Innovations in safety

BY ANN HOFFNER

A look at some of the new safety products available this year

It's safe to say that sailors dwell on safety equipment like they do fridges and bottom paint — not so much powerboaters, as I learned from my fellow judges at the 2018 Miami Boat Show NMMA Innovation Awards. Here are my three picks in the Consumer Safety Equipment category, the first two of which received awards in a bonus year.

CrewWatcher

Lots of sailing stuff is run by apps these days, from boat alarms to marina reservations. CrewWatcher by Weems & Plath (www.weems-plath.com) addresses one of the oldest worries on a boat — man overboard — using an app and low-energy Bluetooth 4.2 to connect your cellphone to the Bluetooth-equipped beacons that each crewmember wears. This system works anywhere as long as the phone is charged and the beacon battery is good.

My husband and I tested the device using a dinghy and my phone, on which I'd downloaded the free app from the company website. The system is meant to supplement rescue efforts for when a crewmember goes overboard and can be retrieved by the boat. It's not designed for sinking vessel situations or other accidents that require abandoning ship or rescue by outside parties.

When the phone app is activated, it "watches" the beacons it's paired with; if a beacon is separated and the Bluetooth connection is cut either by immersion in water or a physical distance, the phone emits a siren call and a voice warns "man overboard" with increasing urgency until the app's "Rescue" button is pushed, switching it to rescue mode. The phone app uses GPS to record the position of the MOB when contact is lost and the screen shows a boat icon, a green MOB circling it and a compass course to steer. Using this steering diagram as a guide, you can reverse course and it will direct you back toward the victim. One small quibble is that the green directional circle spins dizzily until you settle on a course.

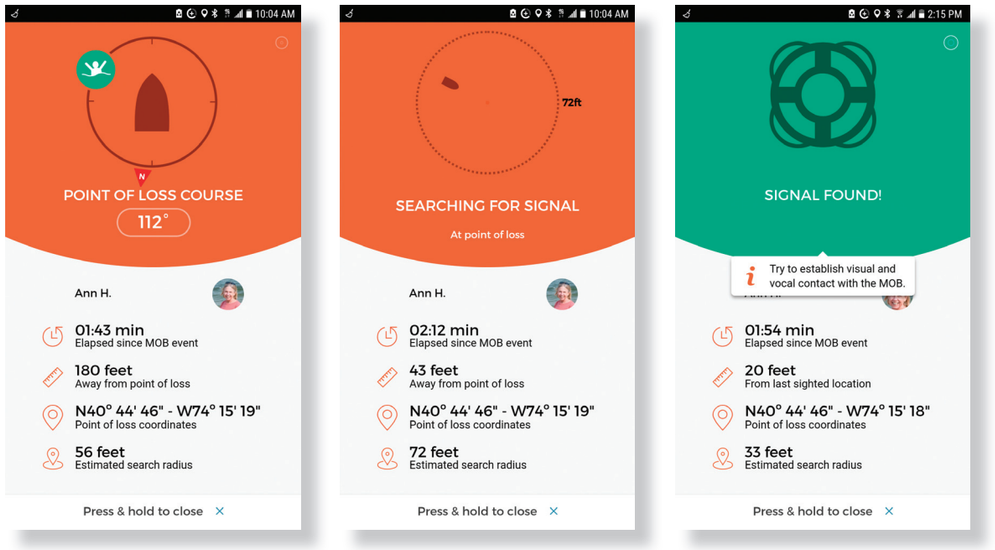
The sequence is the same, no matter how the connection is cut. Immersion in water does produce a faster reaction than when the beacon simply moves out of range of your phone. This is because Bluetooth radio frequency signals don't travel through water. So the loss of signal by the phone app is almost immediate upon immersion.

In the case of a beacon that becomes physically separated from the boat, the beacon has to move beyond range of the Bluetooth signal. Because the distance is typically greater when the signal is lost, the position of the beacon is considerably less accurate.

Once you turn the boat around and head back toward the MOB victim, the signal strength will increase. When the returning boat gets close, the app switches to looking for the beacon's emergency signal and, upon finding it (a few boat lengths away), turns to a green "Signal Found!" screen and alerts the user to contact the MOB visually and by voice.

I found the CrewWatcher system to be a useful approach to addressing the danger of man-overboard situations. At $90 per beacon and a free app, this really is cheap insurance for shorthanded voyaging crews. It's very simple, can watch up to five beacons at a time and requires no action on the part of the MOB, and the siren is a real alert. Its chief alternative is the AIS MOB, which is also designed to assist rescue by the boat; in these systems, the beacon itself transmits position data as opposed to the passive CrewWatcher beacon, but that system requires considerably more setup. Because the CrewWatcher app works via loss of signal from going out of Bluetooth range distance and not just immersion in water to activate the alarm, it has potential as a lost dinghy alarm, though we did not perform a test on this particular application of the CrewWatcher system.

