ikelite

Underwater TTL Housing for Sony Alpha a7, a7R, a7S

Product Number 6843.71

Instruction Manual

Thank you for your purchase of Ikelite equipment. Please read this instruction manual completely before attempting to operate or dive with this product. Please refer to the back page of this manual to register your Ikelite product.

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IMPORTANT HOUSING INFORMATION

⚠ *This housing requires the addition of a compatible Lens Port for waterproof operation. Lens Port not included. Go to **ikelite.com** for Lens Port options.*

- Your housing is setup to accept the Sony a7 camera model. If you are using the a7R or a7S model, remove the existing camera tray marked a7 and replace it with the camera tray marked a7S. In addition, remove the thin washer from under the knob for the Mode Dial control.

- Due to differences in lens and control placement, this housing is not compatible with the "Mark II" version Alpha 7 series cameras.

IMPORTANT HOUSING INFORMATION - continued

- This housing features an integrated TTL circuit that is automatically powered by any DS-series strobe. At this time, only Ikelite DS strobes are capable of powering the circuitry. Exposure compensation in TTL mode is supported using the camera's built-in control. SEA&SEA, INON, and Nikonos strobes must be used in **manual** exposure modes **only**. For **manual** flash operation, move the switch on the back of the housing Tray Mount to the left or "M" position, as noted on the Tray Mount, once the Camera Tray has been removed.

- We recommend turning the camera **on** BEFORE placing it in the housing. To turn the camera **on** AFTER it is placed in the housing, lift and rotate the housing ON/OFF knob, so the White Dot is in the 9 o'clock position from the back of the housing. Push the knob back down and rotate clockwise to turn **on**. The White Dot will line up with the 2 small dots on the top of the housing as the camera is activated. DO NOT continue rotating knob once the camera has been activated; doing so could damage the camera switch. To turn the camera **off** AFTER it is placed in the housing, lift and rotate the housing ON/OFF knob so the White Dot is in the 1 o'clock position. Push the knob back down and rotate counter clockwise to turn camera **off**. The White Dot will line up with the 2 small dots on the top of the housing as the camera is being deactivated. DO NOT continue rotating knob once the camera has been deactivated; doing so could damage the camera switch.

- The external housing tray may be easily removed for transport, cleaning or storage. Use a flat head screwdriver to remove the 2 screws at the base of the housing to detach the tray. We recommend removal and rinsing after each dive trip to avoid corrosion associated with saltwater.

- To obtain a digital copy of the housing Instruction Manual, go to **ikelite.com**. If not yet available, check our website periodically for newly released housing Instruction Manuals.

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INCLUDED in the BOX

- Housing
- Aluminum tray with hardware
- Left-Hand Quick Release Handle with rubberized grip
- Port hole cover
- Waterproof bulkhead cap
- 5509.27 Universal zoom set up to 2.8-inch diameter
- 5509.28 Universal zoom set 2.8 to 3.0-inch diameter
- Silicone lubricant 1cc tube
- Sony a7R/a7S conversion tray
- Allen wrenches for housing controls
- Extra Control Tips

SPECIFICATIONS - no camera installed

- 200 ft (60m) depth rating
- All important camera functions are accessible
- Controls are not provided for AF/MF/AEL switch lever, Control wheel, and Diopter Adjustment Dial
- Ikelite bulkhead connector with integrated TTL circuitry
- Near neutral buoyancy in fresh water
- Actual buoyancy varies depending on choice of lens and port
- Weight 5 lb (2.3 kg) not including tray + handles
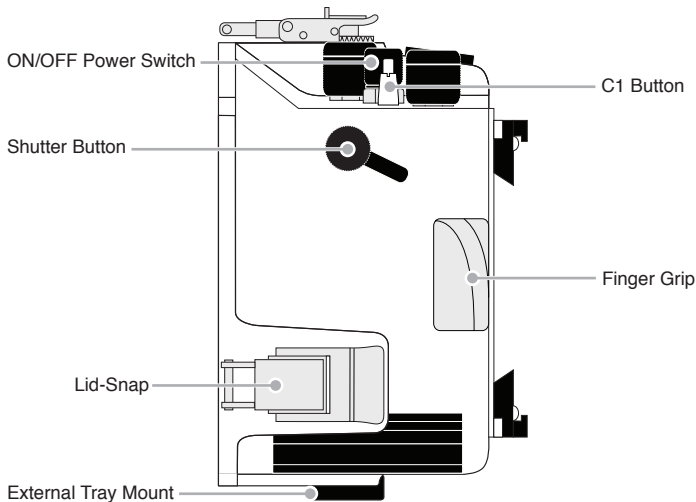- Dimensions 9.1 x 7.1 x 6.1 inches (230 x 180 x 150 mm)

PREPARATION

This product has been water pressure tested at the factory and is depth rated to 200 ft (60 m). Thoroughly inspect and immerse the empty housing completely in water before installing a camera. If any fogging occurs or droplets of water enter the housing, do not install a camera. Clean the main housing o-ring and retest to make sure that the housing is watertight. Refer to the Troubleshooting section, **page 32**.

Please read your camera manual thoroughly to have a full understanding of each camera function.

If you are new to underwater photography, be sure to read the Photo Tips section, **page 31**.

