



E27200 E27400
E27300 E27500



GENESYS™ SERIES

26", 28" and 32"
Mid-Size Scrubber
with Lithium-Ion Batteries



**Operator and Parts
Manual**

TABLE OF CONTENTS

Specifications	3
Safety Information	4
Machine Preparation: Unpacking	5
Transporting the Machine: Tie Down Procedure	6
Batteries	
Connecting	7
Installation	7
Maintaining batteries	8
Instructions for use and warnings	8
Charging	9
Machine Preparation / Setup	10
Drive System	11
Solution System	
SoliChem™ Solution Distribution System	12
Filling the tank	12
Solution Flow	13
Filter Inspection and cleaning	13
Scrubbing System	
Head Lift	14
Selecting Down Pressure	14
Disk machines Pad Drivers and Brushes	15
Auto Off Pad driver	15
Orbital Pads	16
Recovery System	
Draining the Tank	17
Recovery Tank	17
Debris Tray	18
Fortify™ Foam Control: De-Foaming Chemical Puck	18
Squeegee Assembly	
Cleaning	19
Drip Trap	19
Inspecting	19
Selection Guide	20
Remove and Install	20
Operating Lever	21
Fortify™ ARMOR™ Telemetry	22
Fortify™ Programmable Timer Lock-out	23
Parts Diagrams and Listings	24 - 55
Recommended Spare Parts List	56
Recommended Maintenance	57
Trouble Shooting Guide	58 - 59
Warranty	60

SPECIFICATIONS

Specifications	GeneSys™ 26D	GeneSys™ 28D	GeneSys™ 32D	GeneSys™ 28ORB
Productivity (sq. ft./hour)	Up to 29,250	Up to 31,500	Up to 36,000	Up to 31,500
Cleaning Pad Width	26 in.	28 in.	32 in.	28 in.
Pad / Brush Dimensions	(2) 14 in. Disk	(2) 13 in. Disk	(2) 16 in. Disk	(1) 14 in. x 28 in. Disk
Brush Motor(s)	(2) 1.0 HP	(2) 1.0 HP	(2) 1.0 HP	(1) .75 HP
Pad Speed	300 RPM	300 RPM	300 RPM	2,000 RPM
Down Pressure	60, 120 & 180 lb.	60, 120 & 185 lb.	60, 120 & 185 lb.	60, 120 & 185 lb.
Solution Tank	25-gal.	25-gal.	25-gal.	25-gal.
Recovery Tank	28-gal.	28-gal.	28-gal.	28-gal.
Solution Flow	0 - .75 gpm	0 - .75 gpm	0 - .75 gpm	0 - .75 gpm
Battery Options	(1) 24v 200 AH Li-Ion (1) 24v 150 AH Li-Ion	(1) 24v 200 AH Li-Ion (1) 24v 150 AH Li-Ion	(1) 24v 200 AH Li-Ion (1) 24v 150 AH Li-Ion	(1) 24v 200 AH Li-Ion (1) 24v 150 AH Li-Ion
Run Time	Up to 4.5 hr.	Up to 4.5 hr.	Up to 4.0 hr.	Up to 5.5 hr.
Sound Level	<65 dBa	<65 dBa	<65 dBa	<65 dBa
Vac Motor / Filter	.72 HP / HEPA	.72 HP / HEPA	.72 HP / HEPA	.72 HP / HEPA
Machine Weight (w/260AH Batteries)	625 lb.	630 lb.	640 lb.	630 lb.
Machine Dimensions	55 in. x 28 in. x 44 in.	56 in. x 30 in. x 44 in.	59 in. x 34 in. x 44 in.	54 in. x 29 in. x 44 in.
Squeegee Width	35 in.	40 in.	45 in.	40 in.
Warranty*	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 5 - Year Lithium-Ion Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 5 - Year Lithium-Ion Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 5 - Year Lithium-Ion Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 5 - Year Lithium-Ion Batteries 3 - Years / 3,000 Hours - Isolators
*See full warranty for details				

Key Options & Accessories

Fortify™ Wet Battery Protection System
 Fortify™ Programmable timer Lock-out
 Fortify™ Armor Telemetry & Reporting
 Fortify™ Foam Control
 Brush: General Purpose

SoliChem™ Chemicals: Daily: pH7 Ultra
 Degreaser: Green Earth® BioActive Solutions™ Grease Solv



SAFETY INFORMATION



The safety instructions and guidelines below must be carefully followed in order to avoid harm to the operator and damage to the machine.

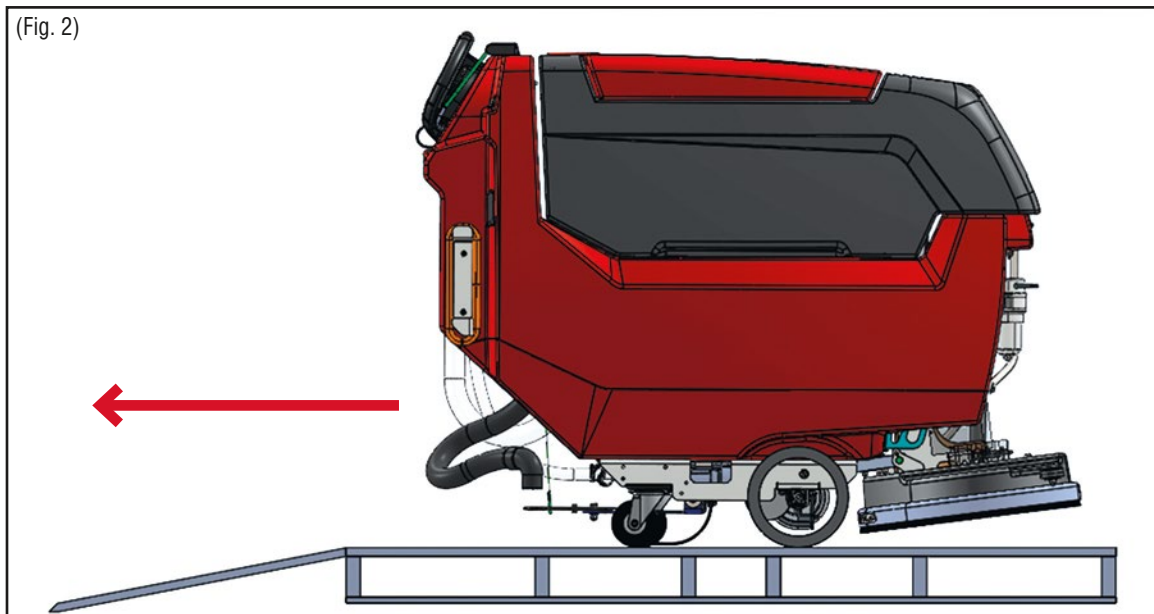
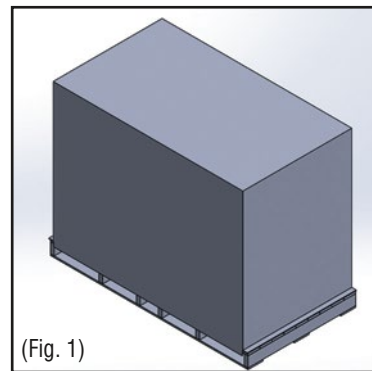
- Read all labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged.
- The machine must be used exclusively by authorized and trained personnel.
- When operating the machine be careful of other people.
- The machine is not designed for cleaning carpets.
- The power cable outlet must be provided with a proper ground.
- Avoid damaging the power cable of the battery charger by crushing, bending, cutting or stressing it.
- Whenever the power cable of the battery charger is damaged, immediately contact a BETCO service center.
- Do not mix different types of detergent as this may produce harmful gases.
- Do not set containers on the machine.
- Machine storage temperature is between -10°F and 130°F, never store outside under humid conditions.
- Operating conditions: room temperature between 33°F and 100°F with relative humidity between 30% to 95%.
- Only use the machine in closed areas and do not expose it directly to rain.
- Never use the machine in an explosive environment.
- Do not use the machine as a means of transport.
- Never use acidic chemicals which could damage the machine.
- Avoid running the brushes with the machine stopped; this could damage the floor.
- Never vacuum up flammable liquids.
- Never use the machine to gather dangerous powders.
- Use a powder fire extinguisher in case of fire. Do not use water.
- Do not hit against shelving or scaffolding. The operator must always be equipped with the appropriate safety device (gloves, shoes, helmet, glasses, etc.)
- Do not use the machine on surfaces with an inclination greater than the one shown on the serial plate.
- The machine is designed to wash and dry floors simultaneously. Signal the presence of wet floors with suitable signs.
- If the machine does not work properly, perform routine maintenance. Otherwise, request the assistance of the BETCO® technical service.
- When replacing parts ask for ORIGINAL spare parts from your Authorized BETCO Dealer and/or Retailer.
- Always turn off the machine and disconnect the battery connector whenever maintenance is performed.
- Never remove guards that require tools for removal.
- Never wash the machine with direct or pressurized jets of water or with corrosive substances.
- Have your BETCO service center check the machine once a year.
- To prevent the formation of scale in the solution tank filter, do not store the machine with detergent solution in the tanks.
- Before using the machine make sure that all doors and covers are positioned as shown in this operating and maintenance manual.
- When your BETCO machine is ready to be retired, the machine must be disposed of properly. It contains oils and electronic components. The machine was built using totally recyclable materials.
- Use only pads furnished with the machine or those specified in the user's manual. Use of other pads can compromise safety.
- When removing the battery, unplug the battery connection, unplug the charger and disconnect the battery terminals.
- Before recycling the machine, remove the battery.

MACHINE PREPARATION: UNPACKING

Note: Immediately check, when receiving the machine, that all the materials indicated on delivery documents have been received and also that the machine has not been damaged in transit. If it has been damaged, this damage must be immediately reported to the carrier and also to our customer's service department. Only acting promptly in this manner will make it possible to receive missing material and to be compensated for shipping damage.

INTRODUCTION This is an automatic scrubber which, via the mechanical action of the rotating brush and the chemical action of a water/detergent solution, can clean many types of hard flooring. As it advances, it also collects the dirt removed and the detergent solution used to clean the floor. The machine must be used only for this purpose. Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and re-read it whenever difficulties arise while using the machine. Please contact our technical service department or your dealers if you have any questions about the machine.

1. Remove the outer packing from the machine's shipping pallet. (Fig. 1)
2. Inspect the machine and contents for damage. Make a freight claim if machine is damaged.
3. Remove and place contents of the box away from the pallet.
 - a. Remove interior packing materials and place away from the pallet.
 - b. Cut all banding straps from machine.
 - c. Use a screwdriver to remove squeegee blocks and squeegee.
4. Raise the recovery tank and connect the red battery plug.
5. Tuck the Squeegee hose behind the water sight hose so it doesn't get run over.
6. Fold down hinged ramp at back of machine. (Fig. 2)
7. Power the unit on with the key and raise the scrub head up to transport position.
8. Slowly reverse the machine backwards down the ramp. (Fig. 2)



TRANSPORTING THE MACHINE: TIE DOWN PROCEDURE

If you are planning to transport the GeneSys™ scrubber, securing the machine(s) is key to keeping the machine(s) protected and in good working condition. Below are some suggestions for how to efficiently and effectively secure the GeneSys™ scrubbers.

The GeneSys™ design lends itself to easy trailering and tying down – it only takes two straps strategically located.



STEP 1

Before transporting up a trailer ramp - remove the squeegee assembly and put it in an open, secure location on the trailer. If possible, wrap with a shipping blanket.



STEP 2

Transport machine up the ramp into trailer and position it so that tie downs can be used forward and rear of the machine and lower the scrub deck (with pads on – especially the Orbital!)



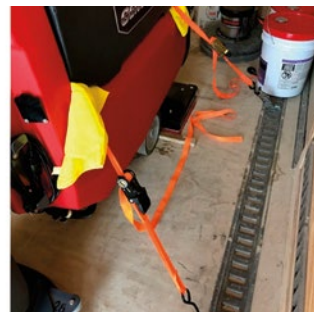
STEP 3

Open the tank and route tie down straps across the front and rear of the battery compartment as shown here. *(Note the placement of micro-fiber cloths or other material to protect the rotomold tanks from scratches).*



STEP 4

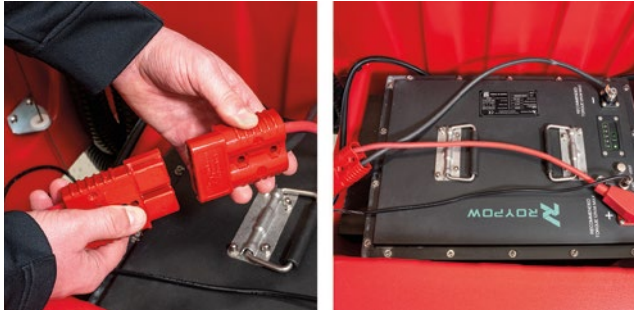
For the front straps, route them to tie down locations forward of the machine. For the rear straps, route them to tie down locations to the rear of the machine. See below. Ratchet tie down until machine is secure.



BATTERIES

BATTERY CONNECTION

The machine will be supplied with an offboard battery charger (Part Number: E28491) and one 24 V Li-Ion battery. The battery must be housed in the battery compartment beneath the recovery tank. To connect the battery pack, you simply connect the two red Anderson plugs located inside the battery compartment. The battery also has the capability to be turned off and on by holding down the power button on the top of the battery. When turned on, the LED lights on the top of the battery will light up. When turned off, these LED lights will turn off.

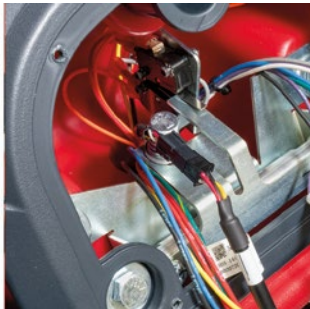


ADDITIONAL COMPONENTS

Machines equipped with lithium-ion batteries will also include a charger interlock bypass jumper (Part Number: E28499). Additionally, a battery level indicator power cord is included with the battery level indicator (Part Number: E28492). This cord connects the battery level indicator to the battery.



Charger Interlock Bypass Jumper.



Battery Level Indicator Connection.

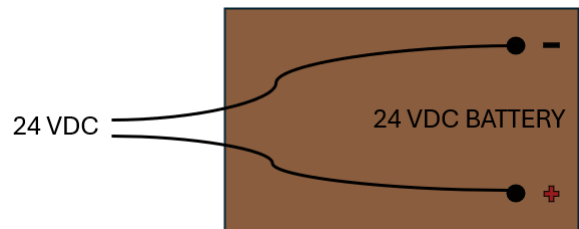


Battery Connection.

BATTERY INSTALLATION/REPLACEMENT

1. Lower the squeegee and brush deck.
2. Open the recovery tank as far as it will go, using the side handle.
3. Place the 24-volt battery into the battery compartment as shown below.
4. Torque 95-105 in-lb. (11-12 Nm) Thread: M8-1.25
5. Using a 13mm wrench, tighten the bolts to the battery terminals.
6. Reattach battery level indicator power cord.

WARNING: Perform one battery charging cycle before using the machine.



The battery is positioned in the machine as shown for ease of wiring. When replacing the battery make sure to position the battery in the same configuration.

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

BATTERIES *continued*

MAINTAINING BATTERIES

Batteries can attract dust, dirt, and grime. Keeping them clean will help spot signs of trouble when they appear and avoid problems associated with grime. Batteries should be cleaned regularly to avoid potential issues.

- Do not utilize water or other liquids to clean the battery
- Clean the battery with a dry, soft cloth, including the battery terminals if necessary
- When cleaning, do not allow any foreign matter to enter inside the battery
- Keep the area around the battery clean and dry

INSTRUCTIONS FOR USE AND WARNINGS

- Only use supplied battery charger for recharging the batteries
- Never use the batteries for reverse charging
- Do not expose the batteries to water
- Never weld objects onto the batteries
- Do not strike or drop the batteries
- Never disassemble the batteries
- Immediately stop usage of the batteries if excessive heat, abnormal smell, discoloration, deformation, or any other abnormal conditions are noticed
- Do not store metal objects near the batteries
- Do not puncture the batteries
- Never step on the batteries
- Do not intentionally heat the batteries
- Do not expose the batteries to excessive humidity
- Do not expose the batteries to static objects or materials
- Never use the batteries outside the temperature range of -4°F thru 140°F (-20°C thru 60°C)
- If leaking liquid from the batteries comes in contact with skin, eyes, or clothes, rinse immediately with clean water and seek appropriate medical treatment
- Never intentionally short circuit the positive and negative terminals of the batteries
- Dispose of batteries in accordance with applicable laws and regulations

CHARGING

WARNING: Perform one battery charging cycle before using the machine.

OFF-BOARD CHARGER

The off-board charger has one LED to indicate the status of the charging cycle when it is plugged in:

SIGNAL (LED)

Green LED is on

Green LED is blinking

Red LED is blinking

Red LED and Green LED alternating flashing

Red LED, Red LED, Green LED blinking w/ 1 second interval

Red LED flashes twice w/1 second interval

Red LED flashes three times w/1 second interval

Red LED flashes four times w/1 second interval

MEANING

Charger is powered on or at the end of charging phase

Battery is charging

Input power overvoltage or under voltage

Output short circuit

Battery is connected to charger in reverse

Charger is overheated

Output current is too high

Output voltage is too high



CONNECTING CHARGER

1. Ensure key is in the "Off" position.
2. Open the recovery tank as far as it will go, using the side handle.
3. Disconnect the red Anderson plug coming from the electrical panel from the red Anderson plug connected to the battery. (Fig. 1)
4. Attach the red Anderson plug from the battery charger to the plug connected to the battery. The charger will automatically begin charging the battery. (Fig. 2)
5. When charging is complete, disconnect the plug coming from the battery charger from the plug connected to the battery.
6. Reconnect the plug coming from the electrical panel to the plug connected to the battery. Close the recovery tank.



(Fig. 1)



(Fig. 2)

NOTE: Do not use an extension cord. This voids the warranty of the charger.

BATTERY AMP HOUR RANGE

Model	Battery Voltage	Charging Current	Battery Range (20 hour)
RP2930-LFP	24V	30A	60Ah - 230Ah

MACHINE PREPARATION / SETUP

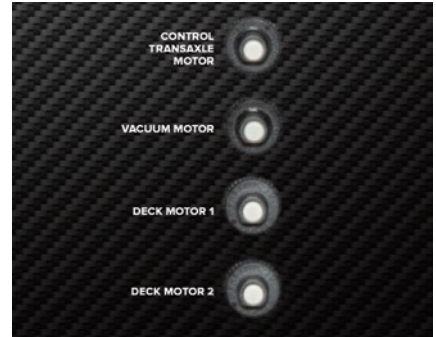
TURNING THE MACHINE ON/OFF

The key switch to turn on the machine is located on the lower control panel. Turn clockwise for on (I) and counter clockwise for off (O).

CIRCUIT BREAKERS

Circuit breakers protect the GeneSys machine's motors. These circuit breakers will trip under misapplications of the machine. Repeatedly tripping the breaker will cause the need for motor replacement.

NOTE: If a breaker becomes tripped simply press in the white button on the circuit breaker. This might require a cooling down period of the machine's tripped component before the breaker is allowed to be reset.



BATTERY METER

When the machine's key is switched to the "ON" position the battery meter gives a readout of the charge remaining on the battery pack. LED lights will reduce in number as the charge on the batteries goes down.

NOTE: When machine is turned off, lights on battery meter may stay on. This is not a cause for concern.



SQUEEGEE INSTALLATION

1. Position the squeegee behind the machine and align the knob posts with the squeegee carrier slots.
2. Lift the squeegee and slide into the slots. (Fig. 1)
3. Tighten down the knobs to secure the squeegee. (Fig. 2)
4. Attach the vacuum hose to the squeegee. (Fig. 3)



(Fig. 1)



(Fig. 2)



(Fig. 3)

DRIVE SYSTEM

OPERATING THE MACHINE

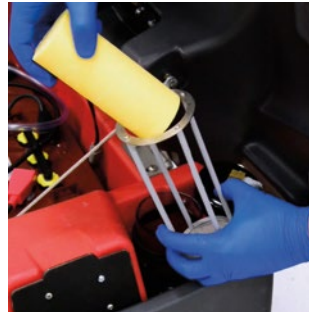
1. To control the machine, place hand(s) around the console and bail. Squeezing the bail activates the transaxle drive forward and, when the scrub deck is in operating position, the brush motors and solution flow.
2. To reverse the machine, push the bail wire away from the console handle. To slow down or stop simply release the bail.
3. The centralized Speed Control Knob on the console handle is used to reduce or increase the machine's speed. This can be done while moving or standing still.



 **NOTE: Use good judgment when selecting a higher speed.**
Turn Clockwise to go faster / Turn Counterclockwise to go slower.

SOLICHEM™ SOLUTION DISTRIBUTION SYSTEM

Solid on-board chemical delivery technology removes the need to pour chemical into the solution tank. Water dissolves the SoliChem™ solid and adds the cleaning chemical directly onto the floor wetting system. The SoliChem System also alerts the operator of low SoliChem solid with an LED light.



⚠ NOTE: Do not use pure acids in this machine.

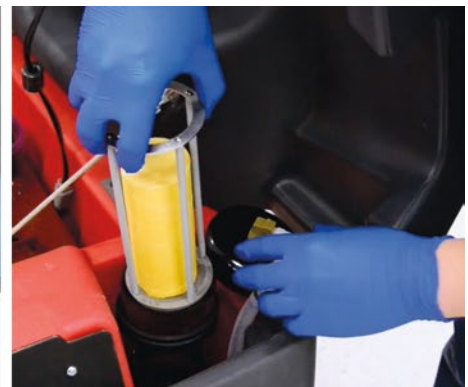
FILLING SOLUTION THE TANK

1. Add water to the solution tank from the front or rear fill locations. Do not use water exceeding 120° F (48.9°Celsius)
2. While filling the machine, watch the sight tube on the back of the machine to determine when the machine is full.



CONVENTIONAL OPERATION

1. Remove the SoliChem™ solid from the solution system (See Below).
 - a. Lift recovery tank.
 - b. Remove SoliChem canister cap.
 - c. Lift out SoliChem cage and ensure that all SoliChem solid pieces are removed from canister.
 - d. Replace SoliChem canister cap on canister.
2. Turn off Solichem Technology.
3. Pour in properly diluted chemical into the front fill port.



SOLUTION FLOW

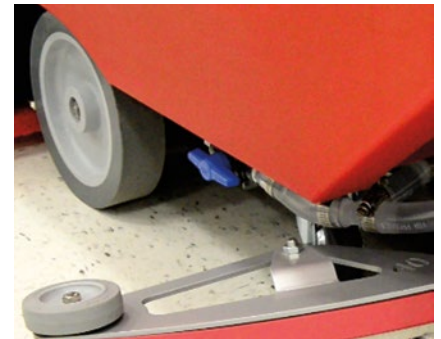
The solution control knob is located on the lower control panel left of the key. This controls the water pump and is only active when the scrub head is in an operating position. This knob adjusts water flow rate. For Touch Encoder machines, adjusting flow rate is found in the settings.



FILTER INSPECTION AND CLEANING

NOTE: If there is excessive debris found in the screen and bowl then drain and flush the solution tank.

1. Close the shutoff valve for the solution tank. The screen and bowl are under the frame between the transaxle and casters on the left side of the machine.
2. Unscrew and remove the filter bowl and screen to clean and remove debris.
3. In the case of mineral deposits on the screen, descale the screen using a descaler or white vinegar as necessary.
4. Place the screen in the filter bowl, and screw the bowl into the appropriate location on the frame.



MACHINE OPERATIONAL SETTINGS

HEAD LIFT

- 1. The head lift is controlled by a linear actuator which raises and lowers the scrub deck.
- 2. The standard controls knob on the console has 3 down pressure settings and transport mode.
- 3. Disk machines are equipped with a self-adjusting shroud and bristle skirt that virtually eliminates overspray.



SELECTING DOWN PRESSURE

- 1. Low pressure: 60 lb. - Daily cleaning of normal soils.
- 2. Medium pressure: 120 lb. – Heavy soils or chemical-free finish removals.
- 3. High pressure: 180 - 185 lb. – Heavy soils, orbital finish removal or chemical stripping.



SCRUB HEAD DOWN PRESSURE SETTING				
	26" Disk	28" Disk	32" Disk	28" Orbital
Low	60	60	60	60
Medium	120	120	120	120
High	180	185	185	185

DISK MACHINE PAD DRIVERS AND BRUSHES

PAD DRIVER AND BRUSH REMOVAL

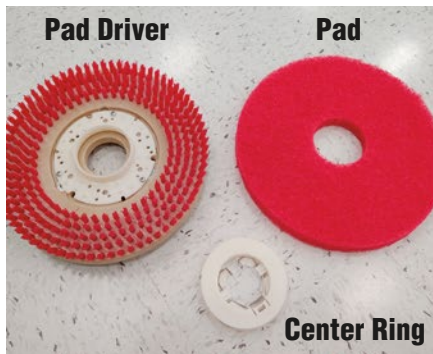
NOTE: *DO NOT use any machine without a pad or brush. Operating a machine without a pad or brush will damage the machine.*

1. Remove the pad drivers or brushes from the machine by pushing and holding the red "Auto Off" button, found in the center of the lower control panel, until the pad drivers or brushes release from the scrub deck.
2. Remove the pad drivers or brushes from under the scrub deck



NEW PAD INSTALLATION

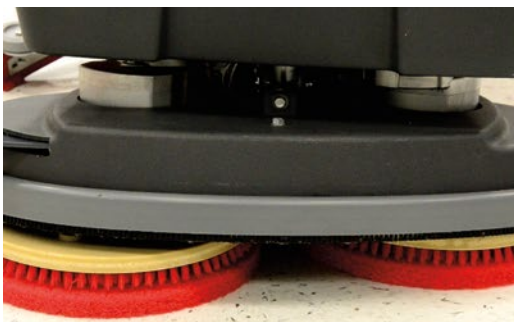
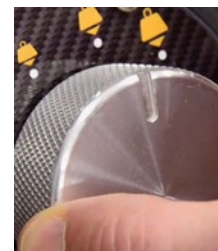
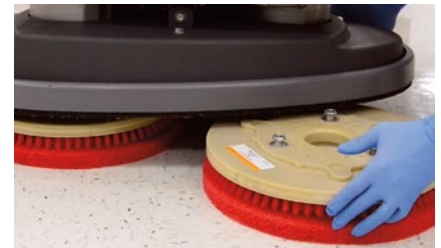
1. Release the centering ring by pressing down on the pad and squeezing the wire lock tabs of the centering ring inward until it releases.
2. Remove the old pad and any remnants from the bristles of the pad driver.
3. Place the new pad on the bristles of the pad driver, making sure to align center holes of the pad and pad driver.
4. Place the centering ring over the center of the pad and press down until the wire lock tabs click into place, securing the pad and centering ring to the pad driver.



PAD DRIVER AND BRUSH INSTALLATION

1. Place the pad driver assemblies under the scrub deck of the machine. Try to align the assemblies under the scrub deck shroud.
2. Turn the key on and lower the head to medium or second down pressure position.
3. Turn the speed setting to the lowest position.
4. Slightly push or pull the machine to align the pad drive assemblies to help align the attachment lugs.
5. Pull the bail back to engage the pad drivers to the machine's pad drive train.
6. Once the pad drive assemblies are attached, adjust down pressure setting to perform desired application.

NOTE: *If the pad drivers do not connect the first time return to step 4 and repeat.*

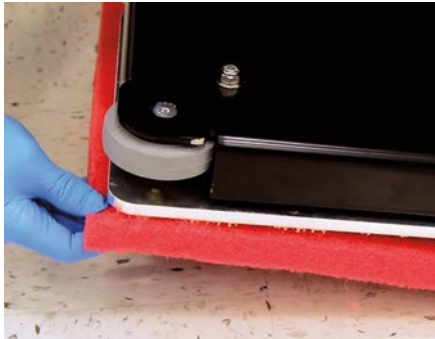
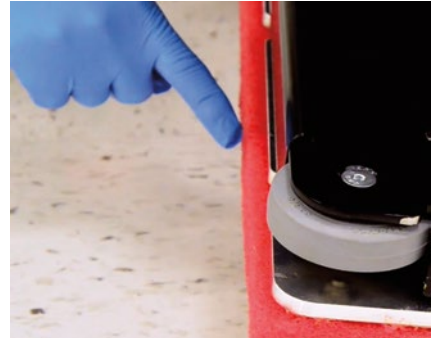


ORBITAL PADS AND ORBITAL FINISH REMOVAL

STANDARD CLEANING OPERATIONS

⚠ NOTE: Do NOT lower the Orbital Scrub Head without a pad attached. This will damage the scrub head.

1. Attach the pad ½" in front of the scrub head and align the front corners and sides. Press the pad into position once the pad is aligned (the ½" forwarding will help in pad wetting).
2. Lower the scrub deck onto the floor once the pad is aligned.
3. Check to make sure the pad is aligned on all four sides.



