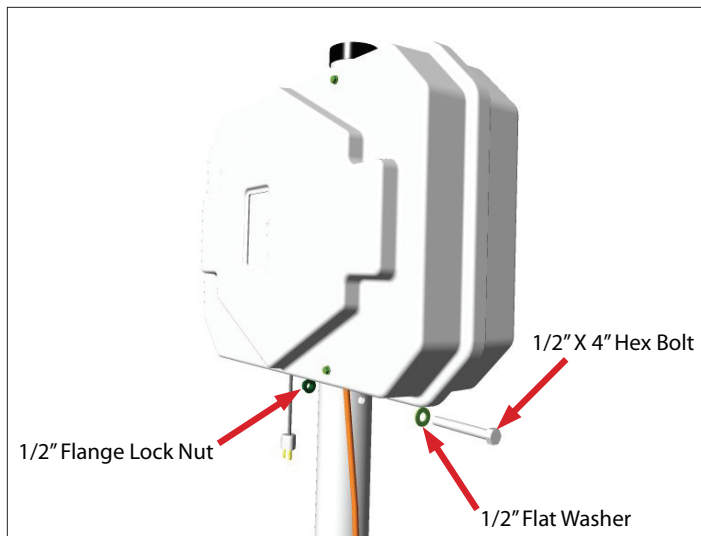


AC Direct Drive Winch Assembly

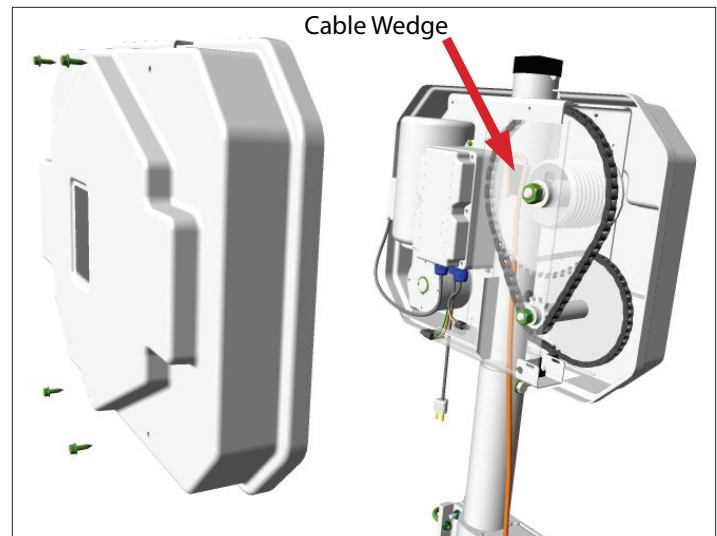
SHORESTATION DIRECT DRIVE WINCH SYSTEM POWERED BY 120 VOLT AC ELECTRICITY

INSTALLATION OF THE WINCH

The winch system is shipped as a complete assembly with the attaching bolts and hardware required to install this winch on a hoist. It also includes the cable wedge and two remote control fobs for your convenience.



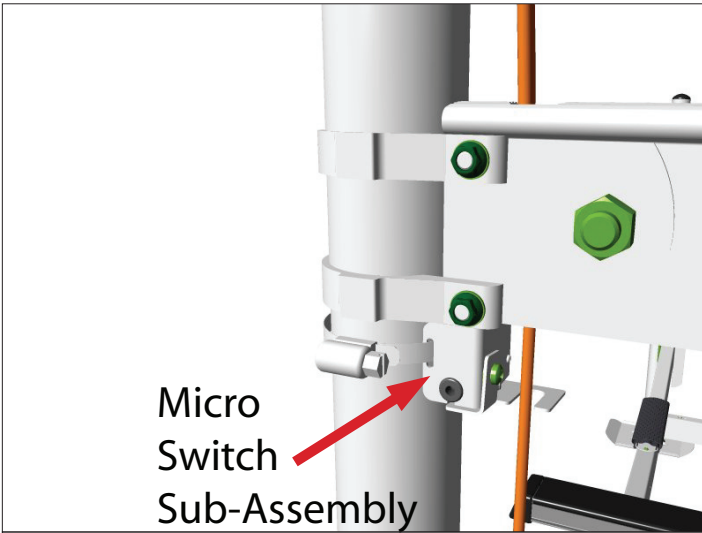
Attach the winch case assembly to the top of the winch post by inserting the post section of the winch case into the top of the winch post. Secure the winch case in position by inserting a 1/2" x 4" hex bolt as shown. Secure with a 1/2" flange lock nut. Tighten. The bolt must be inserted as shown so the bolt does not interfere with the winch cable when the winch is operated.



