



# **Underwater TTL Housing for Canon EOS 100D Rebel SL1**

Product Number 6970.03

## **Product Registration**

Please register your product at [ikelite.com](http://ikelite.com) within 15 days of purchase. Our product registration database is the best way for us to contact you in the event of a product update.

## About this Product

Thank you for your purchase of Ikelite equipment. Please read this instruction manual completely before attempting to operate or dive with this product. Please visit [ikelite.com](http://ikelite.com) and register your product to receive information on any updates or notices pertaining to your equipment.

## Included in the Box

- Housing
- Rear o-Ring # 0110 (installed)
- Front o-Ring # 0132.36 (installed)
- Waterproof bulkhead cap # 9104.7 (installed)
- .050" Hex Key # 0945.11
- 1/16" Hex Key # 0945.16
- Silicone lubricant 1cc tube # 0184.1
- Dome port # 5516.15
- Neoprene port cover # 0200.1 (installed)
- Zoom gear # 5509.19

## **Important Notices**

- » **Never leave a housing in a rinse tank, even if it is the only system in the tank. The vast majority of catastrophic floods happen when the user walks away from a housing while it is in the rinse tank.**
  
- » **To prevent salt build-up and sticking controls, submerge the empty housing in clean, freshwater. Operate the controls several times each while underwater to flush out any residue.**
  
- » **Do not use alcohol, cleaning agents, spray lubricants, Rain-X, or other solvents on the housing or lens port. Use of an incompatible chemical compound can damage the plastic and o-rings, and may result in leaking.**