ORBITAL FINISH REMOVAL PAD SETUP

Finish removal utilizes a two-pad setup. A red or white pad acts as a “backer pad” that helps compensate for flaws and variances in the floor. The maroon pad is for surface preparation.

1. Attach the red pad to the orbital pad drive plate as shown above.
2. Wet the maroon pad prior to installation to minimize excessive friction upon initial start up.
3. Place the maroon pad on the floor and position it so that when the scrub deck is lowered the red and maroon pads are aligned and stacked.



MACHINE SETUP FOR ORBITAL FINISH REMOVAL

1. Fill the solution tank with clean water.
2. Install the pad assembly as described above.
3. The down pressure should be on medium or high pressure; depending on condition or hardness of the finish being removed.
4. The solution flow rate should be set to a low flow rate (approximately 25% of full flow rate) for this operation to maximize finish removal, to rinse, clean the floor and pad.
5. Forward speed should be set to 25% to 50% of normal speed to ensure maximum finish removal ; approximately 50-100 feet per minute.

RECOVERY SYSTEM

RECOVERY TANK: Draining

1. Find an approved drain location to empty the recovery tank.
2. Lift the drain hose off of the hose hook, remove the cap (keeping it above the tank's water level), fold over the collar and lower into the drain location.
3. Let the dirty water drain by releasing the collar into the drain slowly.
4. Lift the recovery tank lid to the wide-open position.



CLEANING THE RECOVERY TANK WHEN DRAINING

1. Rinse out the recovery tank often to prevent debris, dirt buildup and any contaminants.
2. Use a hose to remove debris and sediment from the bottom of the tank with clean water.

⚠ NOTE: Regularly use cleaner and sanitizer with a cloth or sponge to prevent mold and mildew inside the recovery tank.

VACUUM BALL CAGE

1. Remove clamp (if present) and vacuum ball cage filter.
2. Rinse the filter thoroughly.
3. Replace vacuum ball cage filter and clamp (if present).



RECOVERY SYSTEM *continued*

FORTIFY™ FOAM CONTROL / VACUUM PROTECTION SYSTEM

Proactively control the foam and protect the vacuum fan with the Fortify foam control puck underneath the debris tray inside the recovery tank.

FORTIFY™ FOAM CONTROL PUCK REPLACEMENT

1. Open the recovery tank lid. Remove the debris tray and flip it over.
2. Turn the puck cage counter clockwise to release it from the debris tray.
Replace puck as needed. Return debris basket to recovery tank.

⚠ CAUTION: Do not use chlorine. Harmful fumes can be created from mixed cleaners and chlorine.



RECOVERY LID

Leave the recovery lid open while in storage and after cleaning. This enables the recovery tank to dry quickly and reduce the chance of mold and mildew from growing.



SQUEEGEE ASSEMBLY

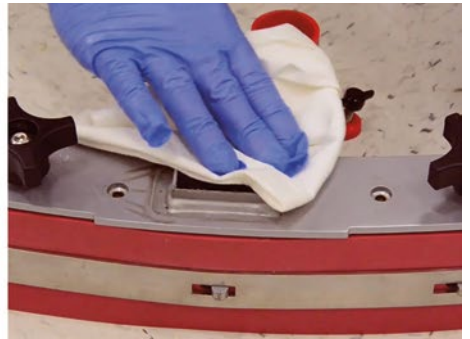
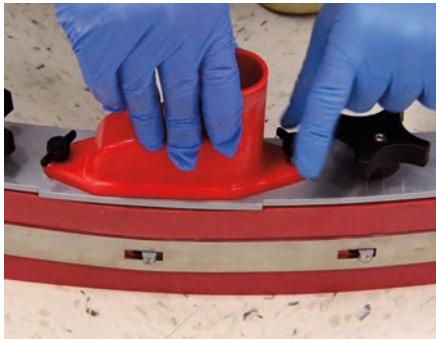
CLEANING THE SQUEEGEE BLADES

1. Remove the squeegee assembly from the machine by loosening the two knobs.
2. Thoroughly clean and rinse the underside of the squeegee frame, blades and neck
3. Wipe down and dry the squeegee to remove any water and loose debris.



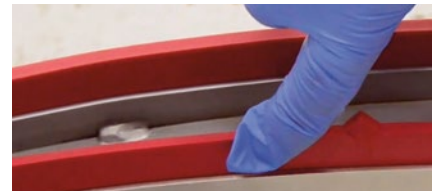
DRIP TRAP INSPECTION

1. Inspect the drip trap on the topside of the squeegee by removing the 2 thumb screws.
2. Rinse off the drip trap and remove any debris.
3. Wipe and clean the squeegee frame before re-installing the drip trap.



SQUEEGEE BLADES: INSPECT

1. Inspect the front and rear squeegee blades. The forward edges should be sharp and defined.
2. Worn blades should be flipped or replaced if worn halfway through the thickness.



SQUEEGEE SELECTION GUIDE

The GeneSys™ Mid-Size Scrubber comes standard with Linatex® squeegee blade material. This has been proven to be a very versatile, high performance material across multiple flooring types.

As an option, sold separately, the GeneSys™ can be equipped with Primothane® urethane squeegee blades. Both blades utilize the patented Airoflex® design that increases vacuum performance by up to 40%.



The Airoflex design features the Airoflex valves along the squeegee blade edge, which flex open when on smooth floors and close on porous or grouted tile floors to increase vacuum performance.

NOTE: If cleaning and recovering petroleum or organic based oils, choose Primothane® regardless of floor surface.



Floor Type	Suggested Squeegee	Comments
Vinyl Composite Tile (VCT) Grouted Tile Natural Stone Terrazzo Polished / Sealed Concrete Wood	LINATEX®	Best combination of performance, durability and wear life
Luxury Vinyl Tile (LVT) Rough Concrete	LINATEX® or PRIMOTHANE®	Both will have good performance. Primothane® will last longer if floor is highly textured.
Rubber Other Non-Slip / Grit Surfaces	PRIMOTHANE®	Best combination of performance, durability and wear life. - Additional benefit of “Ultra-Quiet” in use.

REMOVE AND INSTALL THE SQUEEGEE BLADES

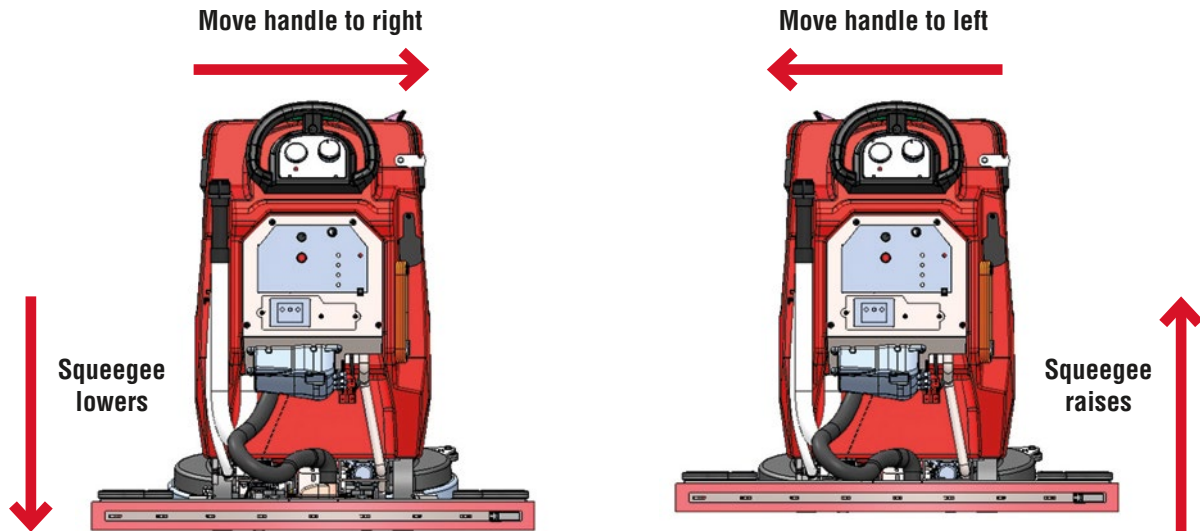
1. Release the latch and slide the band clamp off the hook on the other side.
2. Blades can be flipped length wise or top to bottom to use all four edges over the lifetime of the blade.
3. Place the blade over the assembly ensuring the holes align and replace the band clamp - make sure snug and tight when clamped.



SQUEEGEE OPERATION

1. Lower the squeegee: Move the squeegee lever to the right. The vacuum motor will come on.
2. Raise the squeegee: Move the squeegee lever to the left. The vacuum motor will turn off after 7 seconds.

 **SQUEEGEE CASTER HEIGHT** has been set at the factory for optimal squeegee performance. **DO NOT ADJUST.**



FORTIFY™ ARMOR™ TELEMETRY

The Betco® Genesys™ machine has an optional ARMOR™ Telemetry unit that can monitor the machine through a cellular network. The ARMOR unit is capable of monitoring daily run times, charge times, charge cycles, maintenance needs, location, and if the machine has experienced an impact. This information can be monitored by logging into Armordata.com.

BUTTONS

Maintenance Performed	Press and hold to log that the machine has been maintained
New Batteries Installed	Press and hold to log that new batteries have been installed
Silence Alarm	Press to silence the alarm for 24 hours



REGISTERING THE DEVICE

1. Locate and write down the serial number of the machine on the bottom of the recovery tank in the battery compartment.
2. Determine the facility that the machine will operate in, the person that will be monitoring the machine, and the main service contact.
3. Go to www.armordata.com and click the “Register an ARMOR Device” link under ARMOR Support
4. Fill out the form and click “Save info and register device”

NOTE: The machine data will appear in the armordata.com dashboard on the next business day. The included 12 month free subscription will start once this process is complete.

OPERATION

The data that is logged by the ARMOR device can be viewed from any computer that has an internet connection. The device automatically sends its data once every day and after every charge/discharge event. If the device does not have a cellular connection, it will store the data and send as soon as it has a connection. To view the machines information, visit ARMOR's website at <http://armordata.com>.

SETTING MAINTENANCE REMINDERS

The ARMOR device has several functions that can be performed at the machine. When maintenance is performed, press and hold the “Maintenance Performed” button to log the event. When batteries are replaced, press and hold the “New Batteries Installed” button to log the event. An end user can silence the alarm by pressing the “Silence Alarm” button, note that the alert on Armordata.com will remain. When the end user has an issue with the machine and needs assistance, they can send a notification to Armordata.com by pressing and holding the “Maintenance Performed” button and the “Silence Alarm” button at the same time.

TIMER LOCKOUT

The Betco Genesys machine has an optional lockout timer that can limit the time of day, and days, that the machine can be operated. Limiting the hours that the machine can function prevents unauthorized use while not interfering with productivity. The timer is located on the back panel of the machine and is protected from tampering by a metal plate.



BUTTONS

- WEEK** Changes the day of the week for the clock or the days of the week for a program.
- HOUR** Increments the hour unit up one.
- MIN** Increments the minute unit up one.
- RECALL** Recalls or clears the last settings of a program.
- CLOCK** Allows adjustment of the clock when held down.
- PROG** Indexes through each programs on/off settings.
- MANUAL** Cycles through the machine being off, on, or in auto mode.
- R** Resets the timer to the factory settings.

SETTING THE TIME

1. Press the "CLOCK" button to ensure that the clock is displayed.
2. Press and hold the "CLOCK" button.
3. While holding the clock button, press the "WEEK" button until the proper day is displayed
4. Still holding the clock button, press the "HOUR" button until the correct hour is shown and repeat with the "MIN" button until the proper minute is shown.
5. Release the "CLOCK" button



NOTE: Pressing and holding the "CLOCK" button for 3 seconds switches from 12 hour time to 24 hour time and back.

OPERATION

The timer can store up to 16 programs that can be individually programmed. These programs are active when the timer shows "AUTO" next to the clock. The machine can be cycled to "ON", "OFF", and "AUTO" by pressing the "MANUAL" button. The machine can only be operated when the red light is illuminated on the timer. If the machine is to be used outside of the programmed time, the manual button can be pressed until "ON" is displayed. Ensure that the machine is turned back to "AUTO" to re-enable the programs.

"ON" – The machine is active and will not be disabled at any time.

"OFF" – The machine is disabled and will not be active at any time.

"AUTO" – The machine will be active when the programs on time has been reached and be disabled at the set off time.

PROGRAMMING THE TIMER

1. Press the "PROG" button to enter programming mode.



NOTE: Pressing the "PROG" button again will cycle through the 16 programs. The program number is displayed on the left with an indication of whether the time to turn the machine on, or turn the machine off is being set.

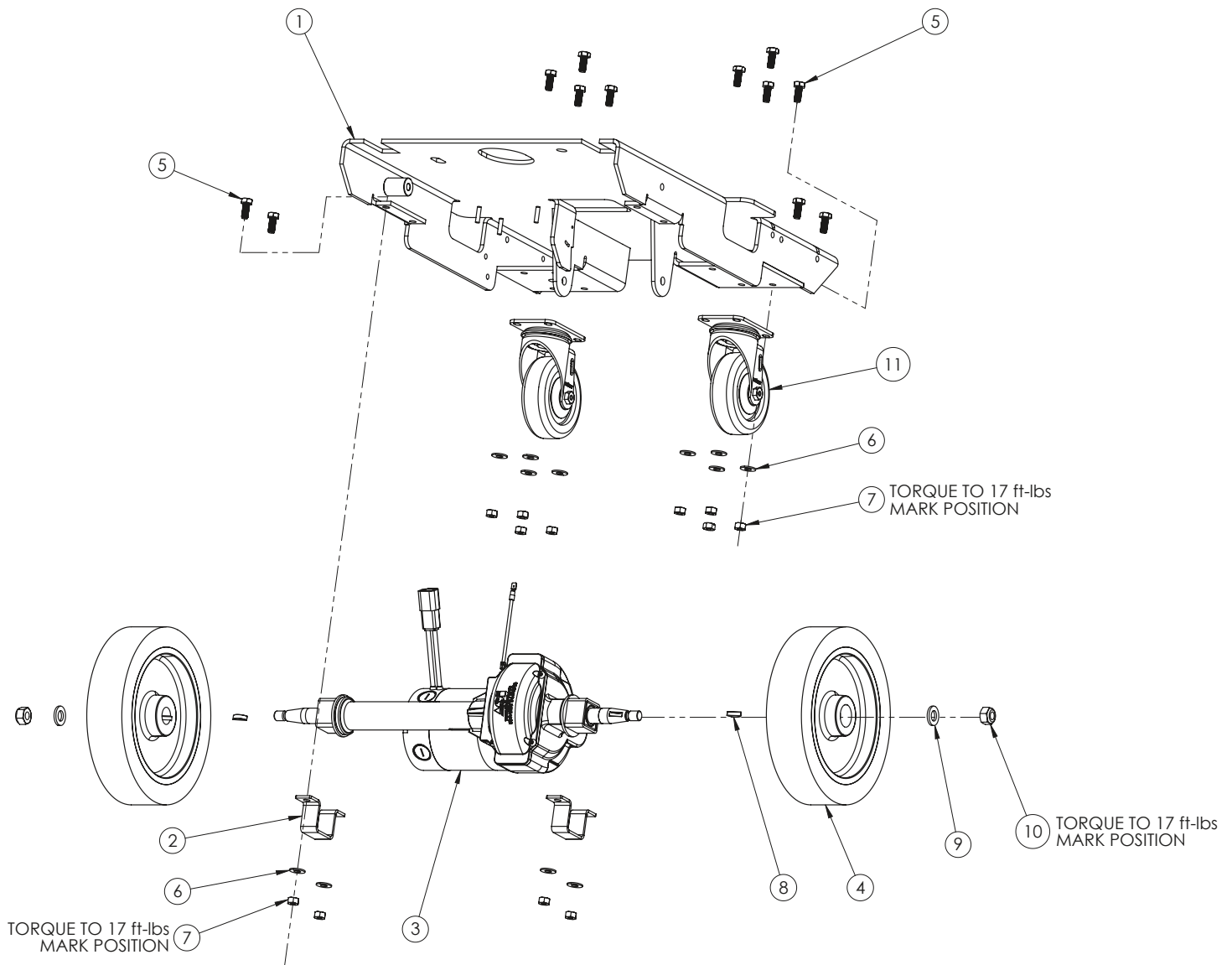
2. Cycle to the program number that is to be set and ensure on is shown on the left next to the number.
3. Press the "WEEK" button until the desired days are displayed at the top of the screen that the machine will turn on.
4. Press the "HOUR" button until the desired hour is shown and repeat with the "MIN" button until the desired minute is shown.
5. Press the "PROG" button to display the programs off time.
6. Repeat step 3 and 4 to set the off time.
7. Press the "CLOCK" button.
8. Press the "MANUAL" button until "AUTO" is shown on the right to enable the programs.



NOTE: While in the programming mode "RECALL" will disable the displayed program or load the previous setting used for that program.

NOTE: When setting the program to be used overnight, ensure that the off setting is the next day that the on setting is. (IE: Friday 10PM on, Saturday 8AM off).

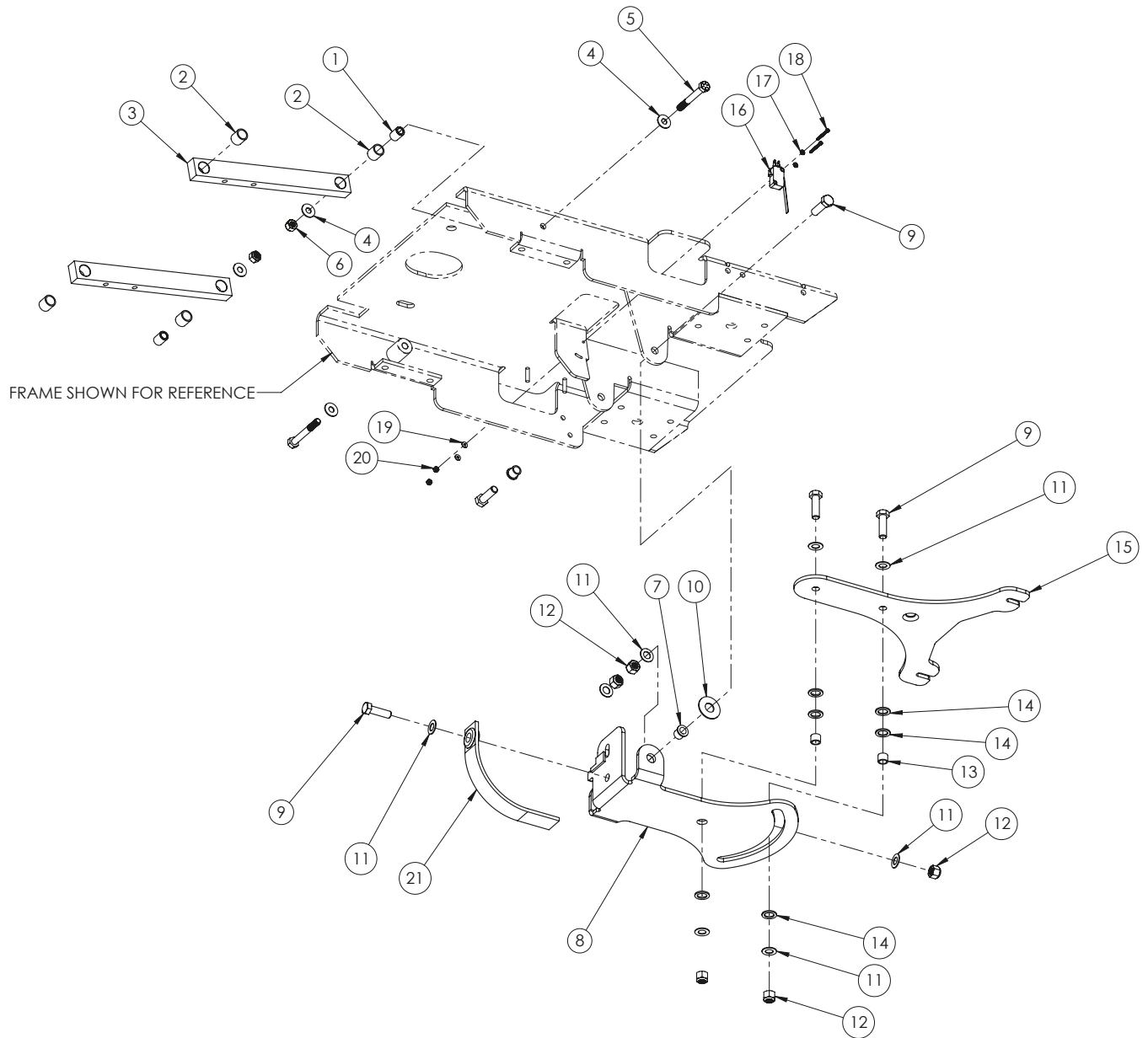
TRANSAXLE AND WHEELS DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28511	FRAME WELDMENT	1
2	E29400	BRACKET, TRANSAXLE MTG	2
3	E28512	TRANSAXLE, 20.4 LG	1
4	E28515	WHEEL, 0.500 ID X 8.660 OD, 1.970 W, GRAY	2
5	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	12
6	E29403	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.057 THK	12

Item#	Part #	Description	Qty.
7	E12524	NUT, HEX, 5/16-18, SS	12
8	E29439	KEY, WOODRUFF, 19mm DIA x 5mm	2
9	E83702	WASHER, FLAT, 13mm ID x 24mm OD, 2.7mm THK	2
10	E86489	NUT, HEX, M12-1.75, NYLOC	2
11	E28514	CASTER, SWIVEL PLATE, 4.000 OD	2

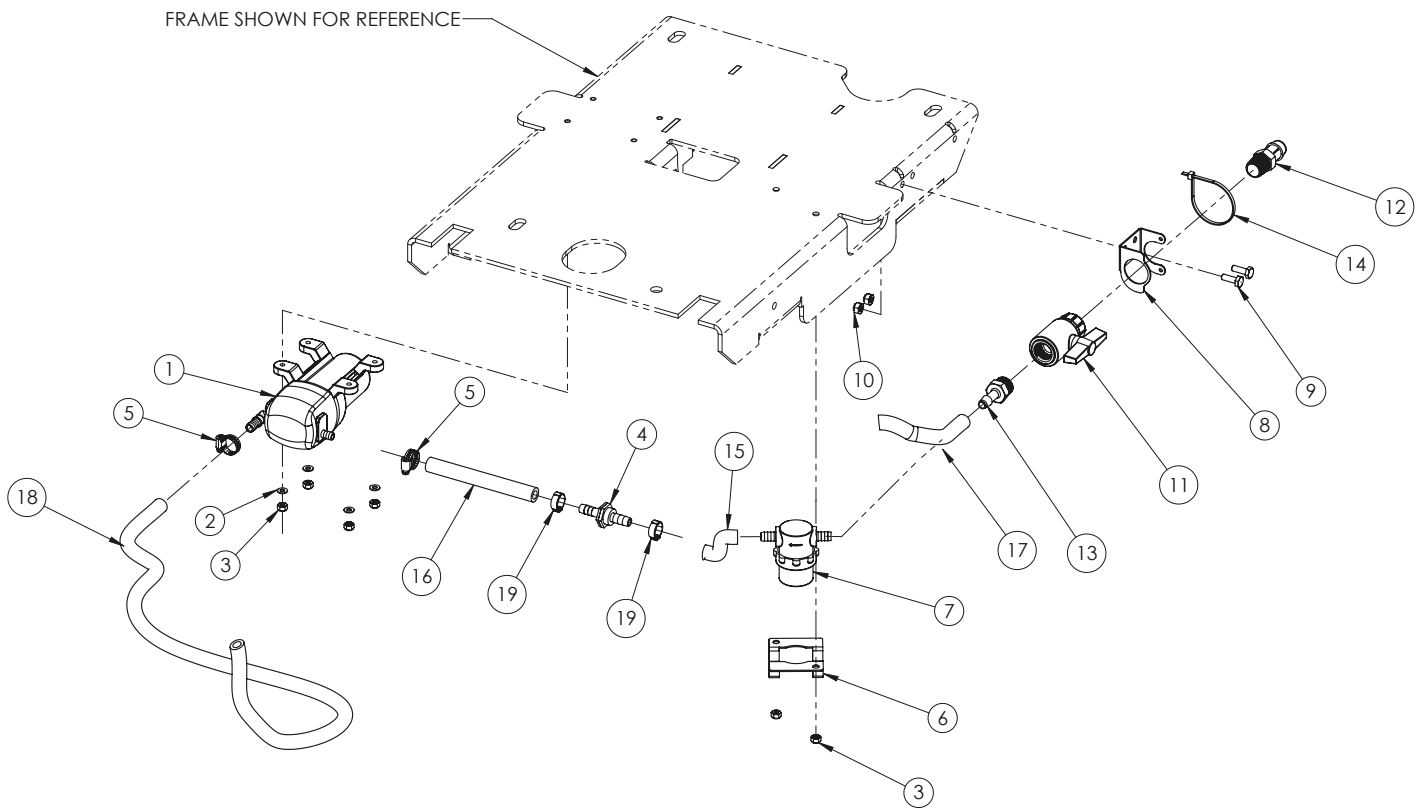
LIFT ARMS AND SQUEEGEE MOUNT DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28684	BUSHING, SLEEVE, 0.323 ID x 0.497 OD, 0.655 LG	2
2	E28685	BUSHING, SLEEVE, 0.501 ID x 0.627 OD, 0.625 LG	4
3	E28625	ARM, HEAD LIFT	2
4	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	4
5	E28822	BOLT, HEX HD, 5/16-18 x 2.500 LG, YC, GRADE 8	2
6	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	2
7	E28591	BEARING, SLEEVE, 0.376 ID x 0.501 OD, 0.500 LG, FLANGED	2
8	E28519	BRACKET, SQUEEGEE LIFT, WELDMENT, MSAS	1
9	E29436	BOLT, HEX HD, 3/8-16 x 1.250 LG, SS	5
10	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	1
11	E29438	WASHER, FLAT, 0.406 ID x 0.750 OD, 0.040 THK	8

Item#	Part #	Description	Qty.
12	E11146	NUT, HEX, 3/8-16, NYLOC, ZP	5
13	E28936	BEARING, SLEEVE, 0.375 ID x 0.501 OD x 0.375 LG	2
14	E28937	WASHER, FLAT, 0.505 ID x 0.750 OD, 0.067 THK, NYLON	6
15	E28520	PLATE, SQUEEGEE SWING, MSAS	1
16	E28952	SWITCH, SNAP ACTION, SPDT	1
17	E28821	WASHER, LOCK, 0.115 ID x 0.260 OD, EXT TOOTH, ZP	2
18	E28762	SCREW, SOC HD HEX, #4-40 x 1.000 LG, BO	2
19	E29368	WASHER, FLAT, 0.125 ID x 0.312 OD, 0.030 THK	2
20	E28770	NUT, HEX, #4-40, NYLOC	2
21	E29459	STATIC STRAP	1