Remove the four mounting screws that attach the front cover to the winch case.

Locate the cable coming out the top of the winch tube. Thread the cable up next to the winch post so it is behind the lower limit switch. Thread the cable into the bottom of the cable wedge pocket. Once the cable is pulled up into the pocket, form a loop in the end of the cable, then re-insert the end of the cable back into the top of the cable wedge pocket until the end of the cable is even with the bottom of the cable wedge pocket. Insert the cable wedge into the pocket inside the loop just formed. Pull the excess cable of the loop back down through the bottom of the cable wedge pocket forcing the cable wedge into position. This will secure the cable in the winch drum.

NOTE: When referencing the front of hoist, this represents the winch end. When referencing the hoist end, this represents opposite of the winch end. Which side is also referred to the right side of the hoist.



Micro
Switch
Sub-Assembly

Remove the upper limit switch (Switch connected to the longer wire leads) from the winch housing. Locate the stainless steel hose clamp supplied in the hardware. Thread the open end of the hose clamp through the slotted holes in the mounting bracket, then around the upright post. Thread the clamp into itself so it can be tightened.

Locate the rubber grommet and the plastic wire tie provided for the adjustable stop. Place the rubber grommet around the cable as shown. Loop the plastic wire tie around the grommet so it fits in the grommet groove. Pull until it is tight. Cut the excess length of plastic wire tie off using a side cutter. The grommet is what will contact the upper limit switch. The rubber grommet can be positioned up or down on the lift cable to stop the platform at the desired height.

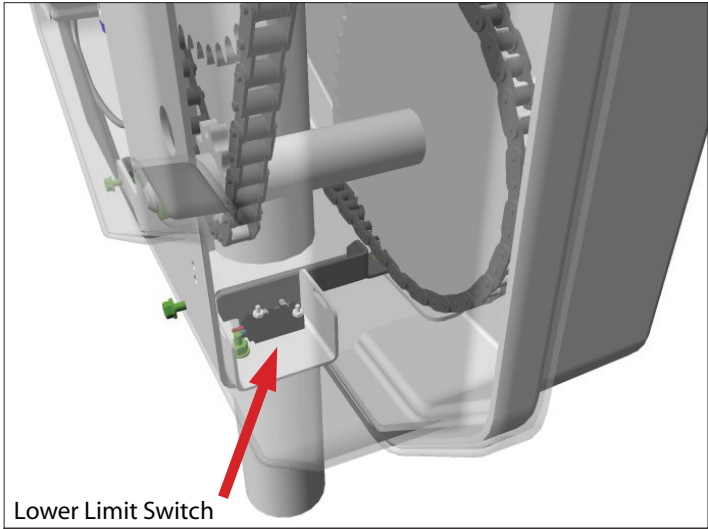
The switch must be positioned as shown on the upright post so that it will contact the rubber grommet that is attached to the lift cable. The platform can be raised until the grommet contacts the switch. Upon contact, the switch will stop the motor from raising the platform.

IMPORTANT:
The limit switches are protective devices designed to over ride both the remote control and the push buttons on the touch pad.

LOWER LIMIT SWITCH

The upper limit switch must be installed to keep the winch from destroying the winch tube assembly by over cranking.

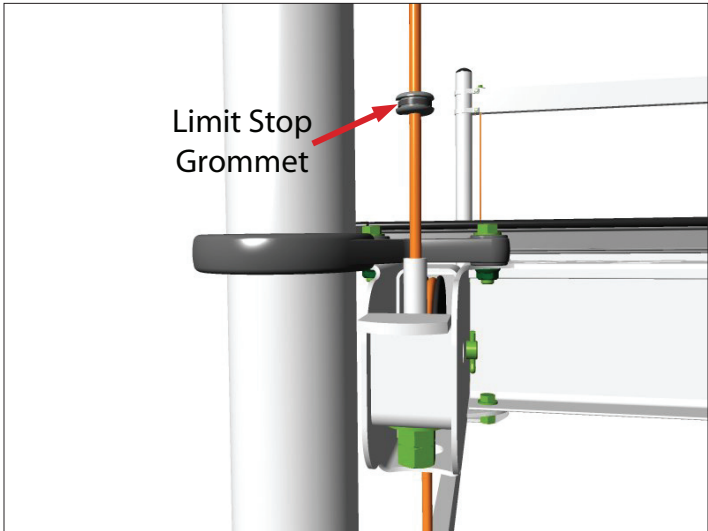
The upper limit switch is adjustable for height and allows you to stop the platform at a desired height as it is being raised to accomodate different styles of boats.



