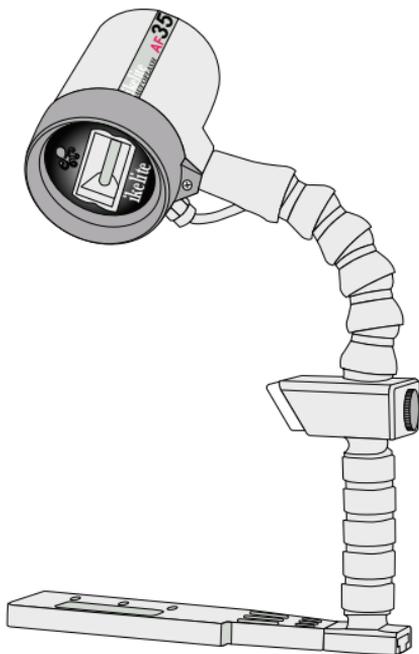




AF35 AutoFlash

Instruction Manual

4035 - 4035.1



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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Housing Compatibility

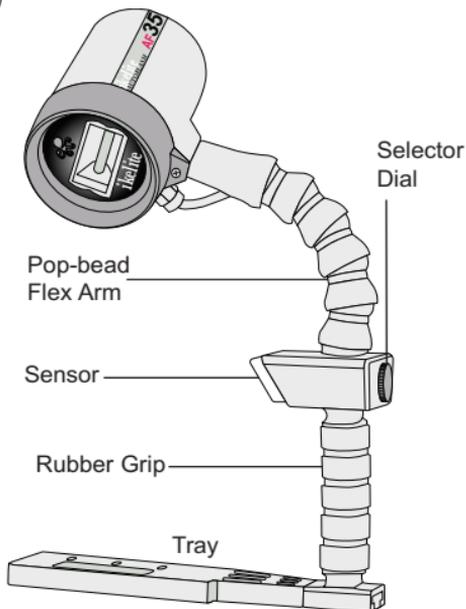
The AF35 AutoFlash fits Ikelite ULTRAccompact and Compact digital housing styles DC100 and DC200, and most compact digital housings manufactured by Canon, Olympus, Panasonic, and Sony.

Included with AF35 AutoFlash Kit

- AF35 AutoFlash
- Flash Diffuser
- Flexible Arm
- AutoFlash Sensor
- Rubber Grip
- Tray (single or dual)
- Tray Inserts
- Mounting Hardware

Parts of the AF35

AF35 AutoFlash



Specifications

Firing Modes	.....Auto - 6 manual power settings
Energy Rating	.....35 watt-seconds
Coverage Angle	.....70° - 80° with diffuser
Guide # (ISO 100) feet	.....28 surface - 16 underwater
Guide # (ISO 100) meters	.....9 surface - 5 underwater
Color Temperature	.....5700° K
Power Source	.....4 "AA" alkaline, NiCad, NiMH
Flashes	.....300 full power
Recycle Time	.....2.5 seconds
Weight	.....0.6 kg - 1.3 pounds
Depth Rating	.....90m - 300 feet

CE - Compliant with applicable EU directives.

Complies with FCC part 15, subpart B, Section 15.109 for Class "B" Products.

Battery Compartment

Opening - Always turn the AutoFlash OFF (as shown) and dry the flash before opening the battery door. To access the battery compartment, rotate the knob counter-clockwise several turns and gently remove the door. Tilt the back of the flash down while removing the battery door to eliminate the possibility of water droplets falling into the battery compartment. **Note:** Do not remove the knob from the battery door.

Battery Compartment O-ring

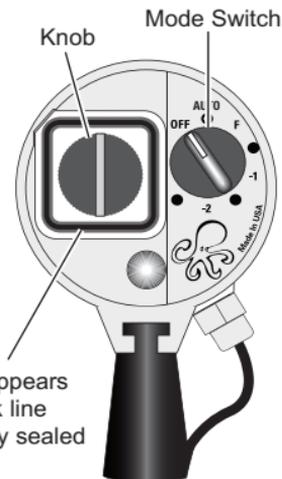
Keep the o-ring and sealing surfaces clean. No lubricant is needed on the o-ring.