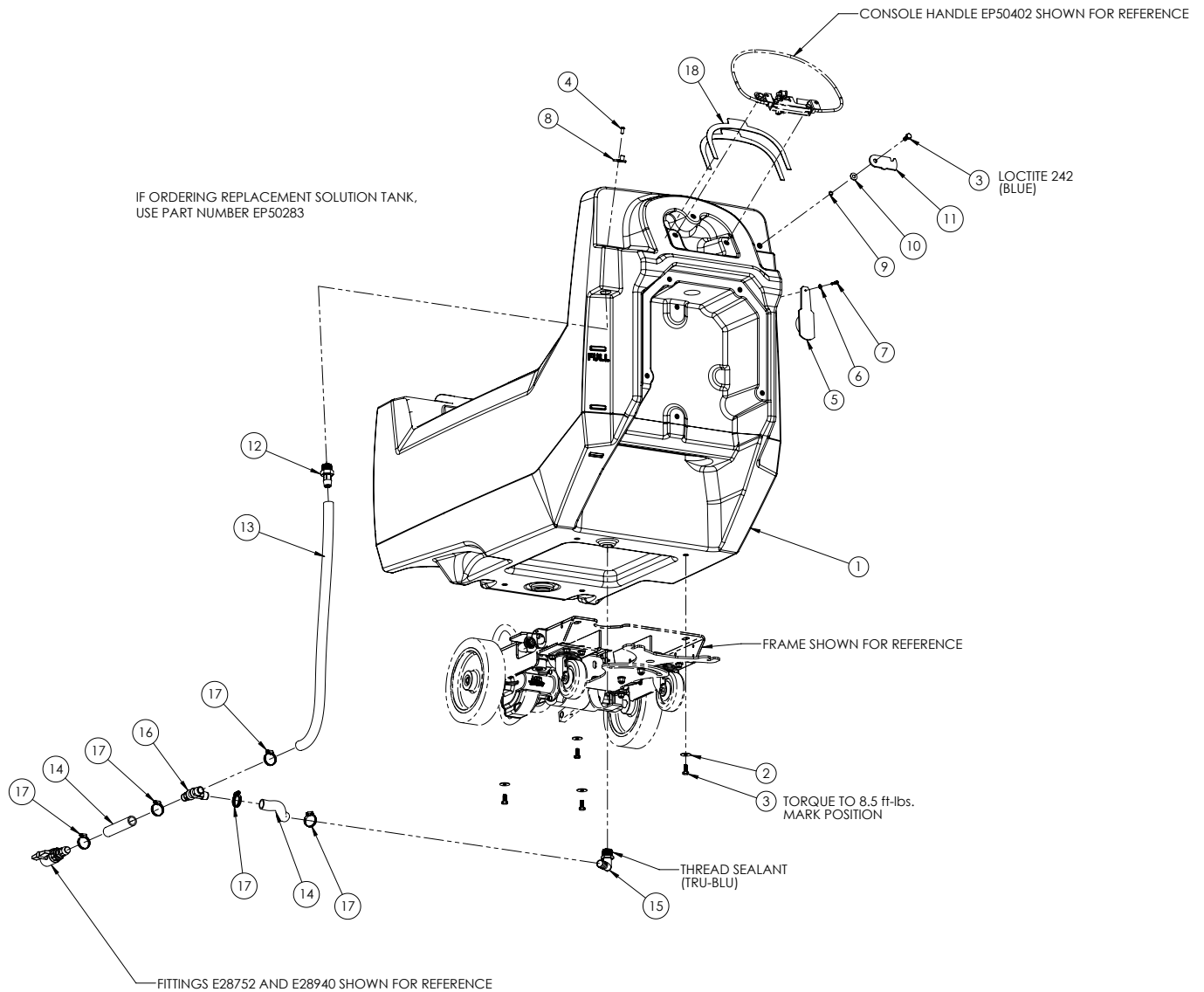
FRAME FLUID DELIVERY DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29601	PUMP, WATER, 1.0 gpm	1
2	E28775	WASHER, FLAT, 0.203 ID x 0.438 OD, 0.040 THK, SS	4
3	E28753	NUT, HEX, #10-24, NYLOC, SS	6
4	E28816	CHECK VALVE, 3/8 BARB, PLASTIC	1
5	E89720	CLAMP, HOSE, 0.438 - 0.782 DIA	2
6	E28740	BRACKET, STRAINER-CHEM PUMP	1
7	E28942	STRAINER, IN-LINE	1
8	E28746	BRACKET, BALL VALVE-SOLUTION TANK	1
9	E29410	BOLT, HEX HD, 1/4-20 x 0.750 LG	2
10	E28853	NUT, HEX, 1/4-20, FLEX-TOP LOCK, CDPL	2

Item#	Part #	Description	Qty.
11	E28940	VALVE, BALL, 1/2 FNPT, PLASTIC	1
12	E28752	FITTING, ADAPTER, 3/4 BARB X 3/4 MNPT	1
13	E28751	FITTING, ADAPTER, 3/8 BARB X 1/2 MNPT	1
14	E28831	WIRE TIE, 7.000 LG, NYLON	1
15	EP50410	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 2.50 LG	1
16	EP50411	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 5.25 LG	1
17	EP50412	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 4.50 LG	1
18	EP50413	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 38.00 LG	1
19	E28773	CLAMP, HOSE, SINGLE PINCH	2

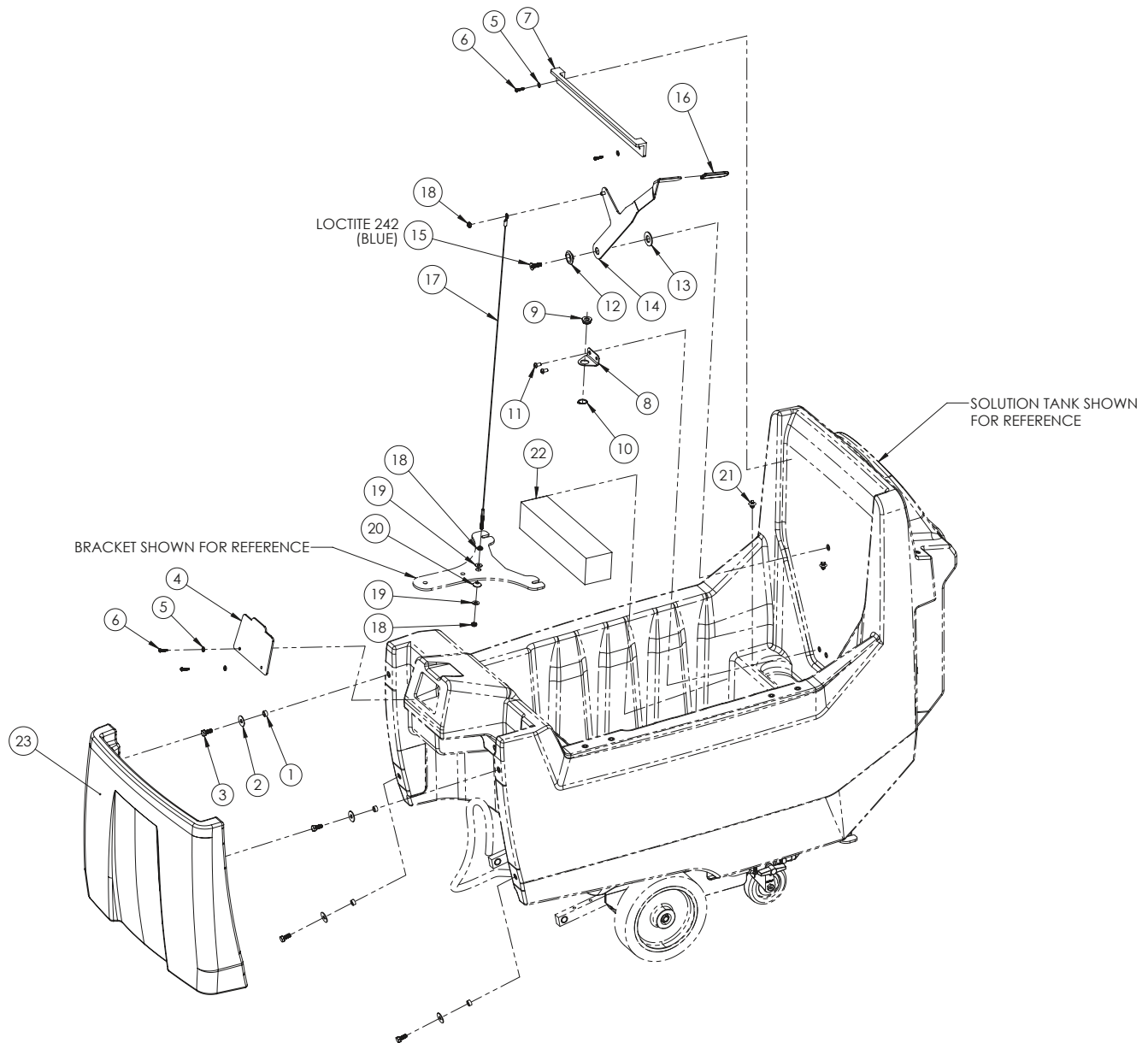
SOLUTION TANK BACK DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28563	SOLUTION TANK, GS MSAS	1
2	E29388	WASHER, FLAT, 0.344 ID x 1.000 OD, 0.062 THK	4
3	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	5
4	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	1
5	E28837	COVER, REAR FILL PORT	1
6	E28775	WASHER, FLAT, 0.203 ID x 0.438 OD, 0.040 THK, SS	1
7	E28761	SCREW, PAN HD TORX, #8-16 TF x 0.750 LG	1
8	E28712	HANGER, DRAIN CUFF	1
9	E28765	WASHER, LOCK, 0.320 ID x 0.437 OD, WAVE, ZP	1

Item#	Part #	Description	Qty.
10	E29403	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.057 THK	1
11	E28707	HANGER, SQUEEGEE	1
12	E29305	FITTING, ADAPTER, 3/4 BARB x 3/4 NPT, PLASTIC	1
13	EP50414	TUBE, 3/4 ID, CLEAR PVC, 26.00 LG	1
14	EP50415	TUBE, 3/4 ID, CLEAR PVC, 5.00 LG	2
15	E28750	FITTING, ELBOW 90, 3/4 BARB, 3/4 MNPT, PLASTIC	1
16	E28749	FITTING, TEE, 3/4 HOSE, PLASTIC	1
17	E28766	CLAMP, HOSE, 0.680-1.250 DIA	5

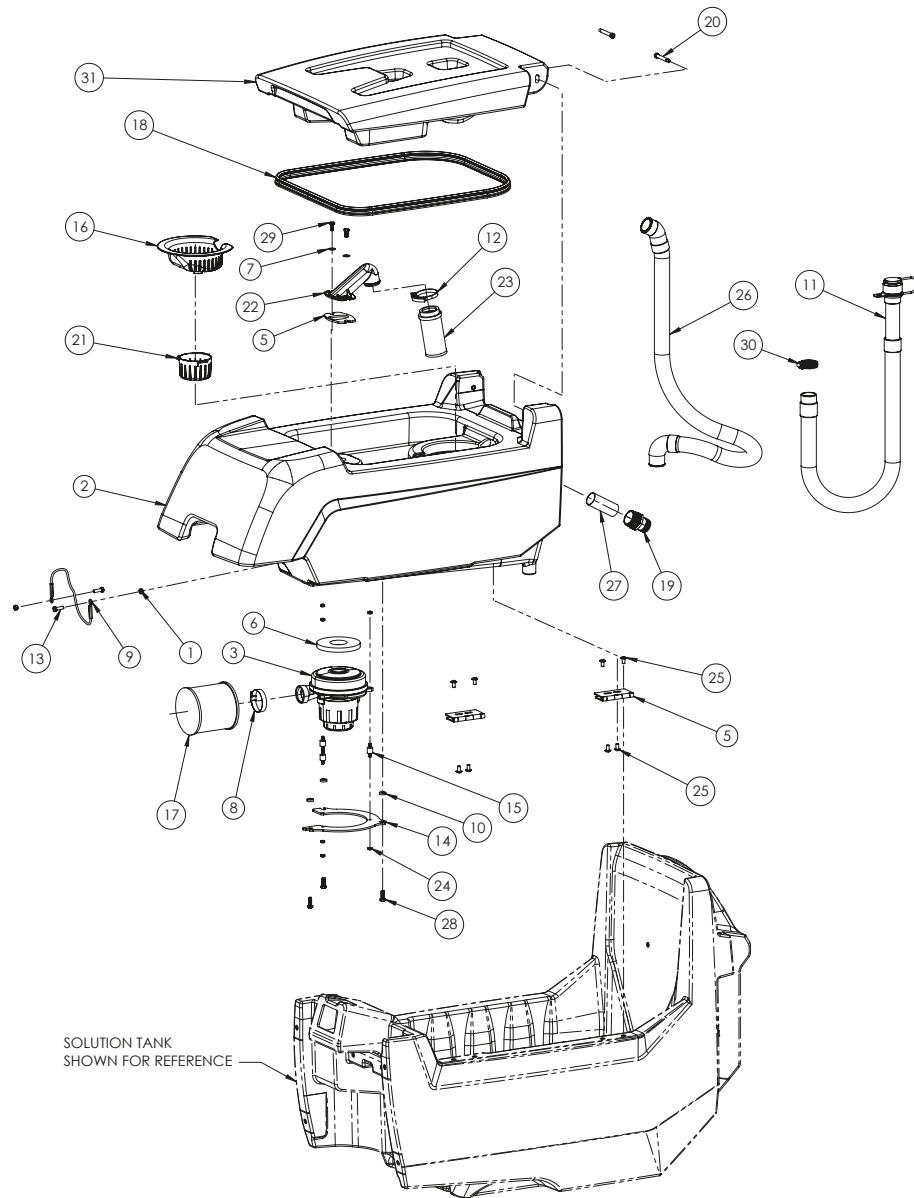
SOLUTION TANK FRONT DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29579	BUSHING, SLEEVE, 0.315 ID x 0.500 OD, 0.250 LG, OIB	4
2	E29388	WASHER, FLAT, 0.344 ID x 1.000 OD, 0.062 THK	4
3	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	4
4	E28825	COVER, FRONT FILL PORT	1
5	E28775	WASHER, FLAT, 0.203 ID x 0.438 OD, 0.040 THK, SS	4
6	E28761	SCREW, PAN HD TORX, #8-16 TF x 0.750 LG	4
7	E28756	SQUEEGEE LEVER GUIDE	1
8	E28714	BRACKET, CABLE GUIDE	1
9	E28715	GUIDE, SQUEEGEE CABLE	1
10	E28722	RETAINING RING, EXTERNAL, 0.75 SHAFT X 0.046 GROOVE	1
11	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
12	E28718	BUSHING, SQUEEGEE LEVER	1

Item#	Part #	Description	Qty.
13	E28719	WASHER, FLAT, 0.656 ID x 1.312 OD, 0.094 THK, NYLON	1
14	E28909	LEVER, SQUEEGEE LIFT, WELDMENT	1
15	E28763	SCREW, FLAT HD HEX, 5/16-18 x 1.000 LG, BO	1
16	E28721	CAP, SQUEEGEE LEVER	1
17	E28759	SQUEEGEE LIFT CABLE ASSY	1
18	E29565	NUT, HEX, 1/4-20, THIN, NYLOC	3
19	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	2
20	E28717	WASHER, SPHERICAL, 0.280 ID x 0.750 OD, ZP	1
21	E28621	WIRE TIE PUSH MOUNT	2
22	E28785	FOAM BLOCK, BATTERY SPACER	1
23	E28579	SOLUTION TANK FRONT COVER w/ INSERTS AND CUTOUTS	1

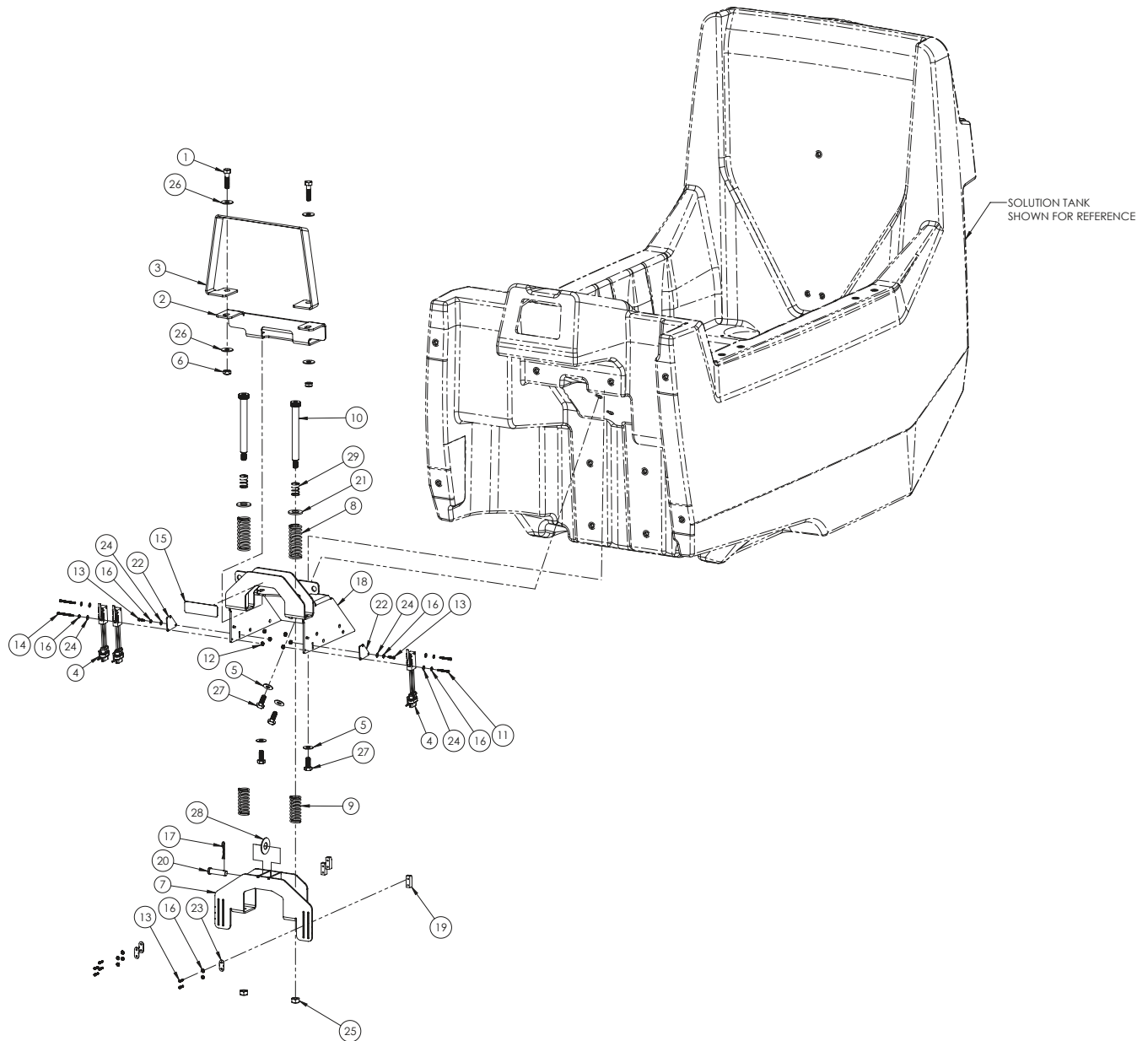
RECOVERY TANK DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E12524	NUT, HEX, 5/16-18, SS	2
2	E28575	RECOVERY TANK, GS MSAS	1
3	E28581	VACUUM FAN, 24VDC, 450W	1
4	E28596	HINGE, 4.000 LEAF HT	2
5	E28607	GASKET, FLOAT MOUNT	1
6	E28608	GASKET, FOAM, 2.000 ID x 5.000 OD, 0.500 THK	1
7	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
8	E28755	CLAMP, HOSE, 1.560 - 2.500 ID, 0.500 W	1
9	E28760	CABLE, RECOVERY TANK	1
10	E28850	SPACER, 0.315 ID X 0.750 OD, 0.188 THK, AI	3
11	E28921	HOSE, RECOVERY TANK DRAIN	1
12	E28990	CLAMP, DOUBLE SNAP GRIP	1
13	E29392	BOLT, HEX HD, 5/16-18 x 1.000 LG	2
14	E29523	VACUUM MOUNT BRACKET	1
15	E29524	ISOLATOR, DUAL STUD, 1/4-20 THD	3
16	E29525	DEBRIS TRAY	1

Item#	Part #	Description	Qty.
17	E29527	HEPA FILTER-GENESYS MS	1
18	EP50286	SEAL, MSAS RECOVERY TANK LID, 83 IN LG	1
19	E29531	FITTING, ADAPTER, 1.500 BARB x 1 1/2 NPT, PLASTIC	1
20	E29558	BOLT, SOC HD HEX, 5/16-18 x 0.500 LG, 0.375 DIA x 2.250 LG SHOULDER	2
21	E29561	HOLDER, DEFOAMING CHEMICAL PUCK	1
22	E29562	MOUNT, FLOAT BALL CAGE	1
23	E29563	CAGE, FLOAT BALL	1
24	E29565	NUT, HEX, 1/4-20, THIN, NYLOC	6
25	E29569	SCREW, FLANGED BUTTON HD HEX, 5/16-18 x 0.625 LG, SS	8
26	E29576	HOSE, SQUEEGEE VACUUM	1
27	EP50441	TUBE, PVC RIGID, 1.375 ID X 1.500 OD, 3.625 LG	1
28	E81072	BOLT, HEX HD, 5/16-18 x 1.000 LG	3
29	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	2
30	E83966	CLAMP, HOSE, 2.000 ID x 0.500 ID	1
31	E28577	COVER, GS MSAS RECOVERY TANK	1

HEAD LIFT DIAGRAM AND PARTS LISTING

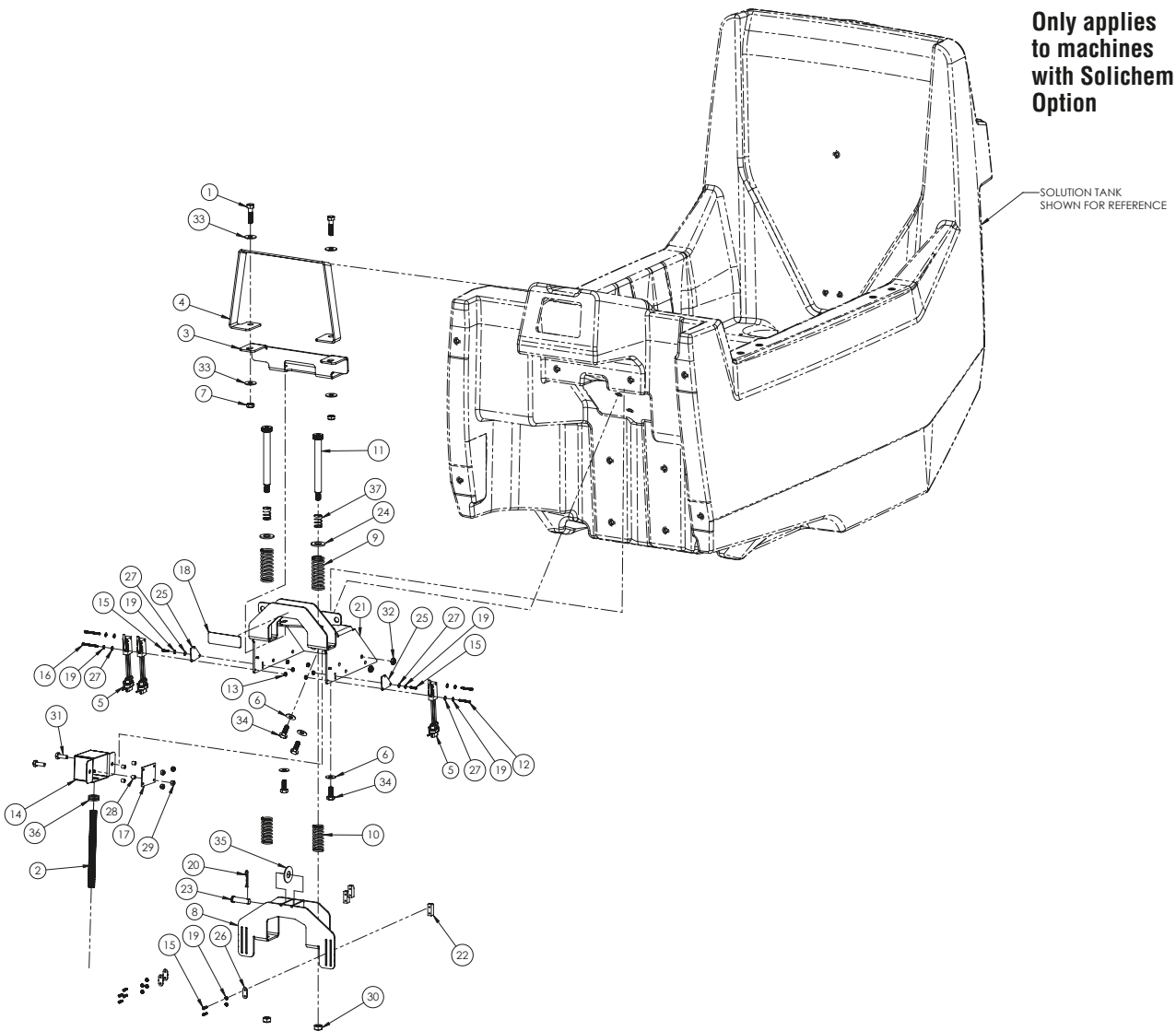


Item#	Part #	Description	Qty.
1	E10112	BOLT, HEX HD, 5/16-18 x 1.250 LG, ZP	2
2	E20702	BRACKET, HEAD LIFT SUPPORT	1
3	E20703	STRAP, HEAD LIFT SUPPORT	1
4	E20704	ASSEMBLY, HEAD LIFT SWITCH, GENESYS	3
5	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	4
6	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	2
7	E28726	BRACKET, ACTUATOR SPRING WELDMENT	1
8	E28727	SPRING, COMPRESSION, 0.760 ID X 0.970 OD, 2.500 LG, ZP	2
9	E28728	SPRING, COMPRESSION, 0.645 ID X 0.845 ID, 2.000 LG, ZP	2
10	E28730	BOLT, SOC HD HEX, 3/8-16 x 4.250 LG, 0.500 DIA x 4.250 LG SHOULDER, ZP	2
11	E28769	SCREW, SOC HD HEX, #4-40 x 0.875 LG, SS	2
12	E28770	NUT, HEX, #4-40, NYLOC	6
13	E28779	SCREW, SOC HD HEX, #4-40 X 0.438 LG, SS	8
14	E28782	SCREW, SOC HD HEX, #4-40 X 1.250 LG, SS	2
15	E28796	DECAL, PINCH POINT	1

Item#	Part #	Description	Qty.
16	E28821	WASHER, LOCK, 0.115 ID x 0.260 OD, EXT TOOTH, ZP	12
17	E28847	COTTER PIN, 0.25 EYE, 0.125 WIRE, ZP	1
18	E29000	BRACKET, ACTUATOR MOUNTING, WELDMENT	1
19	E29002	CAM, SWITCH	3
20	E29003	CLEVIS PIN, 0.375 DIA X 1.125 LG	1
21	E29005	WASHER, FLAT, 0.531 ID x 1.062 OD, 0.098 THK	2
22	E29009	PLATE, SWITCH MOUNTING	2
23	E29010	PLATE, CAM MOUNTING	3
24	E29368	WASHER, FLAT, 0.125 ID x 0.312 OD, 0.030 THK	6
25	E29393	NUT, HEX, 3/8-16, THIN, NYLOC, SS	2
26	E81062	WASHER, FLAT, 0.344 ID x 0.875 OD, 0.063 THK, ZP	4
27	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	4
28	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	1
29	F091510	SPRING	2

HEAD LIFT WITH SOLICHEM OPTION DIAGRAM AND PARTS LISTING

Only applies
to machines
with Solichem
Option

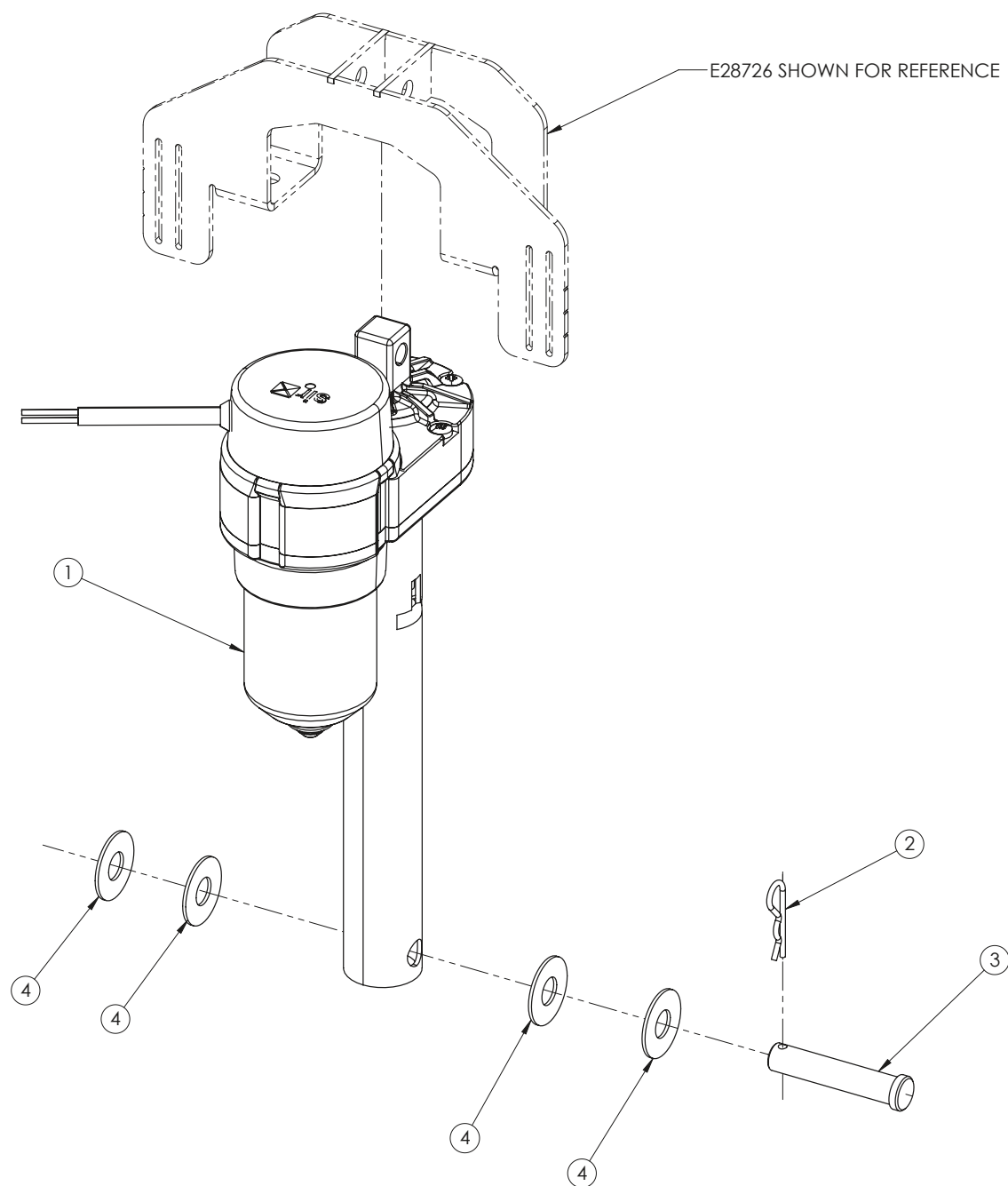


Item#	Part #	Description	Qty.
1	E10112	BOLT, HEX HD, 5/16-18 x 1.250 LG, ZP	2
2	EP50420	LOOM, CONVOLUTED, 3/8in, 12.00LG	1
3	E20702	BRACKET, HEAD LIFT SUPPORT	1
4	E20703	STRAP, HEAD LIFT SUPPORT	1
5	E20704	ASSEMBLY, HEAD LIFT SWITCH, GENESYS	3
6	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	4
7	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	2
8	E28726	BRACKET, ACTUATOR SPRING WELDMENT	1
9	E28727	SPRING, COMPRESSION, 0.760 ID X 0.970 OD, 2.500 LG, ZP	2
10	E28728	SPRING, COMPRESSION, 0.645 ID X 0.845 ID, 2.000 LG, ZP	2
11	E28730	BOLT, SOC HD HEX, 3/8-16 x 4.250 LG, 0.500 DIA x 4.250 LG SHOULDER, ZP	2
12	E28769	SCREW, SOC HD HEX, #4-40 x 0.875 LG, SS	2
13	E28770	NUT, HEX, #4-40, NYLOC	6
14	E28778	BRACKET, TDS SHIELD	1
15	E28779	SCREW, SOC HD HEX, #4-40 X 0.438 LG, SS	8
16	E28782	SCREW, SOC HD HEX, #4-40 X 1.250 LG, SS	2
17	E28784	PCB, TDS SENSOR	1
18	E28796	DECAL, PINCH POINT	1
19	E28821	WASHER, LOCK, 0.115 ID x 0.260 OD, EXT TOOTH, ZP	12

