

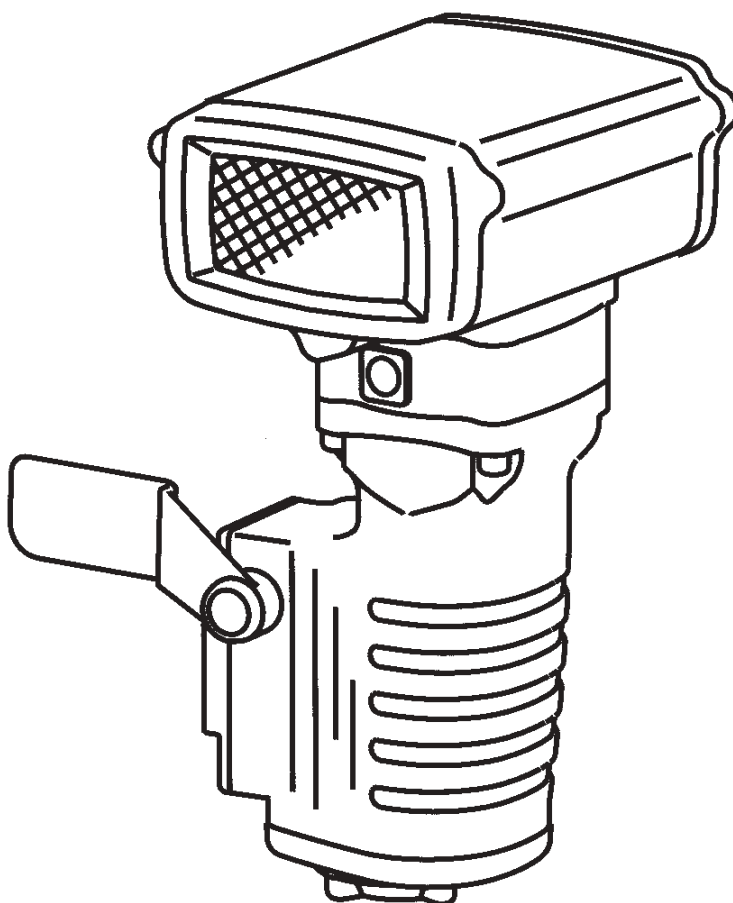
**SEA&SEA**

***UNDERWATER AUTO STROBE***

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***YS-20A***

**Instruction Manual**



***~ Yellow Sub ~***



# YS-20A

## Instruction Manual

Thank you and congratulations on your purchase of SEA & SEA's YS-20A strobe. For proficient operation of all strobe functions and to maximize performance, please read this manual thoroughly before use. Retain for future reference.



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## Safety Precautions

- For safe handling of this product, please read the following precautions before use. Retain for future reference.

\* Misuses listed under the following precautions could lead to serious consequences. Please observe the precautions as they contain highly important information related to personal and product safety.

-  **WARNING!:** Situations that could result in serious injury or death.
-  **CAUTION!:** Situations that could result in property damage or personal injury.

### <General Precautions for Operation of the Strobe>



#### **WARNING!**

- Use alkaline, manganese or nickel-cadmium batteries rated 1000mA or less. Do not use any other type of battery. Doing so may generate toxic gas and pose a serious health hazard.
- Do not fire this strobe with the reflector facing down on a table or floor as that may cause overheating of the internal circuitry and/or fire.
- Do not trigger the strobe near combustible materials. It may cause fire.
- Heat from the batteries may cause pressure buildup inside the battery compartment. When opening the battery compartment, the battery cap may release with unexpected force. To avoid injury, open with extreme care.



#### **CAUTION!**

- Remove batteries from the strobe after use.
- Do not open the battery compartment in a flammable environment.
- Always make sure that the strobe and accessories are securely mounted to prevent them from falling off, becoming lost, causing personal injury or equipment malfunction.
- Do not disassemble the strobe. Contact with internal high voltage circuitry can cause personal injury.
- Do not alter or modify the strobe. User modifications can result in flooding. User modifications will void the warranty.
- If you detect smoke or an acrid odor, discontinue use immediately. Remove the batteries from the strobe and send the strobe to an authorized Sea & Sea dealer.

