

SBE32 trigger modification
Originate by Alex Ren (LUMCON) on Tue, 25 Jun 2013

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Hello everyone,

We recently acquired an SBE32 24-position carousel from another institution. It came to us with monofilament loops one each trigger latch and we're wondering if anyone else has their setup like this and what the reasoning for it. We don't have anything like this on our 12-position carousels. I've had a few bottles fail to fire but it doesn't seem to matter whether I run the bottle lanyards under or over the loops. In some cases the loops get in the way when I'm resetting all the triggers but I didn't want to cut them off until I had a better idea of why they're there. Seabird's applications notes on the SBE32 don't include anything about this either.

Thanks,
Alex

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Alex Ren
Marine Technician, R/V Pelican
LUMCON
8124 Highway 56
Chauvin, LA 70344

Reply From: "William L. Fanning" (URI) on Tue, 25 Jun 2013

Alex,

The loops are for high tension lanyards (between 25 and 50kg pull). See page 24 of the manual.

"SBE 32 Carousel Water Sampler"

http://www.seabird.com/products/spec_sheets/32data.htm

The loops are a big help with strong springs on the bottles.

Bill

William L. Fanning
R/V Endeavor Technical Services
URI Graduate School of Oceanography
Narragansett, RI 02882

Reply From: Bruce Huber (LDEO) on Tue, 25 Jun 2013

Hello - have a look at pg 24 of the SBE32 manual - the loops allow heavier tensions to be used on the bottle lanyards. You may not need them.

Cheers,

Bruce

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Bruce Huber
Division of Ocean and Climate Physics
Lamont-Doherty Earth Observatory
of Columbia University
61 Route 9W
Palisades, NY 10964

Reply From: George Tupper (WHOI) on Tue, 25 Jun 2013

Hi Alex,

I too am wondering what in the world they could be for. The only thing that makes any sense to me is if they were for some sort of tremendously tall bottles, where you would want to limit the angle at which the lanyards pulled on the latch releases?

If it were me, I'd cut 'em off.

George

Reply From: "Powell, Christopher M." (ODU) on Tue, 25 Jun 2013

We've setup the Geotracers rosette like that so we can fire multiple bottles simultaneously from the same trigger.

Christopher Powell
Equipment Manager
Dept of Ocean, Earth and Atmospheric Sciences
Old Dominion University

Reply From: Brian Guest (WHOI) on Tue, 25 Jun 2013

I think I know what your talking about. My impression when I saw them was that the loop goes through the bottle lanyard and on the trip mechanism. This would keep a constant pull angle on the trip mechanism. Just a thought.

Brian

Reply From: Robert Hagg (WHOI) on Tue, 25 Jun 2013

Alex,

I believe you are referring to the High Tension loops, to reduce the tension on the triggers. Note the loop indicated as High tension rigging. You reeve this loop through the upper lanyard loop, then over the trigger. The image and accompanying text are from page 23 of the SBE32 manual.

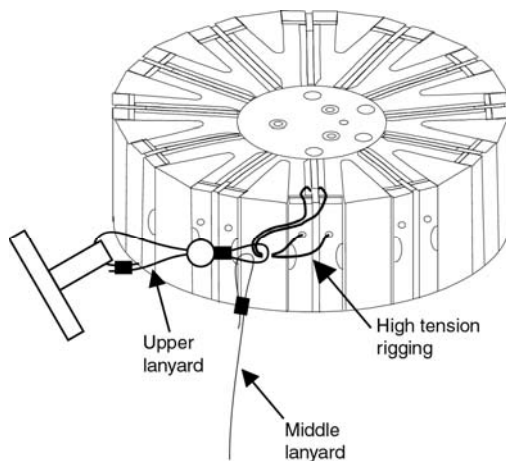
Manual revision 019 Section 3: Preparing Carousel for Deployment

We have a new ctd list as well for ctd related issues. Feel free to sign up for it if you would like.

Email to ctd-request@whoi.edu with subscribe in the body or as the Subject: to join the list.

Hope this helps.

robb



Lanyard Tension Between 25 and 50 kg (55 and 110 lbs)

For water bottles with lanyard tensions in this range, rig the Carousel with a simple block and tackle type loop, reducing the tension on the trigger by half.

