



Underwater Housing for Canon PowerShot G1 X Mark II Camera

Product Number 6146.19

Product Registration

Please register your product at 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 to register your product to receive information on any updates or notices pertaining to your equipment.

Included in the Box

- Housing
- Housing rear o-ring # 0110
- Vinyl port cover # 0200.08
- Waterproof bulkhead cap # 9104.5

Specifications

- 200' / 60 m depth rating
- All important camera functions are accessible; a control is not provided for the (Flash up) switch
- Ikelite bulkhead connector with built-in TTL circuitry
- 1/4-20 thread tray mounting with 3" (76 mm) spacing
- 3.9" diameter glass lens port
- Slightly negative buoyancy in fresh water
- 3.4 lb (1.5 kg)
- 7.0 x 5.8 x 7.3" (178 x 147 x 188 mm)

Important Notices

- » **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.**
- » **Never leave a housing in a rinse tank, even if it is the only system in the tank. Most catastrophic floods happen when the user walks away from a housing while it is in the rinse tank.**
- » **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.**
- » **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.**
- » **This housing is only compatible with the Canon Powershot G1 X Mark II camera as shipped by the manufacturer. Unless otherwise noted, this housing does not accommodate the use of add-on grips, battery grips, eyepieces, LCD covers, or other accessories.**

Accessory Port

- » **Do not remove the Accessory Port Hole Plug unless you are installing a compatible accessory such as factory optional Vacuum Kit # 47012.**

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** for an updated list of factory optional accessories.

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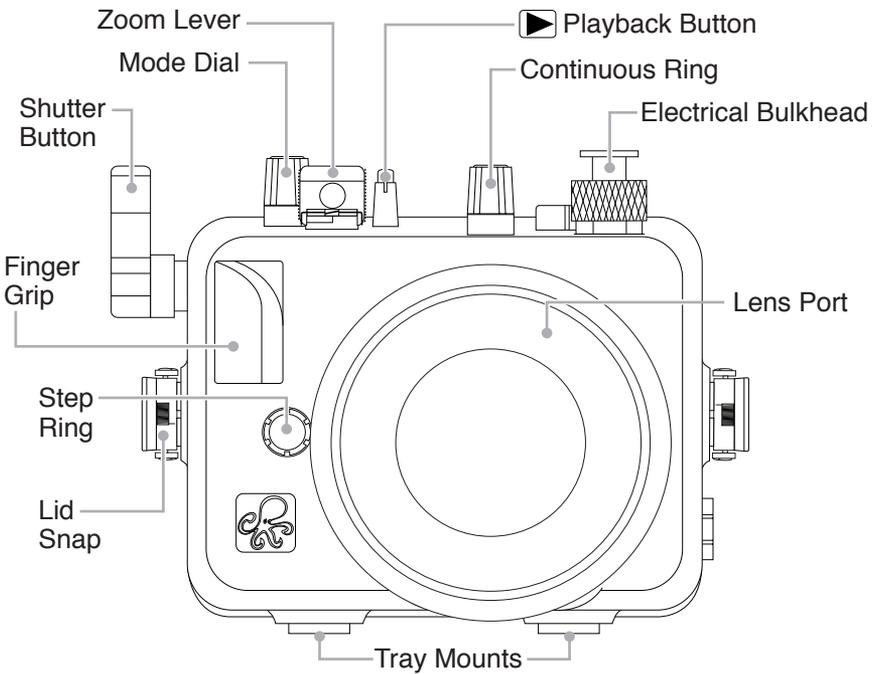
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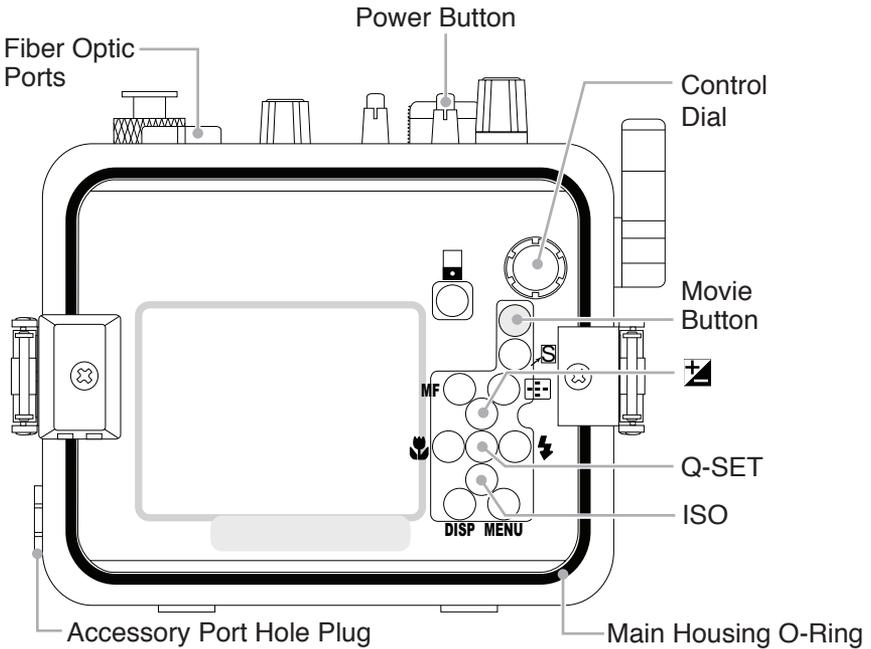
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Getting to Know Your Housing





