



Ride-On Autoscrubber  
**PE315ASR**  
Operator's Manual





## **Instructions For Use**

Failure to read and understand this manual before operating this machine or performing service on this machine may result in injury to the operator or nearby personnel or result in damage to the machine or nearby property. Each operator must be trained in the operation of this machine before being allowed to use it. Contact Amano Pioneer Eclipse Customer Service at 1-800-367-3550 or +1-336-372-8080 or an authorized Amano Pioneer Eclipse Distributor to inquire about training or to request a replacement manual.

## **NOTICE**

Proper maintenance is necessary with all battery powered floor machines. Following the scheduled maintenance procedures found in your operation manual will provide many years of uninterrupted service.



In addition to the scheduled maintenance procedures listed it is recommended to have your machine serviced by certified service personnel every three months. This service should include an emissions check.

# **! FOR YOUR SAFETY !**

**DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any or other appliance.**

## **Record This Important Information**

Date of Purchase \_\_\_\_\_

Purchased From \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ Contact \_\_\_\_\_

Machine Model \_\_\_\_\_

Machine Serial Number \_\_\_\_\_

## **Important Phone Numbers**

Medical Emergency \_\_\_\_\_

Police \_\_\_\_\_

Fire Department \_\_\_\_\_

In this Operation Manual you will find three statements that you must read and observe to ensure safe operation of this machine.

**DANGER!** indicates that the possibility of severe bodily injury or death can occur if DANGER! statements are ignored. Read and observe all DANGER! statements included in the Operation Manual and attached to the machine.

**WARNING!** indicates that the possibility of bodily injury to the operator and other people can occur if WARNING! statements are ignored. Read and observe all WARNING! statements included in the Operation Manual and attached to the machine.

**CAUTION!** indicates that the possibility of damage to the machine or other property can occur if CAUTION! statements are ignored. Read and observe all CAUTION! statements included in the Operation Manual and attached to the machine.

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## Technical Specifications

Description	Specifications
<b>Length</b>	46.9" (119 cm)
<b>Width</b> ( <i>w/ Splash Skirt &amp; w/o Squeegee</i> )	30.3" (77 cm)
<b>Height</b>	49.6" (126 cm)
<b>Number of Pads / Brushes</b>	2
<b>Pad Driver Diameter</b>	15" (38 cm)
<b>Pad Pressure</b>	66 lbs. (30 kg)
<b>Scrubbing Width</b>	29.5" (75 cm)
<b>Squeegee Width</b>	38.6" (98 cm)
<b>Solution Tank Capacity</b>	29.1 Gal. (110 L)
<b>Recovery Tank Capacity</b>	26.4 Gal. (100 L)
<b>Weight</b> ( <i>w/o Batteries</i> )	408 lbs. (185 kg)
<b>Weight</b> ( <i>w/ Lead Acid Batteries</i> )	708 lbs. (322 kg)
<b>Weight</b> ( <i>w/ Sealed Batteries</i> )	728 lbs. (331 kg)
<b>Voltage</b>	24 VDC
<b>Power Source</b>	6 VDC Battery (Qty. 4)
<b>Pad Drive Gearmotor</b>	650W (2X), 24V
<b>Traction Motor</b>	700W, 24V
<b>Vacuum Motor</b>	550W, 24V
<b>Pad Lift Control</b>	Manual (Pedal)
<b>Squeegee Lift Control</b>	Manual (Lever)
<b>Forward Speed</b>	0-3.7 mph (0-6 km/h)
<b>Reverse Speed</b>	0-2.5 mph (0-4 km/h)
<b>Maximum Slope</b>	7%
<b>Scrubbing Performance</b>	48,000 ft <sup>2</sup> /h (4460 m <sup>2</sup> /h)
<b>Noise Level</b>	<70 dBA

### **Machine Features:**

1. Large capacity tanks require less frequent filling and emptying
2. Compact, highly maneuverable design for ease of operation
3. User-friendly instrument panel
4. Variable speed with dynamic braking
5. Machine stops when accelerator is released
6. Pads / Brushes stop automatically when the accelerator is released
7. Four-position rear squeegee and two-position front squeegee provide extended life
8. Horn, backup alarm, and beacon light for safety

## Safety Precautions

Anyone operating the machine should read the following carefully and be informed of potentially dangerous operating conditions. Operators should be familiar with the location and use of all safety devices on the machine. Do not use the machine if it is not in proper operating condition, and report any damage or operation faults immediately.

**DANGER!** This machine has parts including the pad holder or brush assembly that can cause severe injury if these parts are contacted while they are moving. **DO NOT** allow any part of the body or clothing to come in contact with these parts while they are moving. **DO NOT** try to change the pad or brush while the machine is running. **DO NOT** allow other people to come near the machine while it is in operation. **DO NOT** allow the machine to run unattended. **DO NOT** leave the machine in a place where unauthorized or untrained personnel could use the machine. **DO NOT** run the machine with the pad or brush off center, damaged or missing. **DO NOT** operate the machine if the machine has loose parts.

**DANGER!** Crushing can occur when removing or re-installing the pad holder or brushes on the scrub deck. Before removing the pad/brush protection covers, the ignition key must be removed from the key switch on the dash panel to avoid the machine from accidentally starting.

**DANGER!** Crushing can occur when the scrub deck is lowered. To prevent this from occurring, do not lower the scrub deck unless all potential hazards are removed.

**DANGER!** Crushing can occur when the solution tank is raised for ventilation when charging the batteries and/or to provide access to the battery compartment for maintenance purposes. Once the tank is raised there is no lock to prevent the tank from being lowered. Therefore the operator or service technician must be aware of his/her body parts while inside the battery compartment. NEVER raise the solution tank when it contains any fluid.

**DANGER!** Crushing and/or pinching can occur when operating the pedals on each side of the steering column. Use only your feet to operate the pedals that raise/lower the scrub deck or apply the brake.

**DANGER!** Turnover can occur when this machine is used on grades that exceed the maximum slope as specified in the operators manual.

**DANGER!** Turnover can occur when the machine is used to clean broken surfaces or surfaces with holes or deep depressions. **DO NOT** use the machine on any surface that may compromise the stability of the machine

**DANGER!** Explosion can occur while the batteries are recharging because of hydrogen gas that can spread. When recharging the batteries place the machine under a well-ventilated area or under a ventilation fan. Also keep machine away from any type of heat source or corrosive substances while recharging.

**WARNING!** Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep covers open when charging. **DO NOT** smoke around batteries. Avoid skin contact with the acid contained in the batteries. Never allow metal objects to lay across battery tops.

**WARNING!** Operate from the operators seat of the machine only.

**WARNING!** Inspect pad holders and or brushes regularly. A fractured pad holder and or brush may result in pad fragments causing injury.

**WARNING!** Use caution when driving the machine on a ramp or incline. **DO NOT** turn the machine or leave it unattended on a ramp or incline.

**WARNING!** Store machine inside. Keep the electrical components of the machine dry. **DO NOT** pressure wash machine.

**WARNING!** Modifications or alterations to this machine can lead to personal injury or damage to the machine. **DO NOT** make unauthorized modifications or alterations to this machine. Amano Pioneer Eclipse assumes no liabilities for injury or damage resulting from an unauthorized modification or alteration to the machine. Any unauthorized modification or alteration to this machine voids all warranties.

**WARNING!** The motors and motor controller become hot enough while the machine is in operation, and for a long time after the machine is shut off, to cause severe burns. **DO NOT** touch these parts of the machine until they have cooled.

**WARNING!** Injury can occur to the eyes and body while using the machine. Safety goggles, safety shoes, and safety clothing are recommended while operating the machine.

**WARNING!** Machine vibration may cause tingling or numbness in the fingers or hands. Gloves are recommended to reduce machine vibration. If tingling or numbness persists, shut off the machine. If the vibration is caused by loose parts, adjust or tighten these parts before using the machine again.

**WARNING!** **DO NOT** use this machine to scrub on an incline. This machine is designed to scrub on a flat level floor.

### **Safety Precautions (continued)**

**CAUTION!** Before starting machine ensure all safety devices are in place and functioning properly. **DO NOT** operate this machine unless all covers, skirts and guards are properly installed.

**CAUTION! DO NOT** use this machine to vacuum inflammable, toxic, and/or corrosive liquids and powders.

**CAUTION! DO NOT** operate machine unless trained and authorized. **DO NOT** operate machine unless you have read and understand the operation manual. **DO NOT** operate machine in flammable or explosive areas.

**CAUTION!** When using machine, go slowly on inclines or slippery surfaces. Use care when operating machine in reverse.

**CAUTION!** Follow all manufacturers instructions on chemical product containers when handling, mixing, or using chemical products.

**CAUTION!** When servicing machine, stay clear of moving parts. **DO NOT** wear loose clothing when working on machine. Block machine wheels before raising or jacking up machine. Use hoist stands that will support the weight of the machine. Wear eye and ear protection when using pressurized air or water. Disconnect battery connections before servicing machine. Use only replacement parts supplied by Amano Pioneer Eclipse or an Amano Pioneer Eclipse Authorized Distributor or Service Center.

**CAUTION!** When loading or unloading machine onto or off a truck or trailer, **USE EXTREME CAUTION!** Only use a truck or trailer that will support the weight of the machine to transport. **DO NOT** push the machine onto or off a truck or trailer unless the load height is 15 in (380mm) or less from the ground. Block machine wheels when transporting. Tie the machine down securely to truck or trailer when transporting.

**CAUTION!** When draining liquids from the machine, follow all local and federal waste disposal standards.

**NOTICE!** Amano Pioneer Eclipse is not responsible for accidents that occur to people or things caused by the improper use of this machine, e.g. using the machine on any surface that can compromise its stability.

### **This Machine is Manufactured for Commercial use only.**

This machine is designed and manufactured for indoor use on hard floor surfaces. Amano Pioneer Eclipse does not recommend use of this machine in any environment other than an indoor environment.

This battery powered floor machine is designed and manufactured for commercial floor cleaning only. This machine is designed to clean most modern types of floors including composition tile, stone, marble, terrazzo, and resilient floor covering, and some coated wood floors.

### **Improper Use of this Machine**

- This machine cannot be driven by unauthorized personnel.
- This machine cannot be used to clean sloped surfaces with a grade over 5%.
- This machine cannot exceed a reverse speed of 0.6mph (1km/hr) when used to clean floors.
- This machine cannot be used in an area that has dangerous substances, flammable gas, flammable liquid, or any type substance with an explosive nature in close proximity.
- This machine cannot use flammable and/or explosive products to clean surfaces.
- This machine cannot be used as a means of transportation, for people and other means of transport.
- Do not remove, modify, or tamper with the safety and protection devices on this machine.
- Batteries must be charged in a well ventilated room.
- The operator must always obey all of the safety rules written in this manual.
- The operator cannot use any equipment or other device that can cause or prevent this machine from working properly.
- The components on this machine cannot be modified without authorization from Amano Pioneer Eclipse or an Authorized Distributor.
- The operator cannot use acids that can damage this machine.
- This machine cannot be used as a tractor to tow or push.



## Operator Qualifications

All operators should be trained before using this machine. All operators must carefully read this manual and know all safety rules.

- A trained operator is responsible for the driving/control of the machine, and the cleaning/maintenance of the machine.
- A trained AmanoPioneer Eclipse technician is responsible for installation, disinstallation, mechanical parts maintenance, electrical parts maintenance, dismantling, and demolition.
- Amano Pioneer Eclipse is not responsible for any damage to people and/or things caused by the non-observance of the instructions provided within this manual.

## Operator Responsibility

The operator is responsible for performing the recommended daily maintenance and checkups of the machine to keep it in good working condition. The operator must inform the service mechanic or supervisor when recommended maintenance procedures are required as prescribed in the MAINTENANCE section of this manual.

Read this manual carefully before operating this machine.

**FOR SAFETY:** Do not operate machine before reading and understanding the operation manual.

Check the machine for shipping damage.

Keep your machine regularly maintained by following the maintenance information in this manual. We recommend taking advantage of a service contract from your Amano Pioneer Eclipse Authorized Distributor or Service Center.

Order parts and supplies only from an Authorized Amano Pioneer Eclipse Distributor. Use the parts illustration section of your manual when ordering parts.

During and after operation, perform the recommended daily and hourly procedures outlined in the Maintenance Chart.

## Test for Hand-Arm Vibration at the Grip Surface of Hand-Guided Machinery

Amano Pioneer Eclipse measures and rates the vibration at the machine-hand contact surface of hand-guided machines that are provided with handles in accordance with European Machinery Directive (2006/42/EC).

- The test area consists of a flat open floor area that allows the machine to be operated normally
- The transducer is mounted firmly at a point halfway along the length of the handle where the handle would normally be held.
- Machines are tested while stationary, with all mechanisms necessary for the equipment to perform its intended functions engaged and the traction drive in neutral (if applicable). The machine will be tested at maximum engine or motor speed as specified by the manufacturer of the subject machine.
- The measurements are recorded from the dominant axis.

## Test for Operator-Ear Sound Pressure Level

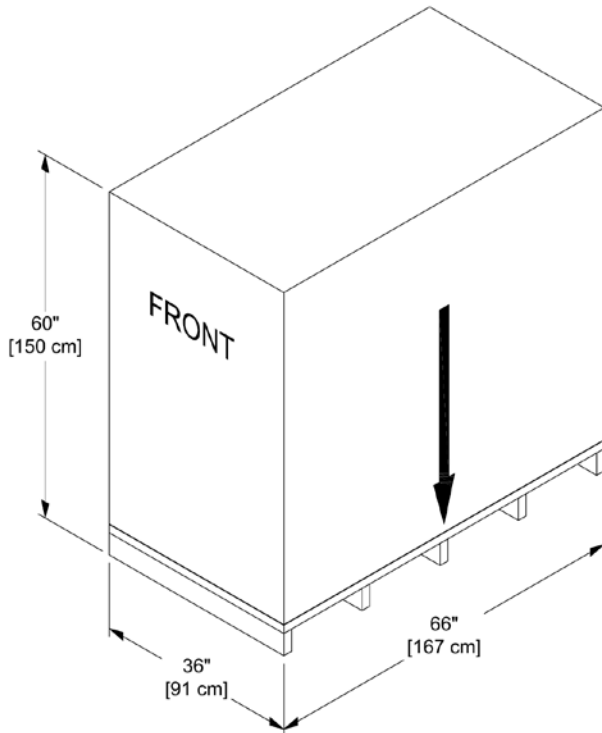
Amano Pioneer Eclipse measures and rates the operator-ear sound pressure level for hand-guided floor treatment and floor cleaning machines for industrial use. All tests are performed in accordance with European Machinery Directive (2006/42/EC).

- Outdoor test area consists of a flat open space free from effects of signboards, buildings or hillsides for at least 15m (50ft) from the center of the test surface. Indoor tests are conducted in a semi-anechoic or sound deadening room.
- The test surface is a single sheet of floor covering at least 1m (3.3ft) wider and longer than the equipment being tested. In order to not affect the sound reading, the observer taking readings is at least 2m (6.6ft) from the equipment being tested, or standing directly behind the operator.
- All machines are tested while stationary and centered on the test surface. With the traction drive in neutral (where applicable) the test is conducted with the machine at maximum engine or motor speed as specified by the manufacturer.
- The operator is located in the normal operating position with the microphone or meter supported independent of the machine, 1, 68m (66in) above the test surface, 25cm (10in) to the right and left centerline of the operators position, an 20cm (8in) to the rear most point of the handle, with the handle in the most forward position.
- The sound level meter is observed for a minimum of five seconds or until a stabilized reading is obtain. The maximum repeatable sound level observed during the test at each microphone position is recorded and documented.

# Machine Preparation

## Handling of Packed Machine

The machine is supplied packed on a pallet and enclosed in a box made of plywood or cardboard. A black arrow shown on the illustration represents the center of gravity for the package. The forks of the lift truck or of the transpallet should be placed so that the black arrow indicated on the packing is about in the center of the forks. The palletized box should be handled with extreme caution; avoid impacts or lifting it to extreme heights without reason. **DO NOT** stack the boxes.



## Unpacking the Machine

Unpack the machine with caution. The machine is shipped boxed on a wooden pallet. To unpack machine:

1. Cut and remove bands holding the box to the pallet.
2. Remove staples attaching the box to the platform at the bottom edge of the box.
3. With two people, one at either end of the box, lift box straight up and off machine.
4. Remove any loose or miscellaneous items that are not strapped to the pallet.
5. Cut and remove bands securing the machine to the pallet.
6. Carefully take the machine off of the pallet by means of a wooden or metallic ramp.
7. Cut and remove bands securing the batteries (if applicable) from the pallet.