Item#	Part #	Description	Qty.
20	E28847	COTTER PIN, 0.25 EYE, 0.125 WIRE, ZP	1
21	E29000	BRACKET, ACTUATOR MOUNTING, WELDMENT	1
22	E29002	CAM, SWITCH	3
23	E29003	CLEVIS PIN, 0.375 DIA X 1.125 LG	1
24	E29005	WASHER, FLAT, 0.531 ID x 1.062 OD, 0.098 THK	2
25	E29009	PLATE, SWITCH MOUNTING	2
26	E29010	PLATE, CAM MOUNTING	3
27	E29368	WASHER, FLAT, 0.125 ID x 0.312 OD, 0.030 THK	6
28	E29373	SPACER, 0.140 ID x 0.250 OD, 0.250 LG	4
29	E29381	NUT, HEX, #6-32, NYLOC, ZP	4
30	E29393	NUT, HEX, 3/8-16, THIN, NYLOC, SS	2
31	E29410	BOLT, HEX HD, 1/4-20 x 0.750 LG	2
32	E29565	NUT, HEX, 1/4-20, THIN, NYLOC	2
33	E81062	WASHER, FLAT, 0.344 ID x 0.875 OD, 0.063 THK, ZP	4
34	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	4
35	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	1
36	E88708	GROMMET, EPDM 60 DURO	1
37	F091510	SPRING	2

DISC MACHINE ACTUATOR DIAGRAM AND PARTS LISTING

Only applies to machines with disc heads

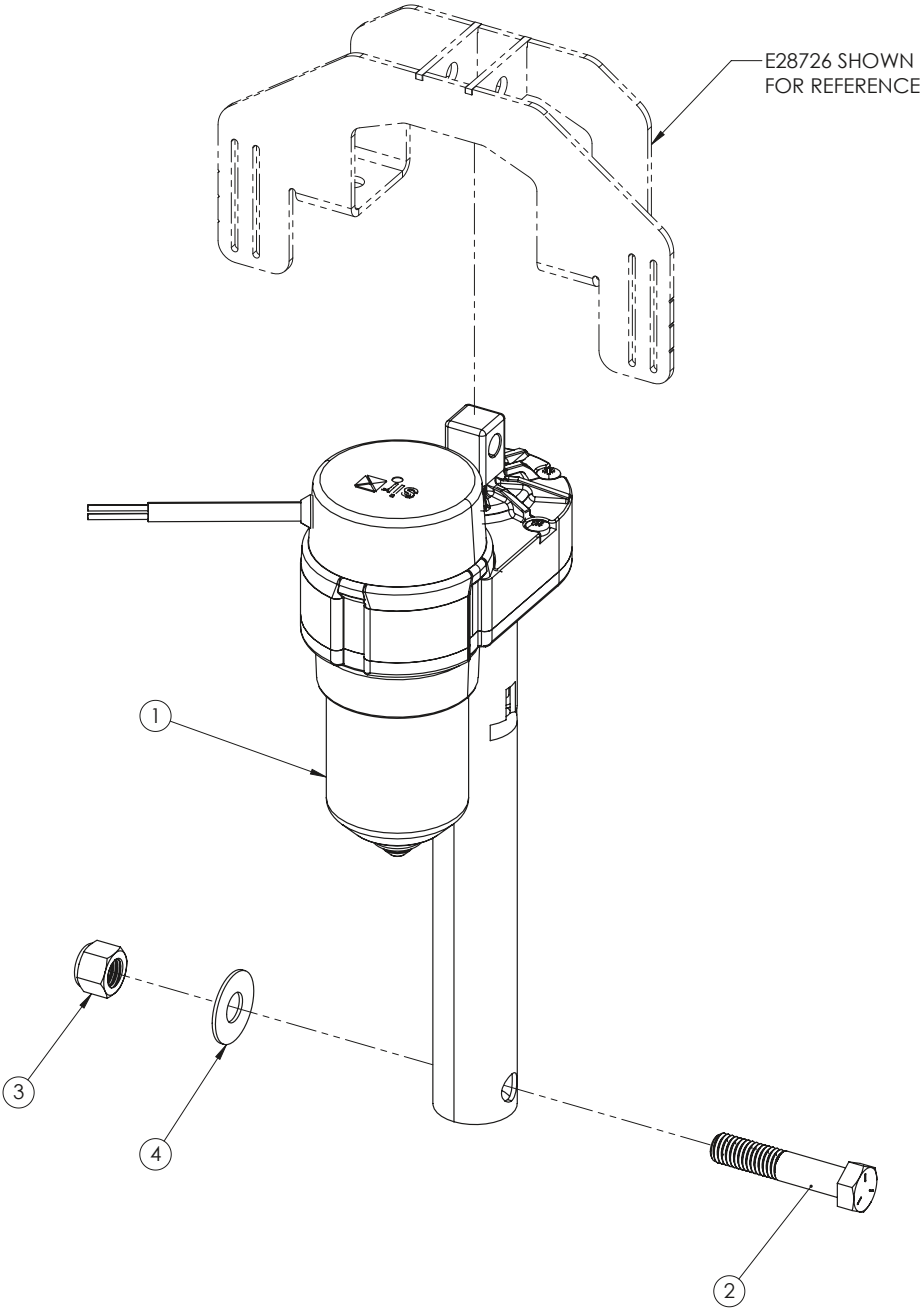


Item#	Part #	Description	Qty.
1	E28628	ACTUATOR, HEAD LIFT	1
2	E28671	PIN, COTTER, HAIRPIN	1

Item#	Part #	Description	Qty.
3	E28699	PIN, CLEVIS, 0.500 OD X 2.250 LG	1
4	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	4

ORBITAL MACHINE ACTUATOR DIAGRAM AND PARTS LISTING

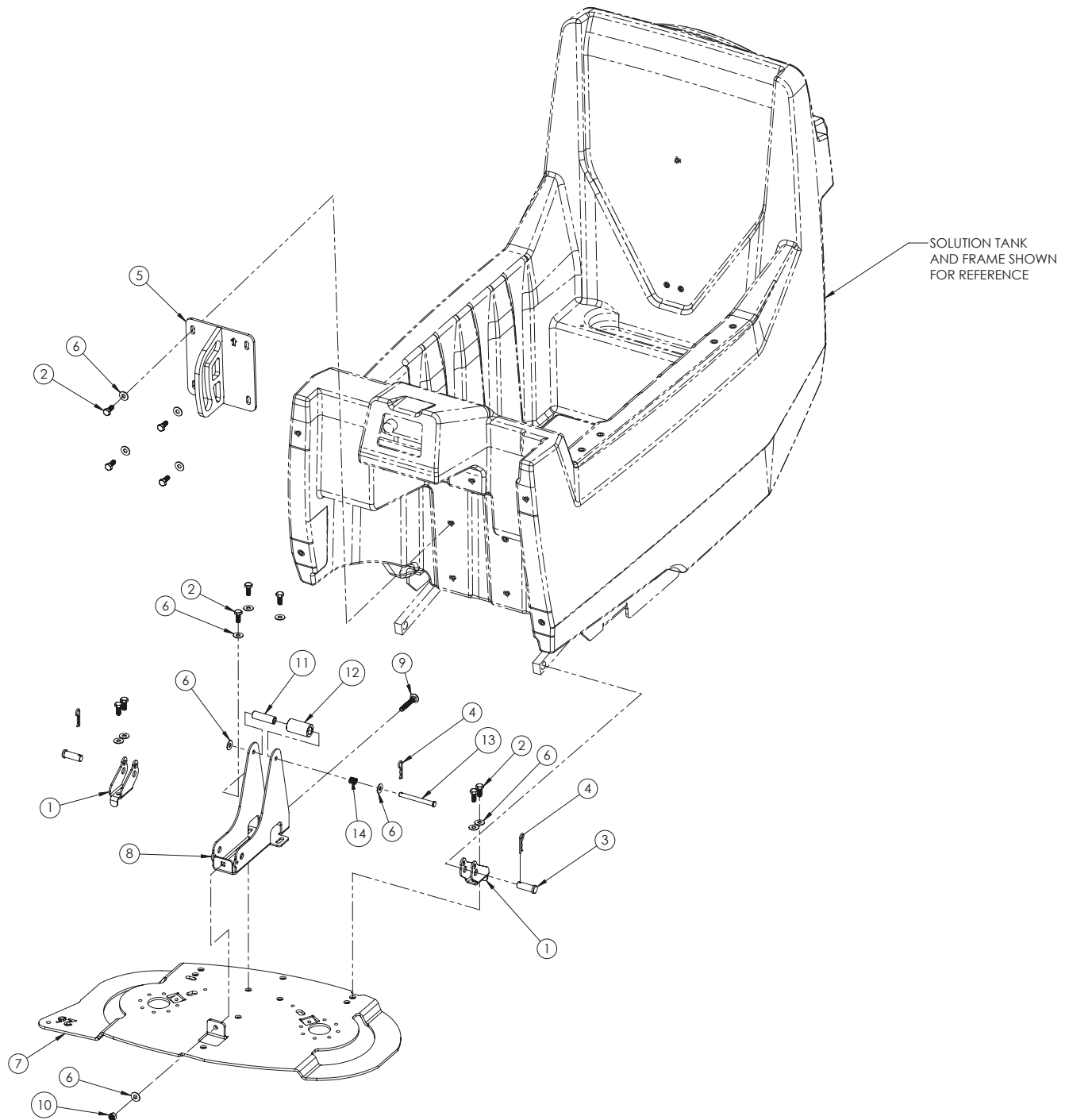
Only applies to machines with orbital heads



Item#	Part #	Description	Qty.
1	E28628	ACTUATOR, HEAD LIFT	1
2	E28815	BOLT, HEX HD, 1/2-13 x 2.500 LG, ZP	1

Item#	Part #	Description	Qty.
3	E12410	NUT, HEX, 1/2-13, NYLOC, GRADE 5, ZP	1
4	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	1

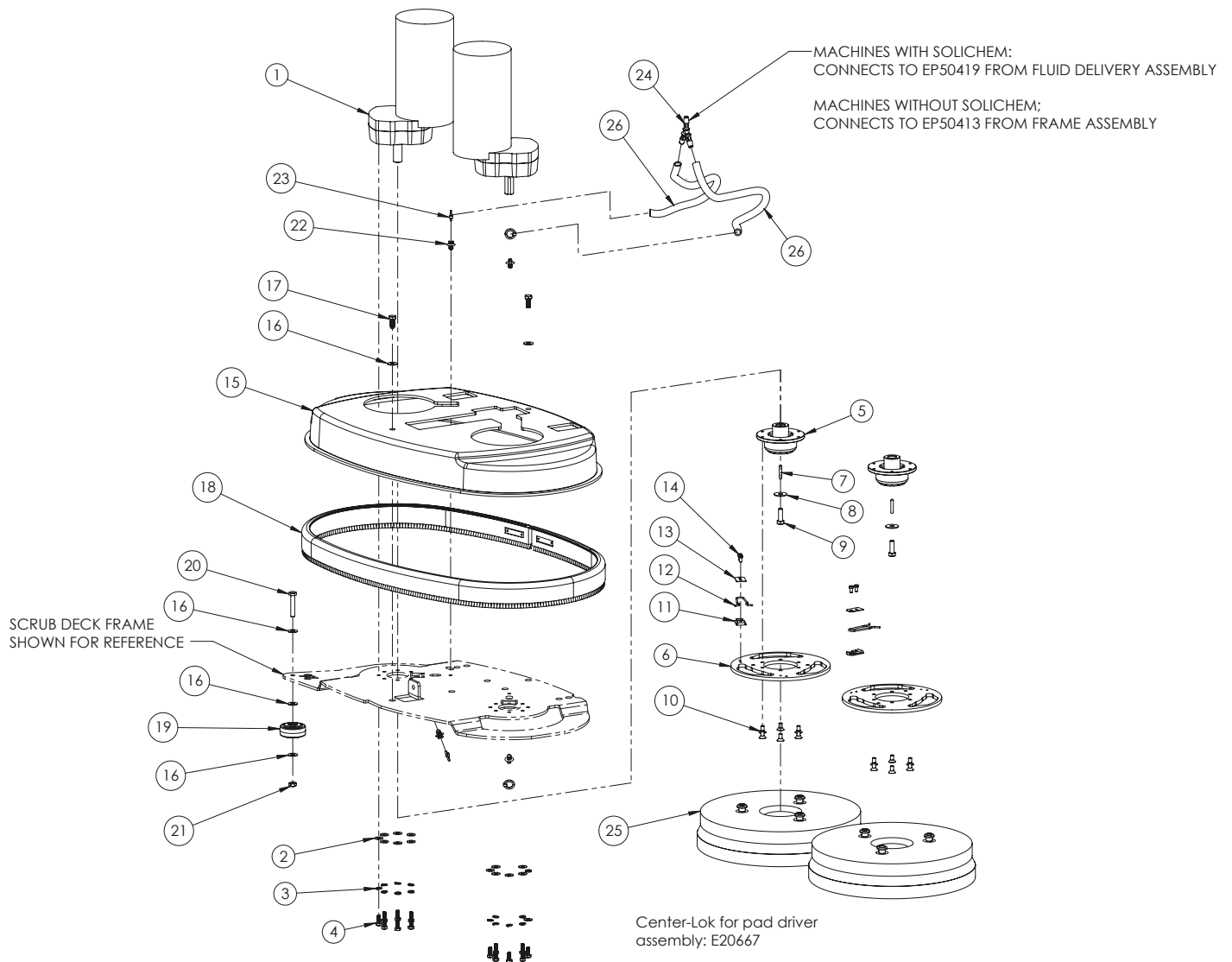
26" DISC LIFT BRACKETS DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29514	BRACKET, LIFT ARM PIVOT	2
2	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	11
3	E28697	PIN, CLEVIS, 0.500 OD X 1.125 LG	2
4	E28671	PIN, COTTER, HAIRPIN	3
5	E28679	DISK ROLLER TRACK WELDMENT	1
6	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	14
7	E28933	FRAME, DISC HEAD, WELDMENT, 26IN	1

Item#	Part #	Description	Qty.
8	E28654	BRACKET, DISK HEAD ROLLER	1
9	E11043	BOLT, CARRIAGE, 5/16-18 x 2.000 LG	1
10	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	1
11	E28664	BUSHING, 0.323 ID X 0.563 OD, 1.860 LG, STEEL, ZP	1
12	E28663	ROLLER, 0.575 ID X 1.000 OD, 1.830 LG, DELRIN	1
13	E28783	CLEVIS PIN, 0.313 OD x 3.000 LG, 2.750 USEABLE LG, ZP	1
14	E29328	SPRING, COMPRESSION, 0.376 ID x 0.500 OD, 0.750 LG	1

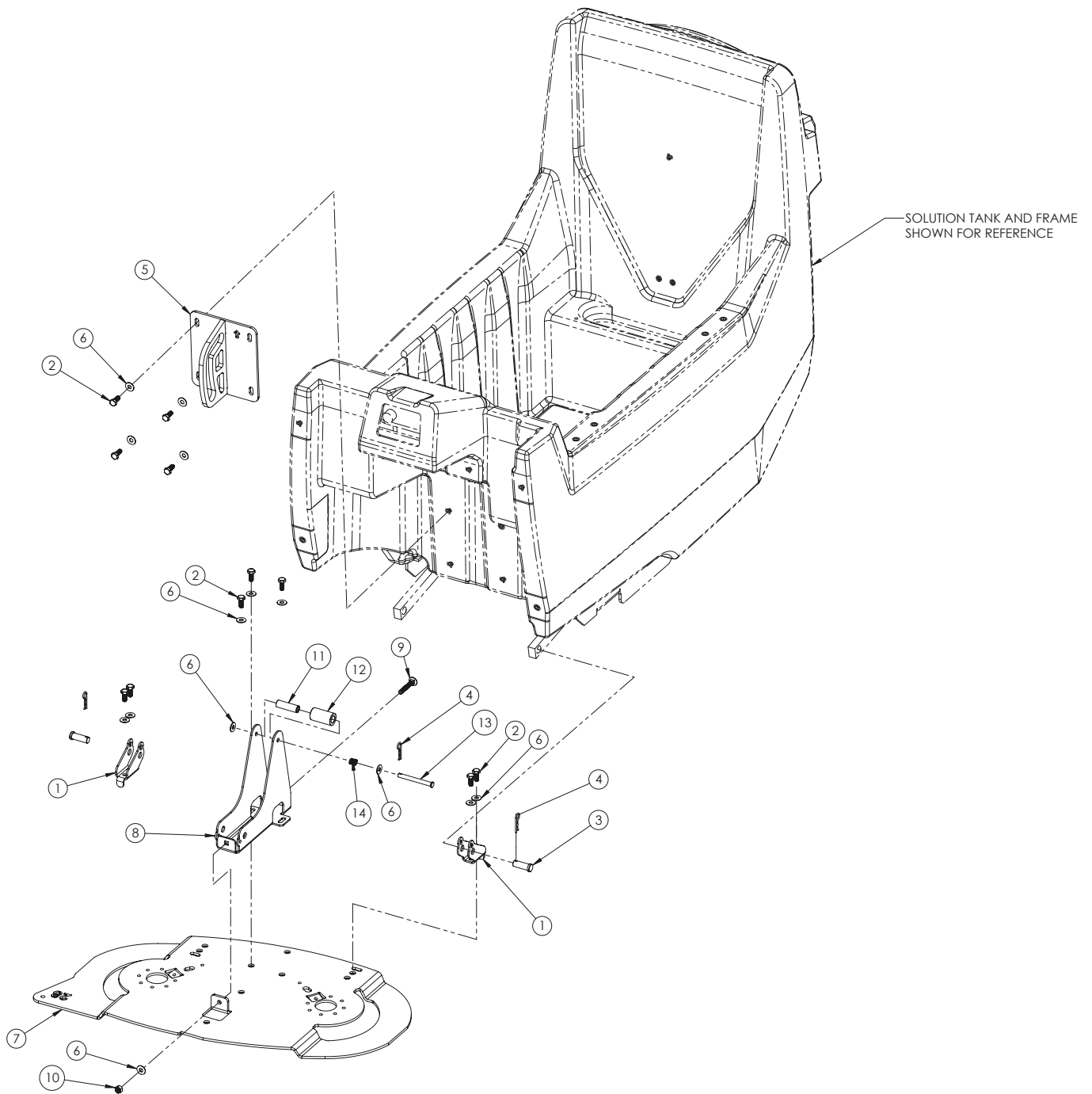
26" DISC HEAD DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28541	MOTOR, 24VDC, 300 RPM	2
2	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	14
3	E29385	WASHER, LOCK, 6.5mm x 11.8mm, SPLIT, ZP	14
4	E20087	BOLT, HEX HD, M6-1 x 16mm LG, SS	14
5	E28588	COUPLER, DISK ALIGNMENT	2
6	E28589	PLATE, DISC ENGAGEMENT	2
7	E29389	KEY, MACHINE, 5mm x 5mm, ROUNDED	2
8	E29388	WASHER, FLAT, 0.344 ID x 1.000 OD, 0.062 THK	2
9	E29426	BOLT, HEX HD, M8-1.25 x 20mm LG	2
10	E29391	SCREW, FLAT HD HEX, 1/4-20 x 0.375 LG	12
11	E29519	RETAINER, LUG SPRING	2
12	E29518	SPRING CLIP, WIRE, DISC LOCK	2
13	E29515	SHIM, SPRING FOR LUG	2

Item#	Part #	Description	Qty.
14	E29390	BOLT, HEX HD, #10-24 x 0.375 LG	4
15	E29571	SHROUD, DISC HEAD, 26in, w/ CUTOUTS	1
16	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	5
17	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	2
18	E29341	SKIRT ASSEMBLY, 26in DISC HEAD	1
19	E28598	WHEEL, COLSON ROLLER, 2in	1
20	E29513	BOLT, HEX HD, 5/16-18 x 1.750 LG	1
21	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	1
22	E28621	WIRE TIE PUSH MOUNT	4
23	E83523	CABLE TIE, 4.125 LG x 0.125 W	4
24	E28747	FITTING, WYE, 3/8 BARB, PLASTIC	1
25	E29537	PAD DRIVER ASSEMBLY, 13in	2
26	EP50418	TUBE, 3/8 ID, CLEAR PVC, 14.00LG	2

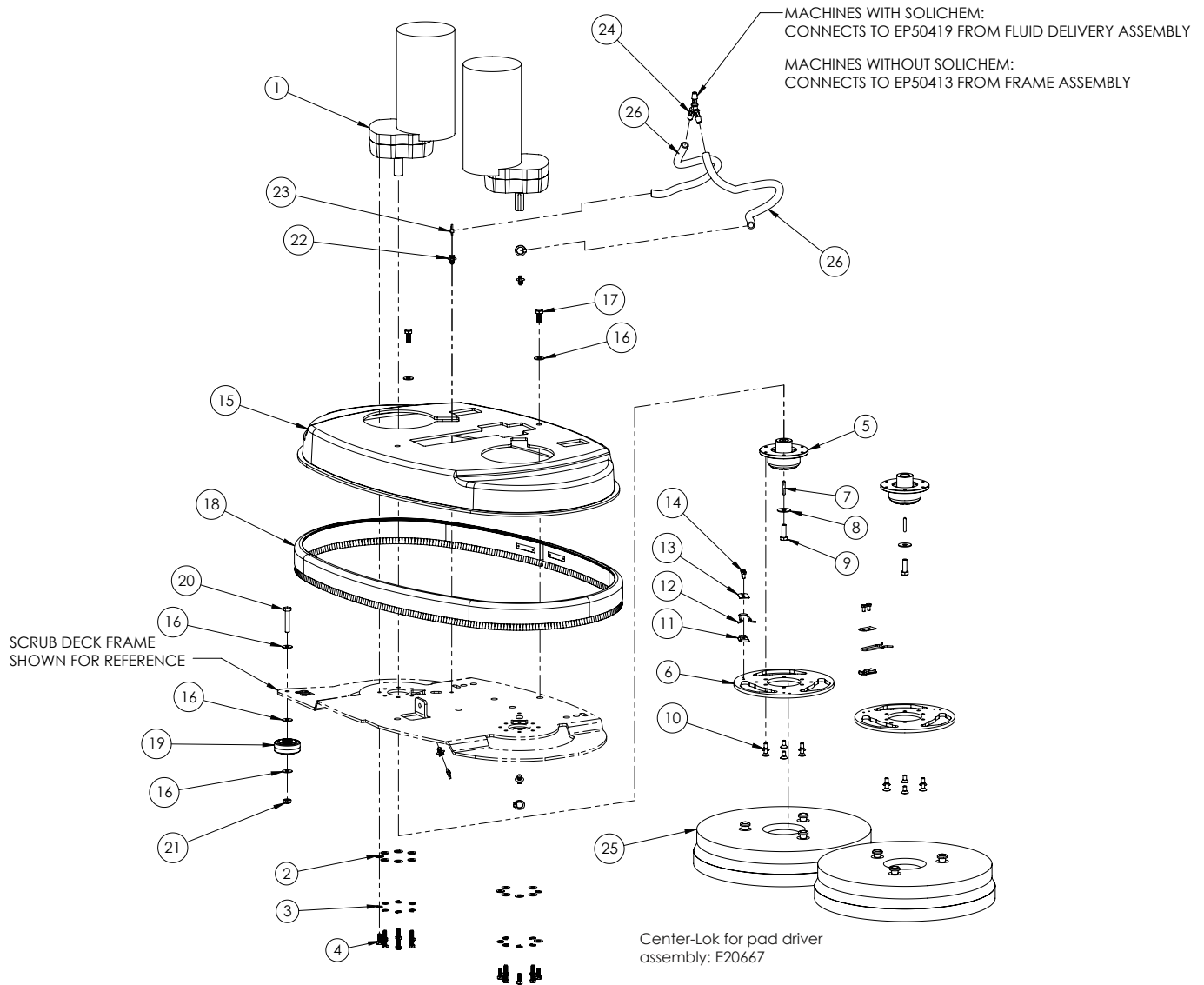
28" DISC LIFT BRACKETS DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29514	BRACKET, LIFT ARM PIVOT	2
2	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	11
3	E28697	PIN, CLEVIS, 0.500 OD X 1.125 LG	2
4	E28671	PIN, COTTER, HAIRPIN	3
5	E28679	DISK ROLLER TRACK WELDMENT	1
6	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	14
7	E28916	FRAME, DISC HEAD, 28IN, WELDMENT	1

Item#	Part #	Description	Qty.
8	E28654	BRACKET, DISK HEAD ROLLER	1
9	E11043	BOLT, CARRIAGE, 5/16-18 x 2.000 LG	1
10	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	1
11	E28664	BUSHING, 0.323 ID X 0.563 OD, 1.860 LG, STEEL, ZP	1
12	E28663	ROLLER, 0.575 ID X 1.000 OD, 1.830 LG, DELRIN	1
13	E28783	CLEVIS PIN, 0.313 OD x 3.000 LG, 2.750 USEABLE LG, ZP	1
14	E29328	SPRING, COMPRESSION, 0.376 ID x 0.500 OD, 0.750 LG	1