Setting Up Your Camera

Pre-Installation Checklist & Initial Camera Settings

1. Insert a fully charged camera battery.
2. Set Mode Dial to “Av” Aperture Priority, or “M” Manual Mode if shutter speeds faster than 1/60th second are required.

3. In MENU:

Set AF Frame to “1-point” and Digital Zoom to “Off.”

Set AF-Point Zoom to “Off” and Set Servo AF to “On.”

Set Continuous AF to “Off” and AF-assist Beam to “Off.”

In the Flash Control Built-in Flash Settings Menu, set Flash Mode to “Auto”, Shutter Sync. to “1st-curtain”, Red-eye Corr. and Red-eye Lamp to “Off.”

Set Review Image after Shooting to “8 sec.” and Display Info to “Off.”

Set Blink Detection and Night Display to “Off.”

4. In MENU

Set Date/Time and Time Zone.

Set Eco Mode to “Off.”

In the Power Saving Menu, set Auto Power Down to “Off” and Display Off to “3 min.”

Set Touch Operation to “Off.”

Insert and Format a compatible memory card.

5. In FUNC./SET MENU:

Set DR Correction to “Off” and White Balance to “Auto” or “Underwater.” For best results, use manual  Custom White Balance and reset for each working depth.

Set Drive Mode to “Single Shot .”

Set Metering to “Center Weighted Avg .”

Set ND Filter to “Off.”

Set Image Type to “JPEG 13M” and Image Compression to “L.”

Set Image Quality to “Superfine” and Movies to “FHD/30P.”

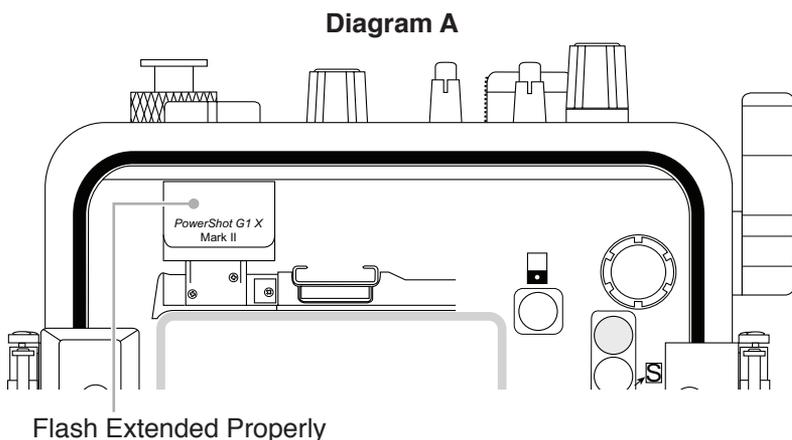
6. Set ISO to 200.

7. Activate Macro mode  when shooting close-up subjects. If the image is overexposed, use “-” Flash Exposure Compensation   and/or back away, zoom in, and then reshoot.

