



## **200DLM Underwater Housing for Canon EOS R7 [Fiber Optic]**

Product # 69746-FBR



### **Product Use & Video Tutorials**

<http://ikelite.com/watch-69746>

# **Introduction**

Thank you for your purchase of Ikelite products.

Our primary focus is to provide quality, professional grade products for use in and under water. Our products are designed, manufactured, and distributed from our sole facility in Indianapolis, USA where we started in 1962.

We are available if you have any questions or want photo advice. Send us an email 24 hours a day to [ikelite@ikelite.com](mailto:ikelite@ikelite.com). We strive to reply within 1 business day.

An electronic version of this instruction manual is available for download via the product page on our website:

<https://www.ikelite.com>

## **In the Box**

- Housing
- Camera mount # 95430 (installed)
- Tray with Dual Quick Release Handles
- Vacuum Pump with Gauge # 47011
- .050" hex key # 0945.11
- Spare Main O-Ring # 0110
- Spare Front O-Ring # 0132.36
- Silicone lubricant 1cc tube

## Important Notices

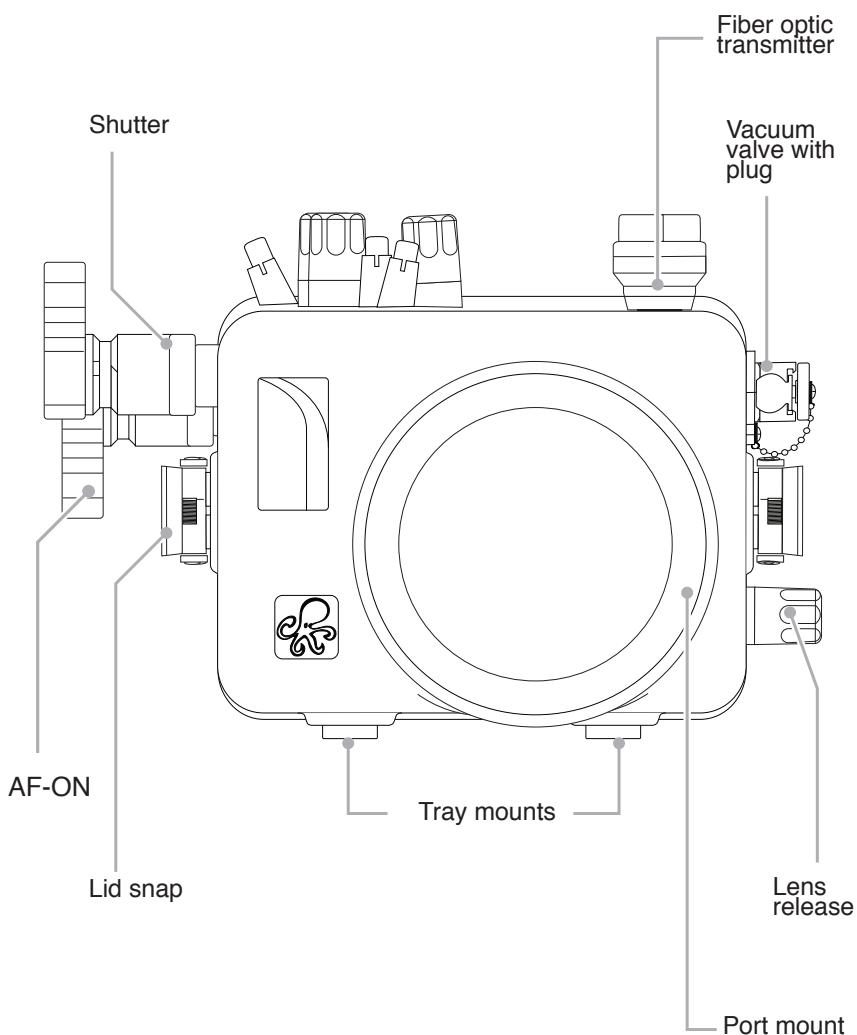
- » **This housing requires a compatible DLM lens port for waterproof operation. The housing is not waterproof without a DLM lens port attached.**
- » **A bulkhead cap or sync cord must be attached to the housing bulkhead for waterproof operation. Never submerge the housing in water without either a sync cord or bulkhead cap attached.**
- » **Do not pull the shutter trigger without a camera installed. You may accidentally detach or damage the control spring.**
- » **Never leave a housing in a rinse tank, even if it is the only system in the tank. Accidental damage may occur when the user walks away from a housing while it is in the rinse tank.**
- » **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.**
- » **If you will be using the system in strong surf it is recommended to draw a vacuum on the housing using the optional vacuum kit (sold separately).**