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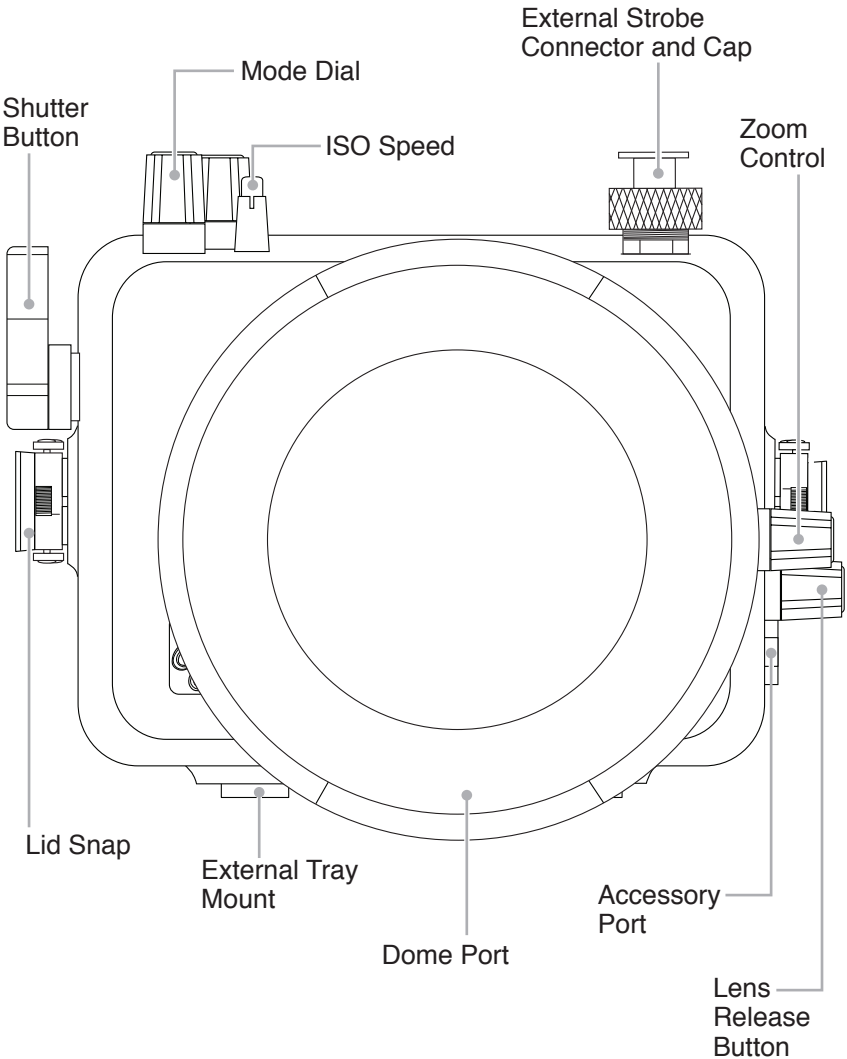
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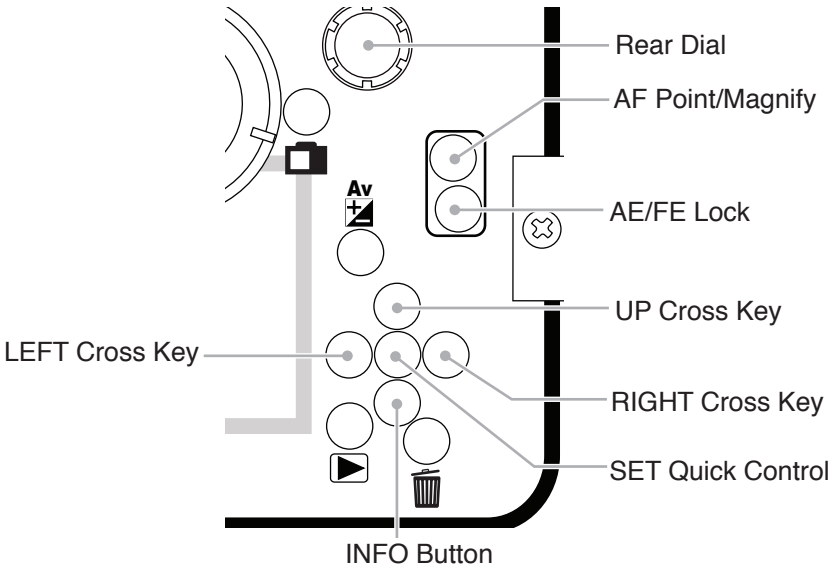
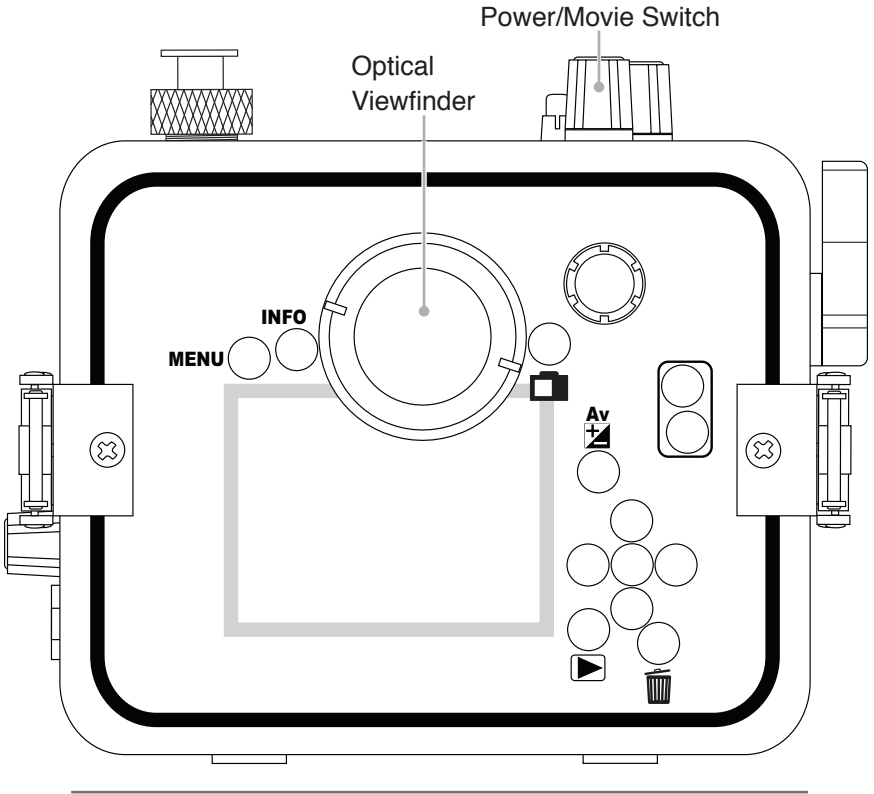
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## Getting to Know Your Housing



# Getting to Know Your Housing - cont.




## Accessory Port

Your housing features one 1/2-20 threaded Accessory Port which may be used for attachment of factory optional or aftermarket housing accessories. Visit [ikelite.com](http://ikelite.com) for an updated list of factory optional accessories.