8. FLASH USE (read carefully):

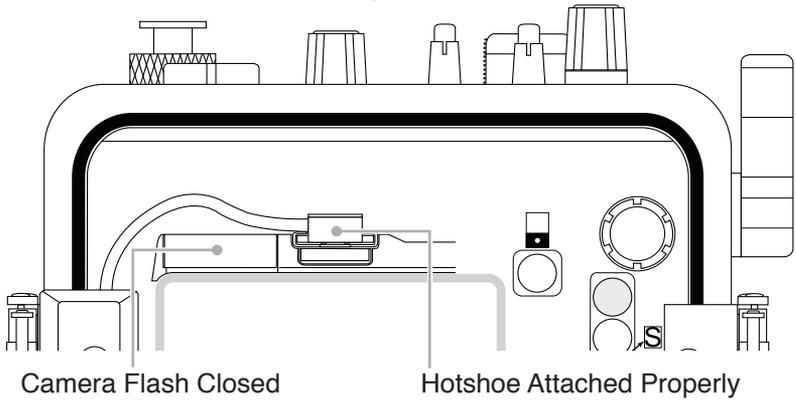
When using Fiber Optic strobe(s) - RAISE the camera flash BEFORE placing camera in housing. DO NOT attach hotshoe to camera when using a FIBER OPTIC cord and strobe. The camera will detect a connected hotshoe and not allow the internal camera flash to fire.

⚠ CAUTION: You CANNOT extend the flash once the camera is closed inside the housing. When installed correctly, the flash will like **Diagram A**.



When using Strobe(s) attached by a Sync Cord - DO NOT raise the flash. ATTACH hotshoe to camera - **Diagram B, Page 9**.

Diagram B



Manual power settings can be selected in the “Flash Control” section of the camera menu.

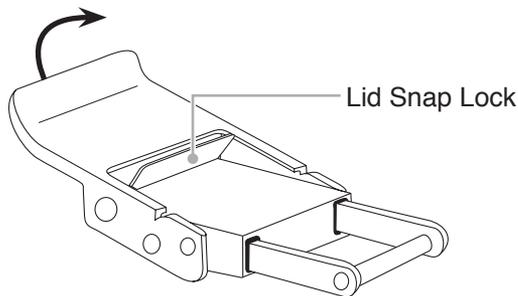
Settings not mentioned should be set to the user’s preference.

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.

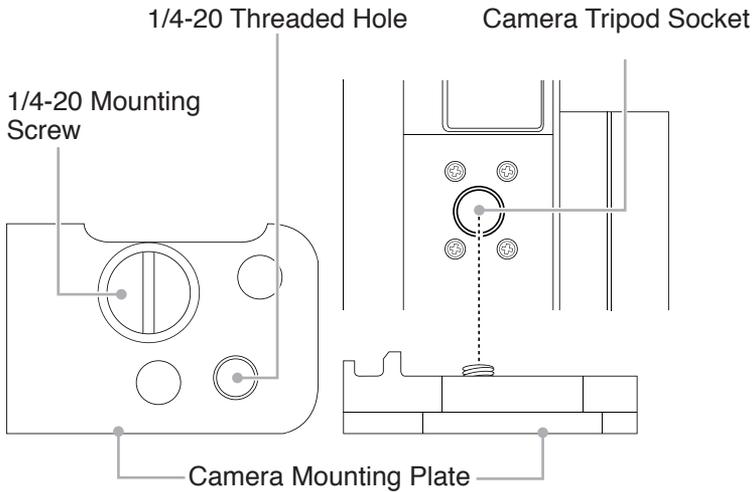


3. Repeat with remaining lid snap(s).
4. Remove the housing back.

Inserting the Camera

1. Remove any lanyard or neck strap which may be attached to the camera.
2. Check to see whether the camera's lens will fit through the port opening of the housing. If not, the lens will need to be removed from the camera body and reattached AFTER the camera body is installed in the housing.
3. Remove the camera mounting plate from the housing.

4. Line up the Mounting Screw with the Camera Tripod Socket. Use a coin or flat head screwdriver (preferred) to tighten the mounting plate to the camera.

