

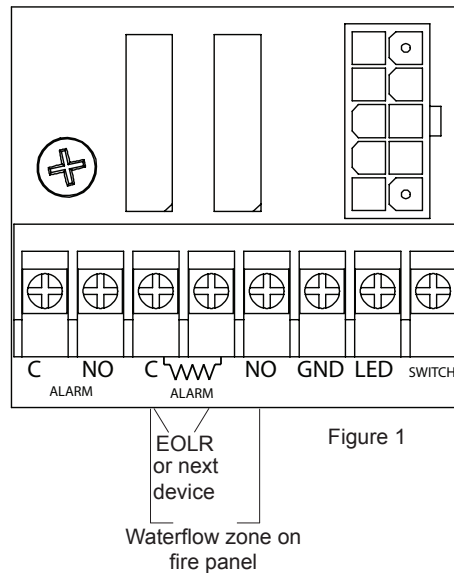
March 12, 2013

When the Auto Test feature is activated, a miniature servo motor on the flowswitch moves the trip stem/paddle assembly simulating the UL required 10 gpm flow rate. The trip stem is held in this position until the retard time expires. When the retard time expires the trip stem is released. The time it takes for the trip stem to return to its normal position is monitored to ensure the integrity of the trip stem/paddle assembly as well as ensuring that the pipe is full of water. A successful completion of the Auto Test will momentarily activate both sets of normally open contacts on the flowswitch for approximately 7 seconds.

If the Auto Test detects a problem with the trip stem/paddle assembly or if there is no water in the pipe, neither normally open contact will operate. The flowswitch will indicate a trouble condition at the ATC test switch and transmit a trouble signal to the fire alarm control panel.

## Fire panel stays in trouble:

Check the wiring. The zone of the fire panel should be wired to the VSR-AT as shown on pg 4 of the [5401239 datasheet](#) and in Figure 1 below. The End of Line Resistor should be installed as shown across the terminals marked C and the terminal to the right of C which is indicated by the other end of the resistor symbol. The zone of the fire panel connects to the terminals marked C and NO.



The NO and End of Line Resistor terminals are connected internally by a normally energized relay. A loss of power or failed AutoTest causes the relay to drop out and initiates a trouble at the fire panel.

The only way to clear the trouble on the fire panel is to conduct a successful AutoTest using the ATC test switch or other test method. Conducting an actual waterflow test will put the panel in alarm but will not clear the trouble.

## VSR-AT fails the AutoTest:

### Is there water in the pipe?

The VSR-AT will fail the AutoTest if the pipe it is installed on is not full of water.

### Has the return spring on the VSR-AT been adjusted?

This spring has been factory set and should not be adjusted in the field. Refer to Figures 5 & 6 of this document to determine the factory spring setting. If the spring is not at the factory setting, turn the spring adjustment screw until the factory spring setting is restored.

## Is the cam on the AutoTest motor stuck on the trip stem?

If the cam does not travel properly and the cam appears to be jammed by the trip stem, the trip stem set screw should be adjusted. This may occasionally happen if the electronic retard was removed from the base and replaced. See figures 1, 2 and 3 of this document.

1. To adjust the cam set screw it may be necessary to remove the clear cover guard. The clear cover guard can be removed by unscrewing the mounting screw that holds it in place.
2. Using a 1.3 mm hex screwdriver, loosen the trip stem set screw a  $\frac{1}{4}$  turn in the counter clockwise direction. (See Fig. 4)
3. Retest the VSR-AT Auto Test Function.
4. If this resolves the jamming issue and the test results are favorable then the unit is ready for use. Replace the clear cover guard and verify that the unit again tests normally.
5. If not then try repeating steps 2 through 4.
6. If the issue is not resolved after six  $\frac{1}{4}$  turn adjustments (1  $\frac{1}{2}$  full turns) then replace the electronic assembly with a new one. The electronic assembly might be defective.

