

BULLETIN # B012A

TESTING & REPLACING WATER BATH FLOAT SWITCHES IN THE ATL-2

You will need:

- Standard blade screwdriver
- Phillips® #1 head screwdriver
- Needle nose pliers
- Volt-Ohm (resistance) Meter or Continuity Meter
- Pure petroleum jelly

JOBO spare parts you will need for this procedure are:

- Upper Float Switch (*JOBO part #95287*)
- Lower Float Switch (*JOBO part #95341*)
- O-Ring for Float Switch for each Switch (*JOBO part #34020*)

Procedure:

1. Drain the water bath.
2. Raise the Lift Arm up at least half way by using the keypad on your processor.
3. **WARNING! Disconnect the main power cord from the electrical outlet!**

4. Disconnect all of the chemical hoses from the gray tubes in the chemical bottles.

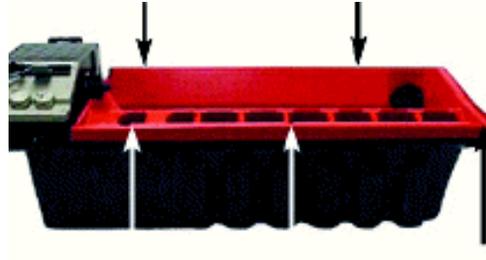


5. Disconnect all of the air lines from the bottles, keeping the black plastic 90° angle elbows attached to the hoses.



6. Remove all six (6) chemical bottles from the upper red colored trough.

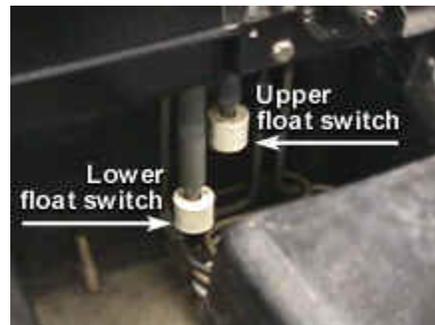
7. Locate and remove the five (5) Phillips® screws from around the upper perimeter of the red trough. You will find three (3) Phillips® screws along the front and two (2) Phillips® screws along the rear of the upper red colored trough.



8. Remove the upper red colored trough by lifting the right side of the red trough upwards approximately 4 inches then pull in a rightward movement.



9. Located under the lower motor unit (or lower head), please observe the two floating switches. These switches will rise and fall depending upon the level of the water in the trough. The shorter of the two is called the **upper float switch**. The longer of the two is called the **lower float switch**.



10. Remove the two (2) Phillips® screws located just below the display and keypad panel.

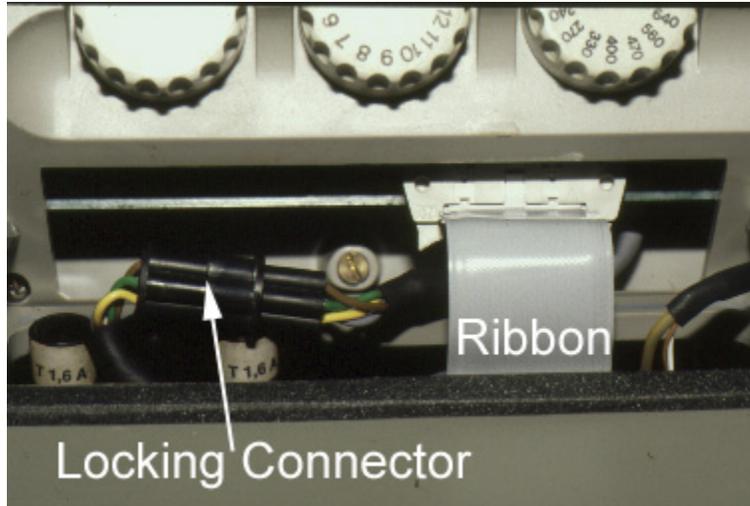


11. Pull the access panel forward being careful not to lose the rubber grommet located on the right side of the panel.

12. Located behind the fuse access panel, you will find two (2) cables; one gray ribbon cable, and one round gray cable with a black locking connector.

13. Located at the top of the ribbon cable, you will see a hinge or tab on both sides of the connector. Simultaneously move both hinges out and to the side and slightly upward. This action will push the ribbon cable connector downward out of its receptacle.

14. Located on the round gray cable you will find a black locking connector. Pull the cable apart at the connector.



NOTE: This connection can be difficult to open! Do not use any tools to pry this connector apart!

15. Locate and remove the four (4) Phillips® screws on the lower motor unit's top panel. The power switch, motor speed switch, and the automatic filling quantity switch are located on this panel.



16. Remove the three switch knobs by pulling them upward.

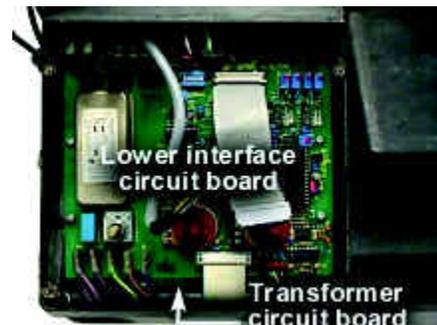
17. Remove the panel by carefully lifting it off. Make sure you guide the panel through the switches.

NOTE: If you remove the panel using too great an angle, you risk breaking the switches off of the circuit board.

18. Beneath the motor unit's top panel, please observe two (2) circuit boards.

The upper circuit board (the one that is mounted on an angle) is called the **Lower Interface Circuit Board**.

