PACIFIC®
FLOORCARE

RS28

30 GALLON RIDER AUTO SCRUBBER

PARTS & OPERATING MANUAL

Thank you for purchasing a Pacific Floorcare product. Carefully inspect all components for freight damage. If such damage is discovered, file a “CONCEALED DAMAGE REPORT” immediately with the delivering carrier.

Read this manual carefully and keep it near the machine, protected from liquids and other damaging substances. Failure to follow the instructions may result in injury or damage to equipment and property.

The contents of this manual are based on the latest product information available at the time of publication. Pacific Floorcare reserves the right to make changes or improvements without being obliged to apply changes to the machines previously sold.

New manuals can be downloaded from: www.pacificfloorcare.com/manuals

30 GALLON RIDER AUTO SCRUBBER SPECIFICATIONS

Features	Specifications	
Model	RS28 (Disk)	RS28 (Orbital)
Machine Specifications		
Length	60 in (152.4 cm)	60 in (152.4 cm)
Width (w/o Squeegee)	27 in (68.6 cm)	27 in (68.6 cm)
Height	52 in (132.1 cm)	52 in (132.1 cm)
Weight w/ Std Batteries	920 lbs (417.5 kg)	920 lbs (417.5 kg)
Sound level	65 dBA	65 dBA
Construction	Rotationally Molded Polyethylene Tanks Powder Coated Steel Frame	Rotationally Molded Polyethylene Tanks Powder Coated Steel Frame
Drive System		
Drive type	9.84 in (250 mm) motor in wheel	9.84 in (250 mm) motor in wheel
Motor horsepower	1.13 HP / 840 W	1.13 HP / 840 W
Speed Control	Throttle Pedal 5 Max Speed Settings	Throttle Pedal 5 Max Speed Settings
Speed (Scrubbing)	310 fpm (5.7 km/h)	310 fpm (5.7 km/h)
Speed (Transport)	310 fpm (5.7 km/h)	310 fpm (5.7 km/h)
Speed (Reverse)	248 fpm (4.5 km/h)	248 fpm (4.5 km/h)
Scrubbing Grade	2%	2%
Transport Grade (Full)	10%	10%
Transport Grade (Empty)	19%	19%
Solution Delivery System		
Solution Capacity	30 gal (133.6 l)	30 gal (133.6 l)
Solution Control (Standard)	0.1 - .8 gpm (0.005 - 0.037 kg/sec)	0.1 - .8 gpm (0.005 - 0.037 kg/sec)
Solution Control Settings	5	5
Chemical injection (Opt'l)	12 Settings	12 Settings
Scrubbing System		
Cleaning Path	28 in (71.1 cm)	28 in (71.1 cm)
Pad Brush Size	(2) 14 in (35.6 cm) Disk	14 in (35.6 cm) x 28 in (71.1 cm) Pad
Pressure	90 lbs (40.8 kg), 120 lbs (54.4 kg), 150 lbs (68 kg), 180 lbs (81.6 kg), and 210 lbs (95.3 kg)	90 lbs (40.8 kg), 120 lbs (54.4 kg), 150 lbs (68 kg), 180 lbs (81.6 kg), and 210 lbs (95.3 kg)
Productivity (Per Hour) Theoretical Max	49,238 sq-ft (4,573 sq-m)	49,238 sq-ft (4,573 sq-m)
Productivity (Per Hour) Average Coverage Rate*	25,566 sq-ft (2,378 sq-m)	25,566 sq-ft (2,378 sq-m)
Recovery System		
Recovery Tank Capacity	32 gal / 121 L	32 gal / 121 L
Recovery Tank Accessibility	Full Clean-out Access	Full Clean-out Access
Vacuum Motor	.76 Hp / 566 W, 3-Stage	.76 Hp / 566 W, 3-Stage
Vacuum Motor cfm/cmm	68 cfm (1.92 cubic m/min)	68 cfm (1.92 cubic m/min)
Vacuum Motor Water-lift	71 in (180 cm)	71 in (180 cm)
Squeegee Width	33 in (84 cm)	33 in (84 cm)
Squeegee Material (Std)	Linatex®	Linatex®
Squeegee Material (Opt'l)	PRIMOthane®	PRIMOthane®
Battery System		
System Voltage	24 V	24 V
Battery Amp/Hour Rating (Std)	260 Ah	260 Ah
Battery Run Time (Std)	Up to 3.0 hours	Up to 3.5 hours
Battery Amp/Hour Rating (Opt'l)	360 Ah	360 Ah
Battery Run Time (Opt'l)	Up to 5.0 hours	Up to 5.5 hours
Battery Amp/Hour Rating (MF)	250 Ah	250 Ah
Battery Run Time (MF)	Up to 2.5 hours	Up to 3.0 hours
Charger Description	On-Board	On-Board
*Productivity calculations utilize key factors from ISSA 540 cleaning times handbook		
Note: Specifications subject to change without notice		

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⚠ SAFETY INFORMATION ⚠

WARNING: A potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION: A potentially hazardous situation that, if not avoided, could result in moderate injury or serious property damage.

NOTE: Information that will prevent premature equipment failure or minor property damage.

WARNING: This product can expose you to chemicals including lead and lead compounds which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

WARNING: This machine is not equipped with explosion proof motors. Never use near flammable or reactive materials, liquids, vapors or combustible dusts. Electric motors spark internally during operation and could cause a flash fire or explosion.

WARNING: Batteries emit hydrogen and oxygen gas.
- Keep sparks and open flame away.
- Do not smoke near the machine.
- Charge batteries in a well-ventilated area with the battery compartment open.

WARNING: Do not plug in the charger cable if wall cord or battery harness is damaged.

WARNING: Disconnect battery cables before servicing.

WARNING: Do not wear jewelry when working near moving or electrical components.

WARNING: Do not use the machine as a means for transport.

WARNING: Never allow children to play on or around machine.

WARNING: Do not bump into shelves or scaffoldings, especially where there is a risk of falling objects.

WARNING: Support the machine on safety stands before working underneath.

WARNING: Do not operate the machine:
- Unless trained and authorized.
- Unless operator manual has been fully read and understood.
- While using cell phones or other electronic devices.
- Under the influence of drugs or alcohol.
- With any part of the machine not functioning properly.
- With the brake disabled.
- In areas where flammable vapors, liquids, or combustible dusts are present.
- In low light areas where the operators vision is impaired.
- In areas with possible falling objects.

WARNING: Before operating the machine:
- Check the machine and batteries for fluid leaks.
- Check the steering and brake systems for proper operation.

WARNING: While operating the machine:
- Operate the machine only as described in this manual.
- Allow the machine to fully stop before getting off.
- Keep all body parts inside the machine while moving.
- Do not carry passengers on the machine.
- Follow all safety instructions and guidelines specific to your facility or environment.

⚠ SAFETY INFORMATION ⚠
CONTINUED

CAUTION: Keep hands away from spinning brushes.
CAUTION: Do not modify the machine from its original design.
CAUTION: Wear non-slip shoes when operating machine.
CAUTION: Reduce speed when turning or operating on inclines and slippery surfaces.
CAUTION: Use Bromine only in your tank treatment system! Do not use chlorine. Chlorine can interact with ammonia-based detergents and cause harmful fumes.
CAUTION: Follow mixing and handling instructions on chemical containers.
CAUTION: Remove the batteries, use a jack, and get assistance before lifting the machine.
CAUTION: Park and service the machine on a level surface and remove the key.
CAUTION: Always wear protective clothing, gloves and goggles when handling and charging batteries.
CAUTION: Avoid moving parts and do not wear loose jackets, shirts or sleeves when servicing.

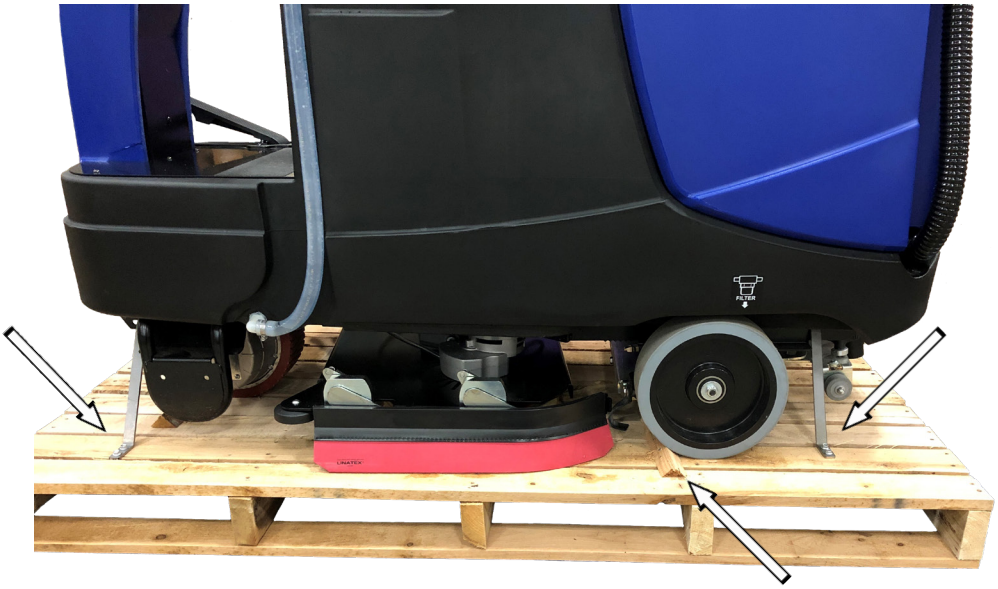
NOTE: Do not hose down or use a power-sprayer on the machine. Electrical malfunction may occur.
NOTE: All repairs must be performed by a qualified service technician using approved replacement parts.
NOTE: To avoid damaging the floor, do not allow the brush/pad to operate while the machine is stationary.
NOTE: Use a ramp with no more than a 12% incline when loading or unloading the machine.
NOTE: Use tie down straps to secure the machine to the truck or trailer during transport.
NOTE: Discontinue use and report machine damage or faulty operation immediately.
NOTE: Store the machine indoors where the temperature is between 32º and 104ºF (0º and 40ºC).
NOTE: Do not lower the orbital head without a pad. Doing so damages the Mighty-Lok® face.
NOTE: Failure to clean the BatteryShield® light pipe will limit the system's ability to read the water level and will reduce battery life.
NOTE: Do not use an extension cord. This will void the warranty on the charger.
NOTE: Batteries designed for automotive or marine and RV use are not suited for use in floor scrubbers.
NOTE: Use of an unapproved water supply or modification of an approved water supply can lead to battery system failure.
NOTE: Ensure battery charging and storage locations comply with OSHA and any governing agencies' standards based on your particular location and application.
NOTE: When loading/unloading machine for transport:

- Fully drain the Solution and Recovery tanks before loading.
- Transport the machine with the scrub head in the raised position.
- Ensure the ramp and truck/trailer are properly rated for the weight of the machine.
- Do not lower the Orbital Scrub Head without a pad installed.
- Chock the wheels and tie down the machine.
- Actuate the Manual Brake Release lever before attempting to manually push/move the machine.

NOTE: A valid user code must be entered into the telemetry system keypad (on all telemetry-equipped machines) before the machine can be operated.

UNPACKING THE MACHINE

1. Remove outer cardboard packaging.
2. Remove the shrink wrap securing the ramp and allow the ramp (not shown) to lower to the ground.
3. Using a #2 Philips driver, remove the screws from the front and rear wood wheel chocks.
4. Using a 3/8” socket and driver or wrench, remove the screws from the tie-down straps located at each corner of the machine.
5. Turn the machine on using the key switch and carefully drive down the ramp.
6. Install the rear squeegee assembly (refer to the RECOVERY SYSTEM of this manual).



TRANSPORTING THE MACHINE

NOTE: Fully drain the Solution and Recovery tanks before loading.
NOTE: Ensure the ramp and truck/trailer are properly rated for the weight of the machine.
NOTE: Use a ramp with no more than a 12% incline to load and unload the machine.
NOTE: Transport the machine with the scrub head in the raised position.
NOTE: Do not lower the Orbital Scrub Head without a pad installed. Doing so will damage the Mighty-Lok® face.
NOTE: Remove the rear squeegee assembly before transporting the machine.
NOTE: Chock the wheels and tie down the machine.
NOTE: Actuate the Manual Brake Release lever before attempting to manually push/move the machine.

Six (6) tie-down points (two on the front, two at the front corners, and two at the rear corners) have been provided on the frame to allow the machine to be secured during transportation.

Ensure the machine is properly secured with suitable tie-down straps before transporting the machine.

BATTERIES

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, and during charging, strong inorganic acid mists containing sulfuric acid are involved, a chemical known to the State of California to cause cancer. Wash hands after handling. For more information go to www.P65Warnings.ca.gov.

WARNING: Batteries emit hydrogen and oxygen gas.

- Keep sparks and open flame away.
- Do not smoke near the machine
- Charge batteries in a well-ventilated area with the battery compartment open

WARNING: Do not wear jewelry when working near moving or electrical components.

CAUTION: Park and service the machine on a level surface and remove the key.

CAUTION: Always wear protective clothing, gloves and goggles when handling and charging batteries.

NOTE: All repairs must be performed by a qualified service technician using approved replacement parts.

NOTE: Failure to clean the BatteryShield® light pipe will limit the system's ability to read the water level and will reduce battery life.

NOTE: Batteries designed for automotive or marine and RV use are not suited for use in floor scrubbers.

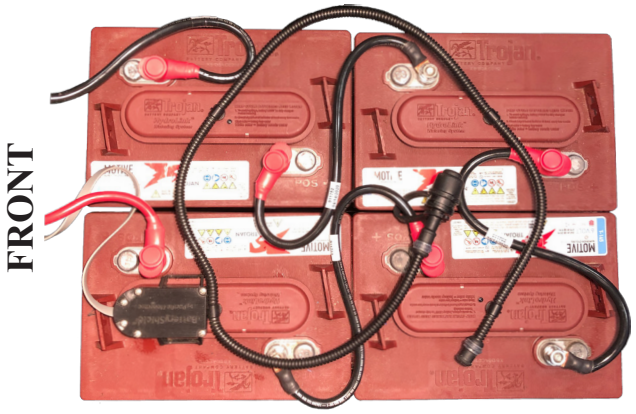
SELECTION

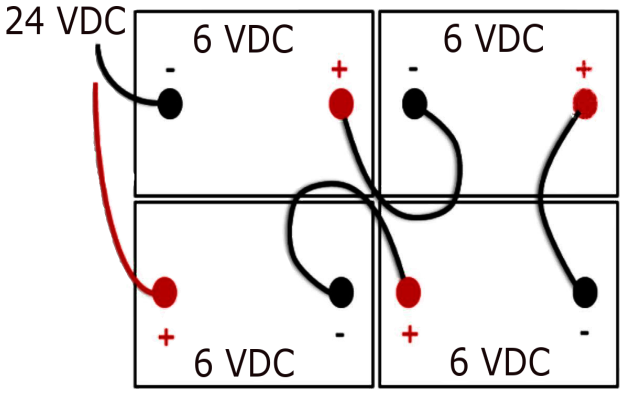
The machine requires four 6V Lead Acid or AGM Deep Cycle batteries designed for use in floor scrubbers applications. Maximum battery dimensions are:

- Width: 6.85" (174mm)
- Length: 12.17" (309mm)
- Height:14.41" (366mm)

INSTALLATION

1. Open the Seat Assembly and the Recovery Tank.
2. Use a lifting device capable of lifting and transporting the batteries safely.
3. Move the batteries into position (as shown below).
4. Connect the batteries in a series to obtain an overall voltage of 24V.
5. Fully charge the batteries before use.





SERVICING LEAD ACID BATTERIES (NON-HYDROLINK® MODELS)

REQUIRED EQUIPMENT

- Eye protection
- Acid resistant gloves
- Distilled water
- Baking soda to neutralize acid spills

SAFETY

NEVER:

- Add acid to a battery.
- Smoke near batteries.
- Charge a frozen battery.
- Leave an acid spill unattended.
- Store batteries unless they are fully charged.
- Charge a battery when the temperature is above 122°F (50°C).
- Charge a flooded battery without securing vent caps on the cells.
- Place objects on top of batteries, which can cause a short circuit.

ALWAYS:

- Neutralize acid spills with baking soda and water.
- Use insulated tools to verify connections are tight.

WATERING

- If contact with electrolyte (sulfuric acid) occurs, flush with large amounts of water.
- Use only distilled water (tap water can contain contaminants that will damage the battery).
- Remove the caps and place them upside down to check electrolyte levels.
- For discharged or partially charged batteries, add just enough water to cover the plates.
- Fully charge the batteries.
- Add distilled water to a level of 1/8” (0.125”) below the vent well.

CLEANING & INSPECTION

- Fluid on the top of a battery may mean it is being over-watered or overcharged.
- Check cleanliness and keep terminals and connectors free of corrosion.
- Clean with a solution of one cup baking soda to one gallon of water.
- Do not allow cleaning solution to get inside the battery.
- Rinse with water and dry with a clean cloth.
- Keep the area around batteries clean and dry.
- Properly secure all vent caps.
- Check battery cables and connections. Replace any damaged cables and tighten any loose connections.

SERVICING LEAD ACID BATTERIES WITH HYDROLINK® WATERING SYSTEM

1. Position the container of distilled water below the level of the top of the batteries to prevent siphoning.
2. Place the end of the watering system hose in the distilled water and squeeze the bulb to fill the system.
3. Remove the dust cover from the Hydrolink® snake connected to the batteries.
4. Connect the coupler on the Hydrolink® snake to the coupler on the watering system using the quick disconnect fittings.
5. While squeezing the hand pump, observe the flow indicator (spinning red balls). As the batteries begin to fill, the spinning of the flow indicator balls will slow. Batteries are full when the flow indicators completely stop spinning.

NOTE: Battery systems may take more than 1/2 gallon of water once the BatteryShield® light has illuminated. Failure to actuate the hand pump until the flow indicator stops spinning will result in batteries being under or unevenly serviced which will reduce battery life.

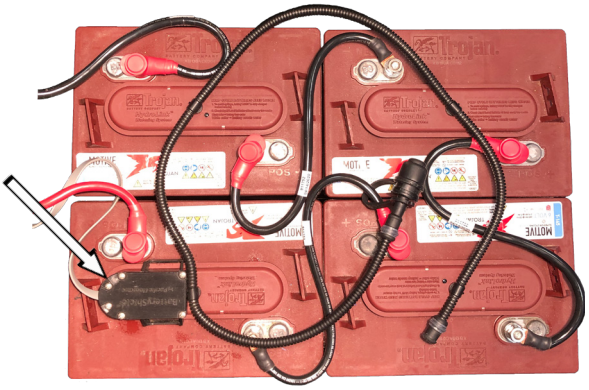
6. When the flow indicator stops, and not before, disconnect the coupler by depressing the push button on the watering system coupler.

NOTE: Leaving the watering system connected could result in the batteries being over filled. Disconnecting the watering system before the flow indicator stops spinning will result in batteries being under serviced and battery life will be reduced.

7. Replace the dust cover on the Hydrolink® snake.

BATTERYSHIELD® AUTOMATED WET BATTERY PROTECTION SYSTEM

Machines equipped with BatteryShield® technology have a sensor installed on one of the battery caps and a red LED indicator located on the Control Panel. This sensor monitors the water level in the batteries and the LED communicates to the operator that the batteries require servicing. When the BatteryShield® LED is lit, the scrub head is disabled until battery servicing has been performed.



- When the key switch is turned on, the BatteryShield® system will check the water level of the batteries.
  - If the LED turns off, there is sufficient water in the batteries.
  - If the LED remains on (without flashing), the batteries require servicing and the scrub head will not run.
  - If the LED flashes intermittently, the BatteryShield® light pipe must be cleaned (instructions below).

NOTE: Failure to clean the BatteryShield® light pipe will limit the system's ability to read the water level and will reduce battery life.

- If the BatteryShield® LED indicates the need for servicing, turn off the key switch and service the batteries as described above.
- After completing the Hydrolink® watering system procedure, turn the key switch back on and verify the LED turns off.

CLEANING THE BATTERYSHIELD® SENSOR LIGHT PIPE

CAUTION: Always wear protective clothing, gloves and goggles when handling and charging batteries.
NOTE: All repairs must be performed by a qualified service technician using approved replacement parts.

1. Locate and remove the battery cap with the BatteryShield® sensor module.

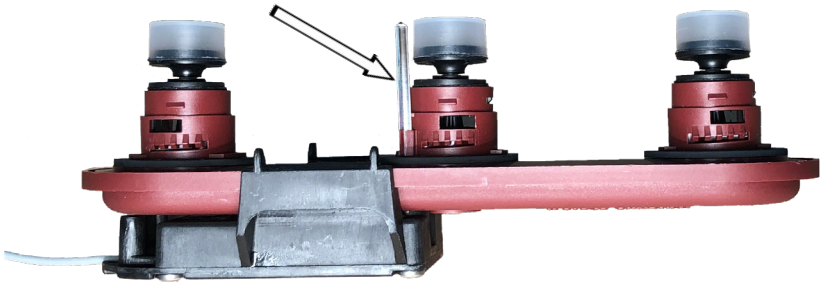
NOTE: Never remove the BatteryShield® sensor from the battery cap. Doing so will cause the BatteryShield® system to function improperly.

NOTE: Take care not to damage the battery cap floats or the BatteryShield® sensor light pipe.

2. Thoroughly wipe the clear BatteryShield® light pipe with a clean rag, giving special attention to the tip.
3. With the battery cap still removed, cycle the key switch on to verify that the BatteryShield® LED remains on.
4. Turn off the key switch.
5. Carefully install the battery cap.

NOTE: Whenever the battery cap is removed, ensure the Hydrolink® snake port is fully seated in the cap when maintenance is complete.

6. Complete the Hydrolink® watering procedure described above.
7. Turn on the key switch and verify the light remains off.
8. The machine is ready for use.



CHARGING

WARNING: Batteries emit hydrogen and oxygen gas.

- Keep sparks and open flame away.
- Do not smoke near the machine.
- Charge batteries in a well-ventilated area with the battery compartment open.

WARNING: Do not wear jewelry when working near moving or electrical components.

WARNING: Do not plug in the charger cable if wall cord or battery harness is damaged.

NOTE: Do not use an extension cord with the battery charger. This will void the charger warranty.

NOTE: Ensure battery charging and storage locations comply with OSHA and any governing agencies' standards based on your particular location and application.

NOTE: Seat assembly must remain open while charging to prevent damage to the charger power cord.

This machine is equipped with an on-board charger. The cord for the charger can be located in the cord storage compartment under the seat.

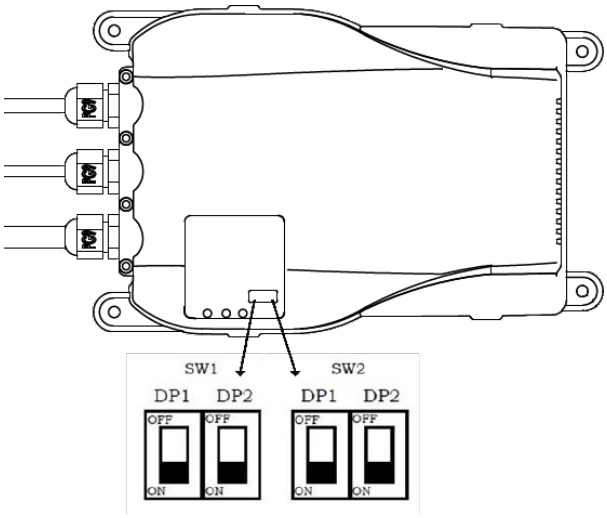
The charger status LED's (used to indicate the charger's status while plugged in) can be viewed through the view window located on the vertical kick panel below the seat.

LED INDICATION	MEANING
GREEN flashing (2 seconds)	Charger is set for AGM batteries
YELLOW flashing (continuous)	Unsuitable battery connected or output short circuit
RED flashing (2 seconds)	Charger is set for Lead Acid batteries
RED flashing (continuous)	Safety timer exceeded or internal short circuit
Solid GREEN	The unit is fully charged
Solid YELLOW	Phase 2 of charging is in progress
Solid RED	Charging cycle has begun

CHARGER SETTINGS

SW1: Sets the current profile of the charger to the particular battery that is installed.

SW1		
DP1	**DP2**	**APPLICATION**
ON	OFF	LEAD-ACID (WET) BATTERIES
OFF	OFF	AGM (MAINTENANCE FREE)



SW2: Set the current level of the charger based on the amp-hour rating for the particular batteries installed.