Parts of the Housing - Side View

ON/OFF Power Switch

C1 Button

Shutter Button

Finger Grip

Lid-Snap

External Tray Mount

Parts of the Housing - Front View

Front Dial

Mode Dial

1/4-20 Light Accessory Mount

Bulkhead Connector

Quick Release Push Button

Shutter Button

Zoom Knob

IKELITE

Accessory Port

Lens Release Button
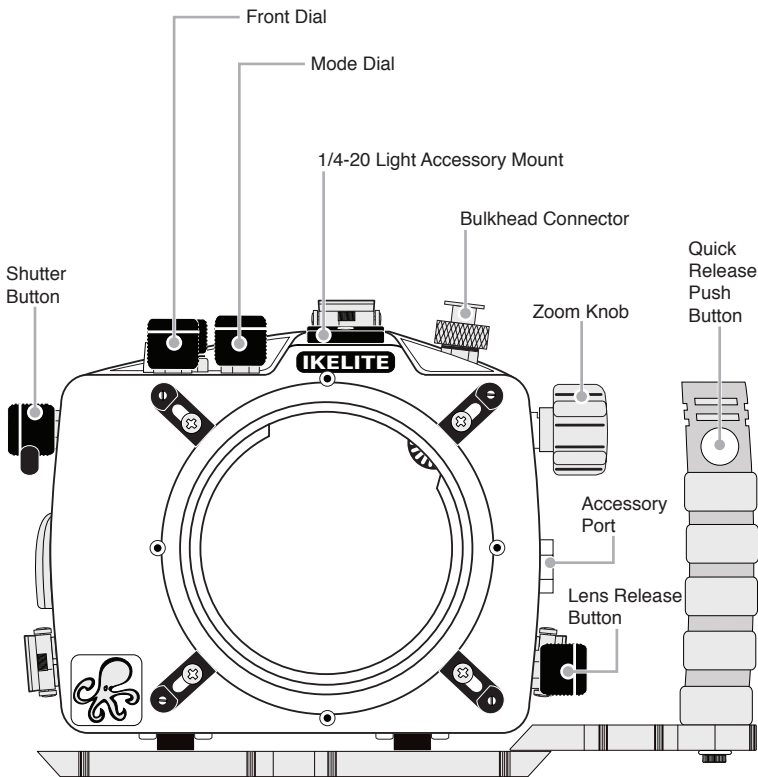
Parts of the Housing - Back View

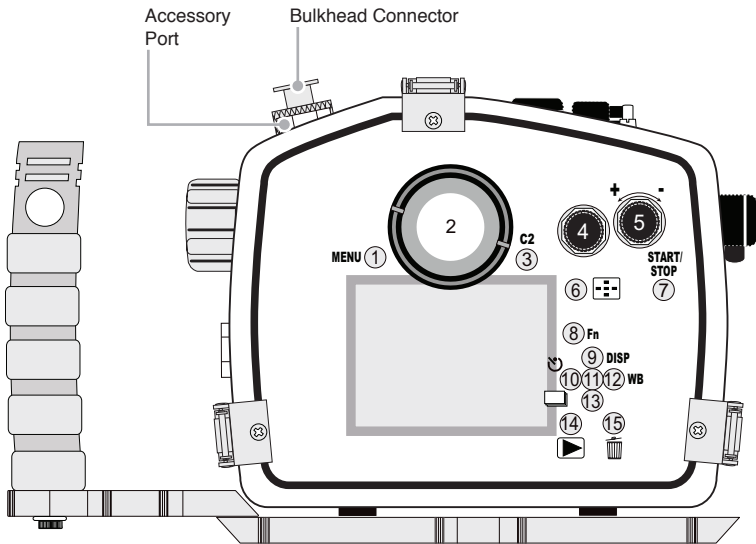Accessory Port

Bulkhead Connector

1. **MENU** Button

2. Super-eye Viewfinder

3. **C2** (Custom 2) Button

4. Rear Dial

5. ⧖ Exp. Comp. Dial

6. ⊞ AF/MF / AEL Button

7. ▶🎞 Movie START/STOP Button

8. **Fn** Button

9. ▲ **DISP** Display Button

10. ◀ ⟳ ⬜ Self-Timer/Down Cursor

11. **SET** Button

12. ▶ **WB** / Right Cursor

13. ▼ Down Cursor

14. ▶ Playback Button

15. 🗑 Delete Button

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HOUSING and CAMERA SETUP STEPS

Step 1 - Initial Camera Settings

- **Insert a fully charged battery.**

- **Set Mode Dial to "A" Aperture Priority.** Manually adjust aperture setting to achieve the best exposure for your shooting conditions. The shutter speed will be locked at 1/30th-1/60th second. If a faster shutter speed is desired or you are NOT using an external strobe, set Mode Dial to "M" Manual mode to manually adjust both aperture and shutter speed settings.

- **In ◻ MENU settings:**
  Set Image Size to "L: 10M."
  Set Aspect Ratio to "3:2" for 4 x 6 printing or 16:9 for widescreen viewing.
  Set Quality to "X.FINE" Extra fine.
  Set Drive Mode to "Single Shooting" and Flash Mode to ⚡ "Fill-flash."
  Set Red Eye Reduction to "Off."
  Set Focus Mode to "Single-shot AF" and Focus Area to "Center."
  Set AF Illuminator to "Off" and ISO to "200."
  Set Metering Mode to "Center" and White Balance to "Auto AWB." Always use auto white balance (AWB) when using a strobe/flash. When recording video, AWB can still be used, but for more accurate and consistent colors we recommend setting Custom manual white balance ◻ for each working depth. Custom manual white balance is also recommended when using a color filter and no flash.
  Set DRO/Auto HDR, Lock-on AF & Smile/Face Detect to "OFF."
  If applicable, Set SteadyShot to "On" and Steadyshot Adjust. to "Auto."

Step 1 - Initial Camera Settings - continued

- In ⚙ **CUSTOM MENU settings**, set Auto Review to "5 Sec."
  Set Eye-Start AF to "off" and FINDER/MONITOR to "Monitor (Manual)."
  Set AF w/shutter to "On" and AEL w/shutter to "Off."

- In 🗂 **SETUP MENU settings:**
  Set Monitor Brightness to "Manual +1" and Display Quality to "High."
  Set Pwr Save Start Time to "5 min."
  Set Date/Time Setup.

  Insert and format a SD card. ⚠ Save existing photos on a separate
  storage device before formatting SD Card.

* All other camera functions not mentioned should be set to the user's
  preference.

Step 2 - Opening the Housing

Lid Snaps have a **Lid Snap Lock**.

1. Push Lid Snap Locks forward and lift as shown. Open opposing Lid Snaps simultaneously. Keep pressure on the Lid Snaps so they do not fly open quickly. Some Lid Snaps have a lot of spring tension once they go over center, so keep a firm grip on each Lid Snap. Lid Snaps may also be opened one at a time.
2. Remove the Housing Back.

