



Sensor Assembly Installation

June 1, 2014

ITEMS NEEDED FOR INSTALLATION:

3/8" wrench

20-30 12-14" cable ties (wire ties)



← SENSOR HOSE



SENSOR TUBE

Before sensor tube installation confirm boat is on the lift and is in the full UP position (tanks blow air)

NOTE: Prior to installing sensor tube & hose, **DO NOT** let water get inside sensor HOSE! Must be **air only**. If hose is dropped in water during installation, you must blow through one end for the water to escape **completely** through the sensor tube (expels water through sensor tube).

- 1 REMOVE FIRSTMATE ENCLOSURE:
- 2 Will need 3/8" wrench to remove screws from Firstmate enclosure. Take enclosure off frame.
- 3 INSTALL SENSOR TUBE:
 - a. Raise the boat and lift to the desired up position. (Note: The boat must be on the lift to assure correct sensor positioning)
 - b. Locate a suitable mounting position on the lift cross member nearest the blower box. (**Note:** if you have a drive on style lift the sensor tube should be mounted at the rear of the lift) Consideration should be given to minimizing the potential for interference of the pickup hose with the lift. A good rule of thumb is to run the pickup hose along the air tank hoses.

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- c. Attach the pickup tube to the cross member with the bottom of the tube approximately 3" above the water. It may be necessary to cut the bottom section of the PVC pickup tube to allow for clearance between the top of the pickup tube and the hull of the boat. Install the 2" hose clamps around the small diameter of the pickup tube just below the large diameter of the tube. Install the large 5" hose clamp around (or through) the cross member and through the small 2" hose clamps. Tighten the small hose clamps then tighten the large hose clamp. **(Note:** The pickup tube should be mounted vertically and perpendicular to the surface of the water) Attach one end of the sensor hose to the sensor assembly (Attached to the blower frame) and then the other end to the pickup tube. The hose must be pushed onto the fittings until it touches the yellow spacer on the brass fitting. Failure to do this will result in leaks and erratic sensor operation (Note: Putting a little liquid soap on the fitting eases the assembly process).
- 4 Route the sensor hose from the sensor tube along the lift and up one of the lift arms (be sure to allow UP/DOWN lift travel) keeping the hose out of the water (eliminates animals chewing) secure with cable ties.
- 5 Finish routing the sensor tube into the Firstmate and secure to frame using cable ties.
- 6 Cut off excess hose and install barbed end of quick connect fitting into sensor hose.
- 7 Secure quick connect fitting w/ clamp. Push into the frame mounted female connector

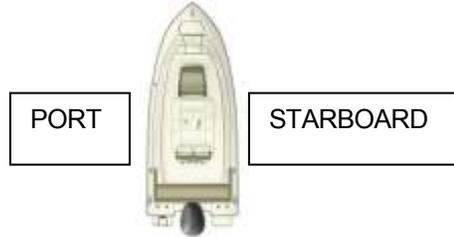


Program (excerpt enclosed) or consult owners manual: www.aqualogicmarine.com

User's Guide

1.0 Before you begin:

- 1.1 Read all warnings prior to programming or using your **Firstmate™** lift controller.
- 1.2 Read this entire manual before programming your unit.
- 1.3 Know which hoses control the Port, Starboard & Center tanks on your lift.



NOTE: Programming works best when Firstmate is in the “Manual” mode:

Manual Mode: Hold down “HOLD” & “AUTO/MANUAL” buttons at once until display blinks rapidly - control box “_ _” should blink **together**)

Auto Mode: Hold down “HOLD” & “AUTO/MANUAL” buttons at once until display blinks rapidly – Control box “- -” should blink **back & forth**)

2.0 Programming the DOWN position: **(Change to Manual Mode)**

- 2.1 Make sure the boat is on the lift.
- 2.2 Using the manual override handles to DOWN (**be sure to turn handles at the same time**), lower the boat to the down position. Turn handle(s) back to HOLD.
- 2.3 Press and hold (approximately 3 seconds) the **HOLD** and **DOWN** switches until the display reads “**SA**”. The down position is now saved.

3.0 Programming the UP position (extra air number): **(Change to Manual Mode)**

- 3.1 Make sure the boat is on the lift and in the down position.
- 3.2 To program the UP position, press and hold the **HOLD** and **Extra Air** switches until the display reads “**EA**” (Extra Air).
Press the **UP** or **DOWN** switch until display reads “4”. Save the setting by pressing and holding the **Extra Air** switch, the display will read “**SA**”.

Note: **Extra Air Display** means: The amount of time it takes the lift to get to a desired “UP” position once the Firstmate raises the lift: For example: 1 (10 seconds of extra air), press the **UP** switch again and the display will read 2 (20 seconds of extra air). Each time the up button is pressed, the display will increase by one digit (increasing the extra air to blow by 10 seconds). Each time the **DOWN** switch is pressed, the display will decrease by one digit (decreases extra air time by 10 seconds). This can be adjusted at any time, at any position.

