



# MINIMAG

## Operating Instructions (EN)

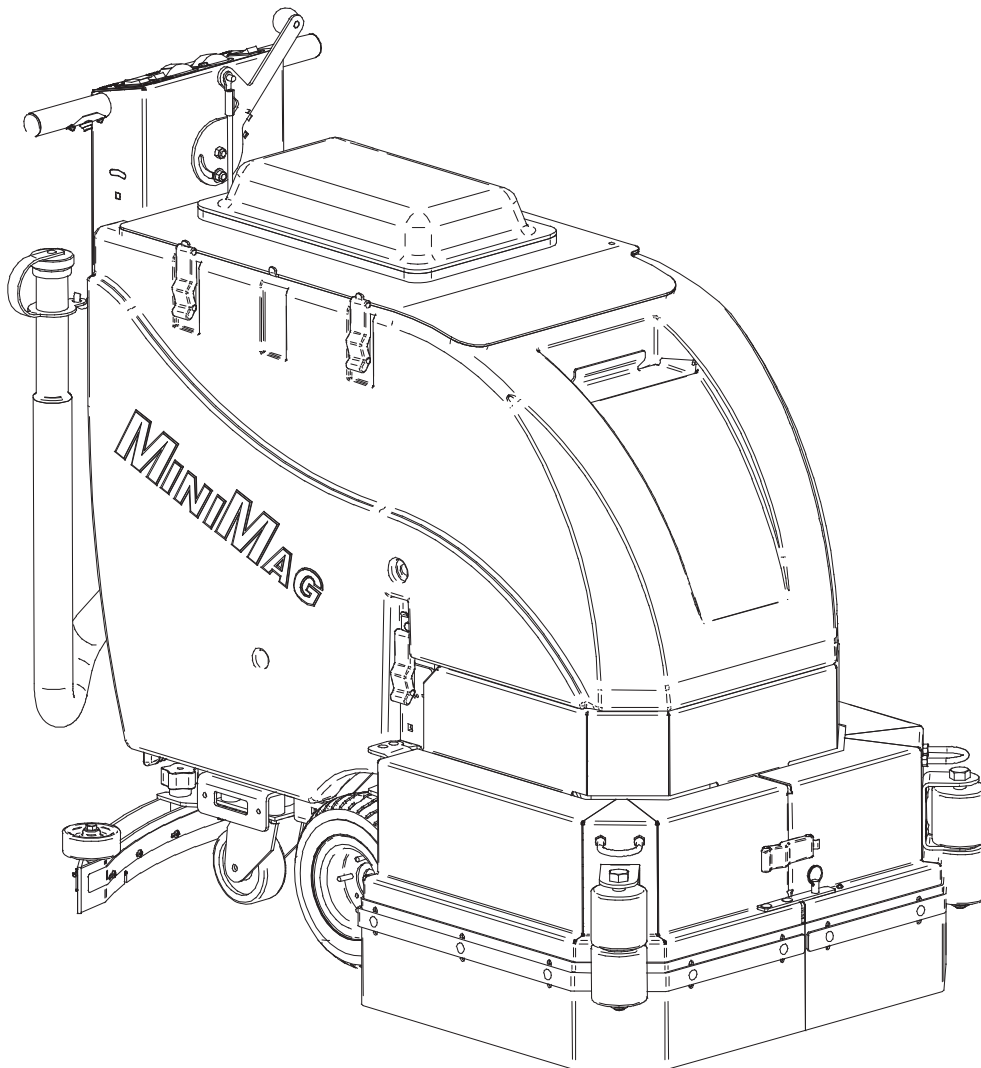
### MODELS:

*17" Disk Pad Assist  
20" Disk Pad Assist  
23" Disk Pad Assist*

*17" Disk Traction  
20" Disk Traction  
23" Disk Traction  
26" Disk Traction  
28" Disk Traction*

*24" Cylindrical Traction*

*20" Orbital Traction  
24" Orbital Traction  
28" Orbital Traction*



Read the Operators Manual  
before using the machine.



Read the Safety Messages  
before servicing 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

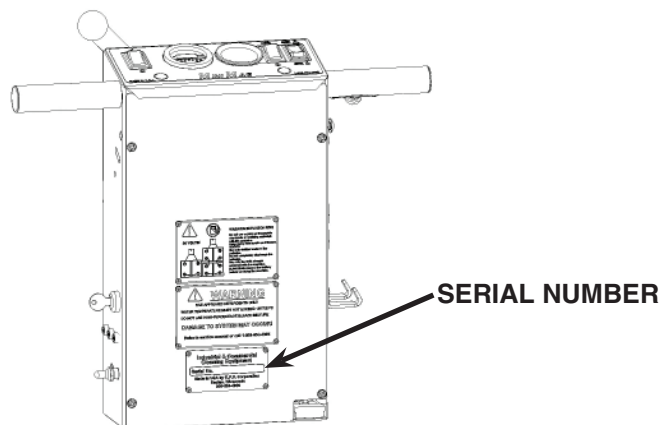
**TROUBLE SHOOTING:** A list of common problems that may occur.

**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 online at [www.rpsccorporation.com](http://www.rpsccorporation.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.

## TABLE OF CONTENTS

<b>Introduction</b> .....	2	<b>Adjust Wipers :</b> .....	21
<b>About This Manual</b> .....	2	<b>Draining Solution Tank:</b> .....	21
<b>Table of Contents</b> .....	3	<b>Draining Recovery Tank:</b> .....	21
<b>Safety Messages</b> .....	4	<b>Open Recovery Lid:</b> .....	22
<b>Safety Label Locations</b> .....	6	<b>Flush Recovery Tank:</b> .....	22
<b>LCD Screen Menu Displays:</b> .....	7	<b>Clean “Drain Saver”:</b> .....	22
<b>Operation Controls - Pad Assist</b> .....	8	<b>Clean Vacuum Screen:</b> .....	22
<b>Operation Controls - Traction</b> .....	9	<b>Tip Tank:</b> .....	23
<b>Machine Components</b> .....	10	<b>Squeegee Up:</b> .....	23
<b>Machine Components</b> .....	11	<b>Squeegee Down:</b> .....	23
<b>Machine Setup</b> .....	12	<b>Deck Height Adjustment:</b> .....	24
<b>Un-Crating Machine:</b> .....	12	<b>Vacuum Motor:</b> .....	24
<b>Connecting Batteries:</b> .....	12	<b>Solution Filter:</b> .....	24
<b>Adjusting Squeegee:</b> .....	13	<b>Cleaning Solution Filter:</b> .....	24
<b>Removing Squeegee:</b> .....	13	<b>Battery Charging</b> .....	25
<b>Replacing or Rotating Squeegee Blades:</b> .....	13	<b>External Battery Charging:</b> .....	25
<b>Installing Disk Pad Driver or Brush:</b> .....	14	<b>On-Board Charger</b> .....	26
<b>Installing Driver Pads:</b> .....	14	<b>On-Board Battery Charging (Optional):</b> .....	26
<b>Installing Cylindrical Brush:</b> .....	15	<b>Battery Maintenance Guide</b> .....	27
<b>Installing EDGE/ORBITZ Pads:</b> .....	16	<b>Safety:</b> .....	27
<b>Leveling EDGE/ORBITZ Decks:</b> .....	16	<b>Inspection and Cleaning:</b> .....	27
<b>Leveling Disk Decks:</b> .....	17	<b>Storage:</b> .....	27
<b>Leveling Cylindrical Decks:</b> .....	17	<b>Watering:</b> .....	27
<b>Machine Operation</b> .....	18	<b>Maintenance</b> .....	28
<b>Pre-Cleaning Checklist:</b> .....	18	<b>Daily Maintenance:</b> .....	28
<b>Operating Hints:</b> .....	18	<b>Weekly Maintenance:</b> .....	28
<b>One Pass Scrubbing (Pad Assist):</b> .....	19	<b>Monthly maintenance:</b> .....	28
<b>Scrub Only:</b> .....	19	<b>Yearly Maintenance:</b> .....	28
<b>Vacuum Only:</b> .....	19	<b>Storing Machine:</b> .....	28
<b>One Pass Scrubbing (Traction):</b> .....	20	<b>Checking Battery Specific Gravity:</b> .....	28
<b>Scrub Only:</b> .....	20	<b>MiniMag PM Records</b> .....	29
<b>Vacuum Only:</b> .....	20	<b>Trouble-Shooting Central Command</b> .....	31
<b>Adjust Solution Flow:</b> .....	21	<b>Common Wear Parts</b> .....	33
<b>Adjust Curtains:</b> .....	21	<b>Round Disk Brushes:</b> .....	33
		<b>Round Disk Pads:</b> .....	33
		<b>EDGE Pads and Screens:</b> .....	33
		<b>New Style Cylindrical Brushes:</b> .....	34
		<b>Old Style Cylindrical Brushes:</b> .....	34
		<b>Squeegee Blade Kits &amp; Squeegee Assemblies:</b> .....	34

## SAFETY MESSAGES

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

### **DANGER**

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

### **WARNING**

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

### **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
- Unless 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
- On surfaces with greater than an 8% grade at any time
- On Loading Docks

### **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

### **DANGER**

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.

### **DANGER**

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

## **! 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.

## **! 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.

## **! WARNING**

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

## **! 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.

## **! 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.

## **! CAUTION**

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

## **! CAUTION**

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

## **! 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.

## **! WARNING**

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

## **! 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.

## **! WARNING**

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

## **! WARNING**

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

## **! WARNING**

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

## **! WARNING**

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

## **! CAUTION**

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.

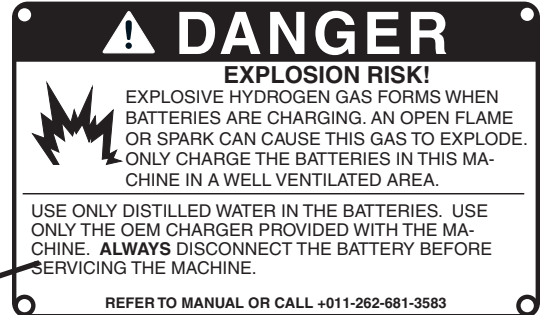
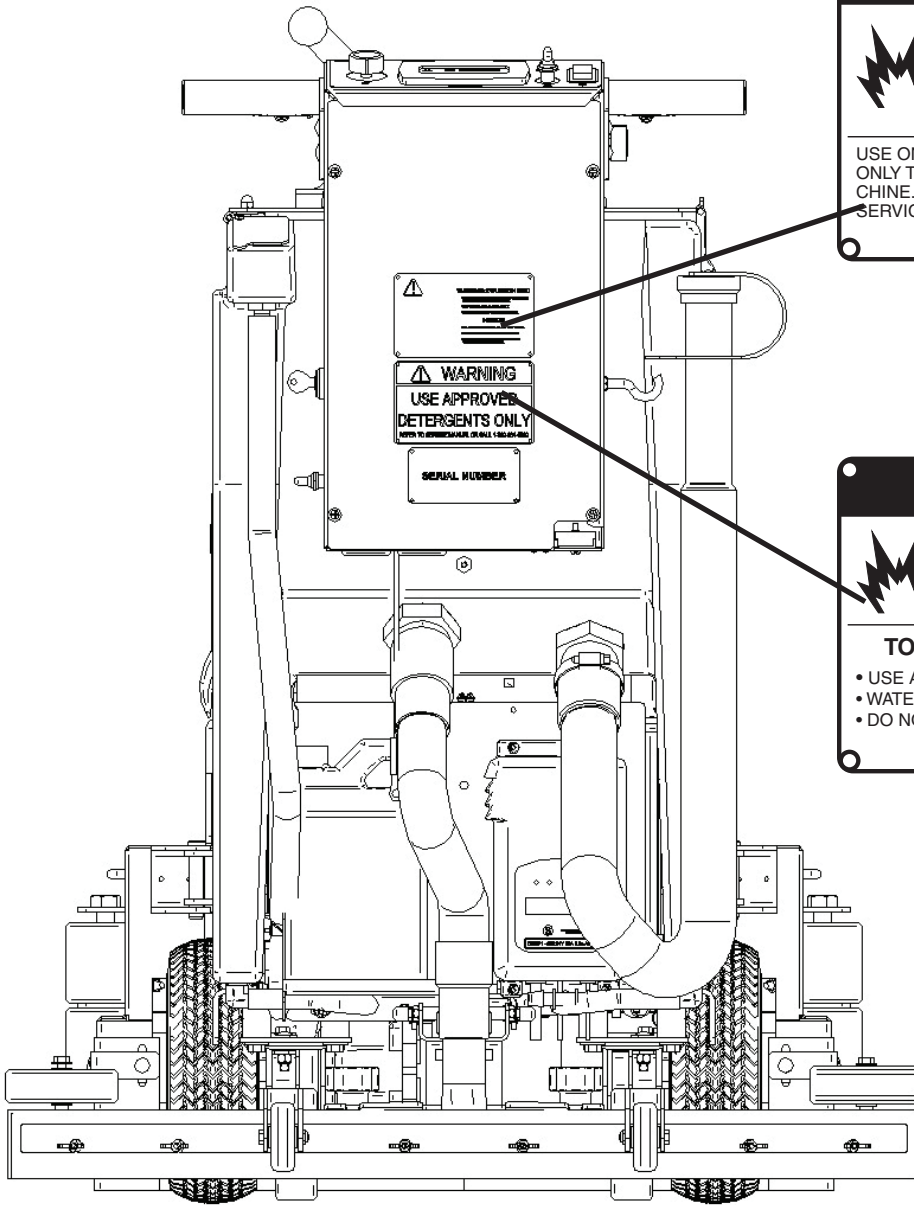
## **! CAUTION**