Changing the Batteries

Install four AA-cell batteries: alkaline, NiCad, or NiMH. Refer to the “+” and “-” markings in the battery compartment to help properly install the batteries. If the batteries are installed incorrectly it may damage the electronics. Batteries should be replaced when the flash takes 15 seconds or longer to recycle.

Closing the Compartment

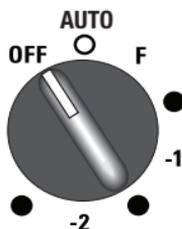
Check that the o-ring and sealing surfaces are clean, and the o-ring is in its original position. Replace the battery door. Make sure it fits into the recess around the battery compartment. Rotate the knob clockwise several times and firmly hand-tighten to assure the proper o-ring seal, otherwise the battery compartment may leak. **Caution:** Do Not use a tool when tightening as it may damage the battery door. **The o-ring seal is visible through the battery door. Visually confirm that there is a solid black line which indicates a seal all the way around the door.**



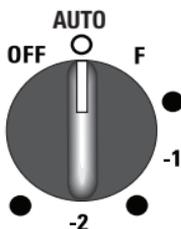
AF35 Flash Settings

To use the AF35 AutoFlash in the Auto or Manual Mode the camera's built-in flash must be set to fire on every shot as it is used to trigger the AF35 AutoFlash.

OFF - Figure 1 shows the AF35 flash Mode Switch set to OFF. Always turn the flash OFF when not in use for prolonged periods or when changing batteries.



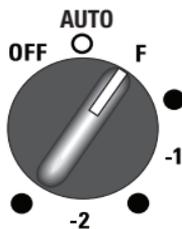
(Fig.1)



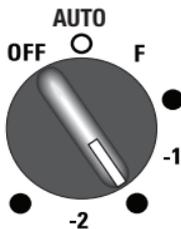
(Fig.2)

AUTO - Figure 2 shows the AF35 flash Mode Switch set to AUTO. From the OFF position rotate the mode switch clockwise to access the AUTO exposure setting; the white indicator on the knob aligns with AUTO. When taking pictures with the Mode Switch in the Auto position, the Auto Sensor automatically controls the flash output of the AF35 flash.

See Auto Exposure Selector Dial, page 8, for setup and additional information when using the AF35 in the AUTO mode.



(Fig.3)



(Fig.4)

MANUAL - Figure 3 shows the Mode Switch in the manual exposure mode with the AF35 turned to the F (full power) position. Rotate the Mode Switch clockwise to access the different power settings. Each power setting clockwise from F reduces the light output of the AF35 in one-half f-stop increments. When shooting in manual mode, it is suggested that you start at F (full power). If the subject in the photo is underexposed (too dark) you must move closer to the subject.

AF35 Flash Settings - continued

If the subject is overexposed (too light), then you can rotate the mode switch clockwise to reduce the light output of the flash until the desired exposure is obtained. The AF35 provides five reductions in power in 1/2 f-stop increments from the full power setting. Figure 4, page 6, for example, shows the Mode Switch set to minus 1-1/2 f-stops. When the AF35 is in any manual setting the Auto Exposure Selector Dial setting has no effect on the flash output.

Switch the AF35 between Auto and Manual settings at any time.

AF35 Flash Ready Light

The AF35 flash features a ready/confidence light at the rear of the flash that glows when the flash has recycled and is ready to fire. When the recycle times range between 10 and 15 seconds it is recommended that fresh batteries be installed.

Note: The AF35 flash will most likely recycle faster than the camera's built-in flash. Since the camera's built-in flash is required to trigger the AF35 flash, make sure the camera's built-in flash has recycled and is ready to fire before taking a picture.

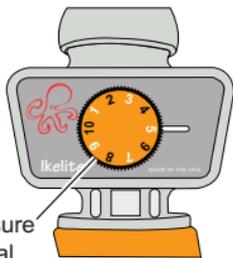


Ready Light in Auto Mode

When the AF35 fires in the Auto Mode and enough light reaches the subject for proper exposure the ready light will glow green for about 2-3 seconds, then glow red. If the ready light does not glow green, but glows red immediately after taking a picture, not enough light reached the subject for proper exposure. Move closer to the subject and take another picture and check the ready light.