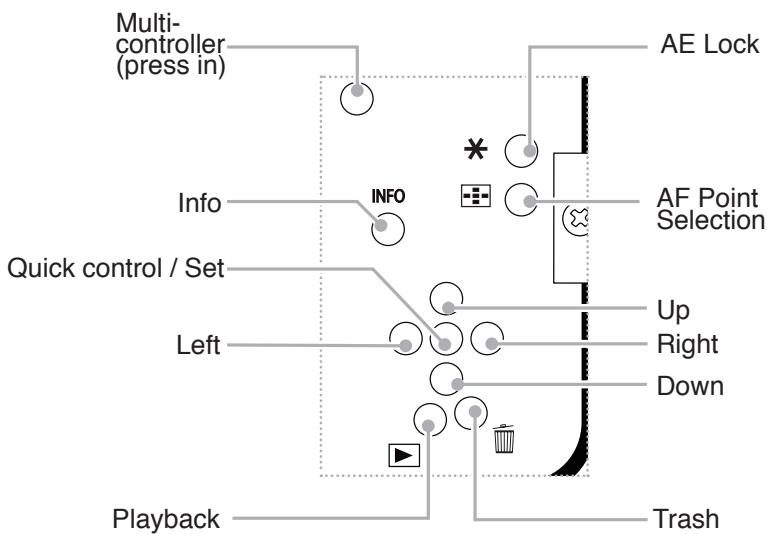
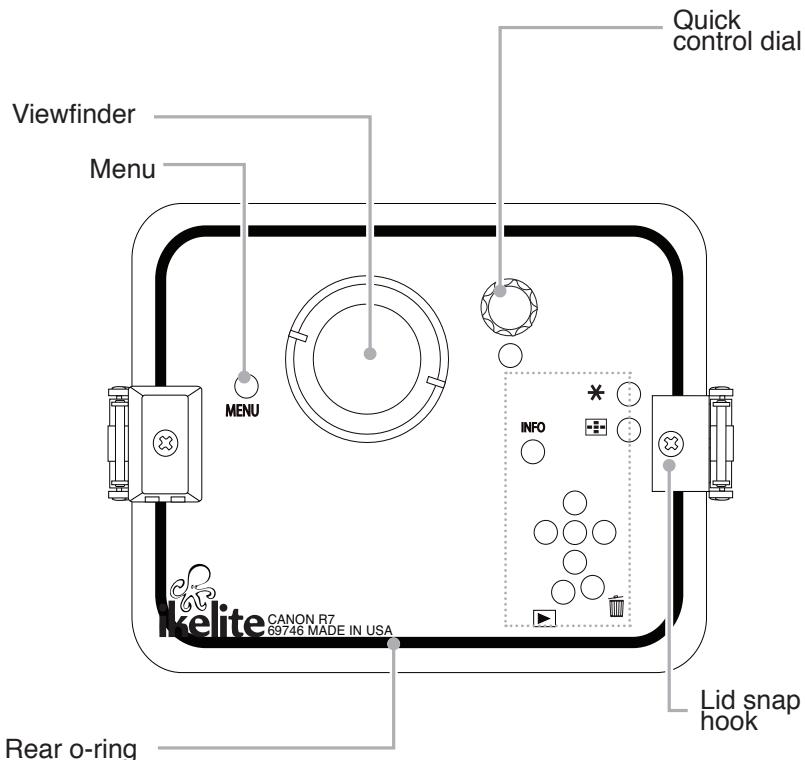
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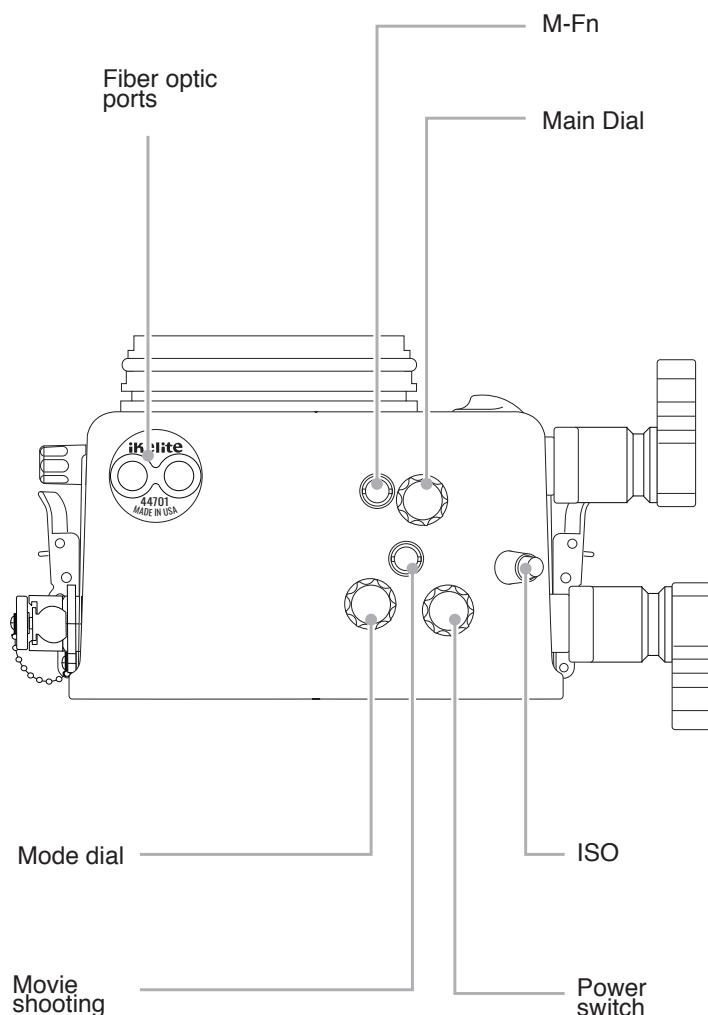
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# Getting to Know Your Housing







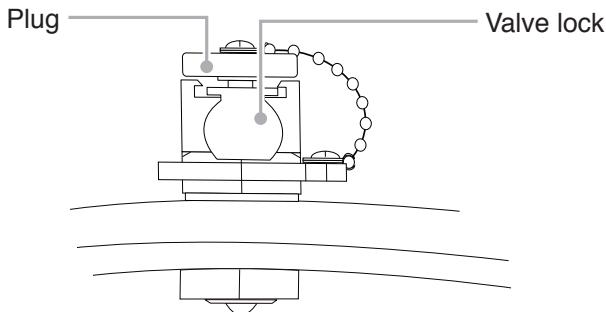
## Tray Mounts

This housing features two 1/4-20 threaded tray mounts on the bottom of the housing. The spacing between the tray mounts is 3" (76.2 mm). Optional tray with handles and mounting hardware are sold separately.