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

## SAFETY LABEL LOCATIONS

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

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



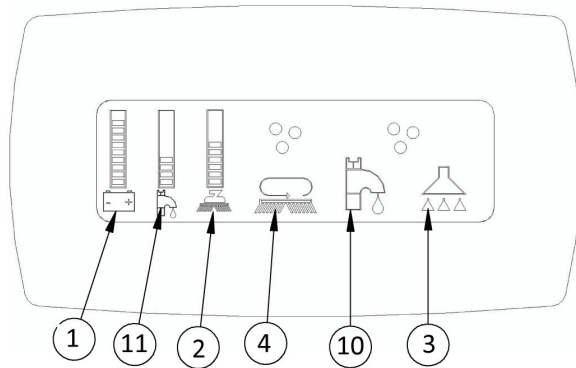
**BATTERY CHARGING LABEL**  
PART #: 253-7280



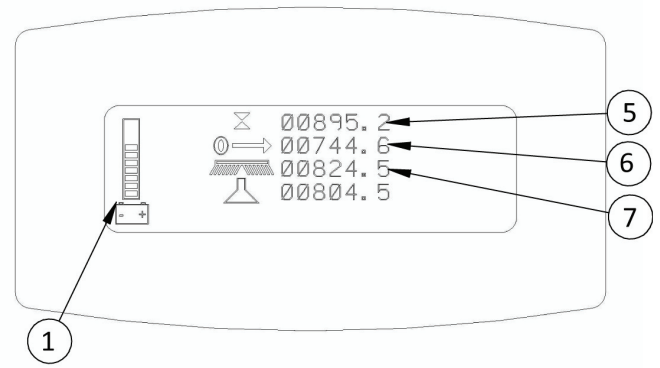
**TANK LABEL**  
PART #: 5-728

## LCD SCREEN MENU DISPLAYS:

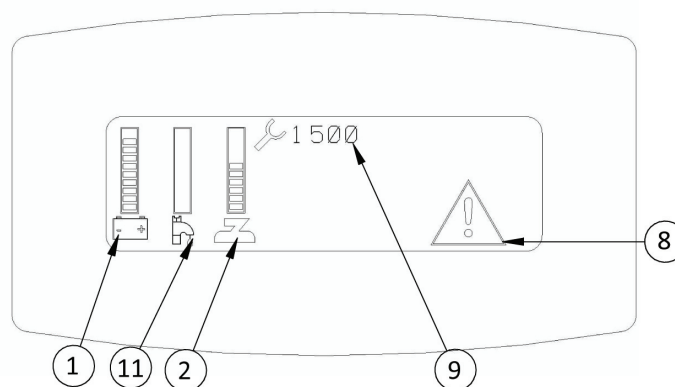
**SCREEN #1 (OPERATOR)**



**SCREEN #2 (MAINTENANCE)**



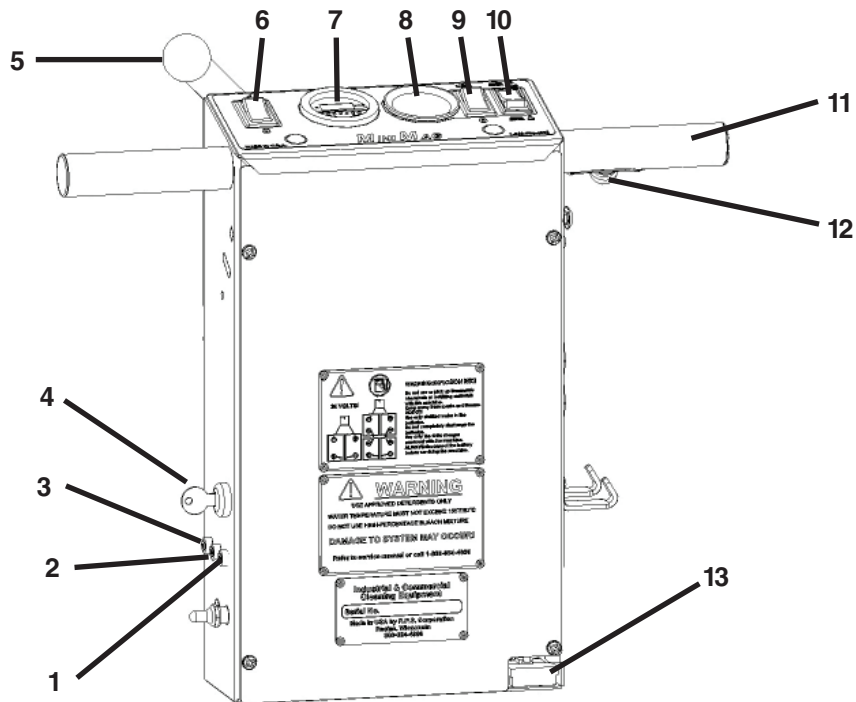
**SCREEN #3 (WITH ERROR CODE)**



**\*\* 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 / Pads
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

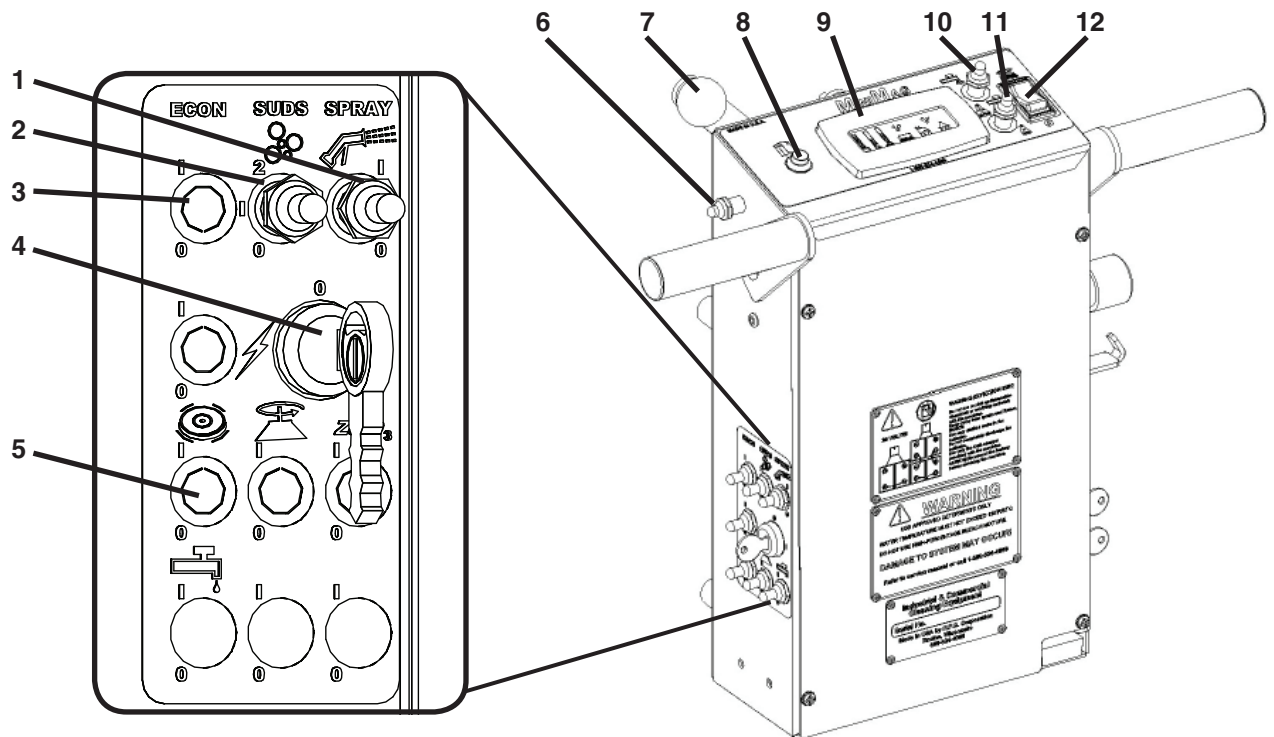
## OPERATION CONTROLS - PAD ASSIST



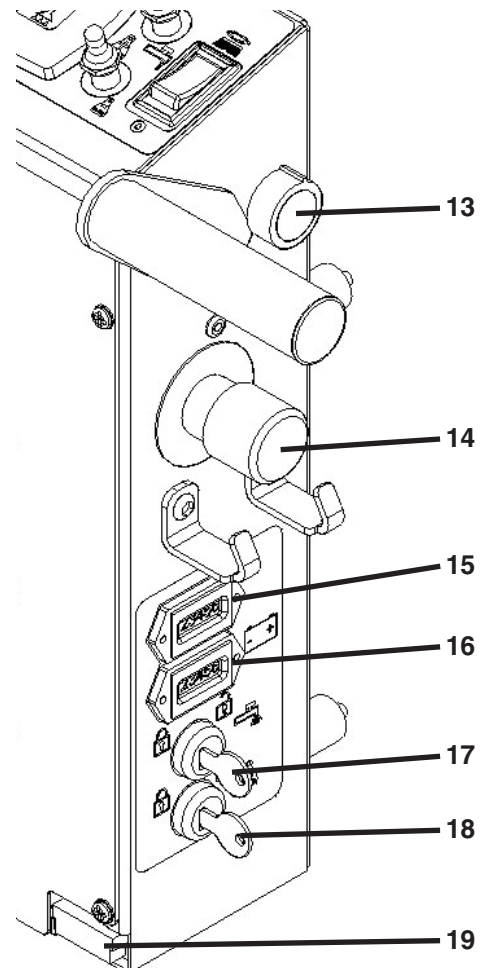
1. **CIRCUIT BREAKER:** 40 AMP resettable circuit breaker
2. **CIRCUIT BREAKER:** 25 AMP resettable circuit breaker
3. **CIRCUIT BREAKER:** 2 AMP resettable circuit breaker
4. **KEY SWITCH (OPTIONAL):** Turns the machine *ON* and *OFF*
5. **SQUEEGEE LIFT LEVER:** Lowers and raises the Squeegee
6. **MAIN POWER SWITCH:** Turns the machine *ON* and *OFF*
7. **BATTERY GAUGE / HOUR METER:** Indicates the amount of battery charge remaining along with total hours used
8. **SCRUBDECK DOWN PRESSURE GAUGE:** Indicates the amount of down pressure being applied to Scrubdeck
9. **SOLUTION FLOW SWITCH:** Turns solution flow *ON* or *OFF*
10. **SCRUBDECK SWITCH:** Turns the Scrubdeck *ON* or *OFF* and *UP* or *DOWN*
11. **HANDLE BAR:** Smooth, ergonomic Handlebar
12. **DRIVE BUTTON:** Depress to drive forward, release to stop
13. **CHARGER PORT:** Red 50 used to receive charger input for optional external charger - *24V ONLY!*



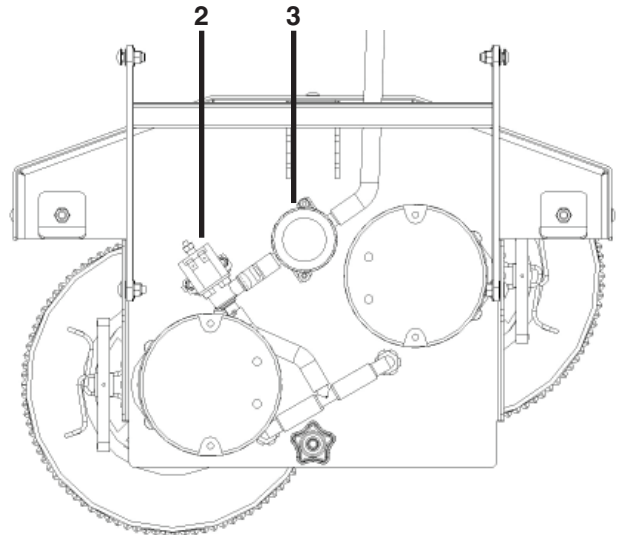
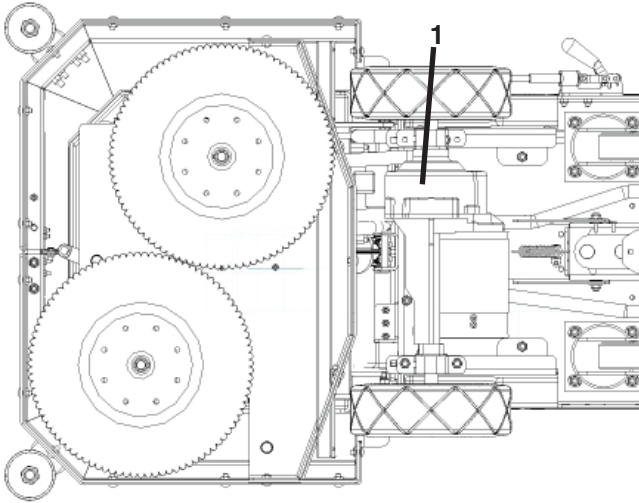
## OPERATION CONTROLS - TRACTION



