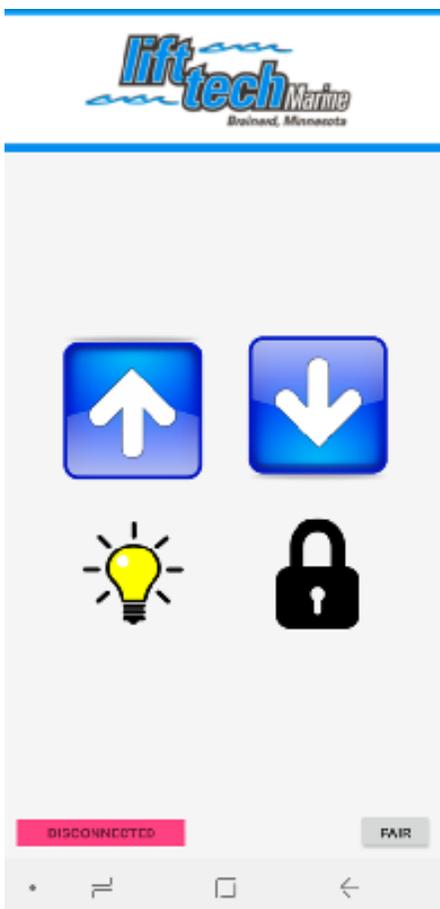


User Manual Lift Tech Android Application

1. Go to Google Play and search for lifttechmarine (All one word) and download the App.
2. The main screen is shown in Figure 1 below. It is intended to replicate an existing boat lift fob design and has four main buttons that control the lift action. The first two buttons, located below the Lift Tech logo, control the lift action 'Up' and 'Down'. Similarly, the 'light bulb' and 'lock' buttons are toggle switches that control the lift light and lock. The text box at the lower left corner of the screen is an indicator showing whether a lift device paired with the phone is 'CONNECTED' or 'DISCONNECTED' to the phone via Bluetooth. This indicator will also show 'NOTHING PAIRED' if the phone has not yet been paired to a controller. The 'PAIR' button at the lower right is used to move to the pairing screen and initiate the pairing process with the motor controller.



'UP' AND 'DOWN' BUTTONS

The lift motor is controlled by the 'Up' and 'Down' buttons. The buttons operate as "press and release" meaning that when pressed the motor will continue to operate until the button is released. When pressed, the background of each button will turn red, indicating that the motor is engaged. When released, the background will return to its original state and the motor will stop.

'LIGHT' AND 'LOCK' BUTTONS

In this first version of the app and hardware, these buttons are toggle-only. They will show whether the button has been pressed and will send a signal to toggle the state of the light or lock. However, the icons do NOT represent the state of the light or lock. Like the 'Up' and 'Down' buttons, their background will also turn red when pressed.

'CONNECTED' / 'DISCONNECTED' INDICATOR

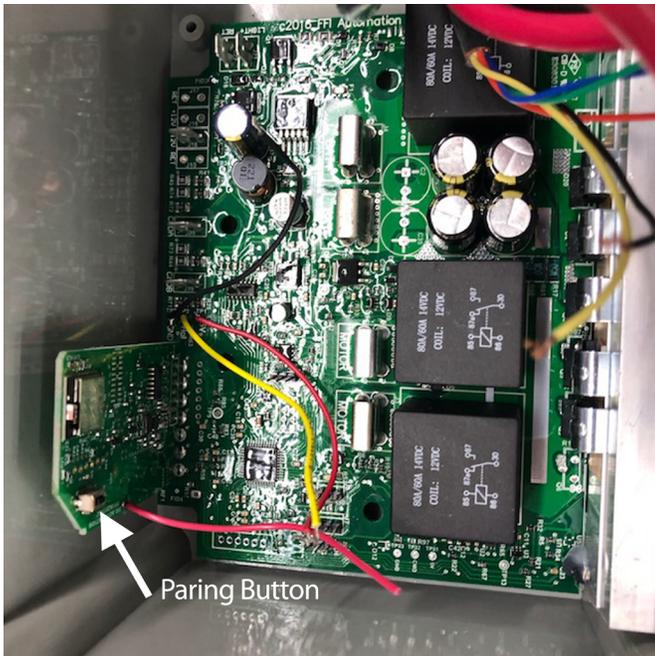
When it has a red background this field will indicate either that there is no device paired with the phone, or that there is no Bluetooth connection between the phone and lift (either because of distance or the lift is not powered). When in range, and the app is active, the app will automatically connect to the lift controller and this button will turn green.

'PAIR' BUTTON

This button is used to initiate the Bluetooth pairing between the phone and the LiftTech motor controller. The app cannot be used with a boat lift until it is paired with a specific LiftTech controller.

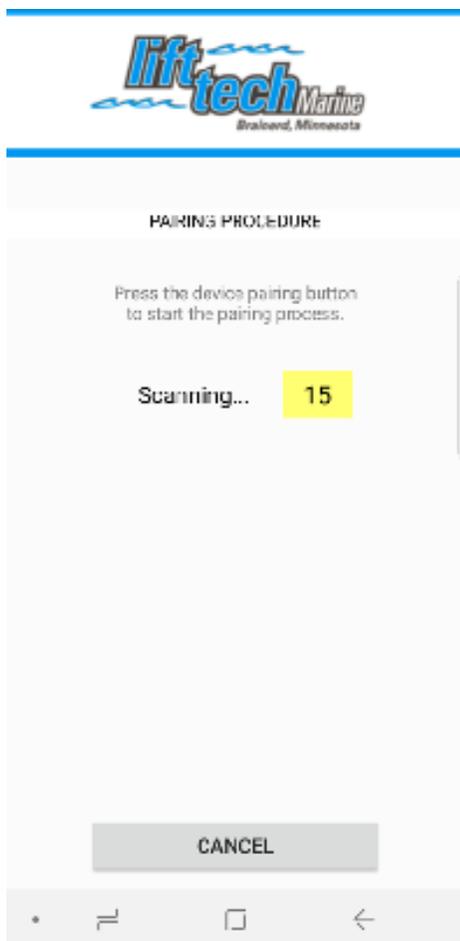
Pairing Operation:

Pairing is required in order for the app to operate the lift. This is a security feature so that unauthorized users are not able to control the boat lift. In this first version of the app only one boat lift may be paired with a phone. However, it is possible to pair multiple phones with one boat lift.



Pairing involves a few steps.

1. The first is to remove the boat lift motor cover to access the pairing button. This button is located on the small (1.5" x 3") printed circuit board that sticks up vertically from the main circuit board. The button itself is brown and is located at the top of the board. (See Pic) The controller must be powered in order to pair.
2. The second step is to put the app into pairing mode by pressing the pairing button. This will cause the pairing screen to appear and start a countdown of approximately 15 seconds.



3. At this point the pairing button on the controller should be pressed. Once the app completes its scan successfully, a 'FOUND' message will appear on the screen along with the Lift Tech device shown as 'LiftTechRX'.
4. Complete the pairing process by selecting the 'LiftTechRX' device by pressing it. The app will return to the main screen and a message will appear informing the user of a successful pairing.

'Scanning' countdown

The user has approximately 15 seconds to press the pairing button on the motor controller board. If this isn't accomplished, or if the pairing doesn't succeed, then the user should return to the main screen and re-attempt to pair again by pressing the 'PAIR' button, and repeat the pairing cycle described above.

'CANCEL' button

If the user elects to cancel the pairing, or if the pairing doesn't succeed, then this button should be pressed to return to the main screen.