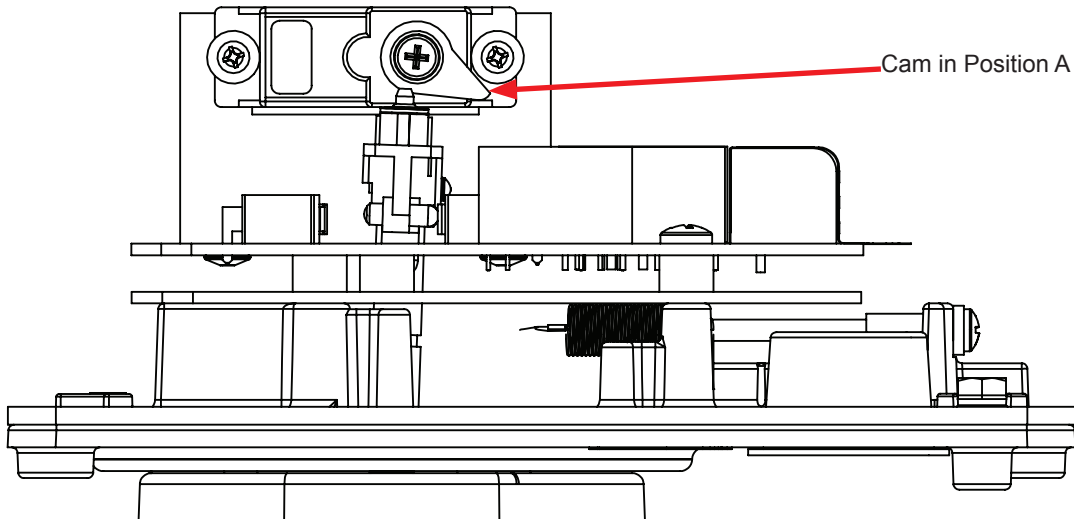


Figure 2

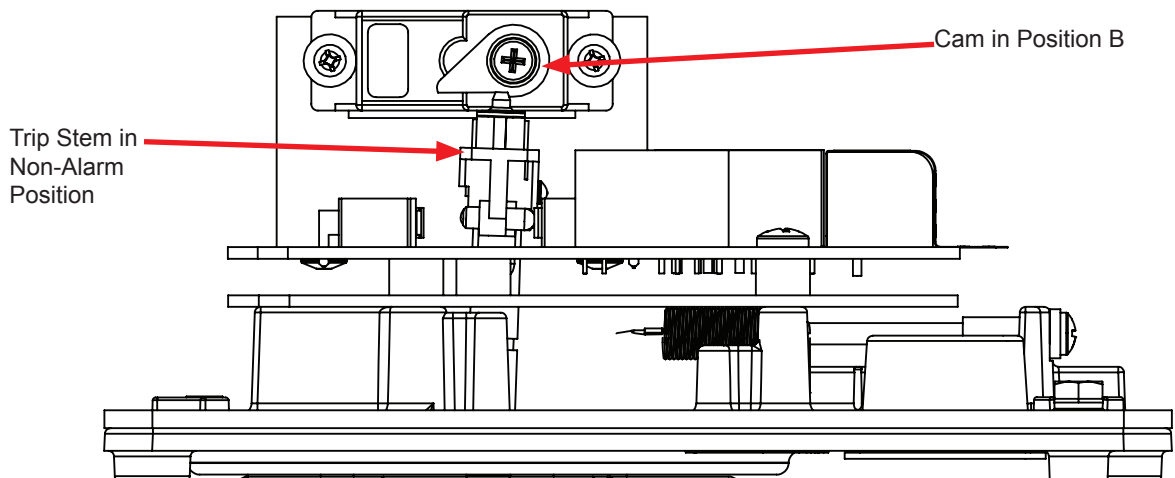


Figure 3

