Motowinch Smart-Handle

User Manual

Operating Requirements and Conditions:

The design of the Motowinch Smart-Handle complies with U.S. Federal Communications Commission (FCC) guidelines respecting safety levels of radio frequency (RF) exposure for portable devices.

FCC ID:

This product contains FCC ID: 2A8AX-MWTX01

Portable Device RF Exposure Statement:

RF Exposure - This device has been tested for compliance with FCC RF exposure limits in provided portable configuration. At least 5mm of separation distance between the Motowinch Smart-Handle and the user's body must be maintained at all times. This device contains a permanently affixed antenna and may not be used with any other antenna or transmitter that has not been approved for operation with this device.

Caution Statement for Modifications:

CAUTION: Any changes or modifications not expressly approved by Motowinch could void the user’s authority to operate the equipment.

FCC Part 15 Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

QR Code to Instructional Videos online:

Motowinch System Major Components (Component Intro 1)

- Comes with winch box, Ebox, handles, antenna, battery

Handle Components (2A)

- Thumb throttle – centered on top of handle
- Antenna – centered on bottom of handle
- Grips on the left and right
- Floaties/floats on y-line
- microUSB charging port on left side of handle end
- Power button on left side of handle end

Handle Antenna Orientation (Handle Antenna 2B)

- Antenna points generally aligned with corners of casing
- During operation point the handle generally towards the winch (example of pointing antenna not illustrated well)
- Keep antenna at least 1ft above water

Handle Power & Throttle (2C)

- Push the silver power button to turn on. The button is located above the microUSB and between the LEDs. You should hear an audible click when actuated and the LEDs will turn on when the handle is on. They LEDs turn off when the handle is turned off.
- When the Red LED is on the handle is powered.
- The Green LED indicates throttle input.
    - There's about 10% of dead-play in the throttle for safety.
    - LED gets brighter with increasing throttle input. LED dims when throttle input is reduced.

Adjusting Handle Ends (2D)

- Adjusting the handle ends allows for general handle orientation under tension.
    - Adjustments should be done symmetrically.
    - Left side handle end should be snug to plug.
- Loosen hardware with 2mm allen key.
    - Do not use a rounded allen key.
- After adjusting the handle ends tighten the hardware until contact is made – then turn hardware one half-rotation to complete the adjustment.

Handle Charging (2E)

- Charging should only be done using the provided cable and charging brick.
    - 5V 1A charging brick and cable are provided.
    - Charging using the provided cable via a computer or laptop is allowed.
    - Charging time is about 1.5hrs.
    - Handle should remain off while charging.
- Ensure the microUSB port is completely dry before attempting charging.
    - Rice can be used to quickly remove all moisture from end of handle.
- Once the cable is connected and charging is initiated an Orange LED will turn on.
    - Charging LED is to the right of the Power Button at handle end.
- Once the handle is fully charged a Blue LED will turn on.
    - Charged LED if to the left of the Power Button at end of handle.
- If any LEDs turn on during charging that aren't Blue or Orange, something is wrong, contact Motowinch.
    - Conversely if no LEDs turn on during charging, something is wrong, contact Motowinch.
- A fully charged handle provides about 8hrs of run time.

Winch Box Components (3A) (no mention of cables)

- Fairlead at front of winch: consists of 2 vertical rollers and two horizontal rollers. The horizontal rollers are mounted behind the vertical rollers.
- Loadspars on the left and right.
- Covers at the top and bottom.
- Carrying handle in back of winch.
- Motor cable and connectors exit form back of winch.
- Comes with 2mm ultra-high molecular weight polyethylene winch line.

Winch Box Bolts – Service and Maintenance (3B)

- Motor cable(s) should be disconnected from Ebox during maintenance.
- Metric tools are used to assemble the winch: 6mm allen key used for fairlead components, 5mm allen key used for hardware in the loadspar
- If access to the spool is required, remove bolts as shown in instructional video to hinge open the top cover.

Winch Box Cover Bolts (3C)

- Tighten bolts on the right-side cover first when reassembling.
- Tighten to tech-tight – bolt head should contact feature in loadspar, then tighten one-quarter turn.
    - Repeat on left-side of cover to fully, properly secure the cover.

Ebox External Features (6A)

- Handle – for carrying/transportation located on front of Ebox.
- Latches – secures lid; one on each side of handle located on front of Ebox.
- SMA connector – connects/mounts antenna located on front of Ebox next to left-side latch.
- Heat sink - on the bottom on Ebox.
- Motor connectors with rubber caps – located on right-side of Ebox.
    - Keep caps on when not in use to prevent water/sand egress.
- Power Button – turns Ebox on and off located on right-side of Ebox.
    - Ebox is powered when this button is depressed and Green LED is on.

Ebox Opening & Closing (6B)

- Do not leave lid open during operation.
- Only open lid to adjust speed setting and access battery.
- Push down on grey portion of latches to release latch and swing up to open lid.

- When closing lid listen for audible click. If the latch sticks, depress grey portion of latch to lock it down completely. Tug/jiggle on lower black portion of latch to confirm latches are locked.

Ebox Interior Features (6C)

- Candy Bar – covers up the motor controller
- Speed selector switch – used to select between Low, Medium, High speed modes. Switch is marked with the following symbols: I, 0, II
    - 0 is Low, I is Medium, II is High
- Battery – battery has two connectors: the larger connector plugs into the cable exiting the Candy Bar (white cover with logo), the smaller connector is used exclusively for charging.

Handle Antenna Orientation

- Point corners of antenna case towards the receiver antenna to try and improve signal when struggling with connection at long range.

Ready to Plug-In (8B)

- Before turning on system pull out some line – no more than 50ft (Jacob says 100, that too much)
- Before making any connection between the Ebox and Winch Box make sure the Smart-Handle is powered off and the Ebox is powered off.
- When connecting the motor cable(s) to the Ebox connect the smaller connector first, then the larger connector. These connectors make an audible click to signal proper connection.
    - When disconnecting the motor cable(s) disconnect the large connector first, then the smaller connector.
    - The small connector is first in and last out.
- Connect antenna to SMA connector. Use black 3D printed piece to assist in tightening the connection.
- Once connections are made turn on the Ebox, then the Smart-Handle in that order.
    - Make sure line is unobstructed. DO NOT STAND ON LINE when the system is powered.
- Check lights on Smart-Handle and “BLIP” the throttle to check everything is operating properly.
    - To BLIP the throttle gently and quickly depress throttle.
        - The line should be spooled into the winch box for the duration of the BLIP.
- If you can safely BLIP the throttle you’re good to go for full length tows.

Motowinch Familiarity (9A)

- To become familiar with the system practice modulating throttle by first walking in the line. Depress throttle enough to walk in with the line under tension. When ready try going a little

faster, only enough to perform a light jog with the line under tension. If you can jog in with the line under tension you're ready to attempt a tow on the water.

- When walking out the line to your launch point, perform connection tests by BLIPPING the throttle about every 100ft. This lets you know you're not walking out into a dead zone where the signal is obstructed. This also helps you manage slack in the line when the water is flowing or when there's waves.