



E27200 E27400
E27300 E27500



GENESYS™ SERIES

26", 28" and 32"
Mid-Size Scrubber



TROUBLESHOOTING GUIDE

400 Van Camp • Bowling Green, Ohio 43402
Customer Service: 888-GO-BETCO • Fax: 800-445-5056 • Technical Service: 877-856-5954 • www.betco.com

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SPECIFICATIONS

Specifications	GeneSys™ 26D	GeneSys™ 28D	GeneSys™ 32D	GeneSys™ 280RB
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	(4) 6v 260 AH Wet (4) 6v 220 AH AGM	(4) 6v 260 AH Wet (4) 6v 220 AH AGM	(4) 6v 260 AH Wet (4) 6v 220 AH AGM	(4) 6v 260 AH Wet (4) 6v 220 AH AGM
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 1 - Year Pro-rated Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 1 - Year Pro-rated Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 1 - Year Pro-rated Batteries	10 - Years Rotomold 3 - Years Parts/Labor 180 - Days Travel 1 - Year Pro-rated 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™ Bluetooth Battery Discharger Indicator
 Fortify™ Foam Control
 Brush: General Purpose

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

INTRODUCTION

This is a quick reference troubleshooting manual for Betco's GeneSys™ Mid-Size Floor Scrubbers. It is intended to be used by advanced operators and service technicians to assess possible machine issues.

This manual aligns with the "Troubleshooting Guide" shown on page 50 of the "GeneSys™ Operator's Manual" and expands on it in detail, highlighting the corrective action. At the end of the manual is programming documentation from the GeneSys Operators manual for the Fortify™ options.

If further assistance is needed call Betco's technical support team at 1-877-856-5954.

GENESYS™ RECOMMENDED SERVICE PARTS

PART #	PART NAME	DIAGRAM	WEAR ITEM	26D	28D	32D	280RB	OPTIONAL PARTS	Stocked by Distributor & Service Company
E29459	Static Strap	FRAME	X	X	X	X	X		X
E29449	Front Squeegee Blade 35in	SQUEEGEE	X	X					X
E29450	Rear Squeegee Blade 35in	SQUEEGEE	X	X					X
E28504	Front Squeegee Blade 40in	SQUEEGEE	X		X				X
E28502	Rear Squeegee Blade 40in	SQUEEGEE	X		X				X
E29454	Front Squeegee Blade 45in	SQUEEGEE	X			X			X
E29455	Rear Squeegee Blade 45in	SQUEEGEE	X			X			X
E28903	Squeegee Attachment Knob	SQUEEGEE		X	X	X	X		X
E28784	PCB, TDS Sensor	HEAD LIFT		X	X	X	X		X
E28526	Orbital Pad Driver	ORBITAL					X		X
E28513	Pad Driver Face	ORBITAL					X		X
E89832	Orbital Backer Pad 14 x 28	ORBITAL	X				X		X
E28530	Rubber Isolator Mount 1.563 Tall x 1.25 Dia	ORBITAL					X		X
E28633	Isolator Spacer	ORBITAL					X		X
E28531	Isolator Bushing 1.25 OD x 0.313 ID	ORBITAL					X		X
E28656	Isolator Bushing	ORBITAL					X		X
E28506	Battery Trojan T145	SOLUTION TANK	X	X	X	X	X		X
E88031	Battery, AGM, Crown 220	SOLUTION TANK						X	X
E28704	Charger Cord	SOLUTION TANK		X	X	X	X		X
E28785	Battery Spacer, Foam	SOLUTION TANK		X	X	X	X		X
E29571	Disk Head Shroud - 26	DISK HEAD		X					X
E29536	13in Malish Brush Assembly	DISK HEAD	X	X					X
E29537	13in Malish Pad Driver Assembly	DISK HEAD	X	X					X
E29570	Disk Head Shroud - 28	DISK HEAD			X				X
E29534	14in Malish Brush Assembly	DISK HEAD	X		X				X
E29535	14in Malish Pad Driver Assembly	DISK HEAD	X		X				X
E29572	Disk Head Shroud - 32	DISK HEAD				X			X
E29538	16in Malish Brush Assembly	DISK HEAD	X			X			X
E29539	16in Malish Pad Driver Assembly	DISK HEAD	X			X			X
E29527	HEPA Filter	RECOVERY TANK	X	X	X	X	X		X
E29563	Ball Float Shut-Off	RECOVERY TANK		X	X	X	X		X
E29562	Float Ball Cage Mount	RECOVERY TANK		X	X	X	X		X
E29525	Debris Tray	RECOVERY TANK	X	X	X	X	X		X
E29601	Pump	SOLUTION DELIVERY	X	X	X	X	X		X
EP50276	Chem Puck Cage	SOLUTION DELIVERY	X	X	X	X	X		X
E29313	Spray Nozzle	SOLUTION DELIVERY	X	X	X	X	X		X
F092486	Solichem/Defoamer Combo	SOLUTION DELIVERY		X	X	X	X		X
E28975	Fuse	ELECT. ENCLOSURE	X	X	X	X	X		X
E28954	30A Breaker	ELECT. ENCLOSURE		X	X	X	X		X
E12629	Key Switch w/ 2 Keys	ELECT. ENCLOSURE		X	X	X	X		X
E28956	80A Relay	ELECT. ENCLOSURE		X	X	X	X		X
E28978	40A Relay	ELECT. ENCLOSURE		X	X	X	X		X
E28907	SPE Charger	ELECT. ENCLOSURE		X	X	X	X		X

