

Focusing light with Saga Optical Snoot

By Phil Rudin

Light shaping devices have been around for about as long as photographers have been exposing images. Underwater photographers are no exception to this truth. We have used the position of the sun to create interesting lighting effects, a verity of diffusers to widen and soften strobe lighting. Multiple strobes can control shadows, highlights, contrast, color and depth. Another technique underwater photographers have taken right from the studio photography toolbox is the use of snoots for shaping and directing light onto the subject.

A snoot is a cylindrical or conically (cone) shaped light reflector which is fitted over the strobe to produce a focused beam of light directed onto the subject. The snoot creates a column of light which will allow you to separate a subject from its background or place a very narrow sliver of light on an element of your subject like its eye or mouth. We most often see snoots used for macro photography but they also work well for close focus wide angle situations.

I began using snoots made

from a white plastic funnel taped to my strobe more than thirty years ago in my film days. This was a very frustrating endeavor because it was hard to tell where the snoot was pointed and without the instant feedback of live review you never knew if you got the shot you wanted. With today's digital equipment snooting is still be a bit frustrating but it can be far more productive than in the thirty-six exposure film days.

Most modern strobes have a powerful focusing light which allows you to aim the light beam much more accurately onto the subject. The use of snoots has become so popular in underwater photography that several types of snoots are now commercially available and many more home made versions can be found on the internet.

Most commercial snoots are of two types. Those where the light is conducted through a hollow tube and those where the light is conducted through a bundle of fiber optic cables.

With the hollow type of snoot, different size tubes can be added to widen or narrow the light beam. Color filters can also be added and



the cone can be moved closer to or further away from the light source to change the shape of the light. This light shaping change can harden or soften the edges of the light to effect the look of your photograph. A harder edged light will reduce "spill" (stray light) from getting onto parts of the photograph where you don't want the light to be.

Seaweed Blenny eye, Olympus E-M5, 60mm macro, Nauticam housing, Inon Z-240 with Saga Snoot, ISO-640, F/7.1, 1/250th.



With the soft edge light beam comes a smoother transition across the photograph from light to shadow which is preferable for many critter portraits as it is with people portraits shot in the studio. Fiber optic snoots are made from a bundle of fiber optic cables that are held in place over the flash tube(s) on your strobe. When the strobe is fired the light is transmitted through the fiber optic bundle and onto the subject. With fiber optic snoots the size and shape of the light beam can be changed by adding different size narrowing tips to the light emitting end of the fiber optic cables.

Fiber optic snoots are flexible which allows them to be more easily shaped to your needs and because they are smaller in size they will fit into a smaller space. Many fiber optic snoots are also made with two separate fiber optic bundles which can be mounted onto one strobe head. This style of snoot allows you to light both sides of your subject or create any number of lighting ratios. As an example you can light both of your subjects eyes without lighting the entire animal, a very cool effect.

Saga Diving Technology (Sagadive.com) is located in Barcelona Spain where they manufacture and sell underwater photography products. Saga manufactures fiber optic snoots and the Optical Light Guide Snoot which is the main focus of this review.

The Saga Optical Light Guide Snoot is unique because of the wide range of control over the snoots light beam. My prototype test snoot was designed for use with the Inon Z-240, Z-220 and D-2000 strobes. The Saga Optical Light Guide snoot can also be adapted to strobes from several other manufacturers.

The snoot has three parts, the first is a metal



ring which is mounted to the Inon strobes. The snoot is then pushed onto an O-ring on the metal mounting ring the which secures it in place on the strobe. The snoot has an internal rotating disk with six round openings each of a progressively larger size for the strobe light to pass through. The rotating disk has corresponding one through six numbers which appear in white lettering on the outside of the snoot so that you can see which size opening you are using at all times. Inside the snoot is a fiber optic bundle which mounts over the strobe's focusing light.

When the focusing light is turned on the light beam can be used to aim the strobe light onto the subject. One of the fiber cables is passed through the side of the snoot and points onto the numbers on the rotating disk so that you can see which number you are using during a night dive, very handy indeed. The snoot narrows to a 40mm long tube with a 55mm threaded opening at its end. The third part of the snoot is a 65mm threaded tube with optical elements at each end and in the center.