Setting the Auto Exposure Selector Dial

On the side of the Auto Sensor is the Auto Exposure Selector Dial. Different cameras may require different exposure values. Once the correct exposure value is determined for a particular camera, no further adjustments should be necessary to obtain acceptable flash exposures of varying subjects within normal shooting ranges.



Auto Exposure Selector Dial

To determine the camera's optimum Exposure Value we recommend the following procedure. This procedure can be done above water.

Make sure the camera's battery is fully charged and the AF35 flash has fresh batteries. Assemble the AF35 flash and camera housing with the flash deflector installed on the housing. Make sure the camera's built-in flash is set to fire on every shot and is fully charged. Turn the AF35 Mode Dial to AUTO. Set the Auto Exposure Selector Dial to 5 as shown above. Position the camera and flash approximately 1m (3 feet) from a colorful subject. *Subject should not be all white or black.* Take a picture, review the picture, if the picture is overexposed (light), turn the Auto Exposure Selector Dial down to 4, if the picture is underexposed (dark) turn the Auto Exposure Selector Dial up to 6. Repeat this procedure until the optimum exposure is obtained. Once the optimum Auto Exposure Value has been determined for that camera, use that value anytime that camera is used with the AF35 in the Auto Mode. *Repeat this procedure anytime a different camera is used with the AF35 AutoFlash.*

For advanced users, the Auto Exposure Selector Dial can be used for exposure compensation while remaining in the automatic mode. When the AF35 is set in the Auto Mode, the Auto Exposure Selector Dial can be used to increase or decrease the flash intensity in difficult lighting conditions.

Setting the Auto Exposure Selector Dial - continued

Using Two AF35 AutoFlash Strobes

When using two AF35 AutoFlash Strobes, determine the optimum Auto Exposure Value for one AF35 AutoFlash as described on page 6, then set the same Auto Exposure Value on the second AF35 selector dial.

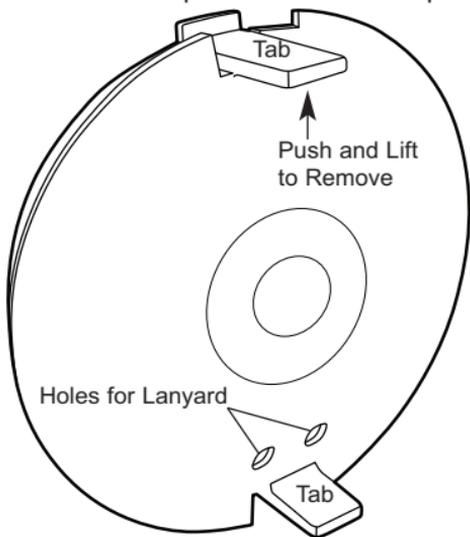
AF35 Flash Diffuser

The flash diffuser adds 10° to the angle-of-coverage of the flash. The diffuser is usually not required unless a wide angle lens is being used. The white diffuser features two protruding tabs for use in installation and removal. The tabs on the diffuser should be positioned away from the flash.

Place the diffuser over the front of the flash. Spread the two tabs apart, insert the diffuser into the recessed front, and then rotate the diffuser until it locks into position.

To remove the diffuser, bend one tab out towards the edge while lifting simultaneously.

A lanyard can be attached to the diffuser by threading it through the two holes.