8. Open the battery cover and remove any components that may be inside the battery compartment.
9. Check machine for any damage that may have occurred during transport.
10. Read carefully the contents of this operators manual.
11. Install the batteries (See the “*Battery Installation*” section).

## Transporting the Machine

When shipping the machine, make sure the batteries are disconnected. It is recommended that the batteries be removed from the machine during transport. Remove the splash skirt, pad/brush, and squeegee before loading to prevent damage to these components. Secure the machine to the transporting vehicle so that it does not move during transport. Always engage the parking brake while the machine is being transported. For a longer transport, it is recommended to pack the machine in its original box, with the batteries removed.

To repack the machine, refer to the “Unpacking the Machine” section, using the original packing materials and container.

## Storage

The machine must be stored in an enclosed and dry place if not immediately installed in order to keep every part safe.

Relative humidity must be lower than 80% and the storage temperature must be between 38° F and 100° F.

## Identifying the Machine

**Note:** A silver label has been placed on the side of the steering column. The label identifies the data referring to the “CE” marking. This label should never be removed.



## Battery Installation

Check the batteries for any damage prior to installation. Make sure there are no cracks or other external damage.

1. In order to access the battery compartment, lift the solution tank up. Do not lift the solution tank if it contains any solution. Use **CAUTION** when working under the raised solution tank.

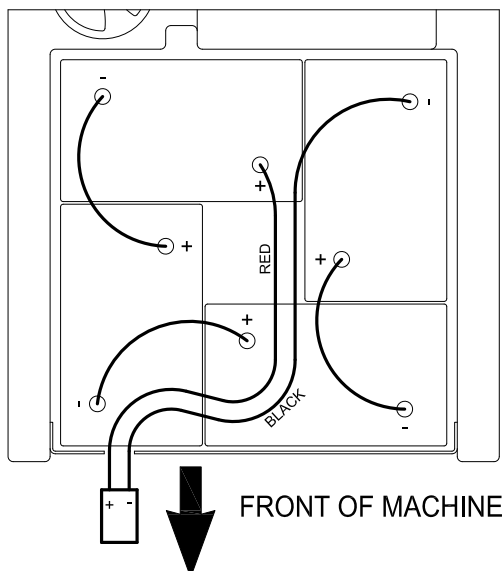


**CAUTION!** When handling and/or servicing the batteries or battery cables, wear protective gloves and goggles. Avoid contact with battery acid.

### PROPOSITION 65 WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

2. Inspect the batteries carefully before installing. Make sure there are no cracks in the cases.
3. Place the batteries in their compartment as shown in the battery connection diagram.
4. Clean the battery terminals and battery cables. Apply a film of dielectric grease to terminals.
5. Connect the batteries together as shown on the battery connection diagram.



**DANGER!** Incorrect connection of batteries can cause an explosion and/or serious injury.

**NOTE:** Red Cables are (+) Positive & Black Cables are (-) Negative.

6. Double check the battery connections before connecting the battery plug to the machine or a battery charger.

**NOTE:** It is also helpful to use a voltmeter and check the voltage at the battery plug to verify the batteries are connected properly.

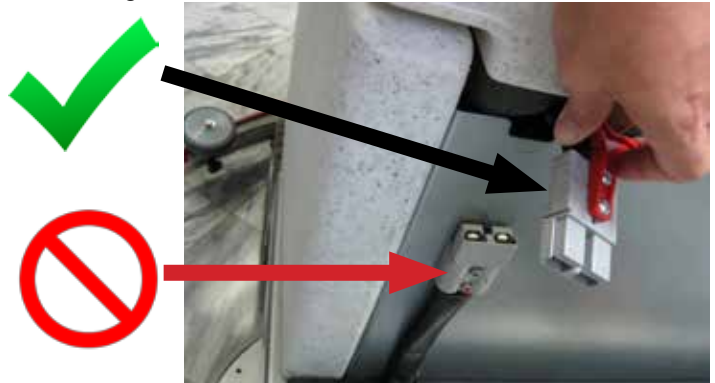
7. Charge the batteries (See the "Battery Charging" section).

## Battery Charging

1. When charging the batteries, raise the solution tank to expose the battery compartment.

**WARNING!** Batteries emit hydrogen gas when charging. Explosion or fire can result. Keep sparks and open flame away when charging. Do not invert polarities.

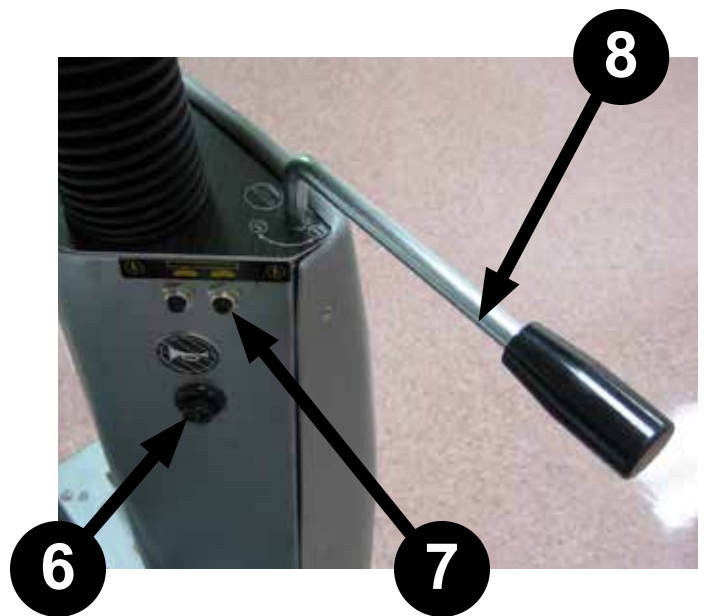
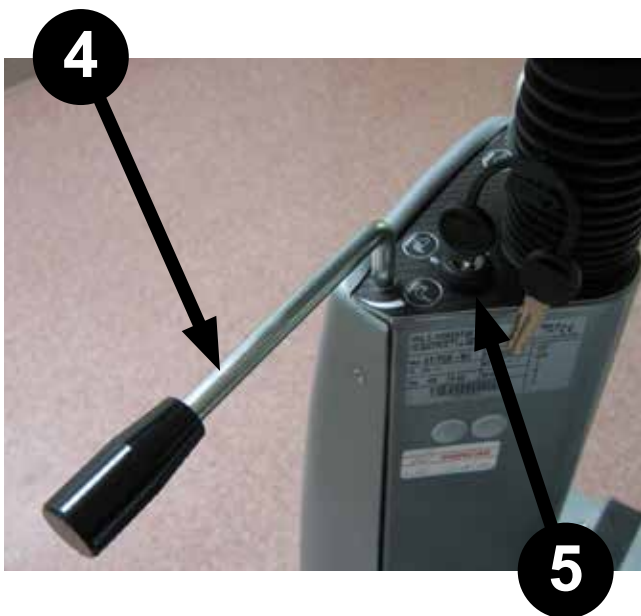
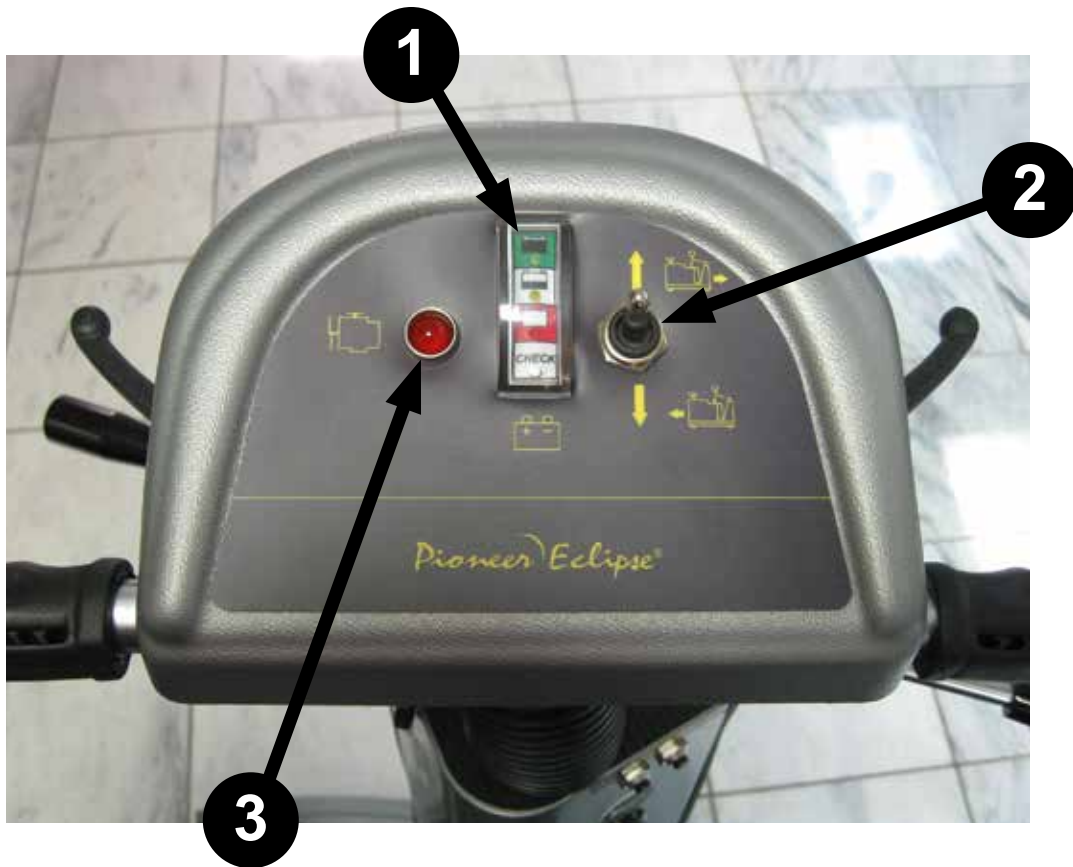
2. If using lead acid batteries, check the water level in all the battery cells (see "Battery Maintenance" section). **\*\*DO NOT OVERFILL\*\***
3. Install the battery charger in a ventilated and dry place, far from heat sources and corrosive environments.
4. Make sure that the charger is the correct voltage and amperage for the batteries installed in the machine (see the data plate located on the battery charger).
5. Disconnect the battery connector plug using the handle on the upper side of the connector.
6. Connect the charger plug to the battery connector plug (Not the connector that goes to the machine) to charge the batteries.



**CAUTION:** DO NOT connect the charger to the connector on the machine. This will not charge the batteries and could damage the electrical components of the machine.

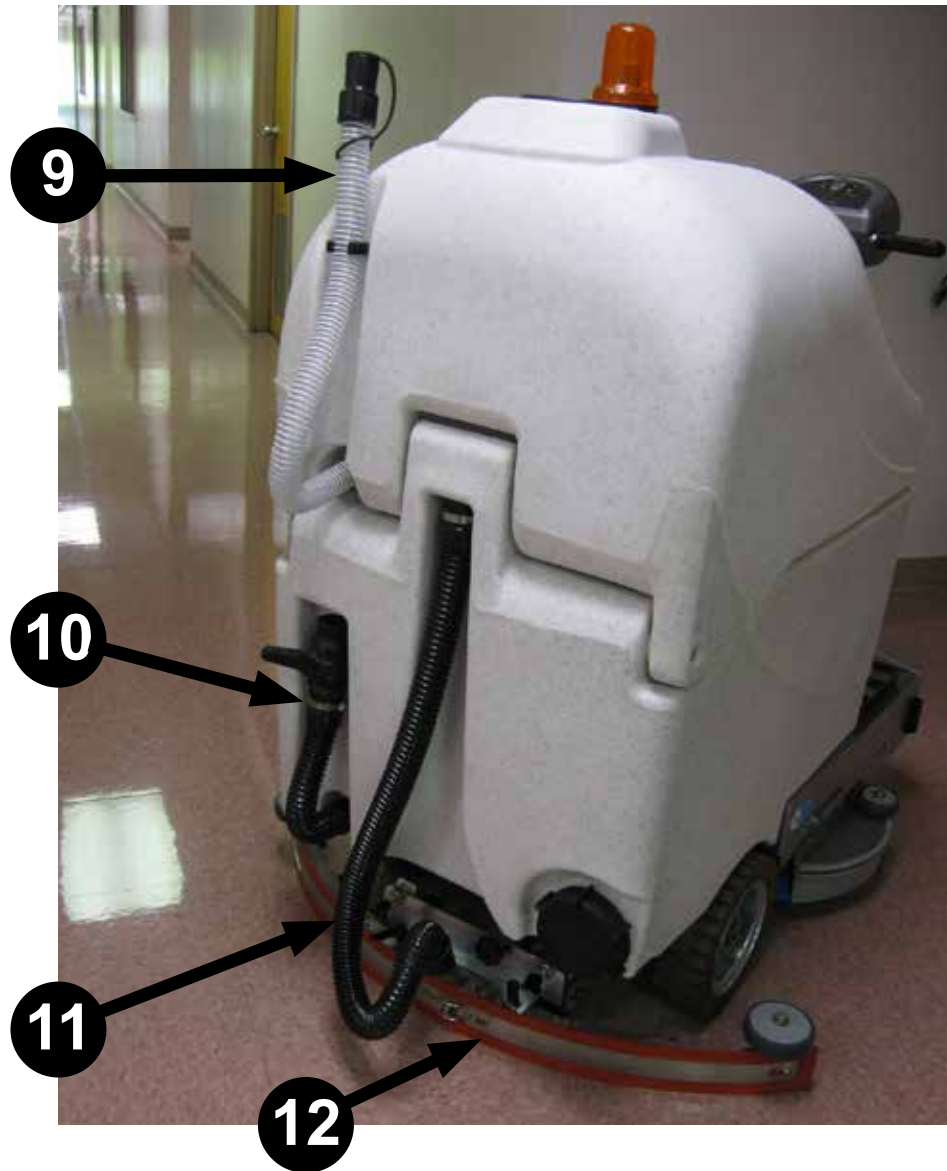
7. When the charge cycle is complete, unplug the charger from the wall socket. Disconnect the charger cable from the battery connector. Reconnect the battery cable to the machine plug, making sure there is a good connection and it is pushed in completely.