SW2		
DP1	**DP2**	**CHARING CURRENT**
OFF	ON	20A
ON	OFF	25A - XCF
OFF	OFF	25A

CHARGING CURRENT	BATTERY AMP HOUR RANGE (20h)
20A	150-240 Ah
25A	220-315 Ah

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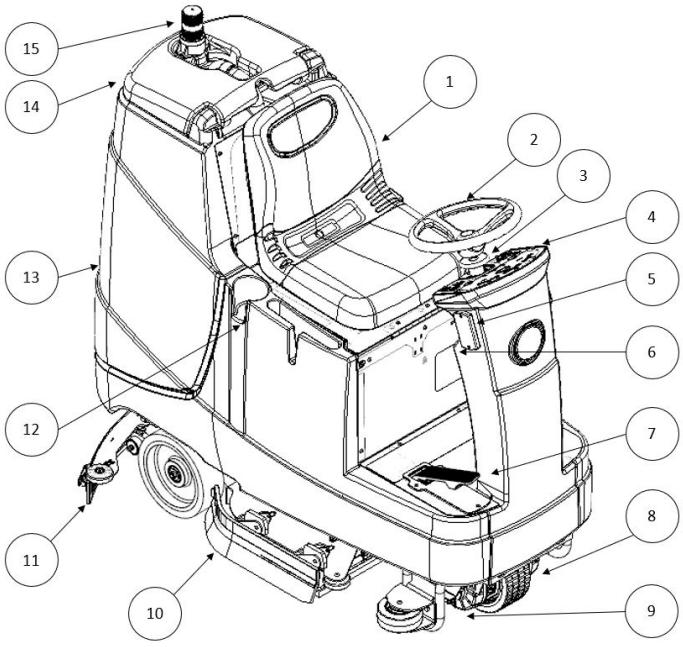
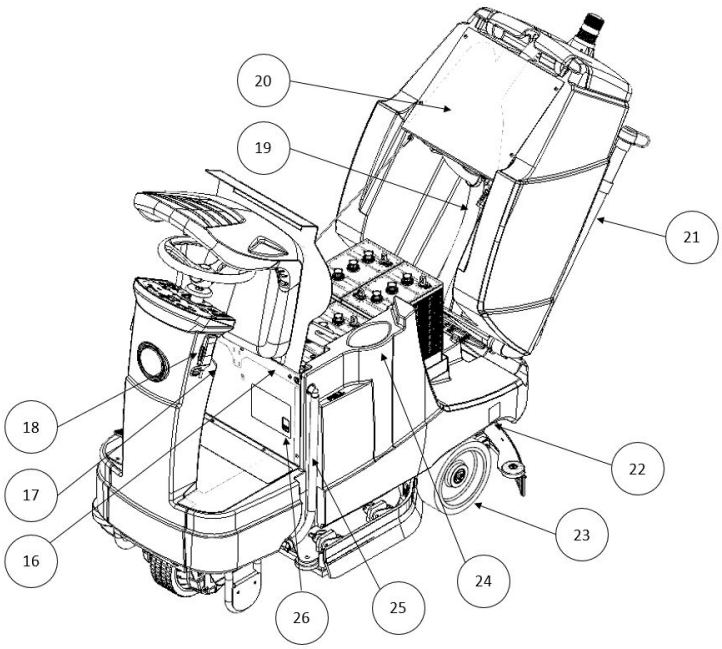
OPERATION
MACHINE OVERVIEW





1. SEAT ASSEMBLY
2. STEERING WHEEL
3. STEERING WHEEL ADJUSTMENT
4. CONTROL PANEL
5. (OPTIONAL) SCRUBSMART TELEMETRY KEY PAD
6. KEY SWITCH
7. THROTTLE PEDAL
8. DRIVE WHEEL
9. MANUAL BRAKE RELEASE
10. SIDE SQUEEGEE & SCRUB HEAD
11. SQUEEGEE ASSEMBLY
12. CUP HOLDER & TOOL STORAGE
13. RECOVERY TANK
14. RECOVERY TANK LID
15. (OPTIONAL) LAMP
16. SEAT ADJUSTMENT
17. HOUR METER & (OPTIONAL) LAMP SWITCH
18. (OPTIONAL) SCRUBSMART TELEMETRY ANTENNA
19. SQUEEGEE HOSE
20. RECOVERY VACUUM MOTOR & HEPA FILTER (LOCATED BEHIND COVER)
21. RECOVERY DRAIN HOSE
22. SOLUTION SHUT-OFF VALVE & SOLUTION FILTER (LOCATED UNDER SOLUTION TANK)
23. REAR WHEELS
24. SOLUTION TANK FILL PORT
25. SOLUTION TANK LEVEL INDICATOR
26. CHARGER STATUS VIEW WINDOW

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CONTROL PANEL

Zone 1: Modes of Operation

- **SCRUB ONLY**: Allows the operator to run the scrub head only.
- **VACUUM ONLY**: Allows the operator to run the squeegee/vacuum system only.
- **VACUUM + SCRUB**: Allows the operator to run both the scrub head and squeegee/vacuum systems.

Zone 2: Operational Settings

- **DOWN PRESSURE**: Increases ("+") or decreases ("-") the down-pressure force of the scrub head.
- **SOLUTION FLOW**: Increases ("+") or decreases ("-") the amount of solution being dispensed at the scrub head.
- **MAX SPEED**: Increases ("+") or decreases ("-") the maximum speed when the throttle pedal is fully pressed.
- **CHEMICAL INJECTION** (OPTIONAL): Increases ("+") or decreases ("-") the ratio of chemical added to the solution as it is dispensed at the scrub head

Zone 3: Machine Status

- **BATTERY INDICATOR**: LED display indicating current battery level and/or potential machine errors. See error indicator chart.
- **SOLUTION EMPTY**: LED display indicates when the solution tank is empty.
- **BATTERYSHIELD®**: On BatteryShield® equipped machines, LED display indicates battery maintenance is required.
- **SCRUB ONLY**: LED display is lit when machine is running in SCRUB ONLY to remind operator that they are leaving a wet floor behind the machine

Zone 4: Machine Controls

- **FORWARD**: Enables the machine to drive forward.
- **REVERSE**: Enables the machine to drive in reverse.
- **HORN**: Press and hold to sound the horn.

MACHINE ERROR CODES

The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery.

There is a bad connection to the Traction motor. Check all connections between the motor and the control system.

There is a bad connection to the Brush motor/motors. Check all connections between the motor/motors and the control system.

Refer to the 4-Bar flash sequence table below.

There is a bad connection to the Vacuum motor. Check all connections between the motor and the control system.

The control system is being inhibited from driving.

Refer to the 7-Bar flash sequence table below.

A control system trip is indicated. Make sure that all connections are secure.

Refer to the 9-Bar flash sequence table below.

Excessive voltage has been applied to the control system. This is usually caused by a poor battery connection. Check the battery connections.

1 Flash: Inspect the Head Lift System. Check that the actuator is functioning properly and that there are no mechanical interferences. Check all associated sensors, connectors, and wiring.

2 Flash: Inspect the Squeegee Lift System. Check that the actuator is functioning properly and that there are no mechanical interferences. Check all associated connectors and wiring.

1 Flash: Inspect Throttle System. Ensure that the throttle is in the rest position before switching on the machine. Check all associated connectors and wiring.

3 Flash: Inspect the Brake System. Ensure the manual brake override is not engaged.

1 Flash: Inspect the Lamp System. Check that the lamp is not damaged. Check all associated connectors and wiring.

3 Flash: Inspect the Solution Pump. Ensure that the pump is functioning properly. Check all associated connectors and wiring.

4 Flash: Inspect the Solution Valve and Hour Meter Systems. Ensure that the valve and hour meter are not damaged and are functioning properly. Check all associated connectors and wiring.

5 Flash: Inspect the Brake System. Ensure the brake is functioning properly. Check all associated connectors and wiring.

DRIVE SYSTEM

1. Turn the machine on using the key switch located on the right side of the steering column.
2. Set the desired maximum speed using the MAX SPEED selector on the Control Panel
3. Select the desired direction of travel using the FORWARD and REVERSE selectors on the Control Panel.
4. Maintain control of the Steering Wheel at all times during operation.
5. Depress the Throttle Pedal to engage the drive system.

NOTE: The speed of the machine is based on the relative amount the throttle is depressed. The MAX SPEED selector governs the maximum speed the machine will travel with the throttle fully depressed.

NOTE: The machine is equipped with a sensor which reduces the maximum speed while in sharp turns. After the steering wheel is straightened, the machine will return to the full maximum speed as regulated by the MAX SPEED selector.

The machine can be moved manually (pushed or pulled) if absolutely necessary. Before attempting to move the machine manually, fully actuate the Manual Brake Release located on the right side of the Drive Wheel. The Manual Brake Release lever must be fully actuated the entire time the machine is being moved. Failure to fully actuate the Manual Brake Release lever could cause damage to the Drive Wheel and brake system.

OPTIONAL SCRUBSMART TELEMETRY SYSTEM

The RS28 can be ordered with our ScrubSmart telemetry system, powered by Trackunit®. This system is used for asset tracking and reporting. For more information on this system and its reporting capabilities, contact your distributor or Pacific Floorcare Customer Service.

Telemetry-equipped machines have a keypad mounted on the right side of the steering column. After turning on the key switch, enter the operator code. **Failure to enter a valid operator code will prevent the machine from functioning**. Operator codes are generated and administered by your Pacific Distributor or your company's management.

SOLUTION DISTRIBUTION

FILLING THE SOLUTION TANK

Use liquid detergent in the concentration and manner specified by the manufacturer for a 30-gallon solution tank. Excess foam will damage the vacuum motor. In addition to properly-mixed low-foam detergent, use a small amount of de-foaming liquid in the recovery tank. Never use pure acids.

1. Add water and cleaning agent via the fill port located under the Seat Assembly. Water should not exceed 120°F (50°C).
2. Monitor the level of the solution through the sight tube located on the side of the machine.
3. To drain the solution tank, slide the sight tube off of the upper fitting and lower the tube into drain or mop sink.

SOLUTION FLOW

Solution flow is controlled by the SOLUTION FLOW selector located on the Control Panel. Solution is delivered at a rate of 0.1 - 0.8 gpm (0.005 - 0.037 kg/sec) based upon the SOLUTION FLOW setting and the speed of the machine (flow rate increases or decreases with machine speed to prevent over/under distribution).

When the machine senses that the solution tank is empty, the SOLUTION EMPTY LED will illuminate and the scrub head will turn off.

CHEMICAL INJECTION

For machines equipped with the optional chemical injection system:

1. Place a 1-gallon chemical container in the holder (located behind the battery compartment, under the Recovery Tank).
2. Insert the hose into the container so that the filter at the end of the hose rests on the bottom of the container.
3. Screw on the cap.
4. Match the mix ratio dial on the Control Panel to the setting (in ounces per gallon) prescribed by the chemical manufacturer.
5. Set the SOLUTION FLOW selector to the desired flow setting.
6. Operate the machine as normal.

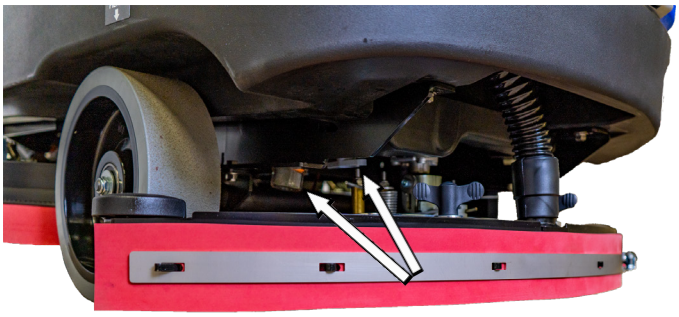
NOTE: If the chemical is not priming, temporarily set the mix ratio to a higher setting until the chemical is delivered.

NOTE: To purge chemical, remove the hose from the chemical container, set the mix ratio dial to the highest setting, and run until the hose is drained.

INSPECTION & CLEANING

To clean out the solution tank in the case of excessive debris:

1. Close the shutoff valve (located under the left rear tire).
2. Remove the filter bowl and screen (located forward of the shutoff valve).
3. Open the shutoff valve and allow the tank to drain.
4. Rinse the solution tank thoroughly.
5. Install the filter bowl and screen.



SCRUB HEAD

Running the machine in SCRUB ONLY or VACUUM+SCRUB will lower the scrub head to the floor. The scrub head motors will begin running when the throttle pedal is depressed. Scrub head down pressure is set using the DOWN PRESSURE selector on the Control Panel. See the chart below for down-pressure forces.

SETTING	DOWN-PRESSURE
1	90 lbs (40.8 kg)
2	120 lbs (54.4 kg)
3	150 lbs (68 kg)
4	180 lbs (81.6 kg)
5	210 lbs (95.3 kg)

ORBITAL SCRUB HEAD & CHEMICAL-FREE FINISH REMOVAL

NOTE: Do not operate the Orbital Scrub Head without a pad installed. Operating the head without a pad will damage the Mighty-Lok® face.

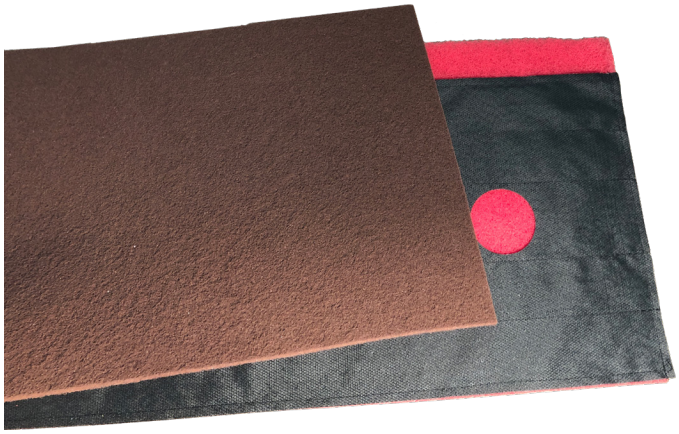
STANDARD OPERATION

1. With power off and the Scrub Head raised, lift the Side Squeegees to the raised position.
2. Align the corners of the pad to the corners of the aluminum plate with Mighty-Lok® face and press to attach.
3. Lower the scrub deck onto the pad (by turning power on the machine and selecting SCRUB ONLY or VACUUM+SCRUB mode).
4. Ensure the pad is properly aligned front-to-back and right-to-left. Water should drip directly onto the top of the pad.
5. Lower the Side Squeegees.
6. The machine is ready for operation.

CHEMICAL-FREE FINISH REMOVAL (CFR) PAD ASSEMBLY & OPERATION

In addition to the traditional cleaning pad, a specialized surface preparation pad is required for chemical-free finish removal. The standard red scrub pad acts as a "backer" and compensates for variances in the floor.

1. Place the black retainer pad 2" back from the front of the red scrub pad.
2. Align the maroon CFR pad with the red scrub pad.
3. Ensure the pads are aligned so that the black pad is justified towards the back of the machine, so that the gap described in Step 1 is towards the front of the machine.
4. Install the pads in accordance with the instructions above for standard operation.
5. Fill the Solution Tank with clean water.
6. Set the DOWN PRESSURE selector to the maximum setting.
7. Set the SOLUTION FLOW to the medium setting. Adjust as needed to obtain the optimum finish removal using the least amount of water for effective rinsing.
8. Set the MAX SPEED selector to the lowest setting.



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DISK SCRUB HEAD

STANDARD OPERATION

NOTE: Do not operate the Disk Scrub Head without a pad installed on the pad driver. Operating the head without a pad will damage the floor.

1. With power off and the Scrub Head raised, lift the Side Squeegees to the raised position.
2. Align the pad driver assemblies with the bayonet drivers on the machine.
3. Lower the scrub head onto the pad driver assemblies (by turning power onto the machine and selecting SCRUB ONLY or VACUUM+SCRUB mode).
4. Ensure the bayonet drivers are properly engaged with the pad driver assemblies.
5. Lower the Side Squeegees.
6. Drive the machine forward and listen for the bayonet drivers to lock onto the pad driver assemblies.
7. The machine is ready for operation.

DISK REMOVAL

1. With power off and the Scrub Head raised, lift the Side Squeegees to the raised position.
2. Grab the pad driver assemblies and rotate by hand to disengage from the bayonet drivers.
3. Lower the Side Squeegees.

RECOVERY SYSTEM

RECOVERY TANK

To drain and rinse the recovery tank:

1. Remove the Recovery Drain Hose from the holder and lower the end into the drain location.
2. Remove the press-fit cap from the Recovery Drain Hose, squeezing the restriction collar to control the flow.
3. As the tank drains, lean the Recovery Tank back and open the lid.
4. Using clean water, thoroughly clean and rinse out any sediment in the Recovery Tank.

NOTE: Periodically use cleaner and sanitizer with a cloth or sponge to prevent mold and mildew.

5. Inspect and clean the debris tray and the vacuum the mesh filter screen around the ball float system.
6. Leave the lid open to dry.

TANK TREATMENT SYSTEM

The Tank Treatment System (TTS) uses Bromine tablets (typically used in pools and spas) to kill the odor-causing bacteria in the tank. To ensure that the TTS is prepared to treat your recovery tank:

1. Lift the debris tray out and pinch the two tabs sticking through the underside of the tray.
2. Check the size of the Bromine puck. Replace it when it is approximately 25% of its original size.
3. Press the TTS holder and bromine puck back into the debris tray.

CAUTION: ***Use Bromine only!*** ***<u>Do not use chlorine!</u>*** Chlorine can interact with ammonia-based detergents to cause harmful fumes.

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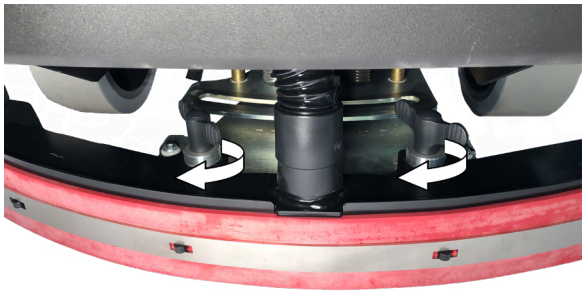
SQUEEGEE SYSTEM

Squeegee Blades and system should be inspected and maintained regularly to achieve peak machine performance.

REMOVAL & INSTALLATION

Install: Align the slots in the squeegee assembly with the easy-grip knobs, attach the vacuum hose, and tighten the knobs.
Remove: Loosen the easy-grip knobs, remove the vacuum hose, and remove the assembly.

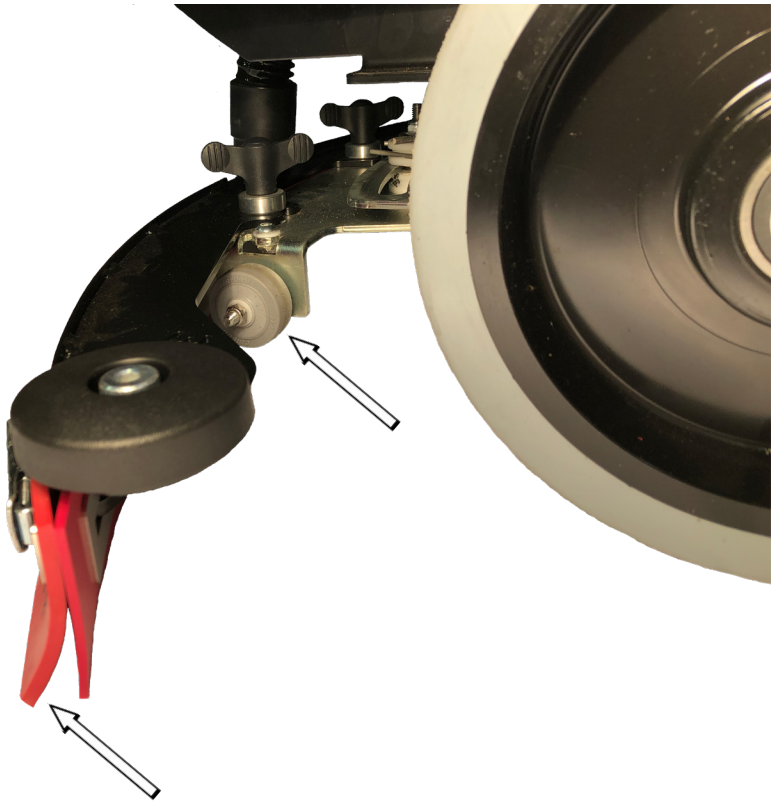


SQUEEGEE USE

Operating the machine in either VACUUM ONLY or VACUUM + SCRUB mode will cause the Squeegee Actuator to lower the assembly and the vacuum motor to turn on. Deselecting VACUUM ONLY or VACUUM + SCRUB mode will cause the squeegee assembly to lift and the vacuum motor to shut off after a 60 second delay. This delay ensures all of the recovered water is pulled into the recovery tank.

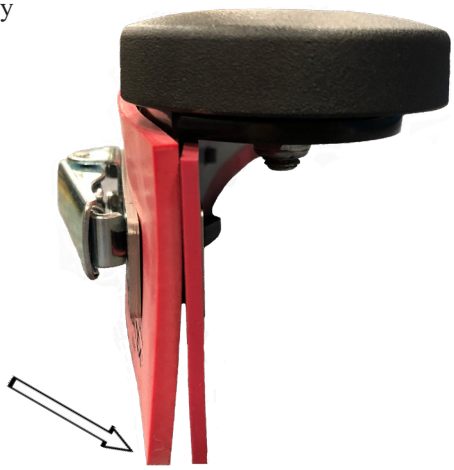
SQUEEGEE ADJUSTMENT

Improper adjustment of the squeegee blades will reduce the systems ability to properly pick up water. The leading edge of the rear squeegee blade should contact the floor at a 45° angle (similar to the image shown below). The height of the squeegee system is adjusted using the two cap head screws located next to the easy-grip knobs. Raise (by turning the screws clockwise) or lower (by turning the screws counter-clockwise) until the proper blade deflection is achieved. When the system is adjusted properly, the small gray wheels on the squeegee system should be approximately 1/32” off of the floor.



INSPECTION & CLEANING

1. Inspect both squeegee blades. Blades edges are considered worn if the edge is not clearly defined or if the edge is worn halfway through the thickness of the blade. Blades can be flipped and rotated to use all four edges.
2. Thoroughly clean the blades, frame, and neck of any debris.



SQUEEGEE BLADE REPLACEMENT

1. Release the over-center latch and slide the band clamp off the hook on the other side.

NOTE: Blades can be flipped and rotated so as to use all four edges.