Push Forward

Lid Snap Lock

Lift
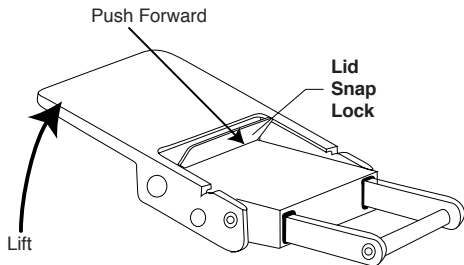
Step 3 - Install Camera in Housing

1. Make sure the camera battery is fully charged and a SD card is inserted into the camera. ⚠ Save existing photos on a separate storage device before formatting SD Card.
2. Pull top housing control knobs up for more clearance.
3. The Mounting Plate is secured to the inside bottom of the housing. The camera Mounting Tray slides into the Mounting Plate. Use your index finger and thumb to pull the Mounting Tray away from the Mounting Plate, **Diagram A, page 12**. Use your other thumb to apply opposite pressure against the bottom of the housing to assist in removal of the Tray if necessary.

Step 3 - Install Camera in Housing - continued

Diagram A

Pull to Remove

Mounting Tray   Mounting Plate
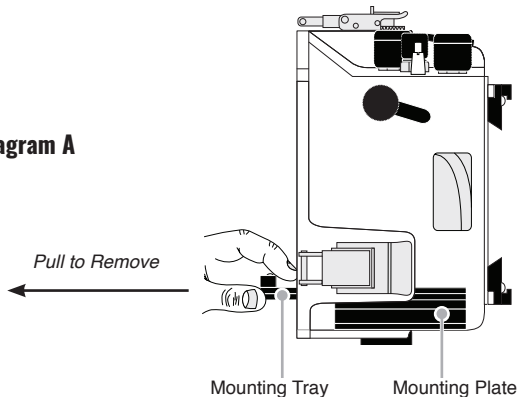
4. Using a coin or flathead screwdriver (preferred), secure the camera Mounting Tray to the camera tripod mount, **Diagram B**. Tighten camera firmly to avoid movement on tray. The Mounting Tray only attaches one way with the Mounting Tray Tab to the back of the camera.

   An additional 1/4-20-inch tray hole allows attachment to a land tripod stand.

Diagram B

Mounting Tray Tab

Tighten here
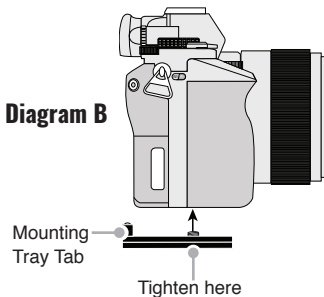
5. TURN CAMERA ON.
6. Gently slide the camera with Mounting Tray back into the Mounting Plate, **Diagram C, page 13**. Using your thumbs, push against the Mounting Tray until it stops sliding forward into the Mounting Plate. Give the Tray an extra push to make sure it is properly seated all the way forward in the Mounting Plate and no housing controls are in the way.

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Step 4 - Attach Hotshoe

When connecting an external strobe to the housing bulkhead, slide the hotshoe into the top camera mount until it stops. Hotshoe must be all the way forward in the camera mount to assure a good electrical connection, **Diagram C, below**.

Turn Hotshoe Rotary Lock at hotshoe base clockwise to tighten to camera mount.

Make sure hotshoe cord does not interfere with controls or the housing back when closing the housing.

Diagram C

Hotshoe - push all the way *forward* into the camera mount

Hotshoe Rotary Lock

Push Camera and Mounting Tray all the way *forward* into Mounting Plate

Mounting Plate
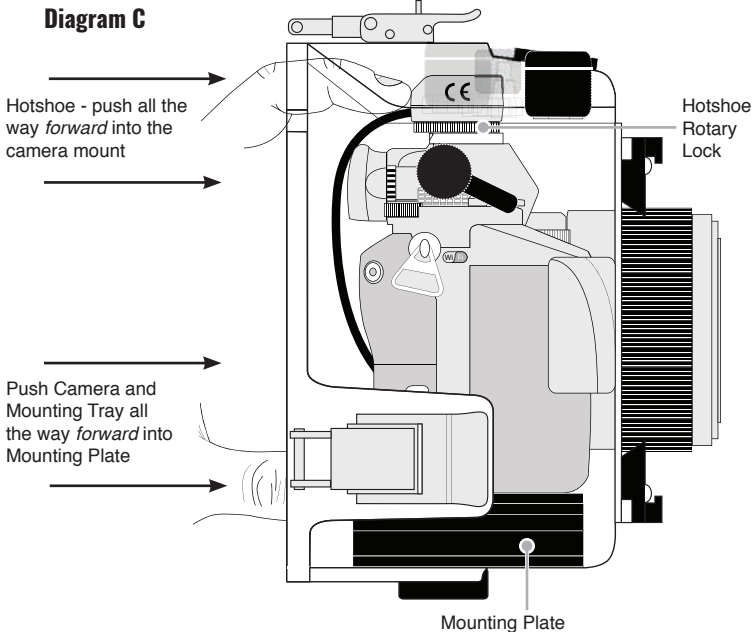
Step 5 - Closing the Housing

1. Place housing face down in your lap. Check to see that there is an o-ring on the housing back, and that it is clean and in its proper location.

2. Guide the back onto the housing front. Make sure the hotshoe cord is out of the way. Once the back is properly installed, the o-ring should touch the housing all the way around.

Lid Hook

Even gap on all 4 sides

O-ring

Lid Snap

There should be an even gap on each side of the housing between the housing and the back.