- In the event of flooding, turn off the strobe and camera. Discontinue use immediately. Remove batteries from camera and strobe.
- If flooded, beware of increased pressure inside the strobe. Handle with extreme care when opening.
- During transportation or when not in use for a prolonged period of time, remove batteries to avoid unwanted battery consumption due to accidental activation of the power switch.
- SEA & SEA Products Ltd. will not be responsible for costs incurred for film and/or processing should malfunction of the YS-20A strobe, camera or accessories result in unsatisfactory photographs.
- The YS-20A strobe incorporates plastic parts. Do not subject this strobe to extreme heat, such as on a car dashboard, or to direct sunlight. Plastic parts are prone to warping.

#### <Precautions for Storage of the Strobe>



#### **CAUTION!**

- When not in use for a long period of time, remove batteries; possible battery leakage will cause malfunction.
- Do not store in a damp or humid environment. It can cause mildew or malfunction.
- Do not store in a chemically-laden environment. Naphthalene, camphor, or other harmful chemicals can cause mildew, rust, corrosion and other damage to the metal and rubber components in this product.
- When storing the strobe for an extended period of time, periodically attach to the camera and trigger the shutter release (with batteries and without film). This will exercise the internal parts and keep the strobe in good working condition.

## Handling the O-Ring

The O-ring on the front case of your YS-20A provides an airtight waterproof seal. Improper handling and maintenance of the O-ring can cause flooding. Please observe the following precautions carefully.



#### **CAUTION!**

Some Sea & Sea products, including this YS-20A, use blue O-rings. A special process impregnates blue O-rings with silicone oil, but diligent lubrication with silicone grease is still required. For maintenance of this blue O-ring, use only the Sea & Sea brand silicone grease packaged in a tube with a BLUE cap. Never use Sea & Sea silicone grease in a tube with black lettering and a WHITE cap. Do not use any other brands; it will impair the original waterproofing property. If you have applied the wrong grease, the O-ring must be replaced. Use of the wrong grease may result in flooding.

● **Always inspect the O-ring for scratches, cracks or cuts.**

If the O-ring is damaged, it must be replaced. Never remove the O-ring with a sharp tool. To avoid damaging the O-ring, use the O-Ring Remover, a tool especially made for O-ring removal.

● **Inspect for debris.**

Make sure that there are no foreign particles, such as dust, sand or hair on the O-ring, O-ring groove or O-ring contact surface. Such contamination will breach the seal and cause flooding.

● **Lubricate with silicone grease.**

Silicone grease protects the O-ring from drying and abrasion. Dab a small amount of grease onto your finger and draw the O-ring through your fingers until evenly coated. Use the silicone grease sparingly. Too much grease attracts debris.

● **O-ring storage.**

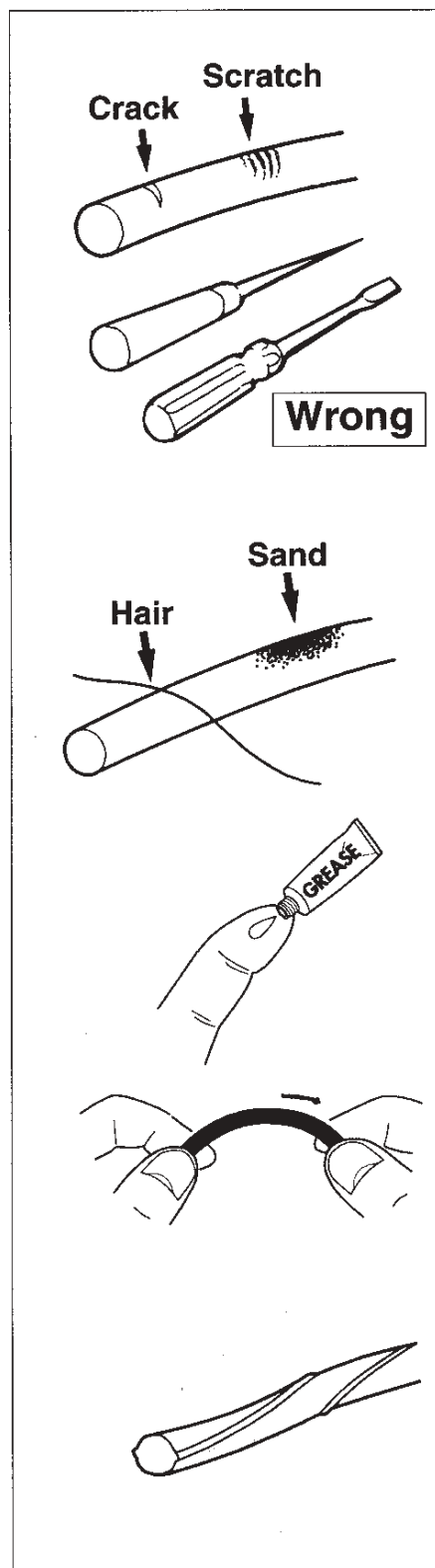
Always store your O-ring in an airtight container and in a cool environment. Keep out of direct sunlight. Take care that it is stored flat and not bent or twisted. Do not place heavy objects on it; excessive weight will flatten it and impede its sealing capability.