The lower circuit board is called the **Transformer Circuit Board**.



19. Locating the Upper Float Switch:

Locate the connector labeled "NIV SCH" to the right of the three fuse tubes. You will find the "NIV SCH" label printed next to a two-pin red colored connector. The "NIV SCH" connector is the **upper float switch** connector.

NOTE: If you do not need to locate the **lower float switch**, then please skip to Step 21.0.



20.0. Locating the Lower Float Switch:

20.1. Locate and remove the four (4) Phillips® screws that mount the lower interface circuit board to the motor unit housing. Two screws are located on both the right-hand and left-hand sides of the lower interface circuit board.

NOTE: These screws are not tight! They are purposefully screwed in only half way.



20.2. Locate and remove both the gray colored ribbon cable and the four (4) pin connector near the bottom of the lower interface circuit board.

20.3. Locate and remove the five (5) electrical wires at the lower left-hand side of the lower interface circuit board. From right to left the wires are colored blue, brown, green with yellow stripe, purple, and purple again.



20.4. Locate and remove the two (2) connectors labeled CHE and WA (the labeling is printed on the circuit board) at the upper right-hand side of the lower interface circuit board.

CHE = CHEmical Temperature Sensor.
WA = WAter Bath Temperature Sensor.

20.5. Locate and remove the two brown electrical wires behind the fuse tubes at the upper left-hand side of the lower interface circuit board.

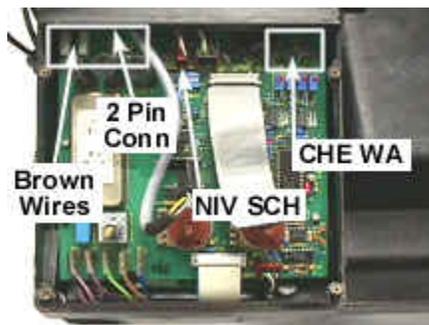
20.6. Locate and remove the two pin connector at the extreme upper left-hand corner of the lower interface circuit board.

NOTE: This is a locking connector. You must slightly press the tab located below this connector before pulling the connector apart.

20.7. Remove the NIV SCH connector as described in Step 19.

20.8. Remove the lower interface circuit board.

NOTE: Do not use the three switches located on the lower interface circuit board as "handles"! Instead use the large metal rectangle located on the left-hand side of the lower interface board.

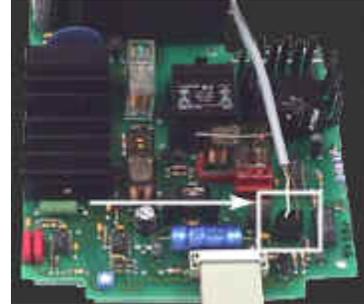


20.8. Remove the lower interface circuit board.

NOTE: Do not use the three switches located on the lower interface circuit board as "handles"! Instead use the large metal rectangle located on the left-hand side of the lower interface board.



20.9. Locate and remove the three (3) pin connector at the front right side of the bottom circuit board called the transformer circuit board. This three (3) pin connector is the **lower float switch**.



21.0. Testing a float switch:

21.1. Each float switch uses two (2) wires.
The float switch is a "floating switch."

If the float is in its lower position, the switch is "open."

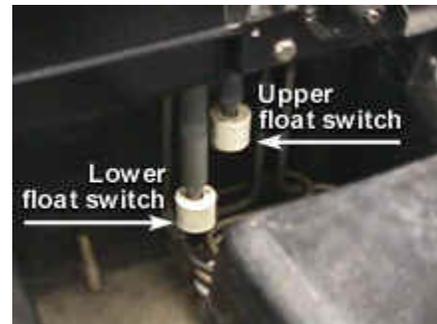
If the float is in its upper position, the switch is "closed." Therefore you can check a floating switch for continuity.

If the float is in its upper position, then the switch should have continuity through it (0 ohms resistance).

If the float is in its lower position, then the switch should not have continuity through it (infinite ohms resistance).

You may check a float switch using a Volt-Ohm (resistance) Meter or Continuity Meter by connecting both leads of your meter to both of the wires in the float switch connector.

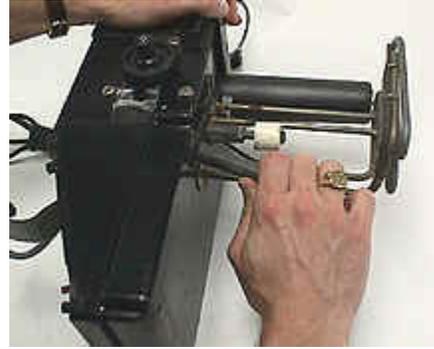
21.2. If the float switch responds as described in Step 21.1, then the float switch is OK.



22.0. Replacing a defective float switch:

22.1. To replace a defective float switch, you must remove the lower interface circuit board as described in Step 20.

22.2. With the float switch unplugged from the circuit board, pull the defective float switch out from the bottom of the motor unit (lower head) using a downward "and to the side" movement.



22.3. Once the defective float switch is removed, locate and remove the O-ring (JOBO Part #34020) located approximately ½ inch or 1 cm below the top of the switches shaft.

22.4. Install this O-ring by inserting it into the groove on the new float switch.

22.5. Route the float switch up through the bottom of the motor unit while holding the switch in position. Then push the float switch back into position. It might be necessary to lubricate the top of the float switch with some lubricant.

22.6. The O-ring should be barely visible from the bottom of the motor unit. The O-ring prevents the switch from rising up into the motor unit.



22.7. Assemble the remaining parts of the processor.