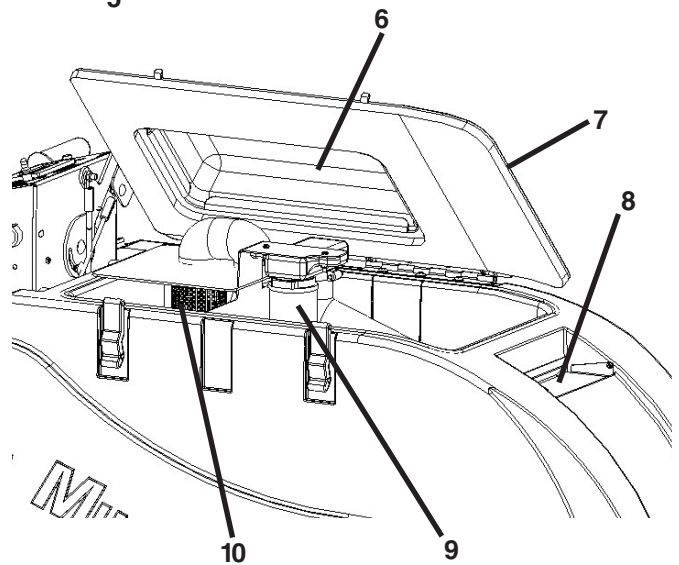
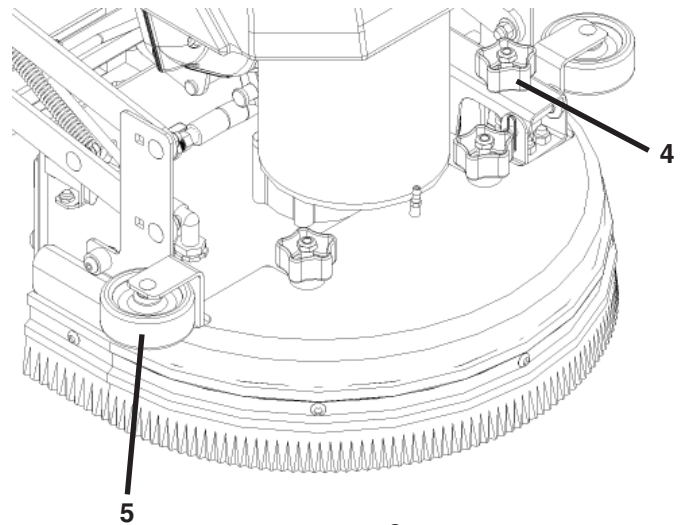
1. **SPRAY JET [BLUE] (OPTIONAL):** Activates Water Pump for remote Spray Wand
2. **“ON-BOARD” SOAP SYSTEM [GRAY] (OPTIONAL):** Dispenses soap directly to the deck level
3. **ECON TOGGLE SWITCH [GREEN] (OPTIONAL):** Reduces power to give machine a longer run time
4. **KEY SWITCH:** Turns power of the machine *ON* and *OFF*
5. **LOAD TOGGLE SWITCH [ORANGE] (OPTIONAL):** Engages different Scrubdeck parameters for increased RPM for Stripping and Polishing
6. **REVERSE SWITCH:** Pull back for machine drive reverse
7. **SQUEEGEE LIFT LEVER:** Raises and lowers the Squeegee
8. **MENU CONTROL:** Scrolls through different options on the LCD display - there are 3 different screens it will scroll through
9. **LCD SCREEN:** Lists functions and settings of the machine
10. **SOLUTION FLOW CONTROL TOGGLE [BLUE]:** Push down (-) to reduce and push up (+) to increase the solution flow
11. **DOWN PRESSURE TOGGLE SWITCH [BLACK]:** Controls the pressure to the Scrubdeck - push up (+) for higher down pressure, down (-) for lower pressure
12. **SCRUBDECK SWITCH:** Raises and lowers the Scrubdeck
13. **SPEED CONTROL KNOB:** Controls the speed of the Traction Drive - Turn counter-clockwise to reduce speed
14. **EMERGENCY SHUT OFF SWITCH:** Shuts *OFF* the machine in case of emergency
15. **HOUR METER:** Hour meter to indicate complete time machine has been *ON*
16. **RECHARGE CYCLE METER:** Shows the amount of charges on a machine
17. **MANAGER SOLUTION LOCKOUT (OPTIONAL):** Allows ability to set Solution Flow and then remove key to not allow changing of parameters
18. **MANAGER DOWN PRESSURE LOCKOUT (OPTIONAL):** Allows ability to set Down Pressure and then remove key to not allow changing of parameters
19. **CHARGER PORT:** Red 50 used to receive charger input for Optional external charger



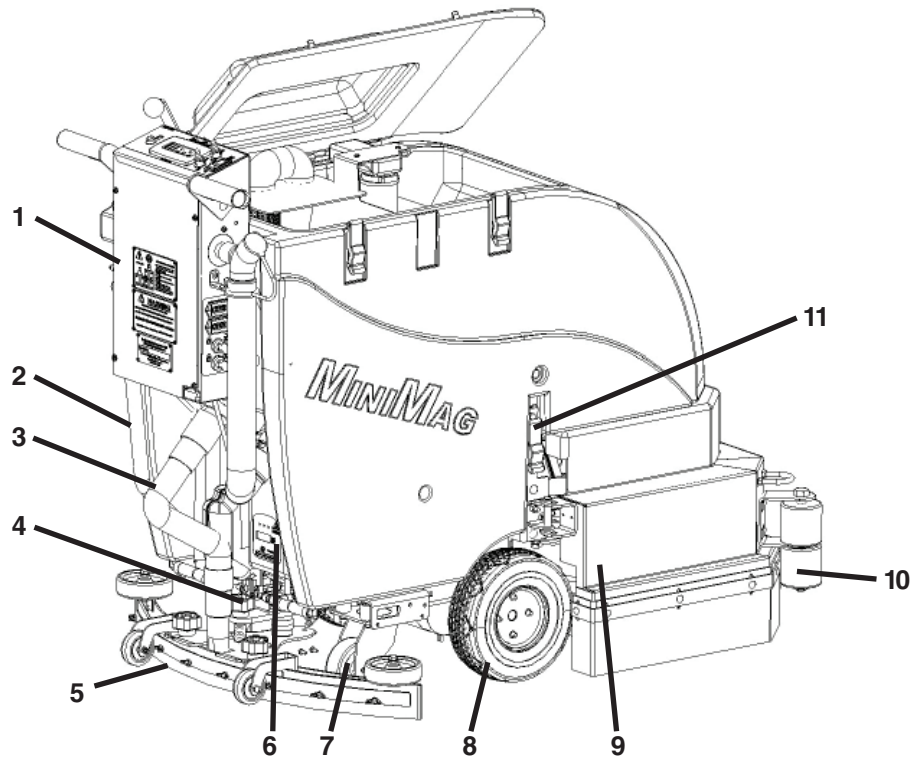
## MACHINE COMPONENTS



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. **“PAD ASSIST” DRIVE ADJUSTMENT KNOB:** Adjusts amount of offset being applied to Brush
5. **WALL ROLLERS:** Helps protect machine when scrubbing near walls
6. **CLEAR COVER:** For viewing inside Recovery Tank area
7. **RECOVERY LID:** Used for flushing out Recovery Tank area with fresh water
8. **SOLUTION FILL LID:** Fill port for filling Solution Tank
9. **VAC SCREEN:** Protects Vacuum Motor from debris
10. **“DRAIN SAVER” STRAINER:** Helps prevent clogging of drain ports



## MACHINE COMPONENTS



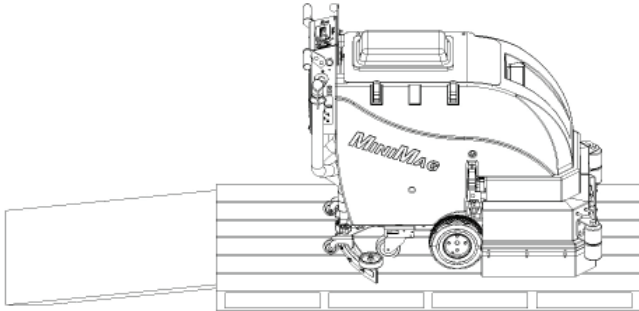
1. **CONTROL PANEL:** Machine controls and access to electrical components
2. **SOLUTION SIGHT GAUGE & DRAIN TUBE:** Shows precise level of cleaning solution in Tank while also used as a Solution Tank drain hose
3. **VACUUM HOSE:** Creates vacuum for Squeegee (*NOTE: Keep free and clear of blockage*)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

## 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 (2x) 12-Volt/ 85 AH, (2x) 12-Volt/ 130 AH, or (2x) 12-Volt/ 150 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.
3. Turn *ON* main power switch and check the battery condition meter to ensure correct installation. Charge Batteries if needed (SEE BATTERY CHARGING).

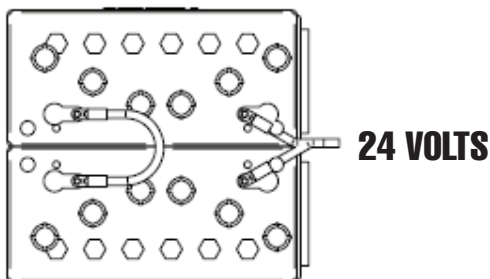
### NOTICE

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

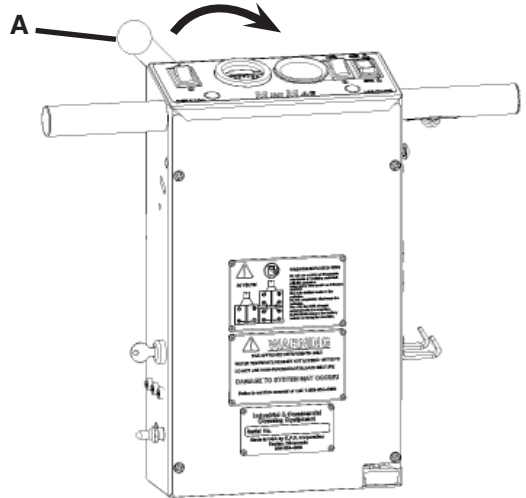
### NOTICE

Orientation of batteries is critical for cables to reach.

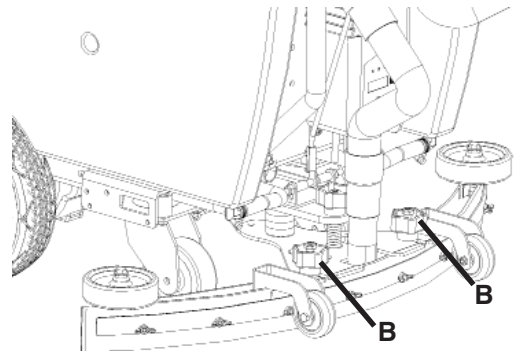
### ATTACHING SQUEEGEE:



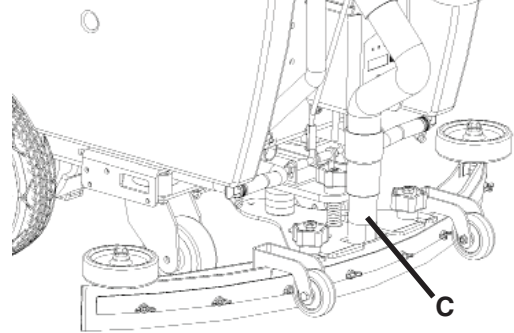
1. Lower the Squeegee Mounting Plate by rotating the Squeegee Lift Lever (**A**) in a clockwise motion (SEE BELOW).
2. Loosen the two knobs (**B**) on the squeegee and slide



them into the slots in the Squeegee Mounting Plate (SEE BELOW).



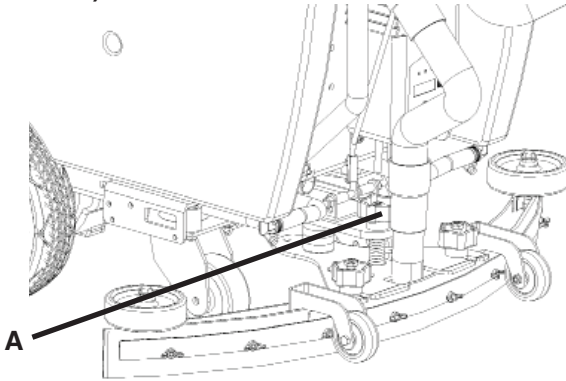
3. Tighten the two knobs and connect the Vacuum Hose (**C**) from the machine to the Squeegee (SEE BELOW).
4. You may have to adjust the Squeegee Pitch (SEE



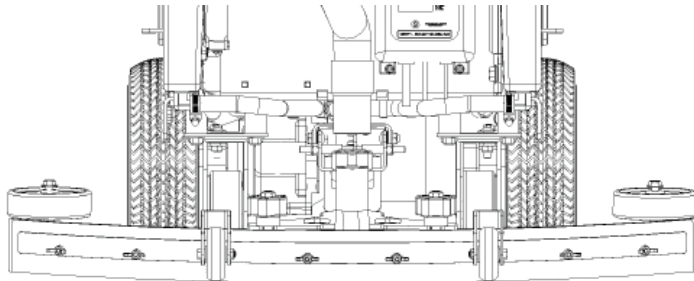
ADJUSTING SQUEEGEE ON THE NEXT PAGE)

### ADJUSTING SQUEEGEE:

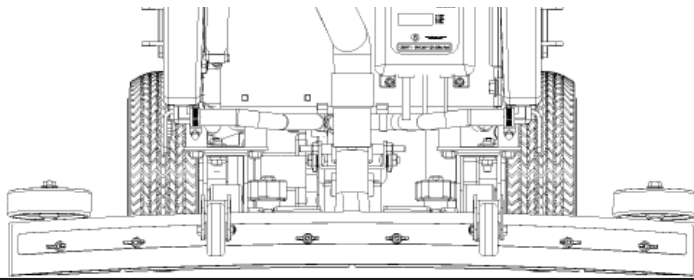
1. Turning adjustment knob **(A)** clockwise (*tightening*) will lower tips and raise the center of the Squeegee (**SEE BELOW**).