Lower Limit Switch

LOWER LIMIT SWITCH

The lower limit switch has been assembled in the factory and will need no further installation. It is designed to stop the winch unit from operating once the platform has reached its lowest position. This prevents the cable from being wound backwards on the winch drum causing cable failure and a potential hazardous condition.



Limit Stop
Grommet

CAUTION!! The operation of the winch mechanism without the cover in place must be performed by an authorized technician only. Never reach into the winch mechanism while it is running. Failure to stay clear may result in personal injury and/or property damage.

120 VAC DRIVE/CONTROL/REMOTE

OPERATING PROCEDURES

POWER SUPPLY

The unit must be connected to a 120V AC ground fault protected receptacle (GFI) with a minimum of 12 gauge wire. (See NEC guide for figuring proper cord lengths/gauges).

KEYBOARD OPERATION

To enable the touch pad function, enter the factory or user-defined 4 digit code. The preset factory code is the sequence "1-2-3-4".

The numbers entered into the touch pad do not have to be changed if numbers are entered by mistake. The only requirement is that the four digit sequence of numbers be entered into the system during the number entering process.

Do not press the code button anytime before or after the code is entered into the system. Doing so will disable the touch pad so the keyboard functions will not operate.

When you start entering numbers onto the touch pad, the **GREEN-LED** light will light up. When the correct sequence of four numbers is entered into the system anytime during the number entering process, the **RED-LED** will light up. Once the **RED-LED** is lit, the **UP**, **DOWN**, and **LIGHT** function keys on the touch pad will operate. The remote controls are disabled when the **RED-LED** is lit.

Once the touch pad has been activated using the sequence numbers as just described, the touch pad will stay activated for approximately 2 minutes. It will then return to an inactive mode.

Pressing the code button will activate the remote control and disable the touch pad at the same time. The touch pad and remote control can never be operated at the same time.

Touch pad FUNCTIONS

UP BUTTON - Hoist platform will raise

DOWN BUTTON - Hoist platform will lower

LIGHT BUTTON - An accessory light (if installed) can be turned on and off by pressing the light button. The light will automatically turn off after approximately 5 minutes.

The lift will operate continuously while the **UP** or **DOWN** button is pressed and held. It will stop when the button is released.

UPPER AND LOWER LIMIT SWITCHES

The **UPPER** and **LOWER LIMIT SWITCHES** will over-ride both the touch pad and the remote control functions and stop the lift when triggered protecting the hoist from damage that can be created by either over cranking or back winding

The height of various boats and accessories will vary. The upper limit switch can be adjusted up or down on the winch post to accommodate for this variance. It is recommended you test run the unit and carefully observe making sure the upper limit switch is properly located to eliminate the boat from being raised to high causing damage to the boat, the canopy or both.

ACCESSORY LIGHT BUTTON

To turn on the (optional) light, press the light button on the remote and press again to turn off. The light will automatically shut off after approximately 5 minutes.

CHANGING FACTORY CODE

Factory code is "1 2 3 4". To operate the system from the touch pad you must enter this code or reprogram by first pressing and holding the code key and then pressing the 2 key. The red LED will begin to flash. Next enter your own desired 4 digit code. The LED light will automatically go out after the last number (4th digit) of the new code has been entered. Your system has then accepted the new code. To change the code, simply repeat the process.

KEY FOB REMOTE CONTROLS

PROGRAMMING NEW OR REPROGRAMMING EXISTING REMOTES

To program a key fob to the internal receiver, press and hold the code button and then press the 1 button. The RED - LED will activate. Once activated, press the light button on the key fob once. Next, test the UP and DOWN functions on the key fob to be sure the receiver has accepted the programming. A total of 4 key fobs may be programmed per unit.

KEY FOB INFORMATION

Key fobs are not waterproof. In the case of accidental submersion, immediately open up the key fob by removing the small screw at the base of the fob and prying open the fob with a small blade. Next, remove the battery and allow the key fob to air dry naturally or dry the fob using a hairdryer.