3. Lift the lid snaps so they are extended and place each lid snap into the corresponding hook on the housing back.

4. To close the housing, push down on the opposing lid snaps simultaneously until they snap into place. Be sure they are down far enough to engage the **Lid Snap Lock** - **Page 11**. The o-ring seal should now appear as a solid black line when viewed from the back of the housing.
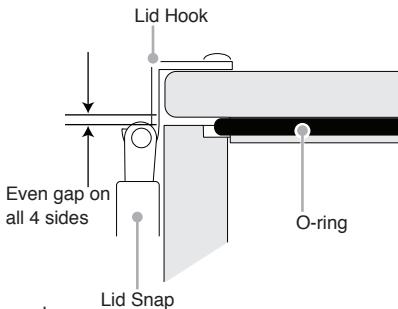
Step 6 - Final Check

The clear housing permits instant visual inspection of the camera and sealing surfaces as well as complete monitoring of controls and camera LCD screens. This housing has been factory water pressure tested to 200 ft (60 m). Once the housing is closed, recheck the o-ring seal. Double check the gap between the housing back and the housing. It should be even all the way around the housing. Look through the clear acrylic back at the o-ring. You should see a darkened area or solid black line where the o-ring is compressed against the housing back. If you do not see an even black compression seal all the way around the back, open the lid snaps, reseat the housing back, and reclose the lid snaps. Visually check the seal again.

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Step 7 - Housing Usage

Turn the camera on and operate each of the housing controls to get a feel for using the camera in the housing.

Step 8 - Entering the Water

As soon as you enter the water, take a moment and check to see that the housing is properly sealed. We recommend you first water test the housing with no camera inside to assure a safe and watertight environment. Next, check to see if there are any bubbles on the face of the lens port. If there are, take your finger and remove them. If there are bubbles on the lens port they can produce soft focus spots in your photos or video.

Removing the Camera from the Housing

1. Thoroughly dry housing.
2. Remove the housing back, **see Step 2, Opening the Housing, Page 11**.
3. Remove the Hotshoe from the camera mount.
4. Pull back on both sides of the camera to begin releasing the Tray from the Mounting Plate. Slowly and gently pull the camera backward to separate from housing, **Diagram D, Page 16**. Continue pulling the camera backward and remove from housing. We recommend doing this procedure on a desktop or solid flat surface to avoid dropping the camera.
   If you are finished using the housing, remove the Mounting Tray from the camera bottom and slide it back into the Housing Mounting Plate. For storage and travel, remove the back o-ring, place in a small plastic bag. Place the bag inside the housing and reattach the housing back.

   Note: Camera must be removed when changing a camera battery or SD card.

Removing the Camera from the Housing - continued

Diagram D

Remove Hotshoe. Grab and gently pull backward on the camera and Mounting Tray to remove from housing.
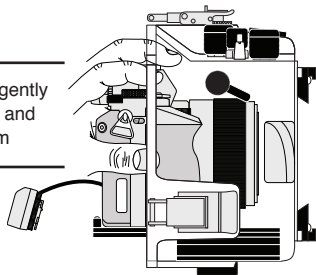
STROBE COMPATIBILITY and CONNECTION

Strobe Compatibility

- AF35 .... not compatible
- DS50 .... yes, above serial number 70000
- DS51 .... yes
- DS125 .... yes, above serial number 5000
- DS160, DS161 .... yes
- DS200 .... yes, above serial number 7163
- Non-Ikelite .... yes, manual flash exposure only
- Fiber Optic........................ not compatible
- Use built-in camera flash... no

Housing Conversion Circuitry

The Conversion Circuitry provides real TTL flash exposure when used with Ikelite DS series strobes. The circuitry is automatically activated once a DS series strobe is attached to the housing and 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 or non-DS Ikelite strobes.

The TTL/Manual Switch is located on the back of the housing camera tray mount. Slide the camera tray out of the tray mount and set the switch to match your strobe setup. The switch allows a choice of TTL or manual flash mode with Ikelite DS strobes. All other strobes will operate as manual flash only, regardless of the switch position.

When the switch is set to TTL using Ikelite DS strobes, you are in TTL flash mode and there will be a preflash. When the switch is set to manual with DS strobes, the preflash is disabled and you can set the strobe power manually.

Attach Ikelite Sync Cord to the Housing and Strobe

The Ikelite Housing and Strobe Bulkheads are designed to accept sync cords with Ikelite 5 pin connector fittings.

1. Lightly lubricate the Sync Cord O-rings. Use ONLY Ikelite lubricant (supplied with housing). Other lubricants may cause the o-rings to swell and seal improperly.
2. Remove Bulkhead Caps from Housing Bulkhead and Strobe Bulkhead.
3. Gently insert Sync Cord ends into each Bulkhead. Either Cord End may be attached to a component. DO NOT force this installation. If the Sync Cord does not seat properly inside the Bulkhead, then the Pins and Receptacles are improperly aligned (repeat Step 3).
4. Tighten the Knurled Nuts snugly using your Index finger and thumb. DO NOT use pliers or other tools to tighten the Knurled Nuts.
- *Always remove the Sync Cord from your Housing and Strobe when not in use and replace the Bulkhead Caps.*

Diagram E

Ikelite 5-pin Sync Cord

Knurled Nut

Sync Cord O-ring

Sync Cord Pin

Bulkhead Cap

Housing or Strobe Bulkhead
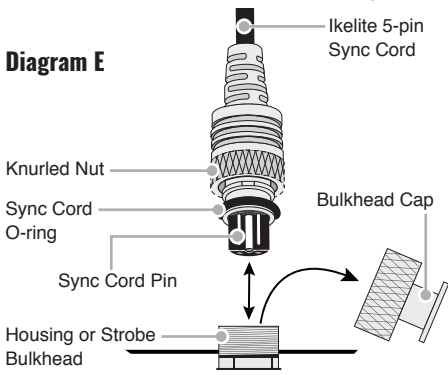
ZOOM CLAMP and GEAR SLEEVE INSTALLATION

Determine the type of lens being used on the camera.