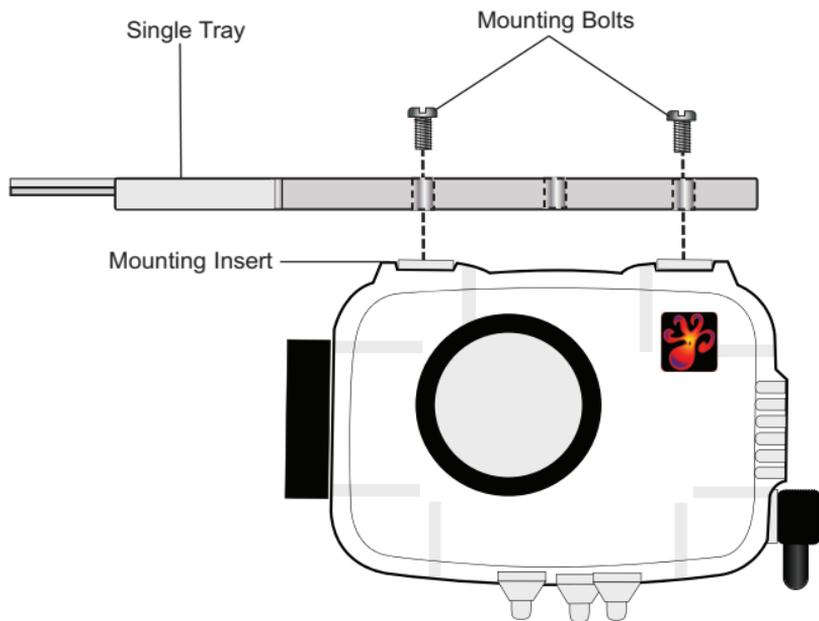
Mounting Ikelite Housing to the Tray

Applies to Single or Dual Tray.

The AF35 AutoFlash can ONLY be mounted to Ikelite ULTRAccompact and Compact Digital housing models DC-100 and DC-200.

Turn the housing so the tray mounting inserts on the bottom of the housing are facing up. Place the tray across the bottom of the housing and align the two outer holes in the tray with the mounting inserts in the bottom of the housing. Insert the two mounting bolts as shown below and tighten the bolts firmly to secure the tray to the housing.

Note: Your mounting hardware includes 2 12-24 thread and 2 1/4-20 thread size screws. Make sure you use the correct thread size screws with your housing. **Do Not** cross-thread the Mounting Inserts.



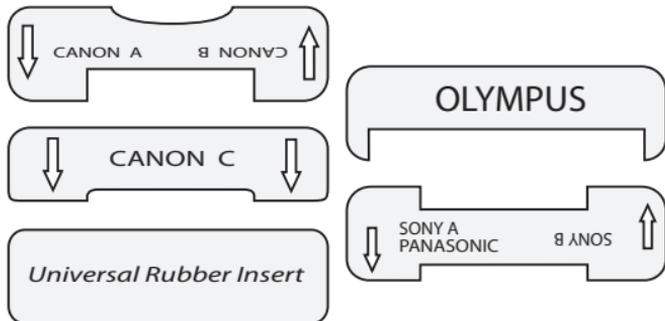
Ikelite DC-100 ULTRAccompact Housing

Tray Inserts for (Canon, Olympus, Panasonic, Sony & Universal)

Applies to Single or Dual Tray.

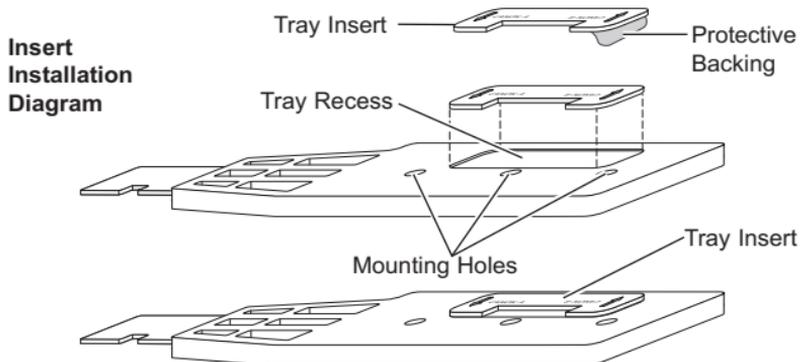
Non-Ikelite housings are mounted to the tray with a single bolt. To keep the camera housing from rotating on the tray, a Tray Insert must be

installed. Note that there are 5 Tray Inserts included with the AF35 Tray. Select the Tray Insert for the corresponding camera housing being installed. If one of the plastic inserts is not compatible, use the rubber universal insert which will help prevent the housing from rotating when tightened to the tray. For Sony Insert installation see Page 12.