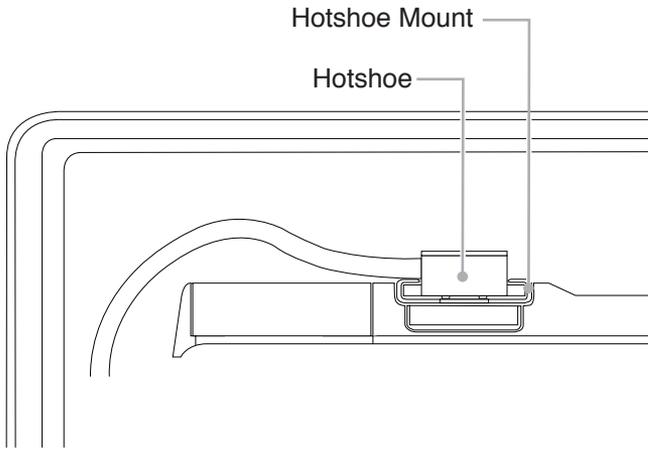


5. Pull out on the housing control knobs to move the controls out of the way.
6. RAISE the camera flash if using a fiber optic strobe, otherwise, leave the flash closed. NOTE: The flash CANNOT be opened once the housing is closed.
7. Insert the Mounting Plate into the slot on the inside bottom of the housing. Slowly push the camera all of the way forward until the back of the Mounting Plate is flush with the Housing Plate Mount.

The flash will contact the top of the housing and rotate back 90 degrees so it faces up inside the housing. The flash should be lined up with the housing's fiber optic ports once the camera is pushed all the way forward and the housing is closed.

Attaching the Hotshoe

1. **⚠** DO NOT attach the Hotshoe if you are using a fiber optic strobe. Once the Hotshoe is connected to the camera, the internal camera flash is disabled.
2. Make sure the Hotshoe and camera contacts are clean.
3. Slide the Hotshoe onto the camera Hotshoe Mount.



4. Push the Hotshoe forward until it is unable to go any farther. The Hotshoe must be pushed all the way forward to make proper contact with the camera and provide TTL operation.

Closing the Housing

1. Make sure the o-ring is clean and in its proper location on the back of the housing. The main 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.

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/strobes, 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. As soon as you enter the water, take a moment and check to see that the housing is properly sealed. If possible, first water test the housing with no camera inside to assure a safe and watertight environment.

3. 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's 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.
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.

Setting Up An External Strobe

About the Built-In Flash

The camera's built-in flash cannot light a subject underwater due to the housing's opaque design. The built-in flash CAN be used to trigger a fiber optic 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 via electrical sync cord or fiber optic cord.

About Sync Cords

Attaching a strobe via electrical sync cord provides faster strobe recycle times as compared to a fiber optic connection, and prolongs camera battery life.

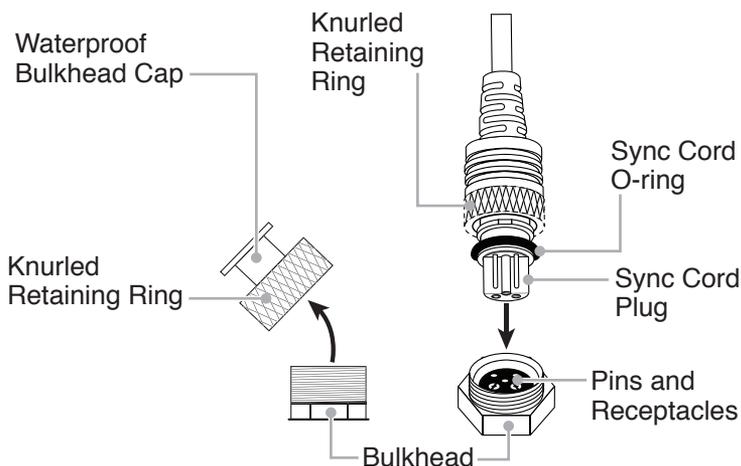
When a compatible Ikelite DS strobe is attached via sync cord, circuitry built into the housing allows the strobe to communicate directly with the camera to trigger the strobe and adjust its power for perfect exposure.

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 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.
3. Line up the pins and receptacles and gently insert the sync cord plug into the housing bulkhead. **DO NOT** force or rush this installation. The sync cord will not go into the bulkhead if the Pins and Receptacles are misaligned.



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.