Use the following steps to replace an Accessory Port Hole Plug with an accessory fitting:

1. Remove the Hole Plug using an 11/16 inch open end wrench.
2. Check the accessory fitting o-ring sealing area. If an o-ring is not present, use the Hole Plug o-ring. Lightly lubricate o-ring with Ikelite Lubricant. Use **ONLY** Ikelite lubricant. Other manufacturer lubricants can cause the o-ring to swell. Check o-ring and o-ring sealing area. Both should be clean and free of hair, sand, or other debris.
3. Carefully screw in and tighten accessory fitting. The accessory port features a 1/2-20 threaded hole. Make sure your fitting is the same thread pattern. **DO NOT** cross-thread. **DO NOT** overtighten.

 **NOTICE:** Your Ikelite housing warranty **DOES NOT** extend to cover the attachment of aftermarket housing accessories by 3rd parties. Warranty **DOES** cover factory optional accessories attached by certified Ikelite service technicians.

## Setting Up Your Camera

### Pre-Installation Checklist

1. Insert a fully charged camera battery.
2. Insert a properly formatted memory card.
3. **REMOVE** eyecup from camera's optical viewfinder.

4. Set Mode Dial to “M” Manual Mode.
5. Set shutter speed to 1/125th second and aperture to F8. Set aperture to F22 for macro (close-up) photography.
6. Set Red-Eye Reduction to “Disable.”
7. In Flash Control, set Flash Firing to “Enable.”
8. Set LCD Auto Off to “Disable.”

Set Touch Control to “Disable.”

**Notes:** These initial camera settings may change based on your shooting conditions.

The Q-SET Button can be used to highlight and change certain camera functions. To easily change a setting (aperture, ISO, white balance, etc.) follow these steps:

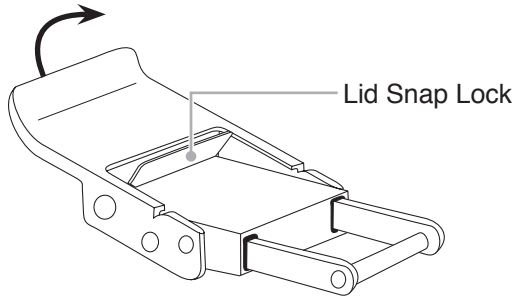
1. Once the camera setting function screen is displayed, press the Q-SET button and move the cursor to highlight the desired setting.
2. Rotate main dial to desired setting. The camera will automatically deselect the highlighted setting after 10 seconds or when the shutter button is pressed. The main dial function then returns to its default setting. Each time the Q-SET button is pressed it will return to its previous setting.