## Machine Components



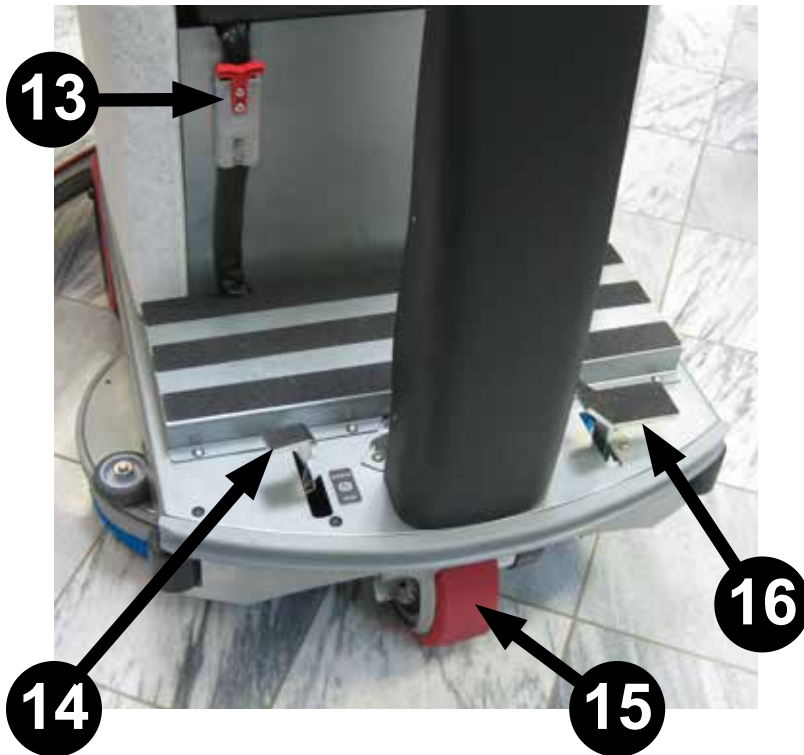


## Machine Components *(continued)*

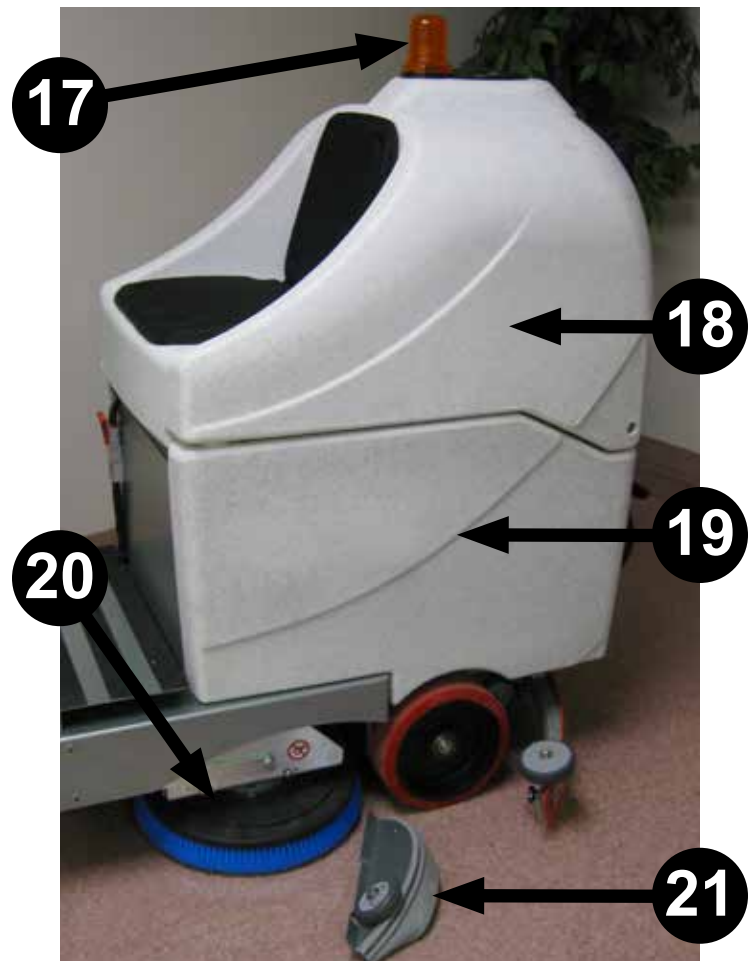


- |                            |                              |
|----------------------------|------------------------------|
| 1. Battery Level Indicator | 7. Scrub Motor Breakers      |
| 2. Forward/Reverse Switch  | 8. Squeegee Lever            |
| 3. Diagnostic Light        | 9. Solution Tank Drain Hose  |
| 4. Solution Control Lever  | 10. Recovery Tank Drain Hose |
| 5. Key Switch              | 11. Squeegee Vacuum Hose     |
| 6. Horn                    | 12. Squeegee                 |

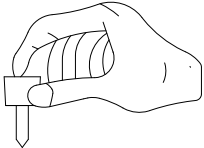
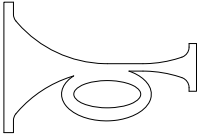
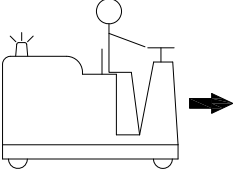
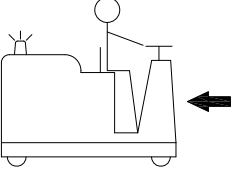
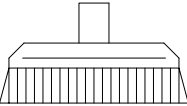
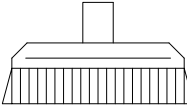
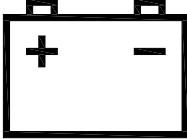
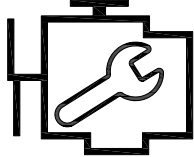
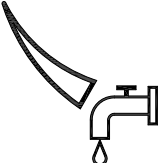
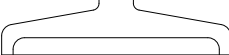


## Machine Components (continued)



- 13. Battery Connector Plug
- 14. Brake / Parking Brake Pedal
- 15. Drive Wheel
- 16. Scrub Deck Pedal
- 17. Safety Strobe Light
- 18. Solution Tank
- 19. Recovery Tank
- 20. Brush/Pad Holder
- 21. Pad / Brush Protection Covers



## Machine Components *(continued)*

 <b>Key Switch</b>	 <b>Horn</b>
 <b>Forward</b>	 <b>Reverse</b>
 <b>Scrub Brushes Off</b>	 <b>Scrub Brushes On</b>
 <b>Battery Charge Level</b>	 <b>Diagnositc Light</b>
 <b>Solution Flow</b>	 <b>Vacuum</b>
 <b>Parking Brake</b>	 <b>Circuit Breaker</b>

# How the Machine Works

## Preparing the Machine

After charging, detach the battery charger plug from the battery connector. Then connect the battery connector plug to the machine plug. Lower the solution tank back to the operating position. Turn on the main key switch to operate the machine.

## How the Machine Functions

Follow these instructions to begin operation:

1. Press the scrub brush motor pedal down and inward. The inward motion will allow the pedal to move upward and lower the scrub deck to the floor. This pedal is located on the left side of the floor board. To de-activate the scrub brush motors and raise the scrub deck, press the pedal down and outward.
2. Pull the lever on the right side of the dashboard inward to lower the squeegee and turn the vacuum motor on.
3. Pull the solution control lever on the left side of the control panel inward, towards the operator. The solution flow is increased as the lever is pulled farther in. The solution valve will remain open until this lever is returned to the OFF position.
4. Be sure the forward/reverse switch is in the forward position. When the accelerator lever is engaged the scrub brushes will activate. When the accelerator lever is released the scrub brushes will stop after a few seconds. This is to prevent damage to the floor.
5. Do not leave the solution valve in the ON position. The solution will continue to dispense until the solution control lever is turned to the OFF position. The flow of solution is not turned ON or OFF with the scrub brushes.

## Filling Solution Tank

Before every scrubbing operation, remove the solution tank fill cap and fill the solution tank with the right quantity of water and cleaner. When filling the solution tank, you can use the clear drain hose, at the back of the machine, to see the fluid level in the tank.



For a proper cleaning of the floor, it is important to choose the appropriate cleaner solution. Your Amano Pioneer Eclipse Authorized Distributor can recommend the appropriate Amano Pioneer Eclipse cleaner for your particular needs. Please note that using a chemical agent that is too-strong can compromise the long life of your machine. It is important to use a low-sudsing detergent solution, or an anti-foaming additive, in order not to damage the vacuum motor.

**CAUTION!** Make sure the cleaner solution is suitable for the surface. Amano Pioneer Eclipse is not responsible for damages done by too aggressive cleaning solutions.

## Scrubbing

1. Press the scrub brush motor pedal down and inward to lower the pad drivers to the floor.
2. Lower the squeegee and turn the vacuum motor on by pulling the squeegee lever towards you.
3. Make sure the forward/reverse switch is in the "forward" position and gently pull one of the acceleration levers to start moving forward. DO NOT stay in one place because it will damage the floor.
4. Immediately use the solution control lever to apply solution to the floor and adjust accordingly.
5. Adjust the solution flow so that the floor is covered completely with solution, but without any excess that could generate splashes or trails at the ends of the squeegee.
6. To end scrubbing, while still moving, turn off the solution control lever off and use the scrub deck pedal to raise the scrub deck off of the floor.
7. Squeegee up any remaining solution left on the floor to prevent someone from falling.
8. After all of the solution is collected, raise the squeegee using the squeegee lever, which will also turn the vacuum motor off.

If the floor is very dirty or difficult to clean, a double scrub operation is recommended. On the initial pass, scrub with the solution flow on, but do not lower the squeegee or turn on the vacuum motor. Make a second pass, continuing to scrub, with the vacuum motor on and the squeegee lowered.



## Controls

1. **Steering Pod:** The handles are used to turn the machine either left or right.



2. **Acceleration Lever:** These levers will propel the machine in either forward or reverse, depending on the position of the forward/reverse switch on the control panel. The speed of the machine is variable. The more the lever is pulled, the faster the unit will travel.



- The scrub brushes will not activate until the acceleration lever is depressed. When the machine stops, after a few seconds the scrub brushes will stop.
  - The machine will not travel in reverse with the squeegee in the down position.
3. **Solution Control Lever:** This lever is used to turn the solution ON or OFF. It also controls the amount of solution being delivered to the floor. As the lever is pulled towards the operator, the flow will increase. The solution valve will remain open, allowing solution to flow to the floor until this lever is returned to the OFF position



4. **Squeegee Lever:** This lever will lower the squeegee and also turn the vacuum motor on. This lever must be in the raised position before traveling in reverse.



5. **Brake / Parking Brake:** To apply the parking brake press pedal down. To release, press pedal down and move to the right. When machine is not in use, being serviced, maintained, or being transported, make sure the parking brake is set.



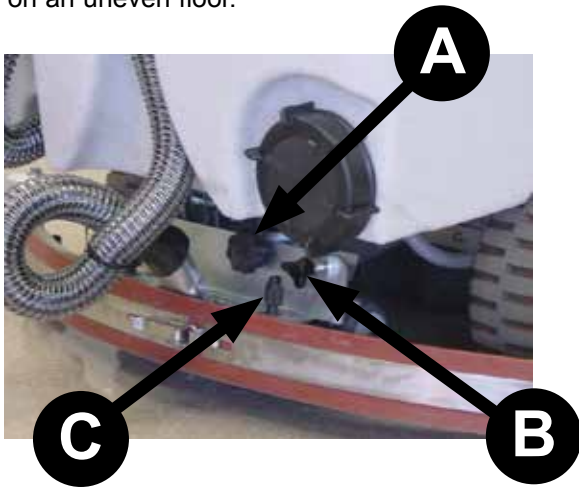
6. **Scrub Deck Pedal:** To raise the scrub deck, press the pedal down and to the left with your foot. This will lock the deck in the upright position. To lower the scrub deck, press the pedal down slightly, while pushing the pedal to the right all in one motion. Slowly lower the scrub deck to the floor. When the scrub deck is lowered, the scrub brushes will not engage until the machine is propelled in either forward or reverse.



### Squeegee Adjustment

The squeegee must be adjusted to get a perfectly dry floor. The machine is equipped with a parabolic shaped squeegee. This type of squeegee performs very well in collecting water from the floor to the suction hose, but is particularly sensitive to the levelness to the floor.

1. Remove the ignition key from the dashboard to avoid the machine from being started.
2. The angle of the squeegee can be adjusted by turning the angle adjustment knob (A). The ideal angle of the rear squeegee blade is approximately 45°-60° to floor.
3. To adjust the squeegee pressure, adjust the position of the wheels using the height adjustment knob (B). Raise them to increase the pressure or lower to decrease. If the pressure is too high, the rear blade will touch the floor with its side surface, and not with its edge. If the pressure is too low, the edge doesn't work well and leaves water on the floor, particularly on an uneven floor.



- A. Angle Adjustment Knob
- B. Height Adjustment Knob
- C. Squeegee Mounting Knob

**NOTE: Drying may be affected if suction hose is not properly working. In this case:**

- Thoroughly clean the suction hoses, inlets, filters and the squeegee itself.
- Check vacuum motor operation.
- Confirm that all inspection openings of the tank are closed.

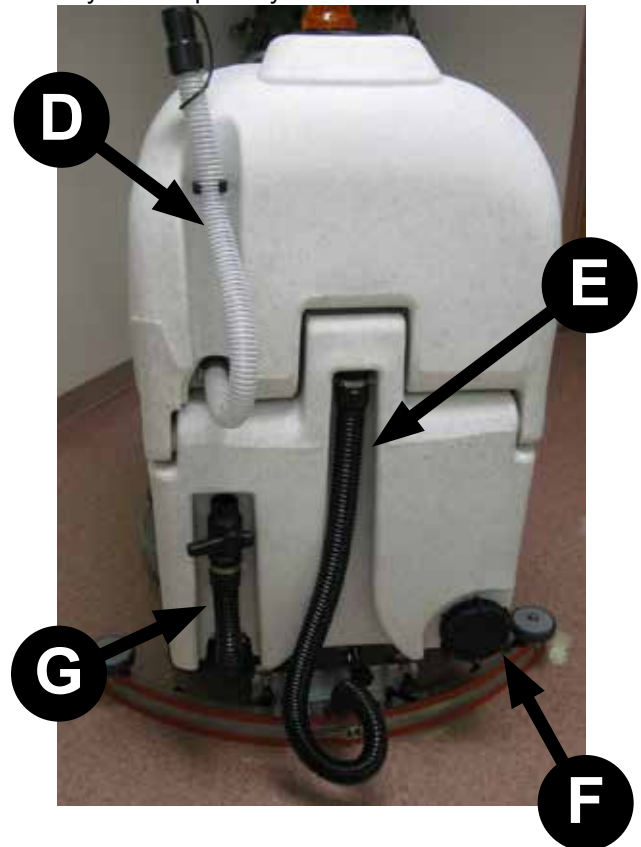
### Squeegee Removal

It may be necessary to remove the squeegee in order to pass through a door opening.

1. Pull the suction hose off of the squeegee.
2. Loosen, do not remove, the knobs (C) that retain the squeegee to the machine.

### Draining and Cleaning the Tanks

The machine is equipped with two drain hoses. One is for the solution tank on the left side of the back of the machine. The other is for the recovery tank on the lower left side of the back of the machine. At the end of the scrubbing operation, drain excess solution from the solution tank and dirty liquid from the recovery tank by means of the hoses. Rinse both tanks after each use, and thoroughly clean the tanks at least once a week. Check and clean the rubber gasket located in the recovery tank cap every week.



- D. Solution Tank Drain Hose
- E. Squeegee Suction Hose
- F. Recovery Tank Clean Out
- G. Recovery Tank Drain Hose

### ***Pad / Brush Replacement***

1. Remove the ignition key from the dashboard in order to avoid the accidental start of the machine.
2. Remove the side skirts by lifting upward and out. The skirts are retained with a bolt and a keyhole slot.



3. Remove the brushes by turning them until you can see the pull pins. When the pins are pulled the brushes can be removed.



4. Set the new brush up; place it under the hexagonal support and press it upward.
5. After replacing the brushes, replace the side skirts. Be sure they are fully installed before operation.

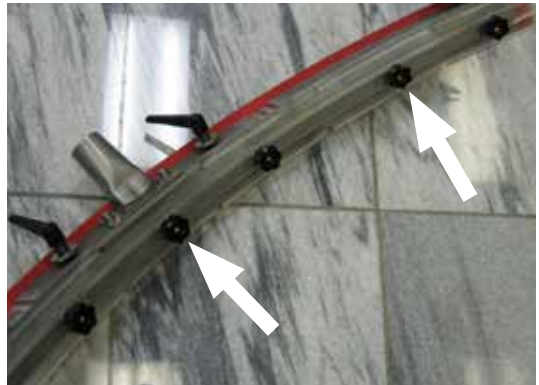
### ***Squeegee Blade Replacement***

Squeegee blades must be replaced when their edges are worn.

1. Remove the squeegee (see “*Squeegee Removal*” section) from the machine.
2. Loosen the latch and remove the straps that retain the rear squeegee blade.



3. Replace the rear squeegee blade and re-install the steel straps.
4. To change the front squeegee blade, remove the knobs that hold the squeegee and strap.



5. Replace the front squeegee blade and re-install the steel band.

# Maintenance

## Scheduled Maintenance

Before conducting any maintenance procedures, remove the key from the main key switch and disconnect the battery cable from the machine.

Operation	Interval					
	Daily	Weekly	Monthly	Every 3 Months	Every 6 Months	Annually
Empty and rinse the recovery tank	●					
Check the vacuum motor filter	●					
Check for loose or lost fasteners	●					
Inspect hoses and connections	●					
Inspect pad holders / brushes	●					
Inspect & clean the squeegee blades		●				
Check the vacuum hoses and squeegee		●				
Inspect battery water level (Lead Acid only)		●				
Inspect battery cables & connections		●				
Thoroughly clean the recovery tank		●				
Check the solution tank filter			●			
Check wiring for fray or cut			●			
Check the scrub deck linkage			●			
Check the squeegee linkage and cable			●			
Thoroughly clean the solution tank			●			
Check the brake system**				●		
Check safety systems**					●	
Check the carbon brushes of motors**					●	
Check the electrical system**						●
Complete Machine / System Inspection**						●

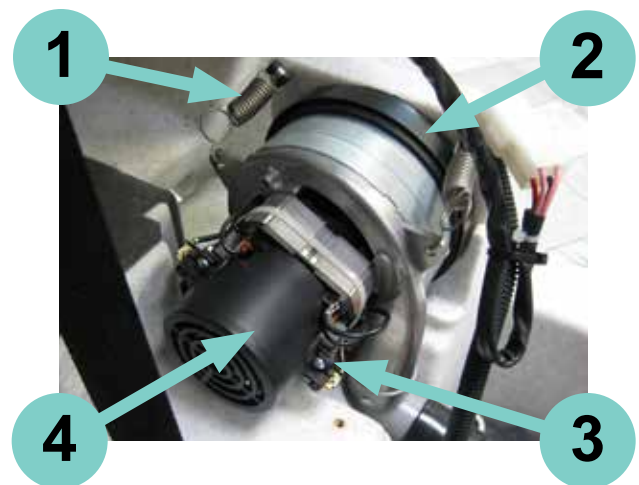
( \*\* ) These items must be performed with the proper tools and training.  
Contact an Amano Pioneer Eclipse Factory Certified Technician..

