



LiftOperator™ Owner's Manual and Maintenance Procedures – CEC Complaint Models



ETL Listed
Conforms to UL STD 60335-1:2016 Ed.6;
60335-2-1000:2017 ED.1
Certified to CSA STD C22.2 #60335-1:2011 Ed.1



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TABLE OF CONTENTS

INTRODUCTION.....	3
INTENDED LIFT USER	3
USING THE LIFTOperator CONTROL	3
PRODUCT OVERVIEW	4
COMPONENT DESCRIPTION / OPERATION.....	4
BATTERY PACK.....	6
INSTALLING THE CONTROL UNIT AND RECHARGABLE BATTERY PACK	9
IN CASE OF HAND CONTROL FAILURE.....	9
CONTROL MAINTENANCE	9
TROUBLE SHOOTING	9
LONG-TERM STORAGE	10
WARRANTY INFORMATION	10
SPECIFICATIONS	11
PARTS LIST.....	11

INTRODUCTION

The purpose of this document is to provide information relating to the safe operation, care, and maintenance of the **LiftOperator Control and Rechargeable Battery pack**.

INTENDED LIFT USER

All of S.R. Smith's lifts have been designed to assist individuals requiring assistance entering or exiting a swimming pool or spa - however, the User should not exceed the weight limit of the product (300 lb/136 kg to 400 lb/181 kg depending upon model). It is the responsibility of the lift Owner to ensure that safety procedures are put in place and a risk assessment is completed. Mental or physical disabilities may require assisted transfer, and the Owner is responsible for determining the number of qualified attendants to complete the poolside transfer and the number of persons required to be in the water, ready to receive and assist the User. The correct stabilizing system (seat belt or stability vest) must be attached to the seat and fully fastened and used during each transfer.

Our goal is to provide our customers with the most advanced and innovative designs offering exceptional quality at affordable prices. All of our lifts meet the specifications set forth by the Access Board - ADAAG 2004 (US only), Medical Device Directive, 93/42/EEC, RoHS2 Directive 2011/65/EU, EN 50581:2012 and ISO10535:2006 including repeating the lifting cycle of the hoist (lift) for a total of 11,000 cycles. The lift system and AC powered battery charger complies with EN60601-1-2, 2007/03.

USING THE LIFTOPERATOR CONTROL

Obey all User Instructions listed in the Owner's Manual whenever using lift. Obey all Caution, Warning, Operating Instruction(s) and Labels located on the lift whenever using. It is the responsibility of the lift Owner to ensure that safety procedures are put in place and a risk assessment is completed. Mental or physical disabilities may require assisted transfer, and the Owner is responsible for determining the number of qualified attendants to complete the poolside transfer and the number of persons required to be in the water, ready to receive and assist the User. **If the lift will be used by a disabled person living on their own, a communication device should be installed in the area of use to call for assistance in the event of an emergency. Only persons healthy enough for water activities should use the lift. Users should consult with their physician to determine if water activities are appropriate for the User. Keep fingers and hands clear of lift arms during use.**



WARNING: A SEATBELT OR STABILITY VEST MUST BE ATTACHED TO THE SEAT AND FULLY FASTENED AND USED DURING EACH TRANSFER.

LiftOperator and the LiftOperator logo are registered trademarks of S.R. Smith, LLC.

PRODUCT OVERVIEW

The LiftOperator – Pool Lift Control System with Rechargeable Battery Pack is designed to operate any S.R. Smith lift product as well as many other actuated lift control systems. It can be used with the applicable 2 or 4 button hand held controls. It features a secondary control touch pad on the faceplate to recall the seat to the deck when the seat and hand control are in the water, or in the event the primary hand control fails. It also incorporates an emergency stop button that activates an audible alert. The touchpad has LED indicators that indicate “Battery (Energy) Level”, “Emergency Alert” activation and “Service Required” when maintenance” is required based on lift usage. The lift performance information - i.e. up/down, left/right, battery charge cycles and to reset the “Service Required” LED are viewed/completed via the USB port on the bottom of the control via a standard FAT-formatted USB mass storage device (not included). The lift performance log information can be downloaded to a PC for viewing and record keeping. The unit is constructed of high impact, UV resistant plastic, is water resistant and available in 2 and 4 button configurations. The removable battery pack is rechargeable via the included battery charger. The included lock plate for the battery pack prevents unauthorized removal of the battery pack with the use of padlock (not included). All circuit boards have been conformal coated to add an extra layer of protection against moisture and corrosion.