# Setting Up Your Housing

## Opening the Housing

1. Push the lid snap lock forward and start to lift the curved end away from the housing.

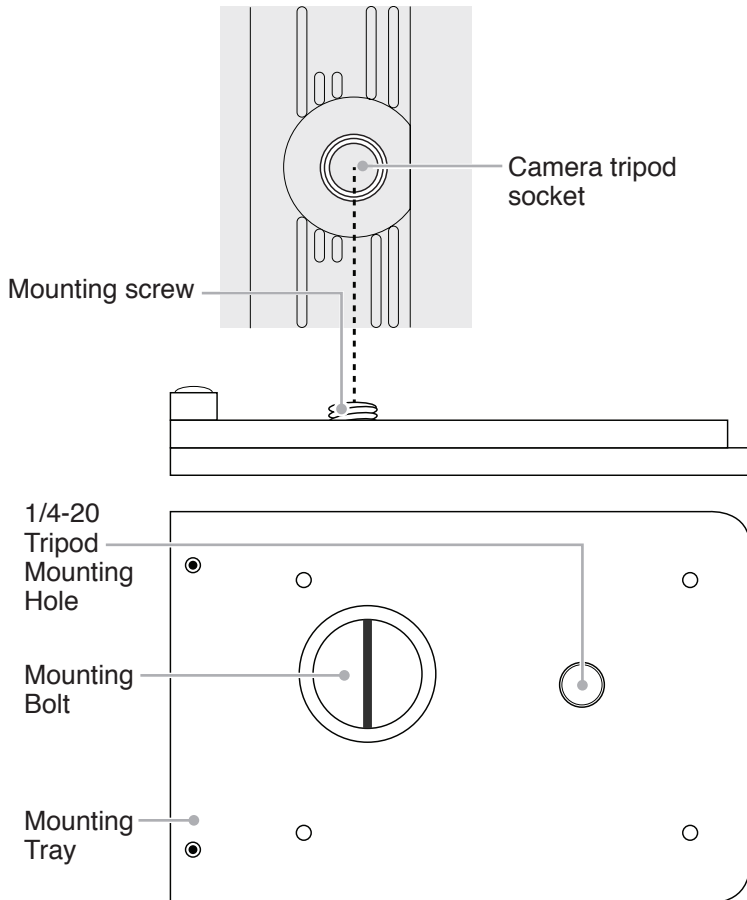


2. Lid snaps are designed to provide enough force to compress the o-ring for a proper seal. Keep firm pressure against the lid snap while lifting it away.
3. Repeat with remaining lid snap.
4. Remove the housing back.

## Inserting the Camera

1. Remove any lanyard or neck strap which may be attached to the camera.
2. Remove the camera Mounting Tray from the housing.

3. Line the mounting screw up with the camera's tripod socket. Use a coin or flat head screwdriver to tighten the mounting plate to the camera.

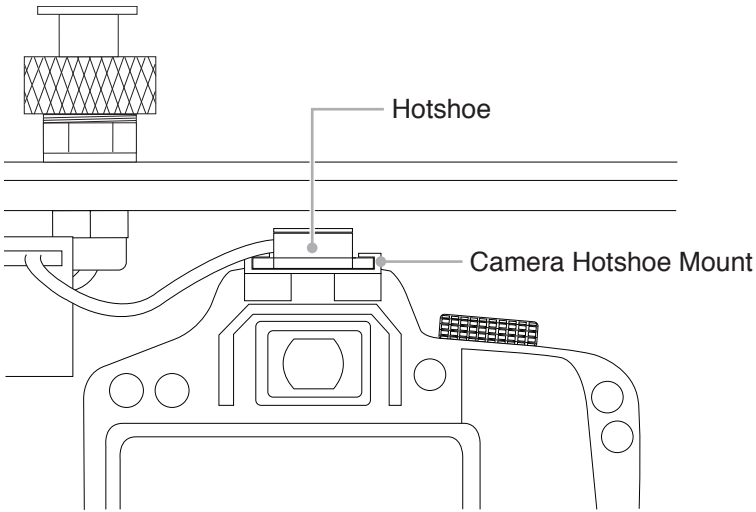


4. Pull out on the housing control knobs to move them out of the way.
5. Insert the mounting plate into the slot on the inside bottom of the housing. Push the camera all of the way forward until the back of the mounting plate is flush with the back of the housing mount.

## Attaching the Hotshoe

Slide Hotshoe into Camera Hotshoe Mount until it stops.

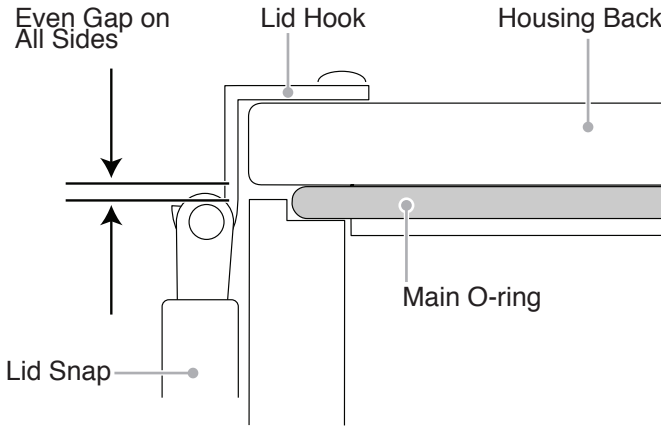
**NOTE:** Hotshoe must be all the way forward in the Camera Hotshoe Mount to ensure a good electrical connection.