It is recommended to detach and thoroughly rinse the tray mounts, tray, and mounting hardware, with fresh water routinely during continuous use and prior to storage.

## Vacuum Valve

Your housing features a valve to check for leaks before entering the water.



- » **DO NOT** remove vacuum valve plug unless you are plugging in a vacuum pump.
- » **DO NOT** submerge the housing without the plug installed. The housing will not be waterproof without the plug installed.

## Fiber Optic Transmitter

The fiber optic transmitter is designed to be a permanently installation.

- » **DO NOT** remove or attempt to separate or disassemble the fiber optic transmitter.

# Setting Up Your Camera

## Pre-Installation Checklist

1. Insert a fully charged camera battery.
2. Insert a properly formatted memory card.
3. Remove any attached lanyard or neck strap.

## Camera Settings

- Set **Flash firing** to “On” when using an external strobe.
- Set **AF assist beam** to “Off” when using an external strobe.
- Set **Red-eye reduc.** to “Off” when using an external strobe.
- Set **External Speedlight control** to ‘Flash firing - Enable.’
- Set **Auto Lighting Optimizer** to ‘Disable.’
- Set **Shutter mode** to ‘Mechanical.’

## Disable Auto-Switching Viewfinder/LCD Screen

See how to do this here:

<https://www.ikelite.com/watch-canon-evf-switch>



The default setting of the camera’s eye sensor will disable the rear LCD when the camera is installed in an underwater housing.

1. Set **MENU > Set-up > Customize display > Screen/viewfinder display** to “Viewfinder” or “Screen.”

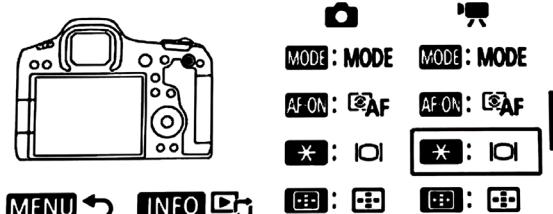
### **Screen/viewfinder display**

<b>Auto 1 (LCD: only screen)</b>	<b>AUTO1</b>
<b>Auto 2 (LCD: auto switching)</b>	<b>AUTO2</b>
<b>Viewfinder</b>	
<b>Screen</b>	

**SET** **OK**

2. Set **MENU > Custom Functions > Customize buttons > [Star icon]** to “Switch between VF/screen” (rounded rectangle between two vertical lines).

### **AE Lock button** **Switch between VF/screen**



3. Repeat Step 2 for both still photos column (left) and movies (right).
4. Use AE Lock [star icon] to switch between viewfinder and LCD screen.

### **Camera Settings Display**

Some camera information including the histogram can be toggled on and off using the **INFO.** button.

For a larger display of camera settings, use the camera's Quick Control button.

## Back Button Focus

Back button focus takes some adjustment to get used to but can be very valuable in a variety of shooting scenarios.

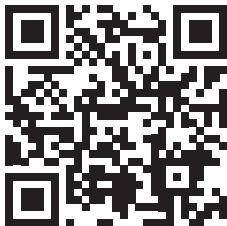
Use the camera's custom control settings menu to set the **Shutter button** to "Metering start." Set the **AF-ON button** to "Metering and AF start."

The AF-ON button is conveniently accessed by a thumb lever on the side of the housing. Instead of half-pressing the shutter to obtain focus and lock focus, press the AF-ON button.

## Exposure Settings

Refer to the **Cheat Sheets** in the Photo School section of our website for recommendations on exposure settings for a wide variety of shooting situations:

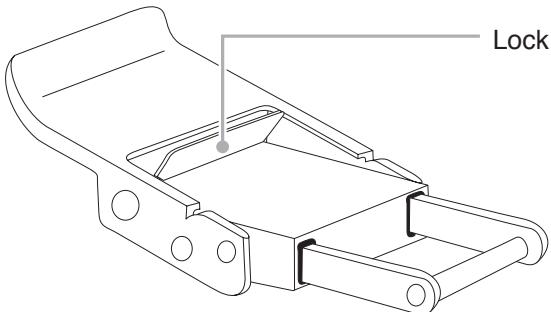
<https://www.ikelite.com/blogs/cheat-sheets>



# Setting Up Your Housing

## Opening the Housing

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

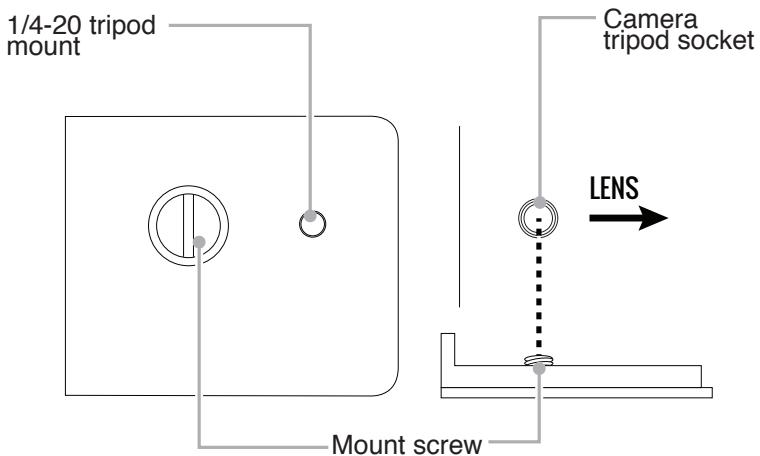


2. Lid snaps are designed to provide enough force to compress the o-ring for a proper seal. Keep firm pressure against the lid snap while lifting it away.
3. Repeat with opposite lid snap.
4. Remove the housing back.