Installation

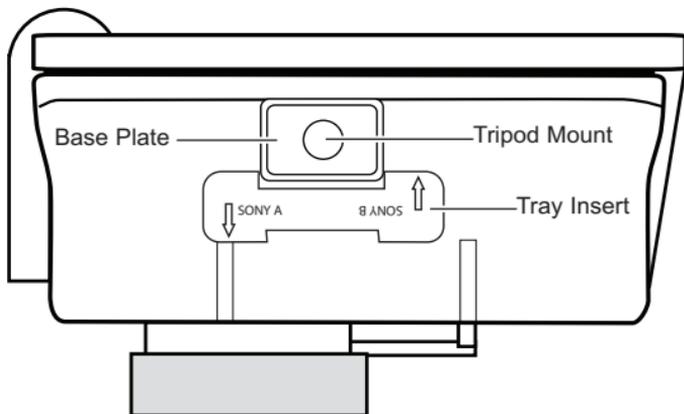
1. The Tray Inserts have an adhesive coating on one side. Once the correct insert is selected, remove the protective backing to expose the adhesive.
2. Align the Tray Insert with the Tray Recess, the arrows on the Tray Insert should be pointing toward the holes in the tray.
3. Place Insert into Recess and push down to secure Insert to tray.



Sony Housing Tray Insert Installation

Applies to Single or Dual Tray.

Sony housings have 2 different size Base Plates. The Tray Insert marked Sony has 2 different cut-outs. To determine the correct cut-out, place each of the Sony Tray Insert cut-outs against the Sony housing Base Plate as shown below. Use the cut-out that fits snug around the Base Plate. When the correct cut-out is determined proceed with the installation.



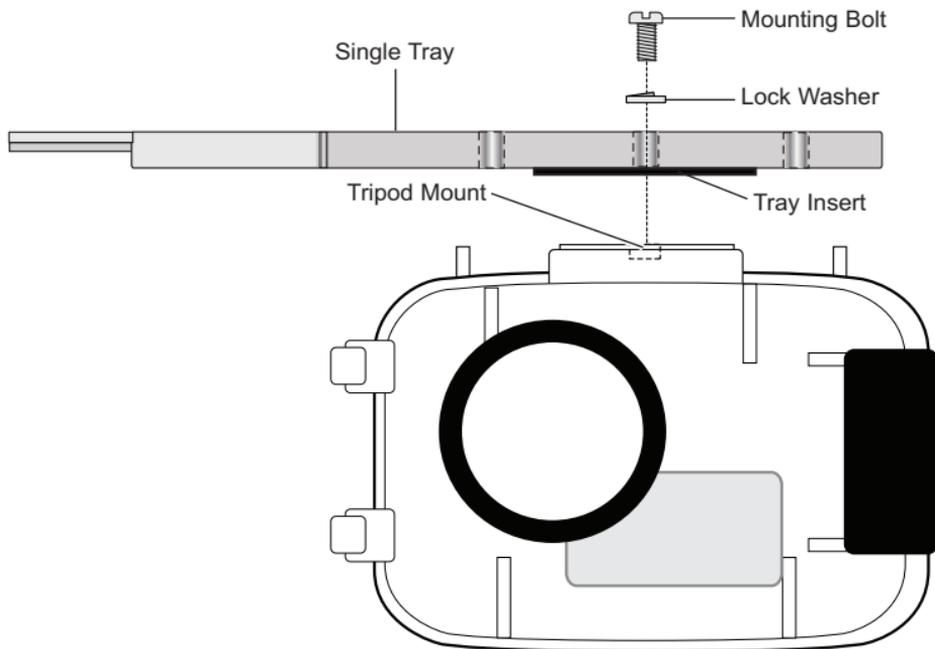
See the “Insert Installation Diagram” on page 11 for the following procedure:

1. The Tray Insert has an adhesive coating on the side opposite the lettering. Remove the protective backing to expose the adhesive.
2. Align the Tray Insert with the Tray Recess, the arrows on the Tray Insert should be pointing toward the holes in the tray.
3. Place Insert into Recess and push down to secure Insert to tray.
4. Continue to page 13 for mounting the housing to the tray.

Mounting Housing to the Tray (Canon, Olympus, Panasonic & Sony Housings)

Applies to Single or Dual Tray.