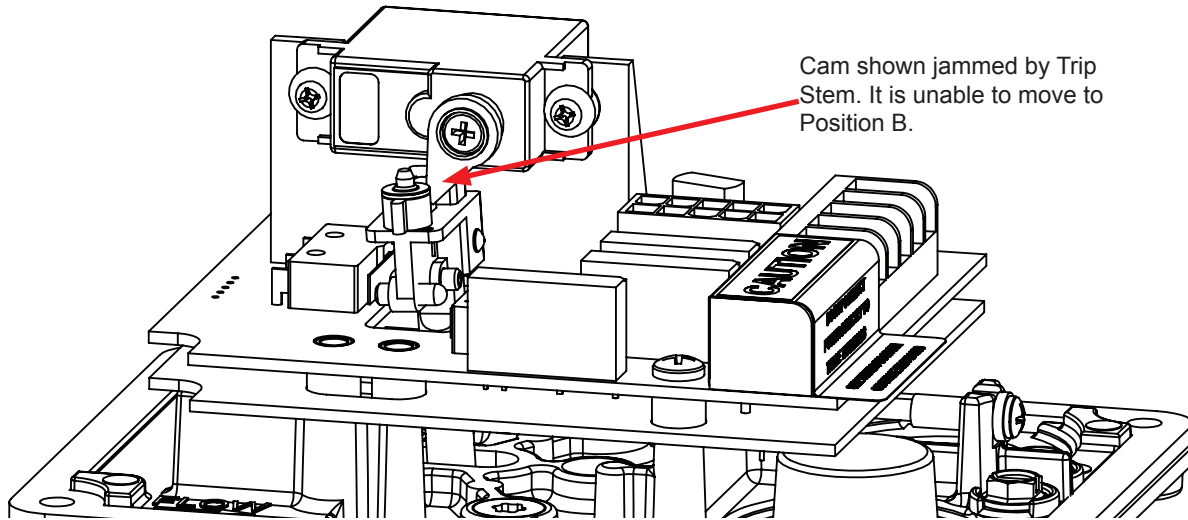


Figure 4

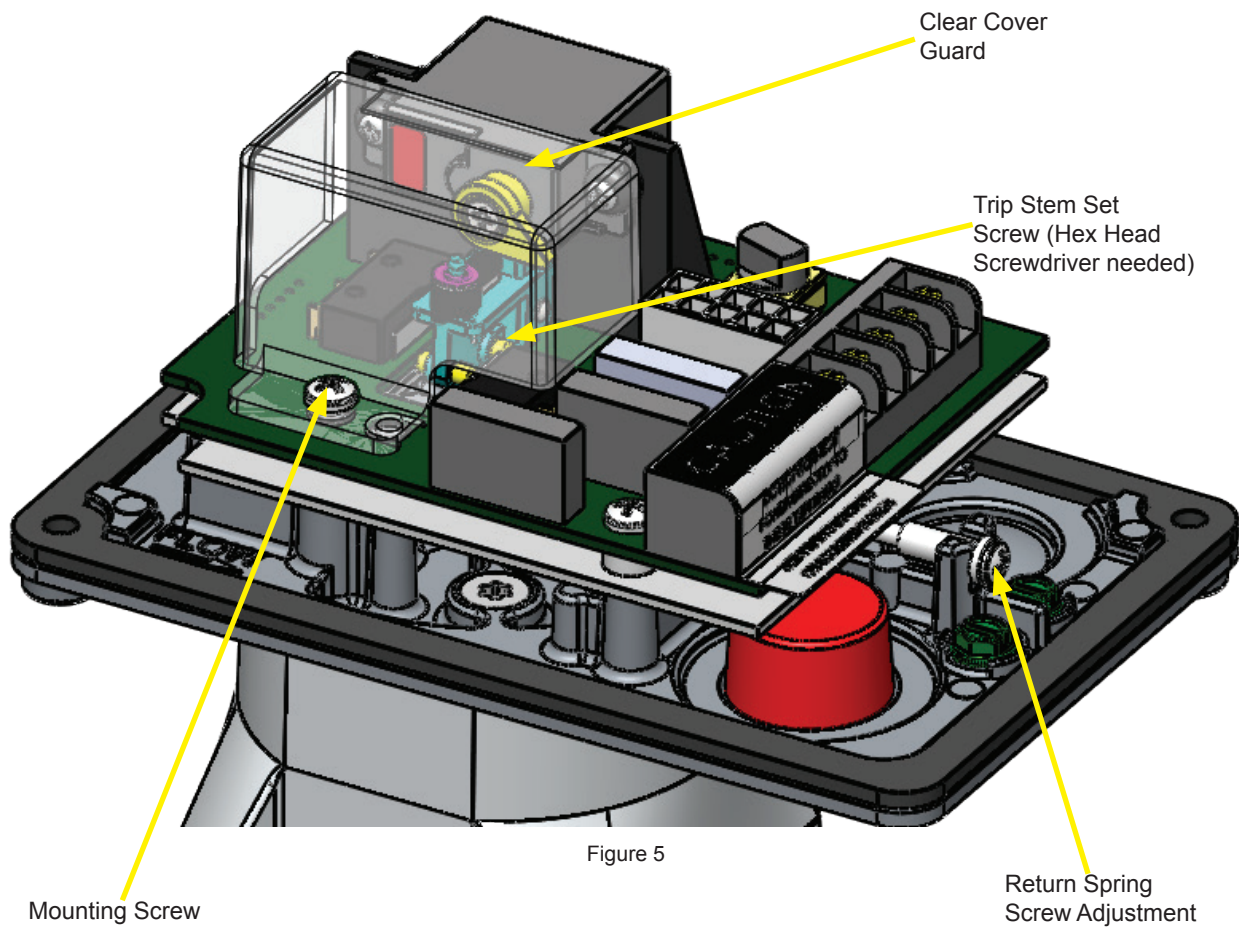


Figure 5

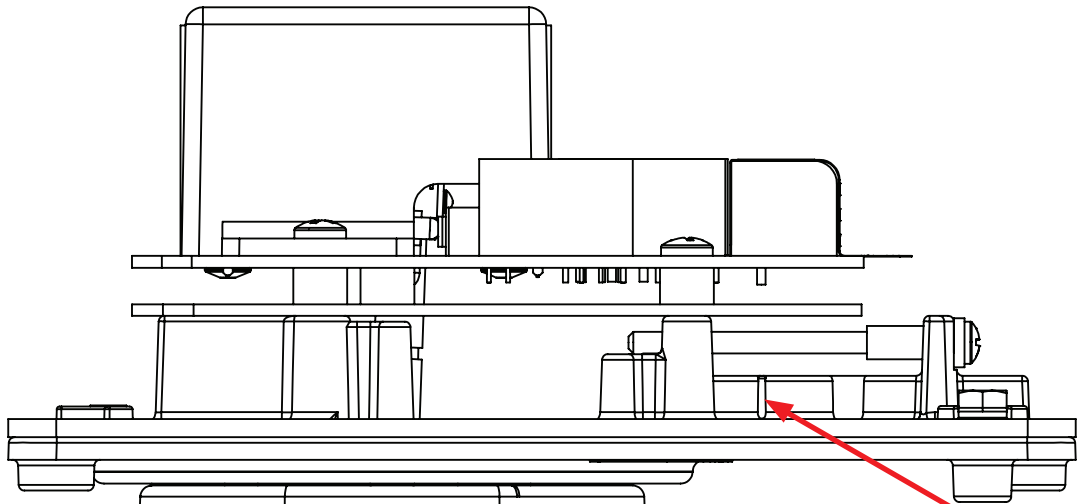