The downside to the app was occasional difficulty as to how to interpret the screen when the phone and beacon were close enough to be picking up the signal. It pays to work with CrewWatcher in friendly territory and not wait until your first emergency to test its effectiveness. Pairing the beacon with your phone can also be finicky. Problems pairing are not



Three screenshots from the Weems & Plath CrewWatcher app showing various stages in the alert, search and homing process.

Ann Hoffner

Author Ann Hoffner conducts an in-water test of the inflatable ThrowRaft product. From top down: the ThrowRaft package; the raft in flight; raft inflating; fully inflated.

unique to this device, but under difficult conditions when people are tired and anxious, more automatic functions would be preferable. The designers have been tweaking the app and just added a new "hibernation" feature that reportedly helps preserve beacon battery life.

ThrowRaft

The TD2401 ThrowRaft (www.throwraft.com) is the first U.S. Coast Guard-approved Type IV inflatable throwable device (a Type IV throwable is required on any boat longer than 16 feet). It's packed in a bag that's maybe twice the size of a rescue rope and uses the same CO2 and manual inflation technology as other inflatable PFDs. When in water, it automatically inflates into a roughly 2-by-2-foot bright yellow raft, providing a floatable platform to either swim with or hang onto while waiting for rescue.

I was curious about how easy the device was to throw as well as how easy it was to maneuver once inflated. So on a 90-degree morning with 60-degree water temperature, my niece Gabi and I took it to her lake. The ThrowRaft ships fully armed and packed. The manufacturer recommends inspecting the raft before use, so I pulled it out of its bright green bag and inflated it orally, removing the CO2 cylinder first as required. Repacking was easy, as the bag isn't skimpy. The packed ThrowRaft had enough heft for Gabi to heave it handily across the water to me. Unlike some throwable devices, there's no attached rope, so it doesn't require fancy maneuvers with coils and rope-handing to get some good distance.

Within 10 seconds of hitting the water it unfolded into a well-inflated mini raft. I swam to it, launched on top and easily swam to the dock where we rearmed it with a new cylinder. I had some moments of confusion with the arming kit, which uses a bayonet cap for water-activated inflation; I'm used to manual activation kit cylinders, which simply screw off, and the difference wasn't immediately clear. The company could improve their instructions and include tips on using the raft for a rescue, which I had to resort to the Internet beforehand to find.

Though more awkward to throw once inflated, ThrowRaft beats an old-fashioned square cushion, and oral inflation (if you run out of cylinders) took me just 23 seconds, using 15 breaths. Manual CO2 inflation also works well. The day was fairly breezy and we threw the raft upwind of the person in the water to compensate for any drift, which as with any device not attached by a line to the boat would be a concern.

On long passages when crewmembers wear inflatable PFDs the raft could still be useful, especially as it inflates automatically and doesn't depend on the MOB to do it. The ThrowRaft is meant for close-in work, but then so is a Lifesling, throw rope or horseshoe — all of which we carried on our Peterson 44, *Oddly Enough*. The disadvantage of the ThrowRaft is it doesn't provide a way to lift the MOB on deck.

CO2 cylinder replacements are about $20 and costly if used frequently, so you don't want to treat this as float toy. The raft itself is $130, which compares favorably to standard safety devices. Armed and packed and in accessible position, it's pretty foolproof for anyone to grab and throw.

Deckvest LITE+

A device that also uses CO2 cylinders that fire when immersed in water is Spinlock's Deckvest LITE+, an upgrade to the original that came out in 2012 as a lightweight, more comfortable, side-entry inflatable lifejacket. The vest was originally meant for powerboats, personal watercraft, racing sailboats and small boats going coastal or inland.

Courtesy Spinlock

The Spinlock Deckvest LITE+.

The LITE+ version incorporates a harness with a ring for attaching a safety line, extending its use in more extensive cruising. Although we did not give Spinlock an Innovation Award, I liked the vest — though, as a small woman I'm skeptical of the "one size fits all" aspect. It definitely is comfortable, as it has form to it rather than being flat. The crotch strap must be used to keep the PFD in place when it automatically inflates. Comfort is a premier factor in whether people wear their PFDs, and the LITE+ increases the likelihood that a sailor will do so in conditions where a safety line is advisable. All Deckvest LITEs are U.S. Coast Guard-approved Type V devices.

As with any equipment meant to save lives, it's crucial to test out and understand how the devices work so you're familiar with them before they're needed. ■

Ann Hoffner voyaged for years with her husband Tom Bailey aboard their Peterson 44, Oddly Enough.