Type 1 lenses have a lens opening that is NOT larger in diameter than the zoom ring. The zoom clamp and sleeve can be attached over the lens opening with the lens attached to the camera in the housing, **Diagram I, page 20**
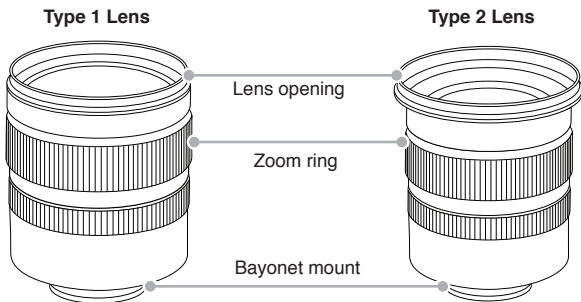
Type 2 lenses have a lens opening that IS larger in diameter than the zoom ring. The zoom clamp and sleeve must be attached from the bayonet mount end of the lens. The lens must then be attached after the camera has been secured in the housing, **Diagram J, page 20**.

Type 1 Lens   **Type 2 Lens**

Lens opening

Zoom ring

Bayonet mount

There are 2 different sets of Zoom Clamps and Gear Sleeves provided with the housing. Both sets look similar, but are NOT identical. DO NOT mix the pieces from both sets. Use the suggested Zoom Clamp and Gear Sleeve for your lens. Go to **ikelite.com** for a complete list of compatible lenses.

The Zoom Clamp has springs so it can be expanded to fit over the Zoom Ring of the lens. Install the Zoom Clamp with the extension tabs toward the rear element of the lens. After installing the Zoom Clamp and Gear Sleeve, install the Lens Port and rotate the Zoom Ring on the lens. If the Zoom Ring and Gear Sleeve do not mesh properly, install the rubber strips (supplied) to the inside diameter of the Zoom Clamp as shown in **Diagram H, page 19**.

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Zoom Clamp and Gear Sleeve Installation - continued

Diagram F
Zoom set 5509.27
Lenses up to 2.8 in. diameter

9059.8 Zoom Clamp

Wide grooved extension tabs

+

Long post

0073 Gear Sleeve
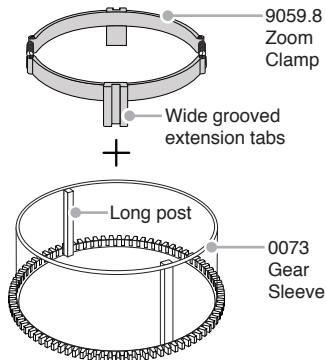
Diagram G
Zoom set 5509.28
Lenses 2.8 - 3.0 in. diameter

9059.9 Zoom Clamp

Narrow grooved extension tabs

+

Short post

0073.1 Gear Sleeve
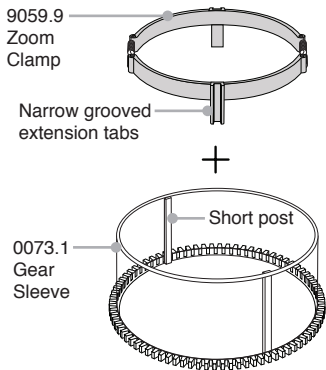
Two thicknesses of rubber strips are provided with each Clamp. Start by installing the thinnest rubber strips. If the Zoom Clamp still is not tight enough and meshes improperly with the Gear Sleeve, use the thicker rubber strips. Reinstall the Zoom Clamp and Sleeve.

Before installing the lens port and checking operation, make sure the teeth on the Gear Sleeve mesh with the teeth on the housing Drive Gear, **Diagram K, page 20.**

Diagram H

Apply rubber strips to inside of clamp as needed

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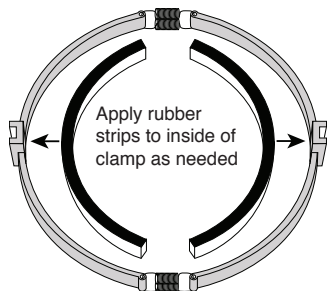
Zoom Clamp and Gear Sleeve Installation - continued

Diagram I

Type 1 Lens Installation

Diagram J

Type 2 Lens Installation
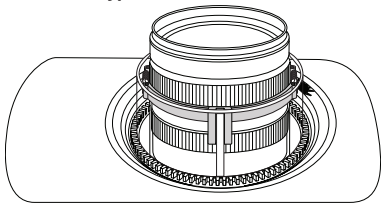
When the port is installed, **page 21**, it will lock the Gear Sleeve in place. After installing the port, rotate the housing Zoom Control Knob to see that the Gear Sleeve is properly rotating the Lens Zoom Ring.

Manual Focusing

Diagram K

Port Lock

Port Lock Release Button

Zoom Control Knob

Mesh Gear Sleeve teeth with Black Housing Drive Gear
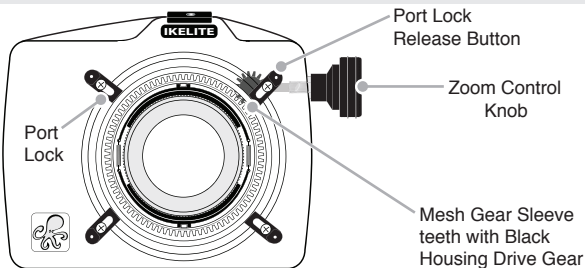
LENS PORTS

A lens port must be secured to the housing **before** entering the water. Ikelite DSLR housings DO NOT come with a lens port. You must select the correct port for each lens you will be using underwater. To assure water-tightness, submerge the housing with port attached into a bathtub or shallow water without the camera installed. This will confirm correct installation of the port to the housing. For complete lens port information and compatibility with your Ikelite system, go to **ikelite.com**.