Put the system back in Auto Mode (see above). Hit **UP** button (the valves will open, motor and the strobe will turn on). After the lift has reached the UP position, the valves will close and the strobe will turn off. **If you would like the tanks to bubble or if the lift is not shutting off soon enough, change Extra Air number again starting at 3.2.** This setting is now saved for the next time with the lift in the DOWN or BOARD position.

- 3.3 The UP position is now saved.

4.0 Programming the BOARD position: (In Manual or Auto Mode)

- 4.1 After the UP and DOWN positions have been set, a default BOARD position is automatically set at approximately 50% of the travel of the lift between the UP and DOWN positions.
- 4.2 To change the BOARD position, use the manual override handles to place the boat at the desired level (always program the board position with the boat on the lift).
- 4.3 Press and hold the **HOLD** and **BOARD** switches until the display reads "**SA**". The BOARD position is now saved.

5.0 Using the Keyfob:

- 5.1 Note that the Keyfob is not capable of programming any functions. All settings are programmed using the switches on the control module.
- 5.2 To prevent the accidental activation of a button on the keyfob, you must press and hold down the buttons for approximately one second for the **Firstmate™** to accept the command.
- 5.3 The keyfob buttons correspond to the following functions:
 - "1" = **UP** switch
 - "2" = **BOARD** switch
 - "3" = **DOWN** switch
 - Both "1" and "3" = LIGHTS On/Off if optionally equipped.

6.0 Using your **Firstmate™**.

- 6.1 Read all warnings prior to operating your **FIRSTMATE™**.
- 6.2 **Always secure your boat to your dock when not in use, Firstmate assumes no liability for resulting damage.**
- 6.3 Anytime the lift is in operation; the strobe light will turn on.
- 6.4 While the **Firstmate™** is in operation you can stop the lift by pressing any other key on the keyfob or by pressing the HOLD switch on the controller
- 6.5 Pressing the LIGHTS switch will toggle the optional light module on/off.
- 6.6 While the **FIRSTMATE™** is trying to raise your lift to either the BOARD or UP position but does not detect movement of the lift within fifteen minutes, the blowers will turn off and the display will read "**JA**" (Jammed lift). This prevents the blowers from running for extended periods of time in the event of a catastrophic leak.
- 6.7 While the **FIRSTMATE™** is trying to lower the lift to the BOARD or DOWN position but does not detect movement of the lift within fifteen minutes, the valves will be closed and the display will read "**JA**" (Jammed lift).
- 6.8 If the **FIRSTMATE™** detects a leak condition, it will automatically raise the lift. The display will alternately read "**AL**" and "**01**". The number will increase each time air is added to your lift. To reset the Alarm indication, press the **HOLD** switch.
Note: The leak detection is operable only when the lift has been raised to the up position and the UP switch is the last switch used. The lift monitor LED will flash when the Firstmate™ controller is in the lift monitoring mode.
- 6.9 To switch from the auto mode of operation (level sensor active) to the manual mode, press and hold the HOLD and Auto/Manual keys for approximately five seconds. Release the switches when the display flashes three times rapidly. When in the Auto mode, the display will alternately flash a single dash "-". When in the Manual mode, the display will flash two dashes "- -" at the same time.
- 6.10 When in the auto mode, after the lift reaches the desired level, it will shut off automatically. When in the manual mode, the controller will stay active until a second switch is pressed ie if the lift is sent up or down, the valves will stay open until a second switch is pressed. When the controller is placed in the auto mode, the keyfob is also in the auto mode. When the controller is placed in the manual mode, the keyfob is also in the manual mode.

What are the handles for? The handles are to be used in the event of a power outage. You can manually move the handles to the "UP" position to manually turn on the unit or "DOWN" to get the boat off the lift.

7.0 Using the Manual Override:

7.1 The manual override may be used to raise or lower the lift. Turn to the desired function.

Caution: Do not control the valves independent of one another in opposite functions (one valve up, other valves down) as you may roll the lift.

Programming Tips:

- 1.0 When programming the "EA" (Extra Air), start with 40 seconds (#4 on display), and then check the lift height. Add extra air as required to achieve the desired lift height.
- 2.0 To change the **Firstmate™** from the auto mode to the manual mode (and vice versa), press and hold the **HOLD** and **Auto/Manual** switch until the display flashes rapidly three times (approximately 3 seconds). When you are in:
 - MANUAL MODE: both dashes on the display will blink at the **same time**.
 - AUTO DETECT MODE: the dashes will **alternately blink**.
- 3.0 After launching your boat, press the board button. The lift will be raised to the up position with minimum air in the tanks and take less time to lower the lift when you return.
- 4.0 When the lift is in the UP position and you want to add extra air, it can be done without entering the manual mode of operation by pressing and holding the **EXTRA AIR** switch for 5 seconds. The Firstmate™ controller will then add 10 seconds of extra air. To stop the unit, press the HOLD switch.

Lift Dynamics:

When your boat and lift combination is in a transition state (i.e. rapid movement between the UP and Board positions, or the BOARD and DOWN positions) it is not possible to stop the lift from continuing the upward/downward movement until it has reached a neutral buoyancy position.

The weight of your boat will affect the location of your UP and BOARD positions. A heavily laden boat with full gas tanks will stop at lower levels than the same boat with nearly empty tanks.

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