TROUBLESHOOTING: Insufficient Water to Scrub Head

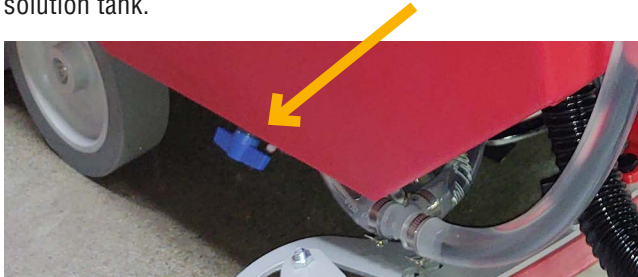
SOLUTION LEVEL

Check the machine's solution level in the solution tank by looking at the exterior clear sight hose. This is located on the operator's left side of the machine. There should be a visual sign of solution. If no visual sign of solution is present, fill the solution tank to the desired level for operation.



SOLUTION SHUT-OFF VALVE

The solution shut-off valve is located behind the wheel on the operator's left side of the machine. Verify that the valve is in the open position for the solution to flow from the solution tank.



Ball Valve is OPEN = Solution Flows



Ball Valve is CLOSED = No Flow

SOLUTION CONTROL KNOB

Solution flow is controlled by the flow control knob. If there is still low solution flow condition, check the setting on the knob on the lower control board. This may be turned down to the lowest setting. Turn the knob to the middle setting and operate the machine to check for sufficient solution deployment.



TROUBLESHOOTING: Insufficient Water to Scrub Head

BOWL FILTER

Solution restriction may be caused by a clogged screen in the filter in the solution delivery system. This is located just under the frame on the operator's left side of the machine.

1. Unscrew the clear bowl and remove the screen.
2. Clean and remove any debris.
3. Reinstall the screen and bowl.

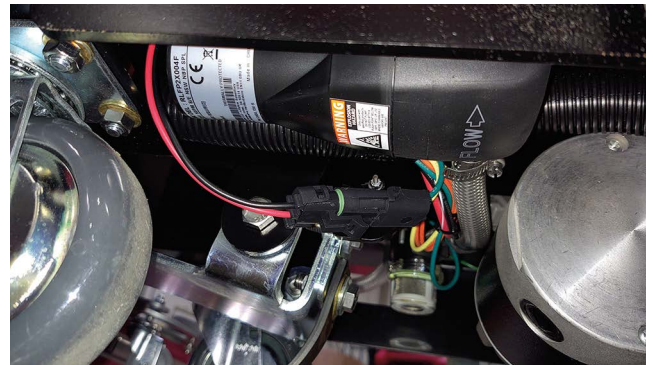


*Filter Screen and Clear Bowl
Part #E28942-00*



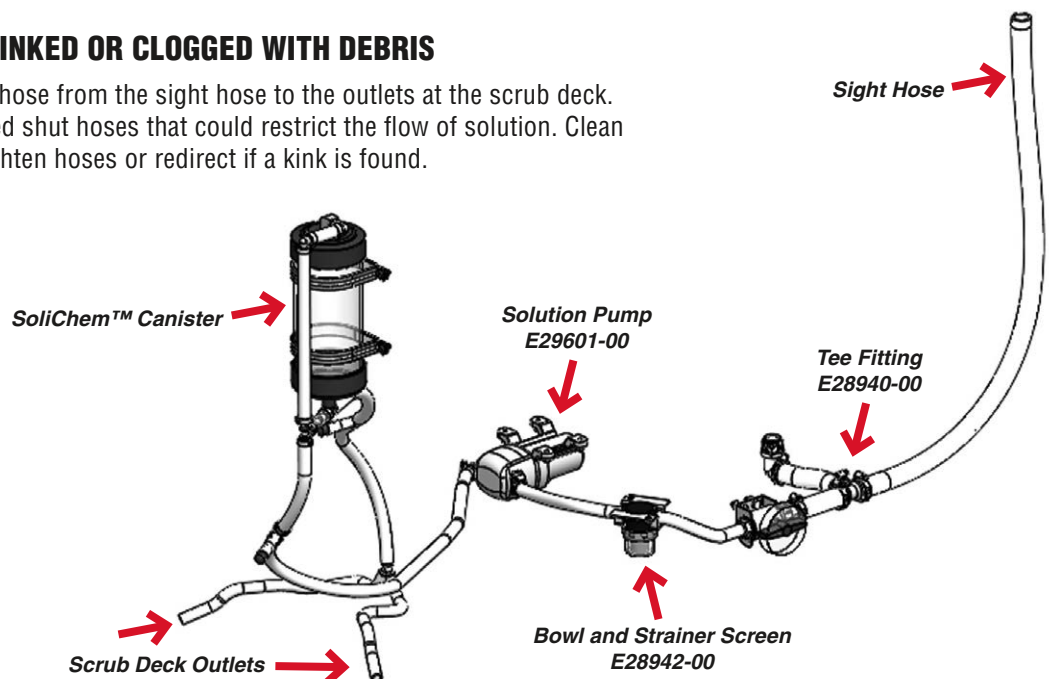
SOLUTION PUMP NOT FUNCTIONING

The 24V solution pump is located on the operator's right side under the edge of the frame. The solution pump not functioning will result in no solution contacting the floor. Verify operation and replace if faulty.