## Installing the Camera

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

3. Line the mount screw up with the camera's tripod socket. Use a flat screwdriver to tighten the mount plate to the camera.



4. Pull out on the housing control knobs to move the controls out of the way.
5. Insert the mount plate into the slot on the inside bottom of the housing. Push the camera all of the way forward until it stops.
6. Push housing control knobs in and check orientation with the camera.
  - » **The camera may be attached to a tripod using the 1/4-20 threaded mounting hole on the bottom of the mount plate.**

## Closing the Housing

1. Make sure the o-ring is clean and in its proper location on the back of the housing. The rear 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 both lid snaps at the same time.
6. Check the o-ring seal. The o-ring should form a uniform, solid line visible through the back of the housing.
7. Check control functions.

## Attaching a Lens Port

Refer to the DLM Lens Port Chart for RF Mount to find compatible lens ports for a wide variety of popular wide angle, zoom, and macro lenses.

Choose a dome port for wide angle and zoom lenses. Larger diameter domes are better for split shots (half-in, half-out of the water) and provide sharper images.

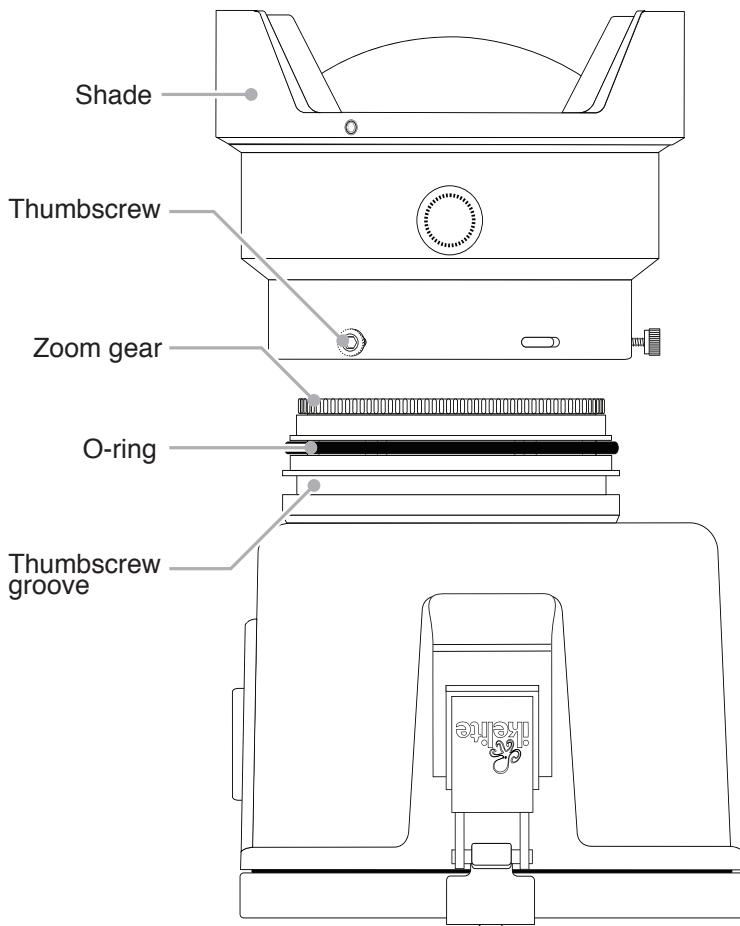
Choose a flat port for macro lenses. Flat ports magnify the subject underwater. Flat ports are not recommended for wide angle or zoom lenses due to their limited field of view and risk of vignetting (dark shadows around the edges of the image).

- » **This housing requires a compatible DLM lens port for waterproof operation. The housing is not waterproof without a DLM lens port attached.**

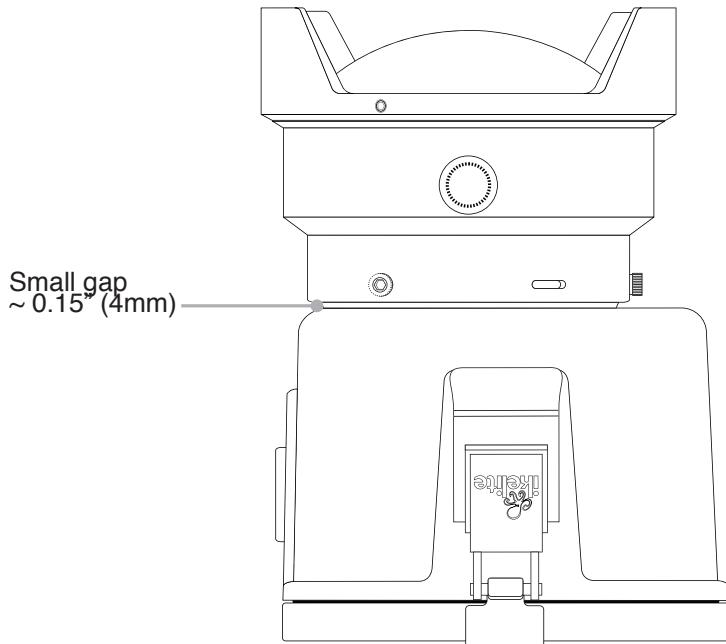
## Installing the Lens and Port

1. If using a zoom gear, refer to the zoom gear instructions for proper assembly procedure. Attach the lens to the camera.
2. Check that the port sealing surface and o-ring are clean and free of debris.