After the proper Tray Insert is installed, the housing can be mounted to the AF35 tray. Turn the housing so the Tripod Mount on the bottom of the housing is facing up. Place the tray across the bottom of the housing. Align the center hole in the tray with the hole in the Tripod Mount on the bottom of the housing. Insert the mounting bolt with lock washer as shown below and tighten the bolt firmly to secure the tray to the housing. Check that the Tripod Mount aligns correctly with the Tray Insert restricting the housing from rotating on the tray.



Installing Housing Deflectors

Installing a Deflector in front of the camera's built-in flash will block the camera's flash from going forward and lighting the particles in the water; helping to reduce backscatter, it will also deflect the light back toward the AF35 Sensor used to trigger the AF35 Flash.

Ikelite Housings

Deflectors are supplied with Ikelite housings, see housing instructions for installation.

Non-Ikelite Housing Deflector Installation

Most Canon, Olympus and Sony digital camera housings have a flash diffuser built on the housing to which the deflector can be attached, see drawing, page 15. If the housing does not have a flash diffuser pick a spot on the outside of the housing in front of the camera's built-in flash to mount the deflector.

Deflector Kit includes:

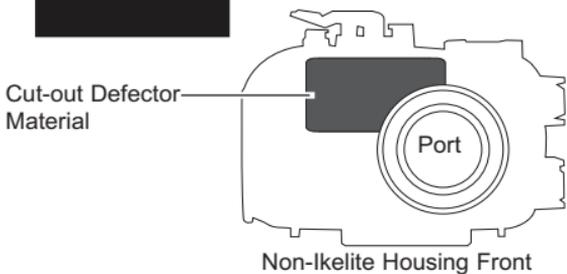
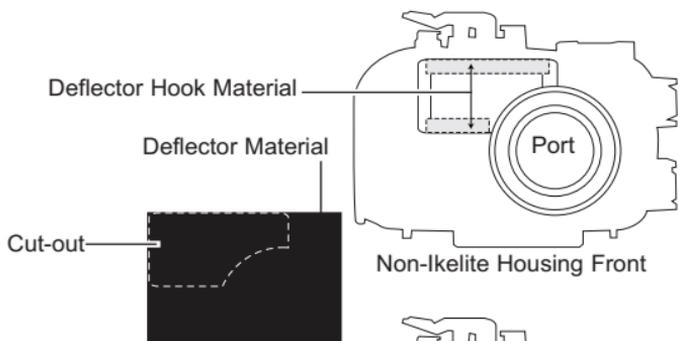
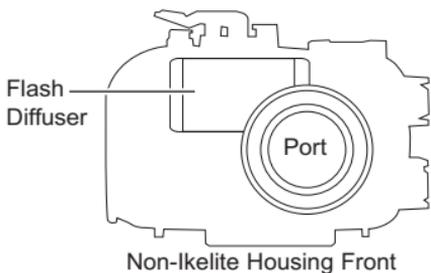
1 strip of hook material, 1/4" wide x 6" long

1 strip of loop material, 2" wide x 3" long

1. The loop material (deflector) is white on one side and black on the other side. The white side will go against the housing as it has loops that will stick to the hook material once it is secured to the housing.
2. Using a piece of paper, cut a template to fit on the outside of the housing in front of the camera's built-in flash. Trace the template on the loop material and cut it out. Test fit the loop material (deflector) on the housing and trim as necessary.

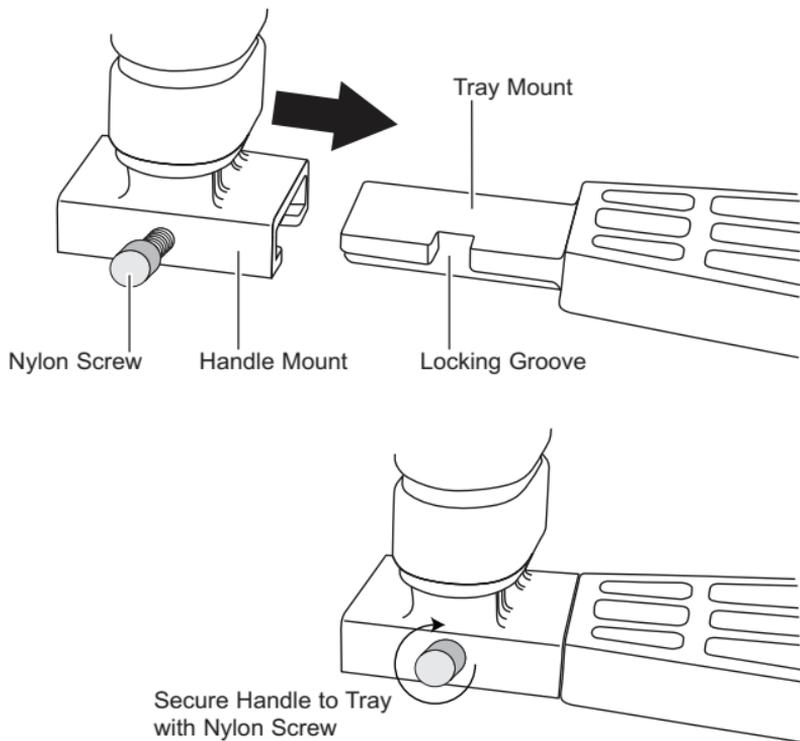
Non-Ikelite Housing Deflector Installation - continued