SOLUTION TUBE IS KINKED OR CLOGGED WITH DEBRIS

Trace the entire solution hose from the sight hose to the outlets at the scrub deck. Check for debris or kinked shut hoses that could restrict the flow of solution. Clean out any debris and straighten hoses or redirect if a kink is found.



TROUBLESHOOTING: Poor Water Recovery

WATER RECOVERY TANK IS FULL

Empty the recovered water in an approved location.

DIRTY OR WORN SQUEEGEE BLADES

Disconnect the vacuum hose from the squeegee. Remove the squeegee from the machine by loosening the 2 black knobs. Inspect the edge of the squeegee blades for wear and debris. Remove retainers and squeegee blades for edge rotation and/or replacing.

Clean sharp squeegee blade edges will enable the squeegee to recover water from the cleaned floor more efficiently.



RECOVERY HOSE LOOSE OR KINKED

The recovery hose is connected to the squeegee and to the recovery tank. Inspect both end connections for proper sealed attachment, cracks, holes or kinked hose sections.

Also inspect the recovery hose for blockages or obstructions.



SQUEEGEE OUT OF ADJUSTMENT

Put the squeegee down and adjust by setting the squeegee wheels .060" up from the floor's surface. This can be done with feeler gauges or by removing the .060" thick timer cover and use as a gauge. Use two 9/16" wrenches for the nuts. Set squeegee wheel height close to the .060" so the wheel almost touches. Slide .060" gauge or timer cover out and the wheel should not move. Tighten the nuts. Repeat for both wheels.



Timer Cover



Use your thumb to push down on the threaded shaft while setting height of wheel with top nut.

TROUBLESHOOTING: Poor Water Recovery

STUCK OR DAMAGED BALL FLOAT

Dislodge the float balls if they are stuck or wedged in the cage. Replace assembly if it is damaged beyond repair.



RECOVERY TANK LID IS NOT SEALING PROPERLY

Inspect seal and replace if damaged. Reposition the seal into the groove if it has pulled out. Clean the recovery tank seal surface to remove any buildup or sticky residue that could stick to the lid when sealed.



DRAIN HOSE CAP NOT INSTALLED PROPERLY

The drain hose cap must be properly installed for the solution recovery system to function properly.



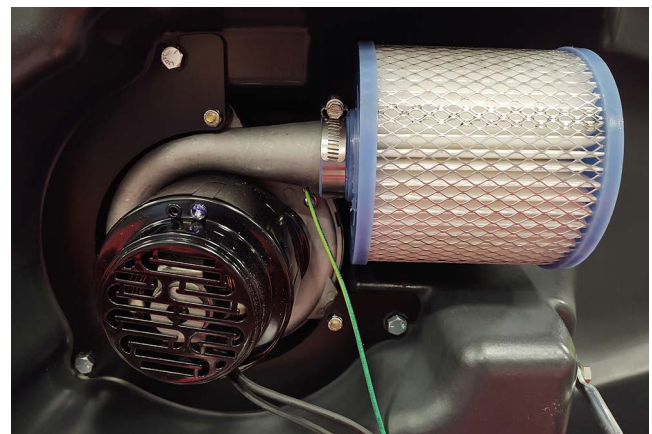
Cap OFF



Cap ON

CLOGGED HEPA FILTER

Lift the recovery tank to access the location of the Vacuum and HEPA filter. Loosen the HEPA filter band clamp. Remove the HEPA filter from the vacuum motor. Inspect the inside and outside of the HEPA filter and remove any clogs or debris. Replace if damaged or obstructed.



TROUBLESHOOTING: Machine Will Not Turn On

FAULTY KEY SWITCH

Check the wire connections of the key switch. This can be done by removing the 4 .25-20 x .5Lg hex drive bolts of the lower control board.

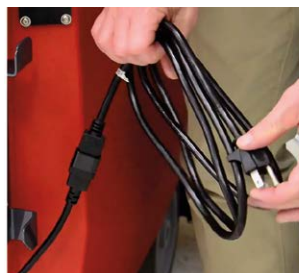
Diagnose the key switch and replace if faulty.



DISCHARGED BATTERIES

Check wire connections at batteries and charger. Plug the machine's onboard charger in to 120V wall outlet. Do not use an extension cord while charging. This voids the charger warranty.

