

# HOW IT WORKS

The DRONE-RETRIEVER contains 7 critical components

1. Enclosure
  - a. Bottom of enclosure is designed to be mounted to the drone.
  - b. Contains the airbag and provides connection to the automatic inflator.
  - c. Contains four slots that allow for a mechanical strap or ziptie to pass through the enclosure for additional mounting options
2. Airbag
  - a. Orange inflatable water proof bag that inflates to provide buoyancy to bring drone to the surface after a water contact event
3. Automatic Inflator
  - a. This device has three sections.
    - i. A spring loaded activator is located inside the clear plastic section. When a trigger bobbin is inserted into the inflator and the Clear section is screwed down, the internal spring is compressed and held ready to strike an internal plunger.
    - ii. The internal plunger will push a spring loaded pin into the CO2 cartridge allowing the CO2 to escape the cartridge and pass into the manifold and fill the airbag.
    - iii. The third section is the threaded section with O-ring seal that allows the CO2 Cylinder to seal into the automatic inflator.
  - b. The clear plastic end has a "RED" painted spring and a "GREEN" sleeve inside.
  - c. When the "RED" is visible the activator has been discharged or the Trigger Bobbin is missing.
  - d. When the "GREEN" is visible the activator is charged and ready for use.
4. Trigger Bobbin
  - a. This device is the trigger device. It contains a special white pharmaceutical grade Microcrystalline Cellulose material that retains 8 plastic fingers that hold the spring load plunger under compression.
  - b. When the trigger bobbin contacts water the white material dissolves within 5 seconds allowing the plastic fingers to move outward and the plunger under compression to release and strike the activator plunger which instantly punctures the CO2 cartridge filling the airbag within 1 second.
5. CO2 Cartridge
  - a. DR-9 [8 gram Cartridge: Lifts up to: 9 lbs – 4kg ]
  - b. DR-14 [12 gram Cartridge: Lifts up to: 14 lbs - 6.4 kg ]
  - c. **DANGER:**
    - i. **Never use a larger size CO2 cartridge as upon deployment it will burst the airbag causing the drone to sink.**
    - ii. **Never store Drone Retriever where the CO2 cylinder will be exposed to direct sunlight in an enclosed vehicle as temperatures in excess of 120° F - 49°C could cause the cylinder to vent thus activating the Drone Retriever. The cylinder will NOT explode.**
6. Dual Lock
  - a. Mushroom style plastic fastener with VHB (Very High Bond) adhesive.
  - b. Used to attach the Enclosure to the drone.
7. Ziptie
  - a. 15" - 38cm Re-leasable attachment strap to insure that the Drone Retriever unit stays on the aircraft during a violent water impact.

**CAUTION: Both Dual Lock and Ziptie mounting systems must be employed.**