- Position the loop material (deflector) on the housing to determine where to locate the 2 strips of hook material to secure the deflector to the housing. Cut 2 strips of the hook material to fit on each side or on the top and bottom of the deflector. Peel the adhesive backing from the hook material strips and press them onto the housing. The loop material (deflector) can now be secured or easily removed from the housing.



Connecting AF35 Handle to Tray (single or dual)

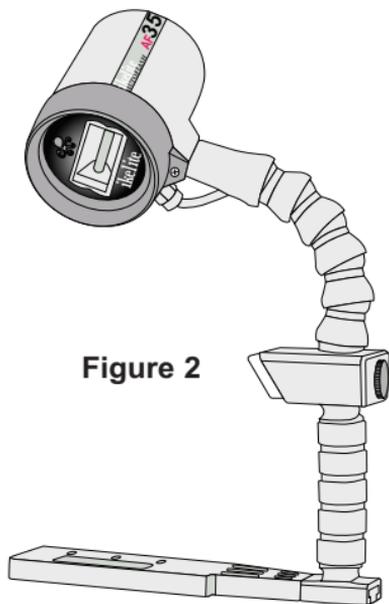
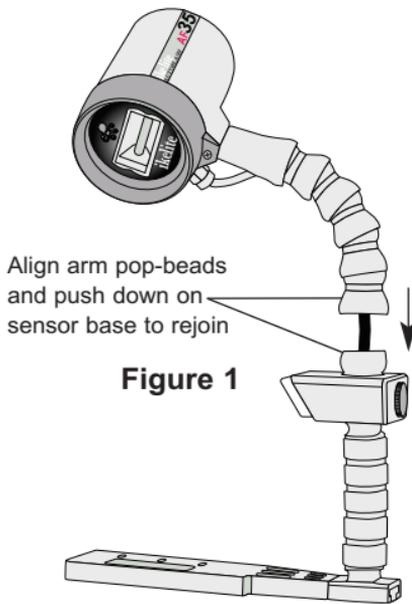
The base of the Handle Mount that slides over the Tray Mount has a nylon screw. Note that the tray has a notch for the nylon screw to fit into when the handle is mounted to the tray and the nylon screw is screwed down. Back the screw out far enough to slide the handle base onto the tray mount. Align the handle mount with the tray mount as shown, push the handle mount onto the tray mount and secure with nylon screw. Reverse this procedure to remove the handle.



Flex Arm

The AF35 Flex Arm is quite versatile, it allows the flash head to be placed in many different positions for optimal lighting. The flash head is connected to the sensor with a sync cord that runs through the center of the Flex Arm. If the flex arm is bent too far it may separate from the top bead on the sensor body. The Flex Arm and flash will still be connected to the sensor and handle by the sync cord, **DO NOT** put undue force on the sync cord. If the Flex Arm separates from the top of the sensor, position the bottom bead of the Flex Arm over the bead on the top of the sensor body and push down to reinstall, Figure 1. The flex arm should snap back into position, Figure 2.

Your AF35 Flex Arm utilizes a pop-bead system which allows you to easily reposition the strobe while underwater. After extended use, the pop-beads will loosen slightly and may no longer hold the strobe in a fixed position above water. This should not be a problem underwater.