Part number: E28907-00 SPE Charger - CBHD3 24V 20A



The on-board charger has three LEDs to indicate the status of the charging cycle when it is plugged in:

SIGNAL (LED)

Red LED flashing twice
Green LED is flashing twice
Red LED is on
Yellow LED is on
Green LED is on
Yellow LED is flashing
Red LED Flashing

MEANING

Battery charger is set to charge LEAD-ACID batteries
Battery charger is set to charge GEL and /or AGM batteries
First phase of charging is in progress
Second phase of charging is in progress
End of charge or maintenance phase
Issue with battery or battery not connected or output short circuit
Safety timer exceeded internal short circuit



Green LED Light
Yellow LED Light
Red LED Light



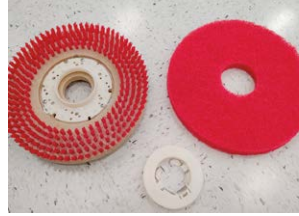
TROUBLESHOOTING: Machine is Not Cleaning Properly

WORN PAD OR BRUSH

Remove the pad and/or brushes, inspect and replace as required.

Note: Make sure the correct pad and down pressure is being used for the cleaning application.

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 185 lb. – For Heavy soils or chemical-free finish removals.



INSUFFICIENT CLEANING SOLUTION FOR APPLICATION

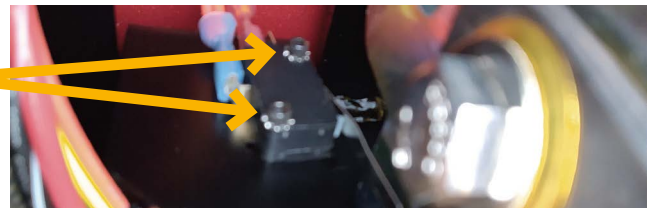
Adjust the solution knob to increase the flow of solution needed for the cleaning application.



TROUBLESHOOTING: Vacuum Motor will not Turn off

STILL IN DELAY MODE

There is a 7 second delay from when the squeegee is lifted until the vacuum motor turns off. If the vacuum doesn't turn off adjust the micro switch at the squeegee mount location under the frame. Follow the static strap from the ground to the micro switch for location. Loosen the 2 bolts and adjust for positive engagement.



VACUUM RELAY MAY BE FAULTY

The vacuum relay is located behind the electrical enclosure. Remove the 4 .25-20 x .5" Lg bolts from the enclosure panel. Support the panel once it's loose from the machine. Check the 40 Amp relay for function and replace if faulty. **Part number: E28956-00**



ELECTRICAL FAULTS AND POSSIBLE CAUSES

Actuator: The circuit board controls the actuator. Located inside the electrical enclosure.

Transaxle: The I-Drive controls the transaxle. Located inside the electrical enclosure.

TROUBLESHOOTING: Scrub Head will not Run

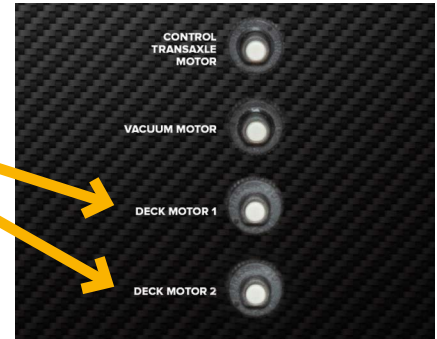
FAULTY KEY SWITCH

Lower the scrub head to initiate orbital or disk scrubbing action.

Batteries are at a lower capacity than allowable: Charge machine. See page 10 for discharged batteries.

CIRCUIT BREAKER FOR THE BRUSH/PAD MOTOR(S) IS TRIPPED

Wait 5 minutes and reset circuit breaker.



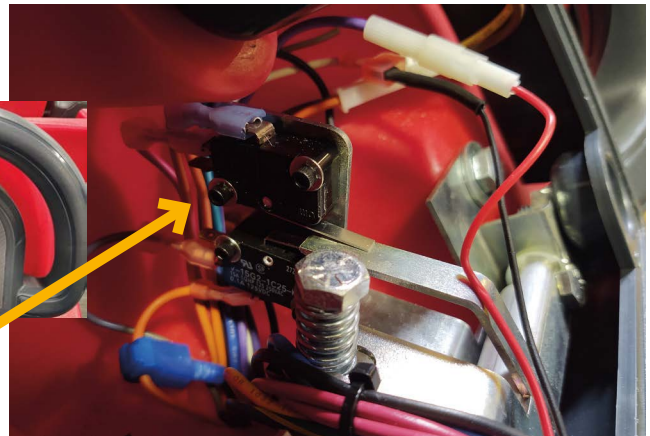
BAIL SWITCH IN HANDLE MAY BE FAULTY

Remove the console panel's 4 bolts. Check wiring to make sure all connections on both micro switches are secure.



If the micro switches are faulty, replace one at a time.

Part Number E28669-00. Remove the 2 bolts and replace the switch. Repeat for bottom switch. If required, adjust the bail so forward and reverse movements are obtainable without extreme or full bail movements.



TROUBLESHOOTING: Scrub Head Circuit Breaker is Tripped

INADEQUATE SOLUTION FOR APPLICATION

Increase solution to scrub head. To reset circuit breaker, wait 5 minutes and push in circuit breaker button.