## Vacuum Motor Maintenance

The vacuum motor must be checked and cleaned. The carbon brushes should be checked every six months and replaced if necessary. To check the vacuum motor, remove the key from the main key switch and disconnect the battery cable from the machine. Raise the solution tank, giving access to the vacuum motor.

Remove the knob and the sound insulation cover over the vacuum motor. Unhook the retaining springs (1) and disconnect the cable plug going to the motor. The motor can now be removed for service and cleaning. While the motor is removed, also thoroughly clean this area. Also clean the foam filters around the motor and inside the vacuum motor cover. Replace if necessary.

Remove, check, and clean the gasket (2) on the front of the motor. Visually check the motor fan for damage and make sure it is clean. Check the carbon brushes (3) by removing the plastic cap (4) and then remove the screws that hold the plastic housings. If they are severely worn or damaged, replace if necessary.





## Battery Maintenance

The batteries are deep cycle 12 volt batteries. The lifetime of the batteries is limited by the number of charges the batteries receive. To get the most life from the batteries, charge them when the battery indicator light is red. Use only the supplied battery charger to charge the batteries.

Periodically clean the top surface of the batteries and the terminals, and check for loose connections. Use a strong solution of baking soda and water. Brush the solution sparingly over the battery tops, terminals, and cable clamps. **DO NOT ALLOW ANY BAKING SODA SOLUTION TO ENTER THE BATTERIES!** Use a wire brush to clean the terminal posts and cable connectors. After cleaning, apply a coating of clear battery post protectant to the terminals and the cable connectors. Keep the tops of the batteries clean and dry.

To prevent a possible short circuit, keep all metallic objects off the top of the batteries. Replace any worn or damaged wires.

### Safety:

- Keep flames, sparks, or metal objects away from batteries.
- Always wear protective clothing, gloves, and goggles when handling batteries.
- Check that all terminals are properly tightened; terminals that are too tight or too loose could result in post breakage, meltdown, or fire.

### 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 there is acid residue on batteries or corrosion on the terminals. **DO NOT ALLOW ANY BAKING SODA SOLUTION TO ENTER THE BATTERIES.**
- Terminal protectors, protective spray, or petroleum jelly should be applied to terminals to reduce corrosion.
- Replace any worn or damaged wires.

### Charging:

- Check the electrolyte level in each battery cell before and after charging, and after every 50 hours of operation.
- Do not charge the batteries unless the fluid is slightly above the battery plates. If needed, add just enough distilled water to cover the plates.

### Charge Limits:

Measuring the specific gravity, using a hydrometer, is a way to determine the charge level and condition of the batteries. If one or more of the battery cells test lower than the other battery cell (0.050 or more), the cell is damaged, shorted, or is about to fail.

- It is not necessary to charge the batteries if the hydrometry, after a work day, is not under 1.240 (28 Be).
- The maximum suggested temperature is 113° F (45° C).
- If the electrolyte temperature exceeds more than 50° F (10° C) above the outside temperature, the batteries can be overcharged.

### Watering:

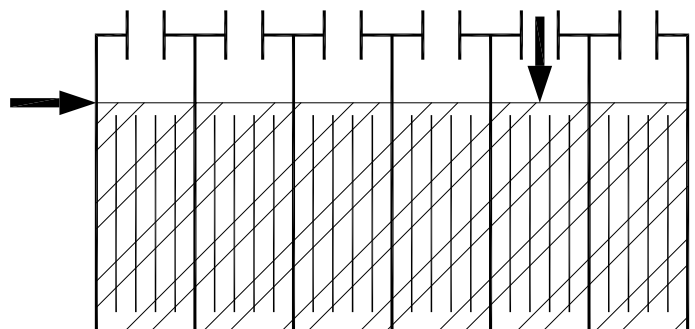
**NEVER add acid to the batteries. DO NOT overfill**

- Add distilled water only, never acid to cells.
- **DO NOT OVERWATER!**
- Always keep battery caps on, except when adding water or taking hydrometer readings.
- If the batteries are fully charged, add water to a level of 1/8" below bottom of fill well.
- If the batteries are discharged, add water to a level just above the plates.
- After watering, replace and tighten all vent caps.

**NOTE: Sealed batteries no maintenance is required.**

### Storage:

- Batteries should be fully charged prior to and during storage.
- Never store discharged batteries.
- Store batteries in a cool, dry place.
- Recharge batteries before putting them back into service.



## Safety and Warning Devices

**WARNING!** It is absolutely forbidden to tamper or disconnect safety and warning devices while the machine is working.

**NOTE:** It is important to inspect all safety and warning devices every six months. This inspection should be performed by qualified personnel authorized by Amano Pioneer Eclipse.

**Pad / Brush Protection Covers:** This machine can be equipped with either two rotating nylon brushes or two pad holders. Each pad or brush is covered with a fixed guard that prevents the rotating parts from being exposed. The guards can only be removed intentionally. The machine should not be used without the guards in place.

**Emergency Seat Switch:** The machine is equipped with an emergency button under the driver's seat. The machine cannot be used without the operator properly seated. The machine will stop automatically if the operator forgets to switch the machine off. The operator must sit on the machine again, switch the machine off, wait for a few seconds and start the machine again.

**Battery / Charger Plug:** The connector located on the steering column can be used as means to shutdown the machine in case of an emergency. This connector is used to charge the batteries. Remove the connector, using the handle, to disable the machine. Do not reconnect until all problems have been corrected.

**Float:** Inside the recovery tank there is a float switch that stops the suction of the machine if the tank is too full. To start the machine again the operator has to empty the recovery tank.

**Warning Devices:** The machine is equipped with several warning devices:

- A flashing yellow beacon to signal bystanders that the machine is in use.
- An intermittent backup alarm to warn bystanders that are in the proximity of the machine when it is reversing.
- A horn to allow the operator to warn anyone near the machine while it is in operation.

## Safety Diagnostic Signaling

The electronic controller is equipped with a particular system which shows the machine errors through quick flashing of the diagnostic light placed on the dashboard. The number of flashes represents one of the errors listed below:

No. of Flashes	Description	Solution
1	Acceleration Lever was Engaged	Try releasing the Acceleration Lever to eliminate the Flashing Signal. If this does not eliminate the Flash Signal, turn the unit off and be sure the accelerator is not engaged. Then try to turn the unit on again.
2	Low Battery Voltage	Check the voltage of the batteries. If the voltage is too low, the batteries may need to be properly charged.
		Be sure there are no loose wiring connections.
		The batteries could be bad and need replacing.
3	High Battery Voltage	Incorrect batteries (incorrect voltage) or battery connection.
4	Drive Motor	Verify the electrical connections of the drive motor.
		The drive motor may be bad or replace motor brushes.
5	Internal Power Fault	Controller short circuit. Check the ground on the drive motor.
6	N/A	N/A
7	Controller Temperature Overload	This happens when the temperature exceeds 167 F (75 C). Wait until the temperature of the controller has cooled down.
		There may also be damage to the winding of the drive motor.
8	Drive Motor "On" at Start Up	Stop the unit and turn all functions off. Turn the main switch off and then try again.
9	Controller Programming Error	This could be the result of a problem in the controller. Stop the unit and restart the machine. If the fault appears again verify all controller connections. May be bad controller.
10	Battery Level is too low for Brushes to Operate	Recharge the batteries.

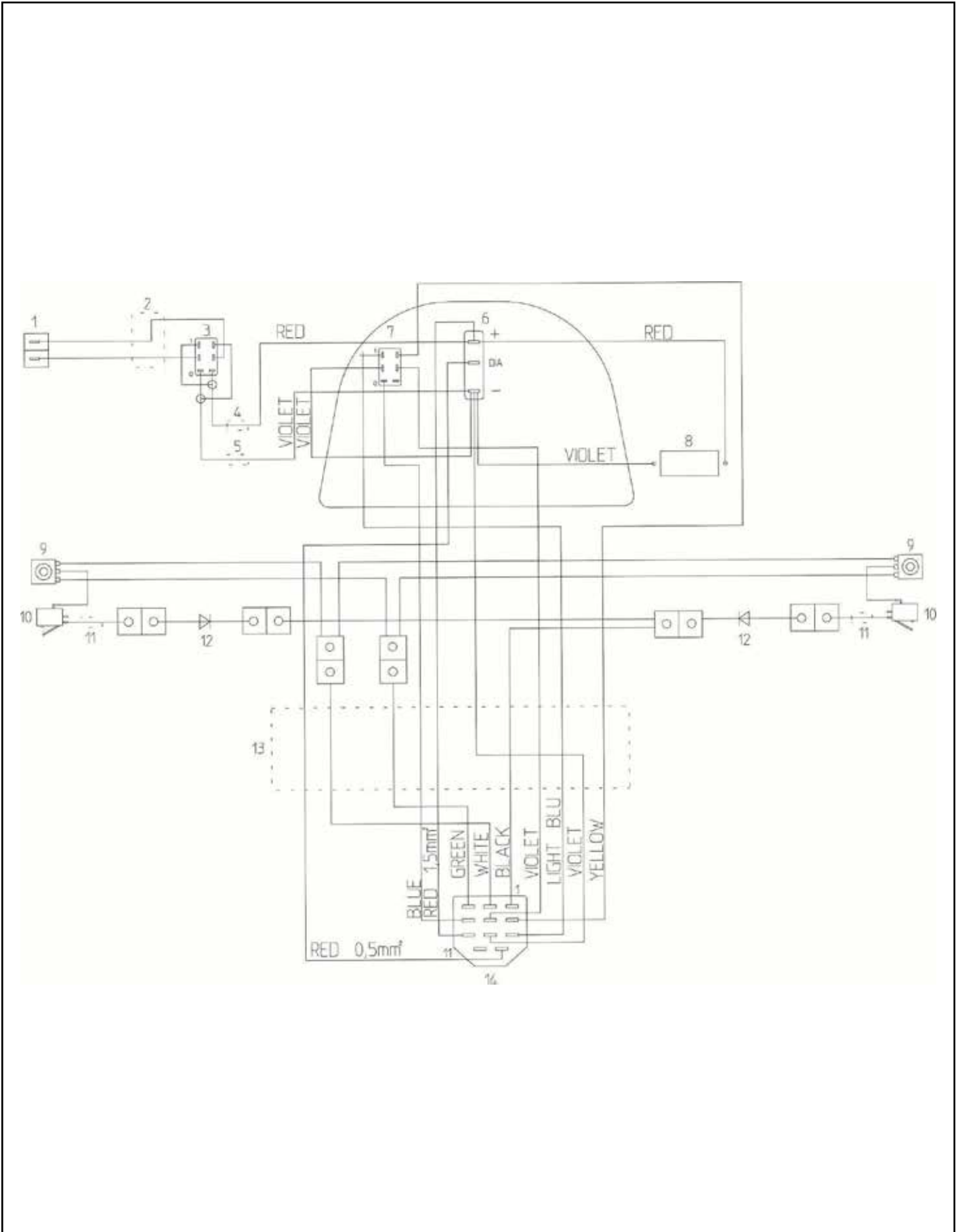
# PE315ASR

## Ride-On Autoscrubber

### Parts Manual

Notes:

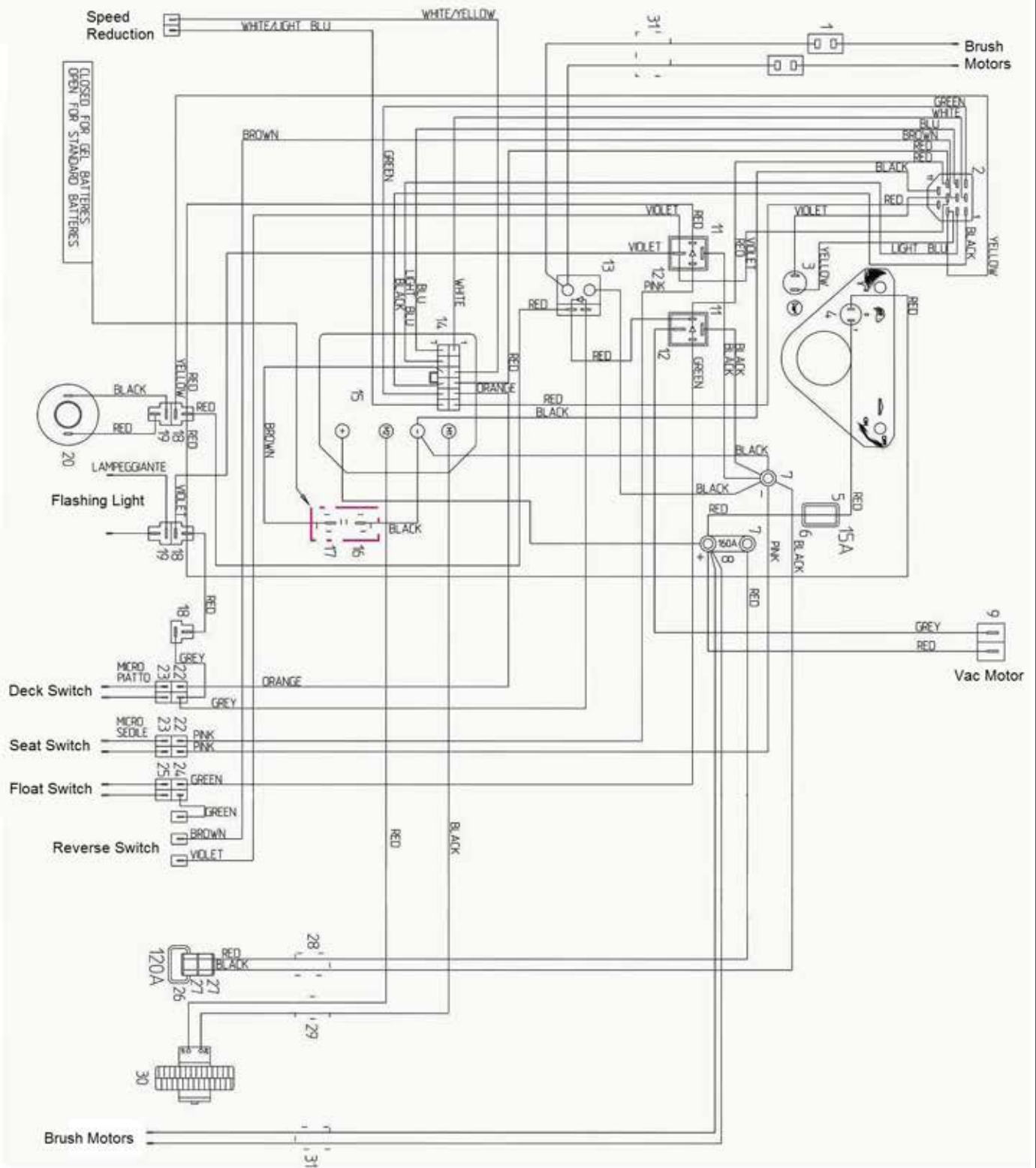






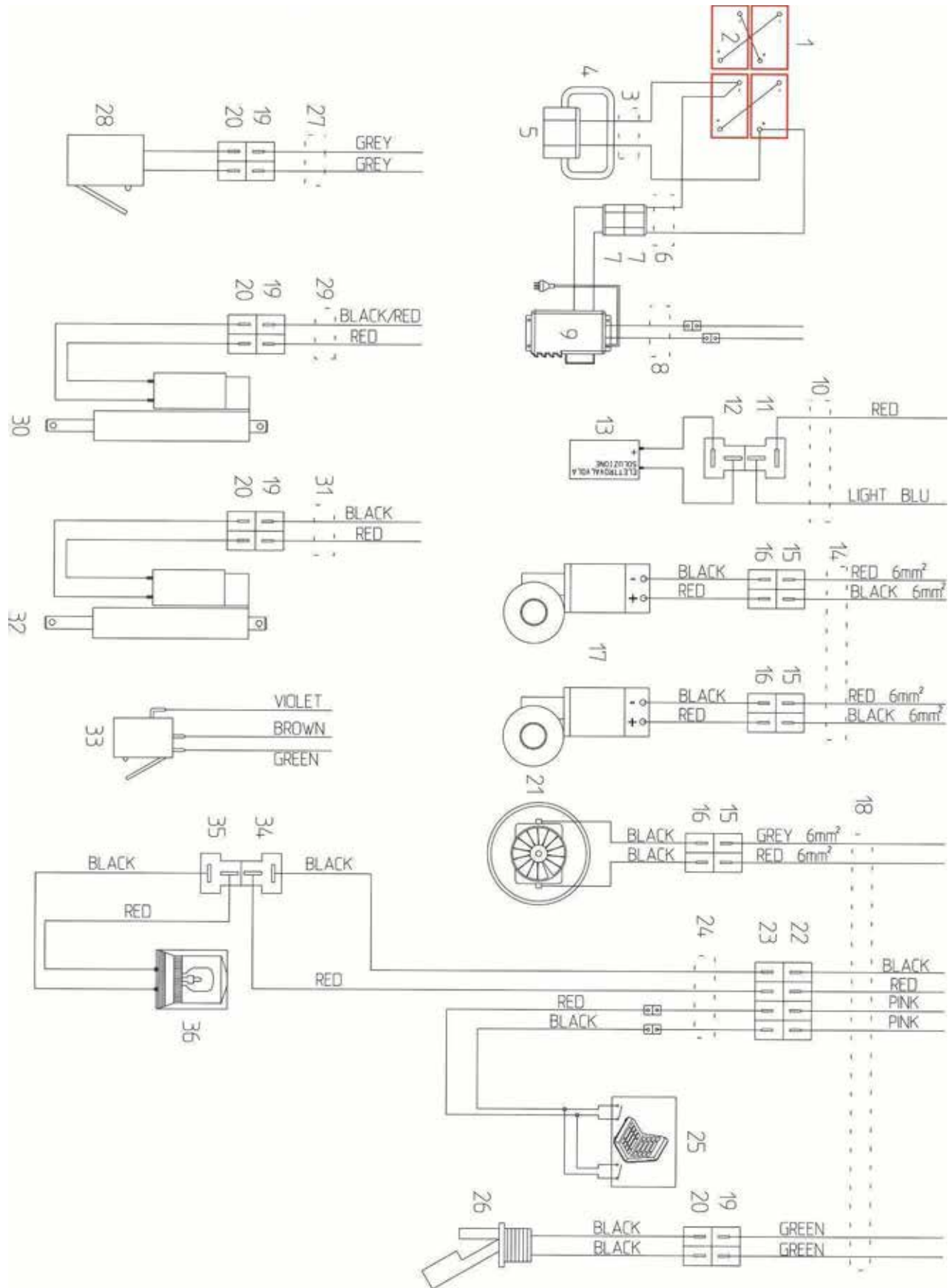
### ***Electrical Schematic - Control Panel (continued)***

<b><u>Item</u></b>	<b><u>Ref. No.</u></b>	<b><u>Description</u></b>	<b><u>Qty</u></b>
1	PY299	CONNECTOR, MALE, 2-POLE	1
2	CW278	CABLE, SWITCH / PLUG	1
3	IN063	SWITCH	1
4	CW286	CABLE, RED	1
5	CW287	CABLE, BLACK	1
6	PY5304	INDICATOR, CHARGE, BATTERY	1
7	IN063	SWITCH	1
8	PY606	METER, HOUR	1
9	PY805	POTENTIOMETER	2
10	IN093	SWITCH, MICRO	2
11	CW285	CABLE, POTENTIOMETER	2
12	CW276	CABLE	2
13	CW251	HARNESS, PANEL, CONTROL	1
14	PY755	CONNECTOR, FEM., 11 POLE	1



**Electrical Schematic - Main (continued)**

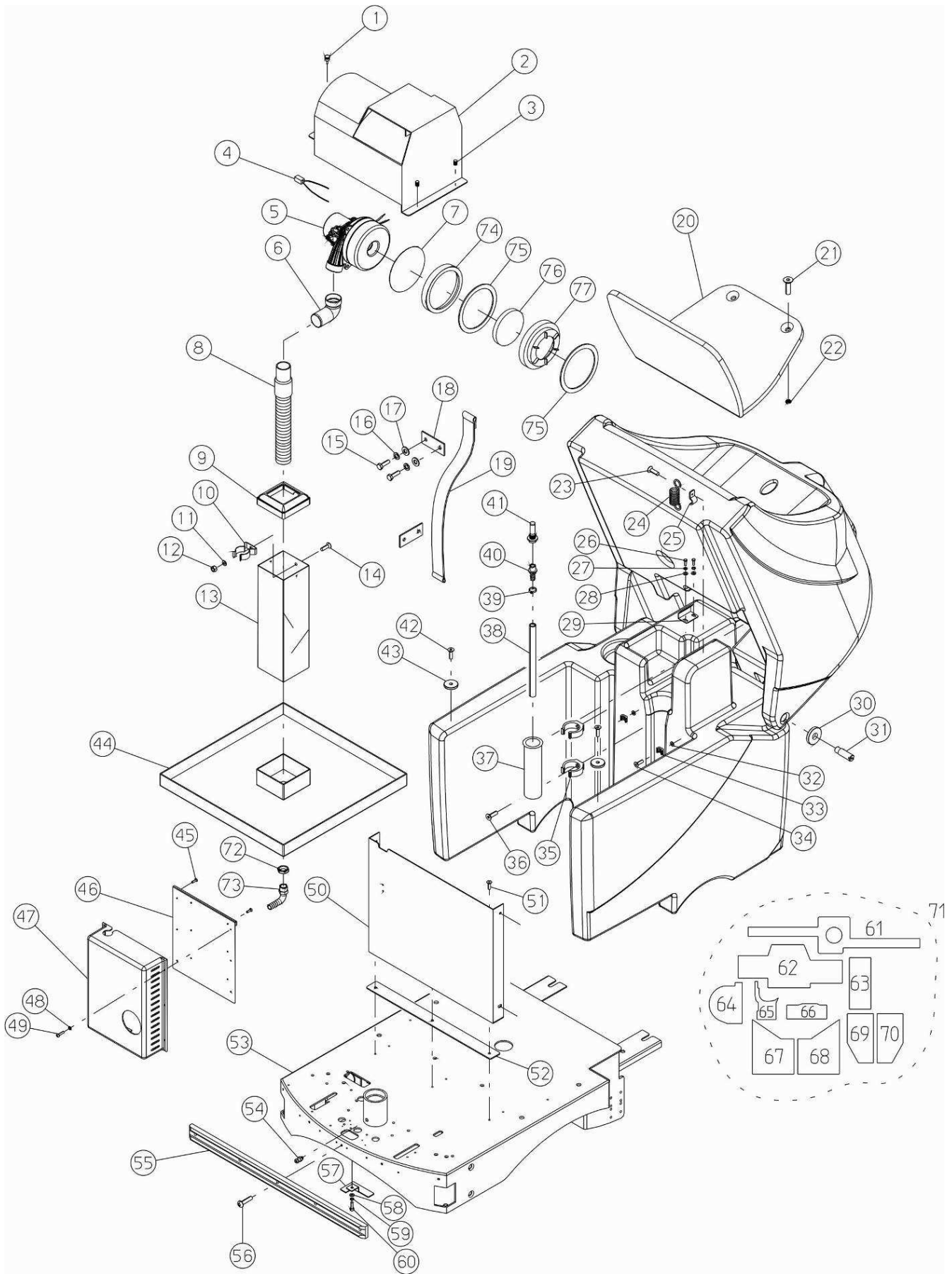
<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	PY368	BREAKER, 35A, 36V	2	17	PY5031	CONNECTOR, FEMALE, 1-POLE	1
2	PY756	CONNECTOR, MALE, 11 POLE	1	18	PY711	CONNECTOR, 2-WAY	4
3	IN053	SWITCH, PUSH, MOMENTARY	1	19	PY710	CONNECTOR, 2-WAY	4
4	IN064	SWITCH, KEY	1	20	PY498	ALARM, REVERSE	1
5	PY1147	HOLDER, FUSE	1	21	CW239	CABLE, LIGHT, FLASHING	1
6	PY5118	FUSE, 15A	1	22	PY300	CONNECTOR, 2-POLE, FEMALE	3
7	PY263	SUPPORT, BOARD, TERMINAL	3	23	PY299	CONNECTOR, 2-POLE, MALE	3
8	PY893	FUSE, CERAMIC, 160A	1	24	KIT710	KIT, CONNECTOR, 2-WAY	1
9	PY300	CONNECTOR, 2-POLE, FEMALE	1	25	KIT703	KIT, CONNECTOR, 2-WAY	1
10	CW279	CABLE, PLUG	1	26	PY1149	HANDLE, PLUG, 120A	1
11	SL021	SUPPORT, RELAY	2	27	PY1150	PLUG, BATTERY, 120A	2
12	SL020	RELAY, 80A, 24V	2	28	CW480	CABLE, POWER	1
13	SL034	SOLENOID, STARTER, 24V	1	29	CW238	HARNESS, WHEEL, DRIVE	1
14	PY822	PLUG, MINI, 12-POLE	1	30	MO385-S	WHEEL, DRIVE, 24V, 700W	1
15	PY779	CONTROLLER	1	31	CW266	CABLE, MOTOR, BRUSH	1
16	PY5032	CONNECTOR, MALE, 1-POLE	1				



### Electrical Components (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1A	MP222600	BATTERY, 6V, LEAD ACID	4	17	MO456	MOTOR, BRUSH, 33A, 650W	2
1B	MP454200	BATTERY, 6V, SEALED	4	18	CW237	CABLE, MOTOR, VACUUM	1
2	PY001	CABLE, BATTERY	3	19	PY300	CONNECTOR, 2-POLE, FEMALE	4
3	CW479	CABLE, BATTERY, w/ PLUG	1	20	PY299	CONNECTOR, 2-POLE, MALE	4
4	PY1149	HANDLE, PLUG, 120A	1	21	MO500	MOTOR, VACUUM, 24V, 550W	1
5	HAP8026	PLUG, CHARGER, 120A	1	22	PY527	CONNECTOR, 4-POLE, FEMALE	1
6	N/A	N/A	-	23	PY526	CONNECTOR, 4-POLE, MALE	1
7	N/A	N/A	-	24	CW239	CABLE, LIGHT, FLASHING	1
8	N/A	N/A	-	25	PY808	SWITCH, SEAT	1
9A	MP502200	CHARGER, 24V, 25A, LEAD ACID	1	26	GL014	SWITCH, FLOAT	1
9B	MP502201	CHARGER, 24V, 25A, SEALED	1	27	CW241	CABLE, SWITCH, BRUSH	1
9C	MP234300	CORD, 14/3, 115V (NOT SHOWN)	1	28	IN020	SWITCH, MICRO	1
9D	MP264000	CORD, EUR, 230V (NOT SHOWN)	1	29	N/A	N/A	-
10	CW277	CABLE, VALVE, SOLENOID	1	30	N/A	N/A	-
11	PY711	CONNECTOR, 2-WAY	1	31	N/A	N/A	-
12	PY710	CONNECTOR, 2-WAY	1	32	N/A	N/A	-
13	RB015	VALVE, SOLENOID	1	33	IN009	SWITCH, MICRO	1
14	CW266	CABLE, MOTOR, BRUSH	1	34	PY711	CONNECTOR, 2-WAY	1
15	KIT710	KIT, CONNECTOR, 2-WAY	3	35	PY710	CONNECTOR, 2-WAY	1
16	KIT703	KIT, CONNECTOR, 2-WAY	3	36	PY418	LIGHT, FLASHING	1