## Closing the Housing

1. Make sure the o-ring is clean and in its proper location on the back of the housing. The main housing o-ring does not require lubricant to make a seal.
2. Place the back onto the housing front.
3. Make sure no controls or wires are interfering with the o-ring or the back of the housing.
4. Place each lid snap into the corresponding hook on the housing back.

5. Push the lid snaps towards the housing until they are flat against the housing and the lock has engaged. Close opposing lid snaps at the same time.



6. Check the o-ring seal. The o-ring should form a uniform, solid line around the back of the housing. There will be a small, even gap around the housing between the housing back and the housing front.

## Lens Port Options

### 5516.15 Dome Port (included with housing)

**NOTE:** This housing is compatible with DLM Port Systems ONLY. Housing is NOT compatible with FL and DL Lens Port Systems.

The housing comes standard with an optical grade acrylic dome port with standard zoom gear. This port provides sharp images and zoom capabilities with the Canon EF-S 18-55mm STM kit lens, the popular Tokina 10-17mm lens and the Canon 10-18mm STM lens. Minimal vignetting (dark shadows in the corners of the image) will be present in the 10-12mm range when used with the Tokina lens.

An optional zoom gear (Product Number 5509.20), sold separately, is required to operate the lens zoom ring on the Canon 10-18mm STM lens. This lens is accommodated by the standard dome port with no vignetting.

The dome port may be removed without tools to attach the optional DLM Extended Flat Port for use with the Canon EF-S 60mm Macro lens.

Simply loosen the securing thumb screws and slide the port off.

### **5516.50 Flat Port (optional)**

The optional Flat Port allows use of the 60mm Macro lens in auto-focus mode and features 67mm front threads for the optional attachment of macro converter wet lenses.

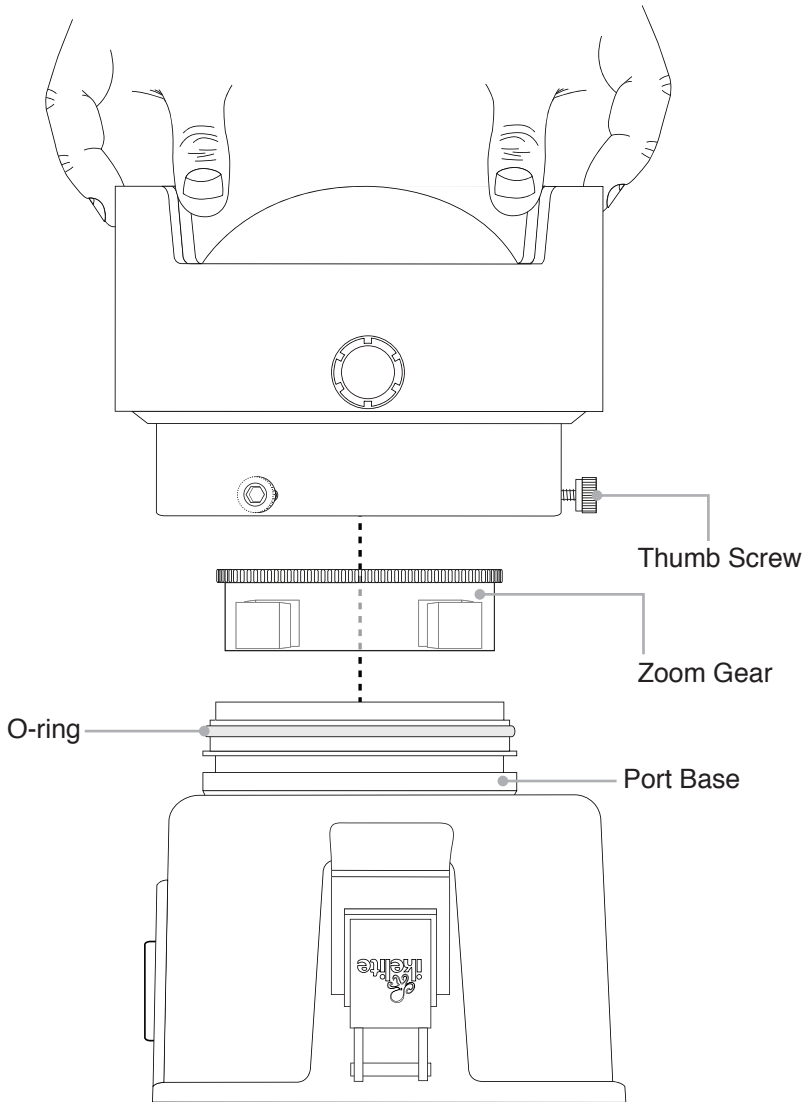
The Flat Port can also be combined with the DLM 2.2 Inch Port Extension for use with the Canon 100mm USM IS Macro lens. The Port Extension allows for auto focus use only.