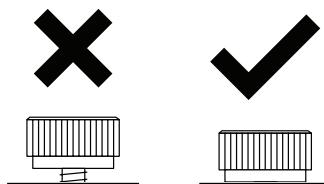
3. Apply a very thin, even layer of lubricant to the exposed portion of the front o-ring and to the lens port sealing surface. Avoid dry spots or uneven build-up of lubricant.
4. Loosen the port thumbscrews until they do not show on the inside of the lens port.
5. If using a port with a dome shade, align the port so that the tall projections on the dome shade are in the 12 and 6 o'clock positions.



6. Press the port firmly towards the housing until the base of the port is almost flush with the housing front. If there is resistance, remove the port and re-check that the thumbscrews are loosened and the o-ring is properly lubricated.



7. Tighten all three thumbscrews while holding the port firmly towards the housing. The thumbscrews should thread in completely until the head touches the port. If the screws are difficult to turn and/or they bottom out before their heads are flush, it is an indication that the port is not pushed far enough on the housing.



- » **The port must be fully seated onto the housing for waterproof operation. There should only be a very thin, even gap of approximately 0.15" (4mm) between the bottom of the port and the front of the housing.**

## Setting Up An External Strobe

The camera's built-in flash is not usable while the camera is installed in the housing.

- » **Requires two (2) CR2032 single-use or rechargeable lithium batteries - not included.**
- » **Batteries must be installed correctly with the Battery Holder switch must be in the "ON" position for flash operation.**
- » **Do not turn the battery holder ON without a camera attached. Turning the battery holder ON without a camera attached will rapidly deplete the batteries.**

### Strobe Compatibility

External strobes may be triggered by the camera by using a compatible fiber optic cord.

The integrated fiber optic TTL transmitter supports automatic TTL flash exposure controlled by the camera when used with compatible Ikelite strobes:

- Ecko Fiber (native support)
- RC-series Strobes (native support)
- DS-series Strobes (with RC2 TTL Receiver # 4414)

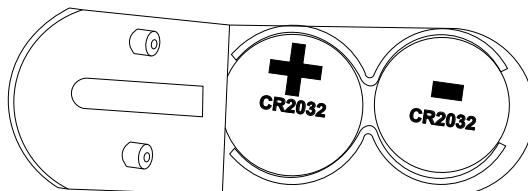
Non-Ikelite strobes support manual flash exposure only.

## Fiber Optic Cord Compatibility

- Ikelite Fiber Optic Cord # 4501
- INON Optical D Cable “Non-wireless type” L-Connector
- SEA&SEA Fiber Optic Cable (L-type) # 50107
- SEA&SEA Fiber Optic Cable II # 50128
- Olympus UW Fiber Optic Cable PTCB-E02
- Nauticam Optical Fiber Cable # 26211 Nauticam to INON
- Nauticam Optical Fiber Cable # 26212 Nauticam to SEA&SEA

## Installing Batteries

1. Open the lid of the battery holder and insert two CR2032 single-use or rechargeable lithium batteries.



2. Close the battery holder.
3. Turn the battery holder ‘ON’ only when the hotshoe is attached to a camera. Turning the battery holder ‘ON’ without attaching a camera will rapidly deplete the batteries.

» **The battery holder ON/OFF switch must be in the ON position for flash operation. The transmitter will automatically enter a power save mode when not in use to prolong battery life.**

» **For the best battery life, use the battery holder OFF switch position when not in use. Do not turn the battery holder ON unless a camera is attached.**

» **Turning the battery holder ON without attaching a camera will rapidly deplete the batteries.**

## Installing the Hotshoe

Push hotshoe forward into camera's hotshoe mount. Make sure that the hotshoe is all the way forward to ensure proper connection.

## Flash Synchronization

At slower shutter speeds, second-curtain sync is automatically enabled. At shutter speeds of 1/30 and higher, first-curtain sync is automatically enabled. High-speed synchronization is not supported.

## Flash Exposure Compensation

Use **Flash Exposure Compensation** in the camera's external flash menu settings to adjust your strobe output automatically while remaining in TTL mode.

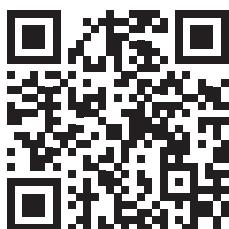
## Manual Exposure

TTL exposure is automatically enabled when the converter is powered up. Keep your strobes set to TTL.

To use the strobe's manual power settings, use the camera's menu to change **Flash mode** to 'Manual flash.'

