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Guardian Full Face Mask

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South Carolina Aquarium Dive Operations

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It is the mission of the South Carolina Aquarium (SCA) Dive Team to provide excellence in animal care and husbandry, to actively support both the educational and conservation endeavors of the SCA, and to provide a memorable, positive guest experience to all those who visit our facility.

Training Schedule

- PowerPoint Presentation
 - > Statement of Understanding and Quiz required before in-water use
- GOT: 2 dives minimum
 - > Dive One: Donning, Doffing, and Equalizing
 - > Dive Two: Emergency Bailout Procedure

Introduction

- The Guardian Full Face Mask (GFFM) permits GOT divers to talk with the guests during our presentations.
- At other times, it can be used to talk to surface support
- All GOT divers must receive training in the GFFM before use*
- Prior to this training the diver must have at least 10 dives in the GOT **and** 5 days of volunteering*

* *SCA Diver Handbook*

Reasons to Dive GFFM

- Communications
- Environmental Protection
- Security
- Comfort
- Fun

Wireless vs. Wire

- **Wireless**
 - > **Ease of movement -will not snag on objects**
 - > **Interference by machinery**
- **Wire**
 - > **You are always tendered (safety)**
 - > **Improved communications - less interference**

Guardian Full Face Mask

Manufactured by Ocean Technology Systems



SCA FFM Regulator

- There are specific Regs dedicated for use with GFFM
 - > These can be identified by a Quick Disconnect in lieu of the primary regulator
 - > The Quick Disconnect has a rotating lock to prevent accidental disconnect



Donning the Mask

- Fully extend all straps
- Never pre-adjust straps.
- Pull mask and straps over your head, seating the mask on your face with the back of the harness low on the back of your head



Figure 1

Donning Cont.

- Keeping the harness centered on the back of your head, evenly tighten the straps on each side by pulling straight back.
- Start with the lower jaw straps (1), then tighten the temple straps(2). Tighten the top strap only as necessary(3).



Before entering the water

- Verify that the Ambient Breathing Valve is closed prior to diving.
- Verify the air tank is turned on. Take 2 breathes while watching the pressure gauge.
- Verify the position of the equalizing assembly prior to diving.
- Verify the communication box is turned on.



Figure 3

Ambient Breathing Valve

- This mask is equipped with an Ambient Breathing Valve (ABV)
- The ABV allows the diver to conserve air while on the surface.



ABV cont.

- Ensure that the ABV is closed prior to diving to prevent leaks.
- To close the ABV turn it clockwise until is finger tight.



Equalizing

- There are a combination of nose block pieces that should allow for ease of clearing your ears while diving.
- You will need to experiment to find the right fit for you!



Equalizing cont.

- You should be able to push up on the regulator and have the equalizing assembly block your nose so that a gentle exhale through your nose will allow your ears to clear comfortably.



Microphone

- The microphone should be positioned within $\frac{1}{4}$ " of the right corner of the divers mouth.
- The diver should be speaking into the side of the microphone (**see picture*)
- Water can damage the microphone under pressure at depth



Earphones

- The earphones should be pulled toward the back of the harness strap when starting to don the mask to prevent binding in the buckles.
- Once the harness is secured, pulled the earphones forward to rest directly over the divers ear.



Communications Line Connection

- Ensure that there is a good connection at the mask-communication line plug.
- Do not swim with the mask disconnected from the communication line without using the “dummy” plug.
- Watch that the communication line does not get entangled on the rockwork or on Caretta



Topside Communications Box

- The diver microphone and earphones must be turned on (1)
- The Communication switch must be turned on for sound to go to the public. (2)
- There is a direct communication between topside and GFFM diver by pressing and holding the red button (3) while talking into the speaker (4)



Ready to Dive

- Buddies should suit up at same time
- Make sure the communications line is clipped to the divers BCD
- GFFM diver should do a quick sound check with a Topside Diver, using the communications box.
- GFFM diver should maintain contact with their other Divers UW
- This is still a required "close contact" buddy team.

Removing The Mask

- To remove the mask, place both hands on the base of the mask, thumbs on the tabs of each of the jaw (lower) buckles and pull these forward.



Removing the Mask cont.

- Rotate the mask out off of the chin, up and over your face.
- Extend each strap to have it ready for the next time the mask is used.



Air Leaks Underwater

- If the mask leaks air, you may need to tighten or loosen some or all straps
 - > ie. if the bottom straps are too tight it can angle the top skirt away from your head
- The mask should be snug, but not uncomfortable.



Figure 1

Emergency Bailout Training

- > **Activation of RASS**
- > **Removal of GFFM underwater**
- > **Switching to normal mask and RASS**
- > **Replacement of GFFM underwater**

Emergency Clearing of the Mask

- Flooding is unusual
- The mask is easy to clear.
- Tilt head back at a 45 degree angle and purge the mask for 3 seconds while pulling out slightly on the bottom of the mask.
- Cautiously inhale to ensure the water is cleared.
- Tilt head to the left at 45 degree angle and exhale forcefully to clear any remaining water.
- Repeat if necessary.

Emergency: Mask Failure

- Carry your own mask with you while diving on full face mask
- Mask can be carried in BCD pocket, attached using a strap of the BCD or other readily accessible position

Emergency: Out of Air

- Ascent
 - > Normal ascent
 - > RASS
 - > Alternate Air Source (Self or Buddy's Octo)
 - > Controlled Emergency Swimming Ascent
 - > Buddy Breathing
 - > Buoyant ascent

Loss of Communications

- Possible problems
 - > **Loss of Reception**
 - > **Loss of Transmission**
 - > **Both**
- Continue with show (if possible)
- React to educator's directions, particularly if you can hear educator

After the Dive

- Turn of the power on the communications box
- Disconnect mask from communications rope
- Do not disconnect the mask from the com. line while it is still on and in the water.
- Ensure dust cap is secure on the first stage immediately after removal from the air tank.

Disinfect Procedure

- Mask should be quickly rinsed in freshwater bucket
- Then spray with Birex and wait 10 Minutes
- Rinse again with freshwater before being put away or between divers.
- Mask should be hung upside down to drain.



Drying the Mask

- Rotate & Drain accumulated water out of the mask before putting it away.
 - > *This takes a while but prevents mold buildup*
- The mask should be hung by straps



Drying the Mask

- Avoid scratching inside lens on hanging pegs
 - > **DO NOT** hang mask by it's skirt or press the lens to the hanging pegs
- Please pair GFFM with a GFFM reg



Hints for a successful show

- Be familiar with scripts
- Be familiar with interesting/unusual facts about animals in GOT
- Coordinate with educator doing the show
- Check communications on surface
- Watch Air Consumption
- **Remember ... while on the full face mask assume that all of your comments will be heard by guests**

Be professional You are !

OTS-Video Section

- Please follow the link provided and view the six video's on proper use of the Guardian FFM
- <http://www.oceantechnologysystems.com/full-face-mask-training-videos/>