Application

For use with any S.R. Smith lift product as the standard lift control. It can be used as a replacement unit for any existing S.R. Smith lift or many other common actuated lifts. The unit mounts to existing mounting holes.

COMPONENT DESCRIPTION / OPERATION

Control Box

The LiftOperator is available in two models - a 2 button Control and a 4 button Control. The unit controls all lift operations identical to the user hand set. Two or three cables connect to the bottom of the Control Box to enable operation of the lift. The largest connector is for the hand control. Connector # 1 is for the motor cable (red stripe). Connector # 2 is for the actuator cable (green stripe - 4 button Control only).

Touchpad Control –

The touchpad control arrow keys can be used in the event that the hand control is out of reach or fails. Simply press and hold the arrow for the desired action for one movement at a time – Up, Down, Left, Right Releasing the Arrow stops movement.

Battery Level LED Indicators –

The Battery Level LED Indicators show battery charge levels. The LED's will illuminate when either the touchpad control or the hand control is activated and will stay lit for 10 seconds. At greater than 50% the LED glows Green, at less than 50% the LED glows Amber, and less than 25% the LED glows red and indicates the battery requires charging. If the less than 25% LED glows red, do not operate the lift. Remove the battery and fully charge before use.



CONNECTOR 1
(MOTOR CABLE)

CONNECTOR 2
(ACTUATOR CABLE)

Service Required LED –

The Service Required LED will illuminate when the battery pack has been removed/replaced 120 times - approximately once every 4 months. This indicates that required maintenance for the lift must be completed. Please see the maintenance section of the Lift Owner's Manual for the requirements. The Service Required LED can be reset by inserting a standard FAT-formatted USB mass storage device (not included) into the USB Port on the bottom of the controller. **When the service light is illuminated the lift must not be used until required maintenance is performed.**

Emergency Stop Button –

In the event of an emergency, or if you need to stop lift movement immediately, pressing the Emergency Stop Button (red button on the control) will stop all lift movement. At the same time an audible alert will sound for 10 sec. then pause for 5 sec. and then the sequence will repeat until the button is reset by turning it in the direction of the arrows on the button (clockwise). The Emergency Alert LED will also flash Red when the button is pressed and will remain flashing until the button is reset.

The Emergency Alert (audible and LED) can be activated by pressing any two buttons on the hand control at the same time (provided with the lift). This will stop all lift movement and activate the audible alert and the Red LED will flash. Once both buttons are released, the lift will return to normal operation and the emergency audible alert will silence.



4-Button Hand Control

USB Port –

The LiftOperator control contains a USB port that is used to download the performance log of the lift. Using any standard FAT file formatted USB memory stick (widely available through retail outlets) insert the stick into the slot on the bottom of the control on the far right hand side. Press any of the touchpad control arrows; all three of the Battery Level LED's will flash. During downloading the Green greater than 50% Battery Level LED will flash. If the unit has a problem downloading the performance log the Amber less than 25% LED will flash. Remove the USB from the port and re-insert it. If the Amber 25% LED flashes again, confirm that the USB you are using is FAT file formatted. The information from the USB can be downloaded to a PC for review and/or copied to a spread sheet. The performance log will retain approximately 7,600 events. Once the file is full it will remove the oldest event and replace with the newest.

After the summary data, the events are shown with the oldest first. The first column is the time in seconds from that last event. The second column is the text describing the event. The third column is duration of the activity noted in seconds.

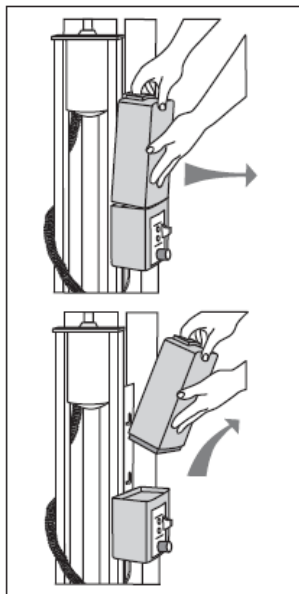
An example of a short log file:

<u>Activity</u>	<u>Description</u>
dev_id_upper,0	Programing data
dev_id_lower,1	Programing data
fw_rev,90	Firmware rev.
batt_volt_float,24929	Non-loaded battery voltage in millivolts
batt_volt_load,21487	Loaded battery voltage in millivolts
batt_capacity,99	Estimated battery capacity in %
charge_starts,8	Number of times charging was attempted
charge_completes,1	Number of times charging was finished successfully

0,power_on,1	Connecting Battery Pack
2,alert_pressed,	Emergency Button pressed
3,alert_released,	Emergency Button released
8,lift_up,2	Lift movement - up
5,lift_down,2	Lift movement - down
11,lift_up,2	
4,turn_left,2	Lift movement - turn left
3,turn_right,1	Lift movement - turn right
3,log_write,	USB File Download

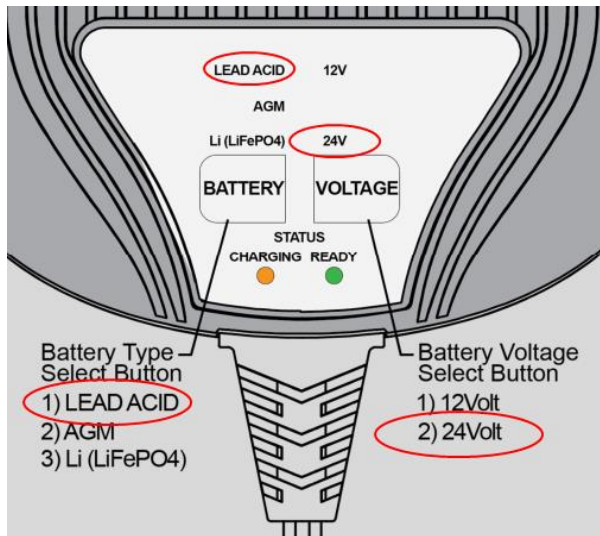
BATTERY PACK

The battery pack is located on top of the Control Box and is removable.



To remove - pull the battery pack away from the mounting plate so that the latch on the battery pack clears the side tabs on the mounting plate - then lift the battery pack up and away from the Control Box.

To replace - align the battery pack with the mounting plate so that the latch will drop over the center tab and that the bottom of the battery pack will fit in the recessed area on top of the Control Box. Lower the battery pack in place so that the latch is fully captured by the mounting plate and the battery pack drops fully seated onto the Control Box.



*Image courtesy of Deltran Battery Tender

The battery pack should be charged daily. Do not allow battery to fully discharge, as it will shorten battery life. Whenever battery is removed from Control Box or lift that is not in use it is important to connect the battery to the charger. This ensures battery is fully charged and ready for use.

Prior to connecting the charger to the battery, make sure that the LEAD ACID battery type is selected and that the selected voltage is 24V. After the correct battery type and voltage is selected, connect the charger to the battery.

The battery charger has an LED indicator to show charging status. The following describes LED indicator operation.

Amber Light Flashing – The amber light flashing indicates that the battery charger has AC power and the microprocessor is functioning properly. If the amber light continues to flash, either the battery voltage is too low (battery pack needs to be replaced), or the battery charger is not properly connected to the battery.

Alternating Green/Amber (Amber LED & Green)

- This indicates reverse polarity connection to the battery.
- or
- The charger's safety timer has activated due to the battery not reaching its optimal voltage. The battery may be defective, contact S.R. Smith customer service for troubleshooting.

Amber Light on Steady – Whenever the amber light is on steady, a battery is connected properly to the charger and the charger is charging the battery. The amber light will remain on until the charger completes the charging stage.

Green Light Flashing – When the charger shows a green flashing light, the battery is 80% charged. Whenever possible, leave the battery on the charger until the green light is solid.

Green Light on Steady - When the green light stops flashing and remains on steady, the battery is fully charged and can be returned to service. The battery can and should be left on the charger when not in use.

Batteries have a normal lifespan of between 2-3 years, depending on use and care. A fully charged battery will provide approximately 30 to 40-lifting cycles, depending on the weight of the users. Prior to use the battery charge level should be checked by observing the LED indicator on the charger plug to ensure sufficient charge level. See warranty policy regarding battery replacement.

It is not necessary to fully discharge the battery prior to charging. Battery should be charged daily and cannot be overcharged. It takes up to twelve hours to fully charge depending upon battery usage. Do not allow battery to fully discharge, as it will shorten battery life. Whenever battery is removed from Control Box or the lift is not in use it is important to connect battery to charger. This ensures battery is fully charged and ready for use.