1. Cut a lanyard 18 cm (7 ¼ inches) long. Mark it in two places as shown.
2. Thread the lanyard through the pylon as shown. Place a nico-press sleeve on each end of the lanyard, aligning the sleeves with the marks so that there is approximately 15.2 cm (6 inches) of lanyard between the sleeves.
3. Follow the procedure above for a lower tension system, with the following exception: Slide the upper lanyard loop over the high tension rigging and attach the high tension rigging to the trigger hook.

Reply From: Alex Ren (LUMCON) on Tue, 25 Jun 2013

Thanks everyone for your responses. I missed that page in the manual when I was skimming it. Makes sense now. Doesn't look like we'll need them since the springs on all the bottles are pulling at about 25lbs. I may keep them on for a little longer just in case a need arises.

Thanks!
Alex

From: Lynne Butler (URI) on Tue, 25 Jun 2013

Hi Alex,

Sometimes I'll use a loop on ours if a bottle doesn't trip. Just used one successfully about an hour ago for a finicky bottle. It works as a temporary solution to exact lanyard/spring setup when I don't have time to make modifications. The loop changes the angle of pull and tension/length from the bottle. See attached page from the manual that Bruce refers to. I agree that they do get in the way and are more difficult to use for normal operation, especially with the 24pl frame. Most of our loops have been cut off. I twist the loops that we aren't using down out of the way. They might have helped for the Go-Flos although it was a few years ago that I last used Go-Flos. If your bottle tripping is working fine w/ out loops, you're not planning on using different bottles soon and they're really in the way I'd say cut 'em off.

Best of luck,
Lynne

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Lynne Butler
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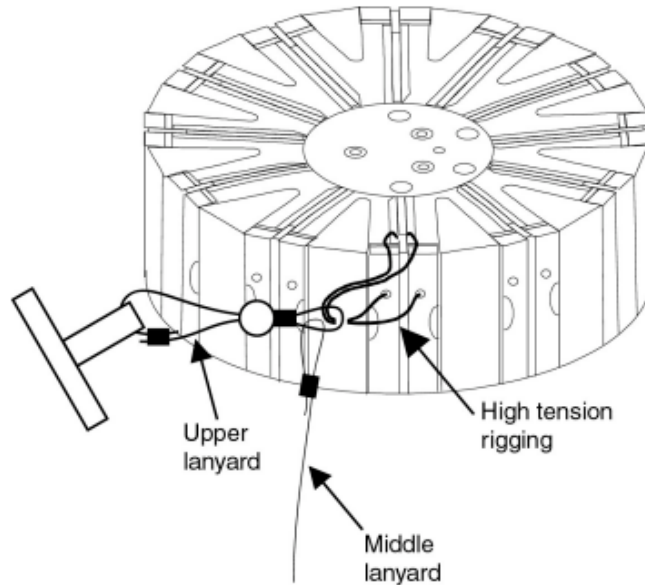
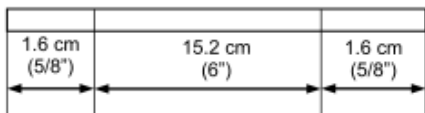
Note:

This lanyard rigging procedure is for use with latches with the optional **titanium** latch side bar. It is **not compatible** with latches that have the standard **plastic** latch side bar.

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Reply From: Lynne Butler (URI) on Tue, 25 Jun 2013

Hi,

Here's more carousel info from recent experience. The white pieces in the center that break (Part# 233816) are ~\$5 each. The newer ones have a UV inhibitor but the older ones are quite brittle. However, unless you have plenty of time and are a watchmaker used to dealing w/ little springs in odd places it can be frustrating to put the assy back together once apart.

From Ryo at SBE:

- >If you return the latch head assembly only the charge
- >to refurbish the latches (cleaning, replacing levers, and actuator
- >discs) the cost is \$150.00(PN CLEAN32), this doesn't include replacing
- >any of the titanium parts, we will quote any additional services. If

>you return the whole pylon there are additional charges for those
>services as well.

So, for the latch head assembly (the part w/ 24 latch assemblies, not the pylon electronics or magnets) and if no titanium parts are required for repair it's \$150. For example, if there are 10 out of 24 latches with broken white center pieces on the head the charge is still \$150 to repair/replace all of them so the whole head will be functional. That's if no titanium parts are needed. Pretty good deal considering each latch assembly is \$500 (~\$12K for the whole latch head, no electronics).

Lynne