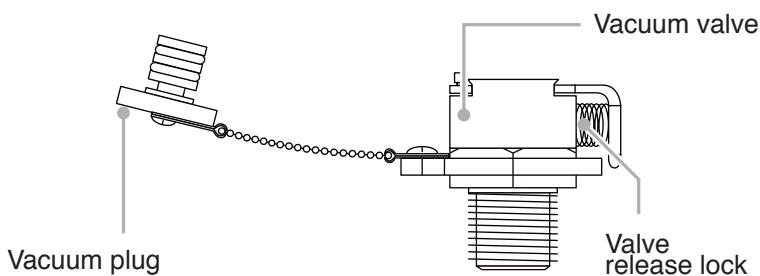
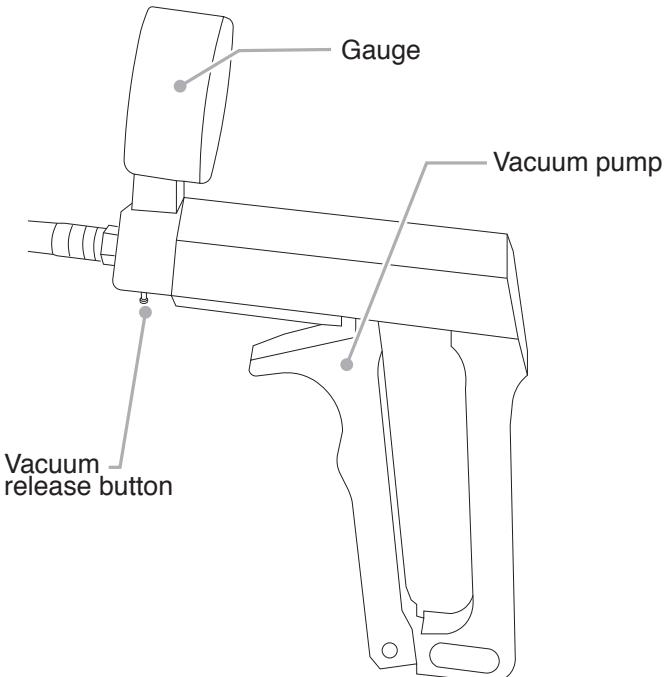
## Using the Vacuum System

<http://ikelite.com/watch-47011>



The housing comes with a vacuum valve installed which allows you to check for leaks prior to entering the water. Once you have completed your vacuum check, leave the vacuum pulled until you are ready to open your housing again after your dive.

- » **The vacuum pump is not airtight. Do not leave the vacuum pump attached to your system overnight.**
- » **The vacuum valve is only waterproof with the plug in place. Never submerge the housing in water without the plug properly installed in the valve.**
- » **Vacuum systems are only capable of simulating depths up to 33 feet (10 meters). Some very small leaks, like those caused by a fine hair across the o-ring, may only occur at deeper depths. In most cases, these leaks are not significant enough to cause damage to a camera.**
- » **A vacuum system cannot correct for improper assembly.**

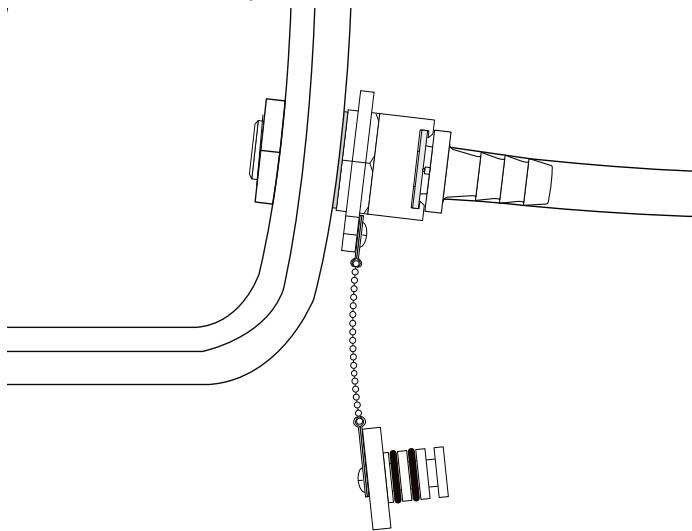


## Getting Ready for a Dive

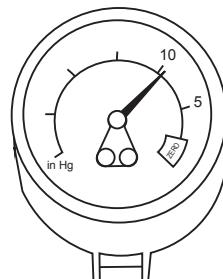
- » **The housing is only waterproof with the vacuum valve plug in place. Always replace the valve plug before putting the housing in water.**

1. Install your camera in the housing.

2. Press the vacuum valve lock release and remove the plug from the valve.
3. Attach the vacuum pump tubing insert into the valve and push until it clicks and locks in place.



4. Pump the hand pump until the vacuum gauge reaches 5-10 inches Hg.



5. Watch and listen for leaks. A leak is indicated by movement of the gauge towards zero after you finish pumping. Significant leaks can generally be found within a few minutes.
6. Press the lock release and remove the vacuum pump from the valve.

7. Install the valve plug into the valve and push until it clicks and locks in place.
8. If desired, re-attach the pump after letting the system sit for hours or overnight. Check that the gauge returns to the same position as when the system was assembled. Very small leaks will become more evident on the gauge as more time passes.
9. Before diving, submerge the housing in a fresh water tank dedicated to underwater photography equipment. Visually confirm that there are no signs of water intrusion. One sign of a leak is a steady stream of bubbles coming from one of the housing's seals.
10. Leave the vacuum pulled on your housing while you dive and until you're ready to open the housing again.