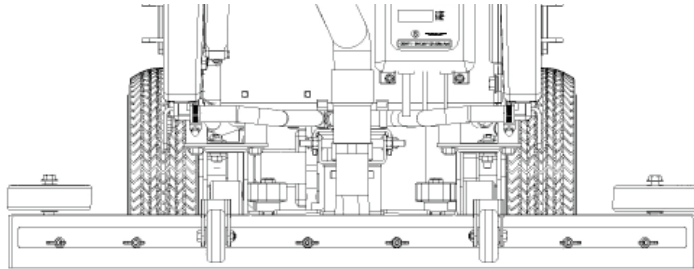
2. This Squeegee is adjusted too far back and will not pick up on the corners (**SEE BELOW**).  
*NOTE: Tips off of the floor.*



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

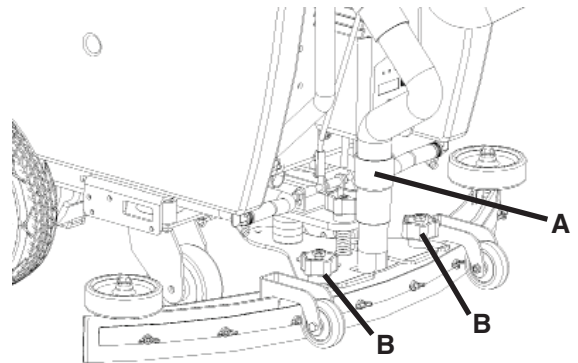


4. This Squeegee is adjusted just right with good deflection across the entire rear blade (**SEE BELOW**).



### REMOVING SQUEEGEE:

1. 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:

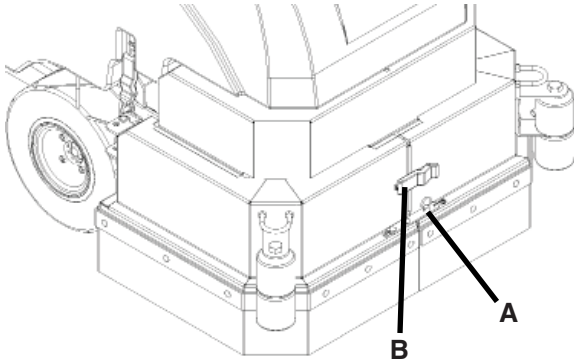
## NOTICE

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

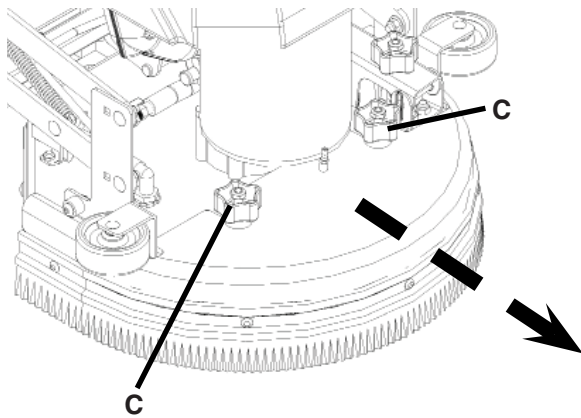
1. Remove the Squeegee assembly from the machine. Remove Blade retainer strap and remove Squeegee Blade.
2. Rotate the Squeegee to new edge position or replace as required.
3. Install Blade on the locating pins of Squeegee Assembly.
4. Install Squeegee Retainer Strap.
5. Fasten and lock knobs, starting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

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

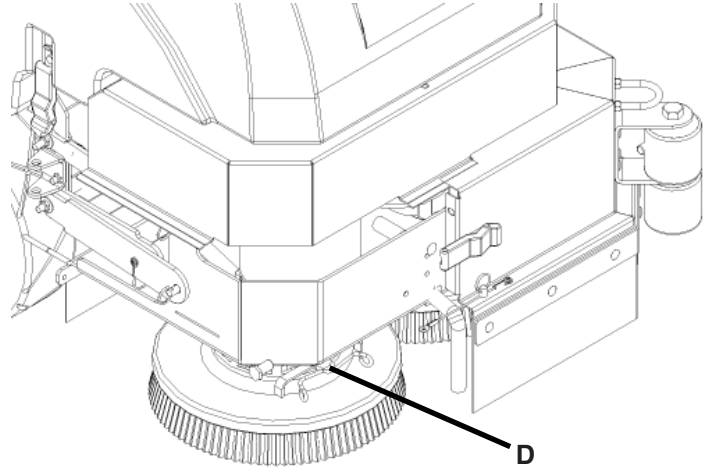
1. Turn on machine power.
2. Raise the Scrubdeck by depressing the Brush switch to the up and *OFF* position and turn the machine power back off. Remove Key.
3. If the machine is equipped with Jaws, remove pin (**A**) and undo latch (**B**) on front of Jaws to open them (**SEE BELOW**).



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**).

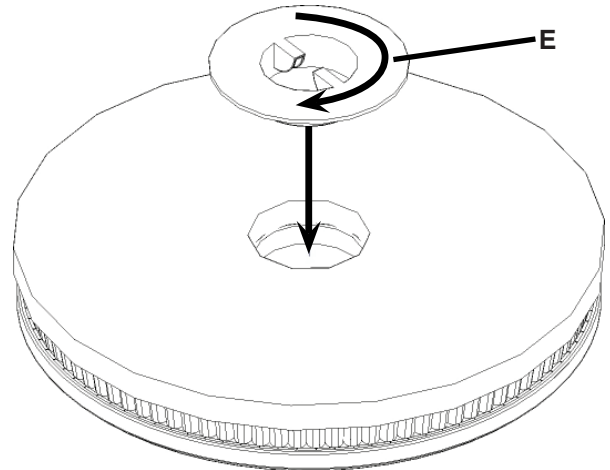


5. Attach Brushes or Pads to Motor Drives. Squeeze the scissor locking device and lift brush up on to the motor drive hub. Make sure the scissors close and lock once the Brushes are on (**SEE BELOW**).



### **INSTALLING DRIVER PADS:**

1. 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 or Pad for the work at hand.

## INSTALLING CYLINDRICAL BRUSH:

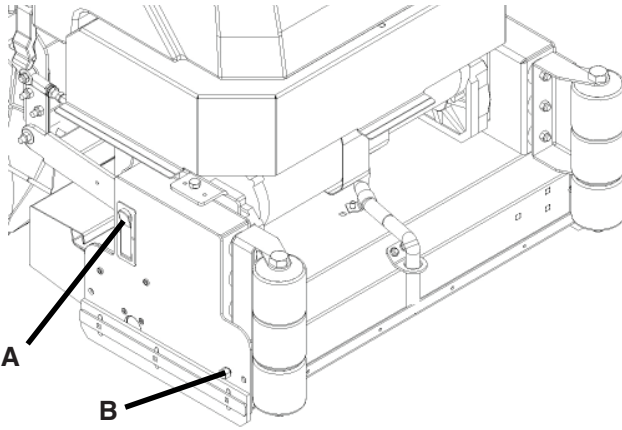
1. Turn on machine power.
2. Raise the Scrubdeck by depressing the Brush switch to the up and *OFF* position and turn machine power back off. Remove Key.

### CAUTION

Disconnect the batteries.

3. 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

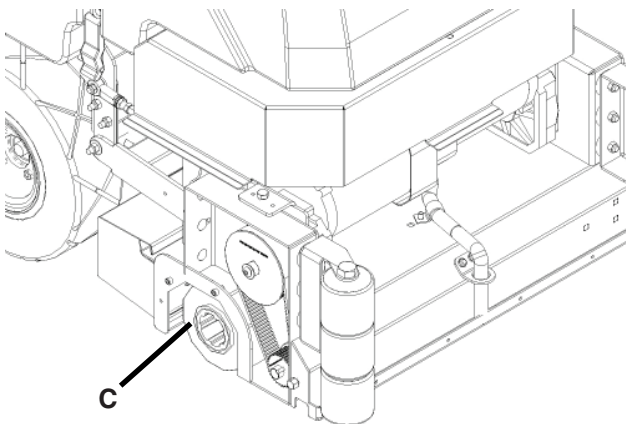


Brush Driver on the opposite side (SEE BELOW).

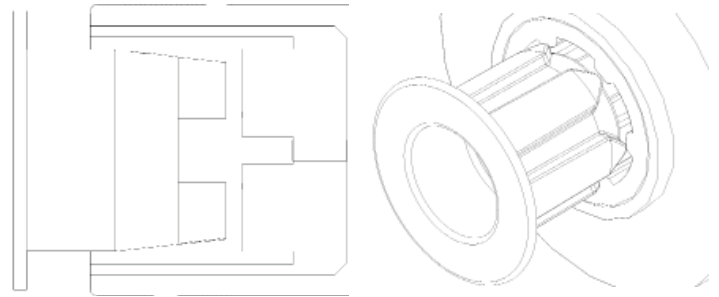
5. When Brushes are engaged, replace the side access door.
6. Lift up on the Wipers first to close the side door and then depress the latch until the door is secured.

### 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.



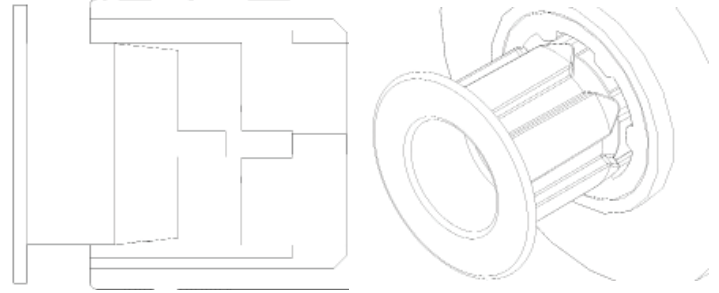
7. Brush Drivers shown misaligned (SEE BELOW).



OLD STYLE DRIVER

NEW STYLE DRIVER

8. Brush Driver shown properly aligned (SEE BELOW).

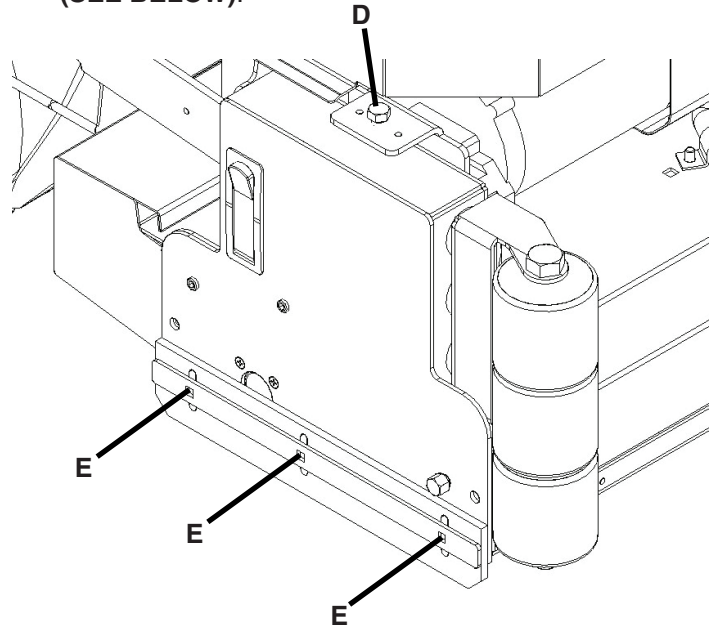


OLD STYLE DRIVER

NEW STYLE DRIVER

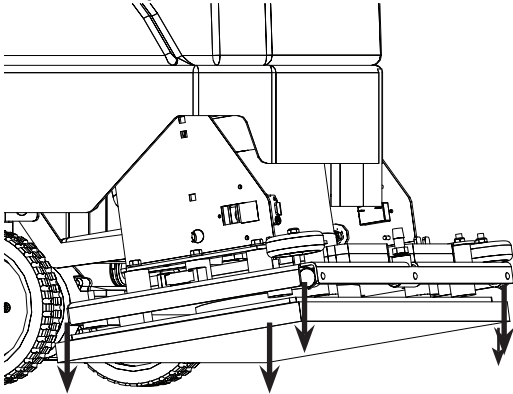
9. To adjust the tension of the belts, turn adjustment screw **(D)** clockwise to tighten and counterclockwise to loosen (SEE BELOW).

10. To adjust the height of the wipers, loosen the 3 screws **(E)** and slide wiper blades up or down in the slots (SEE BELOW).

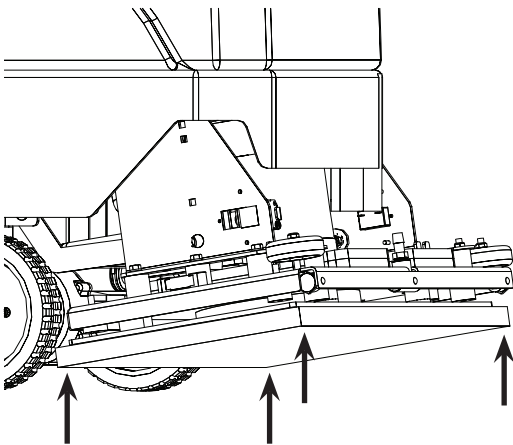


## INSTALLING EDGE/ORBITZ PADS:

1. Turn on machine power.
2. 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.
4. Remove any Pad previously attached to the EDGE/ORBITZ 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 1/2" overhang on all sides).
6. Press upwards on the Pad to secure it in place (SEE BELOW).



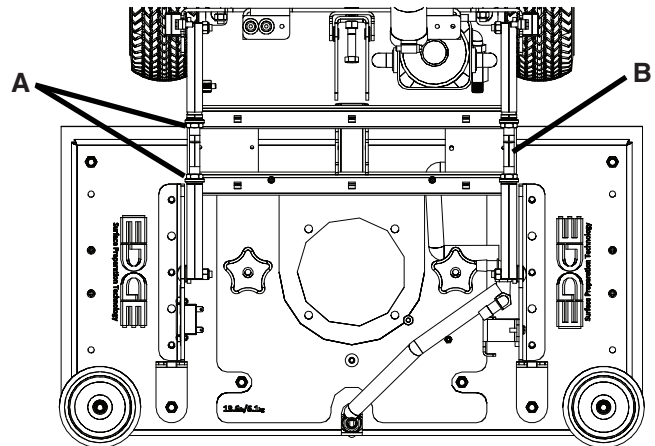
7. With Pad attached securely to Grip Face of EDGE/ORBITZ Deck, the machine is ready to use.

## LEVELING EDGE/ORBITZ 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/ORBITZ Pad touches the ground, turn machine OFF.
4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
5. 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).



6. 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.



## LEVELING DISK DECKS:

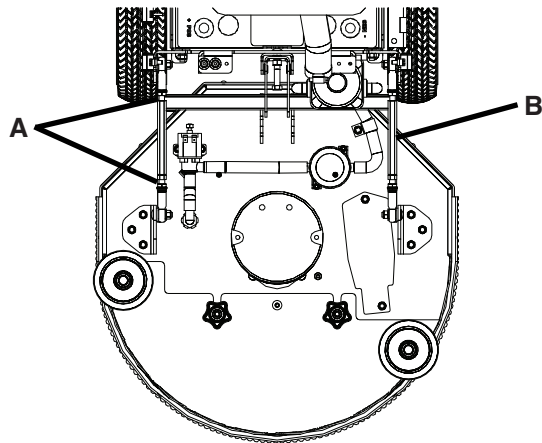
### NOTICE

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

All Single-pad Scrubdecks have Adjustable Deck Arms to allow the operator to lessen the torque that may develop from the Single-pad Scrubdeck.