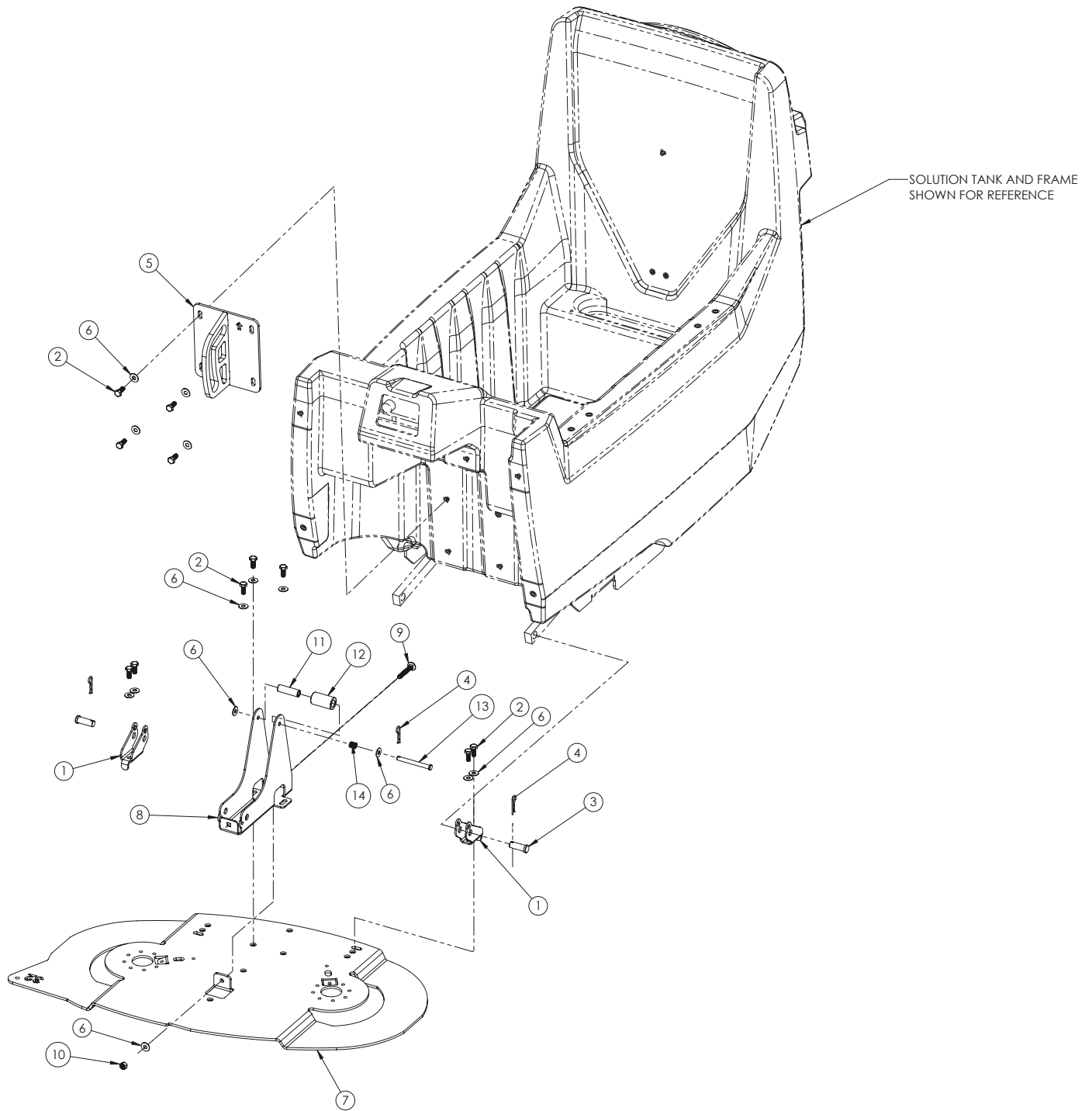
28" DISC HEAD DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28541	MOTOR, 24VDC, 300 RPM	2
2	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	14
3	E29385	WASHER, LOCK, 6.5mm x 11.8mm, SPLIT, ZP	14
4	E20087	BOLT, HEX HD, M6-1 x 16mm LG, SS	14
5	E28588	COUPLER, DISK ALIGNMENT	2
6	E28589	PLATE, DISC ENGAGEMENT	2
7	E29389	KEY, MACHINE, 5mm x 5mm, ROUNDED	2
8	E29388	WASHER, FLAT, 0.344 ID x 1.000 OD, 0.062 THK	2
9	E29426	BOLT, HEX HD, M8-1.25 x 20mm LG	2
10	E29391	SCREW, FLAT HD HEX, 1/4-20 x 0.375 LG	12
11	E29519	RETAINER, LUG SPRING	2
12	E29518	SPRING CLIP, WIRE, DISC LOCK	2
13	E29515	SHIM, SPRING FOR LUG	2

Item#	Part #	Description	Qty.
14	E29390	BOLT, HEX HD, #10-24 x 0.375 LG	4
15	E29570	SHROUD, DISC HEAD, 28IN w/ CUTOUTS	1
16	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	5
17	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	2
18	E29342	SKIRT ASSEMBLY, 28in DISK HEAD	1
19	E28598	WHEEL, COLSON ROLLER, 2in	1
20	E29513	BOLT, HEX HD, 5/16-18 x 1.750 LG	1
21	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	1
22	E28621	WIRE TIE PUSH MOUNT	4
23	E83523	CABLE TIE, 4.125 LG x 0.125 W	4
24	E28747	FITTING, WYE, 3/8 BARB, PLASTIC	1
25	E29535	PAD DRIVER, 14" MALISH	2
26	EP50418	TUBE, 3/8 ID, CLEAR PVC, 14.00LG	2

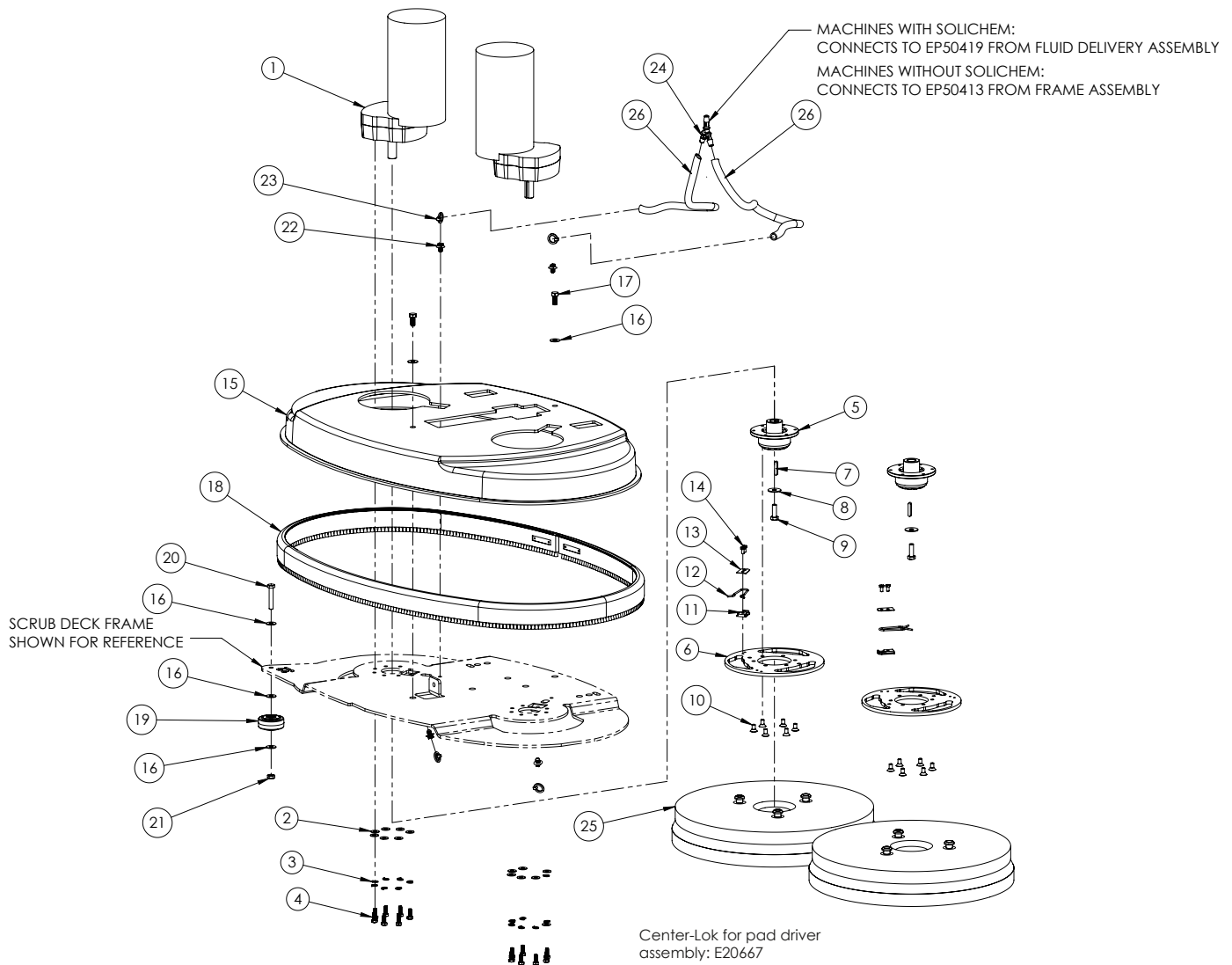
32" DISC LIFT BRACKETS DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29514	BRACKET, LIFT ARM PIVOT	2
2	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	11
3	E28697	PIN, CLEVIS, 0.500 OD X 1.125 LG	2
4	E28671	PIN, COTTER, HAIRPIN	3
5	E28679	DISK ROLLER TRACK WELDMENT	1
6	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	14
7	E28934	DISK HEAD FRAME WELDMENT 32IN	1

Item#	Part #	Description	Qty.
8	E28654	BRACKET, DISK HEAD ROLLER	1
9	E11043	BOLT, CARRIAGE, 5/16-18 x 2.000 LG	1
10	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	1
11	E28664	BUSHING, 0.323 ID X 0.563 OD, 1.860 LG, STEEL, ZP	1
12	E28663	ROLLER, 0.575 ID X 1.000 OD, 1.830 LG, DELRIN	1
13	E28783	CLEVIS PIN, 0.313 OD x 3.000 LG, 2.750 USEABLE LG, ZP	1
14	E29328	SPRING, COMPRESSION, 0.376 ID x 0.500 OD, 0.750 LG	1

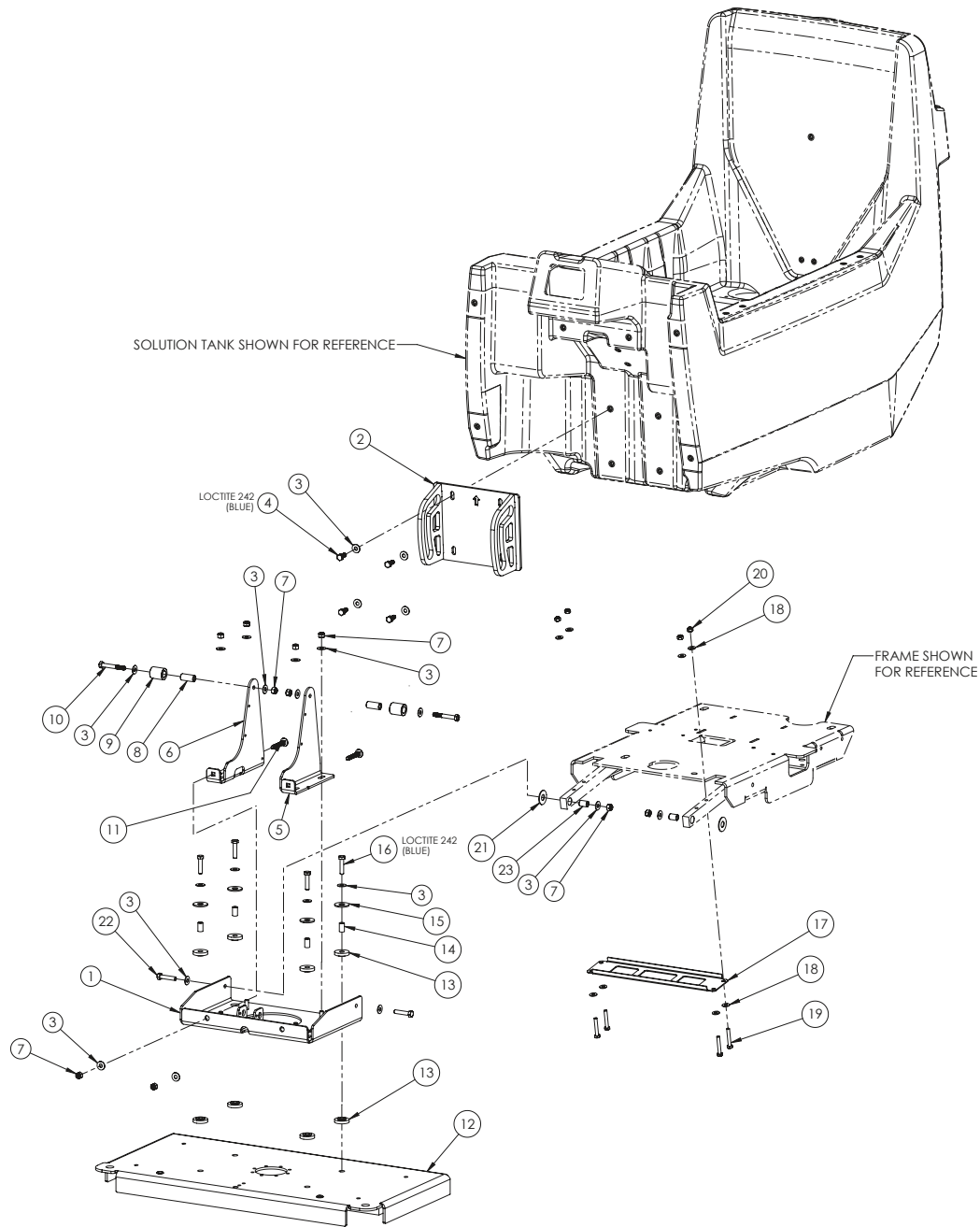
32" DISC HEAD DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28541	MOTOR, 24VDC, 300 RPM	2
2	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	14
3	E29385	WASHER, LOCK, 6.5mm x 11.8mm, SPLIT, ZP	14
4	E20087	BOLT, HEX HD, M6-1 x 16mm LG, SS	14
5	E28588	COUPLER, DISK ALIGNMENT	2
6	E28589	PLATE, DISC ENGAGEMENT	2
7	E29389	KEY, MACHINE, 5mm x 5mm, ROUNDED	2
8	E29388	WASHER, FLAT, 0.344 ID x 1.000 OD, 0.062 THK	2
9	E29426	BOLT, HEX HD, M8-1.25 x 20mm LG	2
10	E29391	SCREW, FLAT HD HEX, 1/4-20 x 0.375 LG	12
11	E29519	RETAINER, LUG SPRING	2
12	E29518	SPRING CLIP, WIRE, DISC LOCK	2
13	E29515	SHIM, SPRING FOR LUG	2

Item#	Part #	Description	Qty.
14	E29390	BOLT, HEX HD, #10-24 x 0.375 LG	4
15	E29572	SHROUD, DISC HEAD, 32IN W/ CUTOUTS	1
16	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	5
17	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	2
18	E29343	SKIRT, DISC HEAD, 32in	1
19	E28598	WHEEL, COLSON ROLLER, 2in	1
20	E29513	BOLT, HEX HD, 5/16-18 x 1.750 LG	1
21	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	1
22	E28621	WIRE TIE PUSH MOUNT	4
23	E83523	CABLE TIE, 4.125 LG x 0.125 W	4
24	E28747	FITTING, WYE, 3/8 BARB, PLASTIC	1
25	E29539	PAD DRIVER, 16in, 3-LUG, MALISH	2
26	EP50418	TUBE, 3/8 ID, CLEAR PVC, 14.00LG	2

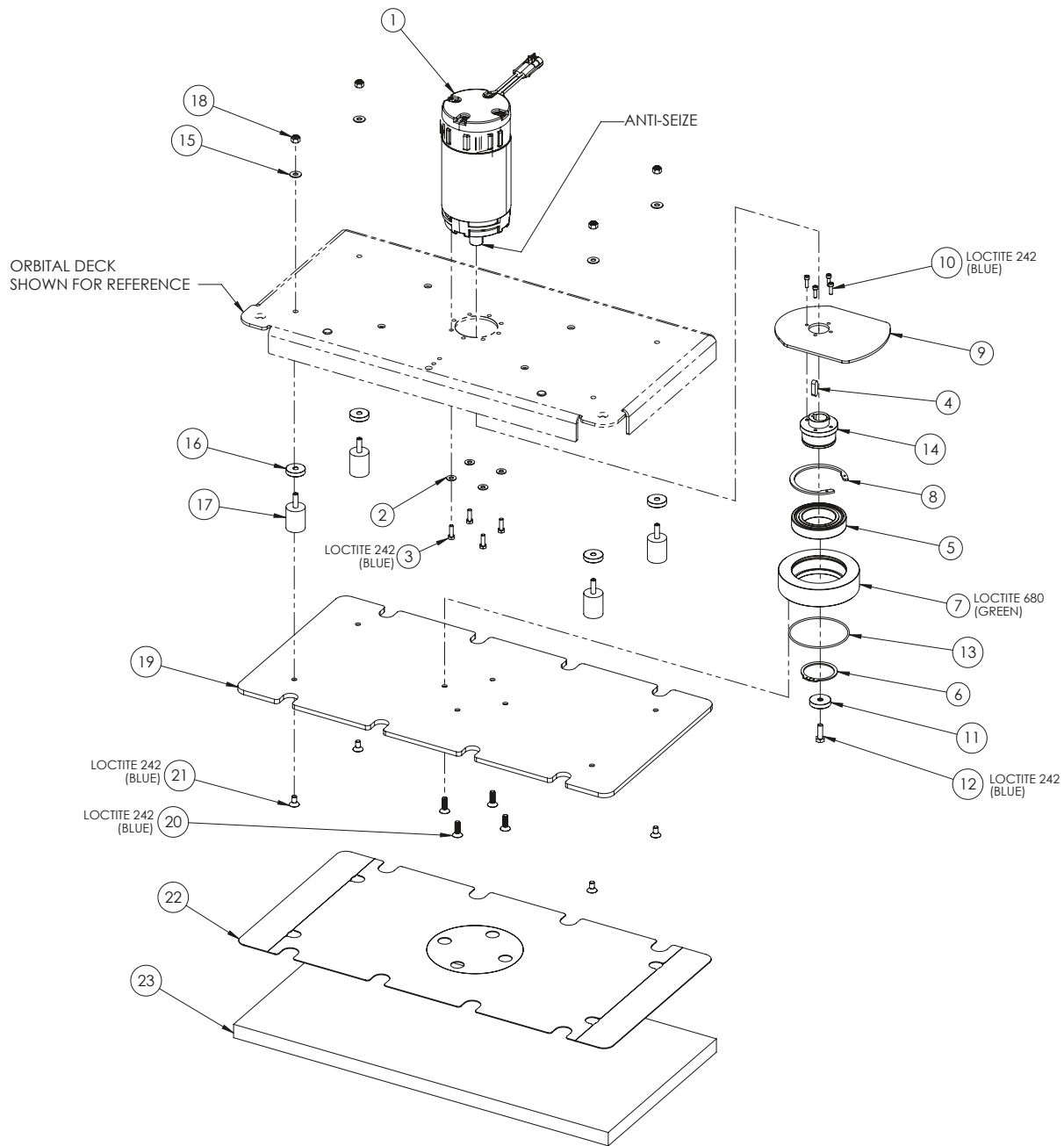
28" ORBITAL LIFT BRACKETS DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28650	BRACKET, ORBITAL HEAD LIFT WELDMENT	1
2	E28680	BRACKET, ORB ROLLER TRACK, WELDMENT	1
3	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	22
4	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	4
5	E28630	BRACKET, ORBITAL HEAD ROLLER, L.H.	1
6	E28653	BRACKET, ORBITAL HEAD ROLLER, R.H.	1
7	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	10
8	E28835	BUSHING, 0.323 ID X 0.563 OD, 1.250 LG, STEEL, ZP	2
9	E28836	ROLLER, 1.000 O.D. 1.188 LG, DELRIN	2
10	E84556	BOLT, HEX HD, 5/16-18 x 2.250 LG	2
11	E11043	BOLT, CARRIAGE, 5/16-18 x 2.000 LG	2
12	E28518	BRACKET, ORBITAL HEAD MOTOR, WELDMENT	1

Item#	Part #	Description	Qty.
13	E28531	ISOLATOR BUSHING, 0.313 ID x 1.250 OD, PVC BLUE	8
14	E28656	BUSHING, 0.313 ID x 0.439 OD, 0.750 HT, BRONZE	4
15	E28764	WASHER, FLAT, 0.500 ID x 1.250 OD, 0.104 THK	4
16	E29553	BOLT, HEX HD, 5/16-18 x 1.375 LG, SS	4
17	E28678	BRACE, LIFT ARM	1
18	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	8
19	E28702	BOLT, HEX HD, 1/4-20 x 1.625 LG	4
20	E28853	NUT, HEX, 1/4-20, FLEX-TOP LOCK, CDPL	4
21	E83145	WASHER, FLAT, 0.520 ID x 1.252 OD, 0.061 THK, NYLON	2
22	E28694	BOLT, HEX HD, 5/16-18 x 1.500 LG, PT	2
23	E28693	BUSHING, SLEEVE, 0.323 ID x 0.497 OD, 0.720 LG	2

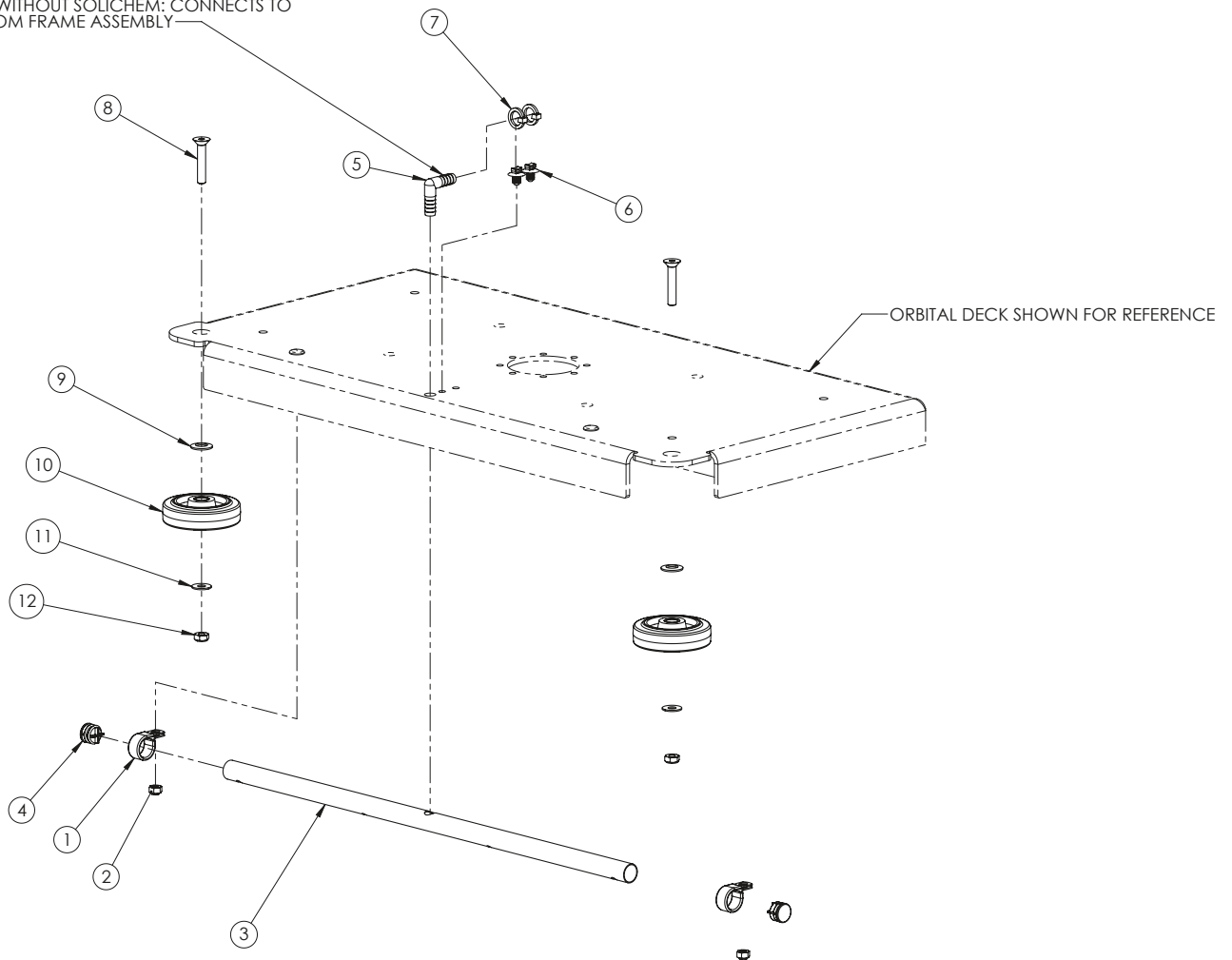
28" ORBITAL MOTOR AND HUB DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.	Item#	Part #	Description	Qty.
1	E28521	MOTOR, 24VDC, 2200 RPM, 0.75 HP	1	13	E28527	O-RING, 3.737 ID x 0.103 DIA, BUNA-N	1
2	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	4	14	E28522	BEARING HUB, ECCENTRIC	1
3	E83914	BOLT, HEX HD, M6-1 x 15mm LG	4	15	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	4
4	E28635	MACHINE KEY, 8mm x 7mm x 28mm, ROUNDED	1	16	E28633	SPACER, 0.328 ID x 1.250 OD, ZINC	4
5	E28524	BALL BEARING, SKF DEEP GROOVE, 6011 2RS1/C3GJN	1	17	E28530	ISOLATOR MOUNT, 1.563 TALL x 1.250 DIA, RUBBER	4
6	E28529	RETAINING RING, EXT. 55mm SHAFT x 3.15mm GROOVE	1	18	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	4
7	E28525	HUB, ORBITAL BEARING	1	19	E28526	PLATE, ORBITAL PAD DRIVER	1
8	E28632	RETAINING RING, INT., 90mm BORE x 3.15mm GROOVE	1	20	E28763	SCREW, FLAT HD HEX, 5/16-18 x 1.000 LG, BO	4
9	E28523	BRACKET, ORBITAL COUNTERWEIGHT	1	21	E28639	SCREW, FLAT HD HEX, 5/16-18 x 0.625 LG	4
10	E29431	SCREW, SOC HD HEX, #10-24 x 0.625 LG	4	22	E28513	POLYMERIC FACE, PAD DRIVER, 18x24in	1
11	E28631	HUB WASHER	1	23	E89832	PAD, ORBITAL BACKER, 28 x 14 in, RED	1
12	E29426	BOLT, HEX HD, M8-1.25 x 20mm LG	1				

28" ORBITAL FLUID FEED DIAGRAM AND PARTS LISTING

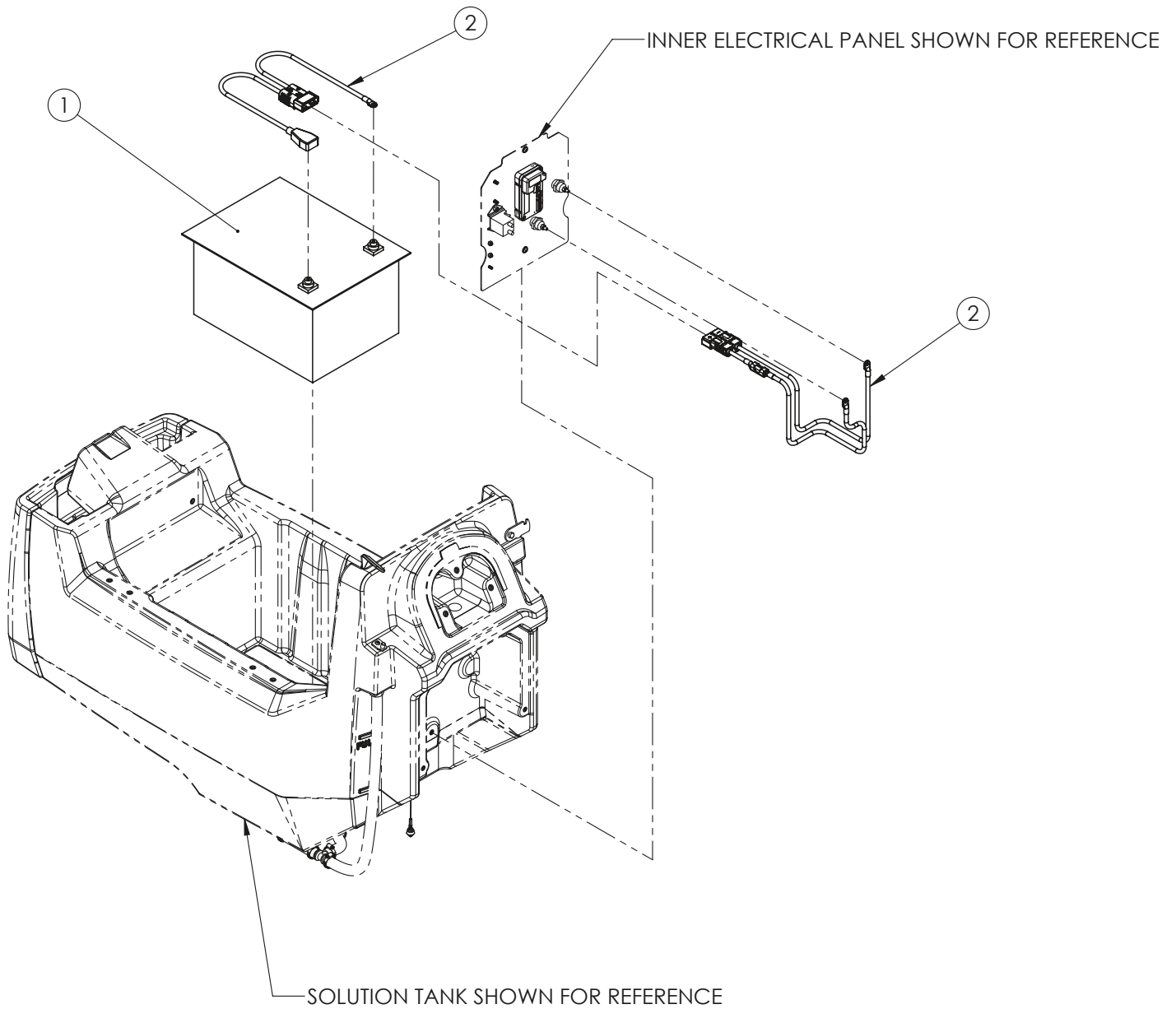
MACHINES WITH SOLICHEM: CONNECTS TO EP50428 FROM ORBITAL FLUID DELIVERY ASSEMBLY
MACHINES WITHOUT SOLICHEM: CONNECTS TO EP50413 FROM FRAME ASSEMBLY