● **The O-ring's life is one year.**

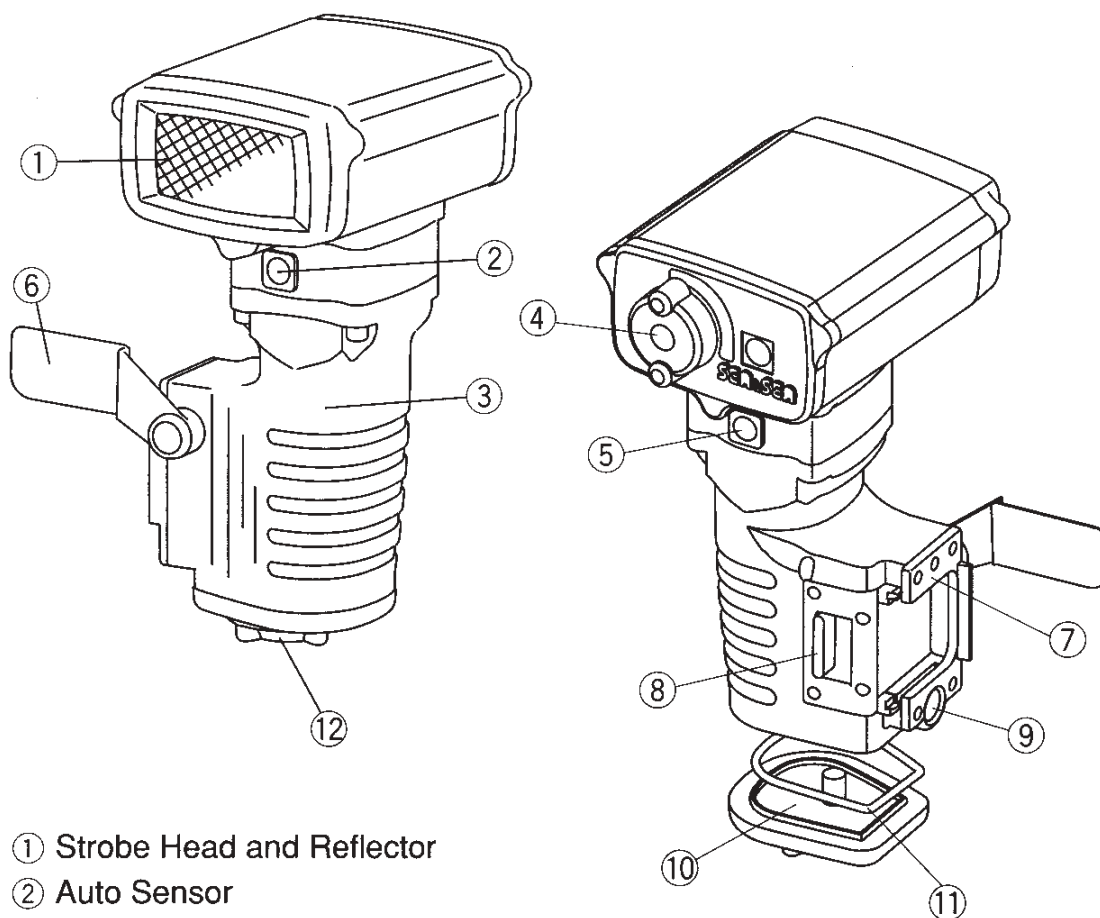
The life of the O-ring depends on the diligence of your maintenance, frequency of use, and storage conditions, but on average, if you maintain your O-ring properly, it will retain its watertight integrity for one year.