To level a Single-Pad Scrubdeck to lessen the torque, allow Scrubdeck to be pitched backward only slightly.

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 Brushes touch the ground, turn machine OFF.
4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
5. 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 a level on top of the Scrubdeck **(SEE BELOW)**.



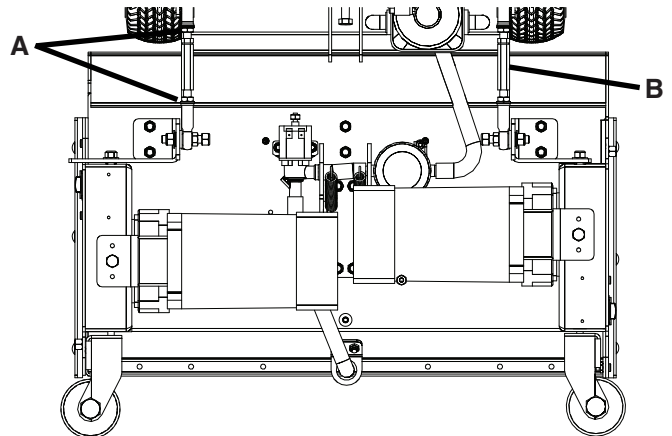
6. Extending the Adjustable Arms raise the front and lowers the rear of the Scrubdeck. After Scrubdeck has been leveled (*ensure correct pitch backward - if you have*) - retighten Locking Nuts **(A)**.

## 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.

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 Brushes touch the ground, turn machine OFF.
4. Tip Machine Tank back to gain access to the Scrubdeck's Adjustable arms.
5. 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)**.



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

## MACHINE OPERATION

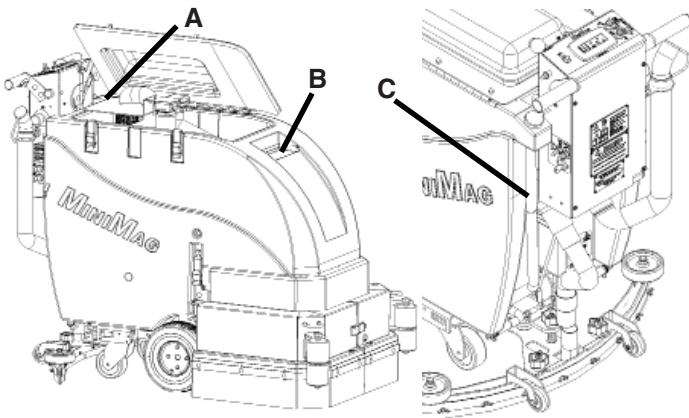
### PRE-CLEANING CHECKLIST:

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

1. 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.
4. Raise the Scrubdeck and Squeegee before transporting then transport the machine to the filling station.
5. Turn the machine *OFF*.
6. 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**).
7. 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**).



### OPERATING HINTS:

1. 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.
2. 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.
3. 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.
6. Stay clear of objects protruding from the floor such as sockets, grates, etc, for they will damage the Brushes / Pads and Squeegee Blades.
7. 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 must 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.

### ⚠ DANGER

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

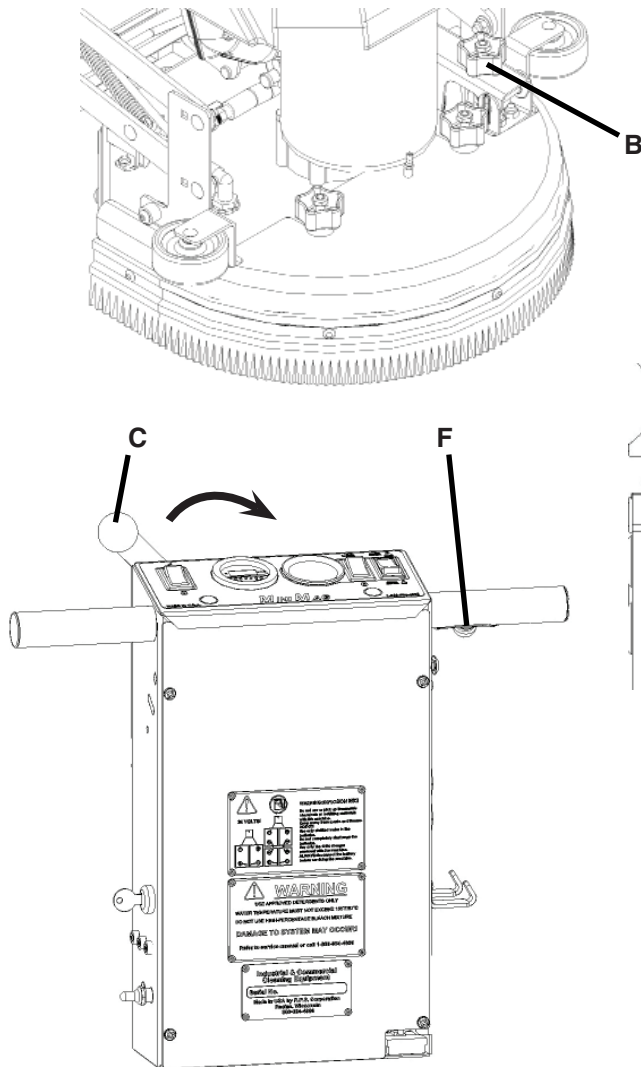
### ⚠ CAUTION

#### 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

### ONE PASS SCRUBBING (PAD ASSIST):

1. Turn on machine Power Switch **(A)** (if machine is equipped with optional Key Switch), make sure the Pad Assist Adjustment Knob **(B)** is at a lower setting.
2. Lower the Squeegee by rotating the Squeegee Lift Lever **(C)** all the way to the right (the Vacuum Motor will turn on automatically).
3. Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel **(D)**.
4. Turn ON the Solution Flow switch **(E)**.
5. Begin scrubbing by pressing the green Drive Button **(F)** on the handle bar. Adjust the Pad Assist Adjustment Knob **(B)** to the desired setting.
6. Once the machine begins to move, check the Down Pressure Gauge **(G)**. Start scrubbing at the middle. Do not scrub in the red, or the circuit breaker will blow.
7. To stop the machine, shutoff scrub switch **(F)**.

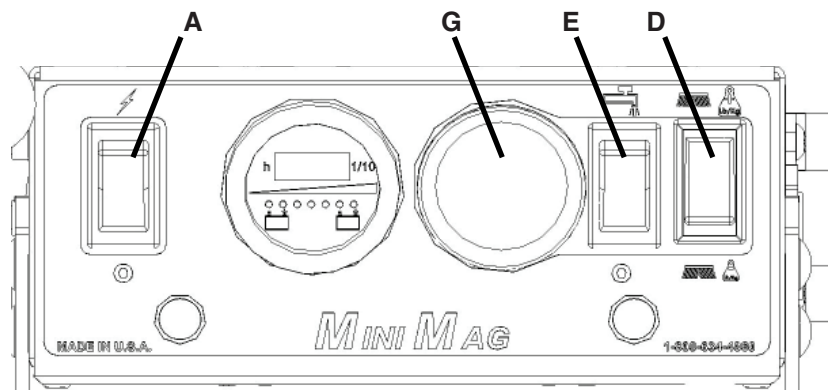


### SCRUB ONLY:

1. Turn ON machine Power Switch **(A)** while making sure the Pad Assist adjustment knob **(B)** is at a lower setting.
2. Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel **(D)**.
3. Turn ON the Solution Flow switch **(E)**.
4. Begin scrubbing by pressing one of the green Drive Buttons **(G)** on the Handlebars. Adjust the Pad Assist adjustment knob **(B)** to the desired setting.
5. Once the machine begins to move, check the Down Pressure Gauge **(G)**. Start scrubbing at the middle. Do not scrub in the red, or the circuit breaker will blow.
6. To stop the machine, let go of the Drive Buttons **(F)**.

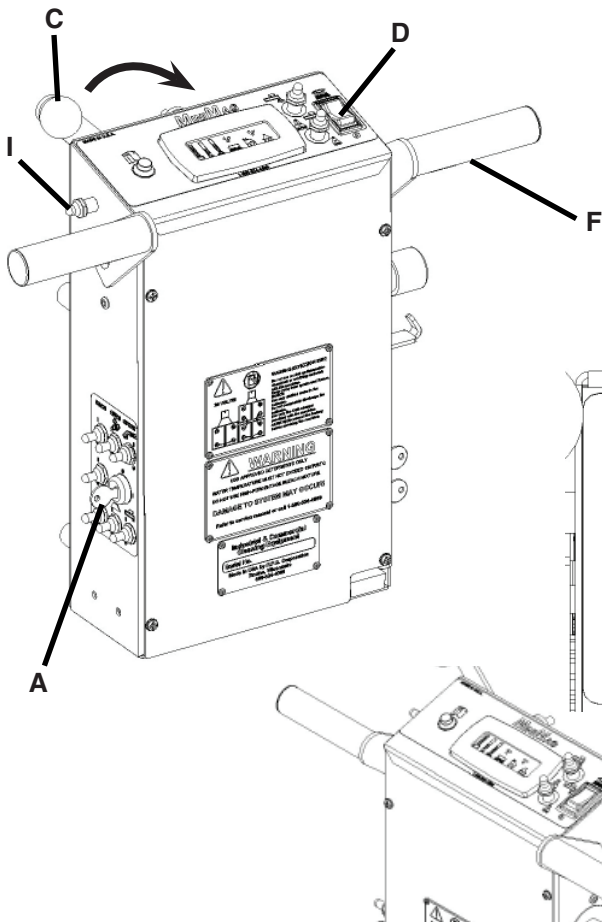
### VACUUM ONLY:

1. Turn ON machine Power Switch **(A)**.
2. Lower the Squeegee by rotating the Squeegee Lift Lever **(C)** all the way to the right (the Vacuum Motor will turn on automatically).
3. Begin vacuuming by pressing one of the green Drive Buttons **(F)** on the Handlebars.



### ONE PASS SCRUBBING (TRACTION):

1. Turn on machine Power Switch **(A)**, make 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. Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel **(D)**.
4. Press the Solution Flow Toggle button **(E)** ON to regulate the amount of solution flow.
5. Begin scrubbing by pressing one of the green Drive Buttons **(F)** on the Handlebars. 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 **(G)**. To adjust the down pressure, push toggle switch **(H)** 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.
7. To operate the machine in reverse, simply pull the Reverse switch **(I)** 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 **(F)**.

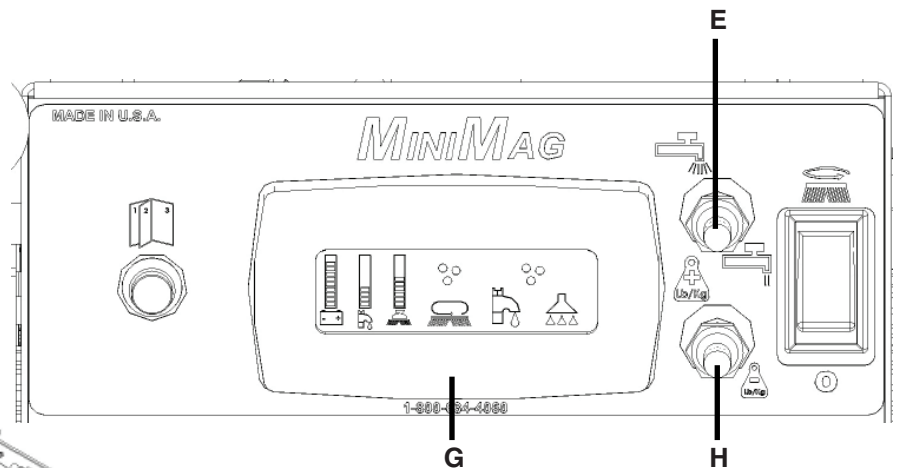


### SCRUB ONLY:

1. Turn on machine Power Switch **(A)** while making sure the Speed Control Knob **(B)** is at a lower setting.
2. Lower Scrubdeck head to the floor by pressing the Scrubdeck Switch on the Control Panel **(D)**
3. Press the Solution Flow Toggle button **(E)** ON to regulate the amount of solution flow.
4. Begin scrubbing by pressing one of the green Drive Buttons **(F)** on the Handlebars. Adjust the speed control knob **(B)** to the desired setting.
5. To operate the machine in reverse, simply pull the Reverse Switch **(I)** 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 **(F)**.

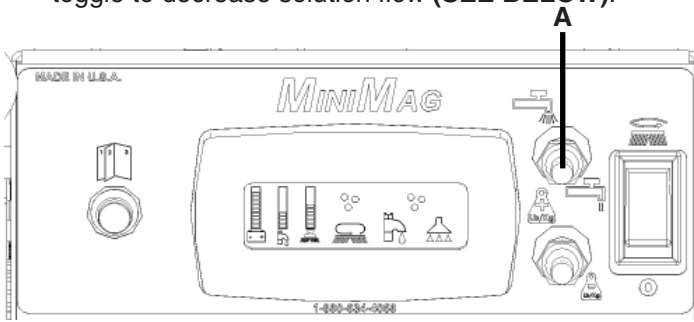
### VACUUM ONLY:

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 **(F)** on the Handlebars.