This is the what separates the Saga Optical Light Guide Snoot from other snoots. The threaded optical tube can be screwed in and out to move the optics closer to or away from the flash tubes. This allows the optics to be moved in and out by



Queen Conch, Olympus E-M5, 60mm macro, Nauticam housing, Inon Z-240 with Saga snoot lighting the eyes and a second snoot with red filter lighting background. ISO-200, F/8.0 1/250th.

about 35mm. You can get within a few millimeters of a subject with this snoot so depending on the adjustment of the optical tube and the snoot to subject distance you can change the diameter of the light beam from about 5mm to 150mm.

By moving the optic tube in and out you can also make the circle of strobe light softer on the edges for a smother light transition or harder to isolate an area of your subject like an eye. If you want to get even more creative the rotating disk can be removed and replaced with one that has different shapes such as stars, ovals and more. Color filters can also be added for backlighting subjects or lighting backgrounds.

The Saga snoot is made from rugged black Delrin and retails for around 500,00€/ \$650.00 US. My prototype Saga snoot had black Delrin



Single Coral Polyp approximately 10mm in diameter, Olympus E-M5, 60mm macro, Nauticam housing, Inon Z-240 with Saga Snoot, ISO-200, F/8.0, 1/250th.

on the inside and this NOT the way the production snoot is sold. The production models have a reflective white coating on the inside to boost light output. I added some aluminum foil to the inside of my prototype snoot to help reflect more light through the optical tube and as a result I was able to more than double the guide number. I also used cloth surgical type tape to secure the snoot to the strobe so it would not fall off if I bumped it against something. A large

ring is provided to secure the snoot to your strobe arm with a lanyard in the event it does fall off but as I am using the snoot all the time the tape works well for me.

Most of my review work was with macro subjects so the snoot to subject distances were no greater than about 12cm. I was able to use all six disk sizes and the optical tube to shape the light to my liking for a large variety of subjects. If I came across a subject where I needed a broader light

beam all I needed to do was remove the optical tube from the snoot for a much wider light beam. Unlike some of the other snoots I have used the focusing light worked quite well. Be aware that I was using the Inon Z-240 type 4 strobe which has Inon's newest and brightest focusing light. My older type-2 Inon Z-240 did not work as well because of the less powerful focusing light.

I tried three different methods to position the snoot, first hand held, then tripod mounted and mounted on a strobe arm attached to the housing. Hand held works well if you are shooting in a location where you don't need a held free hand for balance, support, in current, etc. The big issue using the hand held technique is holding the housing steady with one hand while you are attempting to focus a small sliver of light onto an in focus subject. I can't stress enough how important it is to have a well balanced easy to control housing. To assist with this I added a Nauticam ten inch carbon fiber float arm to my Nauticam NA-EM5 housing for added buoyancy and balance. I also used the same Nauticam arm and a four inch ball arm for support when the strobe was mounted to the housing.

The problem with the housing mounted method is trying to line up the subject and focus the lens while moving the focusing light on

the subject at the same time. I found it somewhat frustrating having one eye glued to the viewfinder while trying to aim the focusing light with the other. With the strobe mounted on a tripod the light can be aimed at the subject and then the camera can be moved around the subject to get the most ideal composition. The problem with this approach is that you can't always find a convenient place for the tripod where it will be close enough to the subject while not doing damage the surrounding marine life. If you chose to use a tripod your first concern should be for the safety of the reef.

With the tripod or handheld approach it helps to have an extra long fiber optic flash cable with a small coil rather than the commonly used fiber cords for housing mounted strobes. I found that these shorter fiber cords tend to get tangled as you are moving everything into position for the shot and that you can spend as much time trying to get the cord untangled as you will getting your shot. Thanks again to Jose Sanchez Garrido and Saga Diving Technology for their support with the test equipment used for this review. Go to Sagadive.com for more information on the Saga line of snoots.

Phil Rudin

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