

Float Switch and RSV Settings

For Residential AdvanTex Systems

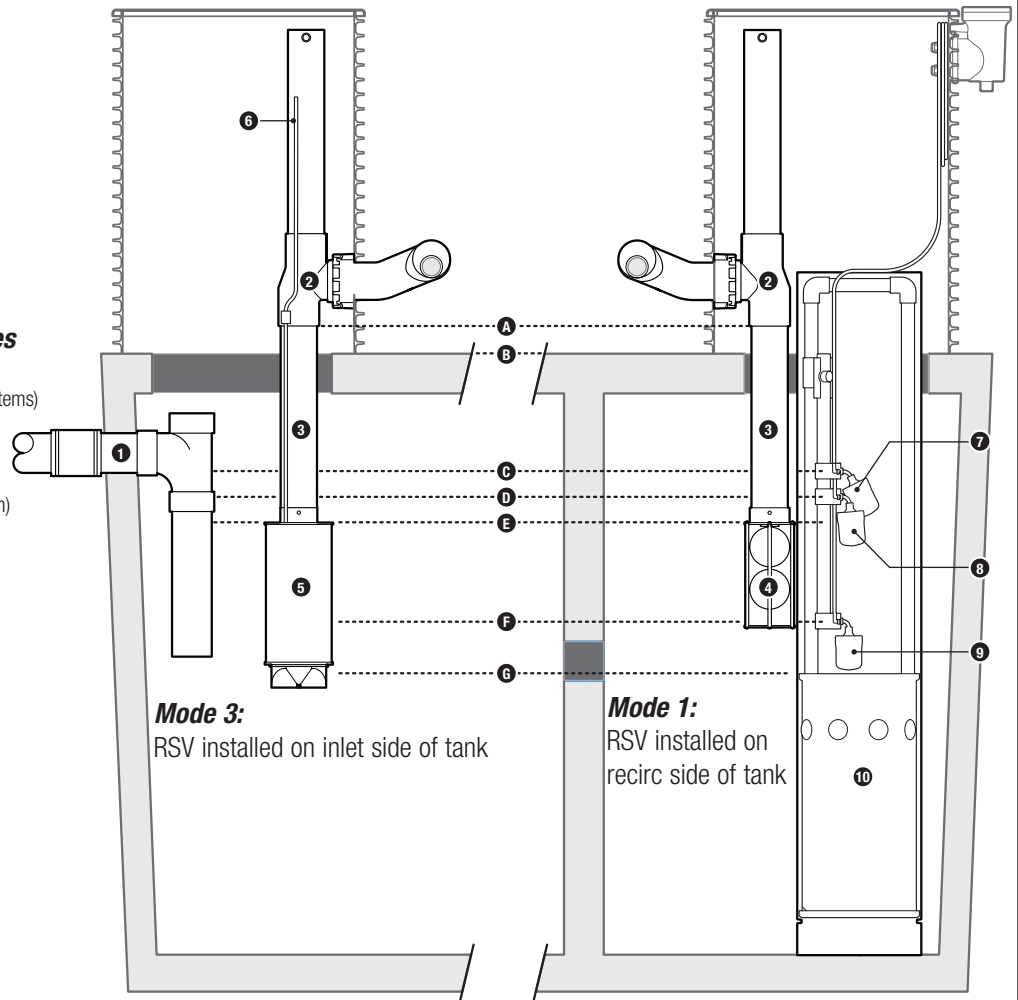
Overview of Float Switches and RSVs for Residential AdvanTex: Key Components, Settings, and Distances

Key Components

- ❶ Tank inlet
- ❷ RSV body
- ❸ RSV stinger
- ❹ RSV3Q cage (Mode 1)
- ❺ RSV3QD cage (Mode 3)
- ❻ Vent tube (RSV3QD only)
- ❼ High-Level Alarm float switch
- ❽ Override Timer float switch
- ❾ Low-Level Alarm float switch
- ❿ Biotube[®] filter cartridge

Reference Points and Distances

- Ⓐ Bottom of RSV body
(distance to top of tank varies between systems)
- Ⓑ Outside top of tank
(common point of reference)
- Ⓒ Invert of inlet
(initial elevation setting for High-Level Alarm)
- Ⓓ 2 in. (50 mm) below High-Level Alarm
(initial elevation setting for Override Timer)
- Ⓔ 2 in. (50 mm) below Override Timer
(setting for Top of RSV cage)
- Ⓕ 10 in. (300 mm) below top of RSV cage
(initial setting for Low-Level Alarm)
- Ⓖ Top of Biotube[®] filter cartridge



Before You Begin

Part 1 of these instructions provides initial float switch settings for recirc tankage used in residential AdvanTex[®] systems if initial float switch settings have not been provided in the specifications or plans for the system. For initial float switch settings used in general applications, see NIN-MF-DA-1, *Float Switch Settings and Adjustments*.