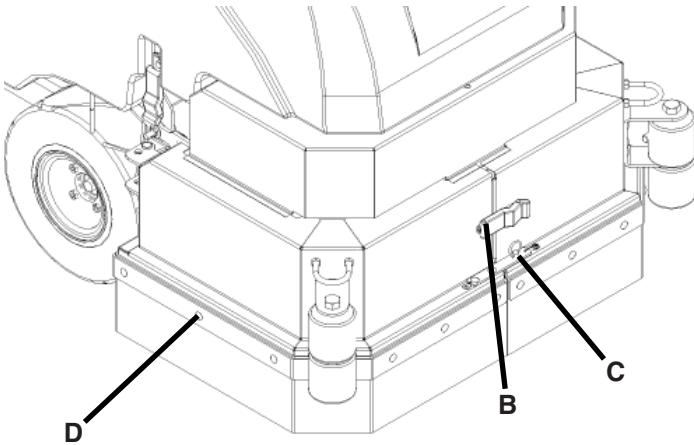
### **ADJUST SOLUTION FLOW:**

1. 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)**.



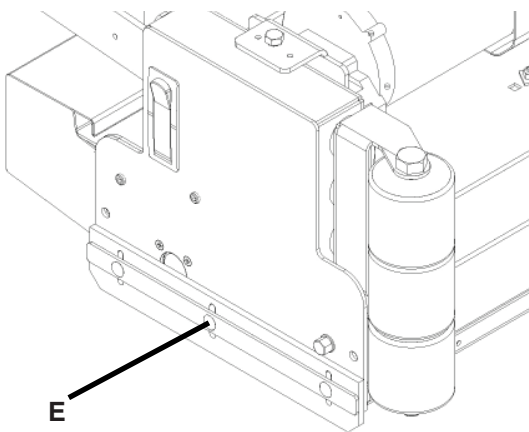
### **ADJUST CURTAINS:**

1. 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 :**

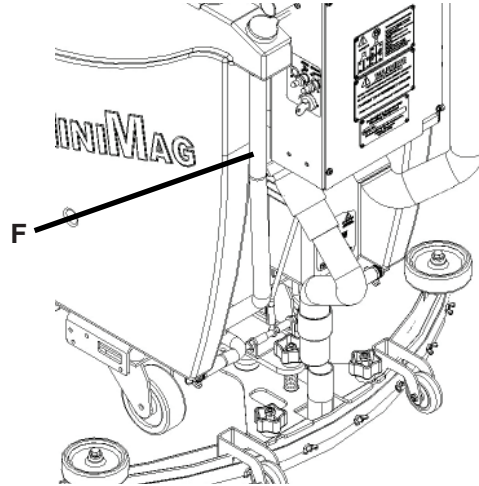
1. For Cylindrical side wipers, loosen wiper band screws **(E)** **(SEE BELOW)**.
2. To adjust wiper to the desired height, just slide the wiper up or down in the slots and tighten the screws.



### **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.

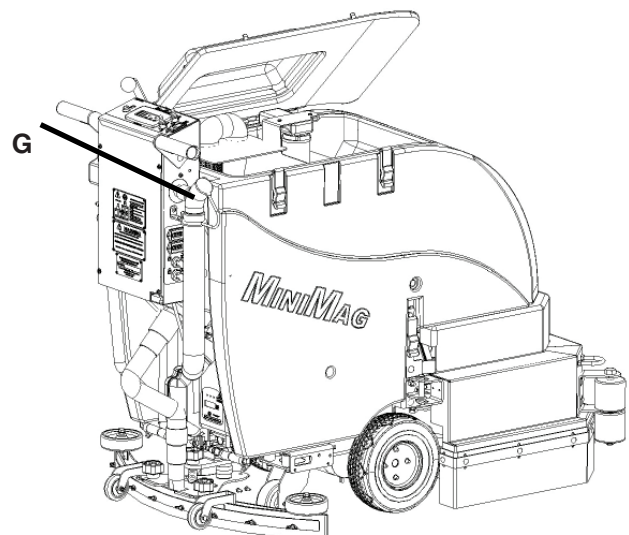
1. To drain the Recovery Tank remove Drain Hose **(G)** from hook at rear of Tank and pop off cap **(SEE BELOW)**.

## **NOTICE**

Leave Recovery Lid open while draining Tanks. Rinse thoroughly.

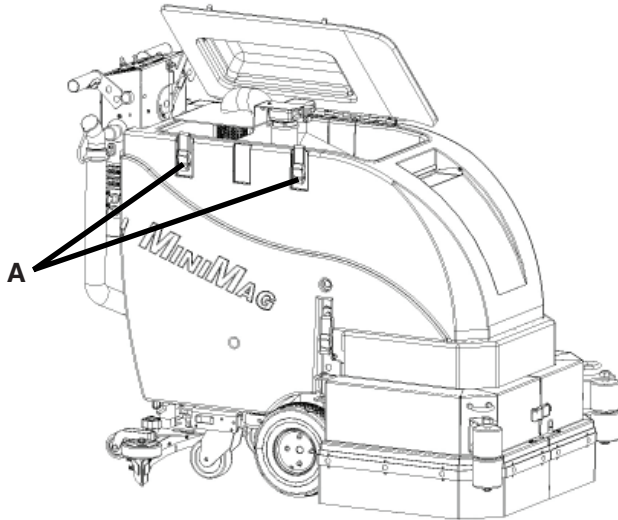
## **NOTICE**

Get Supervisor APPROVAL first and drain at APPROVED locations only.



### **OPEN RECOVERY LID:**

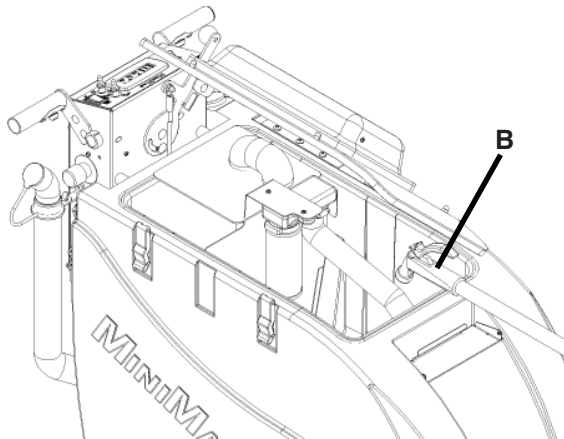
1. Release both latches **(A)** on Recovery Tank lid **(SEE BELOW)**.



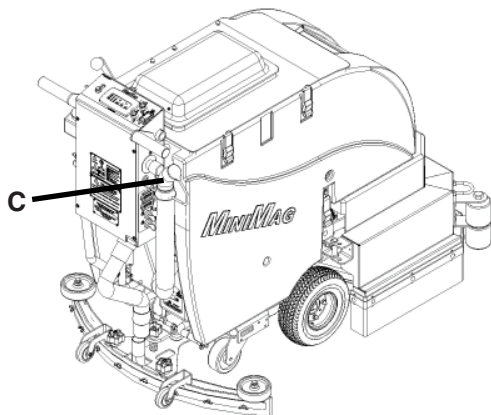
2. Rotate lid fully open.

### **FLUSH RECOVERY TANK:**

1. 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)**.



2. 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)**.

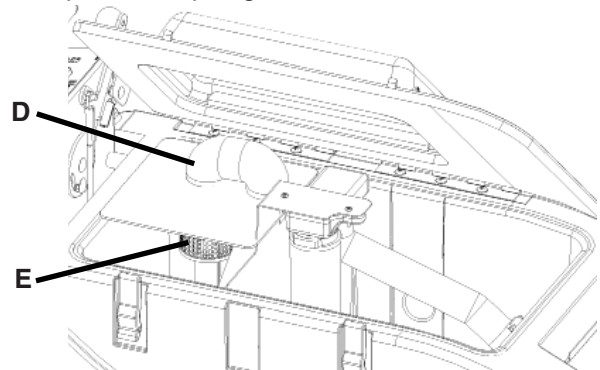
## **NOTICE**

Keep water off of Control Panel.

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

With Recovery Lid open and Tank fully drained:

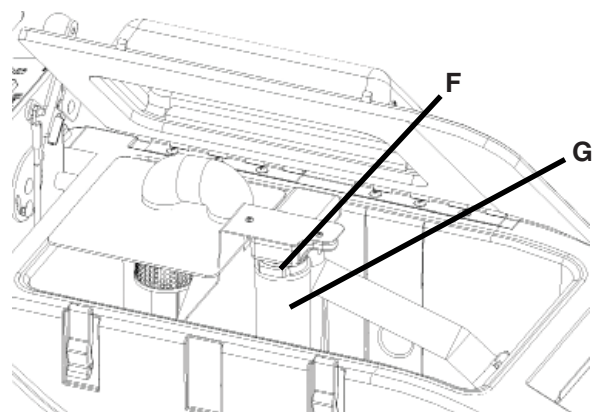
1. Remove 2" Squeegee intake hose **(D)** from "Drain Saver" strainer **(E)** **(SEE BELOW)**.
2. Remove stainless screen and dispose of debris.
3. Rinse screen with fresh water from the outside while holding the screen upside down. This will allow for better cleaning.
4. Replace the screen into the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



### **CLEAN VACUUM SCREEN:**

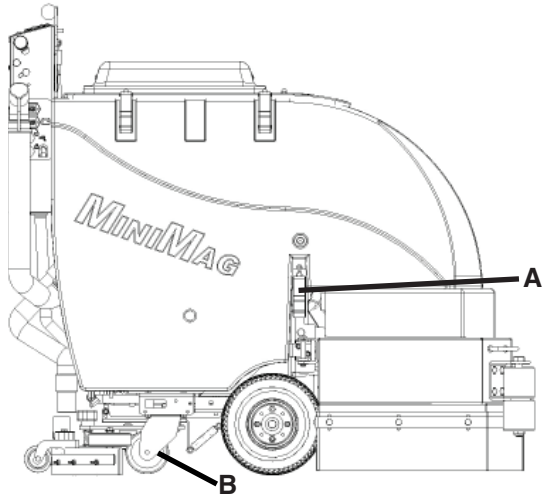
With Recovery Lid open and Tank fully drained:

1. 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:**

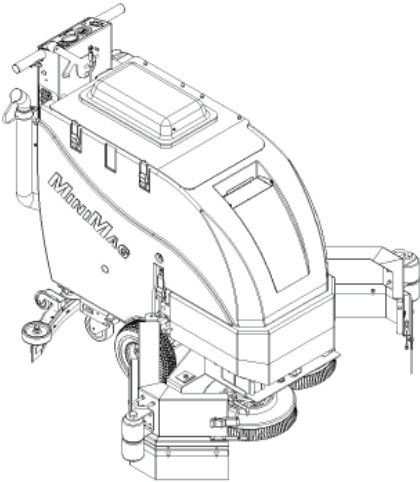
1. Fully drain Solution Tank and the Recovery Tank.
2. Remove Squeegee.
3. Unlatch Tank Latch **(A)** on each side of the machine **(SEE BELOW)**.



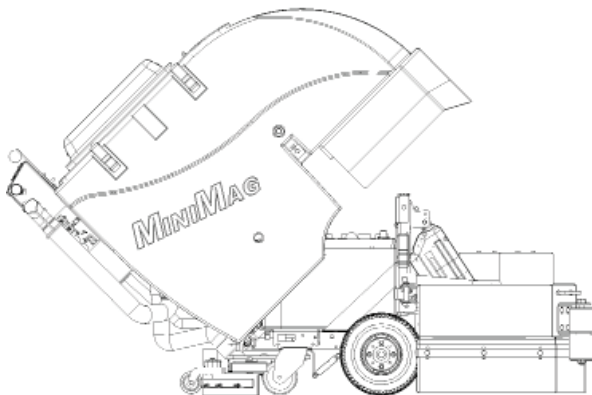
### **⚠ CAUTION**

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

4. Open Jaws **(SEE BELOW)**.

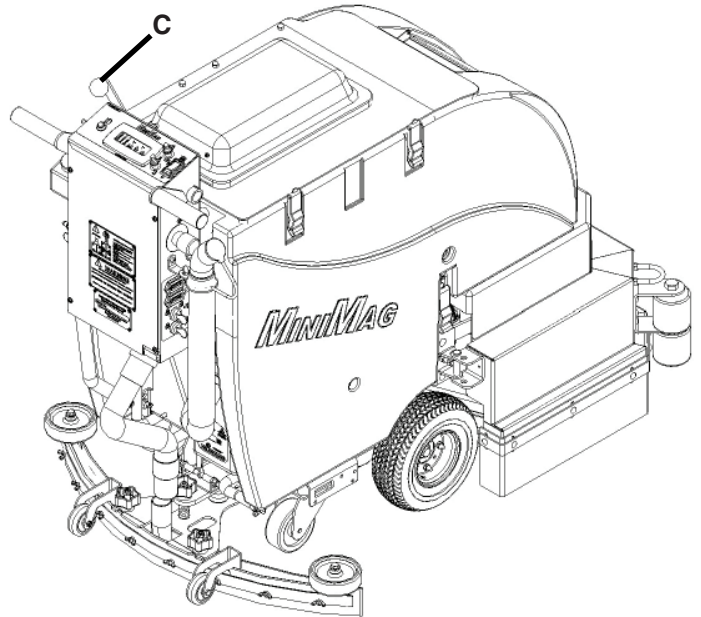


5. Tip Tank Back carefully until supported by strap **(SEE BELOW)**.



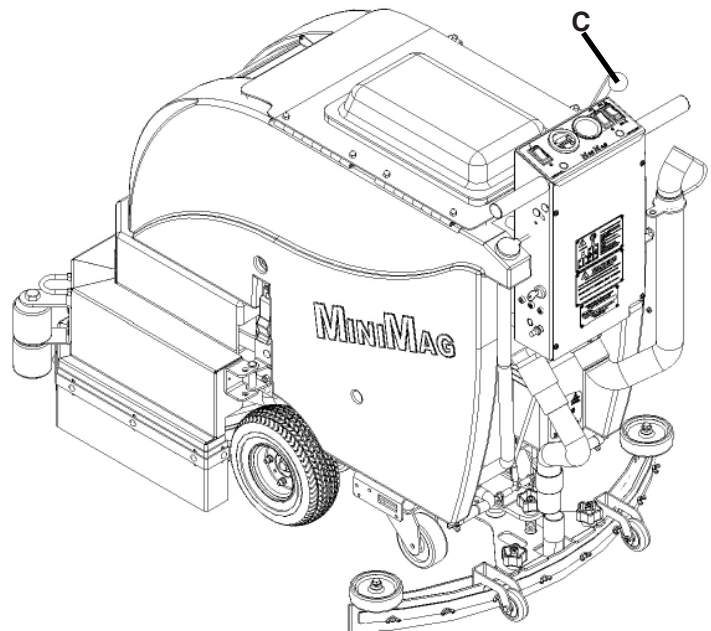
### **SQUEEGEE UP:**

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



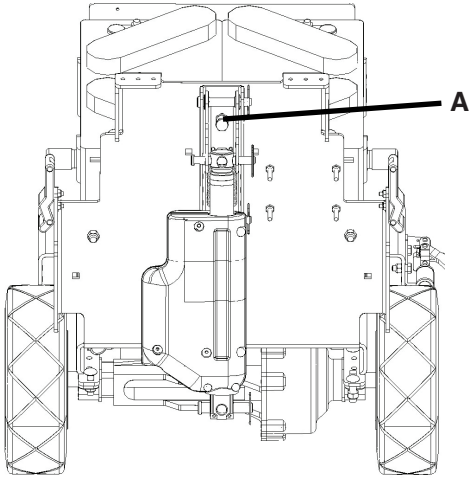
### **SQUEEGEE DOWN:**

1. 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.