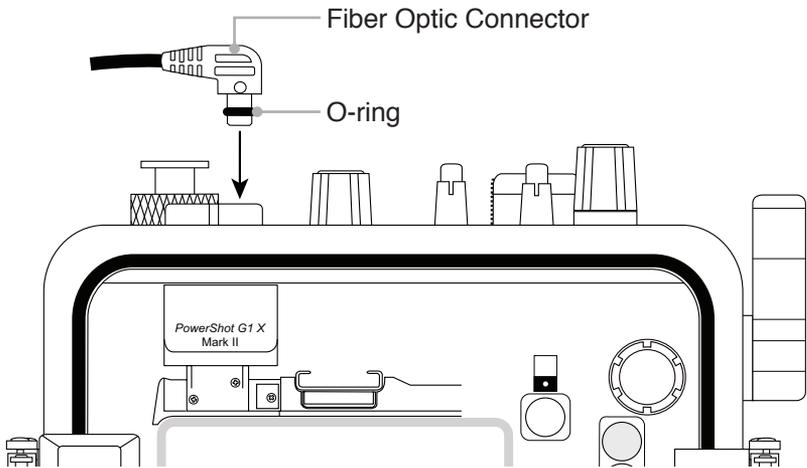
About Fiber Optic Cords

Attaching a strobe via fiber optic connection requires the camera's built-in flash to fire each time a photo is taken. Firing the camera's flash will cause increased lag time between photos and decrease camera battery life.

Attaching a Fiber Optic Cord

1. Camera flash must be raised BEFORE the camera is closed inside the housing.
2. Turn the camera ON.
3. Check the end of the fiber optic cord to ensure that it is clean and smooth.
4. Ensure that the fiber optic cord o-ring is in place. This o-ring does not provide waterproofing, however it does keep the fiber optic cord in place.

5. Attach one end of the fiber optic cord into one of the fiber optic ports on the front of the housing. The connector is a press-fit into the fiber optic port.



6. Attach the other end of the fiber optic cord to a compatible strobe.
7. Set the strobe to the appropriate setting based on manufacturer recommendations.
8. Turn the strobe on.
9. Take a test photo to ensure that your strobe is functioning properly.
10. Repeat steps 3-9 when connecting a second strobe.

Installing an Accessory via the Accessory Port

1. Remove the Hole Plug using an 11/16" open end wrench.
2. Check the accessory fitting o-ring sealing area. Check o-ring and housing o-ring sealing area. All should be clean and free of hair, sand, or other debris.
3. Lightly lubricate o-ring with Ikelite lubricant. Use ONLY Ikelite lubricant. Other manufacturer lubricants can cause the o-ring to swell.

4. 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.
5. After installing an accessory, pressure test the housing by diving without a camera inside.

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

» **DO NOT remove the Accessory Port Hole Plug unless you are installing a compatible accessory like Vacuum Kit # 47012.**

Wide angle and macro close-up

The optional WD-4 Wide Angle Dome # 6430.4 provides a wider angle of view underwater without the edge distortion, heaviness, or difficult attachment typically associated with an external wide angle lens. The WD-4 is a 0.75x magnification factor and simply slides on and off of the housing's lens port.

A press-fit Macro Adapter # 9306.78 is available for the attachment of 67mm threaded accessory macro lenses. We recommend a macro lens which is designed for underwater use like those from Epoque, INON, Subsee, Nauticam, and other manufacturers. The adapter should not be used with 67mm threaded wide angle lenses. The wide angle lens would be too far away from the camera's lens to provide an improved image.

For additional information, refer to the product webpage at **ikelite.com**.

Maintenance

Post-Dive

1. Rinse the housing in fresh water. Rotate the housing's 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 other peoples' gear can cause scratches or 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 memory card capacity and battery life of your camera and strobe(s). Recharge as necessary.
5. Always recheck 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. 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.
4. Remove the housing from water and rinse with running water.
5. 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.
6. Dry the housing with a clean, lint-free cloth.
7. Store in a cool, dry place.

8. 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

- Re-clean and re-install 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 and make sure it is properly charged.
- Remove Hotshoe from camera mount if using a fiber optic strobe. The internal camera flash is disabled when the Hotshoe is connected.

- Make sure that the camera's flash is set to fire on every photo.
- Check that the fiber optic cord or sync 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 should be "tight" against the mounting plate. Check tightness using a coin or screwdriver (preferred).

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.

Backscatter or "snow" in images

- Position strobes or lights farther away from your lens and at a slight angle.
- Avoid using strobes in extremely low-visibility conditions.

Spare Parts / Optional Accessories

- Housing Rear O-Ring # 0110
- Vinyl port cover # 0200.08
- Waterproof bulkhead cap # 9104.5
- Silicone lubricant resealable 2cc tube # 0184.2
- Vacuum Kit # 47012 (allows you to pressurize the housing to check for proper assembly prior to entering the water)

Limited Warranty

This Ikelite product is warranted against any manufacturing defects for a period of one (1) year 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 contact us and we'll do everything we can to help you capture your unique perspective.

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