2. Blade installation is the reverse of the removal.

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RECOMMENDED MAINTENANCE

SYSTEM	DAILY	WEEKLY	MONTHLY	BIANUALLY
CONTROL PANEL/STEERING				
INSPECT ALL CONTROLS AND HARDWARE FOR SECURITY & SERVICEABILITY	X			
VERIFY THROTTLE PEDAL FUNCTION	X			
VERIFY PROPER OPERATION OF ALL CONTROLS	X			
VERIFY FUNCTION OF STEERING SYSTEM	X			
INSPECT AND LUBRICATE U-JOINT				X
SOLUTION DISTRIBUTION				
VERIFY SOLUTION FLOW & ADJUSTMENT OPERATION	X			
CLEAN & INSPECT INLINE FILTER			X	
FLUSH TANK WITH FRESH WATER			X	
VERIFY FLOAT SWITCH FUNCTION BY DRAINING TANK		X		
SCRUB DECK				
RINSE BRUSHES & PADS	X			
RINSE & DRY SCRUB DECK	X			
CLEAN MOTOR VENTS			X	
INSPECT ISOLATORS **(ORBITAL ONLY)*				X
INSPECT LIFT LINKAGE & ACTUATOR				X
RECOVERY SYSTEM				
RINSE & AIR DRY RECOVERY TANK	X			
CLEAN & INSPECT DEBRIS TRAY	X			
VERIFY DRAIN HOSE CAP IS SEALED TIGHT WHEN INSTALLED	X			
INSPECT LID SEAL		X		
INSPECT / REPLACE BROMINE PUCK		X		
INSPECT HEPA FILTER				X
CLEAN & SANITIZE RECOVERY TANK			X	
BATTERIES AND CHARGER				
INSPECT TERMINALS & CABLES FOR SECURITY, CORROSION & DAMAGE			X	
SERVICE LEAD ACID BATTERIES **(IF EQUIPPED)*		X		
CLEAN BATTERYSHIELD® LIGHT PIPE **(IF EQUIPPED)*				X
PERFORM BATTERYSHIELD® OPERATIONAL CHECK **(IF EQUIPPED)*				X
SQUEEGEE ASSEMBLY				
CLEAN & INSPECT SQUEEGEE ASSEMBLY & BLADES (SIDE & REAR)	X			
INSPECT VACUUM HOSE		X		
INSPECT & LUBRICATE SQUEEGEE LINKAGE ASSEMBLY				X
CHASSIS AND UNDERCARRIAGE				
CLEAN & INSPECT WHEELS			X	
CLEAN & INSPECT LINKAGES, CHASSIS & HARDWARE			X	
CLEAN & INSPECT VISIBLE WIRES FOR DAMAGE & SECURITY				X
MISC.				
VERIFY FUNCTION OF AMBER LIGHT **(IF EQUIPPED)*	X			
INSPECT & LUBRICATE SEAT SLIDE ASSEMBLY				X

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RECOMMENDED SERVICE PARTS

PART NUMBER	DESCRIPTION	MACHINE SUB-SYSTEM	WEAR ITEM	RS28 (DISK)	RS28 (ORBITAL)	OPTIONAL
857003	PUMP ASSY, HND, HYDROLINK	BATTERY/BATTERY CHARGING	X			X
911758	FUSE MIDI BOLT-DOWN 100A 32V	ELECTRICAL		X	X	
549701	WHEEL 5X2 BALL BEARING	FRAME ASSEMBLY		X	X	
871501	CAP, 38MM, W/ HOLE	CHEMICAL INJECTION	X			X
S764P2	STRAINER SUCTION VALVE	CHEMICAL INJECTION	X			X
898505	SENSOR ROTARY HALLEFFECT	HEAD LIFT		X	X	
223370	FLOAT ASSY	RECOVERY		X	X	
853305	FOAM, NOISE, VACUUM	RECOVERY		X	X	
853401	GASKET, COVER, PRESS-IN	RECOVERY	X	X	X	
854101	HOSE DRAIN RECOVERY RIDER	RECOVERY	X	X	X	
872412	CABLE, RETENTION, TANK	RECOVERY		X	X	
873304	FILTER, HEPA, W BRACKET & GASKET	RECOVERY	X	X	X	
895004	KIT RIDER VAC MOTOR REPL	RECOVERY		X	X	
875202	MTR, VAC, 24VDC, 3STG	RECOVERY		X	X	
877006	PUCK, BROMINE, 1INCH	RECOVERY	X	X	X	
879201	TRAY, DEBRIS	RECOVERY	X	X	X	
879202	TRAY, PUCK	RECOVERY	X	X	X	
894101	HOSE SQUEEGEE RIDER	RECOVERY	X	X	X	
894102	HOSE VACUUM RECOVERY RIDER	RECOVERY	X	X	X	
555902	PAD 14” BLACK STRIP CASE 5	SCRUB HEAD	X	X		
555909	PAD 14”X28” BLACK STRIP CASE 5	SCRUB HEAD	X		X	
555929	PAD 14”X28” MAROON CFR CASE 10	SCRUB HEAD	X		X	
555942	PAD 14” RED SCRUB CASE 5	SCRUB HEAD	X	X		
555949	PAD 14”X28” RED SCRUB CASE 5	SCRUB HEAD	X		X	
555952	PAD 14” WHITE POLISH CASE 5	SCRUB HEAD	X	X		
555959	PAD 14”X28” WHITE POLISH CASE 5	SCRUB HEAD	X		X	
555969	PAD 14”X28” TURF CASE 4	SCRUB HEAD	X		X	
850906	BRUSH CARBON KIT 4 PC	SCRUB HEAD	X	X	X	
853803	GUIDE, DRIVER	SCRUB HEAD	X	X		
853804	GUIDE,PAD,PLASTIC	SCRUB HEAD	X	X		
854302	HUB DRIVER BRUSH	SCRUB HEAD	X	X		
870901	BRUSH, POLY, 14INCH	SCRUB HEAD	X	X		
870906	BRUSH, GRIT, 14INCH	SCRUB HEAD	X	X		
873802	GUIDE, DRIVER, RH	SCRUB HEAD	X	X		
875009	KIT, PLATE, REPL, ORBIT S-28	SCRUB HEAD	X		X	
875010	ASSY, BEARING, REPL, ORBIT	SCRUB HEAD	X		X	
875902	DRIVER, PAD, 14INCH	SCRUB HEAD	X	X		
875903	PAD, MIGHTYLOK, UNIVERSAL	SCRUB HEAD	X		X	
875906	PAD, RETAINER, 12X28	SCRUB HEAD	X		X	
890702	BLADE SQUEEGEE SIDE RIDER	SIDE SQUEEGEE	X	X	X	
898308	SPRING EXTENSION .50OD X 1.5L SS	SIDE SQUEEGEE	X	X	X	
911740	SWITCH FLOAT	SOLUTION TANK		X	X	

RECOMMENDED SERVICE PARTS

PART NUMBER	DESCRIPTION	MACHINE SUB-SYSTEM	WEAR ITEM	RS28 (DISK)	RS28 (ORBITAL)	OPTIONAL
890706	BLADE REAR 33 INCH URETHANE	SQUEEGEE	X	X	X	X
890705	BLADE FRONT 33 INCH URETHANE	SQUEEGEE	X	X	X	X
890703	BLADE REAR 33 INCH LINATEX	SQUEEGEE	X	X	X	
890704	BLADE FRONT 33 INCH LINARD	SQUEEGEE	X	X	X	
898309	SPRING TORSION RH 40 IN-LBS	SQUEEGEE LIFT	X	X	X	
898310	SPRING TORSION LH 40 IN-LBS	SQUEEGEE LIFT	X	X	X	
902051	BEARING,ROD END,.38 FEM	SQUEEGEE LIFT		X	X	
911646	SWITCH,SNAP,W/ROLLER	STEERING COLUMN		X	X	
911647	SWITCH KEY	STEERING COLUMN		X	X	

TROUBLESHOOTING GUIDE

ISSUE	POTENTIAL CAUSE	PROPOSED SOLUTION
INSUFFICIENT WATER TO SCRUB HEAD	SOLUTION FLOW SETTING IS TOO LOW	ADJUST SOLUTION CONTROL
	SOLUTION TANK IS EMPTY	ADD WATER/SOLUTION TO THE TANK
	IN-LINE SOLUTION FILTER IS CLOGGED	REMOVE AND CLEAN THE FILTER
	SOLUTION TUBE IS CLOGGED, KINKED, OR DAMAGED	INSPECT TUBES
	SOLUTION SHUT OFF VALVE IS CLOSED	OPEN VALVE
	PUMP OR PUMP WIRES ARE DAMAGED	VERIFY OPERATION AND REPLACE IF NECESSARY
	OPERATOR CONTROL BOARD IS DAMAGED	VERIFY OPERATION AND REPLACE IF NECESSARY
	SOLUTION SOLENOID VALVE MAY BE FAULTY	VERIFY OPERATION AND REPLACE IF NECESSARY
	CHEMICAL INJECTION PUMP IS NOT RUNNING * ONLY ON MACHINES WITH OPTIONAL CHEMICAL INJECTION SYSTEM	VERIFY OPERATION AND REPLACE IF NECESSARY
POOR WATER RECOVERY	RECOVERY TANK IS FULL	EMPTY RECOVERY TANK
	DIRTY OR WORN SQUEEGEE BLADES	INSPECT AND ROTATE OR REPLACE AS REQUIRED
	RECOVERY HOSE LOOSE OR DAMAGED	INSPECT AND REPAIR
	RECOVERY HOSE OR SQUEEGEE ASSEMBLY HAS AN OBSTRUCTION	CLEAR OBSTRUCTIONS FROM RECOVERY SYSTEM
	DIRTY OR WORN SIDE SQUEEGEE BLADES	INSPECT AND REPLACE AS REQUIRED
	SQUEEGEE ASSEMBLY MAY BE OUT OF ADJUSTMENT	ADJUST AS NECESSARY
	STUCK OR DAMAGED BALL FLOAT	INSPECT AND REPAIR/REPLACE
	RECOVERY TANK LID IS NOT SEALING PROPERLY	INSPECT RECOVERY LID GASKET. REPAIR OR REPLACE IF NEEDED
	DRAIN HOSE CAP IS NOT INSTALLED PROPERLY	INSTALL DRAIN HOSE SECURELY
	CLOGGED HEPA FILTER	REMOVE AND INSPECT INSIDE AND OUTSIDE OF HEPA FILTER
MACHINE WILL NOT TURN ON	FAULTY KEY SWITCH	DIAGNOSE AND REPLACE
	DISCHARGED BATTERIES	CHARGE BATTERIES
	BLOWN MAIN FUSE	INSPECT AND REPLACE AS REQUIRED
	LOOSE OR DAMAGED WIRE	REPAIR
MACHINE NOT CLEANING FLOOR PROPERLY	WORN PAD OR BRUSH	INSPECT AND REPLACE AS REQUIRED
	WRONG PAD OR BRUSH FOR APPLICATION	CONTACT YOUR LOCAL DISTRIBUTOR FOR RECOMMENDED APPLICATION
	INSUFFICIENT CLEANING SOLUTION FOR APPLICATION	ADJUST THE MIXTURE AS REQUIRED
EXCESSIVE FOAM IN RECOVERY TANK	IMPROPER DETERGENT TYPE	USE A LOW-FOAM DETERGENT OR ADD A DE-FOAMING AGENT TO THE RECOVERY TANK. READ ALL CHEMICAL LABELS THOROUGHLY BEFORE USE
	MIXTURE SETTING TOO HIGH ON OPTIONAL CHEMICAL INJECTION SYSTEM	ADJUST TO A LOWER RATIO AND/OR FLOW RATE
VACUUM MOTOR WILL NOT RUN	VACUUM SWITCH OR WIRING MAY BE FAULTY	CONTACT SERVICE TECHNICIAN TO TROUBLESHOOT AND ISOLATE
	FAULTY MAIN CONTROLLER	INSPECT AND REPLACE AS REQUIRED

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TROUBLESHOOTING GUIDE

ISSUE	POTENTIAL CAUSE	PROPOSED SOLUTION
VACUUM MOTOR WILL NOT TURN OFF	STILL IN DELAY MODE	ALLOW 30-45 SECONDS FOR VACUUM TO SHUT DOWN
	FAULTY MAIN CONTROLLER	INSPECT AND REPLACE AS REQUIRED
SCRUB HEAD WILL NOT RUN	SCRUB HEAD IS STILL RAISED	LOWER SCRUB HEAD
	BATTERYSHIELD® LED IS ILLUMINATED AND HAS DISABLED THE SCRUB HEAD	SERVICE THE BATTERIES
	SOLUTION TANK IS EMPTY - LED IS ON	ADD WATER/SOLUTION TO THE TANK
	BRUSH MOTORS TRIPPED OVER-CURRENT PROTECTION	TURN THE MACHINE OFF AND BACK ON
	OPERATOR CONTROL BOARD IS DAMAGED	VERIFY OPERATION AND REPLACE IF NECESSARY
	HEAD LIFT POSITION SENSOR IS DAMAGED	INSPECT AND REPLACE AS REQUIRED
	BATTERIES ARE DISCHARGED BELOW THRESHOLD VOLTAGE	CHARGE BATTERIES
	SCRUB HEAD LIFT ARM SWITCH MAY BE STUCK OR FAULTY	INSPECT AND REPAIR SWITCH AS REQUIRED
SCRUB HEAD OVER-CURRENT PROTECTION IS TRIPPED	INADEQUATE SOLUTION FOR APPLICATION	INCREASE SOLUTION TO SCRUB HEAD
	SCRUB HEAD IS SET TO HEAVY DOWN PRESSURE	REDUCE DOWN PRESSURE SETTING
	PAD IS TOO AGGRESSIVE FOR APPLICATION	CONTACT YOUR LOCAL DISTRIBUTOR FOR RECOMMENDED APPLICATION
	FAULTY OR SHORTED WIRE	REPAIR
SCRUB HEAD WILL NOT LOWER/RISE	MECHANICAL INTERFERENCE	REPAIR
	SCRUB HEAD ACTUATOR POSITION SENSOR/WIRING LOOSE OR DAMAGED	INSPECT AND REPAIR. CALIBRATION OF SENSOR IS REQUIRED.
MACHINE WILL NOT DRIVE	MAIN FUSE MAY BE BLOWN	INSPECT AND REPLACE. IF PROBLEM PERSISTS CONTACT SERVICE TECHNICIAN
	BATTERY METER IS FLASHING A FAULT CODE	REFERENCE FAULT CODE AND TROUBLESHOOT AS REQUIRED
	BATTERIES DISCHARGED TOO LOW	CHARGE BATTERIES
	SEAT SWITCH IS NOT TRIPPED	INSPECT AND REPLACE AS REQUIRED
	THROTTLE PEDAL OR PEDAL WIRES ARE DAMAGED	VERIFY OPERATION AND REPLACE IF NECESSARY
	BRAKE IS NOT DISENGAGING	INSPECT AND REPLACE AS REQUIRED
	FAULTY CONTROLLER	CONTACT SERVICE TECHNICIAN TO TROUBLESHOOT AND ISOLATE
	FAULTY WIRING	CONTACT SERVICE TECHNICIAN TO TROUBLESHOOT AND ISOLATE
	TELEMETRY SYSTEM INHIBIT	ENTER VALID USER CODE
RUN TIME IS SHORT	BATTERIES ARE LOW ON WATER (LEAD ACID ONLY)	SERVICE BATTERIES
	CHARGER IS NOT SET PROPERLY FOR BATTERY TYPE	SET CHARGER TO BATTERY SPECIFICATIONS
	SCRUB HEAD IS IN HEAVY DOWN PRESSURE	REDUCE SCRUB HEAD PRESSURE
	BATTERY CHARGER IS NOT ABLE TO FINISH CHARGE CYCLE	CONFIRM A STEADY GREEN LED AFTER THE CHARGE CYCLE
	BATTERIES ARE DEFECTIVE OR AT THE END OF THEIR LIFE	CONTACT SERVICE TECHNICIAN TO TROUBLESHOOT AND ISOLATE
SQUEEGEE IS NOT LIFTING OR LOWERING	LIFT LINKAGE IS BOUND UP	LUBRICATE OR LOOSEN HORIZONTAL HARDWARE
	LIFT ACTUATOR IS DAMAGED	VERIFY OPERATION AND REPLACE IF NECESSARY
	WIRING IS DAMAGED	INSPECT AND REPAIR

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FRAME ASSEMBLY
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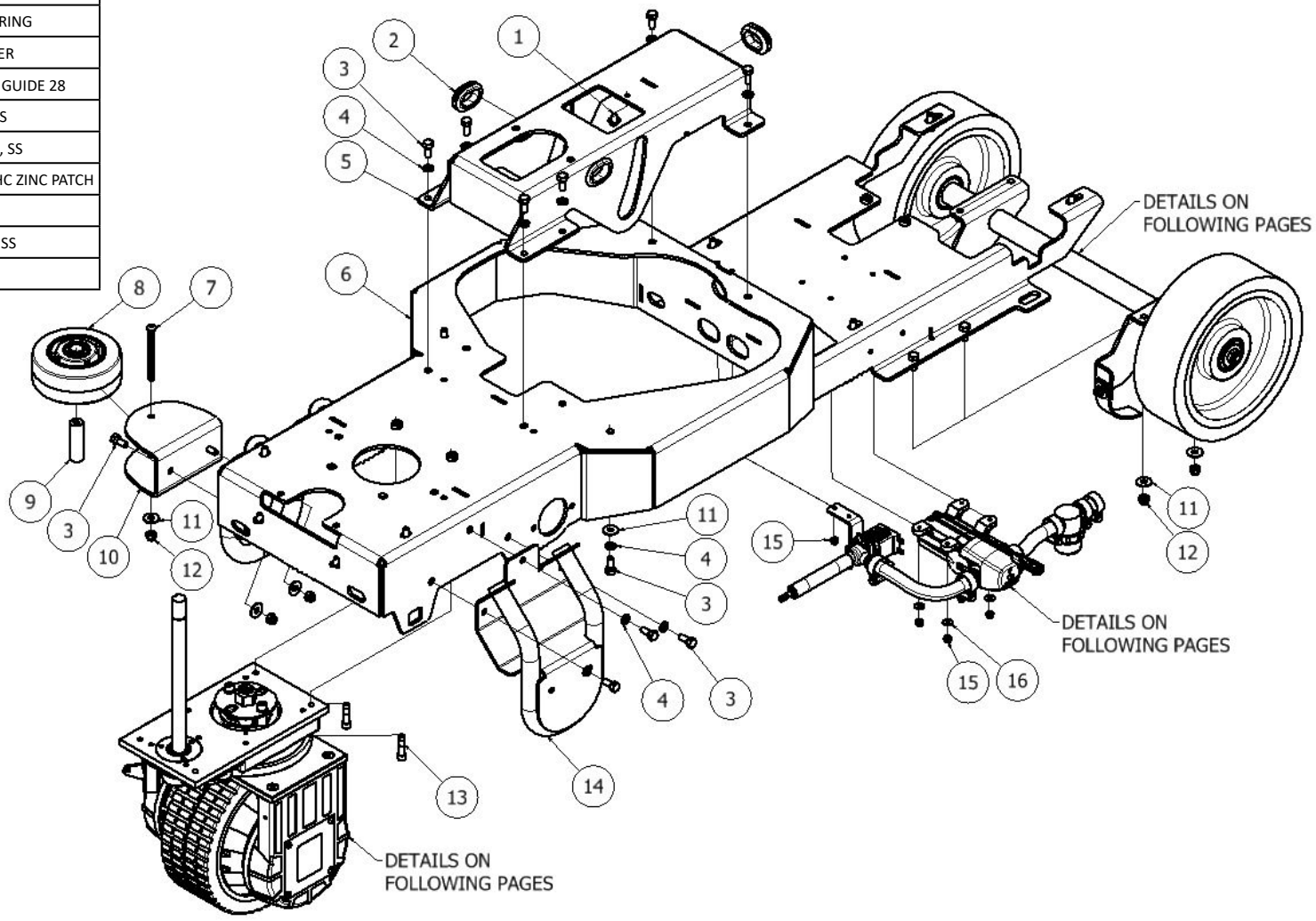
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	895601	MOUNT WIRE-TIE PRESS IN
2	5	893801	GROMMET PUSH-IN FOR 1.5INCH
3	29	962269	SCREW, HEX, .31-18 X .75, SS
4	24	980094	WASHER, SPLIT LOCK, .31, SS
5	1	890802	BRACKET GUIDE HEAD
6	1	893202	FRAME WELDMENT RIDER
7	1	962296	SCREW BUTTON .31-18 X 3.50 SS
8	1	549701	WHEEL 5INCH .75 BEARING
9	1	898205	SPACER WHEEL BUMPER
10	1	890808	BRACKET MTG WHEEL GUIDE 28
11	17	W243D	WASHER, FLAT, 5/16, SS
12	8	920036	NUT, NYLOCK, 5/16-18, SS
13	2	962474	SCREW .31-18X1.25 SHC ZINC PATCH
14	2	891305	BRACE TIP FRAME
15	6	920666	NUT, NYLOCK, #10-32, SS
16	4	W401D	WASHER, FLAT, #10



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FRAME ASSEMBLY
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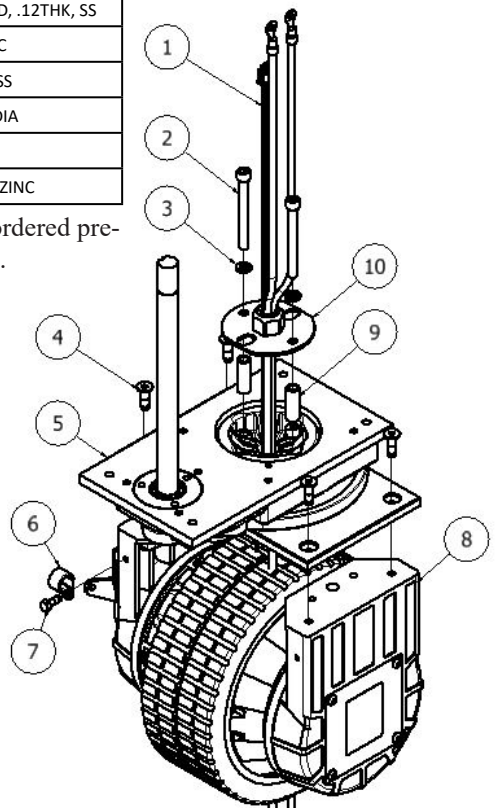
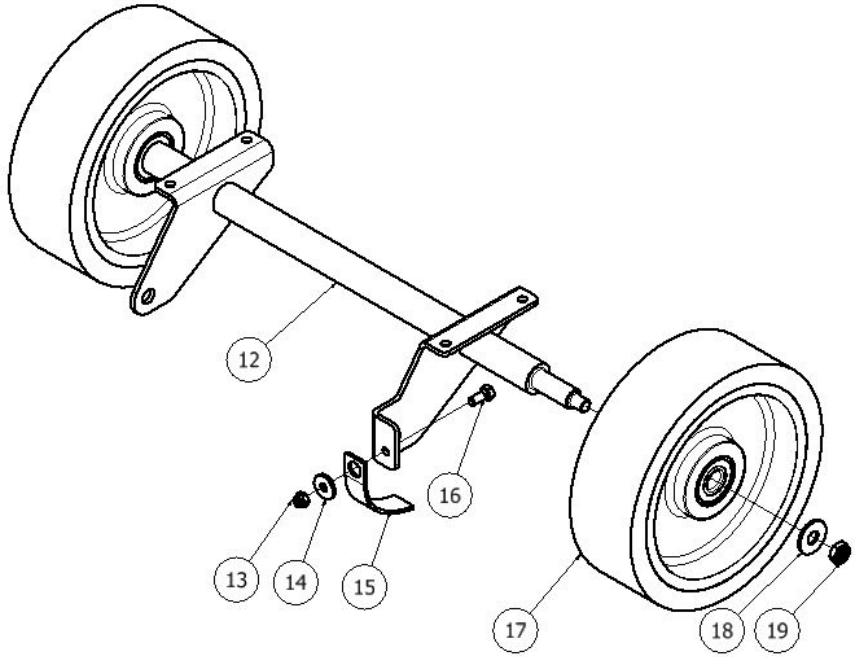
ITEM	QTY	PART NUMBER	DESCRIPTION
1*	1	911734	HARNESS DRIVE FLEXIBLE W FITTING
2*	2	964257	SCREW SOCKET HEAD CAP M8 X 80
3*	2	980094	WASHER, SPLIT LOCK, .31, SS
4	4	964449	SCREW M8X25 FLAT PATCH
5*	1	896104	PLATE TOP STEER MANUAL
6	1	852003	CLAMP, P-SHAPED, .62 DIA
7	1	964448	SCREW, HEX, M6 X 16, SS, PATCH
8	1	899702	WHEEL DRIVE 24V 250MM
9*	2	898202	SPACER PLATE HARNESS
10*	1	890804	BRACKET MOUNTING CABLE
11*	2	899003	TUBE HEAT SHRINK 3:1 ADHESIVE .05 X 2.5
12	1	890502	AXLE REAR RIDER SCRUBBER
13	1	920036	NUT, NYLOCK, 5/16-18, SS
14	1	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
15	1	878504	STRAP, GROUNDING, STATIC
16	1	962269	SCREW, HEX, .31-18 X .75, SS
17	2	899701	WHEEL BEARING 250MM DIA
18	2	W120D	WASHER FLAT .56X1.38
19	2	W502D	NUT, NYLOCK, .5-13, THIN, ZINC

*Items 1-3, 5, 9, 10 & 11 (not shown) can be ordered pre-assembled as a kit under part number 895005.