Lubricant

- Use only Ikelite brand silicone lubricant with Ikelite brand o-rings; other brand lubricants can cause the Ikelite o-rings to swell in size.
- Do Not use spray lubricant; it can crack the plastic parts of the kit.
- Lubricant reduces friction and prolongs the life of o-rings, it is not a sealant. Use only enough lubricant to lightly cover the area being applied; wipe off any excess with a clean cloth. Lubricant is not necessary on the battery door.

Maintenance

Your Ikelite AF35 AutoFlash Kit should be given the same care and attention as your other photographic equipment.

Routine Cleaning

Caution: Make sure the AF35 battery door is on and tightened down before exposing the flash to water. Ideally, water should never enter the battery compartment. If this does occur, see “Battery Compartment Flooding” on page 19.

1. Always rinse the exterior of the AF35 with fresh water after use, especially after exposure to salt water. While rinsing, turn the mode switch to free salt or debris that might have accumulated in recesses during the dive.
2. Dry the AF35 thoroughly.

Long Term Storage

- Soak the Kit in a mild soap solution, operate the mode switch to free salt or debris, rinse and dry before storage.
- When storing the Kit, remove the batteries from the flash. Store the AF35 with the battery door lightly screwed on. This will allow any hydrogen/air mixture to escape the battery compartment and avoid unnecessary pressure on the o-ring that could cause it to flatten.

Battery Compartment Flooding

The battery compartment is separate from the AF35 factory sealed electronics. Should the battery compartment flood, remove the batteries, flush the compartment with fresh water and dry thoroughly. Determine the cause of the flooding to the best of your ability. Send the AF35 kit to Ikelite for inspection and testing as soon as possible.

Often, divers find themselves in remote locations for extended periods without access to multiple flashes. If the flash with the flooded battery compartment is the only one available to you at the time and you're desperate to continue shooting, please follow these instructions for a temporary fix:

1. Open the battery compartment, remove batteries and water. Blow out as much water as possible with a blow dryer or air from a scuba tank.
2. Wash out the battery compartment with alcohol. Blow dry the battery compartment again with a blow dryer or air from a scuba tank.
3. **Caution:** Replace all batteries after battery compartment flooding. Never re-use batteries that have been wet. The water could cause an internal short circuit in the flash at some later date, potentially causing an explosion.
4. Reassemble the AF35 with fresh batteries.
5. After returning from your trip, send the AF35 Kit to Ikelite for inspection and testing.

Troubleshooting

Problem

Solution

Strobe will not Fire

- Check the AF35 Ready Light. Turn the Flash Mode Switch to OFF and then back to AUTO. Make sure the switch has actually clicked into position.
- Check that the batteries are inserted according to the "+" and "-" markings. Note: it is possible to buy bad "new" batteries; check the voltage output with a meter. If using rechargeable batteries make sure the charger is working properly and that the batteries are fully charged.
- Check that the camera's built-in flash is turned on and is set to fire on every shot.

Recommendations

- Take the time to examine the entire assembly setup above water. An improper seal can cause a lot of damage. Always check for leaks once you place the equipment in the water.
- Photograph through as little water as possible; move in close. Maximum recommended shooting distance for good lighting is 1.8m (6').
- Use the AF35 diffuser for softer lighting or wider coverage.
- Always carry spare batteries. Weak batteries are the cause of many flash and camera problems; check the voltage with a meter. Note: it's possible to buy bad "new" batteries.
- The AF35 has a flexible arm for positioning the flash. Check that the flash is aimed at the subject being photographed.
- When taking pictures in rapid succession, note that the AF35 flash will recycle much faster than the camera's built-in flash. Since the camera's built-in flash is used to trigger the AF35 you must wait for the camera's built-in flash to recycle.
- Make sure the flash deflector is installed in front of the camera's built-in flash. This not only helps direct light to the sensor but also aids in reducing backscatter in photographs.

Customer Support

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

Email: ikelite@ikelite.com

Phone 317-923-4523

Fax 317-924-7988

Limited Warranty

The AF35 AutoFlash 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.

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 www.ikelite.com to register your Ikelite housing within 15 days of purchase.



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

www.ikelite.com