No other lenses or ports are compatible with this compact housing. It is not necessary to remove the Dome Port unless you are installing the optional Flat Port or replacing the Dome Port.

### **Attaching / Removing the Lens Port**

To **Remove** the Lens Port, loosen the three thumb screws so that approximately 4 threads are visible on each thumb screw. This will allow the port to slide over the Port Base. Gently pull up on the port as shown, page 13.

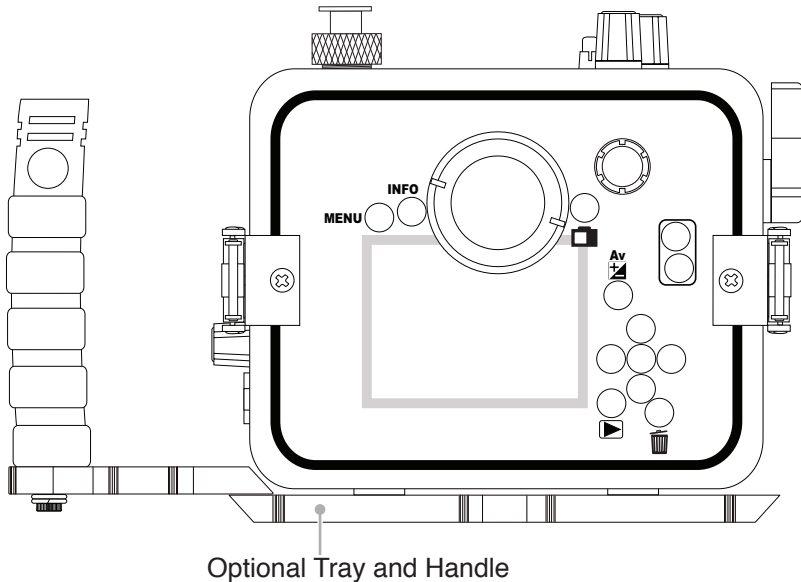
1. To **attach** the Lens Port, lightly lubricate the Port Base O-ring. When properly lubricated, the O-ring should have an even, slightly shiny appearance. Wipe off any excess lubricant. Lubricant prevents the o-ring from rolling or extruding; it is not a sealing mechanism. Use **ONLY** Ikelite lubricant.



2. If using a Zoom Gear, place it over the lens with the teeth side facing away from the housing.
3. Rotate all three Thumb Screws counterclockwise so that approximately 4 threads are visible. This will allow the port to slide over the Port Base.
4. Slide the lens port onto the Port Base and press evenly down toward the housing until it stops. There should be a very thin, even gap between the bottom of the port and the housing front.
5. Rotate all three Thumb Screws clockwise until they are snug against the port. DO NOT overtighten.

## OPTIONAL Tray & Handle(s)

Easily add an optional Tray and Single or Dual Handle to allow attachment of strobe arms, strobes and additional accessories. Go to [ikelite.com](http://ikelite.com) for additional information.



# Setting Up An External Strobe

We recommend attaching an external strobe for the optimal color and clarity in a wide variety of shooting situations, including daylight photography. An external strobe may be triggered by electrical sync cord.

**NOTE:** Optional external Tray and Handle necessary to attach an external strobe.

## About Sync Cords

Attaching a strobe via electrical sync cord provides fast strobe recycle times. When a compatible Ikelite DS strobe is attached via sync cord, circuitry built into the housing allows the strobe to communicate directly with the camera to trigger the strobe and adjust its power for perfect exposure.