Item#	Part #	Description	Qty.
1	E28534	LOOP CLAMP, 0.75 DIA	2
2	E28853	NUT, HEX, 1/4-20, FLEX-TOP LOCK, CDPL	2
3	E28533	MANIFOLD, WATER FEED	1
4	E28535	HOLE PLUG, 0.59-0.70 DIA	2
5	E28536	FITTING, ELBOW 90, 3/8 BARB x 3/8 BARB, PLASTIC	1
6	E28621	WIRE TIE PUSH MOUNT	2

Item#	Part #	Description	Qty.
7	E83523	CABLE TIE, 4.125 LG x 0.125 W	2
8	E28634	SCREW, FLAT HD HEX, 5/16-18 x 1.750 LG	2
9	E28640	WASHER, LOCK, 0.451 ID x 0.848 OD, SPRING, PLASTIC	2
10	E28509	WHEEL, COLSON ROLLER, 3in	2
11	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
12	E28623	NUT, HEX, 5/16-18, THIN, NYLOC, SS	2

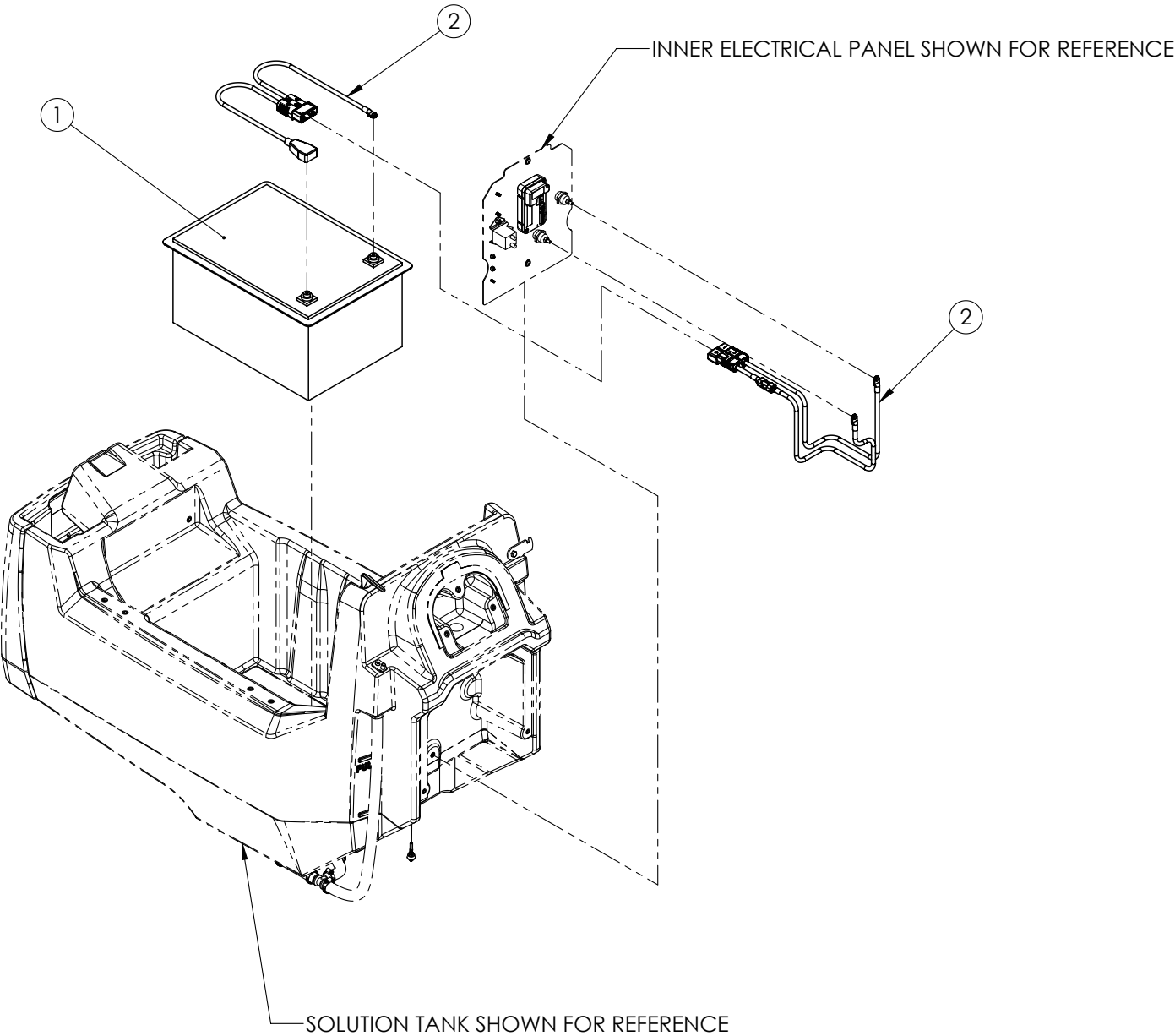
150AH LI-ION BATTERY DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28494	BATTERY, ROYPOW S24150A, 24V 150AH	1

Item#	Part #	Description	Qty.
2	E28497	CABLE ASSEMBLY, Li BATTERY	1

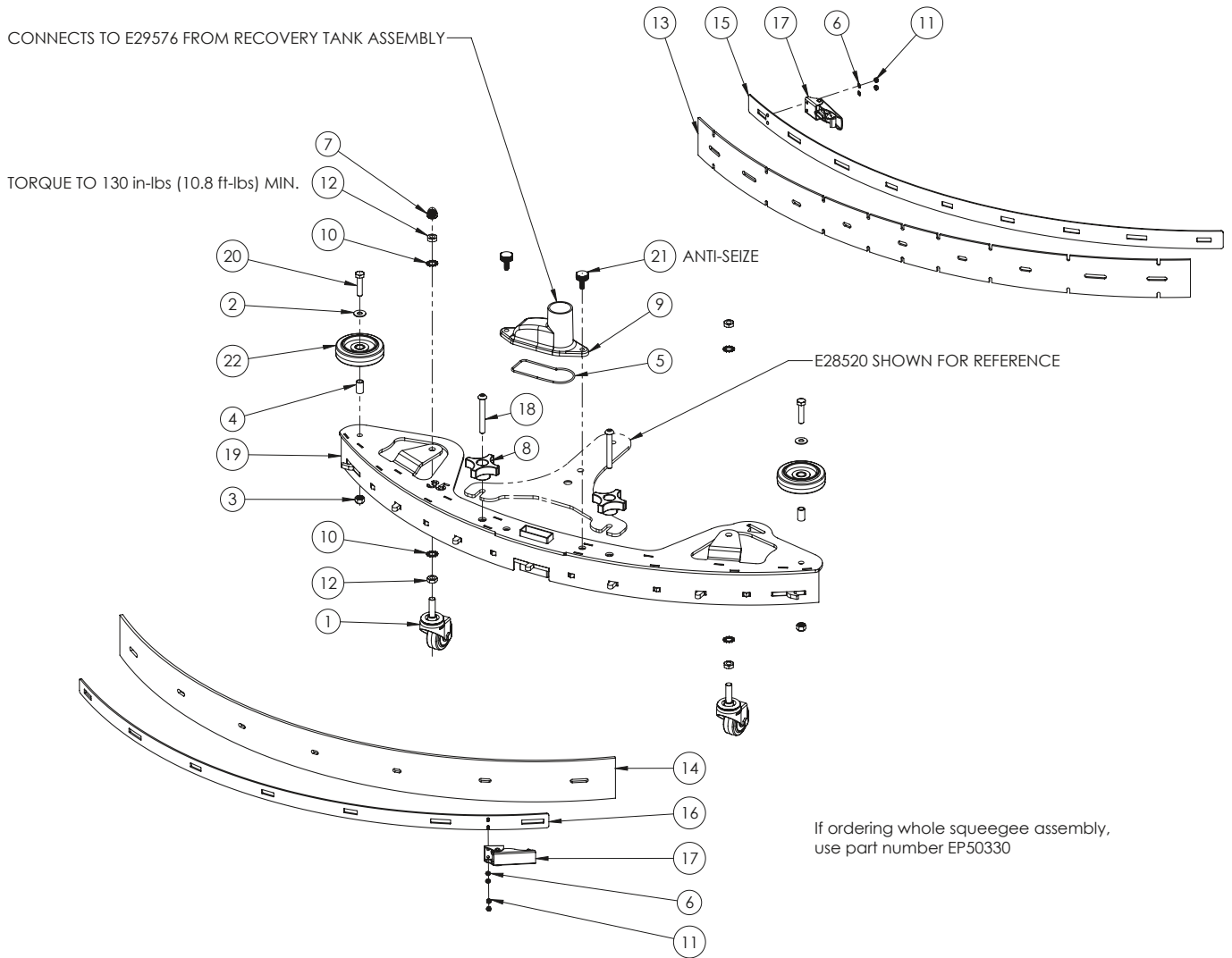
200AH LI-ION BATTERY DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28495	BATTERY, ROYPOW W24200A, 24V 200AH	1

Item#	Part #	Description	Qty.
2	E28497	CABLE ASSEMBLY, Li BATTERY	1

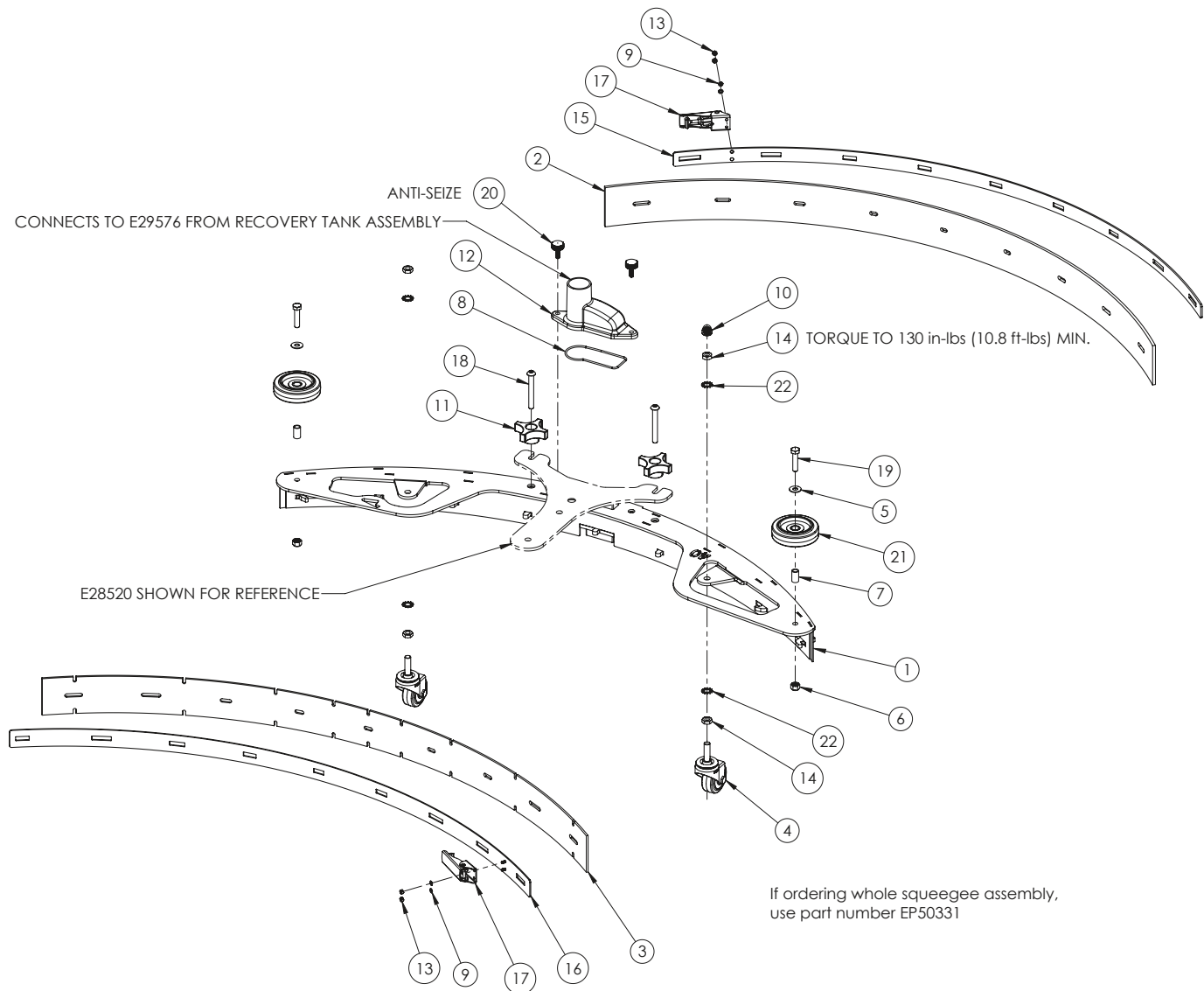
35" SQUEEGEE DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28568	CASTER, SWIVEL, STUD MOUNT, 2in	2
2	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
3	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	2
4	E28656	BUSHING, 0.313 ID x 0.439 OD, 0.750 HT, BRONZE	2
5	E28754	O-RING, SIZE - 151, VITON	1
6	E28806	WASHER, LOCK, 0.141 ID x 0.295 OD, INT TOOTH, SS	4
7	E28851	NUT, ACORN HEX, 3/8-16, NYLON (BLACK)	1
8	E28903	KNOB, 4-ARM, 5/16-18 HOLE, PLASTIC	2
9	E28908	DRIP TRAP, SQUEEGEE	1
10	E29050	WASHER, LOCK, 0.384 ID x 0.694 OD, EXT TOOTH, ZP	4
11	E29397	NUT, HEX, #6-32, SS	4

Item#	Part #	Description	Qty.
12	E29398	NUT, HEX, 5/16-16, THIN, ZP	4
13	E29449	BLADE, FRONT SQUEEGEE, 35IN	1
14	E29450	BLADE, REAR SQUEEGEE, 35IN	1
15	E29451	CLAMP, FRONT SQUEEGEE, 35IN	1
16	E29452	REAR SQUEEGEE CLAMP ASSEMBLY 35IN	1
17	E29521	CLAMP, OVER CENTER	2
18	E29547	SCREW, BUTTON HD HEX, 5/16-18 x 2.500 LG	2
19	E29552	FRAME, SQUEEGEE WELDMENT, 35IN	1
20	E29553	BOLT, HEX HD, 5/16-18 x 1.375 LG, SS	2
21	E29554	SCREW, THUMB, 1/4-20 x 0.750 LG, SS	2
22	EP50279	WHEEL, COLSON ROLLER, 3in	2

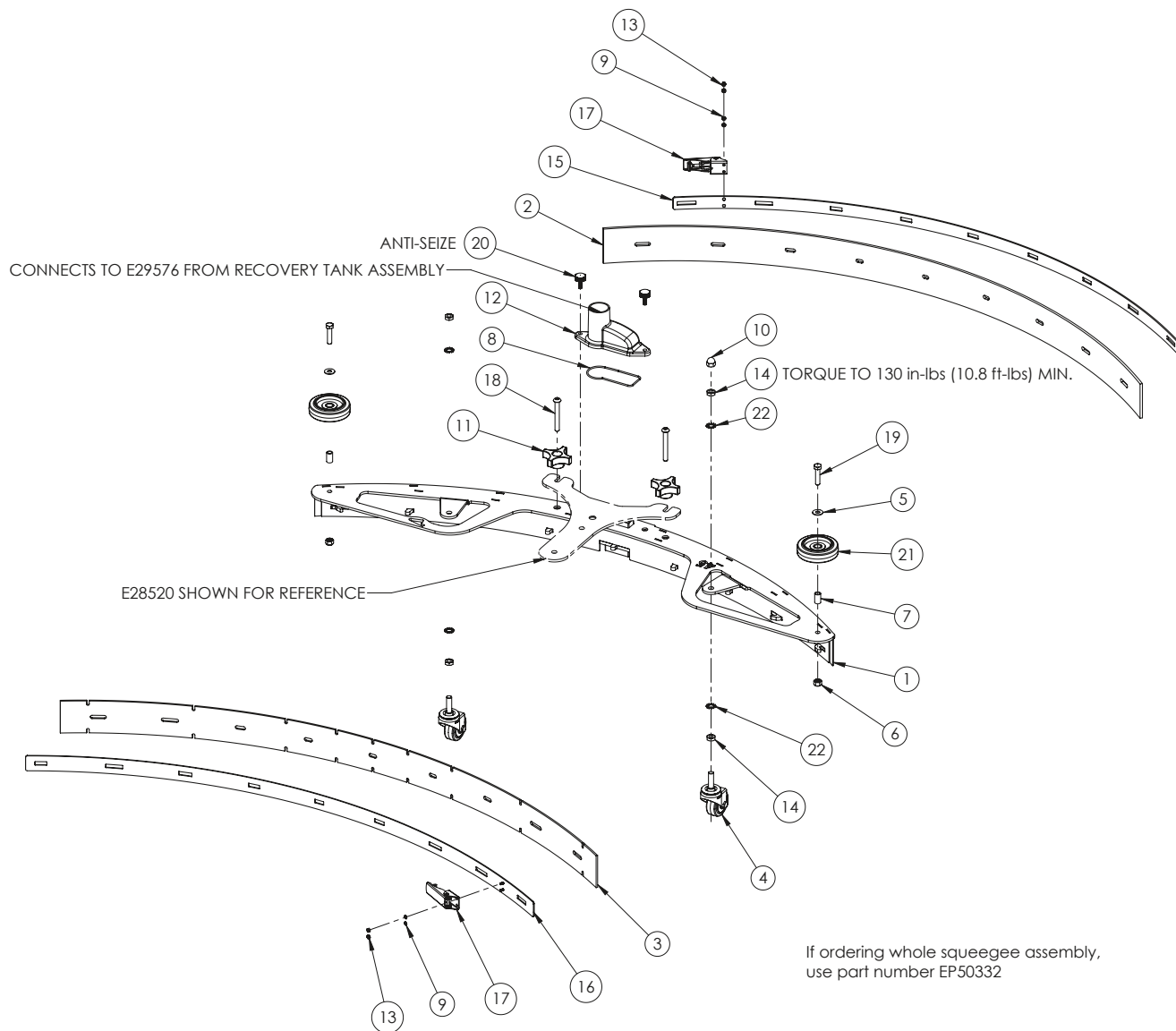
40" SQUEEGEE DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28501	FRAME, SQUEEGEE WELDMENT, 40IN	1
2	E28502	SQUEEGEE BLADE, REAR, 40IN	1
3	E28504	SQUEEGEE BLADE, FRONT, 40IN	1
4	E28568	CASTER, SWIVEL, STUD MOUNT, 2in	2
5	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
6	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	2
7	E28656	BUSHING, 0.313 ID x 0.439 OD, 0.750 HT, BRONZE	2
8	E28754	O-RING, SIZE - 151, VITON	1
9	E28806	WASHER, LOCK, 0.141 ID x 0.295 OD, INT TOOTH, SS	4
10	E28851	NUT, ACORN HEX, 3/8-16, NYLON (BLACK)	1
11	E28903	KNOB, 4-ARM, 5/16-18 HOLE, PLASTIC	2

Item#	Part #	Description	Qty.
12	E28908	DRIP TRAP, SQUEEGEE	1
13	E29397	NUT, HEX, #6-32, SS	4
14	E29398	NUT, HEX, 5/16-16, THIN, ZP	4
15	E29517	CLAMP, REAR SQUEEGEE ASSEMBLY, 40IN	1
16	E29520	FRONT SQUEEGEE CLAMP ASSEMBLY	1
17	E29521	CLAMP, OVER CENTER	2
18	E29547	SCREW, BUTTON HD HEX, 5/16-18 x 2.500 LG	2
19	E29553	BOLT, HEX HD, 5/16-18 x 1.375 LG, SS	2
20	E29554	SCREW, THUMB, 1/4-20 x 0.750 LG, SS	2
21	EP50279	WHEEL, COLSON ROLLER, 3in	2
22	E29050	WASHER, LOCK, 0.384 ID x 0.694 OD, EXT TOOTH, ZP	4

45" SQUEEGEE DIAGRAM AND PARTS LISTING

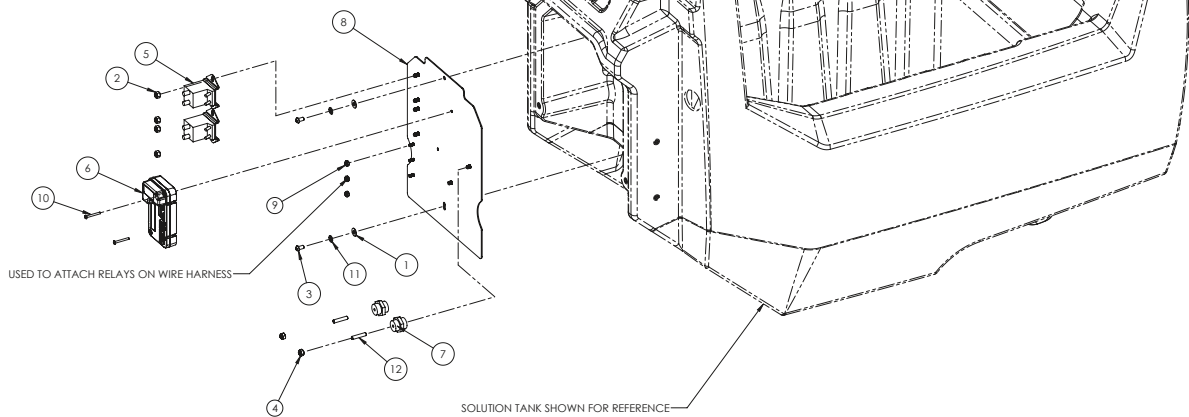


Item#	Part #	Description	Qty.
1	E29551	FRAME, SQUEEGEE WELDMENT 45IN	1
2	E29455	BLADE, REAR SQUEEGEE, 45IN	1
3	E29454	BLADE, FRONT SQUEEGEE, 45IN	1
4	E28568	CASTER, SWIVEL, STUD MOUNT, 2in	2
5	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
6	E81063	NUT, HEX, 5/16-18, NYLOC, ZP	2
7	E28656	BUSHING, 0.313 ID x 0.439 OD, 0.750 HT, BRONZE	2
8	E28754	O-RING, SIZE - 151, VITON	1
9	E28806	WASHER, LOCK, 0.141 ID x 0.295 OD, INT TOOTH, SS	4
10	E28851	NUT, ACORN HEX, 3/8-16, NYLON (BLACK)	1
11	E28903	KNOB, 4-ARM, 5/16-18 HOLE, PLASTIC	2

Item#	Part #	Description	Qty.
12	E28908	DRIP TRAP, SQUEEGEE	1
13	E29397	NUT, HEX, #6-32, SS	4
14	E29398	NUT, HEX, 5/16-16, THIN, ZP	4
15	E29457	CLAMP, REAR SQUEEGEE ASSEMBLY, 45IN	1
16	E29456	CLAMP, FRONT SQUEEGEE ASSEMBLY, 45IN	1
17	E29521	CLAMP, OVER CENTER	2
18	E29547	SCREW, BUTTON HD HEX, 5/16-18 x 2.500 LG	2
19	E29553	BOLT, HEX HD, 5/16-18 x 1.375 LG, SS	2
20	E29554	SCREW, THUMB, 1/4-20 x 0.750 LG, SS	2
21	EP50279	WHEEL, COLSON ROLLER, 3in	2
22	E29050	WASHER, LOCK, 0.384 ID x 0.694 OD, EXT TOOTH, ZP	4

DISC MACHINE INNER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

Only applies to machines with disc heads

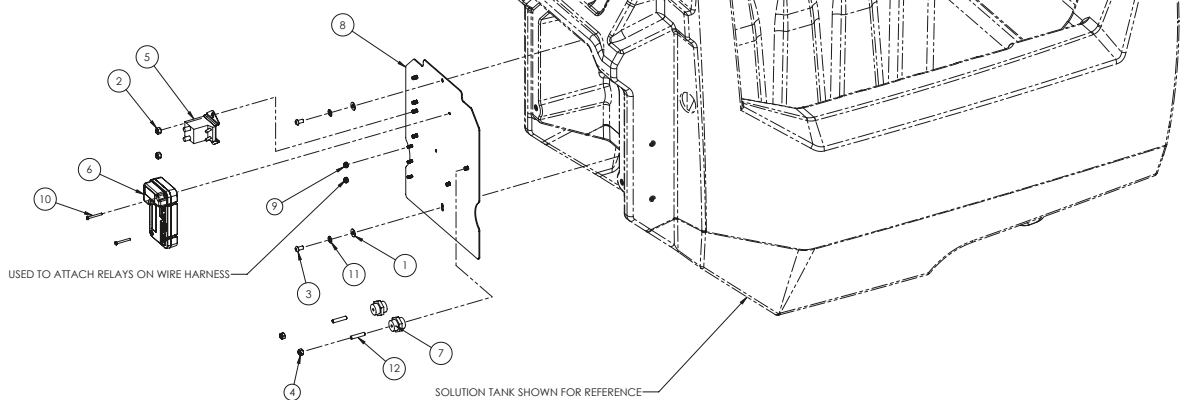


Item#	Part #	Description	Qty.
1	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	2
2	E28618	NUT, HEX, 1/4-20, NYLOC, SS	4
3	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
4	E28853	NUT, HEX, 1/4-20, FLEX-TOP LOCK, CDPL	2
5	E28924	CONTACTOR, 100A 24V	2
6	E28949	CONTROLLER, I-DRIVE	1

Item#	Part #	Description	Qty.
7	E28950	STANDOFF, ELECTRICAL, 1/4-20 FEMALE THREADS	2
8	E28963	PANEL, INNER ELECTRICAL, MSAS	1
9	E29366	NUT, HEX, #10-32, THIN, NYLOC, ZP	3
10	E29382	SCREW, PAN HD PHIL, #6-32 x 1.250 LG	2
11	E29446	WASHER, LOCK, 0.256 ID x 0.540 OD, INT TOOTH	2
12	E29447	SCREW, SET, CUP POINT, 1/4-20 x 1.250 LG	2

ORBITAL MACHINE INNER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

Only applies to machines with orbital heads

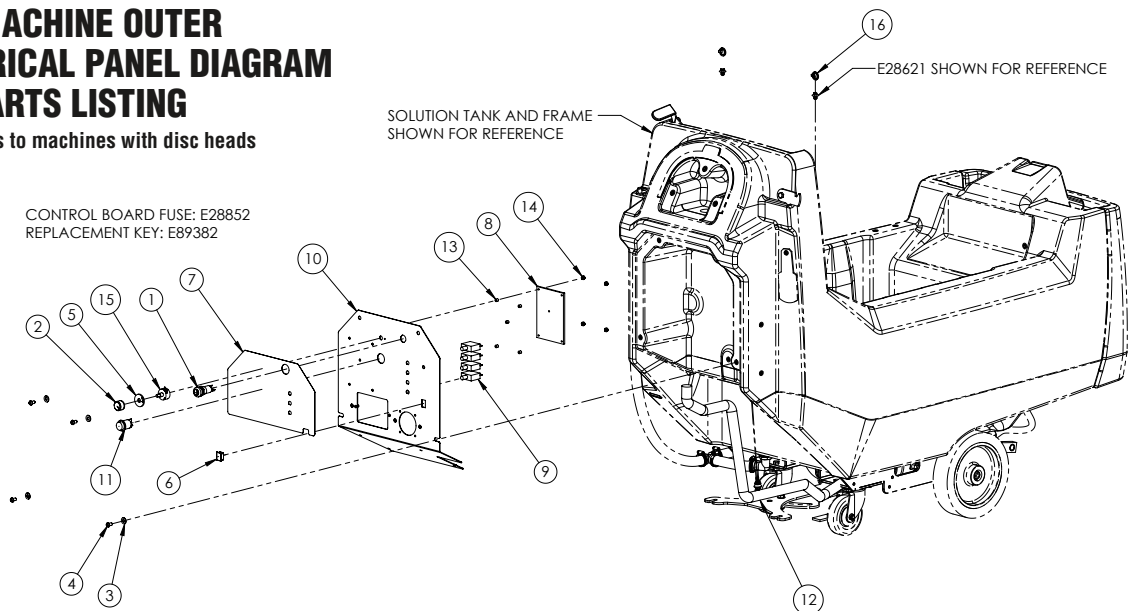


Item#	Part #	Description	Qty.
1	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	2
2	E28618	NUT, HEX, 1/4-20, NYLOC, SS	2
3	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
4	E28853	NUT, HEX, 1/4-20, FLEX-TOP LOCK, CDPL	2
5	E28924	CONTACTOR, 100A 24V	1
6	E28949	CONTROLLER, I-DRIVE	1