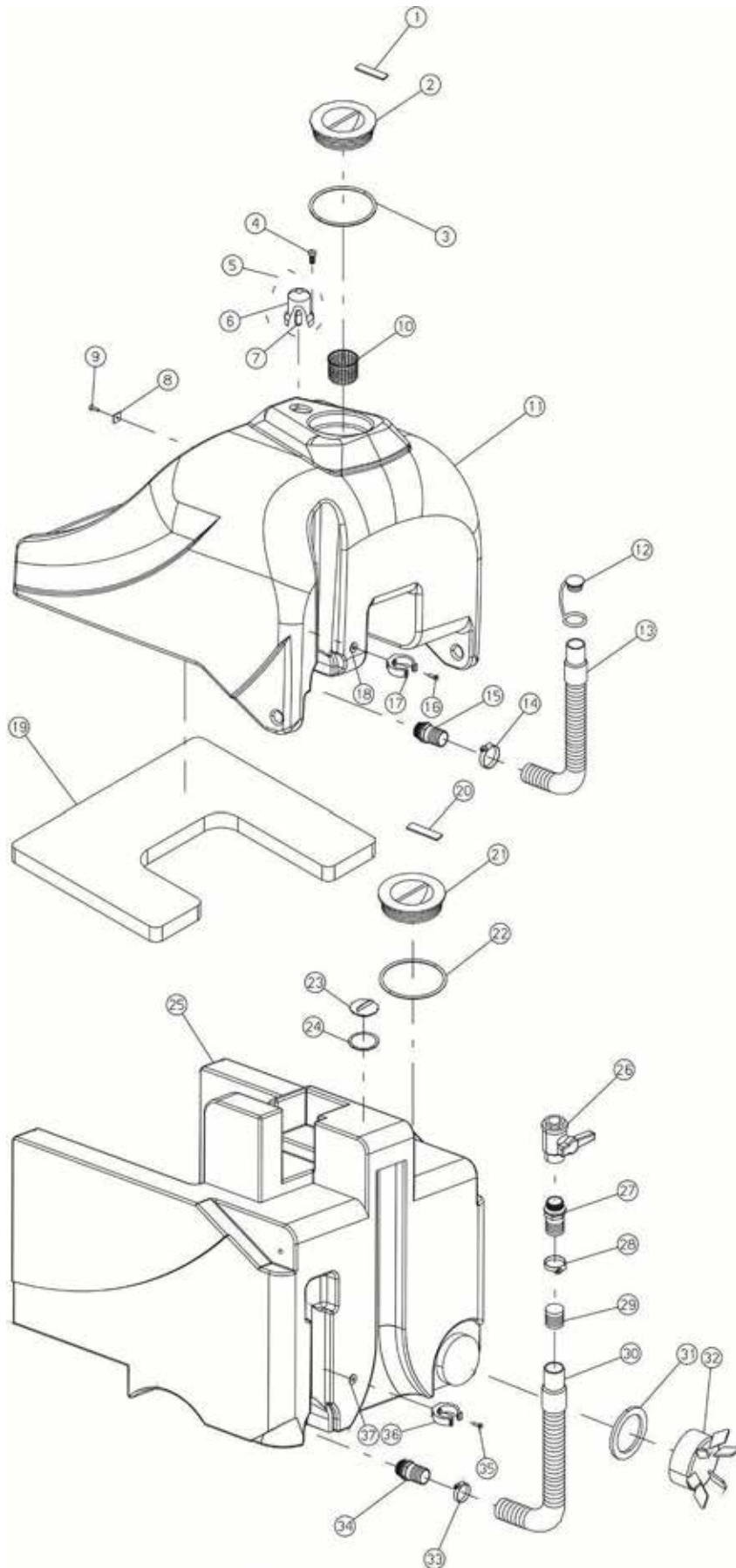
# Main Assembly



## Main Assembly (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	VP081	KNOB, M5 X 15	1	41	FT056	FILTER, TANK, SOLUTION	1
2	CO320	COVER, MOTOR, VACUUM	1	42	VS812	SCREW, PH, M5 X 30	2
3	VG023	SCREW, SET, M5 X 16	2	43	DT154	BUMPER, TANK	2
4	MP240	BRUSH, CARBON, MOTOR, VAC	2	44	SB238	TRAY, BATTERY	1
5	MO500	MOTOR, VACUUM, 24V, 550W	1	45	N/A	N/A	-
6	RC108	ELBOW, DISCHARGE, MOTOR	1	46	N/A	N/A	-
7	GL019	SCREEN, MOTOR, VACUUM	1	47A	MP502200	CHARGER, 24V, LEAD ACID	1
8	TB438	HOSE, DISCHARGE, MUFFLER	1	47B	MP502201	CHARGER, 24V, SEALED	1
9	CO326	COVER, BOX, MUFFLER	1	47C	MP234300	CORD, 14/3, SJT, 6' (115V)	1
10	ML182	CLIP, HOSE, 40MM	1	47D	MP264000	CORD, H05VVF3G1, 8' (230V)	1
11	RO500	WASHER, FLAT, M5 X 15	1	48	N/A	N/A	-
12	DD252	NUT, LOCK, M5	1	49	N/A	N/A	-
13	LM792	BOX, MUFFLER, DISCHARGE	1	50	LM530	PLATE, FRONT, BATTERY	1
14	VC410	SCREW, CS, M5 X 12	1	51	VV431	SCREW, CS, M6 X 12	7
15	VE422	SCREW, BH, M5 X 12	4	52	LM784	STRIP, PLATE, FRONT, BATTERY	1
16	RO453	WASHER, LOCK, M5	4	53	TP152	FRAME, 315ASR	1
17	RO508	WASHER, FLAT, M5 X 20	4	54	IR020	ZERK, GREASE, M8 X 45°	1
18	ST139	BRACKET, RETAINER, STRAP	2	55	BP331	BUMPER, FRONT	1
19	CC019	STRAP, TANK	1	56	VB483	SCREW, BH, M6 X 12	5
20	MI256	SEAT, OPERATOR	1	57	ST165	BRACKET, SUPPORT, CABLE	1
21	VS403	SCREW, CS, M3 X 8	6	58	RO500	WASHER, FLAT, M5 X 15	1
22	MI242	SNAP, SEAT	6	59	RO453	WASHER, LOCK, M5	1
23	VS812	SCREW, CS, M5 X 30	2	60	VB411	SCREW, SH, M5 X 16	1
24	ML184	SPRING, MOTOR, VACUUM	2	61	IS047	FOAM, TOP, TANK, RECOVERY	1
25	PY610	CLAMP, RETAINER, SPRING	2	62	IS051	FOAM, COVER, END/SIDE, VAC	1
26	VE442	SCREW, HEX, M6 X 12	2	63	IS050	FOAM, INSULATION, FRONT	1
27	RO454	WASHER, LOCK, M6	2	64	IS045	FOAM, COVER, END, VAC	1
28	RO051	WASHER, FLAT, M6 X 18	2	65	IS043	FOAM, COVER, TOP, VAC	1
29	ST140	BRACKET, SUPPORT, VACUUM	1	66	IS044	FOAM, COVER, SIDE, VAC	1
30	DT203	SPACER, PIVOT, TANK	2	67	IS052	FOAM, SIDE, LOWER, LEFT	1
31	PE272	PIN, PIVOT, TANK, M16	2	68	IS048	FOAM, SIDE, LOWER, RIGHT	1
32	RO350	WASHER, FLAT,	2	69	IS053	FOAM, SIDE, UPPER, LEFT	1
33	MI381	CLAMP, CABLE	2	70	IS049	FOAM, SIDE, UPPER, RIGHT	1
34	VS413	SCREW, CS, M5 X 12	2	71	KIT1073	KIT, SOUNDPROOFING, SOUND	1
35	ML022	CLIP, HOSE, M32	2	72	GH040	NUT, RING, 1/4" NPT	1
36	VS413	SCREW, CS, M5 X 12	2	73	RC274	FITTING, ELBOW, 1/4" NPT	1
37	TB286	TUBE, SLIDE, RIGID	1	74	GR005	SEAL, MOTOR, VACUUM	1
38	TB285	TUBING, M14 X 2000MM	1	75	GR006	GASKET, FLANGE, MOTOR	2
39	FS002	CLAMP, HOSE, 12-20MM	1	76	FT002	FILTER, FOAM, MOTOR, VAC.	1
40	RC184	FITTING, ADAPTER, 13MM	1	77	GL031	FLANGE, MOTOR, VACUUM	1

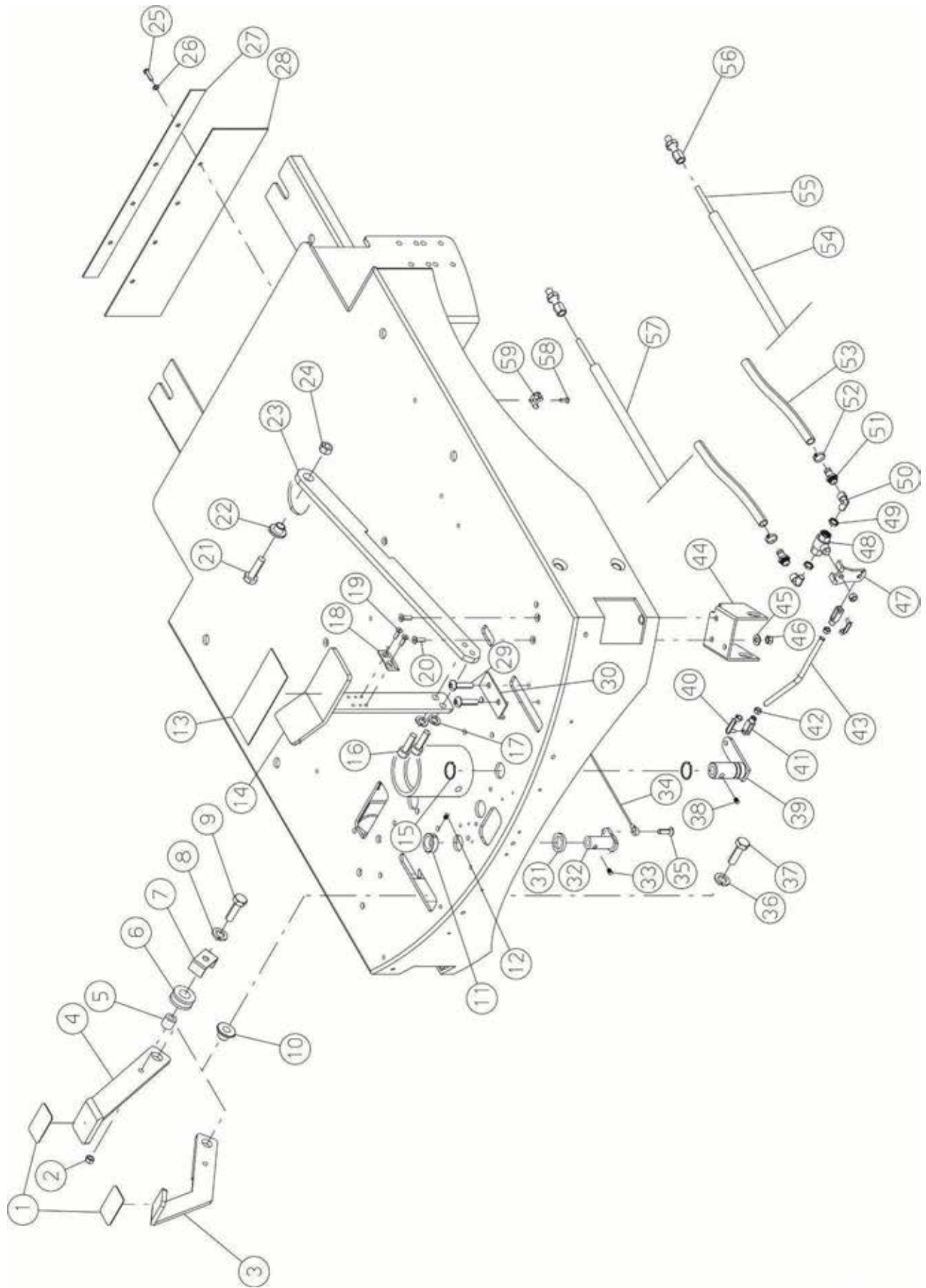






### Solution and Recovery Tanks (continued)

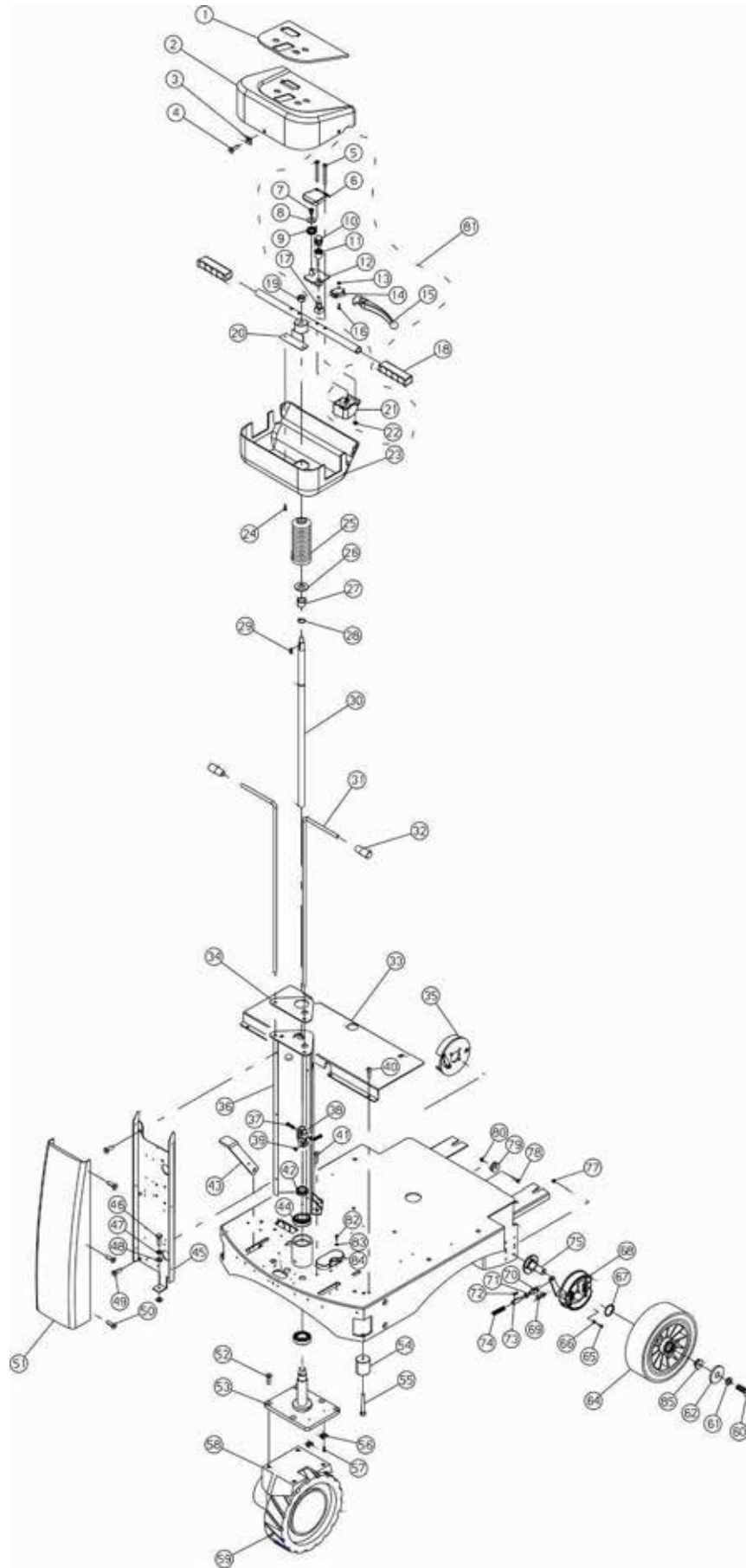
<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	TG191	DECAL, TANK, SOLUTION	1	20	TG192	DECAL, TANK, RECOVERY	1
2	TA034	CAP, TANK	1	21	TA034	CAP, TANK	1
3	GR112	GASKET, CAP	1	22	GR112	GASKET, CAP	1
4	VA274	SCREW, M4.9 X 45	3	23	TA037	PLUG	1
5	PY418	LIGHT, STROBE, ASM.	1	24	GR141	GASKET, SEAL, PLUG	1
6	PY617	GLASS, LIGHT, STROBE	1	25	SB187/26061	TANK, RECOVERY	1
7	LP021	BULB, STROBE	1	26	RB023	VALVE, TANK	1
8	MI074	BLOCK, RETAINER, CABLE	1	27	RC025	FITTING, ADAPTER, 32MM	1
9	VS403	SCREW, CS, M3 X 8	1	28	FS011	CLAMP, HOSE, 25-40MM	1
10	FT034	FILTER, TANK, SOLUTION	1	29	EE051	FITTING, ADAPTER, REDUCER	1
11	SB188/26061	TANK, SOLUTION	1	30	TB281	HOSE, DRAIN, TANK, REC.	1
12	TA002	PLUG, HOSE	1	31	GR184	GASKET, CAP, TANK, REC.	1
13	TB370	HOSE, DRAIN, TANK, SOL.	1	32	TA059	CAP, TANK, RECOVERY	1
14	FS011	CLAMP, HOSE, 25-40MM	1	33	FS011	CLAMP, HOSE, 25-40MM	1
15	RC188	FITTING, ADAPTER, 32MM	1	34	RC189	FITTING, 38MM X 1-1/4"NPT	1
16	VS414	SCREW, CS, M5 X 16	1	35	VS414	SCREW, CS, M5 X 16	1
17	ML022	CLIP, HOSE	1	36	ML022	CLIP, HOSE, M32	1
18	RO350	WASHER, FLAT, M5	1	37	R0350	WASHER, FLAT, M5	1
19	IS046	INSULATION, COMP., BATTERY	1				



## Controls (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	BP328	PAD, PEDAL, ANTI-SLIP	1	31	DT217	BUSHING, SPACER, LINKAGE	1
2	DD455	NUT, LOCK, M10	1	32	PE296	LINKAGE, PIVOT, SQUEEGEE	1
3	LV443	LEVER, BRAKE, EXTENDED	1	33	VG061	SCREW, SET, M8 X 8	2
4	LV361	LEVER, BRAKE	1	34	MI266	CABLE, LIFT, SQUEEGEE	1
5	BO135	BUSHING, PEDAL, BRAKE	1	35	VV439	SCREW, CS, M8 X 16	1
6	PP036	PULLEY, WIRE	1	36	RO456	WASHER, LOCK, M10	1
7	PT290	PLATE, STOP, CABLE	1	37	VE480	BOLT, HEX, M10 X 35	1
8	RO455	WASHER, LOCK, M8	1	38	VG061	SCREW, SET, M8 X 8	2
9	VE462	BOLT, HEX, M8 X 25	1	39	PE264	LINKAGE, PIVOT, SOLUTION	1
10	BO231	BUSHING, PIVOT, PEDAL	1	40	MI028	PIN, END, YOKE, M6	2
11	DT193	BUSHING, RETAINER, PIVOT	1	41	SN002	END, YOKE, M6	2
12	VG023	SCREW, SET, M5 X 16	2	42	DD404	NUT, HEX, M6	2
13	BP382	PAD, PEDAL, DECK, ANTI-SLIP	1	43	TI173	ROD, LINKAGE	1
14	LV357	PEDAL, DECK, SCRUB	1	44	ST053	BRACKET, VALVE, SOLUTION	1
15	SG016	RING, RETAINING, M20	2	45	RO500	WASHER, FLAT, M5 X 15	2
16	VB430	SCREW, SH, M8 X 16	2	46	DD252	NUT, LOCK, M5	2
17	RO455	WASHER, LOCK, M8	2	47	LV367	LEVER, VALVE, SOLUTION	1
18	PT313	PLATE, LATCH, PEDAL	1	48	RB007	VALVE, SOLUTION	1
19	VS402	SCREW, CS, M4 X 8	2	49	GH007	NUT, RING, VALVE	2
20	VS414	SCREW, CS, M5 X 16	2	50	RC073	FITTING, ELBOW, 3/8" NPT	2
21	VE480	BOLT, HEX, M10 X 35	2	51	RC002	FITTING, ADAPTER, 3/8" NPT	2
22	BO147	BUSHING, PIVOT, LEVER	1	52	FS002	CLAMP, HOSE, 12-22MM	2
23	LV356	LEVER, LIFT, DECK	1	53	TB150	TUBING, M10 X 200MM	2
24	DD455	NUT, LOCK, M10	1	54	MI264	SHEATH, CABLE, BRAKE, LEFT	1
25	VC412	SCREW, BH, M5 X 10	4	55	MI267	CABLE, BRAKE	1
26	RO453	WASHER, LOCK, M5	4	56	MI130	TERMINAL, CABLE, BRAKE	2
27	LM566	STRAP, SKIRT, REAR	1	57	MI263	SHEATH, CABLE, BRAKE, RIGHT	1
28	MI275	SKIRT, SPLASH, REAR	1	58	VS411	SCREW, CS, M5 X 8	2
29	VB483	SCREW, BH, M6 X 12	2	59	MI381	CLAMP, CABLE	2
30	PT314	PLATE, CATCH, PEDAL	1				