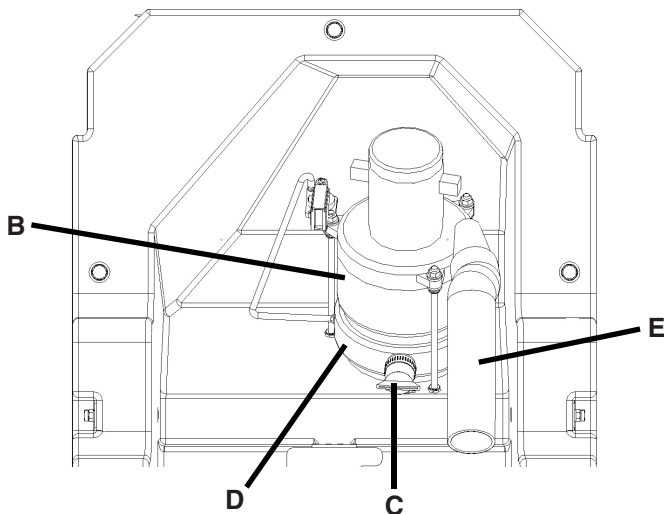
### DECK HEIGHT ADJUSTMENT:

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



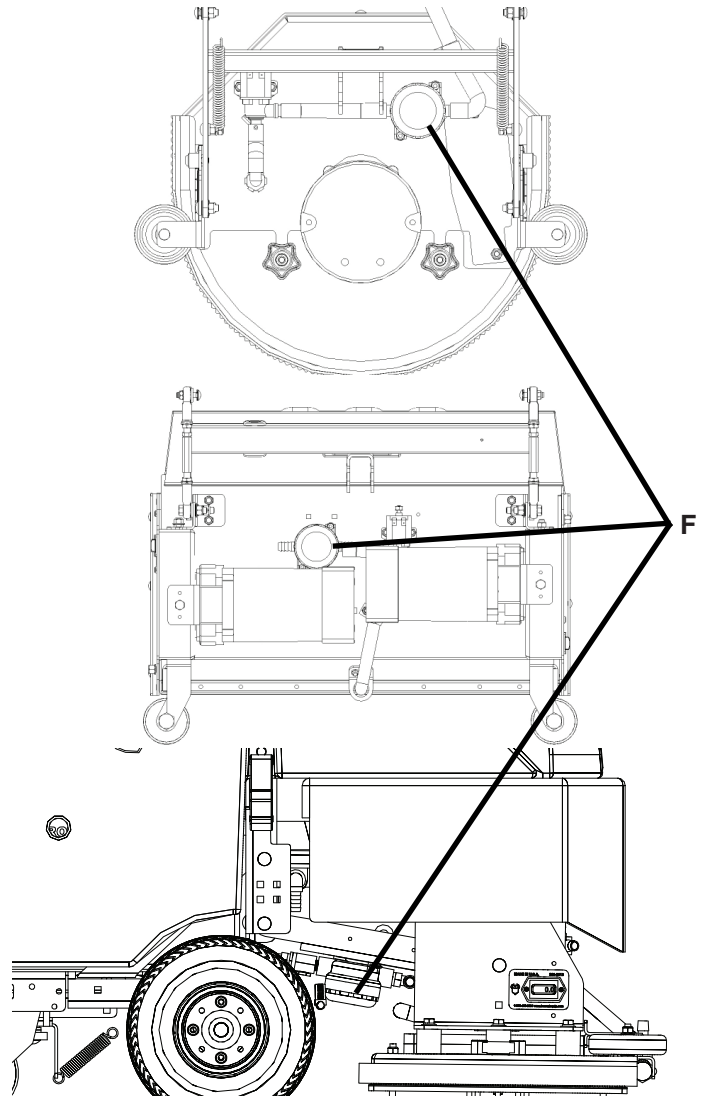
### VACUUM MOTOR:

1. 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.



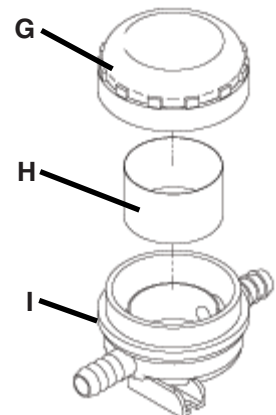
### SOLUTION FILTER:

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



### CLEANING SOLUTION FILTER:

1. 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.
3. Reinstall screen and screw cap back on tightly.





## 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

### **⚠ DANGER**

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.

### **⚠ 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.

### **⚠ CAUTION**

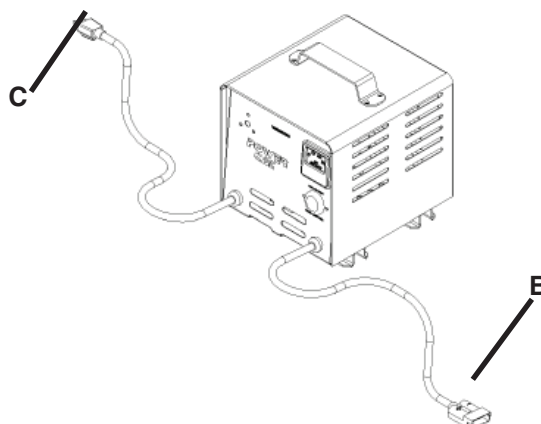
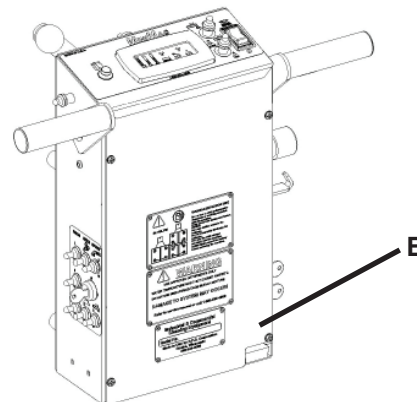
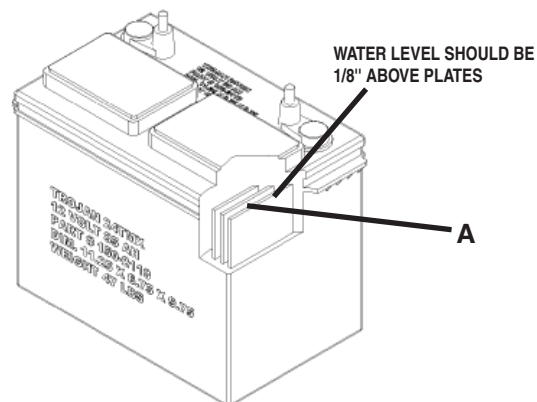
Always use the automatic battery charger provided by the manufacturer of this machine to charge the Batteries of this machine. It is designed to charge the Batteries at the appropriate rate. If you must use a different charger, disconnect the Batteries before charging to avoid damage to the electronic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

### EXTERNAL BATTERY CHARGING:

1. Transport machine to a well ventilated area for charging.
2. Turn the machine off. Tip Tank back.
3. 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.



## 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

### **! DANGER**

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.

### **! 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.

### **! CAUTION**

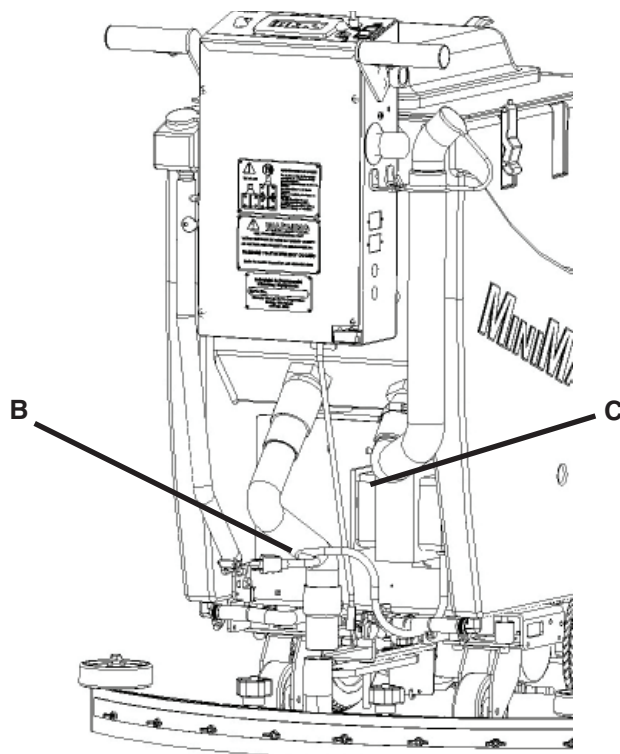
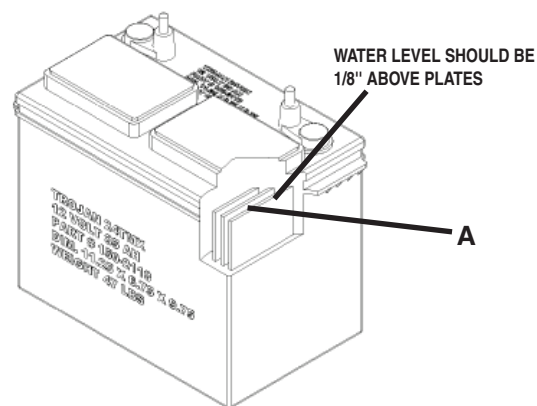
Always use the automatic battery charger provided by the manufacturer of this machine to charge the Batteries of this machine. It is designed to charge the Batteries at the appropriate rate. If you must use a different charger, disconnect the Batteries before charging to avoid damage to the electronic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

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

1. Transport machine to a well ventilated area for charging.
2. Turn the machine off. Tip Tank back.
3. 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.



## BATTERY MAINTENANCE GUIDE

### SAFETY:

#### **⚠ DANGER**

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.

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

#### **⚠ 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**

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:

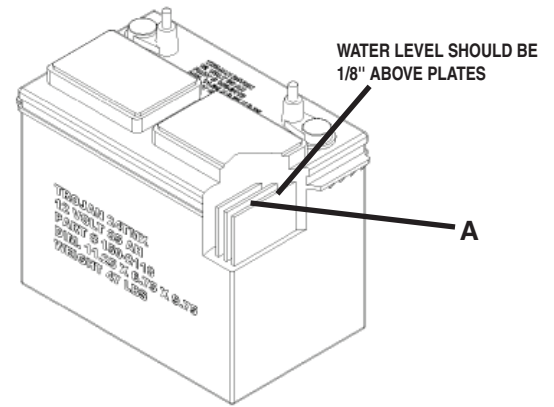
- Keep Batteries clean and dry from residue
- Check that all vent caps are tight
- Use a solution of baking soda and water to clean if acid residue on Batteries or corrosion on the terminals
- Protective spray of petroleum jelly should be applied to terminals to reduce corrosion

### 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.



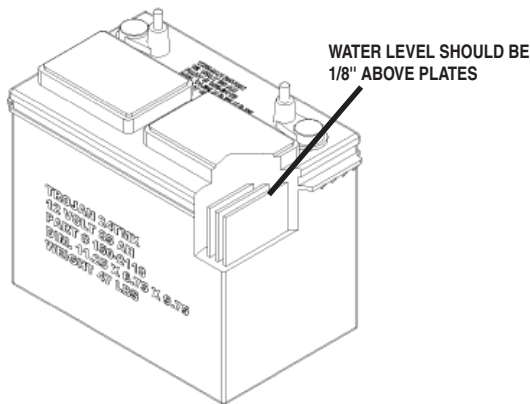
## MAINTENANCE

### **DAILY MAINTENANCE:**

1. 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.
3. Drain and rinse Tanks thoroughly and flush out Solution Feed to deck.
4. Inspect vacuum hose for any objects obstructing the air flow.
5. 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:**

1. Check scrub head and squeegee lifting cables for wear and spring tension.
2. Check machine for water leaks and loose nuts and bolts.
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:**

1. 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 pad 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°F(27°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°F(27°C): add (+) to the specific gravity reading 0.004 (4 points), for each 10°F(6°C) above 80°F(27°C). Subtract (-) from the specific reading 0.004 (4 points), for each 10°F(6°C) below 80°F(27°C).