● **Remove the O-ring for inspection.**

Before use, remove the O-ring from its groove and carefully check the O-ring, the O-ring groove and the O-ring contact surface. A thorough examination of the O-ring and O-ring groove is not possible unless the O-ring has been removed.

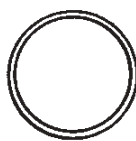


## Identification of Parts



- ① Strobe Head and Reflector
- ② Auto Sensor
- ③ Grip
- ④ Power Switch
- ⑤ Auto Confirmation Light
- ⑥ Deflector
- ⑦ Connector Shoe
- ⑧ Lock Release Lever
- ⑨ Flash Sync Window
- ⑩ Battery Cap
- ⑪ Battery Cap O-ring
- ⑫ Battery Cap Knob

### Accessories



O-ring



Silicone Grease

## Before Taking Photographs

### ●How to Install the Batteries

The YS-20A is powered by two AA alkaline or nickel-cadmium batteries up to 1000mA.

1. Make sure the power switch is in the OFF position.
  2. Turn the battery cap knob counterclockwise and lift up.
  3. ※ If the battery cap does not open, check that the battery cap knob has been fully rotated, then pull the entire cap straight up (Figure 1).
  4. Insert two batteries with the correct polarity as indicated by the polarity marks inside the chamber (see Figure 2).
  5. Examine the battery cap O-ring and make sure it is free from damage and debris. Lubricate the O-ring with silicone grease.
  6. Replace the battery cap, then turn the knob clockwise until tight.
- ※ When changing batteries after use underwater be sure your hands are completely dry. Hold the strobe with the battery compartment facing down so that trapped water will not penetrate the battery compartment interior.

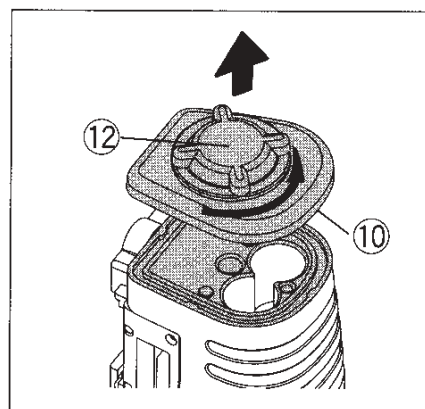


Figure 1

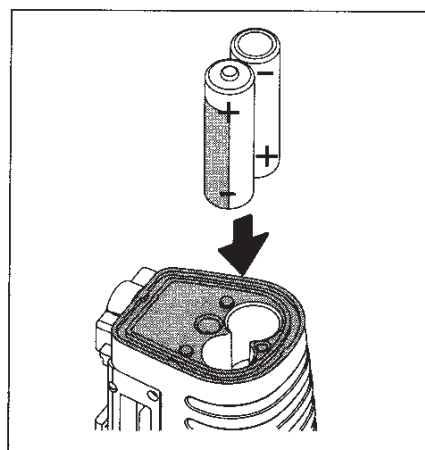


Figure 2



### CAUTION!

Always replace both batteries with fresh ones of the same kind. Never mix alkalines and ni-cads. Never mix manufacturer's brands. It may result in battery leakage, causing strobe malfunction.

### ●Mounting the Strobe to the Camera

This YS-20A is an external strobe designed exclusively for use with the MX-5II camera. The YS-20A is triggered by the MX-5II's built-in flash. This strobe is for underwater use only.

Note: For the brightest colors and sharpest images, always use this strobe when you take pictures underwater with your MX-5II.

## ●To Connect

1. Pull the lock release lever in the direction shown by the arrow in Figure 3.
2. Slide the strobe onto the connector shoe.
3. Release the lever.
4. Check that the strobe is securely in position.