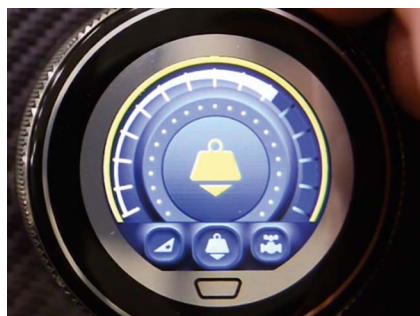
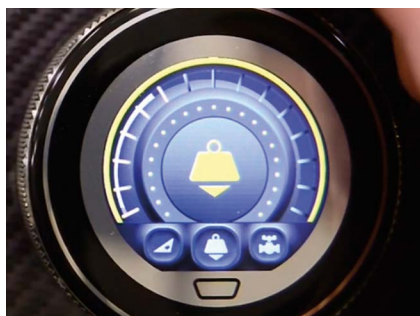
Adjust to medium setting for solution.



SELECTING DOWN PRESSURE

Scrub head is set to heavy down pressure: Reduce the down pressure setting by one and retry scrubbing.

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.



PAD IS TOO AGGRESSIVE FOR APPLICATION

Change the pad to a lower aggressiveness. These are listed from least aggressiveness to most aggressive.

LEAST AGGRESSIVE



MOST AGGRESSIVE

White

Red

Blue

Green

Brown

Maroon

Black

FAULTY OR SHORTED WIRE

Trace wiring from motors and check for loose connections or damaged wiring. Replace with equal gauge wire.

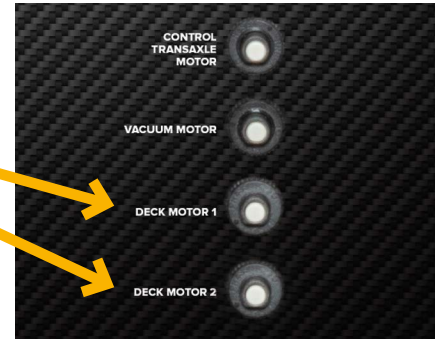
TROUBLESHOOTING: Scrub Head Circuit Breaker is Tripped

WEAK CIRCUIT BREAKER

The circuit breaker should not trip below its stated 30 Amp rating. Replace circuit breaker(s) if found weak and faulty.

Part Number: E28954-00

Wait 5 minutes to reset circuit breakers



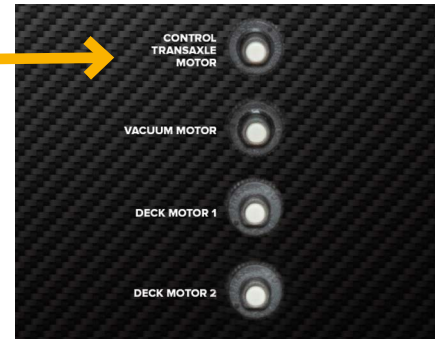
TROUBLESHOOTING: GeneSys™ Machine will Not Drive

CIRCUIT BREAKER MAY BE TRIPPED

Inspect and reset circuit breaker.

If problem persists replace circuit breaker.

Wait 5 minutes to reset circuit breakers



BATTERY METER IS FLASHING

When the voltage level corresponding to the stopping threshold is reached, the last yellow LED will flash for 15 seconds, then the red LED will turn on, and the blocking relay will open. To reset, switch off the machine and charge the batteries and turn on the machine. Red LED should be off.

When the battery level indicator is switched on the battery voltage is measured and in any case:

1. If the voltage is below the stopping threshold, instantaneous stopping will occur.
2. If the voltage is higher than the resting threshold, all the LED's will turn on again and the battery level indicator will reset in order to start a new working cycle.
3. If the voltage ranges between the stopping threshold and the resetting threshold, the LED's will turn on rapidly to the condition prior to the switching off. If the previous condition was a stop, the last yellow LED will flash.

SPEED KNOB TURNED ALL THE WAY DOWN

Check the speed controller on the console.
Increase the speed setting to a comfortable walk.

Faulty Wiring: Trace all wiring from transaxle to electrical enclosure. Then trace from the electrical enclosure up to the micro switches inside the console handle. Check for faulty wiring and poor or loose connections.



TROUBLESHOOTING: Run Time is Short

BATTERIES ARE LOW ON WATER

- Add water, never acid, to cells (distilled water recommended).
- DO NOT OVER WATER.
- For fully charged standard deep-cycle batteries, add water to the level of 1/8 below bottom of vent well (see diagram A below).
- For fully charged plus series batteries, add water to the maximum water level indicator (see diagram B below).
- If the batteries are discharged, only add water if the plates are exposed. Add just enough water to cover the plates, then charge the batteries. Once fully charged, add water to the proper level indicated above.
- After watering, secure vent caps on batteries.

DIAGRAM A



Add water to the level of 1/8" below bottom of vent well

DIAGRAM B



Add water to the maximum water level indicator

CHARGER IS NOT PROPERLY SET FOR BATTERIES

Dip switches are located behind the SPE white sticker. Peel back corner of sticker for access.

See page 16 for proper setting of the dip switches.