## Opening the Housing

- » **It is not possible to open the housing normally when a vacuum is pulled on the housing. The vacuum must be released prior to opening the housing.**

1. Rinse the housing with fresh water prior to opening.
2. Press the vacuum valve lock release and remove the plug from the valve.
3. Attach the pump to the valve and press the release button on the pump.
4. If the pump is not available, insert a small blunt object into the center of the valve and gently press to allow air to enter the housing.

# Getting in the Water

## Final Check

1. Re-check the rear o-ring seal. The seal should form an even, solid line visible through the back of the housing.
2. Turn on the camera and check all control functions.
3. Make sure the camera can take a photo.
4. Check camera battery level and available storage space on your memory card.
5. Submerge the housing in a fresh water tank dedicated to underwater photography equipment. Visually confirm that there are no signs of water intrusion. One sign of water intrusion is a steady stream of bubbles coming from one of the housing's seals.

## Entering the Water

1. Before entering the water, turn the camera on and operate each of the housing controls to get a feel for using the camera in the housing.
2. We recommend entering the water without your housing to ensure you are comfortable and your life-saving equipment is in working order. Once you are stable, have someone pass your camera housing to you.
3. Submerge the housing at the surface of the water and visually confirm that there are no signs of water intrusion. Look for water droplets or fogging inside of the housing, or a steady stream of bubbles coming from one of the housing seals.
4. 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.

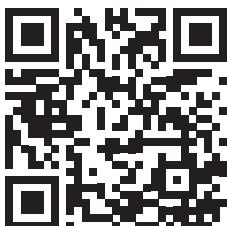
- » **If water appears to be entering the housing, point the lens port downward and return the housing to the surface immediately. Please observe all necessary safety precautions. NEVER ascend faster than accepted safety limits.**

## Shooting Underwater

- Get as close as possible to your subject. For the best results, only photograph subjects that are less than 6' (1.8m) away.
- Be careful not to stir up sand or silt.
- Photograph subjects straight on or at a slight upward angle.
- If you err in exposure, it is better to have the image slightly underexposed rather than overexposed. An overexposed image is missing color information which cannot be adjusted in a photo processing program. A slightly underexposed image has color information that can be adjusted.
- » **It is important to respect all living creatures underwater, including people, marine life, and coral. Get as close as you can to your subjects when taking a photograph, but never touch or disturb the marine life.**

## Learning about Underwater Photography

<https://www.ikelite.com/photo-school>



- **Product Tutorials and Videos**

- **Cheat Sheets** with exposure setting recommendations for a wide variety of situations
- **Advanced Techniques** with in-depth articles on different shooting techniques
- **Frequently Asked Questions**
- **Photo Galleries** showing examples of real results underwater
- **Feature Articles** and more!

## Maintaining Your Housing

### Post-Dive

1. Rinse the housing in fresh water. Rotate the housing controls and press each button several times 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 a fresh water rinse tank, even if it is the only system in the tank. Collisions with another person's gear can cause scratches or damage to your equipment. Accidental damage occurs most often in the rinse tank.
3. Rinse off any residual residue from the rinse tank with clean, running fresh water.
4. Stow the housing in a shaded place where it is protected from impact and overheating. If no shade is available, cover the housing with a light colored towel or cloth.
5. Check the memory card capacity and battery life of your camera and strobe(s). Recharge as necessary.
6. Always re-check the o-ring seal after opening the housing.
  - » **Do not rinse the inside of the housing. The viewfinder and hotshoe are susceptible to water damage.**

## Lens Port

Treat the surface of the lens port like a camera lens. After use, rinse and gently dry the outside lens port to avoid water spotting. Use only a microfiber lens cleaning cloth to avoid scratches. To clean, use a mild soap solution.

- » **Do not rinse the inside of the lens port.**
- » **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.**

## Storage

1. Clean the housing and controls thoroughly prior to storage.
2. Remove the rear o-ring. Place in a small re-sealable plastic bag inside of the housing.
3. Leave the lid snaps open to release pressure on the lid snap springs.
4. Store the housing in a cool, dry place away from direct sunlight and chemicals.
5. Before using the housing, check the tightness of the set screw in each control knob. Check each control gland to make sure they are snug. There is a slight chance that either could vibrate loose during travel.

- » **Do not leave the camera and housing in direct sunlight for prolonged periods. Heat may damage the camera.**
- » **Do not transport with the camera inside of the housing.**
- » **Do not store the housing in a humid environment. Prolonged exposure to high humidity may damage electronic components.**

## Servicing Recommendations

It is recommended that the housing be sent to Ikelite or an authorized service center annually for routine service and maintenance. Service may be required more or less frequently depending on care and use.

## Lubricating Controls

The housing's controls may need to be lubricated if they become particularly difficult to use or if the o-rings have dried out during longer periods of storage.

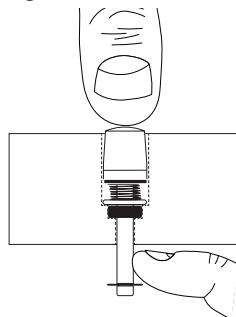
There will be some breaking force required to move the controls initially after the housing has been in storage for long periods of time. Remove controls for lubrication only if they continue to stick after applying a small amount of lubricant to the exposed portion of the shafts and working them many times.

