according to the manufacturer's recommendations.)

	ACHINE INSTALL / WARR				
Location: (City, State):		Installed By: Install Date:			
		End-User Contact:			
Address:					
Phone:					
Model:	Serial #:	Hour Met	ter:		
BUYER'S REPRESENTATIVE HAS REC SCRUBBERS:	CEIVED INSTRUCTION IN PROPER O				
cleaning, drain saver basket er - Shroud and pad/brush remov - Side Wiper and Curtain adjus - Solution valve and filter opera	al and installation tment and maintenance for water contri tion (removal and cleaning) r meters (key switch, brush, traction driv en both tanks are fully drained	ol	s, vacuum screen removal and		
	nonstrate proper removal and replacem per operating range to avoid tripping the				
<ul><li>- Method for cleaning the dust</li><li>- Correct operation of the mair</li></ul>	and replacement of main broom and si filter, emptying out the debris hopper a n broom and side broom levers, and und bypass door and not to operate through	nd correct installation derstands to park with brushes in	UP position		
	nust have their isolators & deck hour me irip Face is not warranted against dama				
- Parking Brake works and Parinclinded surface - Charging operation and customer has read and under Battery and Machine Mainter - Manufacturer's website is a good operators and Parts manuals	electrolyte level, electrolyte condition mork Brake Override functions if installed / omer understands batteries have limited ustment erstands the list of WARNINGS/CAUTIC nance Guide posters hung up and revieupod source of information (Videos, PM is were delivered, reviewed, understood te provided online or in manuals	Always park on a solid and level sold "cycles" and recharging = 1 cycles  ONS in the Operator manual swed  Sheets) and sign up for quarterly	surface, NEVER on a movable or e newsletters		
Installed By (print)		_			
Buyers Representative (print)		Signature			

Warranty.

Complete and Fax form to 1-866-632-6961 or Online at www.rpscorporation.com

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