Strobes from SEA&SEA, INON, and Nikonos attached by electrical sync cord are not capable of powering the TTL circuitry built into this housing. These strobes must be used in manual power modes only when connected via electrical sync cord.

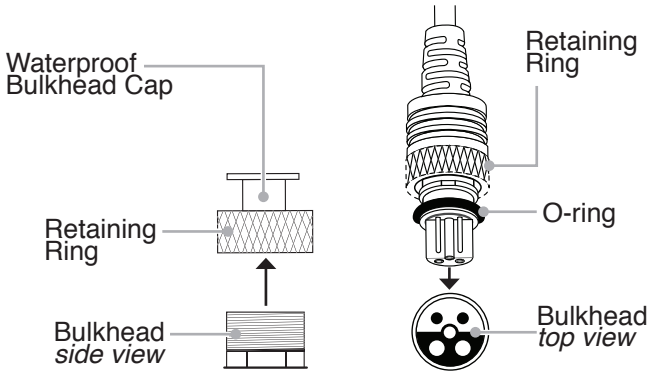
## Attaching a Sync Cord

**A bulkhead cap or sync cord must be attached to the housing for waterproof operation. Never submerge the housing without either a sync cord or waterproof bulkhead cap attached.**

1. Remove the bulkhead cap
2. Lightly lubricate the sync cord o-rings. We recommend using only Ikelite silicone lubricant to eliminate the possibility of swelling due to incompatible compounds.  
Line up the pins and receptacles and insert the sync cord plug into the housing bulkhead.
3. Rotate the knurled retaining ring until snug on the housing bulkhead. Do not use pliers or tools to tighten the retaining ring.





4. Attach the other end of the sync cord to the bulkhead on your strobe.



5. If using an Ikelite strobe, set the strobe to TTL. If using a non-Ikelite strobe, set the strobe to manual flash and select a manual power setting.
6. Turn on the strobe(s).
7. Turn on the camera.
8. Take a test photo to ensure that your strobe(s) are functioning properly.

## Conversion Circuitry

This small compact digital SLR housing has Ikelite designed Conversion Circuitry built right in. The Conversion Circuitry provides real Canon eTTL flash exposure when used with Ikelite DS series strobes. Once a DS series strobe is attached to the camera housing, the conversion circuitry is automatically powered after the strobe is turned on. Once attached, turn the strobe on first before turning on the camera. The circuitry cannot be powered up or used by non-Ikelite strobes.

If Manual flash is desired, press the  button once, the strobe will fire, press the  button a second time within two seconds, and then use manual power settings on the strobe. To go back to TTL, turn the strobe off and back on; return strobe power switch to TTL.

## Final Check

1. Re-check the o-ring seal. The seal should form an even, solid line around the back of the housing.
2. Turn on the camera and check all control functions.
3. Make sure that the camera can obtain focus and take a photo.
4. Check battery life and open storage space on your memory card.
5. Check the flash, if using.
6. Submerge the housing in a fresh water tank dedicated to underwater photography equipment. Visually confirm that there are no signs of water intrusion or a steady stream of bubbles coming from one of the housing seals.

## Entering the Water

1. If possible, we recommend entering the water without your housing to ensure that you are comfortable and your life-saving equipment is in working order. Once you are stable, have someone pass your camera housing to you.
2. Submerge the housing at the surface of the water and visually confirm that there are no signs of water intrusion or a steady stream of bubbles coming from one of the housing seals. If water does appear to be entering the housing, point the lens port downward and return the housing to the surface as quickly as possible. Please observe all necessary safety precautions. NEVER ascend faster than accepted safety limits.

3. Use your hand to gently flush away any small bubbles that may be on the face of the lens port. Bubbles will produce soft focus spots in your photo or video.