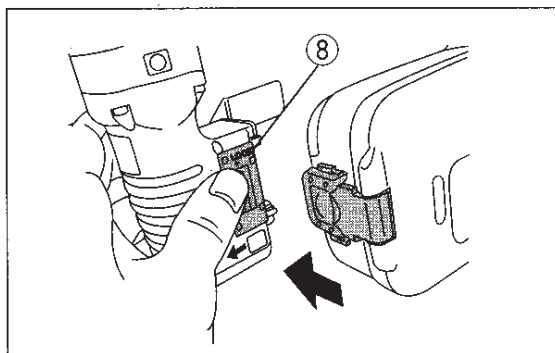


Figure 3

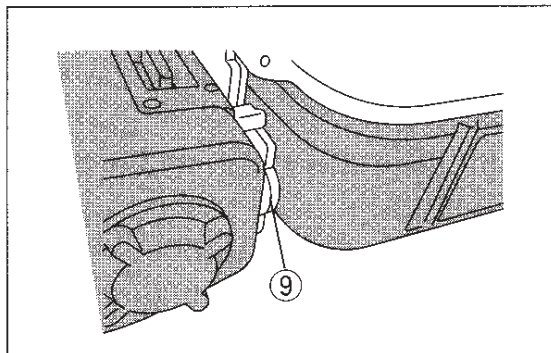


Figure 4



### CAUTION!

This YS-20A flashes in synchronization with the MX-5II, optically triggered by the camera's built-in flash. Do not contaminate or insert any object between the flash sync window since it will interfere with the necessary exchange of electric signals. (Figure 4)

## ●To Remove

Pull the lock release lever in the direction indicated by the arrow and slide the strobe off the connector shoe.

※Protect the flash sync window from damage and contamination during storage.

## Taking Photographs

The YS-20A is an automatic strobe. The auto sensor will measure the light reflected off your subject and control strobe output for a correct exposure. The subject must be within the effective operating range for the auto sensor to function.

### ●Operation of the Switches

The YS-20A can be set to operate with ISO400 or ISO100 films.

《ISO400 Auto Flashing Mode》  
For ISO400 films

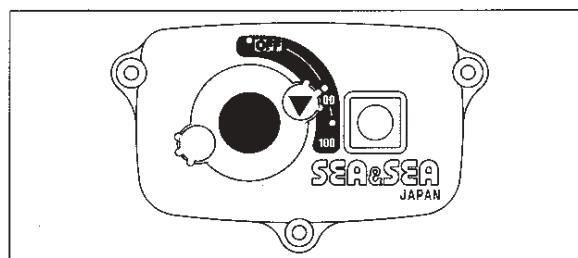


Figure 5

Set at the ISO 400 position when using ISO 400 film.

《ISO100 Auto Flashing Mode》  
For ISO100 films

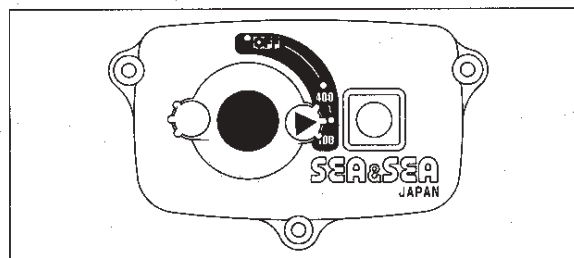


Figure 6

Set at the ISO 100 position when using ISO 100 film.



## ●Operating Range

The following table shows the most effective strobe-to-subject distance for automatic light control. It is for reference only. The range may be adjusted depending upon water conditions, clarity, depth, time of day, etc.

		m	ft
	ISO100	0.25~1.3	0.82~4.3
	ISO400	0.25~2.5	0.82~8.2

## ●Auto Confirmation Light

When the subject is within the effective range, the confirmation light (green) will illuminate for two seconds, indicating that the correct amount of light has been emitted for a proper exposure. If the light doesn't come on, the strobe has emitted a full-powered flash.

### ! CAUTION!

Do not cover the auto sensor with your finger. If you obstruct the auto sensor, the auto light control system will be unable to function and the strobe will emit a full-powered flash.