Installing the Lens Port

There are four port locks on the front of the housing, see **Diagram K, page 20**. Each port lock has a Release Button. Lift the release button and slide each Port Lock away from the port opening. In the unlocked position, the Release Button will remain in the up position as shown.
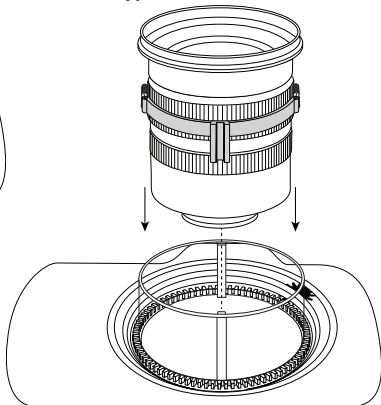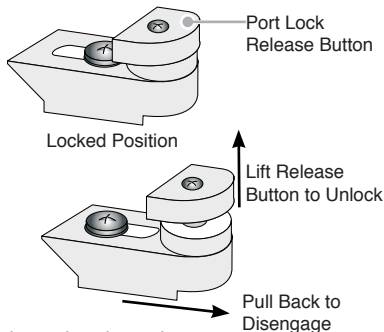
Port Lock Release Button

Locked Position

To prepare the port for installation, remove and lightly lubricate the port o-ring. The port seal is a side-to-side seal and requires the o-ring to be lightly lubricated for easy installation. Put a small amount of lubricant on your fingers and pull the o-ring through your

Lift Release Button to Unlock

Pull Back to Disengage

fingers to lightly lubricate it. Do not stretch the o-ring. Check that the lip of the port where the o-ring fits and the sealing surface on the housing are clean. Place the port, with o-ring, into the housing port opening. Press down on the port firmly and evenly until you feel the port slide into place. Continue to push down on the port and push each Port Lock forward until the Lock fully engages. It may help to slightly rotate the port as you push in on the port lock.

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Installing the Port - continued

Visually inspect each port lock and confirm that the Port Lock Release Button is seated FLUSH against the Port Lock Body.

DO NOT rely only on an audible "click" to indicate that the lock is engaged. Check around the perimeter of the port seal to see that the o-ring is properly sealed and NOT extruded. It will be very difficult to close the Port Locks if the o-ring is extruded or improperly seated.

It is NOT necessary to tighten housing port locks after installing a port. Port locks are factory adjusted.

Slight port movement is normal after port locks have been closed and port has been secured to the housing.

To REMOVE the port, lift up on each Release Button and slide the port lock away from the port.

⚠ **CAUTION:** After installing the lens and port, turn the Zoom Control knob on the housing. If the Zoom Control is difficult to turn, the Gear Sleeve may be warped. If necessary, reduce or omit any rubber installed on the Zoom Clamp, **Diagram H, page 19**. If the Zoom Clamp is still warped, use of the 5509.28 package may be required, see **Diagram G, page 19**.

RECOMMENDED ACCESSORIES and ATTACHMENTS

4077.02 Right-Hand Quick Release Handle with Extension

The optional right-handed release handle with tray mount comes with the necessary hardware to mount to your Ikelite housing tray.

The Extension attaches to an existing Base with two included screws for stability and rotation-free use.
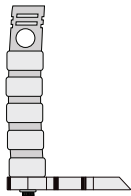
Attach Base + Release Handle(s) to Housing

1. Place the housing upside down on a flat surface or in your lap, so that the housing port is facing toward you as shown.

2. Line up the 2 triangular shaped holes with the housing mounts. If the tray is positioned properly, the handle will be on your left side facing down.

3. Insert and tighten both 1/4-20 x 3/8" screws with nylon washers.

4. Finish tightening the tray to the housing using a flathead screwdriver. DO NOT overtighten.
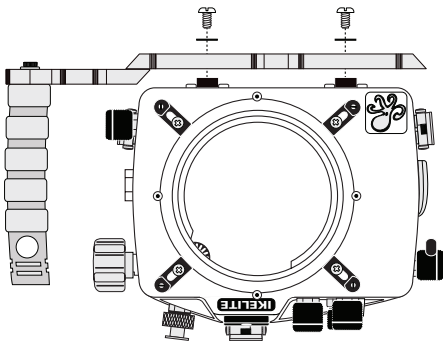
Attach Optional Strobe Arm to Housing

If you have purchased an optional Ikelite Tray and Handle for your housing, an Ikelite Strobe Arm will easily attach to the Handle by depressing the spring-loaded Handle Push Button until it stops. Gently slide the pronged end of the Ikelite Arm into the hole in the top of the Handle as shown. When the Ikelite Arm is properly seated, the Handle Push Button will return to it's starting position.

Ikelite Arm

Housing Handle

Housing Handle Push Button
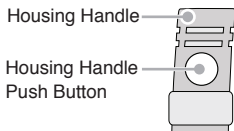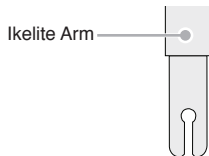
Video Lighting

External video lights such as the 2101 Vega Video + Photo Light add color when using the video/movie mode of your camera. Primary video lights are specially color balanced to provide natural tones.

- 2602.3 Quick Release Handle Kit for GoPro

- Gamma LED Focus/Flashlight

A full range of accessories are available to support your housing. Please visit **ikelite.com** to see the most current information about recommended accessories for your housing.

SPARE PARTS - available through Ikelite or any Ikelite Dealer

- 5512.68 Spare o-ring set with main o-ring, port o-ring and lubricant
- 0132.59 Main o-ring
- 0105   Port o-ring
- 9104.5   Waterproof bulkhead cap
- 0200.91 Housing body cap
- 0184.2   Silicone lubricant resealable 2cc tube

MAINTENANCE

Lens Port

Treat the glass in the lens port as a camera lens. After use, rinse and gently dry the outside lens port to avoid water spotting. To clean, use a mild soap solution or lens cleaner. It is NOT necessary to remove the Port for cleaning. Do not rinse the inside of the Port.
Do not use alcohol or window cleaner on the Lens Port.

O-ring Storage

When storing the housing, remove the main housing o-ring. Lightly lubricate the o-ring until it appears shiny and place in a small resealable plastic bag. Use ONLY Ikelite lubricant. Place the bag inside the housing and store until needed.

Lubricant

Ikelite provides silicone lubricant with the housing to lightly lubricate controls and o-rings. We recommend you use ONLY Ikelite lubricant on Ikelite products. Other brands may cause the main housing o-ring to swell and not seal properly. Lubricant is not needed on the main housing o-ring to maintain a housing seal, however, lightly lubricating this o-ring can extend it's life and aid in seeing a good housing seal.

Wipe off any excess lubricant with a clean cloth. 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.