**For Brake Replacement Kit (not shown), order part number 895007.





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FRAME ASSEMBLY
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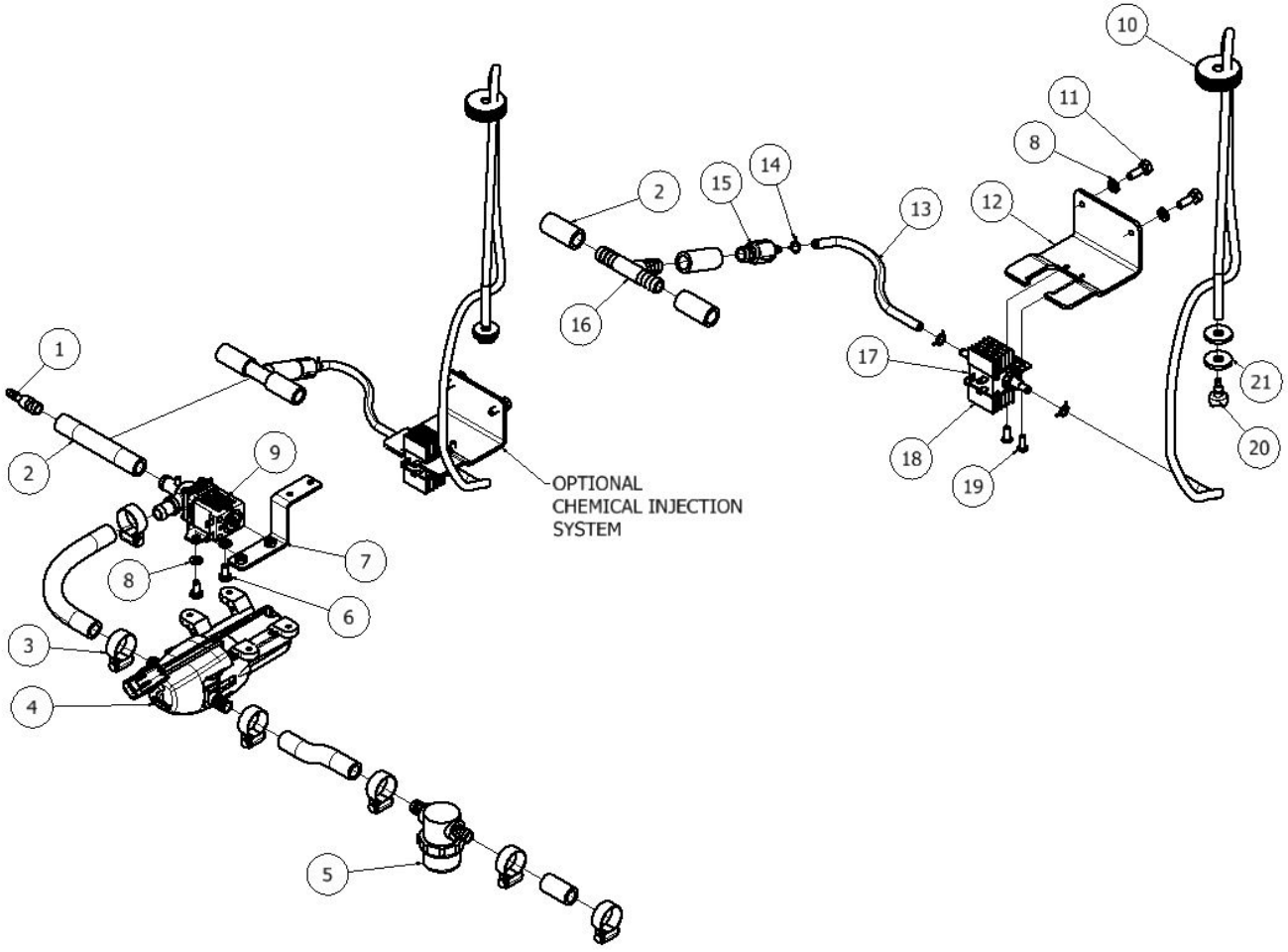
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	853301	FITTING, REDUCER, BM08, BM04
2		224130	TUBING 1/2"
3	6	S453P	CLAMP, HOSE, WORM
4	1	897006	PUMP SOLUTION 24VDC
5	1	843319	FILTER, SCREEN, BOWL
6	2	W169D	SCREW, HEX, .25-20 X .50
7	1	890820	BRACKET MOUNTING VALVE
8	4	980002	WASHER, LOCK, SPLIT, .25
9	1	859402	VALVE SOLENOID 24V NONADJ
10*	1	871501	CAP, 38MM, WITH HOLE
11*	2	W189D	SCREW, HEX, 1/4-20 X .75, SS, PATCH
12*	1	870811	BRACKET, MTG, HEAT SINK
13*		879003	TUBING 3/16INCH PVC
14*	3	872002	CLAMP, HOSE, .31, WIRE
15*	1	879402	VALVE, CHECK, .188 X .50 BARB
16*	1	873308	FITTING, TEE, 0.50 INCH
17*	1	877002	PUMP, 24VDC, SOLENOID, EMX08
18*	1	870810	BRACKET, HEAT SINK
19*	2	962363	SCREW, PAN, #10-32 X .50, SS
20*	1	S764P2	FILTER, STRAINER
21*	2	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS

*Items 10-21 are only used on machines with Chemical Injection.



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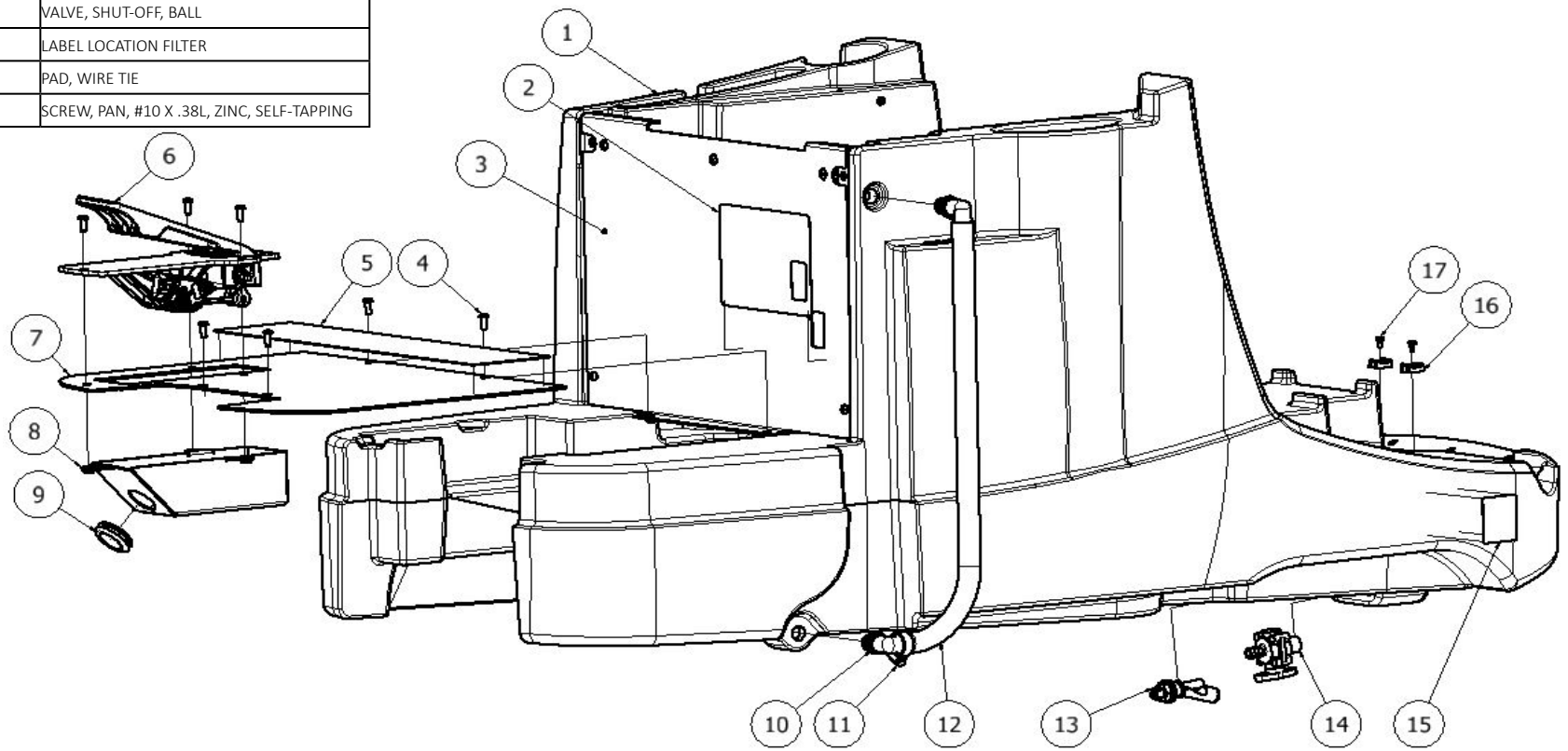
SOLUTION TANK

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	898602	TANK SOLUTION RIDER
2	1	895109	LABEL INFORMATION RIDER
3	1	897002	PANEL COVER ACTUATOR
4	13	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
5	1	895114	LABEL GRIP FOOT
6	1	897004	PEDAL ASSY LOW PROFILE
7	1	896101	PLATE FOOT RIDER
8	1	894205	HOUSING DEBRIS PEDAL
9	1	893801	GROMMET PUSH-IN FOR 1.5INCH
10	2	893302	FITTING ELBOW .5 NPT X .75 BARB
11	1	S453P	CLAMP, HOSE, WORM
12	1	899001	TUBE SIGHT .75 ID
13	1	911740	SWITCH FLOAT
14	1	879401	VALVE, SHUT-OFF, BALL
15	1	895115	LABEL LOCATION FILTER
16	2	225670	PAD, WIRE TIE
17	2	962271	SCREW, PAN, #10 X .38L, ZINC, SELF-TAPPING



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STEERING COLUMN

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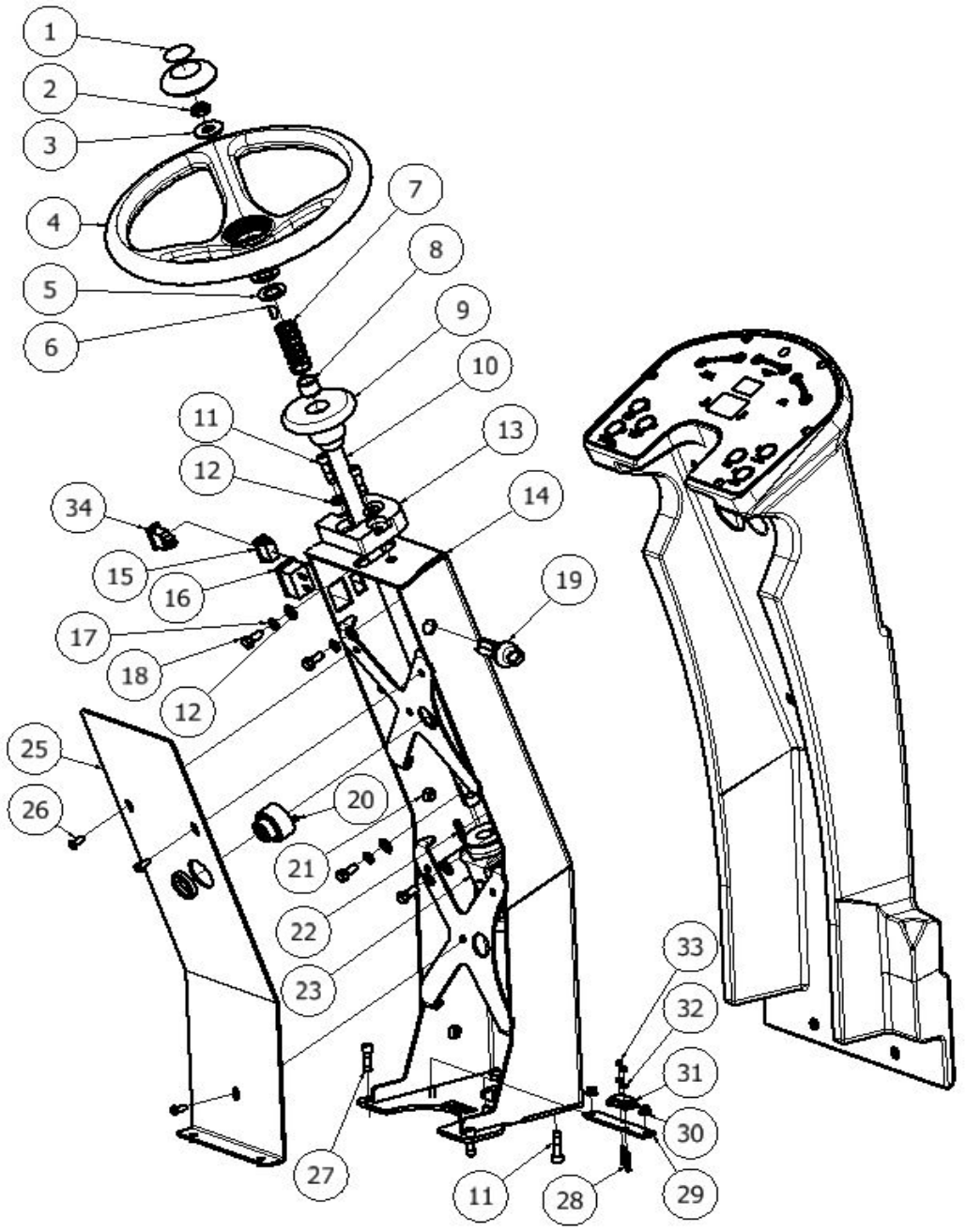
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	895117	LABEL STEERING WHEEL PACIFIC
2	1	W502D	NUT, NYLOCK, .5-13, THIN, ZINC
3	1	W120D	WASHER FLAT .56X1.38
4	1	899703	WHEEL STEERING 12INCH RIDER
5	2	980027	WASHER FLAT .765 ID 1.312 OD PLASTIC
6	1	915007	KEY, WOODRUFF, 5MM
7	1	898306	SPRING COMPRESSION 2.5L .98OD
8	1	891311	BEARING PLAIN PRETENSION
9	1	894302	HUB ADJUSTMENT STEERING
10	1	897705	SHAFT STEERING RIDER
11	4	962474	SCREW .31-18X1.25 SHC ZINC PATCH
12	6	W243D	WASHER, FLAT, 5/16, SS
13	1	891308	BLOCK BEARING STEERING
14	1	893201	FRAME COLUMN STEERING
15	1	S519PB	SWITCH BLANKS BLACK TA-10
16	1	911661	METER, HOUR, DIGITAL
17	4	980094	WASHER, SPLIT LOCK, .31, SS
18	4	962269	SCREW, HEX, .31-18 X .75, SS
19	1	911647	SWITCH KEY
20	1	890501	ALARM AUDIBLE BACKUP
21	4	895601	MOUNT WIRE-TIE PRESS IN
22	2	915002	KEY 3/16 SQ X 1 1/8 LG
23	1	894901	JOINT UNIVERSAL .75IN
24	4	962280	SCREW, SET, .25-20X.5, SS, PATCH (NOT SHOWN, FOR U-JOINT)
25	1	892301	COVER COLUMN STEERING
26	3	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
27	2	962279	SCREW, SOCKET CAP, .31X1.0, SS
28	2	962273	SCREW, PAN, #4-40 X .88, ZINC
29	1	890817	BRACKET MTG SWITCH STEERING
30	2	920011	NUT, NYLOCK, 1/4-20, ZINC
31	1	911646	SWITCH, SNAP, WITH ROLLER
32	2	980682	WASHER, FLAT, #4, ZINC
33	2	W385D	NUT, NYLOCK, #4-40, ZINC
34*	1	911089	SWITCH, ROCKER, 20A 125 VAC

*Item 34 is only used on machines with the Lamp option and is used in place of Item 15.



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STEERING COLUMN
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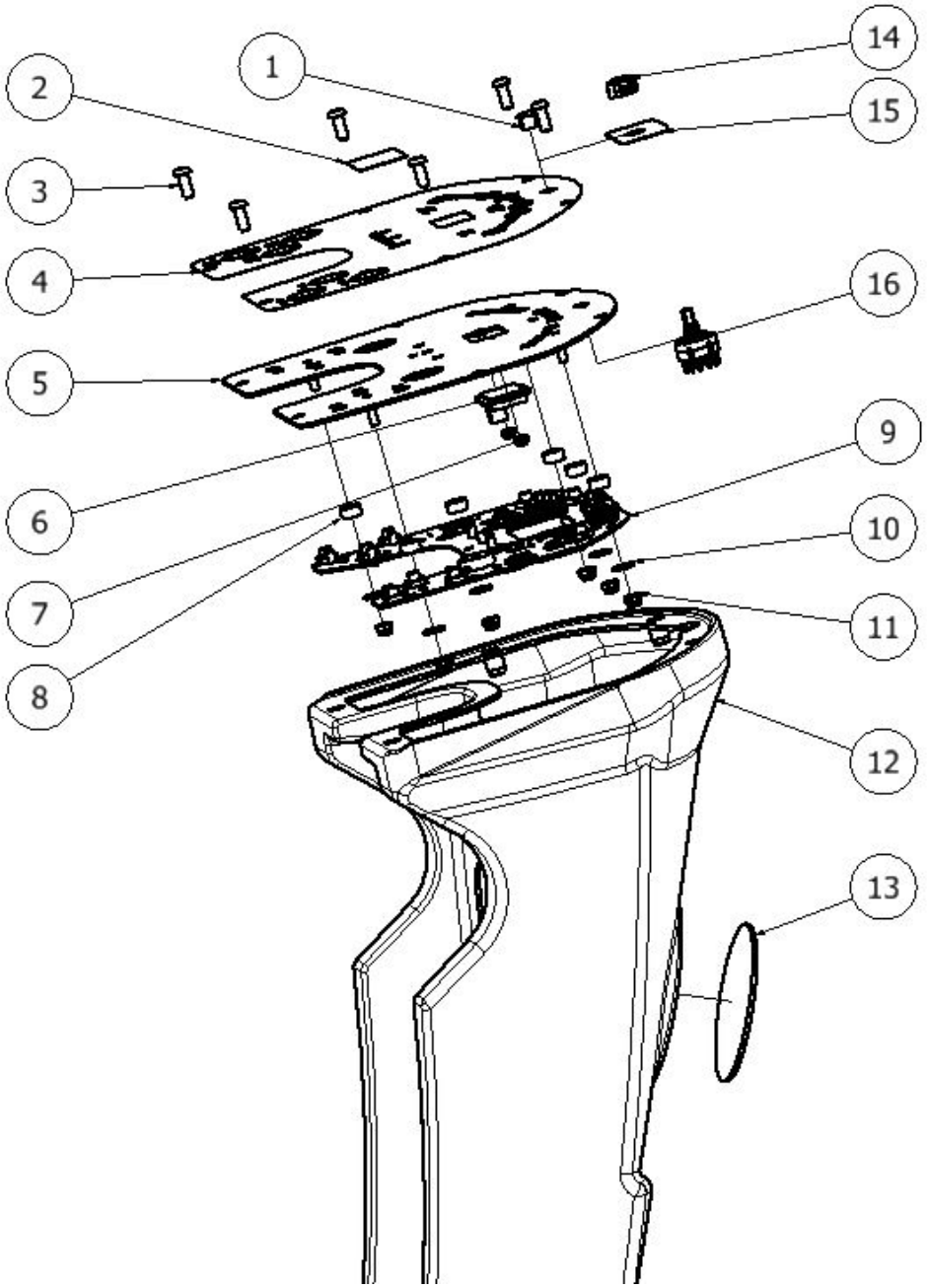
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	896806	PLUG HOLE PLASTIC .375 INCH
2*	1	895110	LABEL COVER BATTERYSHIELD
3	6	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
4	1	895101	LABEL CONTROL RIDER
5	1	897001	PANEL CONTROL OPERATOR
6	1	911621	METER, BATTERY
7	2	920034	NUT, NYLOCK, #6-32, SS
8	6	878208	SPACER PLASTIC #10 X .25 THICK
9	1	892403	CONTROLLER OPERATOR RIDER
10	6	W401D	WASHER, FLAT, #10
11	6	920666	NUT, NYLOCK, #10-32, SS
12***	1	898502	SHROUD COLUMN STEERING RIDER
12***	1	898509	SHROUD STEERING RIDER CLEAN-N-PAY
13	1	895113	LABEL PACIFIC 4INCH ROUND
14**	1	875001	KNOB, .25 BORE, SMALL
15**	1	895111	LABEL CONTROL SOLUTION
16**	1	911748	SWITCH ROTARY 12-POS WITH HARNESS

* Items 2 is only used on machines not equipped with BatteryShield®.
**Items 14, 15, & 16 are only used on machines with Chemical Injection and are used in place of Item 1.
***Item 12 is dependent on machine model. 898509 used only on models equipped with the optional ScrubSmart telemetry system.



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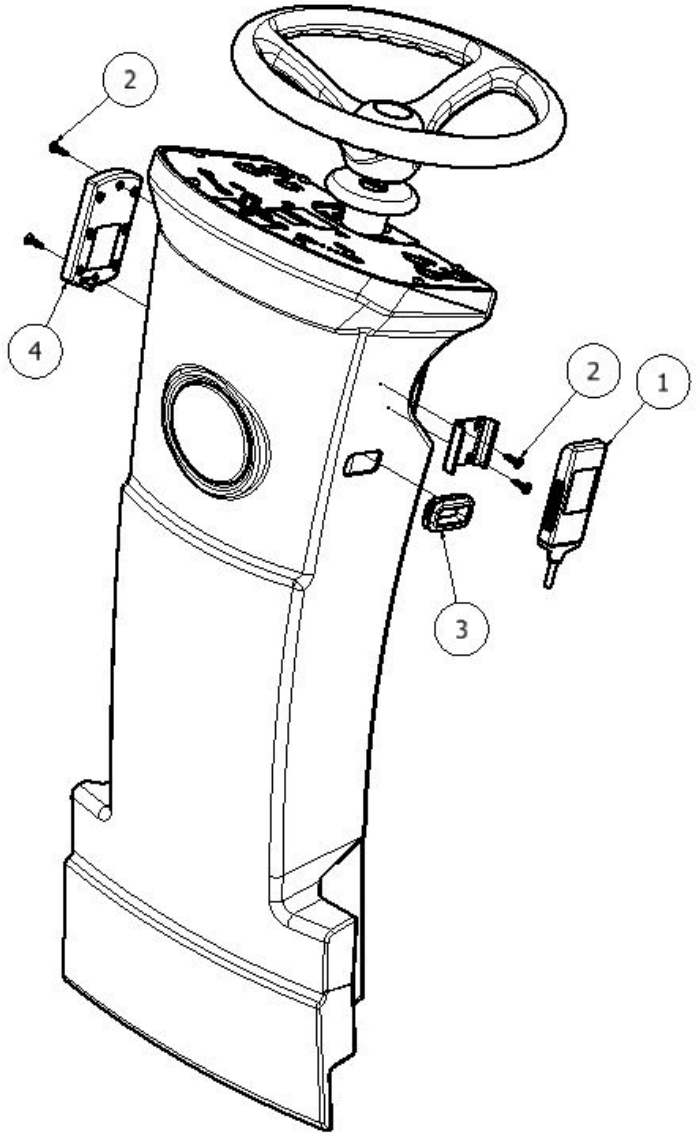
OPTIONAL SCRUBSMART TELEMETRY

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	899203	TRANSMITTER TELEMETRY TRACKING
2	4	962460	SCREW, #8X.75, PHIL TRUSS SS
3	1	893801	GROMMET PUSH-IN FOR 1.5INCH
4	1	895002	KEYPAD TELEMETRY TRACKING