## ●Deflector

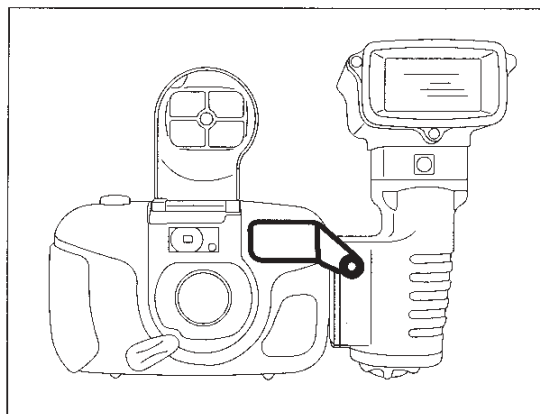


Figure 7

To use the YS-20A instead of the MX-5II's built-in flash, pivot the deflector into position over the built-in flash.

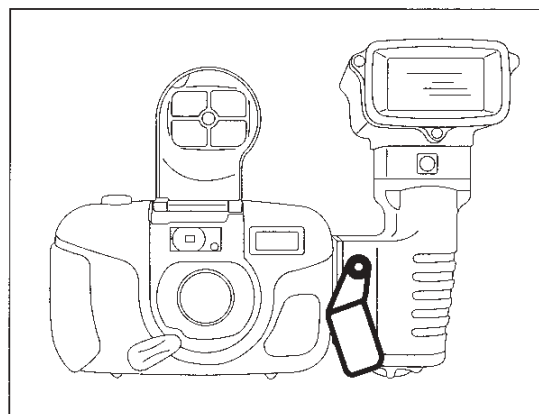


Figure 8

To use the MX-5II's built-in flash instead of the YS-20A, leave the deflector in the down position as shown above and set the YS-20A at "OFF".

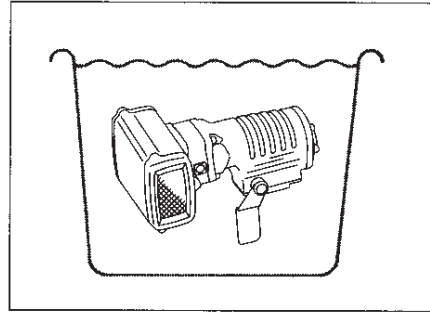
## Maintenance and Storage

1. After use underwater, soak this product in fresh water and then wash with running water.
2. Dry with a clean cloth.



### CAUTION!

- Salt residue may be left if this product is not carefully rinsed. The salt residue will crystallize when it dries and may cause flooding. Always soak in fresh water and rinse well after use.
  - Do not use a heater or hair dryer to rapidly dry the strobe. Heat may cause warping or damage to this product.
3. Remove batteries after use. (Be sure to dry the strobe completely before opening the battery compartment. If the interior gets wet, dry immediately.)
  4. Before storing, lubricate the O-ring. Replace the O-ring with a new one at least once a year.
  5. Store in a cool, dry environment.
  6. When storing this strobe for an extended period, take care not to expose the strobe to extreme temperatures, high humidity, or direct sunlight.
  7. Never use petroleum solvents, such as alcohol or paint thinner, to clean this strobe; such products might mar or otherwise damage the finish.
  8. Send this product to an authorized Sea & Sea service center for a checkup and necessary overhaul within two years after purchase.



## Specifications

Product Name	YS-20 Auto Strobe (for exclusive use with MX-5II camera)
Guide Number	12/40 (m/ft/land)
Beam Angle	70° x 80°
Battery Requirement	2x AA alkaline or nickel-cadmium batteries up to 1000mA
Battery Life	150 flashes (alkaline), 75 flashes (Ni-Cd)
Recycle Time	6 seconds (alkaline), 5 seconds (Ni-Cd)
Color Temperature	5500°K
Synchronization	Optical triggering (when used with MX-5II)
Light Level Control	Verified with Auto Confirmation Light
Operating Modes	ISO400 Auto, ISO100 Auto
Depth Rating	45m (150 feet)
Dimensions	100 x 83 x 160 mm (3.9 x 3.3 x 6.3 inches)
Weight	340g (without batteries)
Accessories Included	O-ring, silicone grease

※Specifications are subject to change without notice.

## Notice



Products that display this decal have passed pressure-test in accordance with Sea & Sea's standards.