⚠ **CAUTION: Never use spray lubricants as the propellant ingredient can cause the plastic housing to crack or o-rings to swell.**

Housing Maintenance

Your Ikelite Digital Housing should be given the same care and attention as your other photographic equipment. In addition to normal maintenance, we recommend that the housing be returned to Ikelite periodically to be checked and pressure tested.

- **Do not** leave the camera and housing in direct sunlight for prolonged periods. Heat may damage the camera.
- **Do not** ship the camera in the housing.
- Before using the housing, always check the tightness of the set screw in each control knob. Check each **control gland** penetrating the housing to make sure they are tight. There is a slight chance that either could vibrate loose during travel.
- Keep the main housing o-ring clean and lightly lubricated. To lubricate, remove the o-ring from the back. Put a small amount of Ikelite lubricant on your fingers. Pull the o-ring through your fingers to apply a thin coating of lubricant. Only apply enough lubricant to make the o-ring feel slick. **Do not stretch the o-ring.**

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Housing Maintenance - continued

This light coating of lubricant will help to keep the o-ring from drying out and will help to show a dark sealing line when the housing back is properly sealed.

- Keep area where the o-ring fits and sealing surface of the housing clean.
- Rinse the housing exterior thoroughly in freshwater after each saltwater use. Depress push buttons repeatedly in freshwater to eliminate trapped saltwater. Dry with a soft cloth. Dry lens port to eliminate water spotting. After several uses in saltwater, soak the housing exterior in a mild soap solution; rinse and dry before storing. When storing the housing, remove the back o-ring, lightly lubricate, and place in a plastic bag. Place the plastic bag with o-ring inside the housing for safe keeping.
- If removing a housing push button, Do Not re-use the E-clip. Contact Ikelite for replacement E-clips (part 0319.12).
- Leave lid snaps in the open position when not using the housing for extended periods.
- Always disassemble and clean the housing Tray/Handle(s) before storage. Over time, corrosion can make components difficult to disassemble.

Control Maintenance

Ikelite controls are designed to provide years of reliable service with minimal maintenance.

- Push button controls normally require no maintenance other than rinsing in freshwater after saltwater use. Depress each push button in freshwater several times to eliminate trapped saltwater. If a push button control becomes difficult to push or if it sticks when depressed, soak the housing in luke warm freshwater. After a few minutes, operate the push button. If this does not correct the problem, return the housing to Ikelite for maintenance. If you are on a trip and unable to return the housing immediately, a push button may be lubricated by pressing and holding the push button all the way in. Then, use your finger or other small non-metal object to place a small amount of lube at the base of the shaft inside the housing.
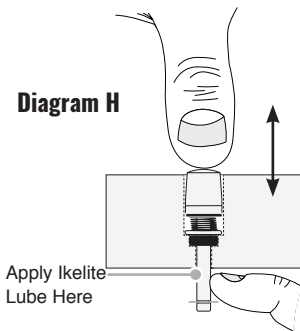
Control Maintenance - continued

Press and release the push button several times until the lube is worked up into the o-ring.

After completing this procedure, close the housing and submerge it in water without the camera inside.

Check the control for watertightness.

- Although not recommended, if it is necessary to remove a housing push button, **DO NOT** re-use the E-clip. Contact Ikelite for replacement E-clips (part #0319.12).

Diagram H

Apply Ikelite Lube Here

Ikelite controls are designed to provide years of reliable service with minimal maintenance.

In the unlikely event one of the control shafts sticks or becomes difficult to operate, you can remove the control from the housing and lubricate it, or return the housing to Ikelite for maintenance.

Your housing may feature both **round** and **hex** style control glands. To remove a control in a round style gland, **Diagram I, page 24**, loosen the set screw in the knob (hex head wrench required); remove the knob. If there is salt or dirt build-up on the exposed control shaft, clean the shaft. Open the housing and gently slide the control shaft out of the control gland. Clean and lightly lubricate the shaft and o-rings, including the large end of the shaft.

If there is a shutter spring on the Control Shaft, make sure it is in its proper position. Rotate the Shaft back and forth slightly to aid installation back into the Control Gland. Replace the knob with the Set Screw over the Control Flat. The Set Screw in the knob should be tightened down against the flat area on the Control Shaft so the knob does not turn on the shaft.

Control Maintenance - continued

- Some of the controls have long shafts and feature a **hex** style control gland. These controls can be pulled out, exposing the shaft, **Diagram J**, **page 30**. To lubricate the control, gently pull on the knob until the stainless steel shaft is exposed. Lightly lubricate the shaft, then move the shaft in and out several times. This will lubricate the x-ring in the Ikelite control gland. This should be done before using the housing after a prolonged storage period, or once a week when the housing is in constant use.

- Some of the controls have a short shaft and cannot be pulled out exposing the shaft for lubrication. In the unlikely event one of these controls sticks or becomes difficult to operate, you can remove the control from the housing and lubricate it, or return the housing to Ikelite for service. To remove the control, **Diagram K**, **page 30,** loosen the set screw in the knob (hex head wrench required); remove the knob. If there is salt or dirt build-up on the exposed control shaft, clean the shaft. Open the housing and gently slide the control shaft out of the control gland. Clean and lightly lubricate the shaft, including the end of the shaft. Slide the shaft back into the control gland and gently slide the shaft back and forth a few times without fully removing the shaft from the gland. Replace the knob noting the flat area on the shaft. The set screw in the knob should tighten down against the flat area on the control so the knob does not turn on the shaft.

  Close housing **without** a camera inside and water pressure test in a bathtub or swimming pool. Rotate***** the knobs to make sure the housing is watertight and the gland was installed properly. Check all controls while the housing is submerged.

⚠ ***Caution:** If your housing has a shutter spring, **DO NOT** rotate the shutter control more than 1/16th of a rotation, otherwise, you may accidentally bend the shutter spring or cause the spring to "pop off" the control shaft.