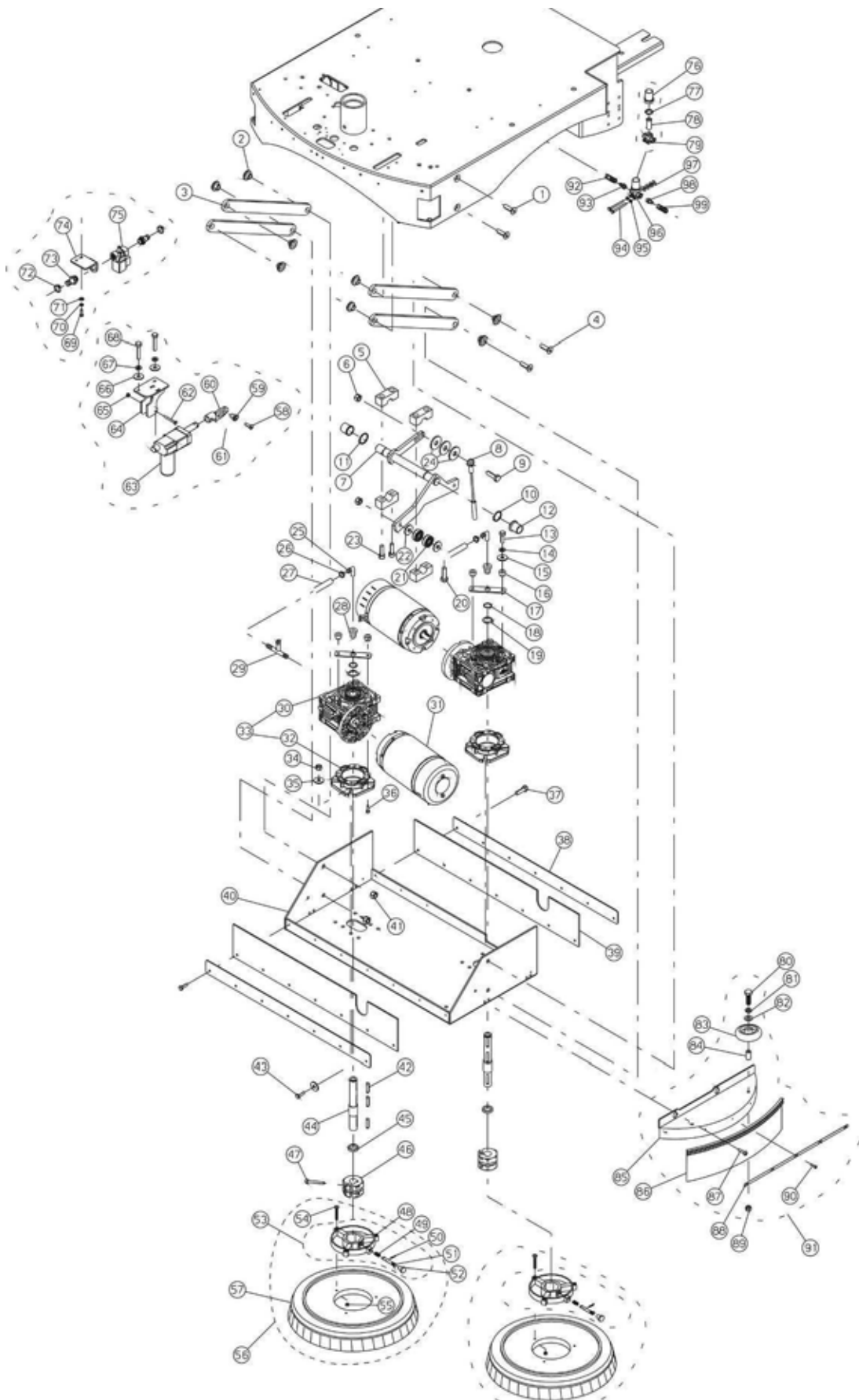
## Frame Assembly



## Frame Assembly (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	TG136/26061	PLATE, PANEL, CONTROL	1	44	CS074	BEARING, BALL, 32006	2
2	CO240N	PANEL, CONTROL, UPPER	1	45	LM526	BRACKET, COMPONENT	1
3	MI336	CLIP, PANEL	3	46	VE424	BOLT, HEX, M5 X 16	1
4	VA401	SCREW, M4.2 X 13	3	47	RO453	WASHER, LOCK, M5	1
5	VS419	SCREW, CS, M5 X 35	4	48	RO402	WASHER, FLAT, M5	2
6	CO175	COVER, SUPPORT, SWITCH	2	49	VS421	SCREW, CS, M6 X 12	6
7	VA406	SCREW, M3.5 X 13	2	50	VS404	SCREW, CS, M4 X 12	6
8	RO508	WASHER, FLAT, M5 X 20	2	51	CA206N	COVER, FRONT, BLACK	1
9	ML125	SPRING, RETURN, LEVER	2	52	VV467	SCREW, CS, M10 X 30	4
10	IG023	GEAR, PLASTIC	2	53	PE262	AXLE, STEERING, DRIVE	1
11	BO071	BUSHING, POTENTIOMETER	2	54	RT172	ROLLER, BUMPER	2
12	SU455	PLATE, SUPPORT, SWITCH	2	55	VB458	BOLT, HEX, M8 X 90	2
13	DD450	NUT, LOCK, M3	2	56	MI381	CLAMP, CABLE	2
14	IN093	SWITCH, MICRO	2	57	VS413	SCREW, CS, M5 X 12	2
15	LV297	LEVER, PLASTIC	2	58	MO385-S	DRIVE, WHEEL, 24V, 700W	1
16	VS428	SCREW, CS, M3 X 16	2	59	RT170R	TIRE, DRIVE, FRONT	1
17	PY805	POTENTIOMETER, 10K	2	60	VE461	BOLT, HEX, M8 X 20	2
18	MN060	KNOB, RUBBER	2	61	RO455	WASHER, LOCK, M8	2
19	DD407	NUT, HEX, M12	1	62	MV016	WASHER, FLAT, SPECIAL	2
20	MN076	HANDLE, OPERATORS	1	63	CS041	BEARING, BALL, 6005	4
21	CO176	COVER, SWITCH, LOWER	1	64	RT164	WHEEL, REAR, D250	2
22	DD452	NUT, LOCK, M5	4	65	VB435	BOLT, HEX, M8 X 30	8
23	CO241N	PANEL, CONTROL, LOWER	1	66	RO455	WASHER, LOCK, M8	8
24	VS413	SCREW, CS, M5 X 12	2	67	SG019	RING, RETAINING, M25	2
25	MV5008	BELLOW	1	68	FN029	DRUM, BRAKE, LEFT	1
26	RO354	WASHER, STAR, M20	1	69	MI077	PIN, END, YOKE, M8	2
27	BN003	BUSHING, NYLON, 19.05MM	1	70	SN008	END, YOKE, M8	2
28	SG016	RING, RETAINING, M20	1	71	DD405	NUT, HEX, M8	2
29	CH011	KEY, 5X5X20	1	72	VG020	PIN, DOWEL, M6 X 8	4
30	AL108	SHAFT, STEERING	1	73	MI115	CABLE, BRAKE	2
31	LV359	LEVER, LIFT, SQUEEGEE	2	74	ML019	SPRING	2
32	VP071	KNOB, LEVER, M10	2	75	PE261	AXLE, WHEEL, REAR	2
33	PA249	BOARD, FOOT	1	76	RT169	TIRE, REPLACEMENT (FOR RT164)	2
34	TG138	DECAL, CONTROLS	1	77	DD454	NUT, LOCK, M8	8
35	FN028	DRUM, BRAKE, RIGHT	1	78	VE462	BOLT, HEX, M8 X 28	1
36	LM524	COLUMN, STEERING	1	79	PP134	PULLEY, BRAKE, PARKING	1
37	VE464	BOLT, HEX, M8 X 35	2	80	DD454	NUT, LOCK, M8	1
38	GN010	JOINT, STEERING	1	81	KIT609	KIT, LEVER, DRIVE	1
39	DD454	NUT, LOCK, M8	2	82	VC421	BOLT, M6 X10	1
40	VB428	SCREW, BH, M8 X 12	5	83	RO454	WASHER, LOCK, M6	1
41	VB428	SCREW, BH, M8 X 12	4	84	CO330	WASHER, COVER	1
42	DD267	NUT, LOCK, M25	1	85	DT280	SPACER, WHEEL, DRIVE	2
43	LV361	LEVER, BRAKE	1				

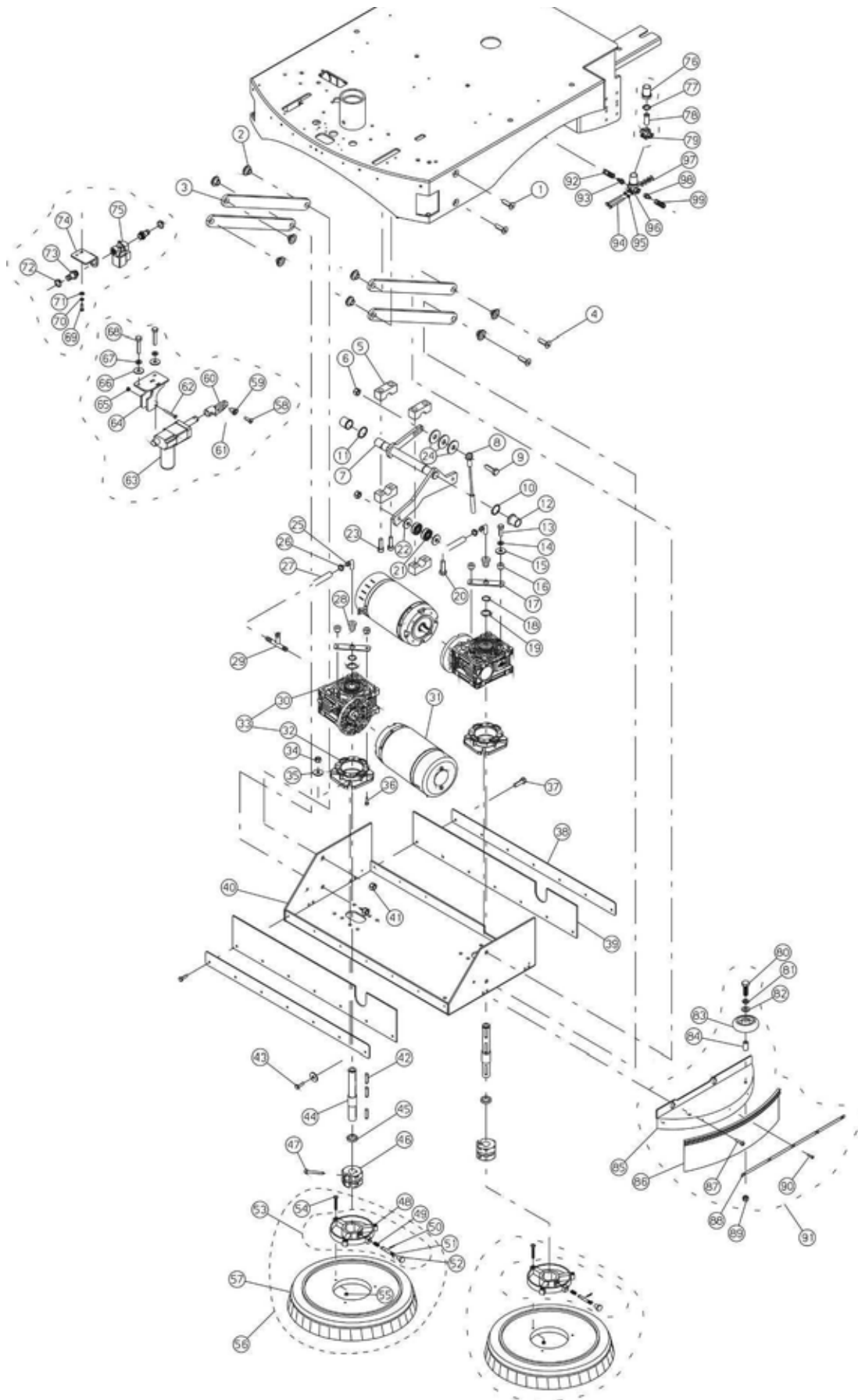
## Scrub Deck Assembly (1 of 2)



### Scrub Deck Assembly (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	VV472	SCREW, CS, M10 X 40	4	26	FS012	CLAMP, HOSE, 10-16MM	2
2	BO147	BUSHING, DECK, SCRUB	8	27	TB510	TUBING, M10 X 200MM	2
3	LV271	LEVER, DECK, SCRUB	4	28	GR138	FITTING, ADAPTER	2
4	VB456	SCREW, CS, M10 X 30	4	29	RC005	FITTING, UNION, TEE, 10MM	1
5	SU069	SUPPORT, LIFT, DECK	4	30	RD031	GEARBOX (FOR RD029)	2
6	DD5016	NUT, HEX, M10	2	31	MO456	MOTOR, BRUSH, 33A, 650W	2
7	AL174	ARM, LIFT, DECK, SCRUB	1	32	FL118	FLANGE, GEAR (FOR RD029)	2
8	MI402	CABLE, LIFT, DECK, SCRUB	1	33	RD029	GEARBOX, w/ FLANGE	2
9	VE480	BOLT, HEX, M10 X 35	1	34	DD232	NUT, JAM, M8	8
10	SG103	RING, RETAINING, 20MM	1	35	RO404	WASHER, FLAT, M8	16
11	SG016	RING, RETAINING, 20MM	1	36	VB495	BOLT, HEX, M6 X 14	8
12	BN003	BUSHING, NYLON, 19.05MM	2	37	VE510	SCREW, FLANGE, M5 X 12	14
13	VE445	BOLT, HEX, M6 X 25	2	38	LM782	STRIP, MOUNTING, GUARD	2
14	RO454	WASHER, LOCK, M6	2	39	BP427	GUARD, SPLASH	2
15	RO501	WASHER, FLAT, M6 X 18	2	40	LM781	DECK, SCRUB	1
16	DT010	SPACER, ADJUSTMENT	2	41	DD455	NUT, LOCK, M10	4
17	LM720	PLATE, FITTING, ADAPTER	2	42	CH023	KEY, 6X6X30	6
18	SG016	RING, RETAINING, M20	2	43	VE462	BOLT, HEX, M8 X 25	8
19	MI441	SPACER, M18 X 26 X 0.3	2	44	AL161	SHAFT, DRIVE, BRUSH	2
20	VE480	BOLT, HEX, M10 X 35	1	45	DT064	SPACER	2
21	CS003	BEARING, BALL, 6200	2	46	AL175	SHAFT, BRUSH, HEX	2
22	RO405	WASHER, FLAT, M10	2	47	VB419	SCREW, SH, M6 X 20	4
23	VB494	SCREW, SH, M8 X 55	4	48	FL004	FLANGE, CONN., BRUSH, HEX	2
24	RO405	WASHER, FLAT, M10	3	49	ML042	SPRING	2
25	RC277	FITTING, ELBOX, M10	2	50	SP002	PIN, TENSION	2