- » **Use only Ikelite lubricant. Other types of lubricant may cause swelling of o-rings or cracking of plastic components.**
- » **Lubricant is not a sealant; it is used to reduce friction. Excessive lubricant can collect sand, hair or debris which may interfere with proper sealing.**
- » **Never use spray lubricants as the propellant ingredient can cause the plastic housing to crack or o-rings to swell.**

## Lubricating Push Buttons

1. Press and hold the push button all the way in.

2. Place a small amount of lubricant at the base of the push button shaft inside the housing.



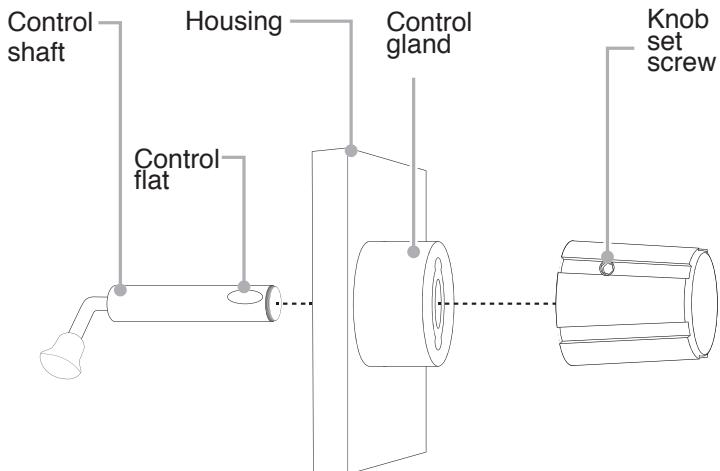
3. Press and release the push button several times to work the lubricant into the o-ring.
4. If a push button control becomes difficult to push or if it sticks when depressed, soak the housing in warm, soapy fresh water. After a few minutes, operate the push button. If this does not correct the problem, return the housing to Ikelite for maintenance.

- » **To prevent build-up of salt, sand, or debris, the push buttons should be flushed with fresh, clean water after every use. Depress each push button while the housing is submerged in fresh water.**
- » **If it is necessary to remove a housing push button, NEVER re-use the e-clip. Push button o-ring kits include replacement e-clips.**
- » **Push buttons look similar but vary in length. Remove and re-install one push button at a time.**

## Lubricating Control Shafts

1. Loosen the knob set screw using a hex key.
2. Remove the control shaft from the inside of the housing.

3. Clean and lightly lubricate the shaft, including the large outer end of the shaft.
4. If there is a spring associated with the control, make sure it is in its proper position.



5. Re-install the shaft from the inside of the housing. Rotate the shaft gently for smooth installation into the gland. Push the control shaft all of the way through until the flat of the shaft is visible on the outside of the housing.
6. Align the knob set screw with the control flat.
7. Tighten the set screw firmly against the flat of the control shaft using a hex key.
8. Check that the set screw is oriented properly by holding the control shaft in place on the inside of the housing while attempting to rotate the control knob on the outside of the housing. If there is rotation, loosen the set screw and realign with control flat; retighten and recheck.
  - » **We do not recommend removing the control gland from the housing.**

- » **Always take the housing underwater to depth without a camera after removing and re-installing controls.**
- » **Remove and re-install one control at a time.**
- » **DO NOT pull the shutter trigger without a camera installed. You may accidentally detach or damage the control spring.**

## Troubleshooting

### Water enters the housing

- Check and reinstall the rear o-ring.
- Replace the o-ring if there are any signs of cracks or tears.
- Take the housing underwater to depth without a camera installed to ensure that the leaking has been corrected.
- Never use a camera inside of a housing that has been leaking or losing vacuum.

### 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 and make sure they are pointed in the right direction.

- Adjust exposure compensation in the camera.
- Adjust lighting power.

### **Strobe(s) will not fire**

- Turn on strobe.
- Check the strobe(s) battery life.
- Replace batteries for the fiber optic transmitter.
- Restore the camera to factory default settings. There are some camera settings that will prevent an external flash from firing.
- Check camera settings recommended for use with an external strobe in the beginning of this manual.
- Check that the fiber optic cord is properly attached.
- Check that the hotshoe is installed correctly.

### **Button(s) are sticking**

- Soak the housing in lukewarm fresh water. Depress each button several times while the housing is submerged. Rinse the housing with running fresh water.
- Lubricate the controls.

### **Button(s) or control(s) not operating**

- Tighten the camera mounting plate with a screwdriver.
- Ensure that nothing is preventing the camera from going all of the way into the housing.
- Check that the camera mounting plate is pushed all of the way forward.

## Camera is not functioning normally underwater

- Check each housing control while underwater to ensure that they are disengaged. An inadvertently engaged control may limit functioning of the camera.
- Check that no controls are being accidentally pressed.
- Check that the shutter is not half depressed. If the shutter spring has been damaged by activation without a camera installed, it may not return properly. Adjust or replace the shutter spring.
- Check if a +4 diopter is required with your lens and port combination. Refer to the port chart online.

## Backscatter or “snow” in images

- Reposition strobe(s) or light(s) to light up the subject only and not the water in-between the camera and subject.
- Avoid using strobes in extremely low-visibility conditions.

## Spare Parts

Rear o-ring # 0110

Front o-ring # 0132.36

Camera mount # 95430

Silicone lubricant # 5020

Push button o-ring kit # 6201.03

.050" hex key # 0945.11

## **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.

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  
Attention: Service Department  
50 W 33rd St  
Indianapolis, IN 46208 USA  
+1 (317) 923-4523  
service@ikelite.com

For detailed instructions on returning your product for service including important information on international customs documentation, please refer to our website at:

<https://www.ikelite.com/pages/service-repairs>

## 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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