Control Maintenance - continued

Diagram I

Lubricate end of shaft before reinserting into gland

Loosen Set Screw
(Hex Head Wrench Required)

Control Shaft

O-rings

Knob

Tighten set screw down against this flat area when replacing the knob

Control Gland

Housing

Diagram J

Housing

Lubricate Shaft

Pull out shaft to expose shaft

Diagram K

Tighten set screw down against this flat area when replacing the knob

Control Gland

Loosen Set Screw
(Hex Head Wrench Required)

Control Shaft

Lubricate end of shaft before reinserting into gland

PHOTO TIPS

- The number one rule in underwater photography is to eliminate as much water between the camera and subject as possible. Get as close as you can to the subject, then use the zoom. If you are using flash for still photos, subjects beyond 6 ft (1.8 m) will not have much color regardless of strobe power.
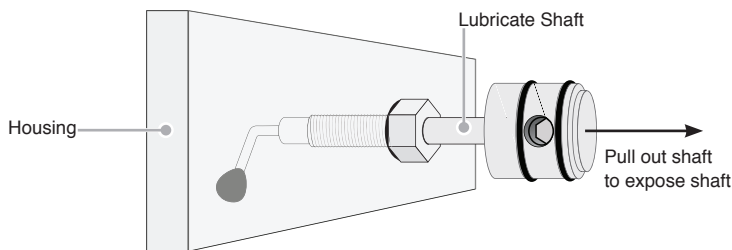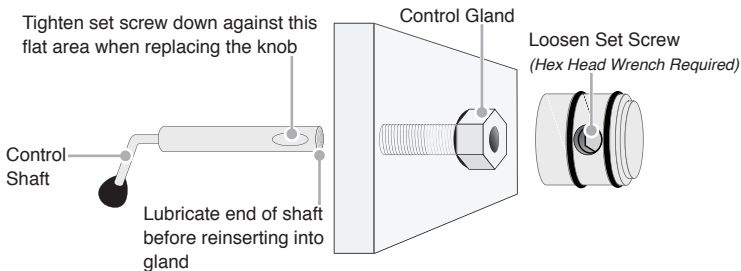- Photograph in clear water; do not stir up the sand or silty bottom. If backscatter becomes a problem in the environment you are photographing, an external flash will help eliminate much of the backscatter.
- Many digital cameras have a slight lag time between when you press the shutter release button and the camera actually takes the picture. Hold the housing steady a second or two after pressing the shutter release button.
- Do not shoot down on subjects as they will quite often blend into the background and be difficult to see in the photograph. Shoot subjects straight on or shoot up at a slight angle using the blue water as a contrasting background.
- When using daylight or flash, if your camera consistently over or underexposes the image, you may want to adjust your camera's exposure compensation ⚡ settings.
- If you error 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. While we encourage people to get close to their subjects when taking a photograph, we recommend they not touch, lie on, or in any way disturb the things they find underwater.

TROUBLESHOOTING

Problem	Solution
Push buttons or controls are sticky or hard to operate	- Remove the camera and rinse the closed housing in freshwater. Vigorously press each push button in and out several times to release any trapped saltwater or debris. - Press a sticky push button all the way in and place a small amount of lube on the small end of the push button shaft at it's base. Release and depress the push button several times to distribute the lube, **Diagram H, page 28**. - If a larger gland style control is sticky, grab the control knob, pull it out, and then push back in. If still sticky, see the Control Maintenance section, **pages 27-30**. - Return housing to Ikelite for routine service
Image is over/ underexposed, or a corner of the image is dark	- Check that the external strobe is firing when taking a picture. Camera flash should be forced "on" ⚡. - When using an external strobe, make sure it is turned on, set properly, and its battery is charged. - Check all corded connection points. - Adjust camera shutter speed, aperture, exposure compensation, or a combination of these. - Move closer to or further away from the subject.

Problem	Solution
Camera does not take a picture or focus properly	- Install a fully charged battery. - A housing control is engaging a camera function and will not allow the shutter to fire. - There is not enough available light for the camera to properly focus. Add a focusing light or strobe with a built-in focusing or video light to your system. - Select a center focus point in your camera menu. - Add a +4 diopter (close-up lens) to your camera lens when using a dome port underwater.
Housing is hard to close	- Make sure the camera is mounted properly in the housing and controls/cord are out of the way. - Main housing o-ring is not seated properly.
Fogging occurs on the Lens Port	- Humid air is trapped inside the housing. The camera produces heat and may condense any trapped moisture forming fog on the lens port. Close the housing in an air-conditioned room or vehicle, or in front of an air-conditioner. - The housing should not be in direct sunlight for an extended period of time. - Purchase desiccant packs from a local camera store. Place one or two new packs in your housing before each day of diving. - Clean the main housing o-ring and sealing surface of the housing. - If moisture or water droplets are present around the controls or sealing areas, return the housing to Ikelite for evaluation.

Problem	Solution
Water enters the housing	- Remove, clean and properly lubricate the main housing and port o-rings. - Look for hair, dirt, or foreign debris crossing the o-ring seal. - Reassemble the housing without a camera installed and pressure test or take diving. - Return housing to Ikelite for routine service.
Pictures are too blue or too green	- Move in closer to your subject when taking a picture. - Use custom (manual) white balance. Reset for each working depth or when attaching a color correcting filter to the camera lens. - Add an external strobe. - Strobe is not firing. Check corded connection points and strobe battery levels..

CUSTOMER SUPPORT

Please read the troubleshooting section of this instruction manual before contacting Ikelite Customer Support.

Ikelite Underwater Systems
Service Department
50 West 33rd St.
Indianapolis, IN 46208 USA

Email: ikelite@ikelite.com | **Phone:** 317-923-4523

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.

RETURNING PRODUCTS FOR SERVICE

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 instructions on what you want us to do. 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 West 33 Street
Indianapolis, IN 46208 USA

No reimbursements for postage paid will be issued.
You may also want to insure the package.

Returning Products for Service - outside the United States

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.

PRODUCT REGISTRATION

Please go to **ikelite.com** to register your Ikelite housing within 15 days of purchase.

Ikelite Underwater Systems
50 West 33rd Street
Indianapolis, IN 46208 USA

ikelite.com