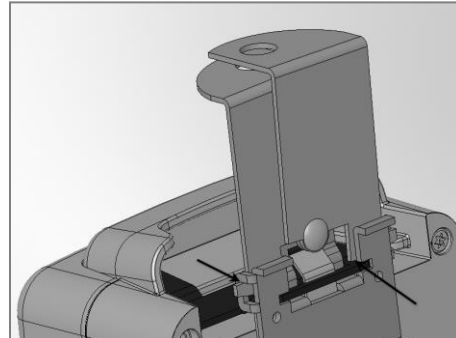
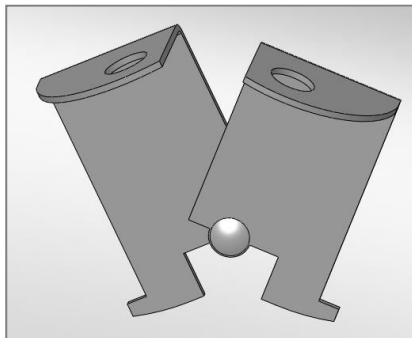
Do not drop the battery, as it could cause the unit to fail. If the battery case is cracked do not use and replace the battery. Do not place battery on a conductive surface. During temperature extremes beyond the range of 41 F (5 C) to 104 F (40 C) remove battery and place in a controlled environment or battery life may be shortened.

Battery Disposal

The batteries located inside the battery pack are recyclable and shall be disposed of in accordance with applicable local, state/provincial or federal/national regulations.

Locking Plate Assembly

The battery pack can be secured to the mounting plate using the provided lock plate assembly. To install open the lock plate so that the bottom tabs are moved close to one another to allow the lock plate to be inserted into the slots on the mounting plate secured to the lift. Close the lock plate assembly so that the tabs are captured by the slots. Insert a padlock (not provided) through the holes on the lock plate assembly to secure it.



Console/Battery Cover

Keep the Console/Battery Cover installed at all times to prevent moisture from collecting on the Control Box and battery. Excessive moisture collection can affect battery and lift performance and could lead to battery failure and/or the lift failing to operate. Whenever the battery is removed for charging the Console/Battery Cover must be placed over the Control Box to protect the unit from the elements.

INSTALLING THE CONTROL UNIT AND RECHARGABLE BATTERY PACK

1. Insert motor plug (with red stripe) into connector #1 on Control Box. Make sure plug is fully inserted and secure (4 Button Control Unit only).
2. Insert actuator cable plug (green stripe) into connector #2 on Control Box. Make sure plug is fully inserted and secure.
3. Insert hand control plug into large connector on Control Box. Make sure plug is fully inserted and secure.
4. Attach battery to Control Box. To remove battery pull slightly away from mounting plate and lift battery pack off of the Control Box.
5. Cover Control Box and battery with Console/Battery Cover to protect from moisture.
6. Check up and down controls for proper operation - both touch pad and hand controls.
7. Check side to side controls for proper operation – both touch pad and hand controls (4 Button Control only).
8. Check Emergency Stop button for operation/activation of internal sounder.

To replace an existing control/battery pack with The LiftOperator – Pool Lift Control System with Rechargeable Battery remove the existing mounting plate and install the provided mounting plate using the existing screws. Connect cables and test units as indicated above.

IN CASE OF HAND CONTROL FAILURE

Use the touchpad control on the front of the Control Box. Press the directional arrows for the operation required and hold the arrow down for movement. Release the arrow when finished.

If the lift will be used by a disabled person living on their own, a communication device should be installed in the area of use to call for assistance in the event of an emergency or lift failure.

CONTROL MAINTENANCE

Proper maintenance will prolong the life of your control unit.

- Keep all electronic components clean and dry
- Keep the Console/Battery Cover installed at all times to prevent moisture from collecting on the Control Box and battery. Excessive moisture collection can affect battery and lift performance and could lead to battery failure and/or the lift failing to operate.
- If the lift is used outdoors, an optional full cover is available and recommended.

Owners of lifts should be aware of any and comply with any applicable local, state/provincial or federal/national regulations regarding the inspection and or testing of lifts.

TROUBLE SHOOTING

Be sure the battery is fully charged before troubleshooting.

Lift does not rotate

Does lift raise or lower?

Yes.