Item#	Part #	Description	Qty.
7	E28950	STANDOFF, ELECTRICAL, 1/4-20 FEMALE THREADS	2
8	E28963	PANEL, INNER ELECTRICAL, MSAS	1
9	E29366	NUT, HEX, #10-32, THIN, NYLOC, ZP	2
10	E29382	SCREW, PAN HD PHIL, #6-32 x 1.250 LG	2
11	E29446	WASHER, LOCK, 0.256 ID x 0.540 OD, INT TOOTH	2
12	E29447	SCREW, SET, CUP POINT, 1/4-20 x 1.250 LG	2

DISC MACHINE OUTER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

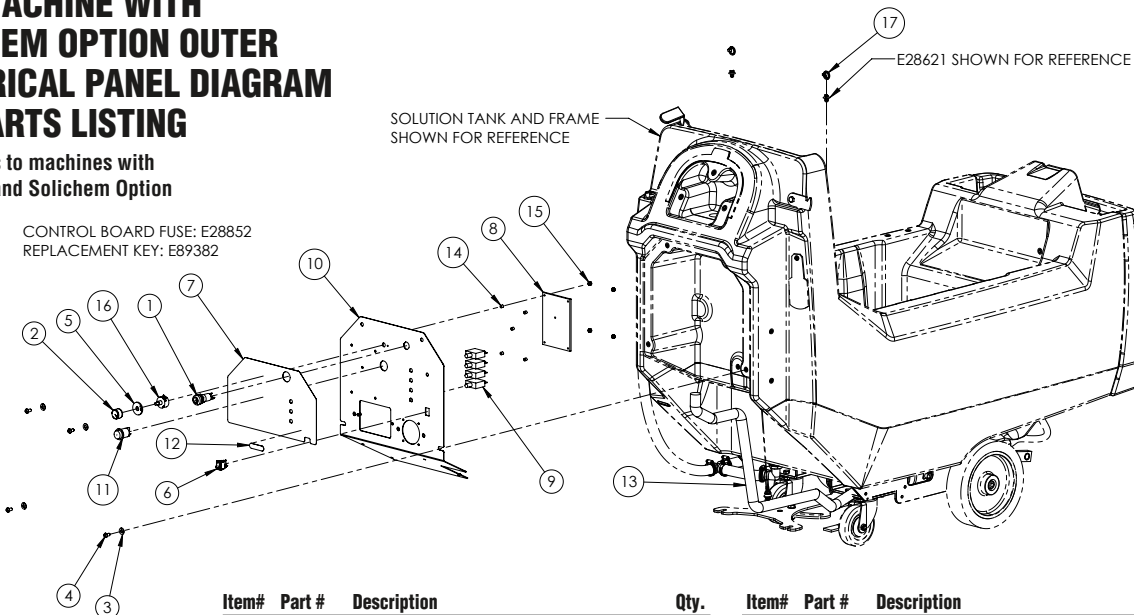
Only applies to machines with disc heads



Item#	Part #	Description	Qty.	Item#	Part #	Description	Qty.
1	E12629	SWITCH, KEYED, SPE. WITH 2 KEYS	1	9	E28954	BREAKER, 30A	4
2	E28606	KNOB, KNURLED, 0.250 SHAFT, 0.925 OD, METAL	1	10	E28964	PANEL, ELECTRICAL, FRONT	1
3	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	4	11	E28967	SWITCH, PUSH BUTTON, SPST NO, MOMENTARY	1
4	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	4	12	E29200	MACHINE HARNESS, GS MSAS, STANDARD DISC	1
5	E28768	POT SPACER AND PIN ASSEMBLY	1	13	E29373	SPACER, 0.140 ID x 0.250 OD, 0.250 LG	5
6	E28771	SWITCH BLANK, D-SUB, BLACK	1	14	E29381	NUT, HEX, #6-32, NYLOC, ZP	4
7	E28793	DECAL, BACK PANEL	1	15	E29706	POTENTIOMETER, 5K ohm	1
8	E28951	CONTROL BOARD - BASE	1	16	E83523	CABLE TIE, 4.125 LG x 0.125 W	2

DISC MACHINE WITH SOLICHEM OPTION OUTER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

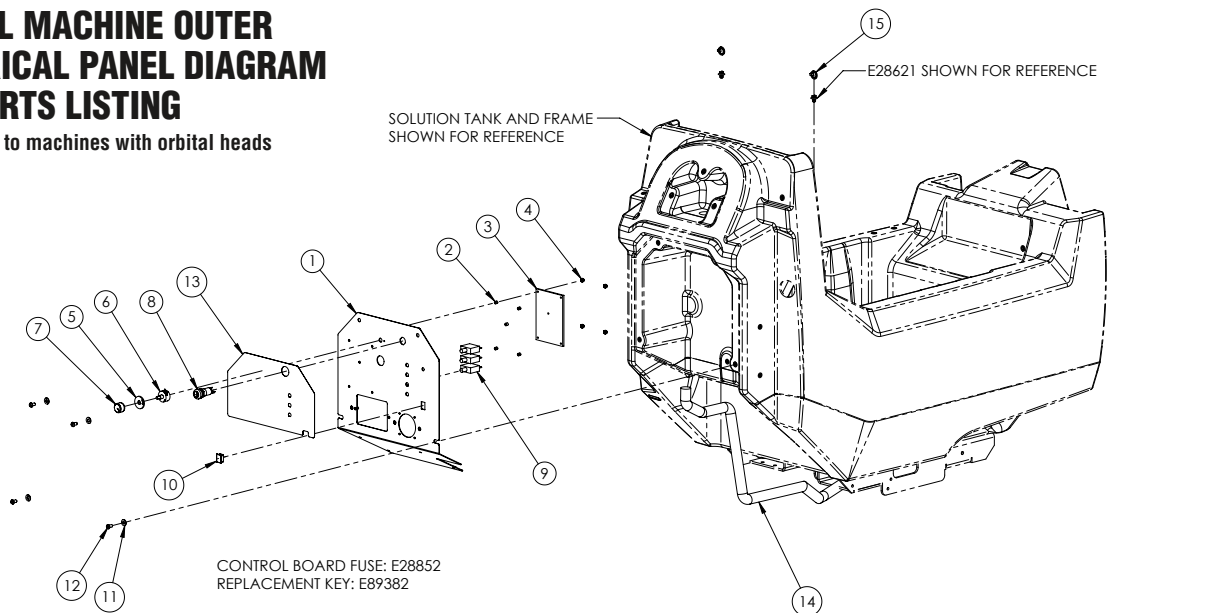
Only applies to machines with disc heads and Solichem Option



Item#	Part #	Description	Qty.	Item#	Part #	Description	Qty.
1	E12629	SWITCH, KEYED, SPE. WITH 2 KEYS	1	10	E28964	PANEL, ELECTRICAL, FRONT	1
2	E28606	KNOB, KNURLED, 0.250 SHAFT, 0.925 OD, METAL	1	11	E28967	SWITCH, PUSH BUTTON, SPST NO, MOMENTARY	1
3	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	4	12	E29006	DECAL, SOLICHEM ON/OFF	1
4	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	4	13	E29200	MACHINE HARNESS, GS MSAS, STANDARD DISC	1
5	E28768	POT SPACER AND PIN ASSEMBLY	1	14	E29373	SPACER, 0.140 ID x 0.250 OD, 0.250 LG	5
6	E28781	SWITCH, ROCKER, BLACK	1	15	E29381	NUT, HEX, #6-32, NYLOC, ZP	4
7	E28793	DECAL, BACK PANEL	1	16	E29706	POTENTIOMETER, 5K ohm	1
8	E28951	CONTROL BOARD - BASE	1	17	E83523	CABLE TIE, 4.125 LG x 0.125 W	2
9	E28954	BREAKER, 30A	4				

ORBITAL MACHINE OUTER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

Only applies to machines with orbital heads



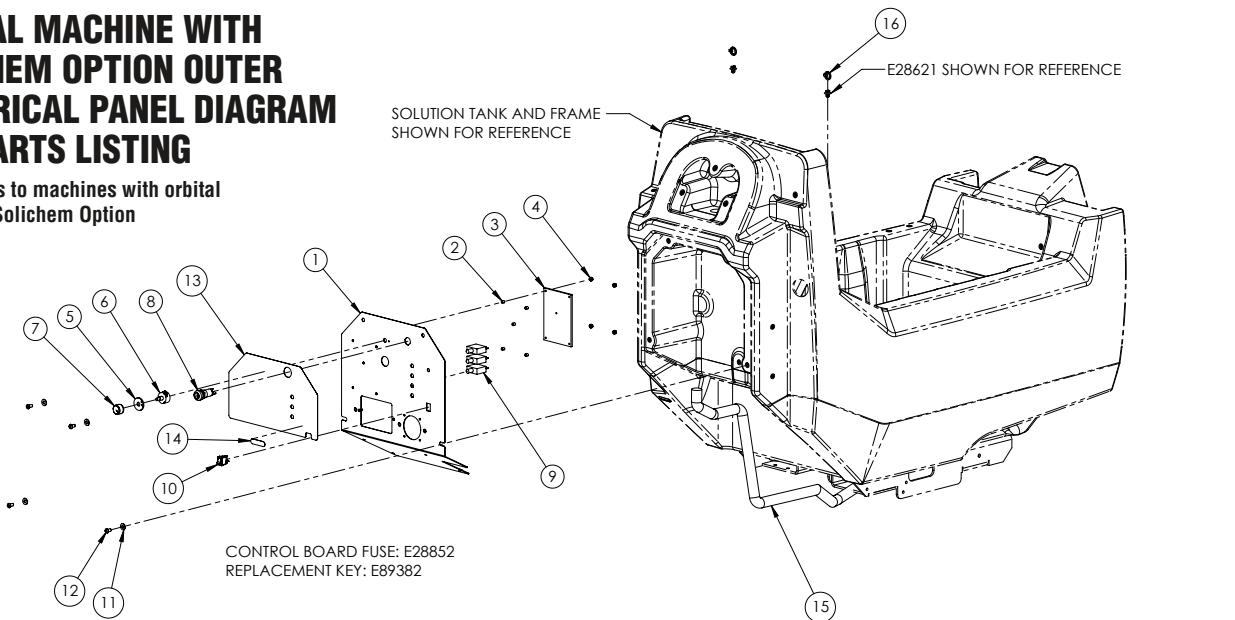
CONTROL BOARD FUSE: E28852
REPLACEMENT KEY: E89382

Item#	Part #	Description	Qty.
1	E28964	PANEL, ELECTRICAL, FRONT	1
2	E29373	SPACER, 0.140 ID x 0.250 OD, 0.250 LG	5
3	E28951	CONTROL BOARD - BASE	1
4	E29381	NUT, HEX, #6-32, NYLOC, ZP	4
5	E28768	POT SPACER AND PIN ASSEMBLY	1
6	E29706	POTENTIOMETER, 5K ohm	1
7	E28606	KNOB, KNURLED, 0.250 SHAFT, 0.925 OD, METAL	1
8	E12629	SWITCH, KEYED, SPE, WITH 2 KEYS	1

Item#	Part #	Description	Qty.
9	E28954	BREAKER, 30A	3
10	E28771	SWITCH BLANK, D-SUB, BLACK	1
11	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	4
12	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	4
13	E28793	DECAL, BACK PANEL	1
14	E29210	MACHINE HARNESS, GS MSAS, ORBITAL	1
15	E83523	CABLE TIE, 4.125 LG x 0.125 W	2

ORBITAL MACHINE WITH SOLICHEM OPTION OUTER ELECTRICAL PANEL DIAGRAM AND PARTS LISTING

Only applies to machines with orbital heads and Solichem Option

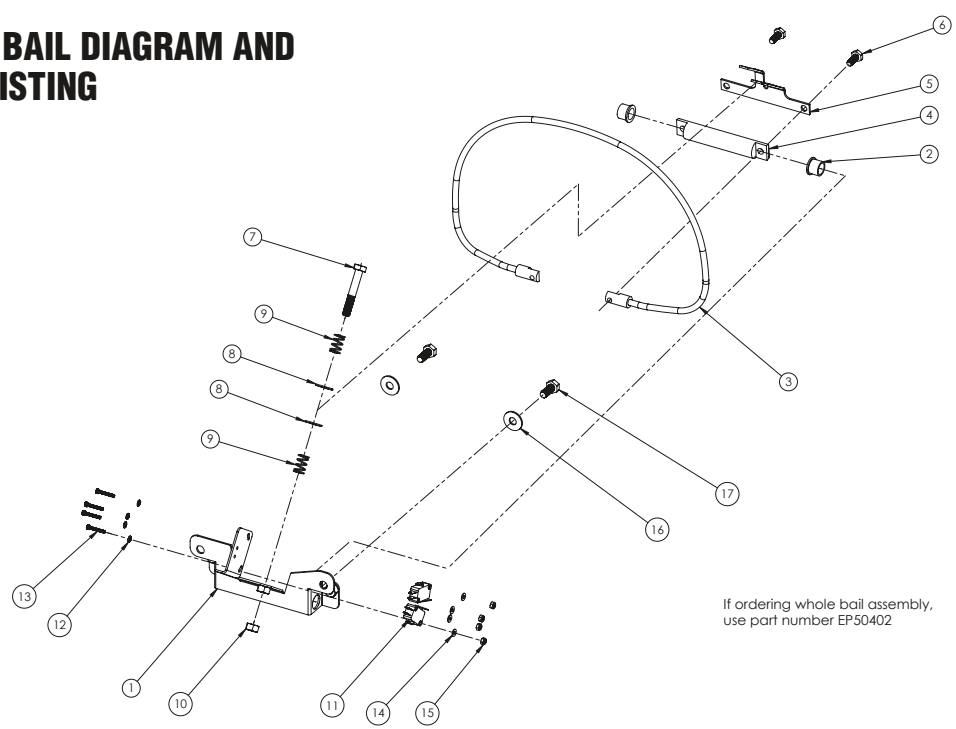


CONTROL BOARD FUSE: E28852
REPLACEMENT KEY: E89382

Item#	Part #	Description	Qty.
1	E28964	PANEL, ELECTRICAL, FRONT	1
2	E29373	SPACER, 0.140 ID x 0.250 OD, 0.250 LG	5
3	E28951	CONTROL BOARD - BASE	1
4	E29381	NUT, HEX, #6-32, NYLOC, ZP	4
5	E28768	POT SPACER AND PIN ASSEMBLY	1
6	E29706	POTENTIOMETER, 5K ohm	1
7	E28606	KNOB, KNURLED, 0.250 SHAFT, 0.925 OD, METAL	1
8	E12629	SWITCH, KEYED, SPE, WITH 2 KEYS	1

Item#	Part #	Description	Qty.
9	E28954	BREAKER, 30A	3
10	E28781	SWITCH, ROCKER, BLACK	1
11	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	4
12	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	4
13	E28793	DECAL, BACK PANEL	1
14	E29006	DECAL, SOLICHEM ON/OFF	1
15	E29210	MACHINE HARNESS, GS MSAS, ORBITAL	1
16	E83523	CABLE TIE, 4.125 LG x 0.125 W	2

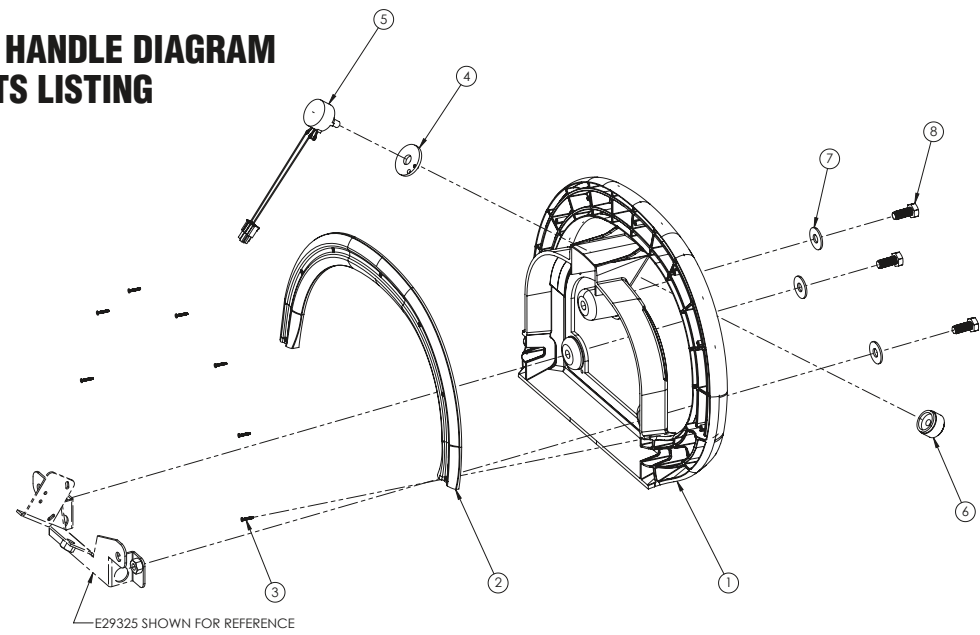
HANDLE BAIL DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29325	BRACKET, CONTROLS HANDLE, WELDMENT	1
2	E29337	BEARING, SLEEVE, 0.500 ID x 0.750 OD, 0.500 LG	2
3	E29335	HANDLE BAIL WELDMENT	1
4	E29326	BAIL PIVOT	1
5	E29327	ARM, HANDLE BAIL	1
6	E10734	BOLT, HEX HD, 1/4-20 x 0.625 LG, ZP	2
7	E29329	BOLT, HEX HD, 5/16-18 x 2.000 LG	1
8	E28622	WASHER, FLAT, 0.344 ID x 0.750 OD, 0.050 THK, SS	2
9	E29328	SPRING, COMPRESSION, 0.376 ID x 0.500 OD, 0.750 LG	2

Item#	Part #	Description	Qty.
10	E12524	NUT, HEX, 5/16-18, SS	1
11	E28669	SWITCH, 15A SPDT, LEVER ACTION	2
12	E28821	WASHER, LOCK, 0.115 ID x 0.260 OD, EXT TOOTH, ZP	4
13	E28758	SCREW, SOC HD HEX, #4-40, 0.750 LG, BO	4
14	E29368	WASHER, FLAT, 0.125 ID x 0.312 OD, 0.030 THK	4
15	E28770	NUT, HEX, #4-40, NYLOC	4
16	E81062	WASHER, FLAT, 0.344 ID x 0.875 OD, 0.063 THK, ZP	2
17	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	2

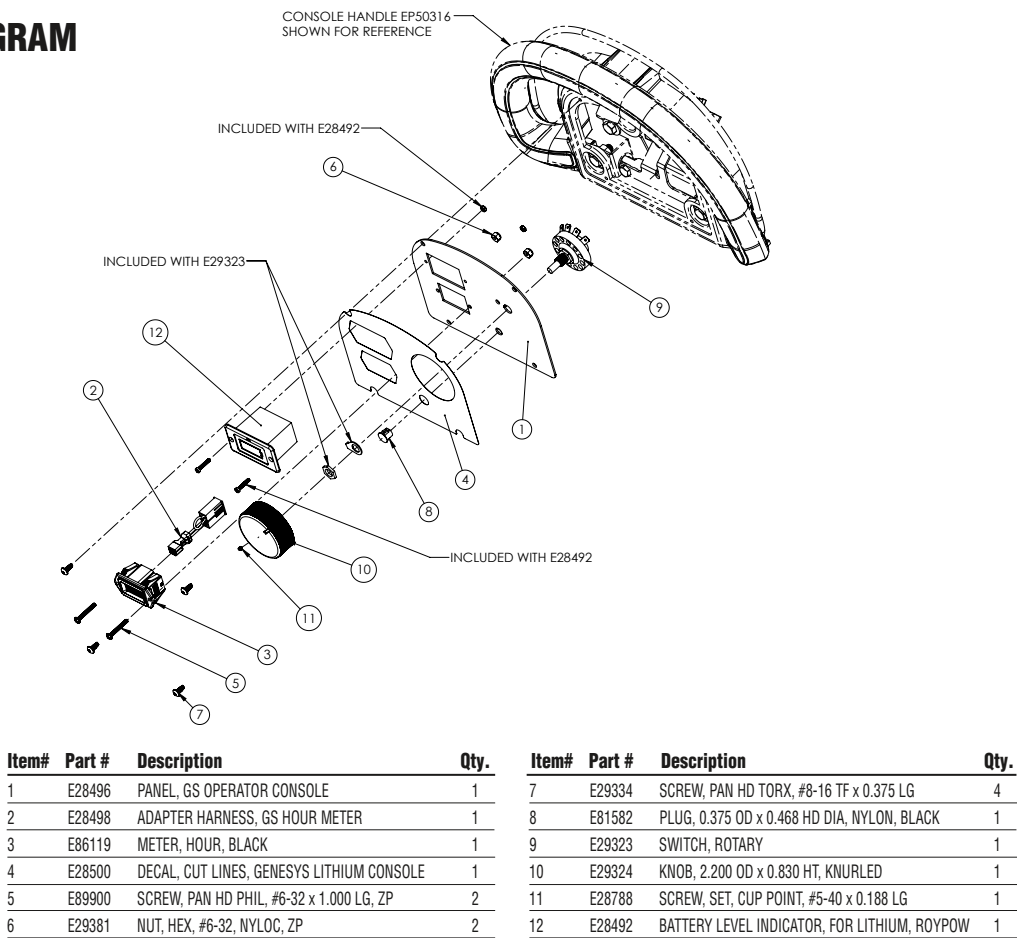
CONSOLE HANDLE DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E28915	HANDLE, CONSOLE CONTROLS, FRONT, GENESYS	1
2	E29301	HANDLE, CONSOLE CONTROLS, BACK, GENESYS	1
3	E29336	SCREW, FLAT HD TORX, #2 TF x 0.500 LG	7
4	E28768	POT SPACER AND PIN ASSEMBLY	1

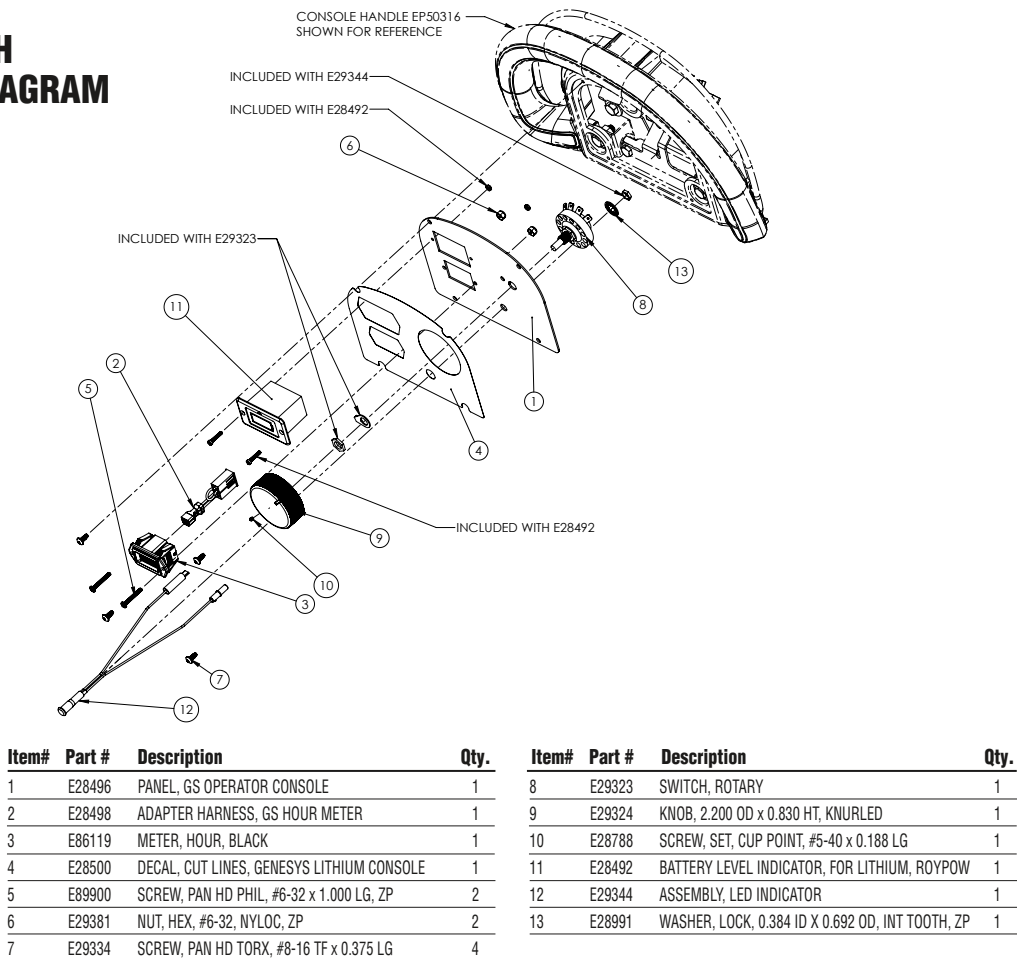
Item#	Part #	Description	Qty.
5	E28955	POTENTIOMETER, SPEED CONTROL	1
6	E28606	KNOB, KNURLED, 0.250 SHAFT, 0.925 OD, METAL	1
7	E81062	WASHER, FLAT, 0.344 ID x 0.875 OD, 0.063 THK, ZP	3
8	E81089	BOLT, HEX HD, 5/16-18 x 0.750 LG, ZP	3

CONTROL PANEL DIAGRAM
AND PARTS LISTING

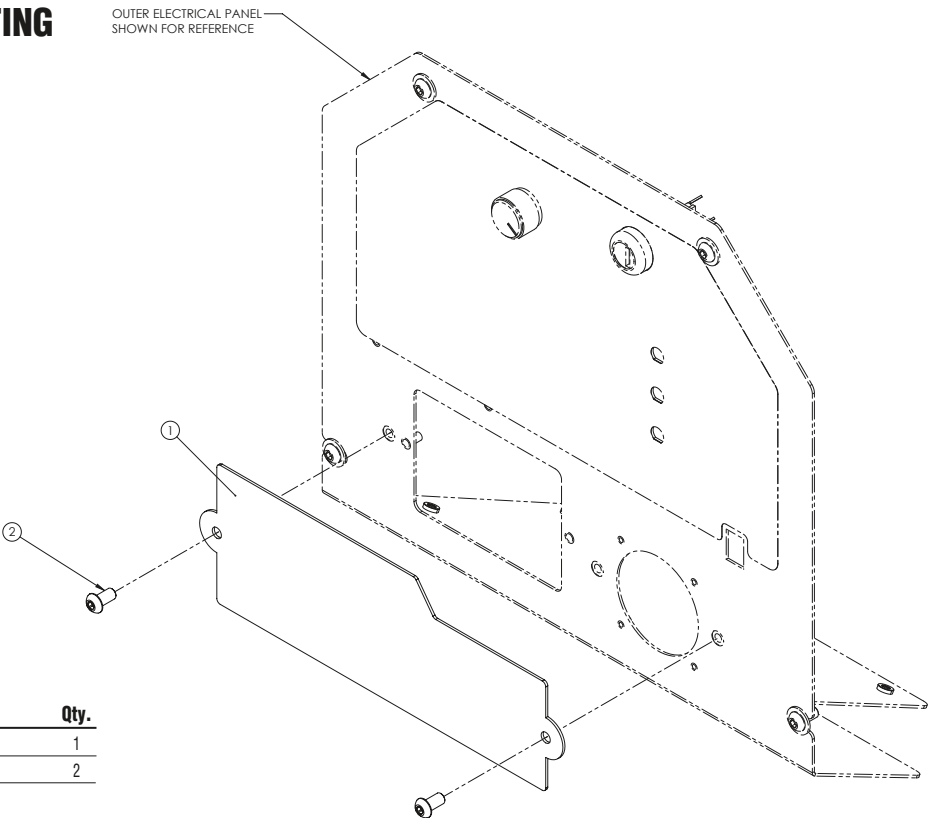


CONTROL PANEL WITH
SOLICHEM OPTION DIAGRAM
AND PARTS LISTING

Only applies to machines
with Solichem Option



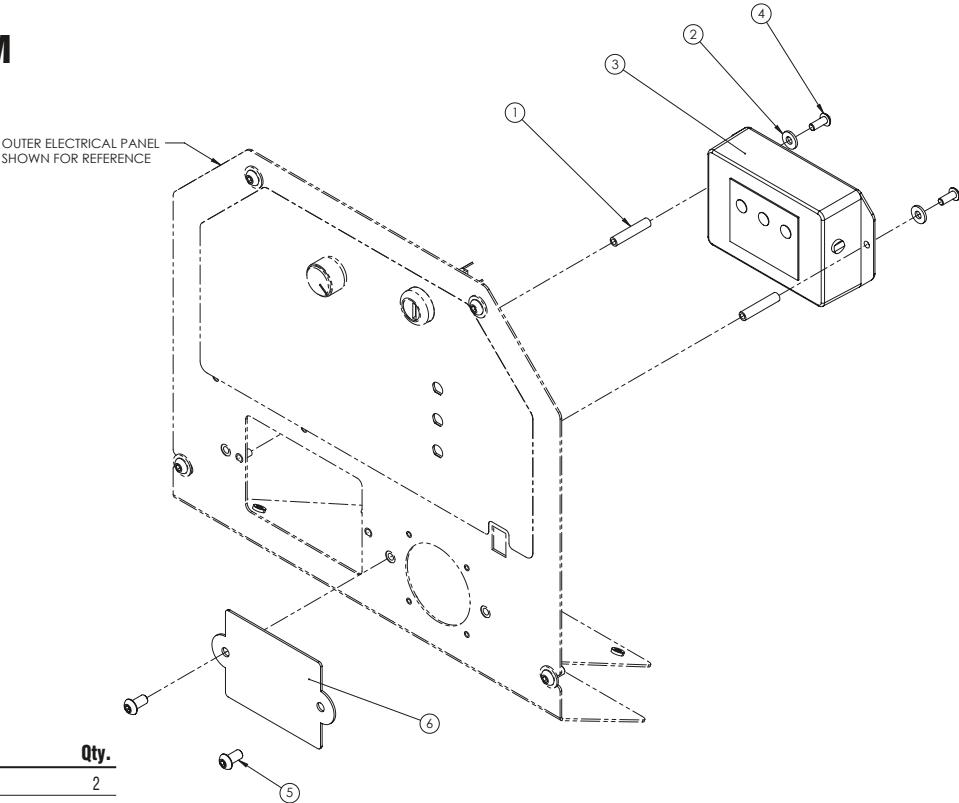
ARMOR SLOT COVER PLATE DIAGRAM AND PARTS LISTING