When the batteries have expired on your key fob the blue light on the fob will not light up. Key fob replacement battery is a size 23A 12V. This battery can be found at camera/electronics stores.

MOTOR OPERATION AND CONTROL

The electrical system in this electric drive is designed such that when the motor first starts it runs at a reduced RPM and then gradually increases to full RPM. Doing so reduces the peak current draw required to start the platform moving when loaded. This is important when the power supply to the hoist is marginal and not as great as is really needed for proper operation.

The electrical system also allows you to change the RPM (revolutions per minute) speed of the motor. Reducing the motor speed increases the torque load that can be generated with the same motor. This also affects the amount of peak energy draw required to raise a loaded platform. This again is very important should your power supply to the winch system be marginal.

All of the units are preset at the factory at 50 HZ. The speed can either be increased or decreased from this point to fit your needs.

The best way to determine if your motor speed is properly set is as follows:

- Motor speed set to slow.
- If the motor raises the load without any of the above symptoms, it is possible that the motor can be speeded up.

The following reasons will create this situation:

- The load being raised is less than the rated load of the hoist.
- The power supply to the hoist is large enough and has the necessary amperage available for the motor to operate to full capacity.

CHANGING THE MOTOR DRIVE FREQUENCY (affects speed/torque)

The motor speed has been preset at the factory to 50 HZ. Use the following instructions to change the motor speed in the **UP**-mode.

TO INCREASE THE MOTOR SPEED (Reduce the Motor Torque)

- Press the Code button.
- Press and hold the “**UP- arrow**” button while pressing the 4 button on the touch pad. The **Green LED** light will flash when the frequency changes. The frequency will increase by 5 HZ, the number of flashes of the light will identify the frequency. (See the chart below).
- Press in the four digit code. Press the **UP** button to check the new frequency setting of the motor.
- Repeat the above steps each time for the frequency to be increased by 5 HZ. The maximum frequency setting is 70 HZ and will be identified by 7 flashes of the **Green LED** light. (See the chart below).

TO REDUCE THE MOTOR SPEED (Increase the motor torque)

- Press the **Code** button.
- Press and hold the “**DOWN- arrow**” button while pressing the 4 button on the touch pad. The **Green LED** light will flash when the frequency changes. The frequency will decrease by 5 HZ the number of flashes of the light will identify the frequency.
- Press in the four digit code. Press the **UP** button to check the new frequency setting of the motor.
- Repeat the above steps each time to reduce the frequency by 5 HZ. The minimum frequency setting is 40 HZ and will be identified by 1 flash of the **Green LED** light. (See the chart below).

Number of Flashes	Drive Frequency
1	40 Hz
2	45 Hz
3	50 Hz
4	55 Hz
5	60 Hz
6	65 Hz
7	70 Hz

*All drives will come preset at 50 Hz from the factory.

DOWN MOTOR SPEED

The motor speed for lowering the hoist is preset at the factory and can not be adjusted. The downward speed is faster than the 70 HZ which is the maximum speed in the **UP** mode.

OPERATING THE WINCH WITH AN ALTERNATE POWER SOURCE

The winch can be operated with an alternate power source in the event of a power outage. The following is a recommended method for raising or lowering the hoist in an emergency situation.

- Unplug the winch power cord from the power source.
- Remove the front winch cover by removing the four screws that attach it to the winch case.
- Locate the special D shaped key that is provided with every winch.
- Insert this D shaped key into a 1/2HP 110 volt electric drill if power is available. If 110 volt AC is not available, use a 12 or 18 volt DC cordless drill.
- Locate the shaft end that is on the top of the motor.
- Place the key onto the shaft extension and begin turning with the alternate power source. Check to make sure the motor is being turned in the correct direction to achieve the desired results.
- The above process is rather time consuming but does give you the option to raise or lower your hoist in times of a power outage.

OPTIONAL LIGHT

An optional 12 volt light is available that can be connected into the winch system. Simply mount the light in the desired location, then connect the light into the harness plug provided. It can be operated by either the button on the keyboard or else the light button on the remote control fobs.

SERVICING THE ELECTRICAL SYSTEM

WARNING

Never remove the lid on the electrical control box. Potential high voltage components may cause electrical shock and potential bodily injury.

The electrical components in the electrical system are designed to provide many years of trouble-free service. No in-field servicing can be performed on this unit other than full replacement of the complete electrical system.

Should you experience an electrical problem, it is recommended that you contact your local **ShoreStation** dealer for service.