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RECOVERY SYSTEM

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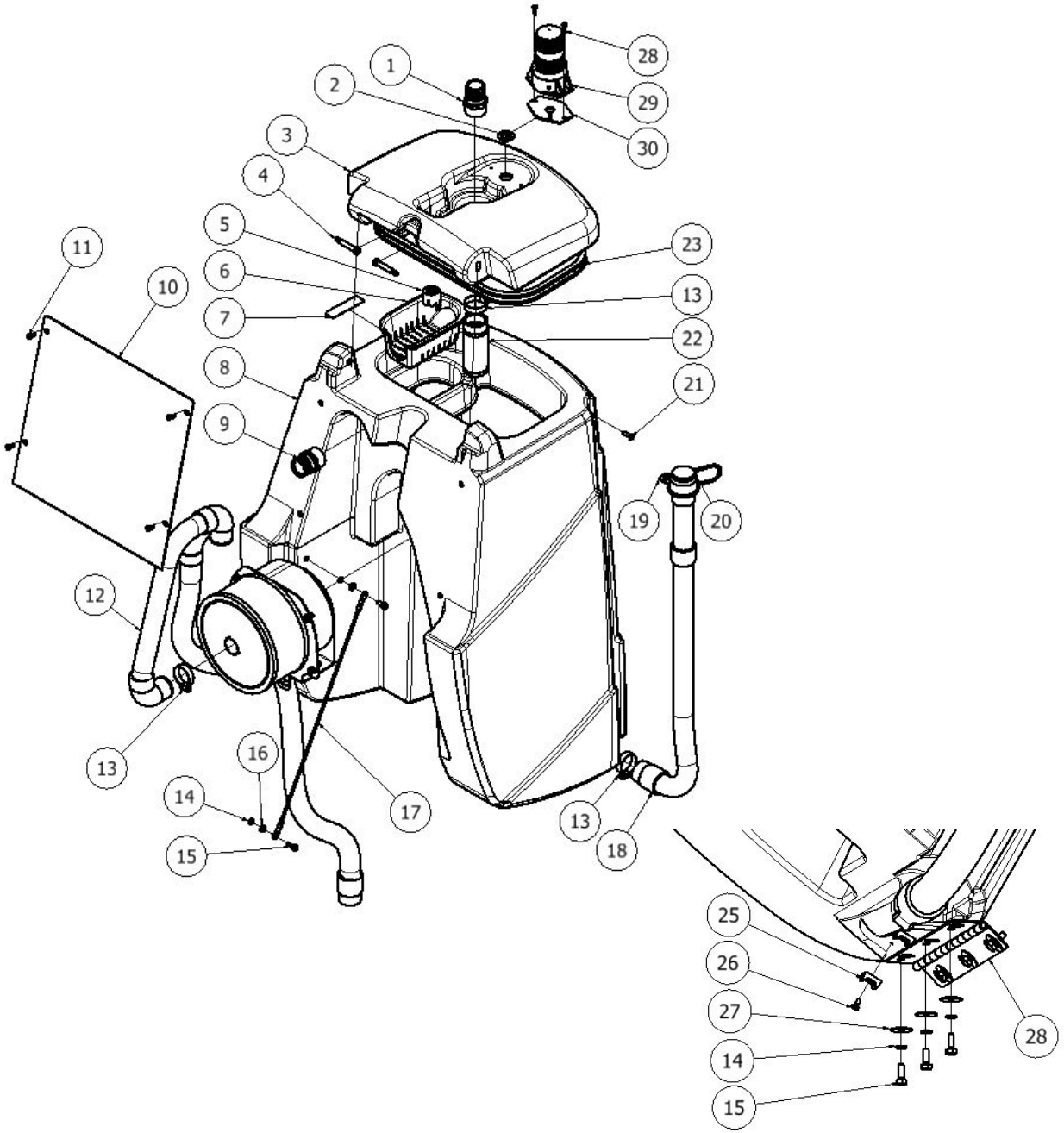
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	853304	FITTING, STR, BM24, PM20
2	1	856803	PLUG HOLE 1 INCH BLACK
3	1	892303	COVER RECOVERY RIDER
4	2	962462	SCREW, SHOULDER, .38 X 1.75, SS
5	1	879202	TRAY, PUCK
6	1	879201	TRAY, DEBRIS
7	1	875110	LABEL, INSTRUCT, BROMINE
8	1	898601	TANK RECOVERY RIDER
9	1	853308	FITTING, MODIFIED
10	1	892302	COVER HOSE RECOVERY
11	4	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
12	1	894102	HOSE VACUUM RECOVERY
13	3	S611A	CLAMP, HOSE, WORM
14	8	980002	WASHER, LOCK, SPLIT, .25
15	8	W189D	SCREW, HEX, 1/4-20 X .75, SS, PATCH
16	2	920037	NUT, THIN JAM, 1/4-20, ZINC
17	1	872412	CABLE RETENTION MID LONG
18*	1	854104	HOSE DRAIN CAPPED CHEM RESIST
18	1	854101	HOSE DRAIN WITH CAP
19	1	858506	STRAP SUPPORT HOSE- REPL STRAP
20	1	851501	CAP HOSE DRAIN-REPL CAP
21	1	962455	SCREW, TRUSS, .25-20 X 1.0
22	1	223370	FLOAT, SHUTOFF
23	1	853401	GASKET, COVER, PRESS-IN
24	2	225670	PAD, WIRE TIE
25	2	962271	SCREW, PAN, #10 X .38L, ZINC, SELF-TAPPING
26	6	W311D	WASHER FENDER .25 X 1.0 ZINC.ipt
27	1	894501	HINGE TANK RECOVERY RIDER
28**	2	962030	SCREW #10X.75 SELF DRILL PHP
29**	1	895102	LAMP STROBE AMBER
30**	1	893403	GASKET LAMP AMBER

*Chemical resistant hose is an optional accessory.

**Items 28, 29, & 30 are only used on machines equipped with the optional lamp and are used in place of Item 2.



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RECOVERY SYSTEM

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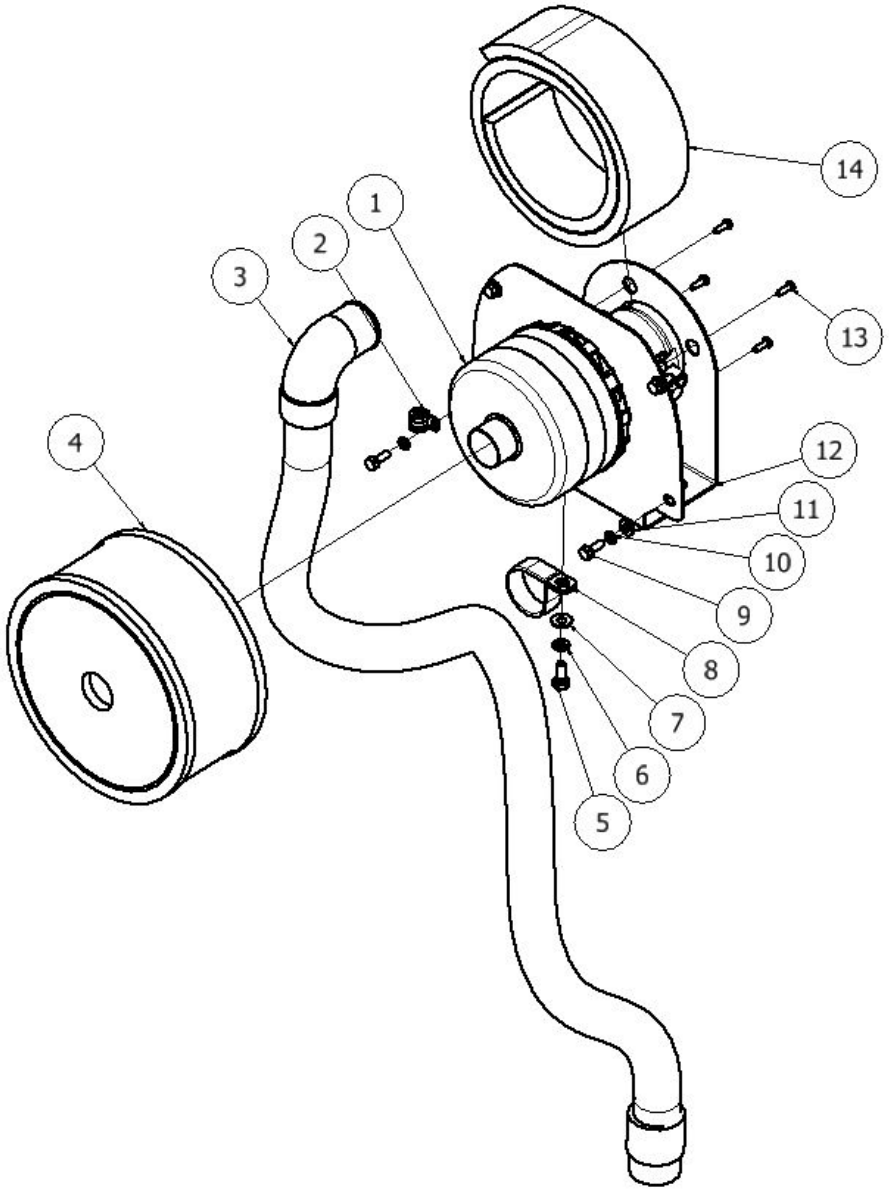
ITEM	QTY	PART NUMBER	DESCRIPTION
1*	1	875202	MOTOR, VAC, 24VDC, PERIP
2	1	852101	CLAMP, WIRE, P-SHAPED
3	1	894101	HOSE SQUEEGEE RIDER STRAIGHT CUFF
4	1	873304	FILTER, HEPA, MID
5	1	962269	SCREW, HEX, .31-18 X .75, SS
6	1	980094	WASHER, SPLIT LOCK, .31, SS
7	1	W243D	WASHER, FLAT, 5/16, SS
8	1	892001	CLAMP LOOP RUBBER 1.75 INCH
9	4	W189D	SCREW, HEX, 1/4-20 X .75, SS, PATCH
10	4	980002	WASHER, LOCK, SPLIT, .25
11	3	W104D	WASHER, FLAT, .25
12	1	890807	BRACKET MTG MOTOR VACUUM
13	4	964224	SCREW, PAN, #10 X .5, SELF TAPPING
14*	1	853305	FOAM, NOISE, VACUUM

*Items 1 & 14 can be ordered as a kit under part number 895004.



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HEAD LIFT

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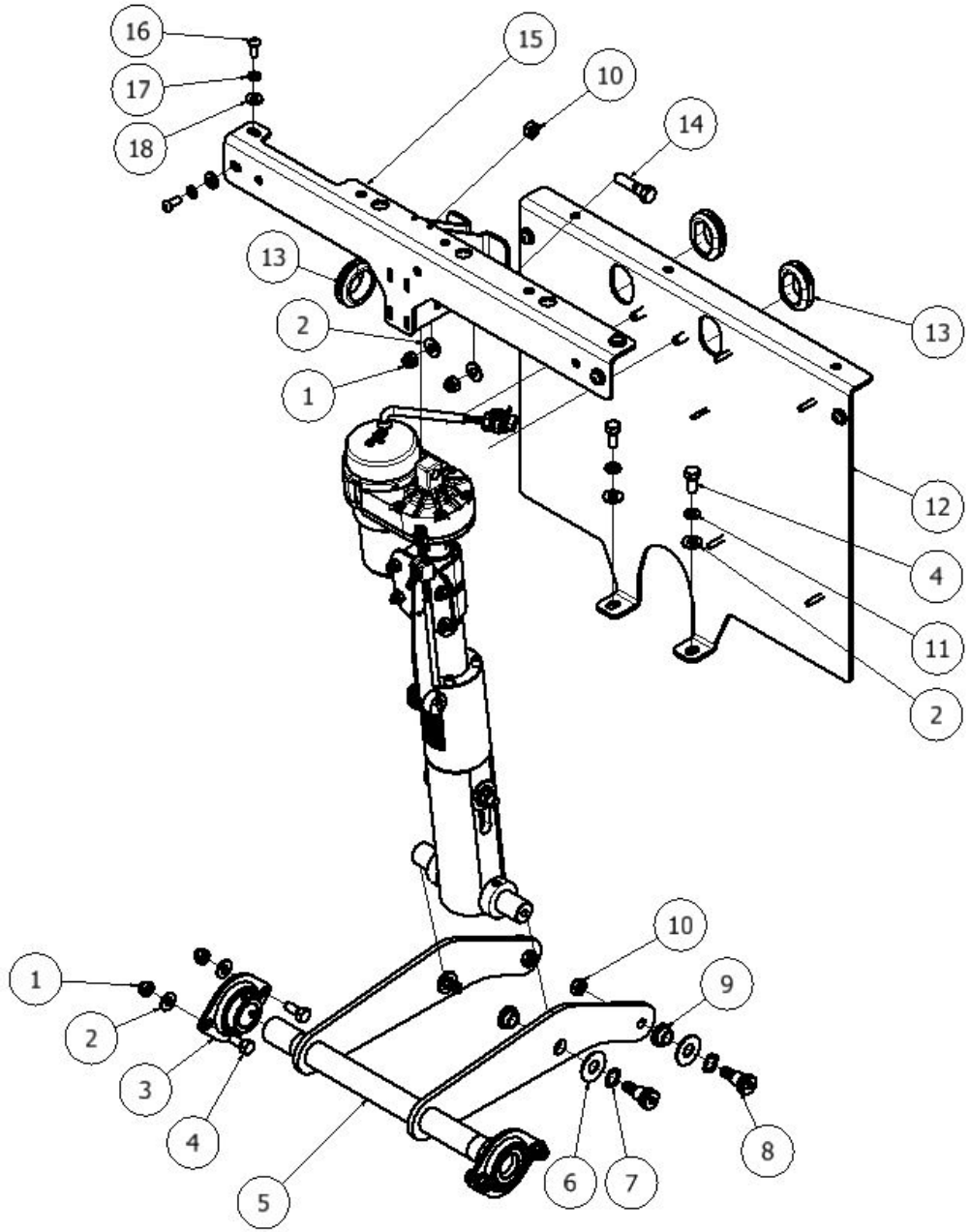
ITEM	QTY	PART NUMBER	DESCRIPTION
1	6	920036	NUT, NYLOCK, 5/16-18, SS
2	8	W243D	WASHER, FLAT, 5/16, SS
3	2	902057	BEARING 2-BOLT FLANGE 1INCH
4	6	962269	SCREW, HEX, .31-18 X .75, SS
5	1	897703	SHAFT LIFT HEAD RIDER
6	4	980612	WASHER, NYL, .50 X 1.25 X .062
7	4	980093	WASHER, WAVE, .50INCH
8	4	962465	SCREW, SHOULDER, .50 X .50
9	4	871101	BUSHING, FLANGE, .50IN
10	3	920035	NUT, NYLOCK, .38-16, SS
11	2	980094	WASHER, SPLIT LOCK, .31, SS
12	1	890811	BRACKET SUPPORT ACTUATOR HEAD
13	4	893801	GROMMET PUSH-IN FOR 1.5INCH
14	1	962075	SCREW, HEX, 3/8-16 X 1.5, SS
15	1	891309	BRACE SUPPORT ACTUATOR
16	6	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
17	6	980002	WASHER, LOCK, SPLIT, .25
18	8	W104D	WASHER, FLAT, .25



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HEAD LIFT
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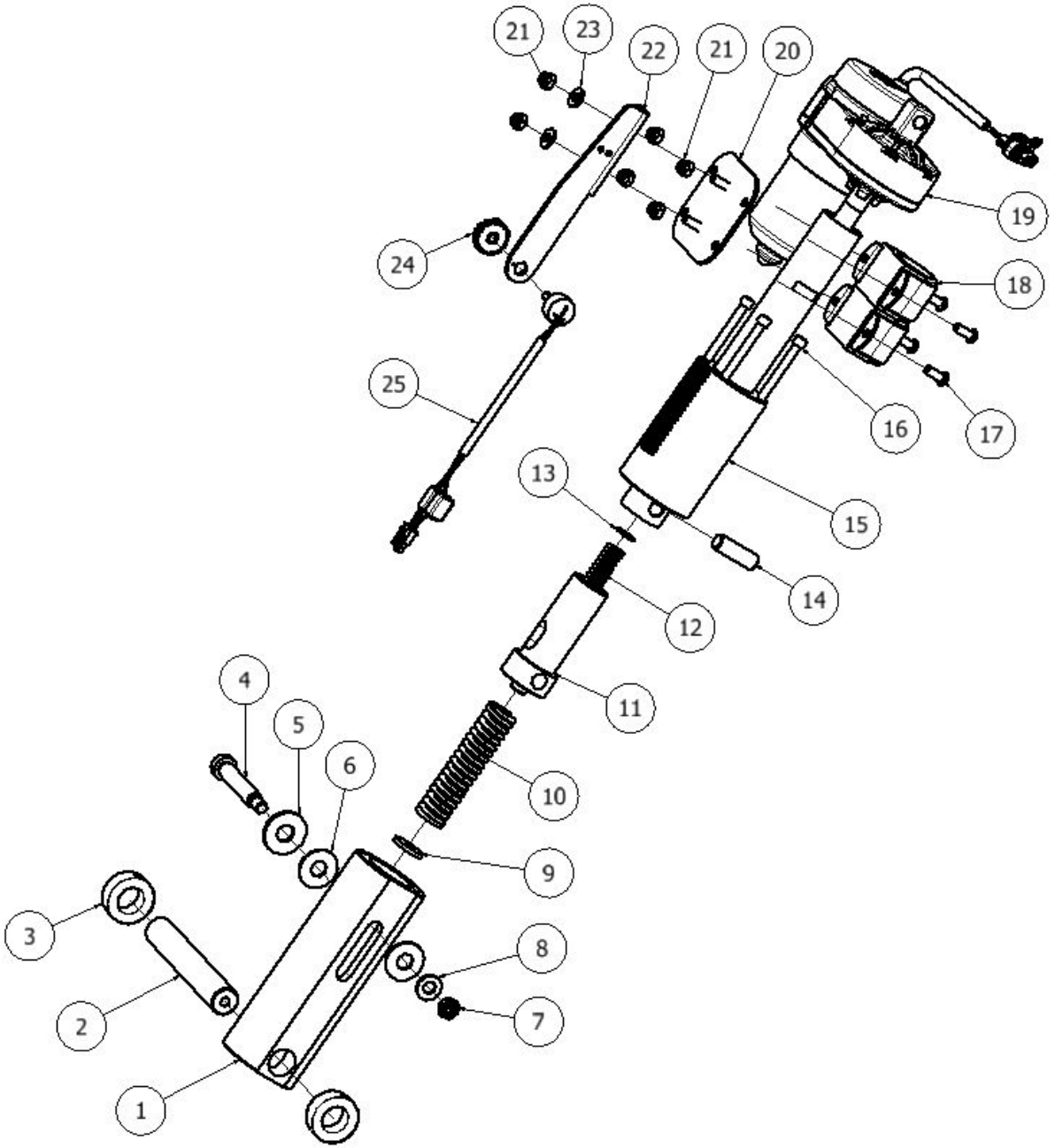
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	892402	CYLINDER HOUSING SPRING
2	1	897702	SHAFT LIFT HEAD
3	2	892404	COLLAR SHAFT .875 DIA
4	1	962294	SCREW SHOULDER .50 D X 2.5 L
5	1	W120D	WASHER FLAT .56X1.38
6	2	980612	WASHER, NYL, .50 X 1.25 X .062
7	1	920035	NUT, NYLOCK, .38-16, SS
8	1	980003	WASHER, FLAT, .38
9	1	980106	WASHER, FLAT, .25ID, 1.0OD, .12THK, SS
10	1	898305	SPRING COMPRESSION DIE
11	1	890201	ADAPTER ACTUATOR SHAFT
12	1	898307	SPRING COMPRESSION .62 D X 2.0 L
13	1	897301	RING RETAINING INTERNAL .62 DIA
14	1	896703	PIN DOWEL .50 DIA X 1.75 LONG
15	1	891501	CAP SPRING ACTUATOR
16	4	962295	SCREW SOCKET .25-20 X 5.0L
17	4	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
18	2	542002	CLAMP U-SHAPED WITH RUBBER
19	1	890503	ACTUATOR 600LB 24VDC
20	1	890821	BRACKET MOUNTING CLAMP
21	6	920011	NUT, NYLOCK, 1/4-20, ZINC
22	1	890818	BRACKET MTG POTENTIOMETER
23	2	W104D	WASHER, FLAT, .25
24	1	893501	GEAR .25 BORE 24 T 24 P
25	1	898505	SENSOR ROTARY HALL EFFECT



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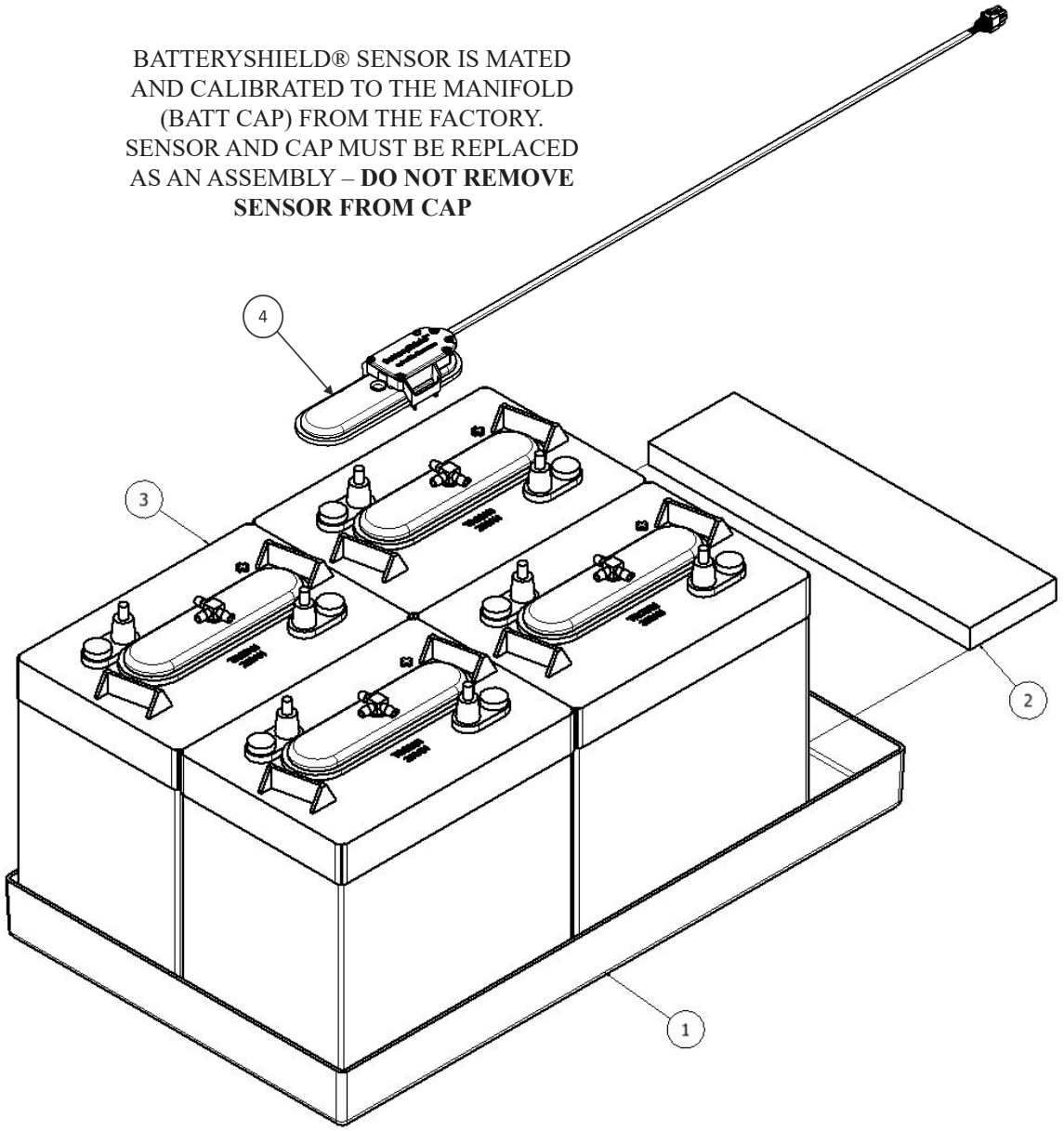
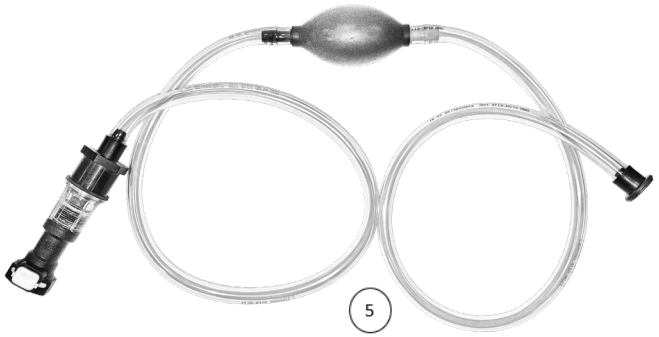
BATTERY

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	899201	TRAY BATTERY SCRUBBER MEDIUM
2	1	898208	FOAM SPACER BATTERY RIDER
3*	4	891310	BATTERY LA 6V 360AH
3*	4	871302	BATTERY, 6V, 250AH, AGM
3*	4	871301	BATTERY, 6V, 260AH, LA
3*	0	NONE	N/A
4	1	878520	SENSOR ASSY BATTERYSHIELD FIELD REPLACE
5	1	857003	PUMP ASSY, HND, HYDROLINK
6**	1	855605	MANIFOLD INDIV HYDROLINK (BATT CAP)
7**	1	879002	COMPLETE SET MANIFOLD (BATT CAP), SERVICE TUBE, & PUMP

*Item 3 is dependent upon machine model.
**Items 6 & 7 are not shown.