TROUBLESHOOTING: Run Time is Short

S.P.E. Elettronica Industriale

tel.: 051982158 fax: 051981793 e-mail: speelett@tin.it

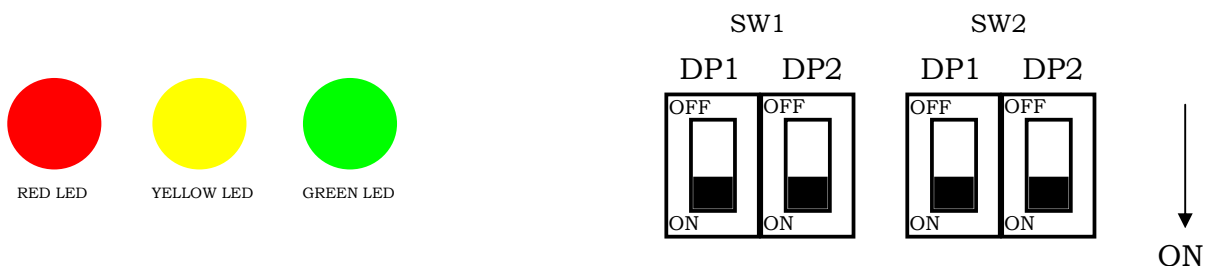
DATE: 05/03/12

DIPSWITCH SETTING CBHD3 24V 25A BETCO

DIPSWITCH: **SW1**

DP1	DP2	CHARGING CURVE
ON	OFF	IUIa-ACD for Lead-acid (Wet) batteries
OFF	OFF	IU0U-AGM FULLRIVER – Trojan AGM
OFF	ON	IUIUa-AGM DISCOVER
ON	ON	IUIa-Gel for TROJAN Gel batteries

Dipswitches are located behind the white label on the top side of the charger and next to the green led you will find 2 sets of dipswitches (SW1 and SW2).



Only the set of dipswitch SW1 (the one on the left side) has effect on charging curve selection accordingly to the table above.

Once you have finished to configure the charger with the desired charging curve according to the battery pack type you have installed in the machine, please cover again the dipswitches with the white label you have previously removed.

DIPSWITCH: **SW2**

DP1	DP2	CHARGING CURRENT
ON	ON	15A
OFF	ON	20A
ON	OFF	25A
OFF	OFF	25A

TROUBLESHOOTING: Run Time is Short

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.



BATTERY CHARGER IS NOT ABLE TO FINISH THE CYCLE

Confirm a steady green light is on the charger after the charger cycle. If it is green then unplug the charger from the wall outlet.

TROUBLESHOOTING: Down Pressure Switch Adjustment

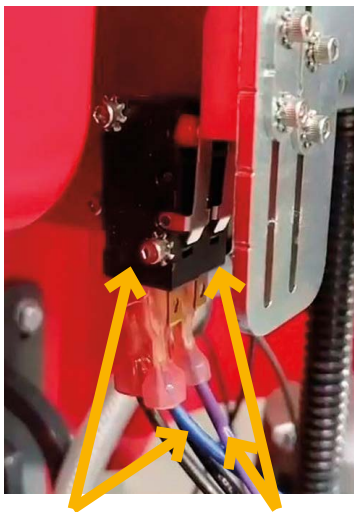
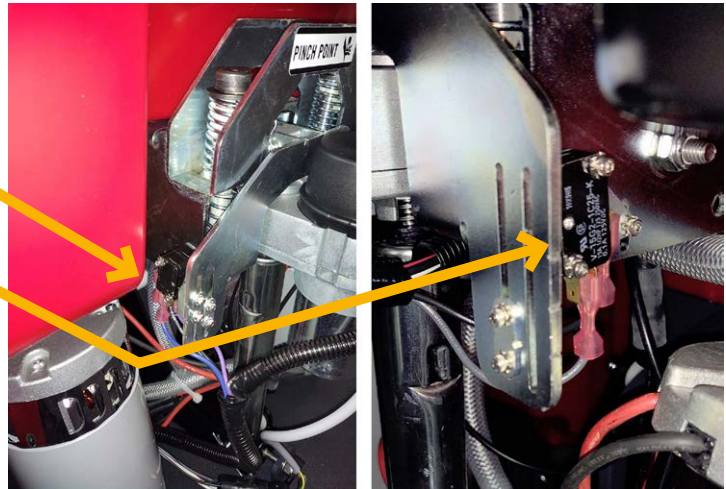
DOWN PRESSURE SWITCH ADJUSTMENT

Factory settings for low, medium and high are 60 lb., 120 lb. and 185 lb.

The down pressure switches are located behind the front cover of the GeneSys™ machine.

Switch location for low and medium down pressure is on the left side of machine.

Switch location for high down pressure is on the right side of the machine.



Blue: Down Pressure 1

Purple: Down Pressure 2

CHECK THE WIRES AND THE SWITCHES

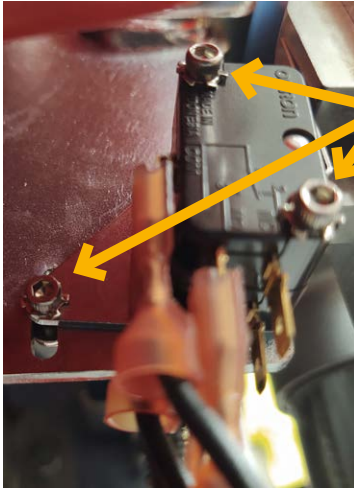
Make sure the wires are positively connected to the switches. Also check wire position on the switches. The center wire lug for down pressure 1 should be Blue and down pressure 2 should be purple. On the other side of the head lift is down pressure 3 which is grey. The back-switch wires are black.

