

DEPLOYMENT TIPS: Pneumatic Trigger

Setting the Snap Caps

Insert the screw driver into the top hole of the concave side of the Snap Cap. The tab on the bottle should be on the far side, opposite the blue release pin. Align the screw driver with the blue release pin you want to set. Use the notch in the screw driver handle as a pivot point on the edge of the twist-on connector part—push down on the handle to set the cap into position. Keep your fingers on top, not under, the driver handle as you push down—the screw driver handle should be parallel to the sampler body for the blue release pin to easily slide up into the hole on the snap cap.

Removing the bottles

After you retrieve the samplers, you only have to remove the top twist-on connector on each sampler - the end set with the blue screw. The other end with snap-on connector piece does not need to be disassembled. When removing the 40ml glass bottles, tip the samplers and let the sample bottle come out by gravity - DON'T pull it out by the tab. If the bottle sticks push it from the bottom until it comes free.

Deploying the pneumatic trigger

Before attaching the pneumatic actuator to the Snap Sampler modules, make sure the plunger moves freely. The plunger will be somewhat tight but it should move up with finger pressure and pull out by hand using the cable attached to the plunger.

During deployment, lower the samplers by unspooling the air line in a circular motion - that will help avoid twisting of the tubing and 'memory' effect. Air tubing can be pulled up on a reel or by hand. If pulled by hand, tubing can be placed in a tub, or on plastic sheeting.

To activate the trigger, attach the air pump to the pressure block and the 'jumper' air line to the push fitting at the upper end of the downhole air line. Increase pressure until pressure increase stops, or 80 psi, whichever occurs first. For shallow deployments (<20ft/6m submerged), pressure may stop increasing as low as 10-20psi (30Kpa) and you may hear bubbling as air escapes (this occurs only after samplers have closed). For deep deployments (>100ft/30m submerged), pressure will continue to increase after samplers have tripped. You may see a brief pressure drop when samplers trip.

When retrieving Snap Samplers, leave pressure system engaged to clear water from the tubing for next deployment, or reattach and run the air pump to clear the line of water. This is especially important for deep submergence because water in the line can provide enough pressure to trip the samplers to close.

Additional warning about deep submergence: If you decide to pull the Snap Samplers before triggering them - to verify caps are set, for example - be aware that a standing water column in the air tube can provide enough pressure to trip the samplers when retrieved. This does not mean the samplers tripped accidentally during deployment. It's an indication that the internal check ball is working. Water is allowed to enter the air tube at the Pneumatic Actuator through the check ball system. This feature allows low pressure triggering, even at deep submergence. However, the water column in the tube can be sufficient to trip the samplers to close if you pull that system up out of the water by 30-50 feet. If your depth to water is greater than that, then there is a good chance the sampler will trip, even if you have not actively tripped them yourself. None of this warning is applicable if you leave the Snap Samplers in place during deployment and actively trip them to close before retrieving them.

For additional directions, please refer to the SOP and instruction cards.