BATTERYSHIELD® SENSOR IS MATED AND CALIBRATED TO THE MANIFOLD (BATT CAP) FROM THE FACTORY. SENSOR AND CAP MUST BE REPLACED AS AN ASSEMBLY – **DO NOT REMOVE SENSOR FROM CAP**





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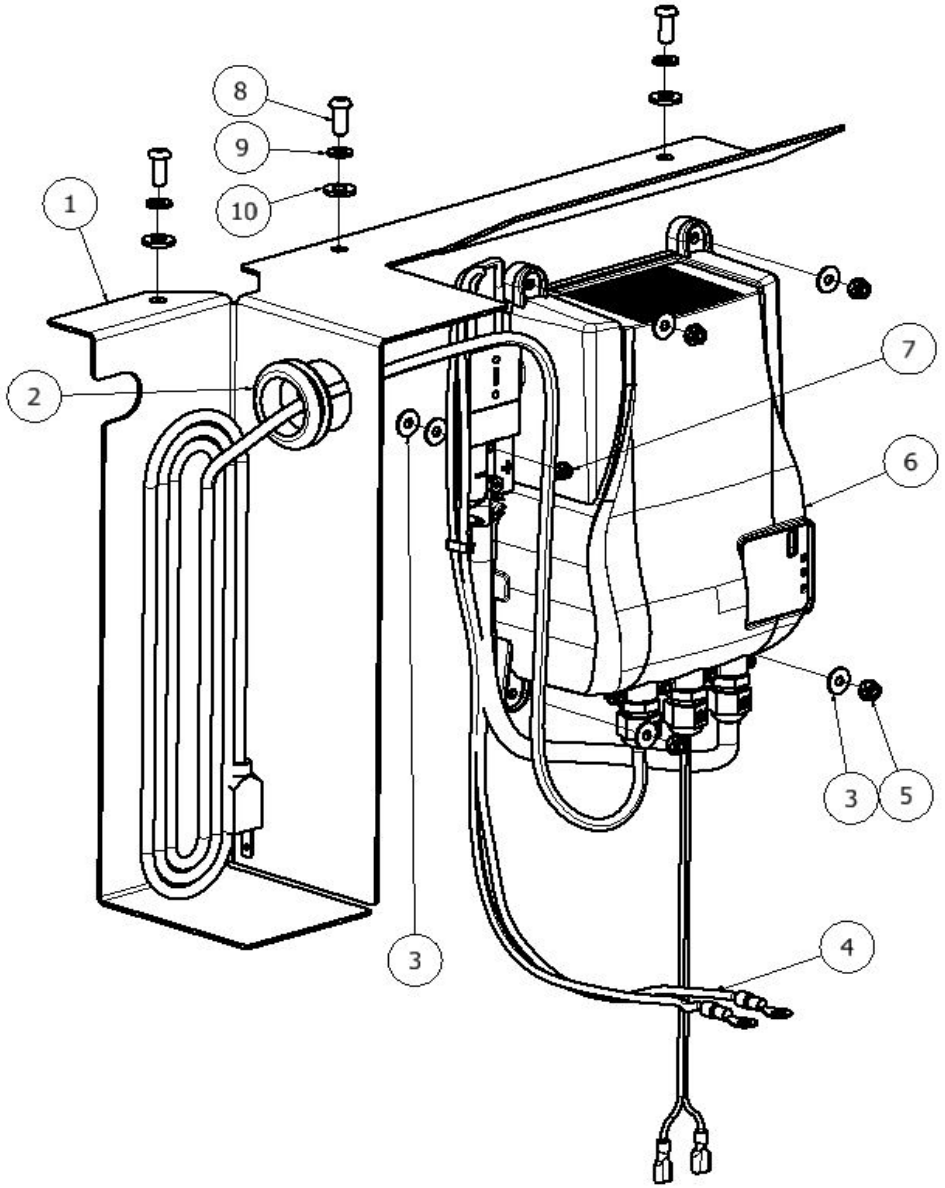
BATTERY CHARGER

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	890812	BRACKET SUPPORT CORD
2	1	893801	GROMMET PUSH-IN FOR 1.5INCH
3	6	W401D	WASHER, FLAT, #10
4	1	911645	HARNESS, CHARGER, POST
5	4	920666	NUT, NYLOCK, #10-32, SS
6	1	852407	CHARGER, 24V, ONBRD, CULUS
7	1	920034	NUT, NYLOCK, #6-32, SS
8	3	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
9	3	980002	WASHER, LOCK, SPLIT, .25
10	3	W104D	WASHER, FLAT, .25



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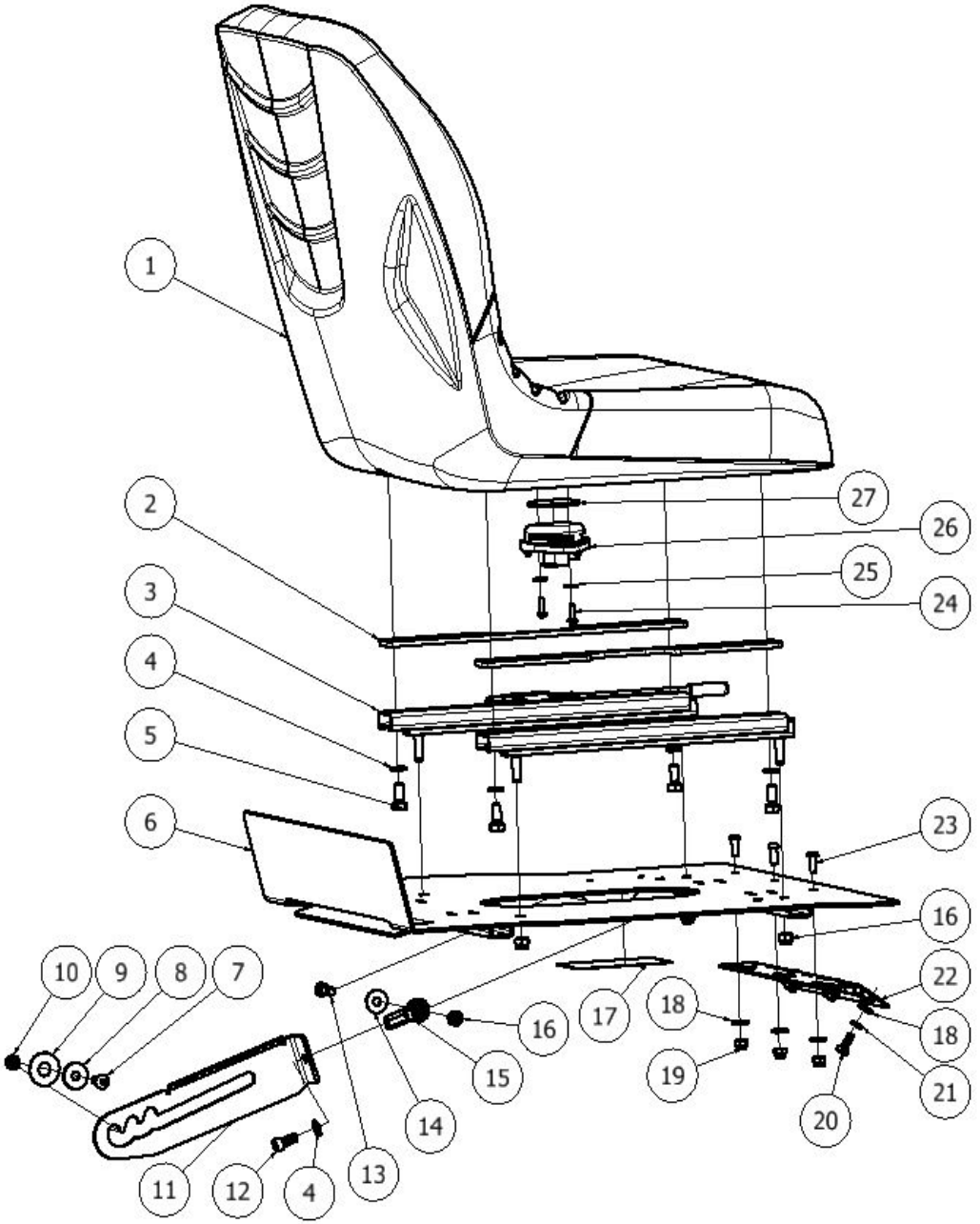
SEAT ASSEMBLY
PRIOR TO SERIAL NUMBER 122392

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	898501	SEAT SCRUBBER RIDER
2	2	898210	SPACER SEAT
3	1	897501	RAIL ASSEMBLY SEAT ADJUSTABLE
4	5	980094	WASHER, SPLIT LOCK, .31, SS
5	4	962269	SCREW, HEX, .31-18 X .75, SS
6	1	890815	BRACKET SUPPORT SEAT
7	1	962265	SCREW, BUTTON, SOCKET, .31-18 X .75, SS
8	1	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
9	1	980612	WASHER, NYL, .50 X 1.25 X .062
10	1	853802	GUIDE, SPACER, ROUND
11	1	898503	STAND COVER SEAT
12	1	962027	SCREW SHCS .31-24 X .625 ZINC
13	1	962279	SCREW, SOCKET CAP, .31X1.0, SS
14	1	980007	WASHER FLAT .31 ZINC
15	1	902050	BEARING, ROD END, .31-24
16	5	920036	NUT, NYLOCK, 5/16-18, SS
17	1	875103	LABEL, INSTRUCTION, BATTERY
18	6	W104D	WASHER, FLAT, .25
19	3	920011	NUT, NYLOCK, 1/4-20, ZINC
20	3	962068	SCREW .25-20X.63 HEX ZINC
21	3	980002	WASHER, LOCK, SPLIT, .25
22	1	894501	HINGE TANK RECOVERY RIDER
23	3	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
24	2	964224	SCREW, PAN, #10 X .5, SELF TAPPING
25	2	W401D	WASHER, FLAT, #10
26*	1	911744	SWITCH SEAT NO
27*	1	898212	SPACER SEAT SWITCH

*Items 26 & 27 can be ordered as a kit under part number 895006.



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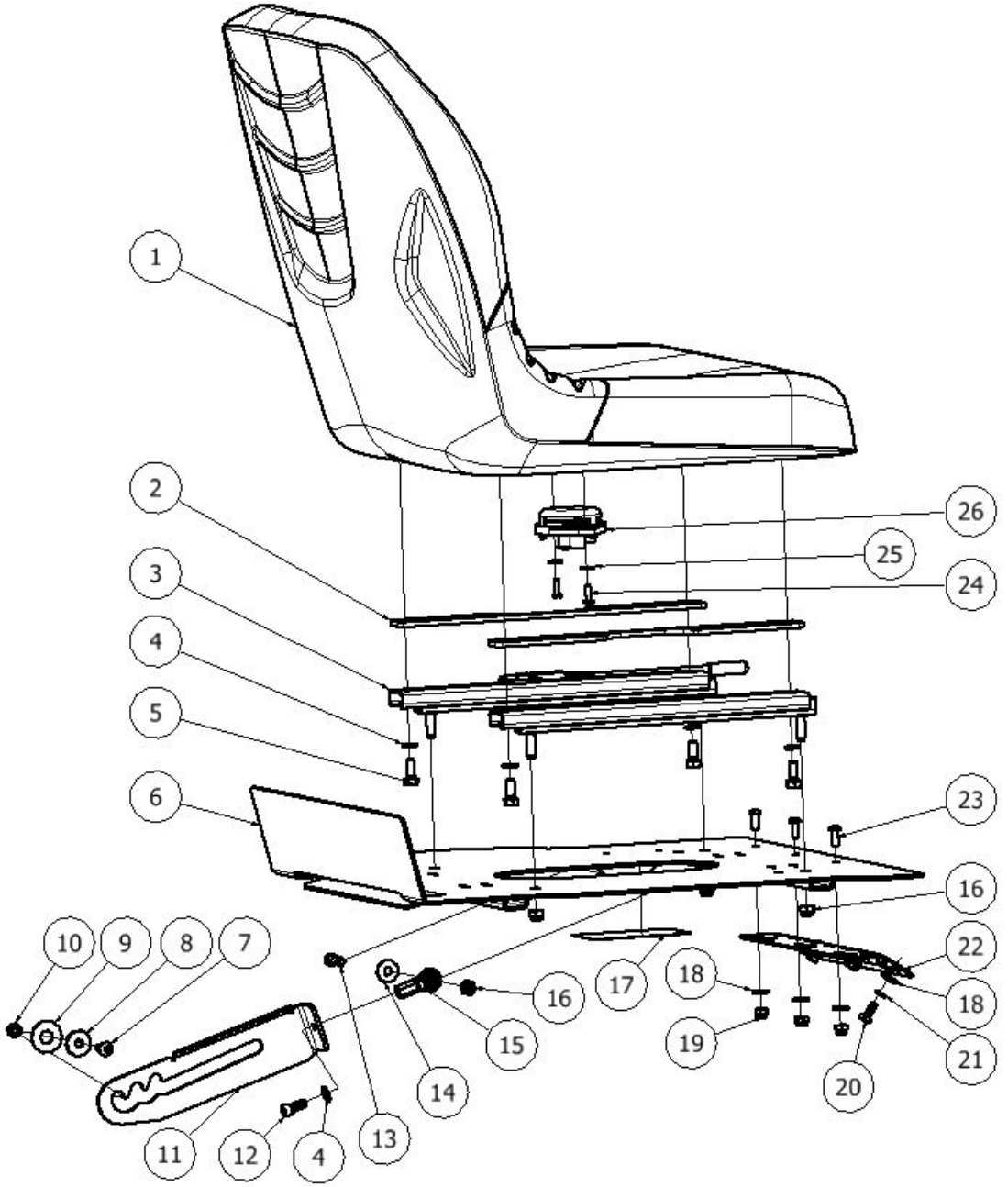
SEAT ASSEMBLY
AFTER SERIAL NUMBER 122392

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	898501	SEAT SCRUBBER RIDER
2	2	898210	SPACER SEAT
3	1	897501	RAIL ASSEMBLY SEAT ADJUSTABLE
4	5	980094	WASHER, SPLIT LOCK, .31, SS
5	4	962269	SCREW, HEX, .31-18 X .75, SS
6	1	890815	BRACKET SUPPORT SEAT
7	1	962265	SCREW, BUTTON, SOCKET, .31-18 X .75, SS
8	1	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
9	1	980612	WASHER, NYL, .50 X 1.25 X .062
10	1	853802	GUIDE, SPACER, ROUND
11	1	898503	STAND COVER SEAT
12	1	962027	SCREW SHCS .31-24 X .625 ZINC
13	1	962279	SCREW, SOCKET CAP, .31X1.0, SS
14	1	980007	WASHER FLAT .31 ZINC
15	1	902050	BEARING, ROD END, .31-24
16	5	920036	NUT, NYLOCK, 5/16-18, SS
17	1	875103	LABEL, INSTRUCTION, BATTERY
18	6	W104D	WASHER, FLAT, .25
19	3	920011	NUT, NYLOCK, 1/4-20, ZINC
20	3	962068	SCREW .25-20X.63 HEX ZINC
21	3	980002	WASHER, LOCK, SPLIT, .25
22	1	894501	HINGE TANK RECOVERY RIDER
23	3	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
24	2	964224	SCREW, PAN, #10 X .5, SELF TAPPING
25	2	W401D	WASHER, FLAT, #10
26	1	911744	SWITCH SEAT NO



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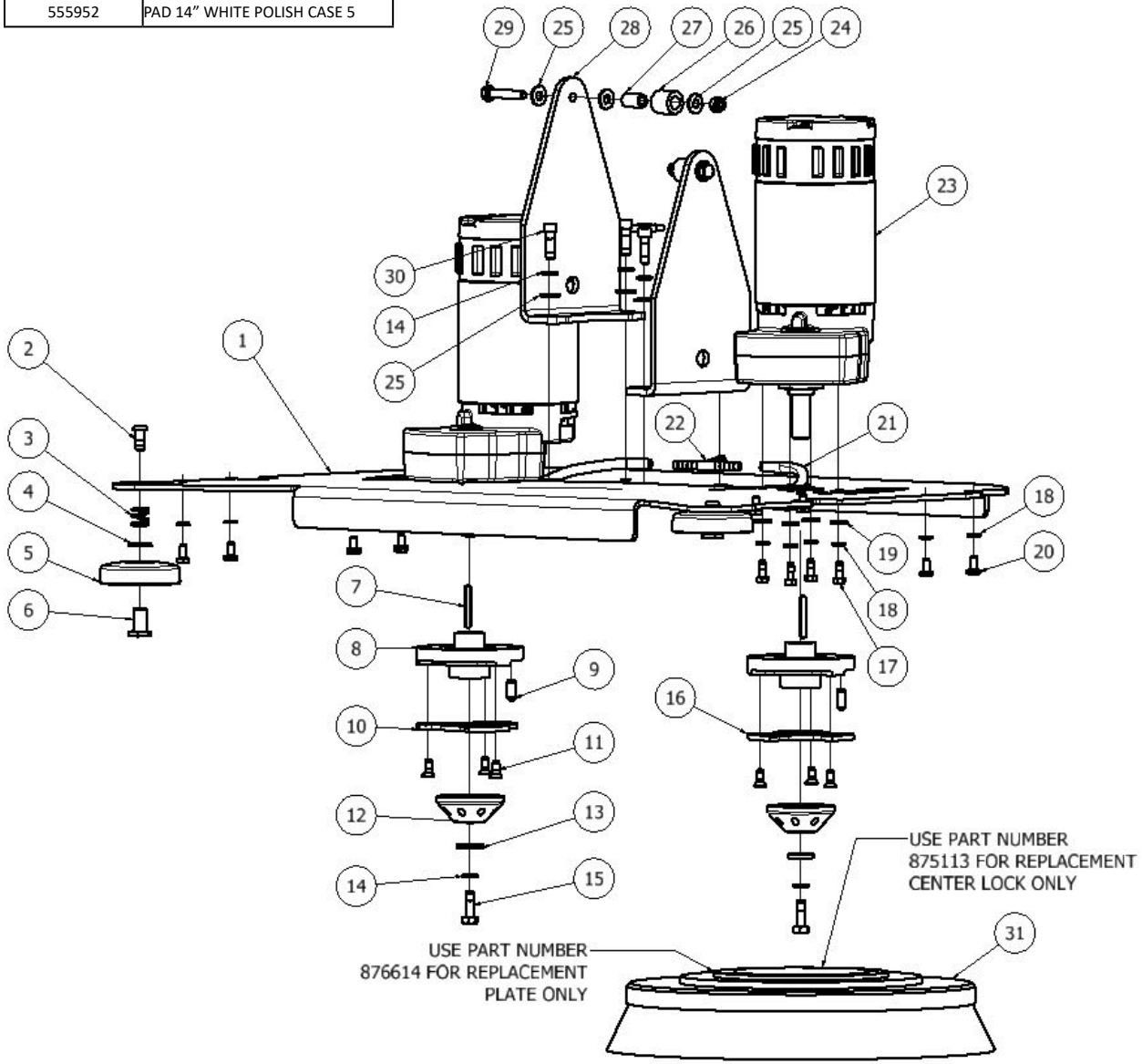
DISK SCRUB HEAD

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	896102	PLATE MTG 28INCH RIDER
2*	2	962265	SCREW, BUTTON, SOCKET, .31-18 X .75, SS
3*	2	878302	SPRING COMPR .62L X .66DIA
4*	2	980643	WASHER NYLON 1/2 ID
5*	2	859703	WHEEL, GUIDE
6*	2	878209	SPACER WHEEL GUIDE
7	2	915008	KEY, SQUARE, 5MM X 5 X 40MM
8	2	854302	HUB, DRIVER, BRUSH
9	2	857009	PLUNGER BALL PRESS-IN
10	1	853803	GUIDE, DRIVER
11	6	962274	SCREW, FLAT, SOCK, .25-20X.62, SS, PATCH
12	2	853804	GUIDE, PAD, PLASTIC
13	2	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
14	6	980094	WASHER, SPLIT LOCK, .31, SS
15	2	962466	SCREW, HEX, M8-1.25 X 25, SS, PATCH
16	1	873802	GUIDE, DRIVER, RH
17	8	964448	SCREW, HEX, M6 X 16, SS, PATCH
18	16	980002	WASHER, LOCK, SPLIT, .25
19	8	W104D	WASHER, FLAT, .25
20	8	W169D	SCREW, HEX, .25-20 X .50
21	26”	204179	TUBING, 1/4”
22	3	873301	FITTING, TEE, .25INCH
23	2	875201	MOTOR, GEAR, BRUSH MRP15
24	2	920012	NUT, NYLOCK, 5/16-18, ZINC
25	10	W243D	WASHER, FLAT, 5/16, SS
26	2	857501	ROLLER, PLASTIC
27	2	858203	SPACER, WHEEL, GUIDE
28	2	890813	BRACKET SUPPORT HEAD
29	2	962270	SCREW, HEX, 5/16-18X1.75,SS
30	4	962279	SCREW, SOCKET CAP, .31X1.0, SS
31	2	870901	BRUSH, POLY, 14 INCH
32	2	870904	BRUSH, NYLON, 14 INCH - NOT SHOWN
33	2	875902	DRIVER, PAD, 14INCH - NOT SHOWN

*Items 2–6 can be ordered as a kit under part number 855022.

AVAILABLE PADS

PART NUMBER	DESCRIPTION
555902	PAD 14” BLACK STRIP CASE 5
555942	PAD 14” RED SCRUB CASE 5
555952	PAD 14” WHITE POLISH CASE 5



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ORBITAL SCRUB HEAD

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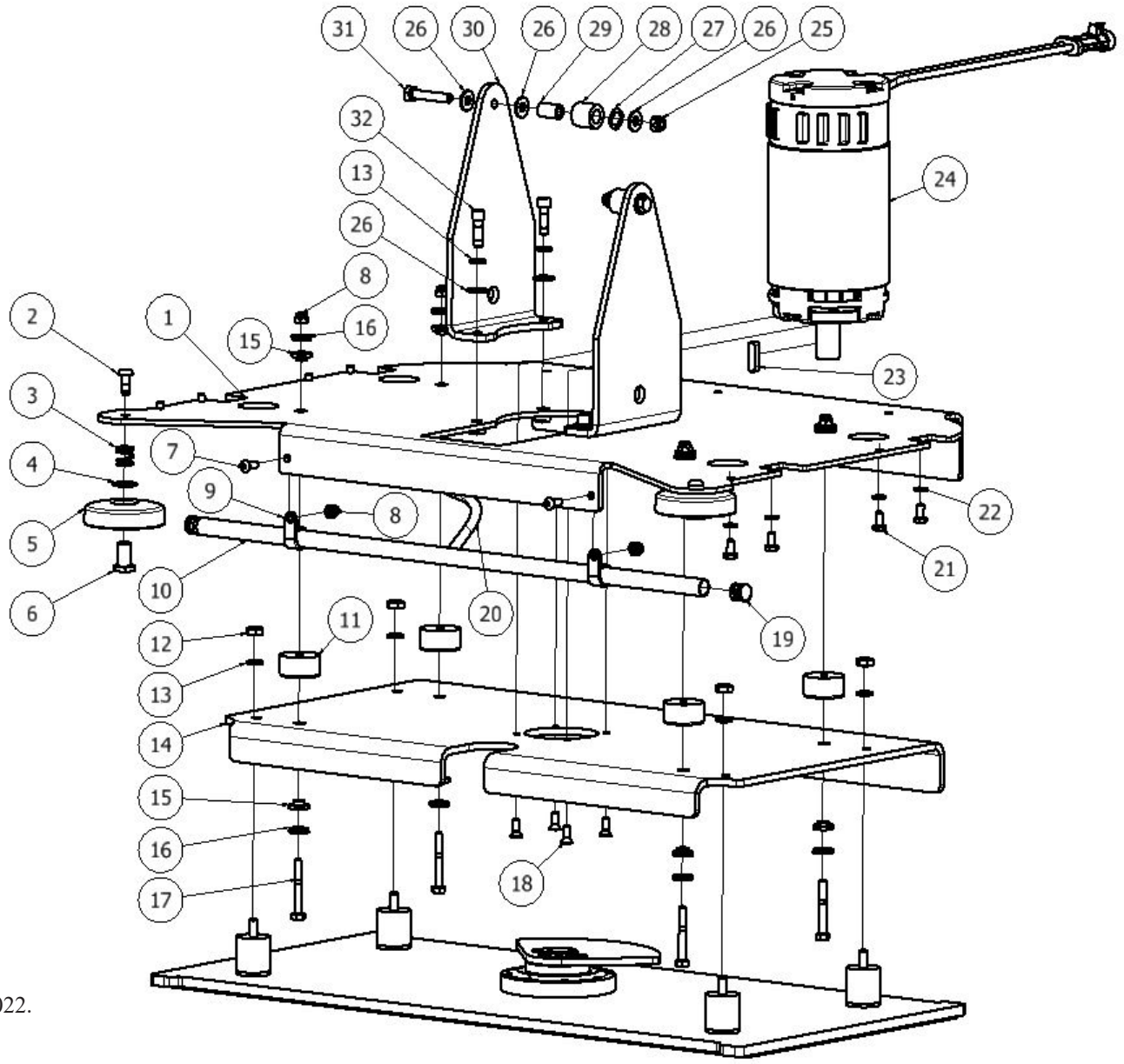
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	890805	BRACKET MTG HEAD ORBITAL
2*	2	962265	SCREW, BUTTON, SOCKET, .31-18 X .75, SS
3*	2	878302	SPRING COMPR .62L X .66DIA
4*	2	980643	WASHER NYLON 1/2 ID
5*	2	859703	WHEEL, GUIDE
6*	2	878209	SPACER WHEEL GUIDE
7	2	962263	SCREW, BUTT, SOCK, .25-20X.62, SS BO
8	6	920665	NUT, NYLOCK, 1/4-20, SS
9	2	852003	CLAMP, P-SHAPED, .62 DIA
10	1	879005	TUBE DISTRIBUTION
11	4	858205	SPACER, RUBBER
12	4	W405D	NUT, .31-18, JAM, SS
13	8	980094	WASHER, SPLIT LOCK, .31, SS
14	1	876609	PLATE, MOUNTING, MOTOR
15	8	851101	BUSHING, RUBBER
16	8	980104	WASHER, RUBBER
17	4	W117D	SCREW, HEX, .25-20 X 2.0, SS
18	4	964009	SCREW, SCK, FLT, M6-1 X 20, SS, PATCH
19	2	856802	PLUG .62 TUBE
20	12”	204179	TUBING, 1/4”
21	8	W169D	SCREW, HEX, .25-20 X .50
22	8	980002	WASHER, LOCK, SPLIT, .25
23	1	915006	KEY, 8MM X 7MM X 28MM
24	1	855204	MOTOR, 24V, 2200 RPM, 1HP
25	2	920012	NUT, NYLOCK, 5/16-18, ZINC
26	10	W243D	WASHER, FLAT, 5/16, SS
27	2	980093	WASHER, WAVE, .50INCH
28	2	857501	ROLLER, PLASTIC
29	2	858203	SPACER, WHEEL, GUIDE
30	2	890813	BRACKET SUPPORT HEAD
31	2	962270	SCREW, HEX, 5/16-18X1.75,SS
32	4	962279	SCREW, SOCKET CAP, .31X1.0, SS

*Items 2–6 can be ordered as a kit under part number 855022.