## Spare Parts

- 0110 Main O-ring
- 0200.1 Port Cover
- 9249.6 Port Thumbscrews Set of 3
- 9104.7 Waterproof bulkhead cap
- 5509.19 Zoom Gear for Canon 18-55mm STM
- 5509.20 Zoom Gear for Canon 10-18mm STM
- 5020 Silicone lubricant

## Maintenance

### Post-Dive

1. Rinse the housing in fresh water. Rotate the housing controls and press each button while submerged in fresh water to flush out any salt or debris to ensure smooth operation on future dives.
2. NEVER leave your housing in the fresh water rinse tank. Collisions with another person's equipment can cause scratches and possible damage to your equipment.
3. Stow the housing in a shaded place where it is protected from impact or overheating. If no shade is available, we recommend covering the housing with a towel or cloth.
4. Check the camera's memory card capacity before your next dive. Check the battery life of your camera and strobe(s); recharge as necessary.

5. Always re-check o-ring seal after opening the housing.

## Travel and Storage

1. Remove the camera from the housing for travel or storage.
2. Check the main housing o-ring.
3. Remove Tray and Handle (if attached) along with corresponding hardware and rinse with running water.
4. Close the empty housing and submerge in lukewarm fresh water. While submerged, rotate each control and depress each button to flush out any salt or debris.
5. Remove the housing from water and rinse with running water.
6. Do not rinse the inside of the housing or submerge the open housing in water. If the inside of the housing needs to be cleaned, wipe with a clean, slightly damp cloth.
7. Dry the housing with a clean, lint-free cloth.
8. Store in a cool, dry place.
9. Like regulators and other pressure-sensitive equipment, we recommend careful care and cleaning along with annual replacement of the factory seals.

## Troubleshooting

### Water enters the housing

- Reclean and reinstall the main o-ring.
- Take the housing underwater without a camera installed to ensure that the leaking has been corrected.

### **Photos are over-exposed (too light)**

- Adjust aperture (smaller), shutter speed (faster), or ISO (lower) setting.
- Move light(s) farther away from your subject.
- Adjust exposure compensation in the camera.
- Adjust lighting power.

### **Photos are under-exposed (too dark)**

- Adjust aperture (larger), shutter speed (slower), or ISO (higher) setting.
- Move light(s) closer to your subject.
- Adjust exposure compensation in the camera.
- Adjust lighting power.

### **Strobe will not fire**

- Turn on strobe.
- Make sure that the camera's flash is set to fire on every photo.
- Check that the fiber optic cord is properly attached.

### **Buttons are stuck**

- Soak the housing in lukewarm fresh water. Depress each button several times while the housing is submerged.
- Apply lubricant to the button. Press the button several times to distribute the lubricant.

### **Button(s) or control(s) do not line up**

- Ensure that nothing is preventing the camera from going into the housing.

- Push the camera mounting plate forward until it is flush with the housing base plate.

### **Camera is not functioning normally underwater**

- Ensure that the camera mounting plate is pushed all of the way into the housing mounting plate.
- Check each housing control while underwater to ensure that they are disengaged. An inadvertently engaged control may limit functioning of the camera.
- Check that the zoom control is returned to the center position and is not engaged.

### **Backscatter or “snow” in images**

- Position strobes or lights farther away from your lens and at a slight angle. Do not light water between the camera and subject.
- Avoid using strobes in extremely low-visibility conditions.

## **Limited Warranty**

This Ikelite product is warranted against any manufacturing defects for a period of two (2) years from the original date of purchase. Defective products should be returned to Ikelite postage paid. Ikelite will, at its sole discretion, repair or replace such products, and will return to customer postage paid. All other claims of any nature are not covered. Except as mentioned above, no other warranty expressed or implied applies to this Ikelite product.

## **Service and Repairs**

Ikelite is most interested in performing any service to ensure that all products perform as intended. Evidence of purchase date must be provided to obtain warranty service. No prior authorization is required. You may return directly to us or through your dealer. Please include a brief description of the problem, any relevant email correspondence, and/or description of the service request. Always include name, shipping address, email address, and phone number inside of the package.

Send postage paid to:

Ikelite Underwater Systems  
Attn: Service Department  
50 West 33rd Street  
Indianapolis, IN 46208 USA

For the separate international customs documentation form that you complete to accompany the shipment, please state or designate that the enclosed products were originally manufactured in the USA and are being returned to the manufacturer for repair service. Value of the equipment listed for customs purposes should be zero.

## Contact Us

If you have any questions about your product or need advice on getting the images you want, please get in touch with us and we'll do everything we can to help you capture your unique perspective.

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