Figure 6

Factory Mark

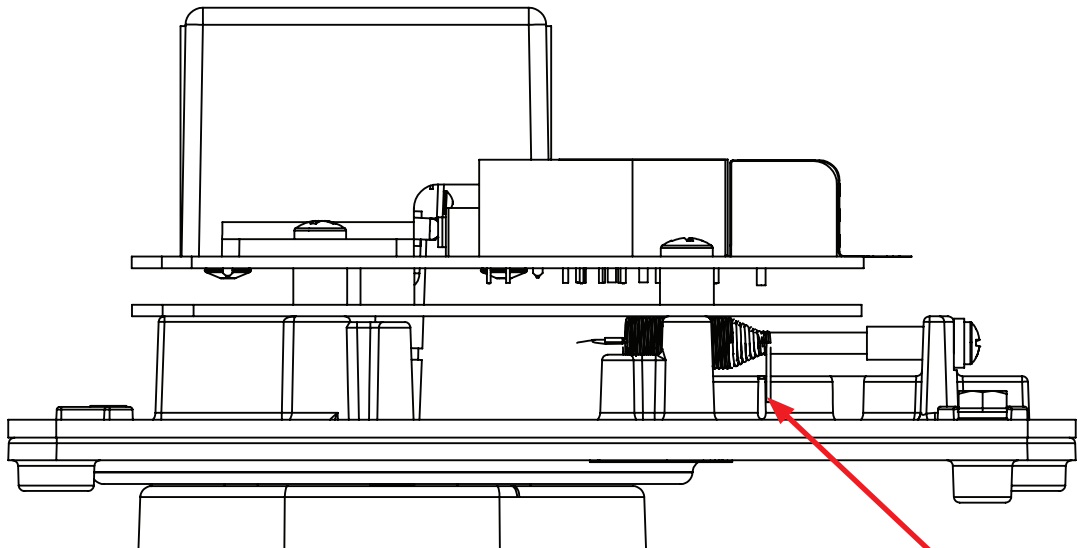


Figure 7

Return Spring set to  
Factory Mark