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ORBITAL SCRUB HEAD
Page 2 of 2

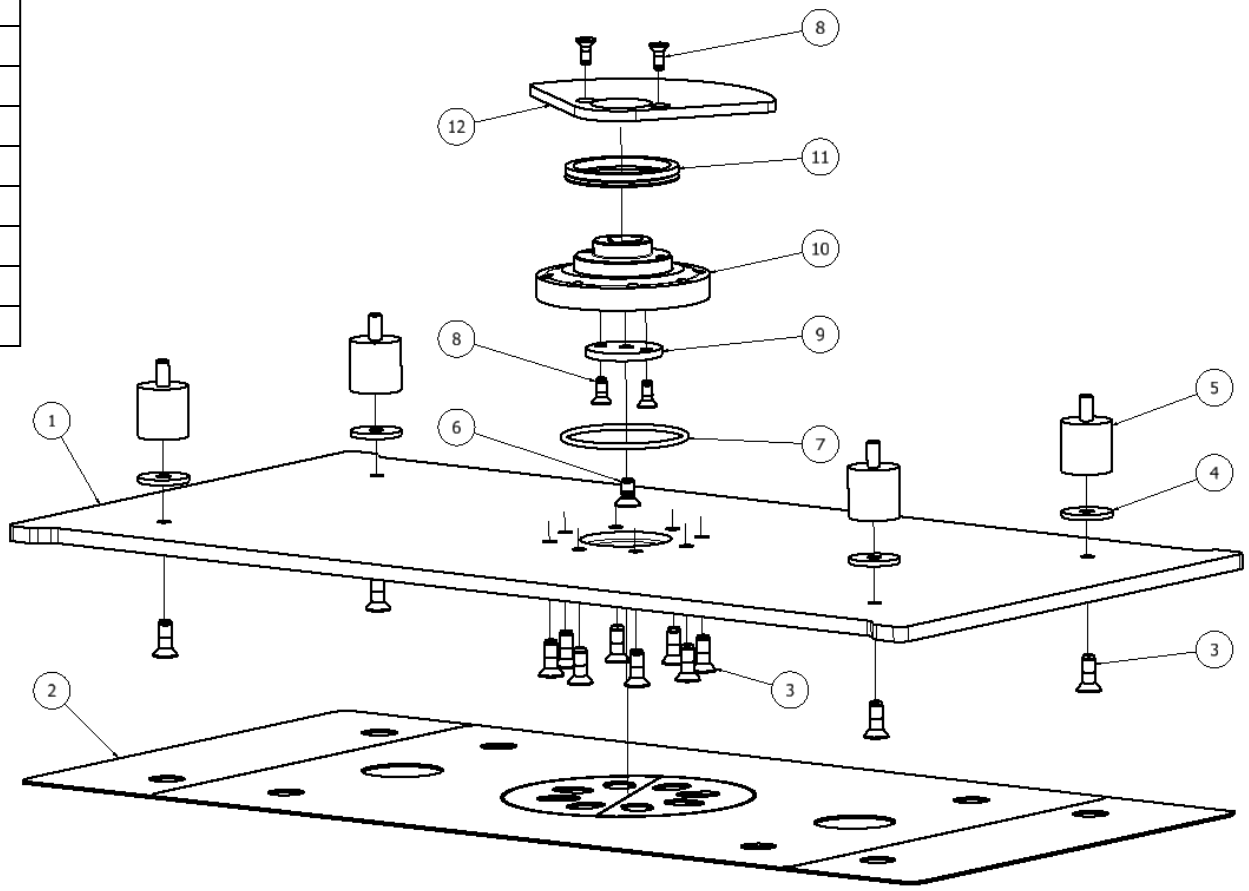
ITEM	QTY	PART NUMBER	DESCRIPTION
1*	1	876607	PLATE, ORBITAL, 28 INCH
2*	1	875903	PAD, MIGHTYLOK ADH, 14X28
3**	12	962278	SCREW, SOCKET, FLT, .31-18X.88, SS, PATCH
4**	4	980108	WASHER, FLAT, .31ID, 1.25OD, .12THK, SS
5**	4	855604	MOUNT, ISOLATOR, .31THD
6***	1	964447	SCREW, FLT, M8 X 16, SS
7***	1	875801	O-RING, EPDM, 233
8***	4	962274	SCREW, FLAT, SOCK, .25-20X.62, SS, PATCH
9***	1	876611	PLATE, RETAINING, BEARING
10***	1	N/A	ASSY, BEARING, REPL, ORBIT
11***	1	547604	SEAL BEARING ORBITAL
12	1	876608	PLATE, BALANCE, 28 INCH

*ITEMS 1 & 2 CAN BE ORDERED PRE-ASSEMBLED AS A KIT UNDER PART NUMBER 875009 - KIT, PLATE, REPL, ORBIT.

**ITEMS 3, 4, & 5 CAN BE ORDERED AS A KIT UNDER PART NUMBER 855027 - KIT ISOLATOR SET OF 4 W/ STD HWD.

***ITEMS 6-11 CAN BE ORDERED AS A KIT UNDER PART NUMBER 875010 - ASSY, BEARING, REPL, ORBIT.

NOTE: PRIOR TO SERIAL NUMBER 125673, SEAL (ITEM 11) WAS NOT PROVIDED. SEAL CAN BE ADDED WHEN THE BEARING ASSEMBLY IS REPLACED.



AVAILABLE PADS

PART NUMBER	DESCRIPTION
555909	PAD 14”X28” BLACK STRIP CASE 5
555929	PAD 14”X28” MAROON CFR CASE 5
555949	PAD 14”X28” RED SCRUB CASE 5
555969	PAD 14”X28” TURF CASE 4
555959	PAD 14”X28” WHITE POLISH CASE 5

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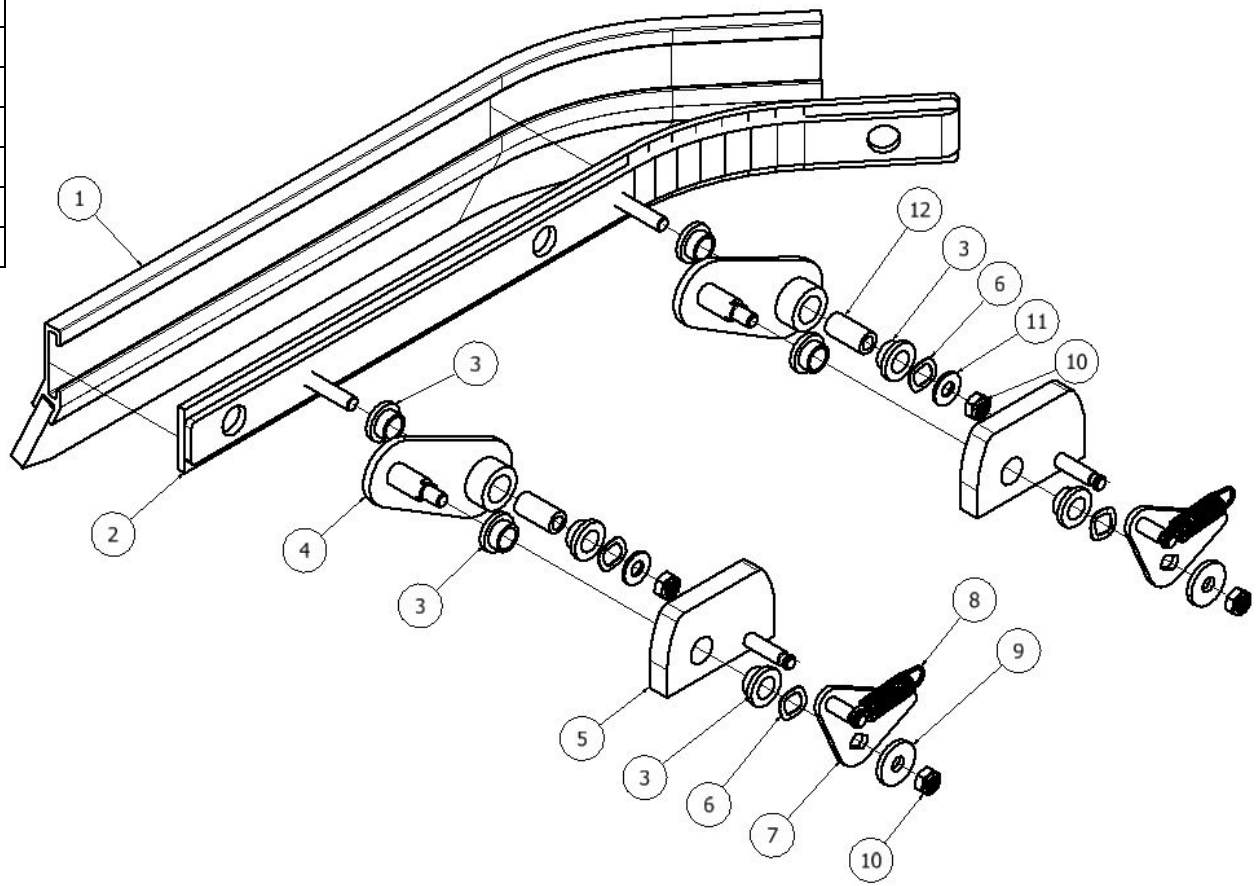
RIGHT-HAND SIDE SQUEEGEE

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	890702	BLADE ASSY SQUEEGEE SIDE
1*	1	890707	BLADE ASSY SQUEEGEE SIDE URETHANE
2	1	891304	BRACE SQUEEGEE SIDE RIDER
3	8	871101	BUSHING, FLANGE, .50IN
4	2	895105	LINK LIFT SQUEEGEE SIDE
5	2	891303	BLOCK MOUNTING SQUEEGEE SIDE
6	4	980093	WASHER, WAVE, .50INCH
7	2	895107	LINK SPRING SQUEEGEE SIDE RH
8	2	898308	SPRING EXTENSION .50OD X 2.0L SS
9	2	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
10	4	920040	NUT, .31-18, NYLOCK, SS, LOW
11	2	W243D	WASHER, FLAT, 5/16, SS
12	2	897704	SHAFT LIFT SQUEEGEE SIDE

*Urethane Squeegee Blades are an optional accessory.



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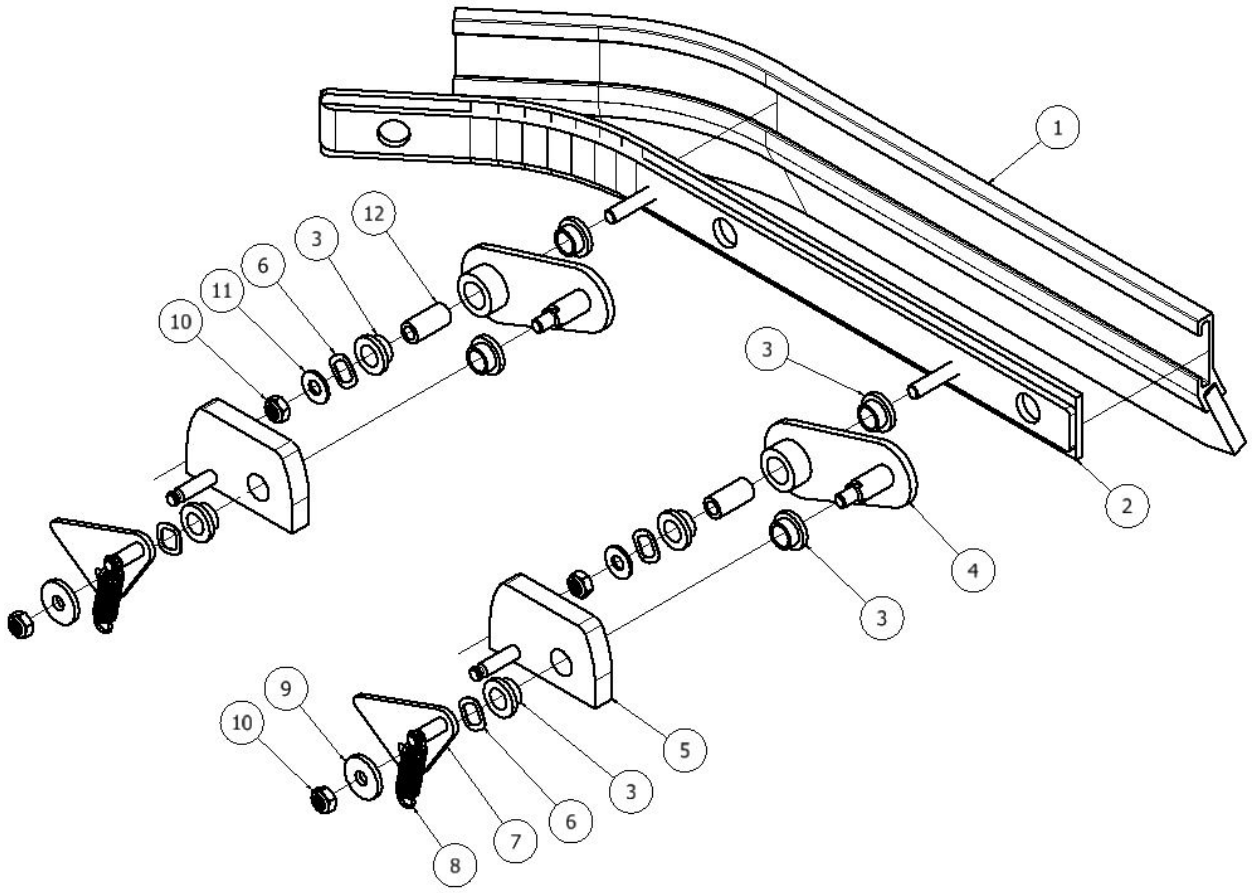
LEFT-HAND SIDE SQUEEGEE

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	890702	BLADE ASSY SQUEEGEE SIDE
1*	1	890707	BLADE ASSY SQUEEGEE SIDE URETHANE
2	1	891304	BRACE SQUEEGEE SIDE RIDER
3	8	871101	BUSHING, FLANGE, .50IN
4	2	895105	LINK LIFT SQUEEGEE SIDE
5	2	891306	BLOCK MOUNTING SQUEEGEE SIDE
6	4	980093	WASHER, WAVE, .50INCH
7	2	895106	LINK SPRING SQUEEGEE SIDE LH
8	2	898308	SPRING EXTENSION .50OD X 2.0L SS
9	2	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
10	4	920040	NUT, .31-18, NYLOCK, SS, LOW
11	2	W243D	WASHER, FLAT, 5/16, SS
12	2	897704	SHAFT LIFT SQUEEGEE SIDE

*Urethane Squeegee Blades are an optional accessory.



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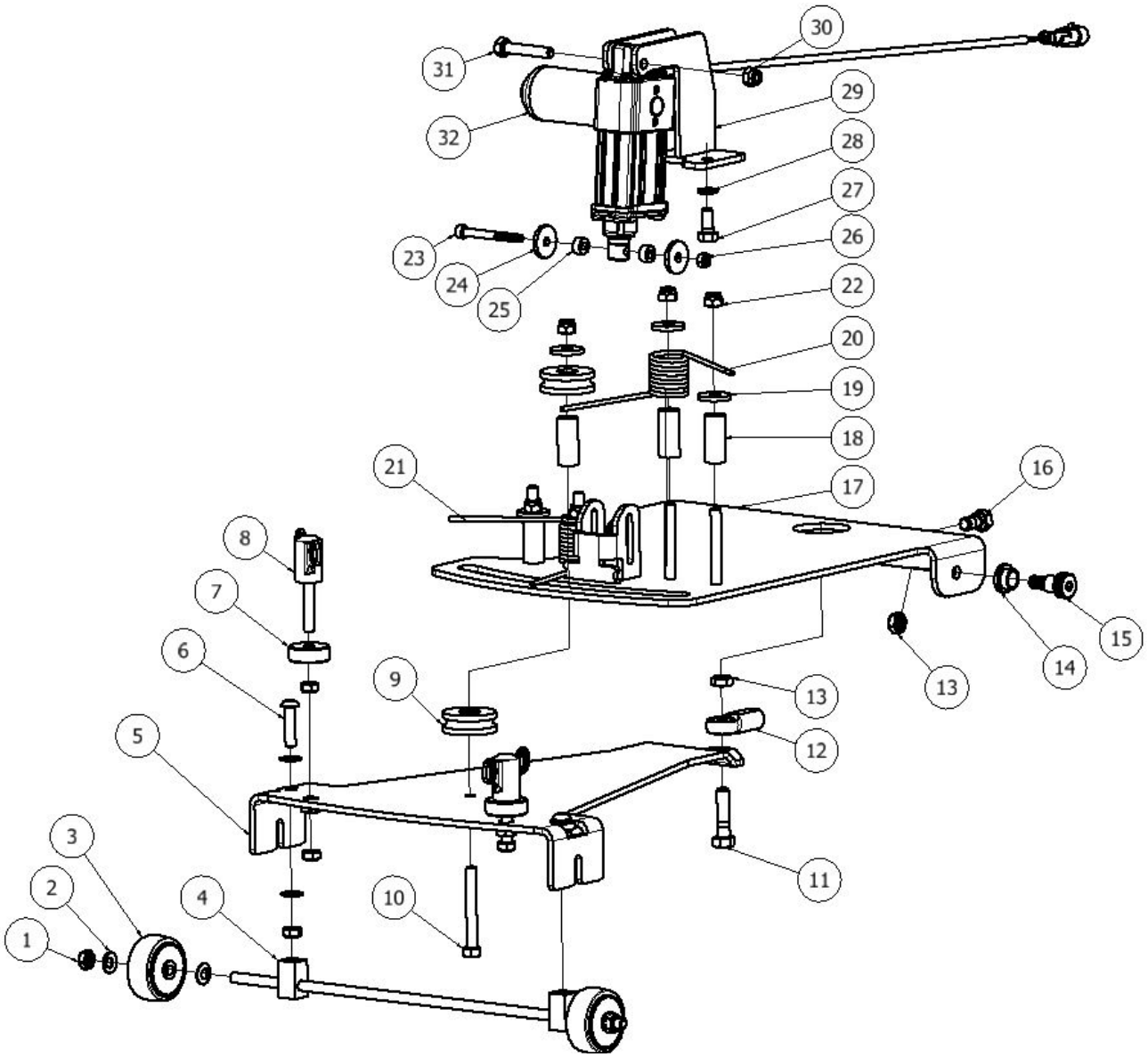
SQUEEGEE LIFT

ITEM	QTY	PART NUMBER	DESCRIPTION
1	8	920040	NUT, .31-18, NYLOCK, SS, LOW
2	8	980105	WASHER, PLASTIC, THRUST
3	2	849709	WHEEL, 2 OD, .31 ID
4	1	850501	AXLE, WHEEL, SQUEEGEE
5	1	890822	BRACKET LINK SQUEEGEE
6	2	962464	SCREW, BUTTON, .31-18X1.25, ZINC
7	2	877207	RETAINER, FRAME, SQUEEGEE
8	2	875003	KNOB, THREADED, .31-18 X 1.5
9	2	897502	GUIDE, ROLLER, SQUEEGEE
10	5	962463	SCREW, HEX, .31-18 X 2.5, SS, FULL THD
11	1	962075	SCREW, HEX, 3/8-16 X 1.5, SS
12	1	902051	BEARING, ROD END, .38 FEM
13	3	920035	NUT, NYLOCK, .38-16, SS
14	2	871101	BUSHING, FLANGE, .50IN
15	2	962465	SCREW, SHOULDER, .50 X .50
16	1	962028	SCREW, HX, .38-24X.75,SS,PTCH
17	1	890823	BRACKET SWING SQUEEGEE
18	5	898204	SPACER SQUEEGEE RIDER
19	5	980107	WASHER, FLAT, .31ID, 1.0OD, .12THK, SS
20	1	898310	SPRING TORSION LH 1.2 OD 40 IN-LBS
21	1	898309	SPRING TORSION RH 1.2 OD 40 IN-LBS
22	5	920012	NUT, NYLOCK, 5/16-18, ZINC
23	1	964013	SCREW M6X55 ZINC SHCS
24	2	980106	WASHER, FLAT, .25ID, 1.0OD, .12THK, SS
25	2	898209	SPACER ACTUATOR PLASTIC
26	1	924082	NUT, NYLOCK, M6X1.0, SS
27	2	962269	SCREW, HEX, .31-18 X .75, SS
28	2	980094	WASHER, SPLIT LOCK, .31, SS
29	1	890810	BRACKET SUPPORT ACTUATOR
30	1	920036	NUT, NYLOCK, 5/16-18, SS
31	1	962270	SCREW, HEX, 5/16-18X1.75,SS
32	1	890504	ACTUATOR SQUEEGEE LIFT



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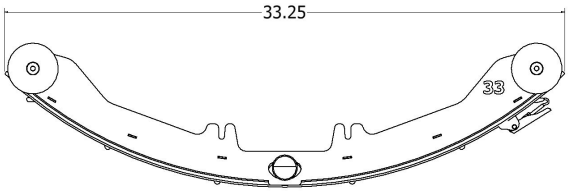
SQUEEGEE