1. Check connection to Control Box. Be sure plug is pushed in all the way.
2. Check hand control connection to Control Box for damaged pins.

3. Check connections on terminal block located on frame for loose wires.
4. Check connection cable for damage.
5. Reverse the motor cables as follows: Locate the area on the Control Box where the cables are attached. Remove the motor cable from connector #1 and replace it with the actuator cable from connector #2. Activate the up and down buttons on the hand control. If lift rotates, the problem is likely the hand control. If lift does not rotate, the problem is likely the 24v motor. If this happens contact your Authorized Reseller or S.R. Smith for replacement information.

Does lift raise or lower?

No.

1. Check battery charge level.
2. Check battery connection.
3. Use another fully charged battery. If lift continues to not function, replace the Control Box.

Lift does not Raise or Lower

Does lift rotate?

Yes.

1. Check connection to Control Box. Be sure plug is pushed in all the way.
2. Check hand control connection to Control Box for damaged pins.
3. Check connection cable for damage.
4. Use touch pad control. Activate these buttons by pressing down. If lift operates properly, the problem is likely the hand control. If lift does not operate properly, the problem is likely the actuator.

Does lift rotate?

No.

1. Check battery charge level.
2. Check battery connection.
3. Use another fully charged battery. If lift does not function, replace the Control Box.

If troubleshooting does not resolve the issue, contact S.R. Smith at 800.824.4387 or 503-266-2231 or customercare@srsmith.com.

LONG-TERM STORAGE

When storing the lift for an extended period of time:

- Keep the battery on the charger in a dry temperature-controlled area.

WARRANTY INFORMATION

The S.R. Smith warranty becomes effective on the date of manufacture.

To initiate a warranty replacement, please follow the process outlined below.

1. **Take photos of the damaged product.**
 - a) The photo must include the entire unit (i.e. board and stand or slide from a distance).
 - b) Also include one photo or more of the damaged area.
2. **Remove the serial # sticker from the product.**
 - a) S.R. Smith provides a serial # for every board, stand, slide and rail product we produce. The

sticker with the serial number for our boards, stands and slides is a silver, 1" long rectangular sticker found on the side or bottom of the item. The serial # sticker for our rail products is clear and 2" long. It will be found on the inside of the topmost curve.

3. **Attach the photos and the serial # sticker to a written request for replacement under the S.R. Smith warranty.** Please include the following information:
 - a) Product name and description. (i.e.: board length/color, curve direction of slide, etc.)
 - b) Date of purchase and/or date of installation.
 - c) Description of damage.
 - d) Shipping address with a contact name and phone number.
4. **Return to us by mail or email at customercare@srsmith.com the photos, serial # sticker and your written request to:**
 S.R. Smith, LLC
 PO Box 400
 1017 SW Berg Pkwy
 Canby, OR 97013
 Attn: Warranty Specialist

****Please Note:** Missing information will result in a processing delay and possibly denial of your claim.

Should you have any questions regarding this process, please contact S.R. Smith's Warranty specialist at 800.824.4387 or 503-266-2231 or email customercare@srsmith.com

SPECIFICATIONS

LiftOperator – 2 Button Control Assembly 1001540-BC, 4 Button Control Assembly 1001499-BC, Replacement Rechargeable Battery Pack 1001495-BC

1. Specifications

Dimensions:

Control Unit - 6.76" L (17.17 cm)/ 4.96" W (12.59 cm)/ 4.67" D (11.86 cm)
 Battery Pack - 9.95" L (25.27 cm)/ 4.96" W (12.59 cm)/ 4.67" D (11.86 cm)
 Overall - 16.71" L (42.44 cm)/ 4.96" W (12.59 cm)/ 4.67" D (11.86 cm)

Weight:

Control Unit – 2.0 lbs. (.91 kg) with mounting plate.
 Battery Pack - 9.3 lbs. (4.22 kg)
 Total Weight – 11.3 lbs. (5.12 kg) – Shipping Weight – 12.0 lbs. (5.44 kg)

Battery 24V DC, IP 65 Gel Cell Lead Acid
 Temperature Range 41 F (5 C) to 104 F (40 C)
 Battery Life 30 cycles (approximate per charge)

PARTS LIST

Part Number	Description
1001540-BC	2 Button Control
1001499-BC	4 Button Control
1001495-BC	Replacement Battery Pack
1001530-BC	Battery Charger
910-1000	Console Cover