Part 2 of these instructions explains how to determine the stinger length of an RSV3Q or RSV3QD recirculating splitter valve (RSV).

Part 3 of these instructions explains how to adjust float switches used in recirc pumping systems for residential AdvanTex systems.

Part 1: Determine Initial Float Switch Setting Distances

Float switches are used to control alarms and timer operations. Float switch settings are the vertical distances from a common point of reference on the tank's outside top to the set screw on the collar of individual float switches. Residential AdvanTex units use a 3-float switch configuration. Initial float switch settings are provided below.

- ❶ **High-Level Alarm:** Set at the same elevation as the tank inlet's invert.
- ❷ **Override Timer:** Set 2 in. (50 mm) below the High-Level Alarm.
- ❸ **Redundant Off:** Set 12 in. (305 mm) below the Override Timer.
 - Make sure the Redundant Off is ...
 - ~ 10 in. (254 mm) below the top of the RSV cage, after the cage is installed.
 - ~ above the pump's minimum liquid level.
 - ~ at least 2 in. (50 mm) above the top of the filter cartridge.

Part 2: Determine RSV Stinger Length

The correct stinger length is critical for the proper operation of an AdvanTex® AX20 Treatment System.

Step 1: Determine Distance to Top of RSV Cage

Determine the distance from the outside top of the tank to the top of the RSV cage.

- The top of the RSV cage sits 2 in. (50 mm) below the Override Timer.
- If additional surge volume is required, calculate the distance below the Override Timer needed to accommodate the additional volume. This becomes the distance to the top of the RSV cage.

Step 2: Measure RSV Valve Body Distance

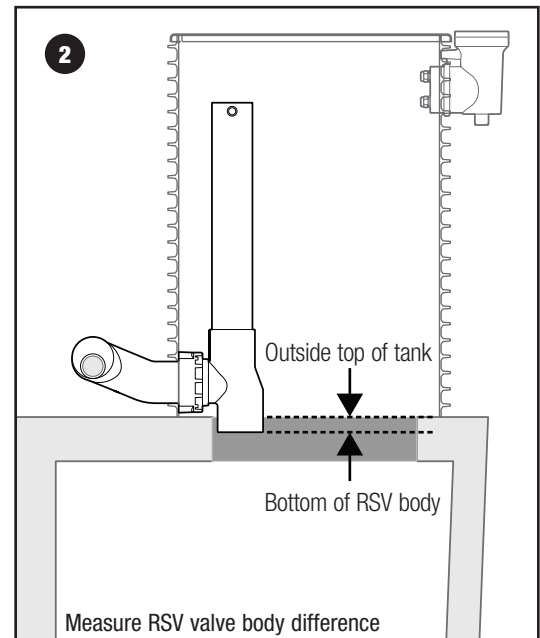
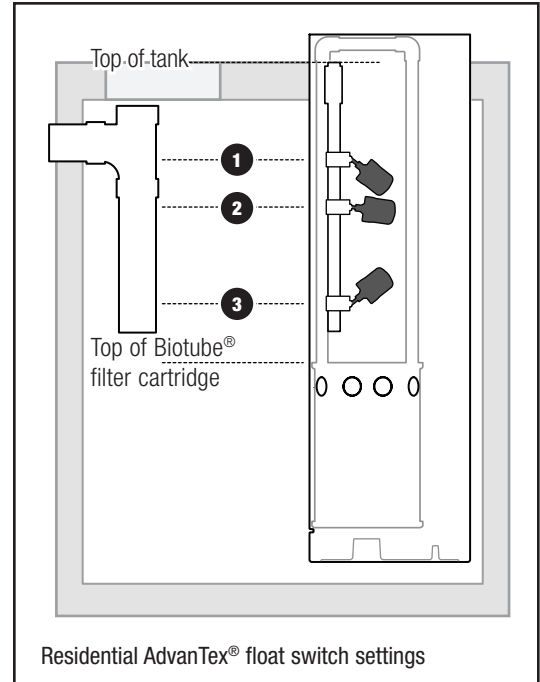
Measure the distance from the outside top of the tank to the bottom of the RSV body (this may be a negative distance). (See Figure 2.)

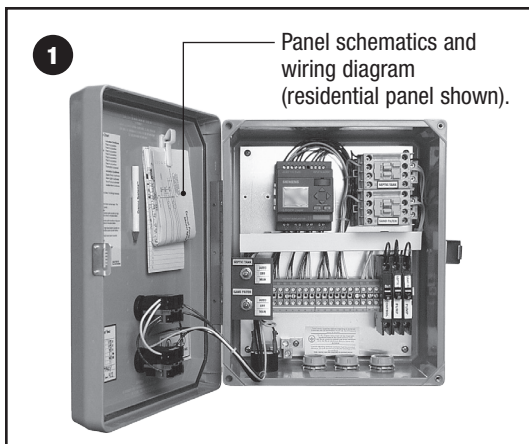
Step 3: Determine Stinger Length

Step 3a: Add the distance from Step 1 to the distance from Step 2.