## MINIMAG PM RECORDS

### CUSTOMER INFORMATION

CUSTOMER		EMAIL	
ADDRESS			PHONE
CITY	STATE	ZIP	CONTACT

### MACHINE INFORMATION

MODEL #:	SERIAL #:
WORK ORDER#:	HOUR METER (Key):
CHASSIS HOUR METER:	HOUR METER (Traction):
RE-CHARGE COUNTER:	HOUR METER (Scrub):
ISOLATOR HOUR METER:	HOUR METER (Vac):
<b>NOTE:</b> Isolators need to be replaced on Scrubber Machines at 1000 Hours or Annually	

BATTERY CONDITION	CELL 1	CELL 2	CELL 3	CELL 4	CELL 5	CELL 6
BATTERY 1 HYDROMETER						
BATTERY 1 ELECTROLYTE CLARITY <i>(Clear, Cloudy, Particulate, Dark)</i>						
BATTERY 1 WATER LEVEL <i>(Overfilled, Full, Low, Dry)</i>						
BATTERY 2 HYDROMETER						
BATTERY 2 ELECTROLYTE CLARITY <i>(Clear, Cloudy, Particulate, Dark)</i>						
BATTERY 2 WATER LEVEL <i>(Overfilled, Full, Low, Dry)</i>						

CLEAN BATTERY TOPS. CHECK BATTERY CABLE AND TERMINAL CONDITION.

NOTES:

### PAD/BRUSH CONDITION

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

CHECK OPERATION AND CONDITION OF:	IN SPEC	REPAIR	PROBLEM
KEY SWITCH (OPTIONAL)			
LCD DISPLAY			
PAGE BUTTON			
BRUSH PRESSURE TOGGLE			
MANAGERS LOCK OUT			
REVERSE SWITCH			
BRUSH SWITCH			
SOLUTION +/- SWITCH			
SOLUTION SOLENOID			
LOW SOLUTION LIGHT			
BRUSH DECK LIFT SYSTEM			
BRUSH MOTORS			
VACUUM SWITCH			
VACUUM MOTOR PERFORMANCE			
OFF-BOARD VAC SWITCH			

SQUEEGEE LIFT SYSTEM			
SQUEEGEE ADJUSTMENT PITCH AND HEIGHT			
SQUEEGEE BLADES			
DRAIN HOSE AND PLUG			
SIDE BROOM OPERATION			
SPRAY JET PUMP, HOSE & NOZZLE			
BATTERY CHARGER CONNECTION & FUNCTION			
PITCH OF SCRUBDECK (MUST BE LEVEL)			
PITCH OF EDGE/ORBITZ DECK (MUST BE LEVEL)			

CLEAN AND / OR LUBRICATE	IN SPEC	REPAIR	PROBLEM
SOLUTION TANK CONDITION			
SQUEEGEE PIVOT POINTS & KNOBS			
SOLUTION FILTER CLEANING			
SCRUB DECK LINKAGE			

VISUALLY INSPECT	IN SPEC	REPAIR	PROBLEM
SOLUTION TANK CONDITION			
RECOVERY TANK & GASKET CONDITION			
DRAIN SAVER			
VACUUM FLOATS & SCREENS			
VACUUM HOSES			
SOLUTION HOSES			
BLADE RETAINERS & HARDWARE			
SQUEEGEE WHEELS			
BRUSH SKIRTS			
CASTER CONDITION			
DRIVE WHEELS CONDITION			

COMMENTS

SERVICING DISTRIBUTOR: \_\_\_\_\_

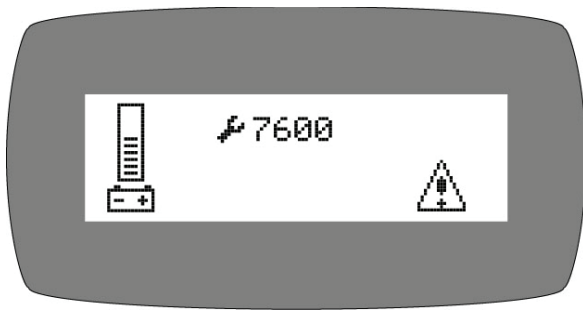
TECHNICIAN'S NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

CUSTOMER'S NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

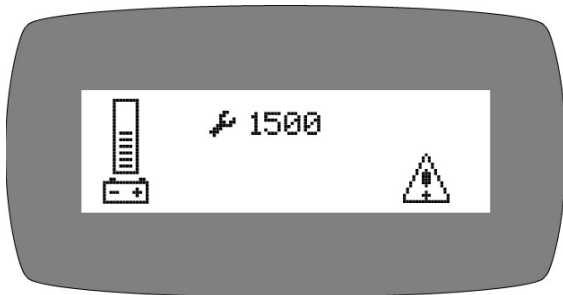
## TROUBLE-SHOOTING CENTRAL COMMAND

**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.

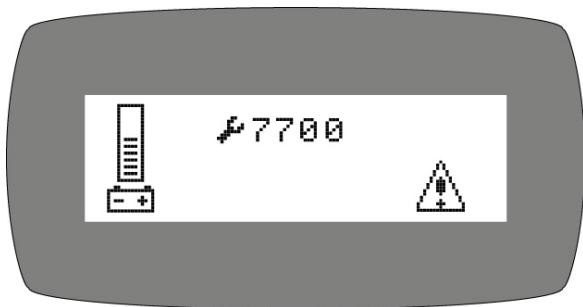
Most of these codes require a technician attention. You should not attempt repairs you are unfamiliar with, especially if you are not authorized to work on this equipment.



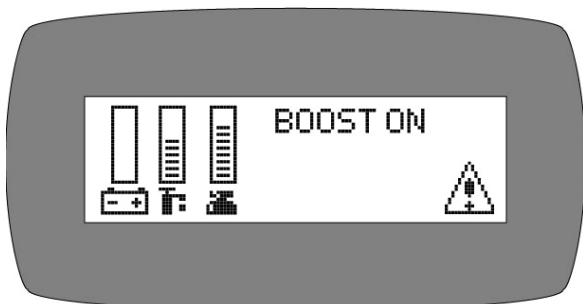
**1. 7601 and 7602 ERROR:** Scrubdeck current over load. This can occur when driving over a bump in the floor. To restart, turn off the key and turn it on again. To avoid this error, either slow down on bumpy parts of the floor, or reduce down pressure on the pads.



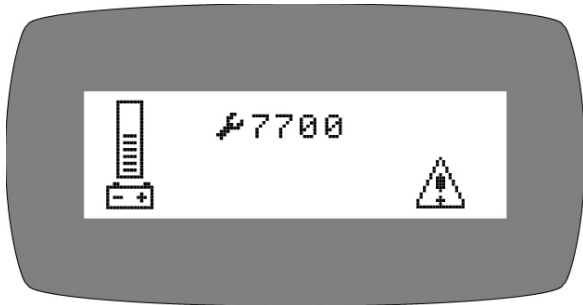
**2. 1500 ERROR:** There is an open in the parking brake circuit. Check the parking brake wiring and the parking brake coil to find the open circuit.



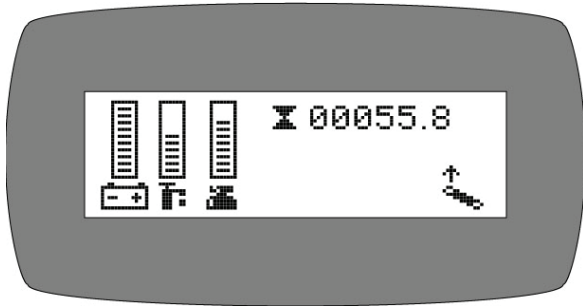
**3. 770, 7701, 7702, and 7703 ERROR:** The Vacuum Motor has exceeded their authorized power limits. Turn off Key and turn on again to clear.



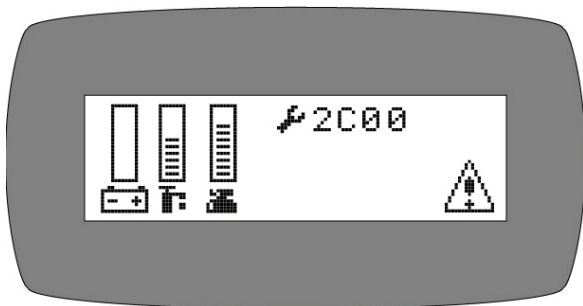
**4. BOOST ON:** Allows front wheel drive to draw more power when needed to climb ramps for 30 seconds.



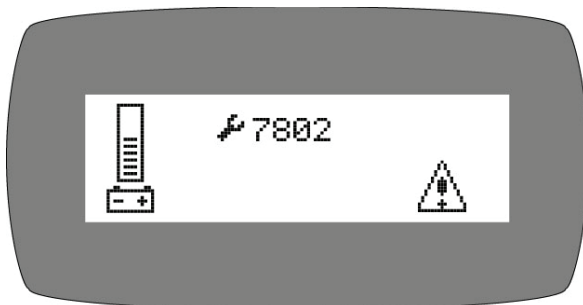
5. **7700:** Vacuum Motor circuit is open.



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.



## COMMON WEAR PARTS

### ROUND DISK BRUSHES:

BRUSHES	MODEL 17" DISK	MODEL 20" DISK	MODEL 23" DISK	MODEL 26" DISK	MODEL 28" DISK
Super Grit	17-421SS	20-421SS	23-421SS	13-421SS	14-421SS
Tough Grit	17-421S	20-421S	23-421S	13-421S	14-421S
Midi Grit	17-421C	20-421C	23-421C	13-421C	14-421C
Light Grit	17-421PS	20-421PS	23-421PS	13-421PS	14-421PS
Poly (.028)	17-421P	20-421P	23-421P	13-421P	14-421P
Nylon (.016)	17-421N	20-421N	23-421N	13-421N	14-421N
Tampico	17-421T	20-421T	23-421T	13-421T	14-421T
Pad Driver	17-421D	20-421D	23-421D	13-421D	14-421D
Diamond Driver	17-421DD	20-421DD	N / A	N / A	N / A
Pad Driver Pad Retainer #40-433					
Pad Driver Spring Clip #40-423					

### 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	24"×14" SCRUBDECK	20"×14" SCRUBDECK	13"×19"
White Pad	EDGE-4054	N / A	EDGE-4005	N/A
Red Pad	EDGE-4053	EDGE-2404	EDGE-4004	N/A
Blue Pad	EDGE-4052	EDGE-2403	EDGE-4003	N/A
Green Pad	EDGE-4051	EDGE-2402	EDGE-4002	N/A
Black Pad	EDGE-4050	EDGE-2401	EDGE-4001	N/A
White Driver Pad	EDGE-4058	N / A	EDGE-4025	EDGE-4019
60 Grit Sand Screen	EDGE-4059	N / A	EDGE-4026	EDGE-4020
80 Grit Sand Screen	EDGE-4060	N / A	EDGE-4027	EDGE-4021
100 Grit Sand Screen	EDGE-4061	N / A	EDGE-4028	EDGE-4022
120 Grit Sand Screen	EDGE-4062	N / A	EDGE-4029	EDGE-4023
150 Grit Sand Screen	EDGE-4063	N / A	EDGE-4030	EDGE-4024
20 Grit Sand Paper	N / A	N / A	EDGE-4031	N/A

36 Grit Sand Paper	N / A	N / A	EDGE-4032	N/A
60 Grit Sand Paper	N / A	N / A	EDGE-4033	N/A
80 Grit Sand Paper	N / A	N / A	EDGE-4034	N/A
100 Grit Sand Paper	N / A	N / A	EDGE-4035	N/A
100 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4012	N/A
400 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4013	N/A
800 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4014	N/A
1500 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4015	N/A
3000 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4016	N/A
6000 Grit Diamond Polishing Pad	N / A	N / A	EDGE-4070	N/A
Tile/Grout Renovator Pad	EDGE-4048	N / A	EDGE-4018	N/A
Microfiber Pad	N / A	N / A	EDGE-4036	N/A
Abrader Plate	N / A	N / A	N/A	EDGE-4011
Dominator HD Strip Pad	EDGE-4055	N / A	EDGE-4006	N/A
Maroon ECO Prep Pad	EDGE-4056	EDGE-2407	EDGE-4007	N/A
Remover Burnishing Pad	EDGE-4057	N / A	EDGE-4008	N/A
Porko Burnishing Pad	EDGE-4047	N / A	EDGE-4017	N/A
Velcro Pad	300-4024	N / A	300-4023	N/A

**NEW STYLE CYLINDRICAL BRUSHES:**

For Machine Serial #50000 & Greater

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

**OLD STYLE CYLINDRICAL BRUSHES:**

For Machines Prior To Serial #50000

BRUSHES	MODEL 24" CYLINDRICAL
Super Grit	N / A
Tough Grit	22-521S
Midi Grit	22-521C
Light Grit	22-521PS
Poly (.028)	N / A
Nylon (.016)	22-521N

**EDGE/ORBITZ GRIP FACE:**

DESCRIPTION	PART#
20" Velcro Grip Face	300-1037
24" Velcro Grip Face	300-1038
28" Velcro Grip Face	300-1039
20" Mighty Lok Grip Face	300-01037Z
28" Mighty Lok Grip Face	300-01037Z

**SQUEEGEE BLADE KITS & SQUEEGEE ASSEMBLIES:**

SQUEEGEE SIZE	17" - 26" DECKS	28" DECKS
32" Squeegee	Standard	Optional
35" Squeegee	Optional	Standard

<b>SQUEEGEE SIZE</b>	<b>GUM RUBBER BLADE KIT</b>	<b>LINATEX BLADE KIT</b>	<b>URETHANE BLADE KIT</b>	<b>COMPLETE SQUEEGEE ASSEMBLIES</b>
32" Squeegee	22-770G	22-770L	22-770U	23-7180
35" Squeegee	25-770G	25-770L	25-770U	25-7180

**NOTICE**

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

**NOTICE**

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

**NOTICE**

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

**NOTICE**

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

**BLANK**

THIS PAGE WAS INTENTIONALLY LEFT BLANK

**BLANK**

THIS PAGE WAS INTENTIONALLY LEFT BLANK



1711 South Street  
Racine, WI 53404  
[www.rpsccorporation.com](http://www.rpsccorporation.com)  
[www.factorycat.com](http://www.factorycat.com)  
[www.tomcatequip.com](http://www.tomcatequip.com)  
Tel. US: 800-634-4060  
Tel. Int: (001) 262-681-3583