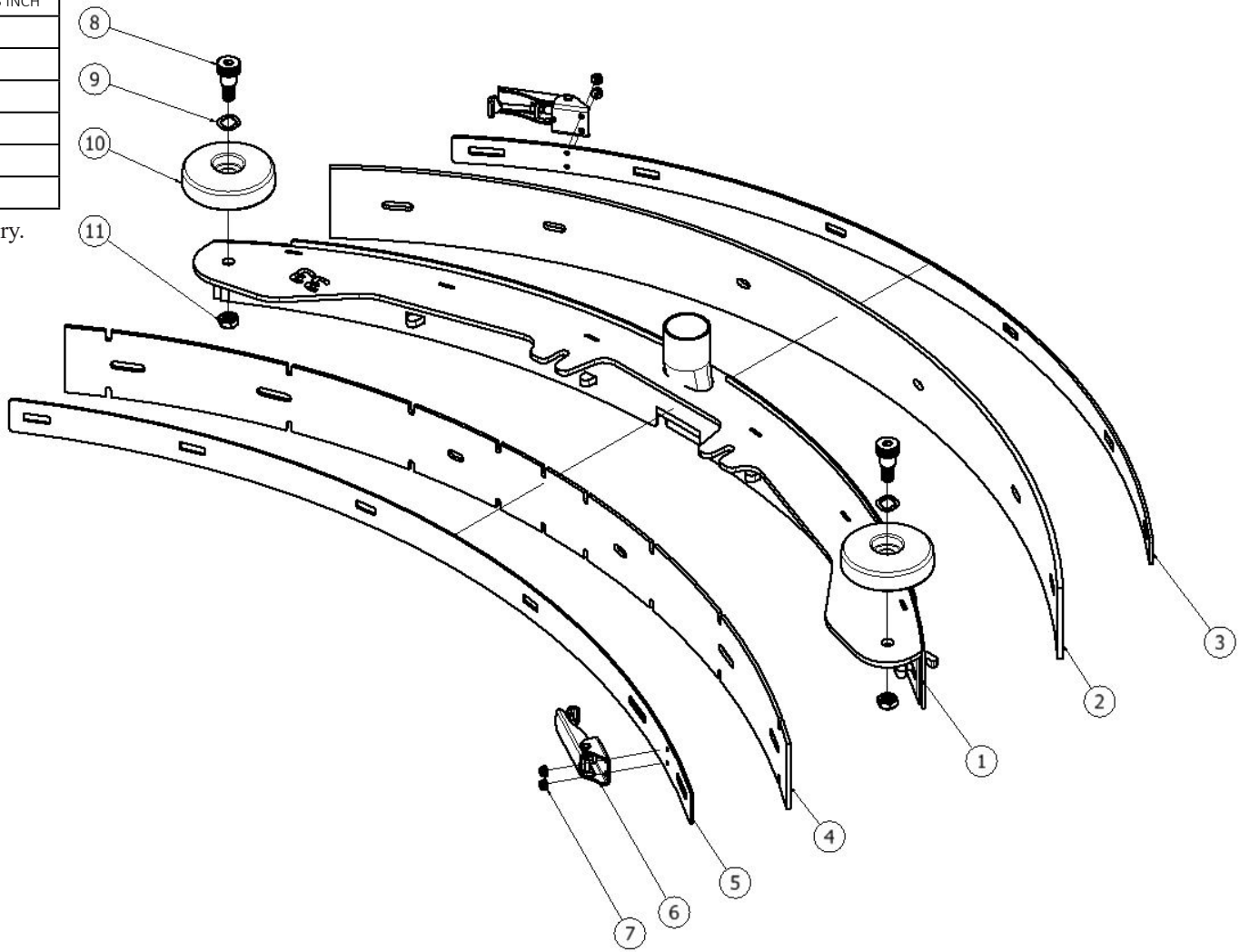
LINATEX ASSEMBLY: 898507
URETHANE ASSEMBLY: 898508



FRONT BLADE LENGTH: 35”
REAR BLADE LENGTH: 36-1/2”

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	893206	FRAME SQUEEGEE 33 INCH
2	1	890703	BLADE REAR 33 INCH LINATEX
2*	1	890706	BLADE REAR 33 INCH URETHANE
3	1	897204	RETAINER SQUEEGEE REAR 33 INCH
4	1	890704	BLADE FRONT 33 INCH LINARD
4*	1	890705	BLADE FRONT 33 INCH URETHANE
5	1	897205	RETAINER SQUEEGEE FRONT 33 INCH
6	2	852002	CLAMP, OVER-CENTER, BAND
7	4	920034	NUT, NYLOCK, #6-32, SS
8	2	962465	SCREW, SHOULDER, .50 X .50
9	2	980093	WASHER, WAVE, .50INCH
10	2	859703	WHEEL, GUIDE
11	2	920035	NUT, NYLOCK, .38-16, SS

*Urethane Squeegee Blades are an optional accessory.



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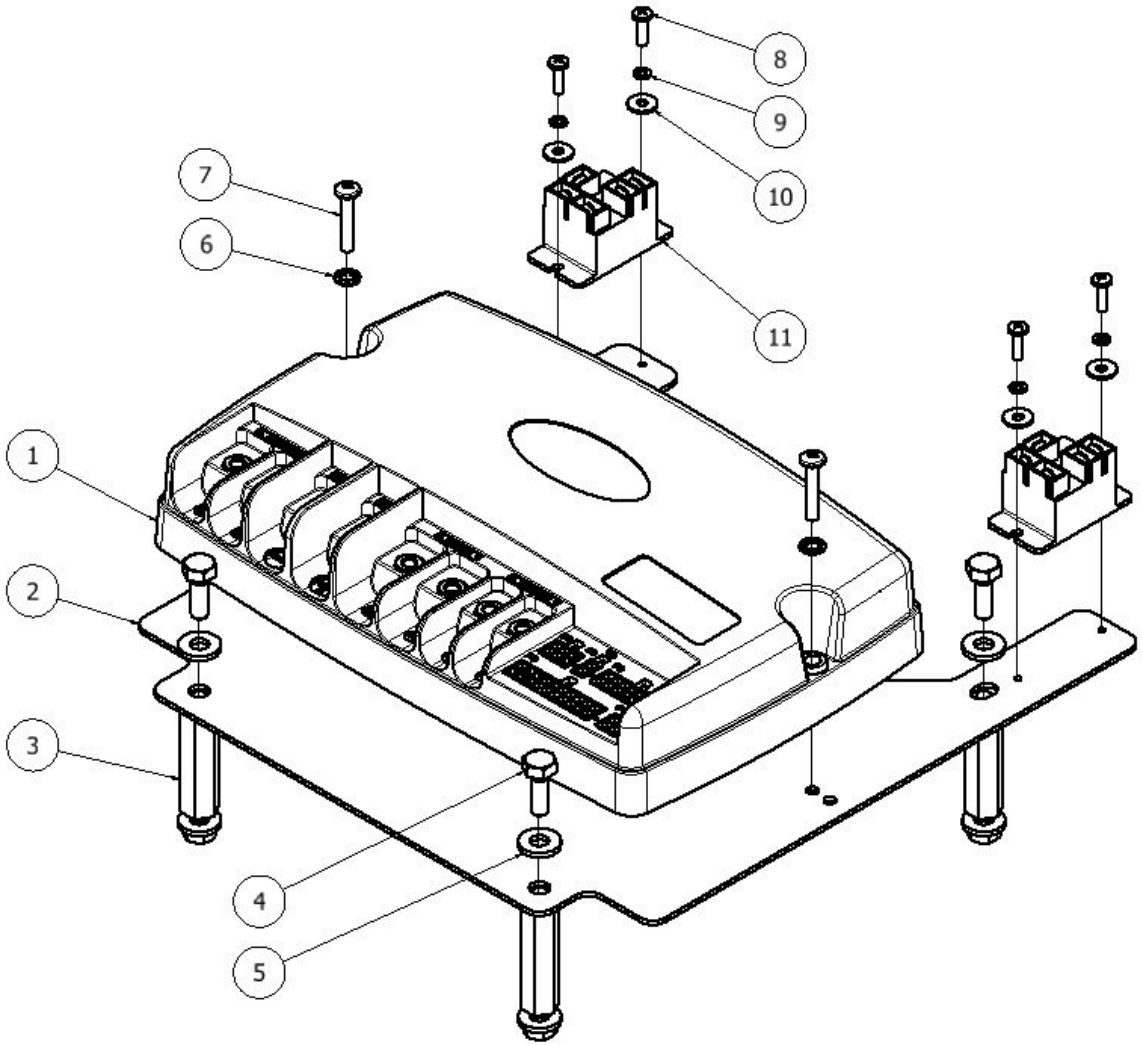
CONTROLLER

ITEM	QTY	PART NUMBER	DESCRIPTION
1*	1	892401	CONTROLLER DISK RIDER TRIO
1*	1	892408	CONTROLLER ORBITAL RIDER TRIO
2	1	897003	PANEL ELECTRONICS RIDER
3	4	898201	SPACER PANEL ELECTRONICS
4	8	W189D	SCREW, HEX, 1/4-20 X .75, SS, PATCH
5	8	W104D	WASHER, FLAT, .25
6	2	W124D	WASHER-LOCK #10 INT TOOTH
7	2	962186	SCREW, PAN, #10-32 X 1.0, SS
8**	4	W315D	SCREW, PAN, #6-32 X .50, BLK
9**	4	980025	WASHER SPLIT LOCK #6 ZINC
10**	4	980033	WASHER, FLAT, #6, SS
11**	2	911685	RELAY, 24VDC, BATTERYSHIELD

*Item 1 is dependent upon machine model.
** Items 8-11 only used with optional ScrubSmart telemetry system.



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ELECTRICAL HARNESSES

PART NUMBER	DESCRIPTION	APPLICATION	CONNECTIONS
911730	HARNESS SIGNAL P3	MAIN CONTROLLER TO OPERATOR PANEL HARNESS	CONTROLLER-OPERATOR PANEL-MULTIPLE SMALL COMPONENTS
911736	HARNESS SIGNAL AUX P2	MAIN CONTROLLER TO AUXILIARY COMPONENTS HARNESS	CONTROLLER-ACTUATORS-PUMP-VALVE
911734	HARNESS DRIVE FLEXIBLE W/ FITTING	DRIVE WHEEL AND BRAKE POWER CABLE	CONTROLLER-DRIVE WHEEL-BRAKE
911753	HARNESS EXTENSION THROTTLE	THROTTLE SIGNAL HARNESS	THROTTLE PEDAL-CONTROLLER
911737	HARNESS MOTOR VACUUM	VACUUM MOTOR POWER CABLE	CONTROLLER-VACUUM MOTOR
911739	HARNESS MOTOR SCRUB LH	LEFT HAND BRUSH MOTOR CABLE	CONTROLLER-LEFT HAND BRUSH MOTOR
911749	HARNESS MOTOR SCRUB RH	RIGHT HAND BRUSH MOTOR CABLE	CONTROLLER-RIGHT HAND BRUSH MOTOR
911752	HARNESS CONN BATTERY 4AWG BLACK	BATTERY CONNECTION CABLE	BATTERY-BATTERY
911756	HARNESS CONN BATTERY 4AWG BLACK	PRIMARY BATTERY GROUND CABLE	BATTERY NEGATIVE-CONTROLLER
911754	HARNESS BATTERY RIDER 4AWG RED	POWER CABLE	BATTERY POSITIVE-FUSE HOLDER
911757	HARNESS CONN CONTROLLER 4AWG RED	POWER CABLE	FUSE HOLDER-CONTROLLER
911758	FUSE MIDI BOLT-DOWN 100A 32V	FUSE	IN-LINE
894206	HOUSING FUSE INLINE	FUSE HOLDER	NA
911750	HARNESS EXTENSION BATTERYSHIELD	BATTERYSHIELD SIGNAL HARNESS	BATTERYSHIELD SENSOR-CONTROLLER
911751	HARNESS PUMP CHEM DISPENSING	OPTIONAL CHEMICAL INJECTION POWER HARNESS	CONTROL PANEL-CONTROLLER-CHEMICAL INJECTION PUMP
911735	HARNESS LAMP AMBER	OPTIONAL LAMP HARNESS	LAMP SWITCH-CONTROLLER-LAMP
911755	HARNESS CLEAN-N-PAY RIDER	OPTIONAL TELEMETRY SYSTEM POWER & SIGNAL HARNESS	CONTROLLER-TRACK UNIT
893303	FUSE ATO 1 AMP	FUSE	TELEMETRY SYSTEM

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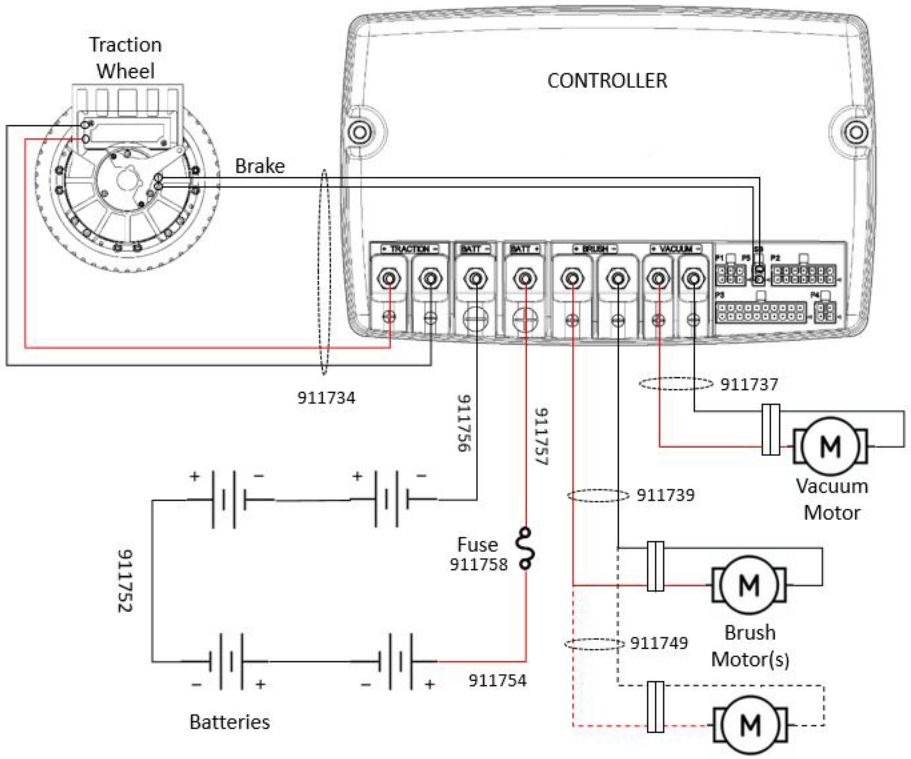
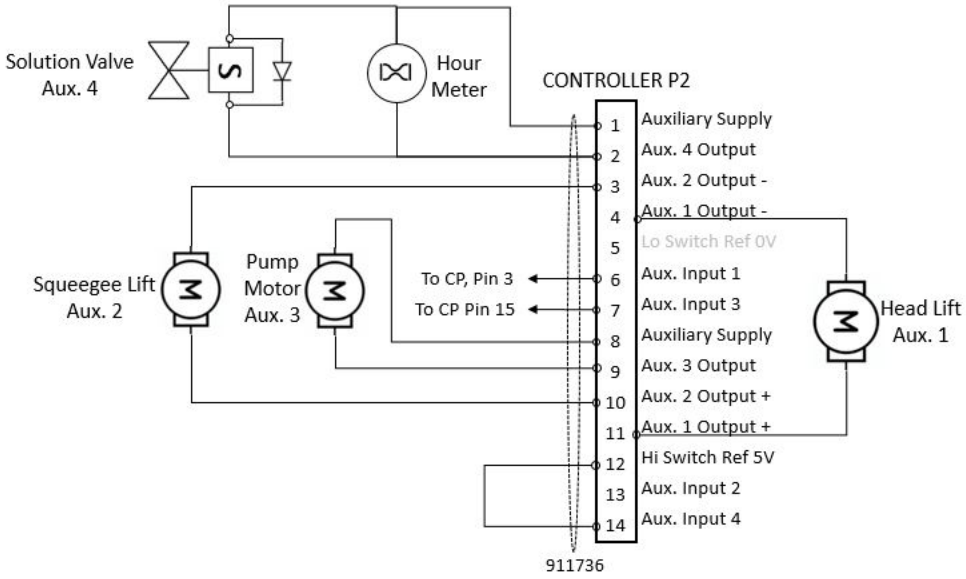
ELECTRICAL DIAGRAMS





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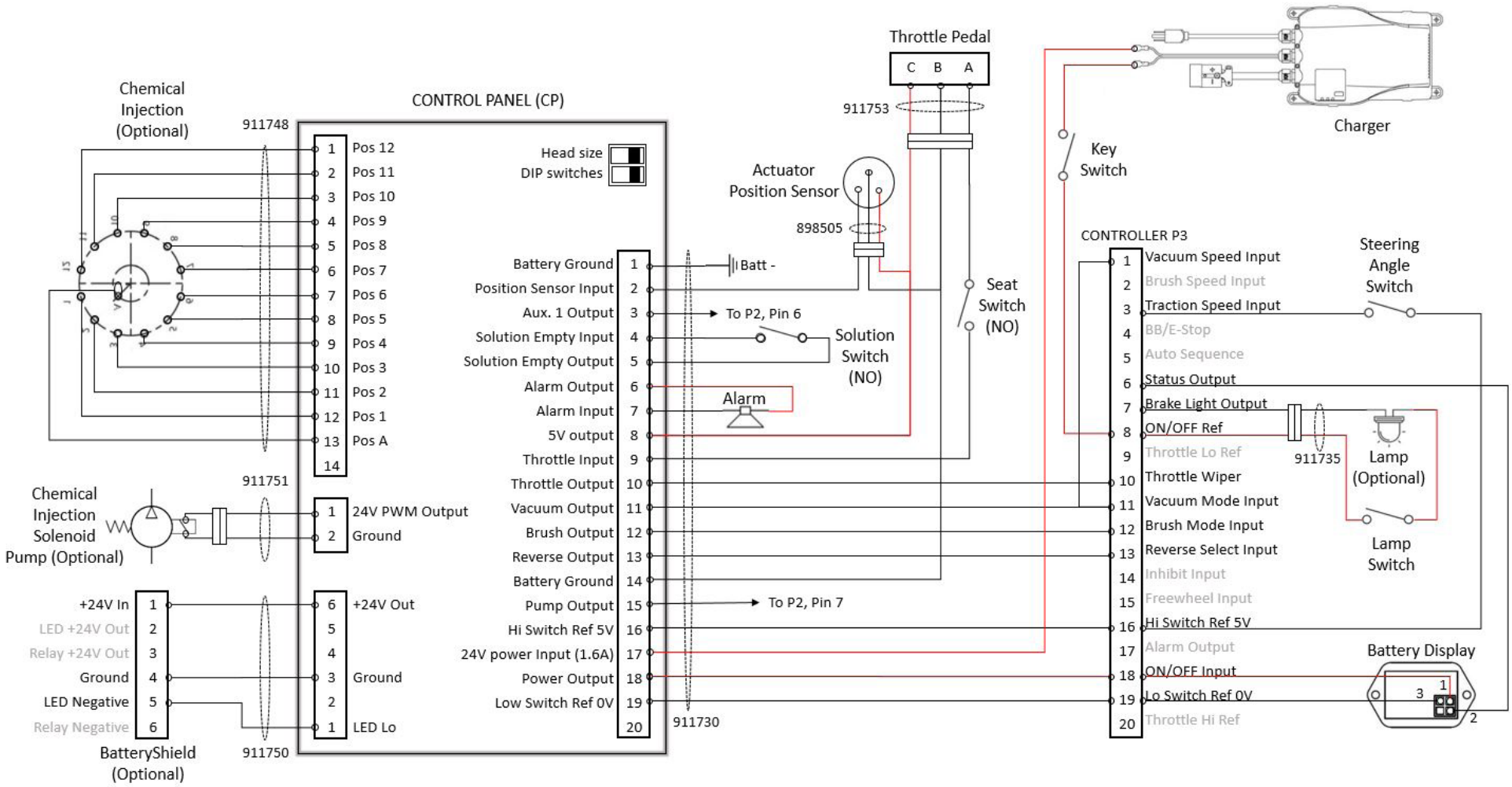
ELECTRICAL DIAGRAMS



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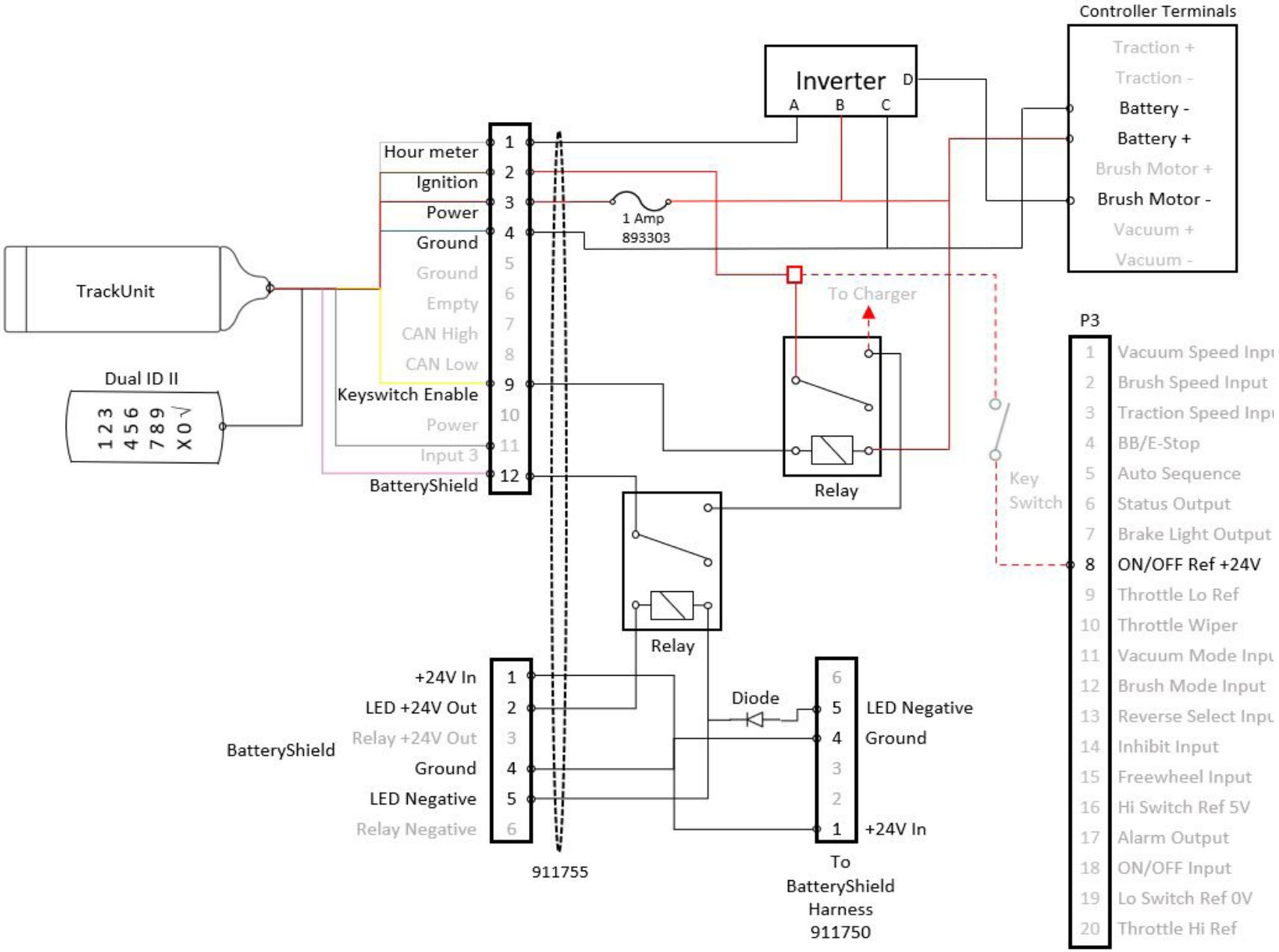
OPTIONAL SCRUBSMART TELEMETRY ELECTRICAL DIAGRAM



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DATE	MAINTENANCE LOG

DATE	MAINTENANCE LOG

REVISION	REVISION LOG
4.21.2021	UPDATED HARDWARE PG. 34 ITEM 17.
4.26.2021	UPDATED PART NUMBERS PG. 45 ITEM 1.
5.5.2021	UPDATED FOR CHANGES REFLECTED ON PG. 36 AND 38
6.23.2021	ADDED NOTES. ADDED BRAKE REPLACEMENT KIT PART NUMBER, PG. 26
3.16.2022	ADDED NOTES AND UPDATED PGS. 30, 39 & 41. ADDED TELEMETRY INFORMATION.

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