Careful of the pinch points.

Check the function of the switch. You may need an assistant. Put the machine in down pressure 1 and quickly toggle the micro switch lever towards the switch until it clicks. If the switch is functioning correctly the deck will stop. Put the deck up and repeat for down pressure 2.



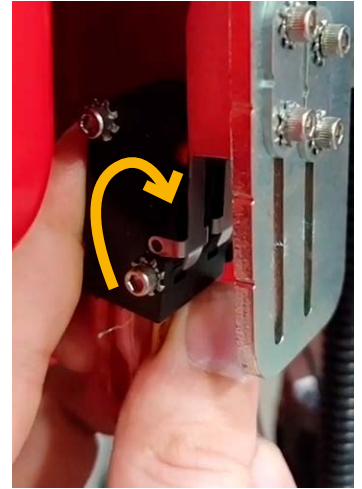
TROUBLESHOOTING: Down Pressure Switch Adjustment



SCRUB DECK GOES DOWN AND COMES BACK UP IN DOWN PRESSURE 1 AND 2

The switch is not engaging when the deck goes down. Turn on the machine and put the deck in down pressure 3. Turn off machine. Loosen the three switch bolts with a 3/32" Allen key and 1/4" wrench. It works easier if the allen key is a "ball" end.

Slowly rotate the top of the 2 switches until you hear the switches click and then go a little further (1/16") and stop. Holding the switches in place, tighten all 3 bolts. You may need an assistant to help. Turn the machine on. Raise the deck up and verify down pressure 1 and then 2 function correctly.

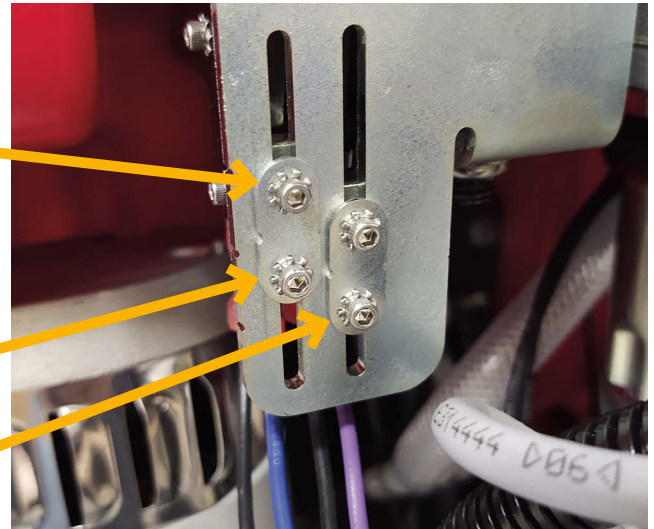


SCRUB DECK DOES NOT GO TO THE FLOOR ON DOWN PRESSURE 1

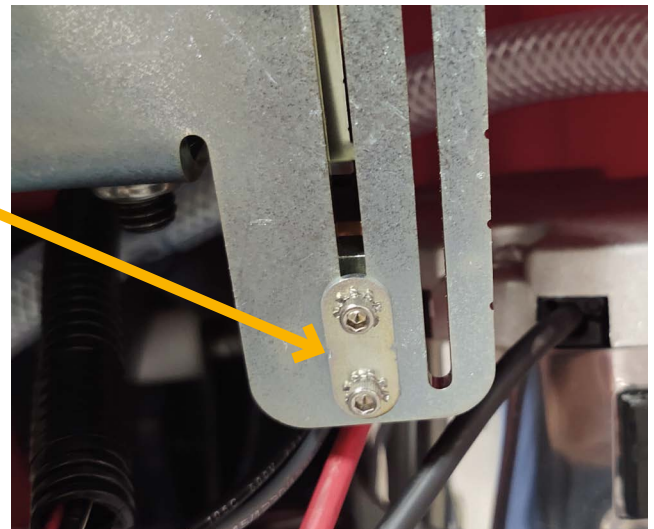
Put the scrub deck in down pressure number 3. Turn off the key. Loosen the 2 allen headed bolts while supporting the cam and plate. Move the cam and plate down 1/16" and retighten the bolts. Check the deck movement by turning on the machine and selecting down pressure 1 (60 lb.). If possible, adjust the down pressure settings with a scale once the deck is correctly going down onto the floor. Check medium (120 lb.) and high down pressure (185 lb.) settings as well.

*Down pressure
Cam and Plate
No. 1*

*Down pressure
Cam and Plate
No. 2*



The high-pressure (185 lb.) cam and plate location.



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 Amordata.com.

PROGRAMMING THE TIMER

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).

BLUETOOTH BATTERY GAUGE

The Betco® GeneSys™ machine has an optional Bluetooth Battery Gauge that can be accessed using a mobile device with a Bluetooth connection. This gauge indicates the current charge of the batteries and hours that the machines deck motors have operated. It is also capable of tracking the battery pack's voltage, amp draw, charge cycles, discharge cycles, and battery health.