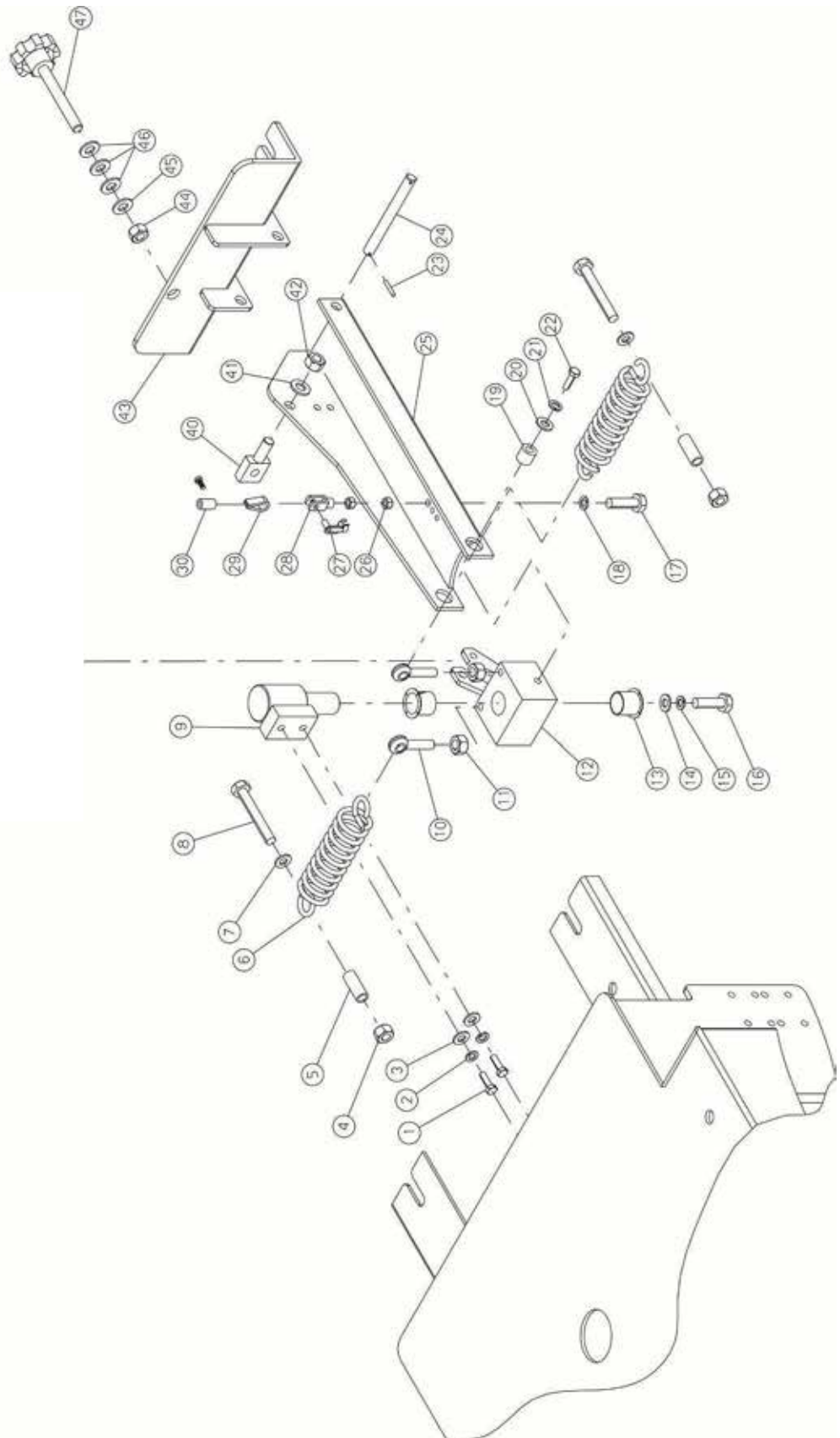




### Scrub Deck Assembly (continued)

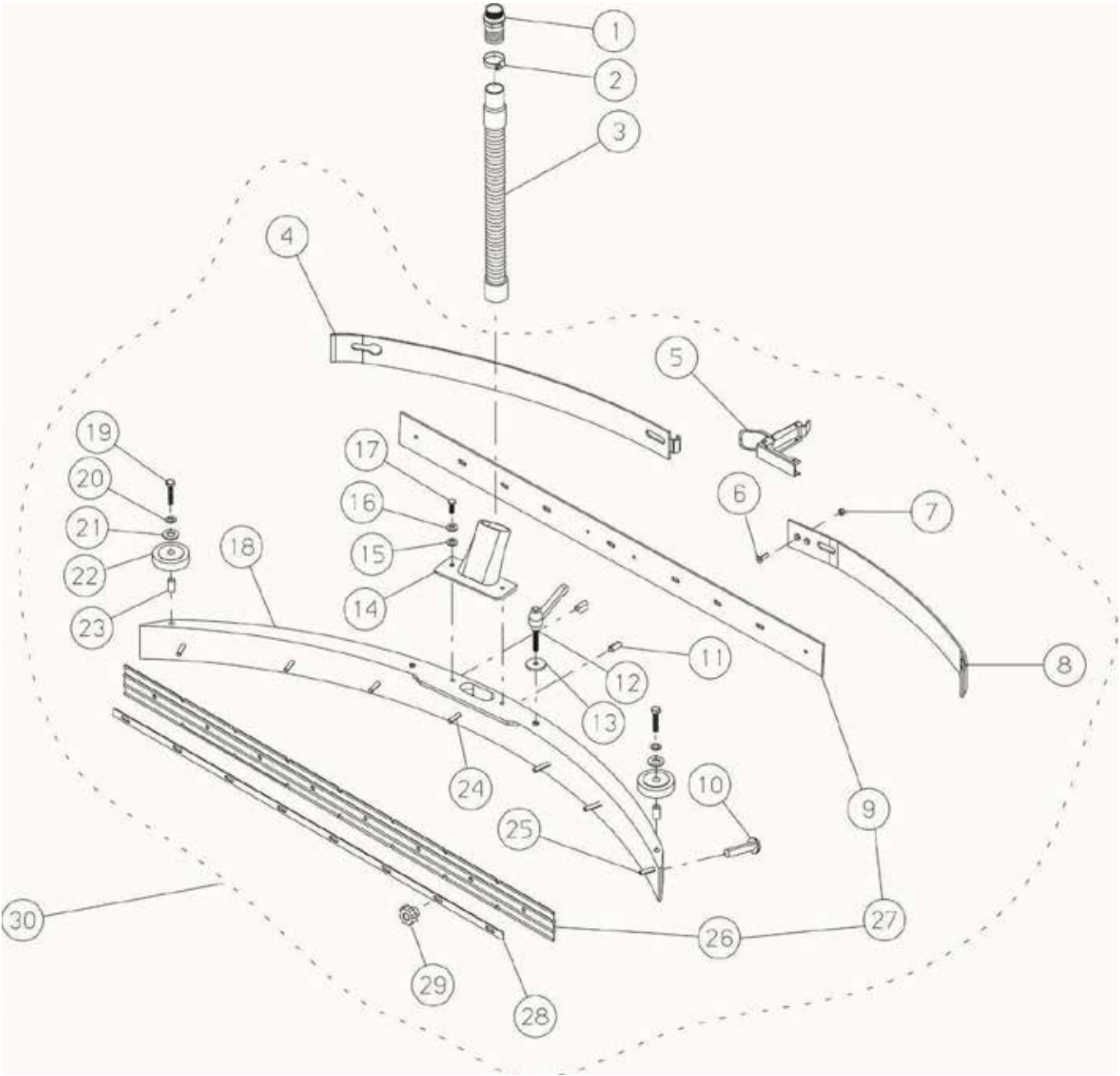
<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
51	PE064	PIN, CONNECTION, BRUSH	2	75	RB015	VALVE, SOLENOID	1
52	GH008	NUT, RING, CONN., BRUSH	2	76	CF015	GLASS, FILTER	1
53	KIT161	HEX, CONN., BRUSH, ASM.	2	77	GR135	GASKET, FILTER	1
54	VS422	SCREW, CS, M5 X 40	6	78	FT044	FILTER, WATER	1
55	DD452	NUT, LOCK, M5	6	79	SU753	SUPPORT, FILTER	1
56A	KIT265	HOLDER, PAD, 15" ASM.	2	80	VE470	BOLT, HEX, M8 X 45	2
56B	KIT820	BRUSH, NYLON, 15", ASM.	2	81	RO455	WASHER, LOCK, M8	2
57	TS006	HOLDER, PAD, 15"	2	82	RO404	WASHER, FLAT, M8	2
58	VV463	SCREW, M10 X 25	1	83	RT063	WHEEL, 80MM X 25MM	2
59	BO270	BUSHING, LIFT, ACTUATOR	1	84	BO150	BUSHING, PEDAL	2
60	FR029	YOKE, ACTUATOR	1	85	CA240	COVER, BRUSH	2
61	SP020	PIN, SPLIT, M6 X 25	1	86	BP288	BUMPER, COVER, BRUSH	2
62	VE464	BOLT, HEX, M8 X 35	1	87	VB476	BOLT, BH, M8 X 20	4
63	MA061	ACTUATOR, DECK	1	88	LM556	STRIP, MOUNTING, BUMPER	2
64	SU751	BRACKET, MOUNT, ACTUATOR	1	89	DD454	NUT, LOCK, M8	2
65	DD454	NUT, LOCK, M8	1	90	VC401	SCREW, M4 X 8	10
66	VI010	WASHER, FLAT, M10 X 38	2	91	KIT737	COVER, BRUSH, ASM.	2
67	RO456	WASHER, LOCK, M10	2	92	TB497	TUBING, M12 X 760MM	1
68	VE481	BOLT, HEX, M10 X 20	2	93	RC185	FITTING, M12 X 1/2" MNPT	1
69	VE442	BOLT, HEX, M6 X 12	2	94	VE525	BOLT, HEX, M6 X 80	2
70	RO454	WASHER, LOCK, M6	2	95	R0454	WASHER, LOCK, M6	2
71	RO403	WASHER, FLAT, M6	2	96	FT032	FILTER, ASM.	1
72	FS002	CLAMP, HOSE, 12-22MM	2	97	RO501	WASHER, FLAT, M6 X 18	8
73	RC185	FITTING, M12 X 1/2" MNPT	2	98	RC280	FITTING, M14 X 1/2" MNPT	1
74	PT337	PLATE, MOUNT, SOLENOID	1	99	TB381	TUBING, M14 X 1200MM	1

## Squeegee Lift Assembly



### Squeegee Lift Assembly (continued)

<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Description</u>	<u>Qty</u>
1	VE461	SCREW, M8 X 20	2	25	LM615	BRACKET, LIFT, SQUEEGEE	1
2	RO455	WASHER, LOCK, M8	2	26	DD405	NUT, HEX, M8	2
3	RO502	WASHER, FLAT, M8 X 24	2	27	MI005	PIN, w/ SPRING	1
4	DD454	NUT, LOCK, M8	2	28	SN003	YOKE, M8	1
5	BO105	BUSHING	2	29	MI415	CLAMP, CABLE, LIFT	1
6	ML096	SPRING, EXTENSION	2	30	MI146	TERMINAL, CABLE, LIFT	1
7	RO502	WASHER, FLAT, M8 X 24	2	31	N/A	N/A	-
8	VE467	BOLT, HEX, M8 X 50	2	32	N/A	N/A	-
9	PE266	PIN, PIVOT, SQUEEGEE	1	33	N/A	N/A	-
10	MI180	TIE-ROD	2	34	N/A	N/A	-
11	DD405	NUT, HEX, M8	2	35	N/A	N/A	-
12	SU560	MOUNT, SQUEEGEE	1	36	N/A	N/A	-
13	BN003	BUSHING, FLANGE, 19.5MM	2	37	N/A	N/A	-
14	MV016	WASHER, SPECIAL	1	38	N/A	N/A	-
15	RO455	WASHER, LOCK, M8	1	39	N/A	N/A	-
16	VE461	BOLT, HEX, M8 X 20	1	40	PE180	PIN, ADJUSTMENT, SQUEEGEE	1
17	VE470	BOLT, HEX, M8 X 45	1	41	RO405	WASHER, FLAT, M10	1
18	RO455	WASHER, LOCK, M8	1	42	DD455	NUT, LOCK, M10	1
19	BO135	BUSHING	2	43	SU742	BRACKET, MOUNT, SQUEEGEE	1
20	RO502	WASHER, FLAT, M8 X 24	2	44	DD255	NUT, HEX, M10	1
21	RO455	WASHER, LOCK, M8	2	45	RO405	WASHER, WAVE, M10	1
22	VE462	BOLT, HEX, M8 X 25	2	46	RO314	WASHER, FLAT, M10	3
23	CP206	PIN, SPLIT, M2 X 30	2	47	VP058	KNOB, 6 LOBE, M10 X 80	1
24	PE267	PIN, PIVOT, BRACKET, SQ.	1				



### ***Squeegee Assembly (continued)***

<b><u>Item</u></b>	<b><u>Ref. No.</u></b>	<b><u>Description</u></b>	<b><u>Qty</u></b>	<b><u>Item</u></b>	<b><u>Ref. No.</u></b>	<b><u>Description</u></b>	<b><u>Qty</u></b>
1	RC084	FITTING, 1-1/4" NPT X 38MM	1	16	RO454	WASHER, LOCK, M6	2
2	FS004	CLAMP, HOSE, 30-50MM	1	17	VE443	BOLT, HEX, M6 X 16	2
3	TB292	HOSE, SQUEEGEE	1	18	SQ065	BODY, SQUEEGEE	1
4	LM564	BAND, REAR, SQ., RIGHT	1	19	VE471	BOLT, HEX, M8 X 70	2
5	CC5000	CLAMP, BAND	1	20	RO455	WASHER, LOCK, M8	2
6	VS410	SCREW, M4 X 10	2	21	RO502	WASHER, FLAT, M8 X 24	2
7	DD451	NUT, LOCK, M4	2	22	RT056	WHEEL, 100MM X 19MM	2
8	LM565	BAND, REAR, SQ., LEFT	1	23	BO109	BUSHING, WHEEL	2
9	BP426	BLADE, SQUEEGEE, REAR	1	24	MI382	STUD, THREADED, M6	1
10	VB474	SCREW, BH, M8 X 16	2	25	MI121	STUD, THREADED, M6 X 35	6
11	PE275	PIN, LOCATING, BAND	2	26	BP332	BLADE, SQUEEGEE, FRONT	1
12	VP042	KNOB, LEVER, M8 X 20	2	27	KIT813	BLADE, SQUEEGEE, KIT	1
13	VI060	WASHER, THREADED, M8	2	28	LM563	BAND, SQUEEGEE, FRONT	1
14	SB165	TUBE, INTAKE, SQUEEGEE	1	29	VP015	KNOB, M6	7
15	RO501	WASHER, FLAT, M6 X 18	2	30	KIT811	SQUEEGEE, ASM.	1

# Limited Warranty

PE315ASR

## TO QUALIFY FOR THIS WARRANTY

- (1) Machine must be registered at the time of purchase on a form provided by Amano Pioneer Eclipse Corporation. Your Amano Pioneer Eclipse Corporation Distributor is responsible for the registration of your machine. Please cooperate with your Distributor in supplying necessary information on the card.
- (2) The machine must have been purchased from Amano Pioneer Eclipse Corporation or an authorized Amano Pioneer Eclipse Corporation Distributor.
- (3) This warranty extends to the original purchaser only and is not transferable to subsequent owners.

## TIME PERIODS

- (1) Rotational molded parts warranted for eight (8) years.
- (2) Batteries warranted by battery manufacturer for one (1) year.
- (3) ONE (1) YEAR WARRANTY. Warranted to be free from defects in material and workmanship for a period of one (1) year from the date of purchase by the original owners. (See Exclusions.)
- (4) ONE (1) YEAR WARRANTY - For labor necessary to make warranty repairs.

## EXCLUSIONS (Not Covered by Warranty)

- (1) Parts that fail through normal wear by reason of their characteristics (pads, brushes, belts, wheels, pad holder, rubber skirt, squeegee rubber, or other consumable parts).
- (2) This warranty does not extend to parts affected by misuse, neglect, abuse or improper maintenance. All defective parts must be returned to the distributor for credit.
- (3) Batteries warranted by the battery manufacturer for one (1) year (Prorated).
- (4) Vacuum Motors are warranted for ninety (90) days.

## THE OBLIGATION OF AMANO PIONEER ECLIPSE CORPORATION

- (1) The obligation of Amano Pioneer Eclipse Corporation under this warranty is limited to repairing or replacing, at its option, any part which is proven to be defective in material or workmanship under normal use for the applicable period stated above.
- (2) Warranty repairs will be made by your Amano Pioneer Eclipse Corporation Distributor without charge for parts and labor. They will be compensated with a warranty labor rate of \$45.00 per hour, for the first year of ownership.
- (3) Parts repaired or replaced under this warranty are warranted only during the balance of the original warranty period. All defective parts replaced under these warranties become the property of Amano Pioneer Eclipse Corporation.

## WARRANTY SERVICE

To obtain warranty service, take your machine and proof of purchase to any authorized Amano Pioneer Eclipse Corporation Distributor. Amano Pioneer Eclipse Corporation will not reimburse expenses for service calls or travel. For the Distributor in your area, call Amano Pioneer Eclipse Corporation Customer Service Department at 1-800-367-3550 or 1-336-372-8080. If you are dissatisfied with the service that you receive, call or email Amano Pioneer Eclipse Corporation Customer Service Department at [apeccs@pioneerclipse.com](mailto:apeccs@pioneerclipse.com) for further assistance.

## INSTRUCTIONS AND CONDITIONS FOR WARRANTY REIMBURSEMENT

- Order replacement part: Orders will be processed and charged, as normal procedure.
- Call Amano Pioneer Eclipse Corporation for R/A number.
- You will need the Machine Serial Number, and the Machine Model Number.
- Parts must be returned, accompanied with the R/A number to be eligible for warranty credit.
- All Warranty Parts will be shipped prepaid UPS Ground, any other method will be at the recipients expense.
- Freight on any Warranty Part after 30 days must be paid for by the Purchaser.
- Warranty labor rate is \$45.00 per hour.
- Credit will be issued upon completion of the above steps, at the above rates.

## DISCLAIMER OF CONSEQUENTIAL

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