Item#	Part #	Description	Qty.
1	E29363	PLATE, TIMER, ARMOR COVER	1
2	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2

ARMOR OPTION DIAGRAM AND PARTS LISTING

Only applies to machines
with Armor Option

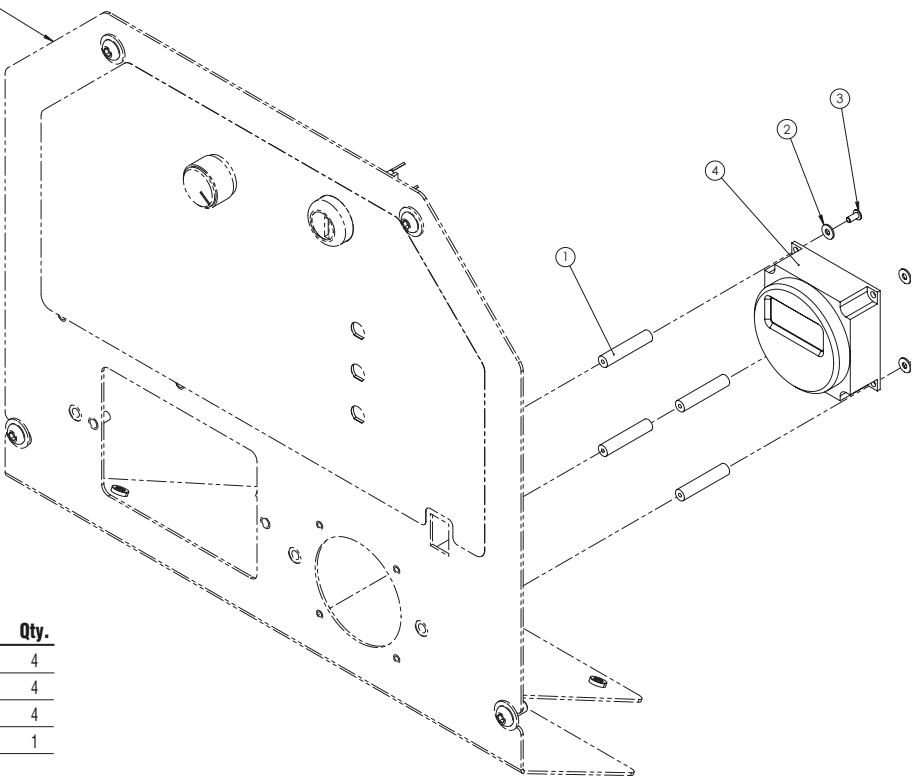


Item#	Part #	Description	Qty.
1	E29375	STANDOFF, #10-32, 0.250 OD, 1.250 LG	2
2	E29580	WASHER, FLAT, 0.210 ID x 0.500 OD, 0.050 THK	2
3	E28965	ARMOR BATTERY PROTECTION DEVICE	1
4	E29367	SCREW, BUTTON HD HEX, #10-32 x 0.500 LG, ZP	2
5	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
6	E29364	PLATE, TIMER COVER	1

LOCK-OUT TIMER OPTION DIAGRAM AND PARTS LISTING

Only applies to machines
with Lock-Out Timer
Option

OUTER ELECTRICAL PANEL
SHOWN FOR REFERENCE

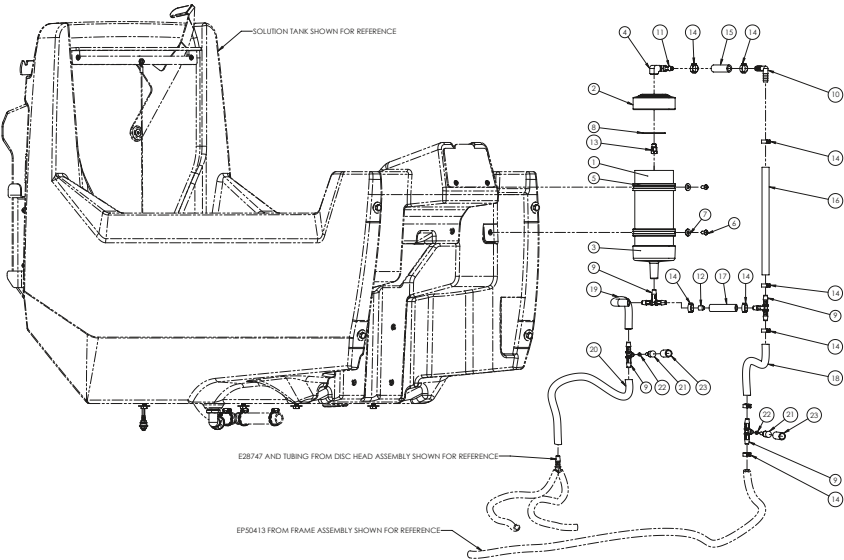


Item#	Part #	Description	Qty.
1	E29374	STANDOFF, #4-40, 0.250 OD, 1.250 LG	4
2	E29368	WASHER, FLAT, 0.125 ID x 0.312 OD, 0.030 THK	4
3	E29369	SCREW, BUTTON HD HEX, #4-40 x 0.250 LG, ZP	4
4	E28966	MACHINE TIMER	1

DISC HEAD SOLICHEM OPTION DIAGRAM AND PARTS LISTING

Only applies to machines with disc
heads and Solichem Option

SOLUTION TANK SHOWN FOR REFERENCE

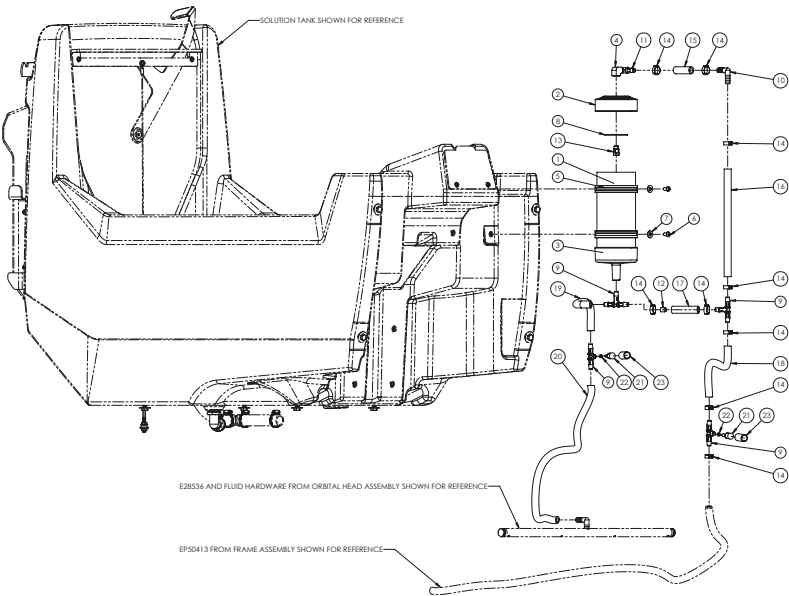


Item#	Part #	Description	Qty.
1	E29306	TUBE, 3.500 OD X 3.250 ID, CLEAR PC	1
2	E29307	CAP, CHEM TUBE END, TOP	1
3	E29316	CAP, CHEM TUBE END, BOTTOM	1
4	E29320	FITTING, ELBOW 90, 1/4 NPT, BRASS	1
5	E28969	LOOP CLAMP, 3.50 ID, EPDM RUBBER CUSHION, ZINC PL2	1
6	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
7	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	2
8	E28767	WASHER, FENDER, 0.406 ID x 1.250 OD, 0.069 THK	1
9	E29315	FITTING, TEE, 3/8 BARB, PLASTIC	4
10	E28536	FITTING, ELBOW 90, 3/8 BARB x 3/8 BARB, PLASTIC	1
11	E28786	FITTING, ELBOW 90, 3/8 BARB x 1/4 NPT	1
12	E29345	FITTING, RESTRICTION PLUG	1

Item#	Part #	Description	Qty.
13	E29313	FITTING, NOZZLE, BRASS	1
14	E28773	CLAMP, HOSE, SINGLE PINCH	9
15	EP50224	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 2.00 LG	1
16	EP50422	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 9.75 LG	1
17	EP50410	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 2.50 LG	1
18	EP50423	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 8.00 LG	1
19	EP50424	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 6.00 LG	1
20	EP50419	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 12.00LG	1
21	E28774	SENSOR, CONDUCTIVITY 1/4" PROBE DIA	2
22	EP50425	TUBING, 0.156 ID x 0.250 OD, 0.250 LG, LATEX RUBBER, BLACK	2
23	EP50426	HEAT SHRINK, 0.500 ID, 1.50 LG, BLACK	2

ORBITAL HEAD SOLICHEM OPTION DIAGRAM AND PARTS LISTING

Only applies to machines
with orbital heads AND
Solichem Option

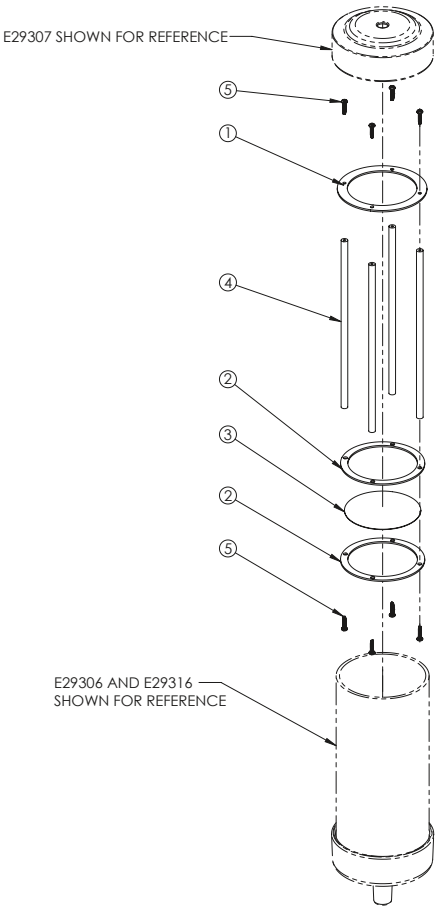


Item#	Part #	Description	Qty.
1	E29306	TUBE, 3.500 OD X 3.250 ID, CLEAR PC	1
2	E29307	CAP, CHEM TUBE END, TOP	1
3	E29316	CAP, CHEM TUBE END, BOTTOM	1
4	E29320	FITTING, ELBOW 90, 1/4 NPT, BRASS	1
5	E28969	LOOP CLAMP, 3.50 ID, EPDM RUBBER CUSHION, ZINC PL	2
6	E28648	SCREW, BUTTON HD HEX, 1/4-20 X 0.500 LG	2
7	E28617	WASHER, FLAT, 0.281 ID x 0.625 OD, 0.050 THK, SS	2
8	E28767	WASHER, FENDER, 0.406 ID x 1.250 OD, 0.069 THK	1
9	E29315	FITTING, TEE, 3/8 BARB, PLASTIC	4
10	E28536	FITTING, ELBOW 90, 3/8 BARB x 3/8 BARB, PLASTIC	1
11	E28786	FITTING, ELBOW 90, 3/8 BARB x 1/4 NPT	1
12	E29345	FITTING, RESTRICTION PLUG	1

Item#	Part #	Description	Qty.
13	E29313	FITTING, NOZZLE, BRASS	1
14	E28773	CLAMP, HOSE, SINGLE PINCH	9
15	EP50224	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 2.00 LG	1
16	EP50422	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 9.75 LG	1
17	EP50410	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 2.50 LG	1
18	EP50423	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 8.00 LG	1
19	EP50424	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 6.00 LG	1
20	EP50416	HOSE, 3/8 ID, REINFORCED CLEAR PVC, 28.00 LG	1
21	E28774	SENSOR, CONDUCTIVITY 1/4" PROBE DIA	2
22	EP50425	TUBING, 0.156 ID x 0.250 OD, 0.250 LG, LATEX RUBBER, BLACK	2
23	EP50426	HEAT SHRINK, 0.500 ID, 1.50 LG, BLACK	2

SOLICHEM PUCK CAGE DIAGRAM AND PARTS LISTING

Only applies to machines
with Solichem Option



Item#	Part #	Description	Qty.
1	E28757	FLANGE, INNER PUCK CAGE, TOP	1
2	E29308	FLANGE, INNER PUCK CAGE	2
3	E29309	SCREEN, PUCK CAGE, SS	1
4	EP50421	ROD, 0.25 OD, PVC, GRAY, 7.25" LG	4
5	E29311	SCREW, #4, 1/2" LG., THREAD FORMING, 18-8 TORQ, SS	8

GENESYS™ RECOMMENDED SPARE PARTS

Part #	Part Name	Machine Sub-System	26D	28D	32D	280RB
E29449	Front Squeegee Blade 35in	Squeegee	X			
E29450	Rear Squeegee Blade 35in	Squeegee	X			
E28504	Front Squeegee Blade 40in	Squeegee		X		X
E28502	Rear Squeegee Blade 40in	Squeegee		X		X
E29454	Front Squeegee Blade 45in	Squeegee			X	
E29455	Rear Squeegee Blade 45in	Squeegee			X	
E28903	Squeegee Attachment Knob	Squeegee	X	X	X	X
E28530	Rubber Isolator Mount 1.563 Tall x 1.25 Dia	Orbital Head				X
E28531	Isolator Bushing 1.25 OD x 0.313 ID	Orbital Head				X
E29537	13in Pad Driver Assembly	Disk Head	X			
E29535	14in Pad Driver Assembly	Disk Head		X		
E29539	16in Pad Driver Assembly	Disk Head			X	
E29527	HEPA Filter	Recovery Tank	X	X	X	X
E29563	Ball Float Shut-Off	Recovery Tank	X	X	X	X
E29576	Hose, Squeegee Vacuum	Recovery Tank	X	X	X	X
E28921	Hose, Recovery Tank Drain	Recovery Tank	X	X	X	X
E28975	100A Fuse	Electrical	X	X	X	X
E28954	30A Breaker	Electrical	X	X	X	X
E12629	Key Switch w/ 2 Keys	Electrical	X	X	X	X
E28956	80A Relay	Electrical	X	X	X	X
E28978	40A Relay	Electrical	X	X	X	X
E20704	Head Lift Switch	Head Lift	X	X	X	X
E29324	Switch, Rotary	Handle Console	X	X	X	X

GENESYS™ RECOMMENDED MAINTENANCE

SYSTEM	REFERENCE SECTION	DAILY	WEEKLY	MONTHLY	SIX MONTHS
CONTROL PANEL					
INSPECT ALL CONTROLS AND HARDWARE FOR SECURITY & SERVICEABILITY	PARTS DIAGRAMS	X			
VERIFY PROPER OPERATION OF ALL CONTROLS	ALL	X			
SOLUTION DISTRIBUTION					
VERIFY SOLUTION FLOW AND ADJUSTMENT OPERATION	SOLUTION DISTRIBUTION	X			
CLEAN AND INSPECT INLINE FILTER	SOLUTION DISTRIBUTION		X		
FLUSH TANK WITH FRESH WATER	SOLUTION DISTRIBUTION			X	
SCRUB DECK					
RINSE BRUSHES AND PADS	SCRUB DECK SETUP	X			
RINSE AND DRY SCRUB DECK	SCRUB DECK SETUP	X			
CLEAN MOTOR VENTS	PARTS DIAGRAMS			X	
INSPECT ISOLATORS (ORBITAL ONLY)	PARTS DIAGRAMS				X
INSPECT LIFT LINKAGE AND PIVOTS	SCRUB DECK SETUP				X
RECOVERY SYSTEM					
RINSE OUT AND LET THE RECOVERY TANK AIR DRY	RECOVERY SYSTEM	X			
CLEAN AND INSPECT DEBRIS TRAY	RECOVERY SYSTEM	X			
VERIFY DRAIN HOSE CAP IS SEALED TIGHT WHEN INSTALLED	RECOVERY SYSTEM	X			
INSPECT LID SEAL	RECOVERY SYSTEM		X		
INSPECT/REPLACE DEFOAMER PUCK AS NEEDED	RECOVERY SYSTEM		X		
INSPECT HEPA FILTER	RECOVERY SYSTEM			X	
CLEAN AND SANITIZE RECOVERY TANK	RECOVERY SYSTEM			X	
BATTERIES AND CHARGER					
INSPECT CABLES & TERMINALS FOR CORROSION, SECURITY & DAMAGE	BATTERIES			X	
SERVICE LEAD ACID BATTERIES IF APPLICABLE	BATTERIES		X		
CLEAN ONBOARD CHARGER VENTS IF APPLICABLE	PARTS DIAGRAMS			X	
INSPECT WET BATTERY PROTECTION SYSTEM	BATTERIES				X
SQUEEGEE ASSEMBLY					
CLEAN AND INSPECT THE BLADES AND ENTIRE SQUEEGEE ASSEMBLY	RECOVERY SYSTEM	X			
INSPECT VACUUM HOSE	RECOVERY SYSTEM		X		
FRAME AND CHASSIS COMPONENTS					
CLEAN AND INSPECT WHEELS AND CASTORS	PARTS DIAGRAMS			X	
CLEAN AND INSPECT LINKAGE, CHASSIS AND HARDWARE	PARTS DIAGRAMS			X	
CLEAN AND INSPECT VISIBLE WIRES FOR DAMAGE AND SECURITY	PARTS DIAGRAMS				X

TROUBLESHOOTING GUIDE

SUB-SYSTEM	SYMPTOM	POSSIBLE ROOT CAUSE	HOW TO CHECK	POSSIBLE FIX
Solution System	Poor or No Water Flow	Solution Tank is empty	Check Sight Tube	Fill with water
		Ball Valve is closed	Visual Check of valve	Open Valve
		Debris in line	Visual Check of solution lines	Clear blockages
		Plugged Filter	Unscrew cap and check screen	Clean and re-install
		Kinked line near the deck	Visual Inspection	Re-route or replace hose
		Solution Flow knob turned all the way down	Visual Check of Solution Control Knob	Turn flow up
		Solution Pump not working	Check pump for proper operation	Replace component
Vacuum System	Poor Water Recovery Could Result in: • Severe Streaking • Water Left on Floor	Recovery Tank is Full	Visual Inspection	Drain the tank
		Worn or dirty blades	Visual Inspection	Flip to a different edge, clean, or replace
		Hole in Recovery/Squeegee Hose	Visual Inspection	Replace component
		Plugged squeegee or recovery hose	Visual Inspection	Remove Clog
		Debris in squeegee	Visual Inspection	Clear debris
		Squeegee Out of Adjustment	Check for proper blade deflection	Adjust swivel casters
		Stuck Float Ball	Visual Inspection	Dislodge Float ball from tube
		Recovery Tank Lid not sealing properly	Check seal for damage and proper seating	Re-install seal or replace
		Drain Hose Cap not installed	Visual Inspection	Install cap
		Clogged HEPA filter	Visual Inspection	Replace component
		Defective Vac Motor	Vac runs but struggles & can't generate suction	Replace component
		Squeegee hose not attached on one end	Visual Inspection	Properly Install Hose ends
Electrical System	• Machine will not turn on • No lights on the BDI	Main Machine Fuse Blown	Inspection of 100A fuse	Replace Component
		Faulty Battery Connection	Check Connections at the battery pack and into panel	Fix any bad connections
		Faulty Key Switch	Check Key Switch Continuity	Replace Key Switch
		Charger Interlock Bypass Jumper not plugged in	Visual Inspection	Connect if disconnected
		Discharged Batteries	Check Battery Voltage	Charge Batteries
Vacuum System	Vacuum will not turn on	Vac Switch out of adjustment	Switch is not actuated	Adjust switch
		Vac Motor Circuit Breaker Tripped	Visual Inspection	Reset Circuit Breaker
		Defective Vac Motor	Motor doesn't run when 24V is confirmed to be present	Replace Component
		Faulty Vac Relay	Check for proper operation	Replace Component
	Vacuum will not turn off	Still in the 7 second delay mode	Wait 7 seconds	None. Works as designed
		Vac Switch out of adjustment	Switch is not actuated	Adjust Switch
		Faulty Vac relay	Check for proper operation	Replace Component
Scrub Deck	Deck Motor(s) will not run This assumes the scrub deck is in the down position	Brush Motor Circuit Breaker(s) Needs Reset	Visual Inspection	Reset Circuit Breaker
		Low Voltage Cutoff Engaged	Check BDI to see if Low Voltage Cutoff has kicked in	Charge Machine
		Faulty motor contactor(s)	Check for proper operation	Replace Component
		Defective Motor(s)	Check for proper operation	Replace Component
Transaxle	Machine will not drive	Bail Switches may be faulty or out of adjustment	Verify that the switches engage in forward and reverse	Adjust switches
			Confirm that the switches have continuity and have voltage being supplied to them.	Replace Component
		Speed knob turned all the way down	Turn the knob up to a faster speed	Turn the knob up
		Transaxle circuit breaker tripped	Visual Inspection	Reset Circuit Breaker
		Faulty I-Drive	Confirm proper operation of I-Drive	Replace or re-program
		Defective transaxle	Confirm voltage supplied to the motor	Replace Component
Head Lift	Actuator does not move	Loose down pressure knob	Set screw is loose and knob spins without turning the down pressure switch stem	Reposition and tighten set screw. Add loctite to set screw if available
		12.5A Fuse is blown on the control board	Visual check of the fuse	Replace Fuse
		Failed Down Pressure Selector Switch	Check switch for damage and proper operation	Replace Component
		Head lift switch issue	Check switches for proper position and operation	Adjust Cam's if needed to ensure they engage in the appropriate locations
		WBP System Activated	Check for battery watering light to be on	Water batteries
		Failed Actuator	Check for proper supplied voltage and operation	Replace Actuator

TROUBLESHOOTING GUIDE *continued*

SUB-SYSTEM	SYMPTOM	POSSIBLE ROOT CAUSE	HOW TO CHECK	POSSIBLE FIX
Head Lift	Actuator Extends Fully when a pressure is selected	Cams need adjusted	Verify Cams are in the appropriate location	Adjust Cam location
		Switch Position (Angle) Changed	Verify that the switches are engaging properly as the actuator moves	Adjust the angle to where the Cam will engage
		Defective Head Lift Switches	Fails a continuity check	Replace Switch
Scrub Deck	Pad Auto-Off feature does not work	Machine is not in transport mode	Verify that the down pressure knob is in Transport Mode and the head is up	Turn the knob to the Transport Position
	Disk Machines Only	Defective Auto Off relay	Check relay for proper operation	Replace relay
		Defective Auto Off button	Check switch for proper operation	Replace button
		Pad Drivers are stuck	The brushes turn and function properly when the button is pressed but the pad drivers do not release	Manually will need to remove pad drivers and correct what is making them stick
Electrical System	Machine doesn't charge	Defective Charger	Check for 25A coming from the charger when plugged in	Replace Charger
		Anderson SB175 connector is disconnected	Visual check of connection	Connect it
		Battery Pack is bad	Check for an extremely low pack voltage. The charger may not pickup on it.	Replace batteries or place on another appropriate charger to bump them
		Wiring issue between charger, battery pack, and panel	Visual check of wiring and connections	Repair or replace any defective wiring or connections
		Blown 100A main machine fuse	Check for continuity through the fuse	Replace fuse and try to determine what may have made the fuse blow
Operation	Run Time is too short	Defective Batteries	Load test the batteries	Replace battery if it fails
		Scrub head is in high down pressure	Check down pressure knob setting	Lower down pressure
		Batteries are low on water (Wet batteries only)	Remove a cap and do a visual inspection of the water level. Plates should not be exposed.	Water batteries per manual instructions
		Charger is not allowed to finish charge cycle	Check the charger status prior to disconnecting	Allow cycle to complete prior to unplugging

BETCO US WARRANTY POLICY

10 Year Coverage

Subject to the conditions stated below, Betco warrants parts and labor on rotationally molded polyethylene tanks/housings and injection molded vacuum head assemblies to be free from defects in materials and workmanship for a period of ten years to the original purchaser.

5 Year Coverage

Subject to the conditions stated below, Betco warrants parts and labor on all lithium-ion batteries for GeneSys scrubbers to be free from defects in materials and workmanship for a period of five years to the original purchaser.

3 Year Coverage

Subject to the conditions stated below, Betco warrants parts and labor on all other Betco components to be free from defects in materials and workmanship for a period of three years to the original purchaser.

- Lithium Ion battery for MotoMop™ is a full 3 years

1 Year Coverage

Subject to the conditions stated below, Betco offers a limited warranty on parts and labor on the following equipment: parts and accessories to be free from defects in materials and workmanship for a period of one year to the original purchaser.

- PowerUp™ 14 Upright Vacuum: #E29990-00
- Bac Pac Lite Vacuum: #85903-00
- FiberPRO® Floor Dryer: #85507-00
- WORKMAN™ Series Vacuums: #85024-00, #85025-00, #83012-00, #85027-00
- All Tools and Accessories
- All Battery Chargers
- Deep cycle batteries are pro-rated for 1 year

Allowable Travel Time Warranty Reimbursement:

Eligible equipment: All battery and propane powered equipment products. Warranty period: 90 days (GeneSys™ Mid-Size Scrubber: 180-days) from date of sale to the original purchaser. A maximum 180 mile round trip at 50 cents per mile will be allowed for warranty consideration.

Propane Machine Warranty:

Kawasaki/Subaru engines are warranted by Kawasaki/Subaru for a period of 2 years against manufacturer defects. All other components (except wear items)* are warranted by Betco for a period of 3 years.

***Wear Items exempt from Warranty consideration include but may not be limited to: power cords, transport wheels, vacuum bags, belts, squeegee blades, pad drivers, clutch plates, handle grips, filters, screens, throttle cables, brushes and carbon brushes.**

Subject to the conditions and exceptions stated in this warranty, Betco warrants the Betco products to be free from defects in material and workmanship, under normal use and service, for the periods listed under the warranty policy to the original purchaser. At any time during the warranty period, Betco will furnish replacement parts for the Betco parts to the original purchaser. Such parts will be furnished and charged including transportation costs, to the original owner through any Betco authorized Service Distributor. If the original part is returned within the warranty policy period from date of delivery for inspection by Betco and is found to be defective the owner will be credited for the cost of replacement parts plus shipping and handling. Replacement parts that have become defective through wear or abuse are not included in this warranty.

This warranty does not apply to damage or defect caused by accident, misuse, negligence, fire, or to any Betco product which has been serviced or repaired by other than an authorized Betco Service Distributor or Betco factory personnel. This warranty is void if unauthorized modifications are made to any Betco products. This warranty is void if products are used for any purpose other than that which was intended. There are no other warranties expressed or implied. In no event shall Betco be liable for incidental or consequential damages or any damage to person or property. (Please note some states do not allow the exclusion or limitations for incidental and consequential damages).