GAUGE DISPLAY

The gauge displays the current battery pack charge state using 9 LED indicators and the total hours of runtime for the machine. The indications are as follows

NOTE: When the machine is charging the gauge will pulse from the 1st LED to the appropriate LED to indicate the current level of charge.



9th LED (green)	Battery Pack is approximately 100% full
8th LED (green)	Battery Pack is approximately 90% full
7th LED (green)	Battery Pack is approximately 78% full
6th LED (amber)	Battery Pack is approximately 67% full
5th LED (amber)	Battery Pack is approximately 55% full
4th LED (amber)	Battery Pack is approximately 45% full
3rd LED (red)	Battery Pack is approximately 33% full
2nd LED (red)	Battery Pack is approximately 20% full
1st LED (red)	Battery Pack is approximately 10% full
STANDBY MODE	The appropriate LED will flash every few seconds when the machine is not in use

BLUETOOTH CONNECTION

To connect via Bluetooth, download the ProView Link app by Pro Charging Systems from either Google Play or the Apple App Store. The device must have Bluetooth enabled and must be in Bluetooth proximity to access it.

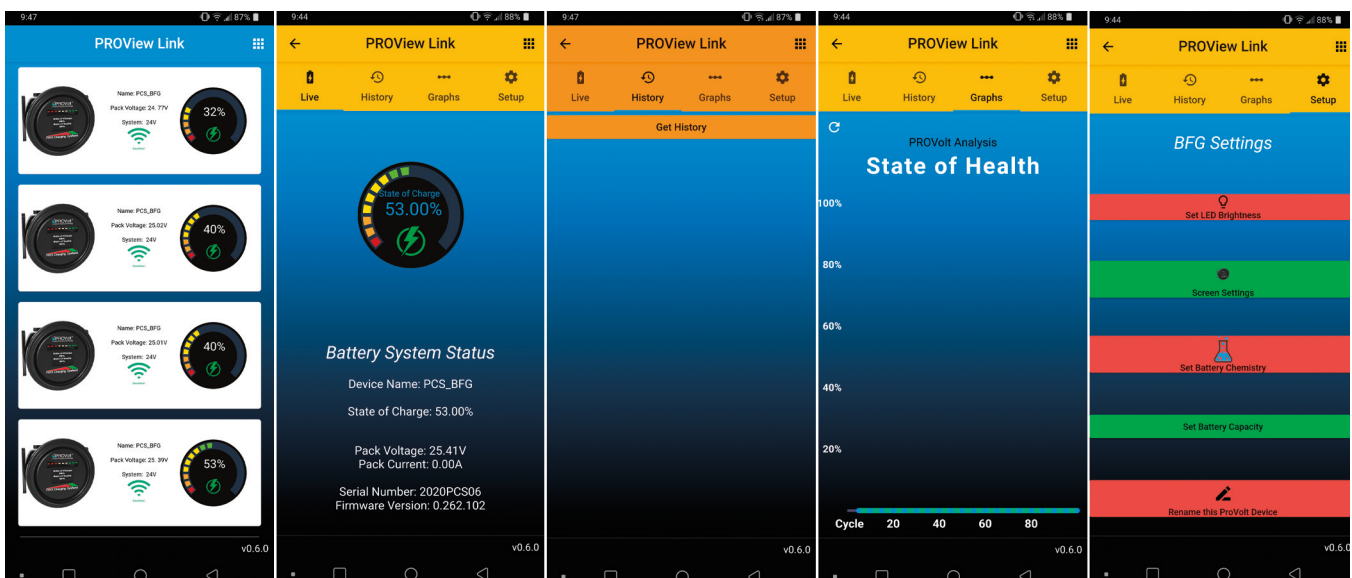
Upon launching the app, a list of gauges that are in range of Bluetooth device will be shown. This overview shows the name of the gauge, the current pack voltage, the nominal system voltage, signal strength, and current state of charge.

Selecting a gauge will bring up more detailed information and allow certain settings to be changed. The Live screen shows the device name, current state of charge, pack voltage, pack current, gauge serial number, and the firmware version. Navigate to the History, Graphs, and Setup screens by tapping the appropriate icon at the top of the screen or by swiping.

The History screen will show charge and discharge cycles that the machine has gone through. To update the screen, press “Get History” and the cycles will be shown. From this screen, the cycle data can be exported for review later.

The Graphs screen will show the state of health of the battery pack based on previous charge and discharge cycles. Note that several cycles must be completed before information populates.

The Setup screen is used to change various settings of the gauge. These settings are the LED Brightness, Screen Settings, Battery Chemistry, Battery Capacity, and the name of the gauge. Note that changing the name of the gauge will be reflected in the list of nearby gauges making it easier to select the desired machine.



GENESYS™ RECOMMENDED MAINTENANCE

SYSTEM	REFERENCE SECTION	DAILY	WEEKLY	MONTHLY	SIX MONTHS
CONTROL PANEL					
INSPECT ALL CONTROLS AND HARDWARE FOR SECURITY & SERVICEABILITY	PARTS DIAGRAM	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 INSOLATORS (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

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.

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 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).