Step 3b: Add 1-5/8 in. (41 mm) to the distance in the previous step.

- This is the stinger length. Use NIN-RSV-3, RSV3Q and RSV3QD Installation for Residential Applications for instructions on cutting and assembling the RSV assembly.





Part 3: Adjust Float Switches

Adjust the vertical and horizontal position of the float switches, if needed.

- Base vertical positions on the settings in Part 1 of these instructions.

Step 1: Check Float Switch Assembly

Check the float switch assembly against the system's wiring diagram (located in the control panel).

- If you can't locate the wiring diagram, contact Orenco for a replacement.

Step 2: Verify Float Switch Settings

Step 2a: Measure the distance between the top of the pump vault and the outside top of the tank.

Step 2b: Measure from the top of the pump vault down along the stem of the float switch assembly to the distance you measured in Step 2a.

Step 2c: Make a reference mark on the float stem at the distance from Step 2b.

- This mark should be level with the outside top of the tank.

Step 2d: Remove the float switch assembly from the bracket.

Step 2e: Use the reference mark on the stem to make sure the float switch settings are at the right distances on the float stem.

- If they aren't set at the correct distances, adjust them to the settings provided in Part 1 of these instructions.
- To adjust the float switch positions, continue with Step 3.

Step 3: Check Vertical and Horizontal Clearance

Check for vertical and horizontal clearance between the float switches and between the float switches and the walls of the vault or basin.

- Move each float through its range of vertical and horizontal motion.
- The float switches shouldn't interfere with one another during this check.

Step 4: Adjust Float Switch Positions (If Necessary)

If necessary, make adjustments to the float switches to assure proper clearance between the floats and the walls of the pump vault.

Step 4a: Loosen the set screw(s) on the float collar(s).

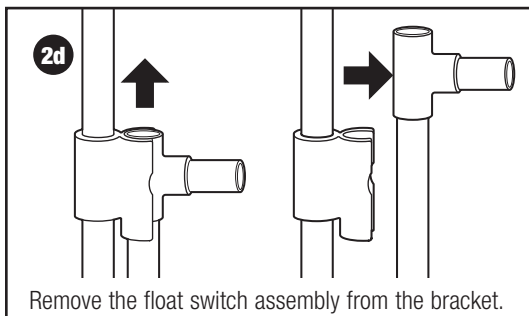
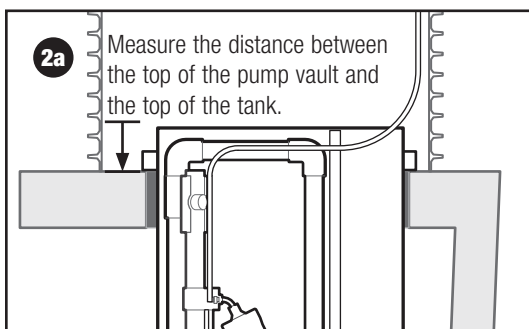
- Don't back the set screws completely out of the float collars.

Step 4b: Adjust the collar horizontally until the float switch is clear of the float switch(es) above or below it.

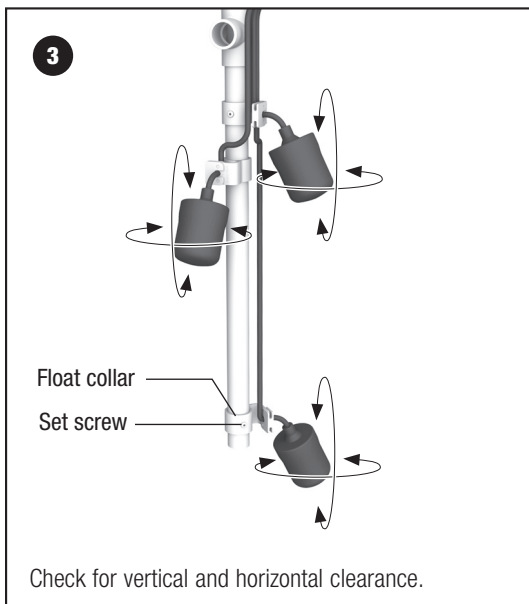
Step 4c: When the float switch(es) are adjusted and have vertical and horizontal clearance, tighten the set screw(s).

Step 4d: Reinstall the float switch assembly and level the reference mark with the outside top of the tank.

- Make sure the vault's walls don't interfere with the float switches. If they do, readjust the float switches' horizontal clearances.



Remove the float switch assembly from the bracket.



Check for vertical and horizontal clearance.