

INON

Safety Precautions

- Before using your flashlight, please ensure that you have read and understood the safety precautions described below and separate 「user manual」 / 「Measures to Prevent Accidental Flooding」. Please keep these documents handy for easy reference.
- The safety precautions are intended to instruct you in the safe and correct operation of the strobe to prevent injuries or damage to yourself, other persons and equipment.
- The symbols and their significance are described below.



DANGER

Failure to observe the precautions indicated by this symbol may lead to high possibility of serious injury or death.



WARNING

Failure to observe the precautions indicated by this symbol may lead to possibility of serious injury or death.



CAUTION

Failure to observe the precautions indicated by this symbol may have the possibility of resulting in possibility of injury or property damage.



WARNING

DO NOT turn on the flashlight in front of person's eye (particularly an infant).

The flashlight may cause irreparable injury to the eyes or cause temporary visual impairment.

DO NOT use on land (except for brief function check less than 1 minute in total) to prevent fire or damage on this product.

Always use heat-safe gloves when conducting the function check on land to avoid burns including low temperature burns where you do not feel so hot.

DO NOT use the flashlight in a place where it may be exposed to flammable or explosive gas.

Otherwise fire ignition or explosion may result.

Turn OFF the flashlight when not in use. (Never leave the product being ON)

Remove batteries immediately after exhaustion.

Batteries could produce flammable gas causing the flashlight to explode. Storing the flashlight with batteries for extended periods of time could cause batteries to leak, overheat or explode which may result in fire, injury or damage to other property.

When turn OFF the light, lock the switch at OFF position.

Remove batteries when not in use.

Unexpected activation of the light by vibration etc. could cause fire or injury. Storing the light with batteries for extended periods of time may cause batteries to leak, overheat or explode which may result in fire, injury or damage to other property.



WARNING

Never leave or carry battery loaded battery cartridge as it is.

Make sure to store in insulated container like a ziplock to avoid short-circuit which could generate flammable gas from batteries and possibly cause accidental explosion or battery to explode, or lead to fire/injury/property damage due to battery leakage or generated heat.

Never attempt to modify the flashlight or disassemble the light head to avoid malfunction, damage or flooding, which could lead to injury.

Prevent water from entering the flashlight to avoid malfunction, damage or flooding, which could lead to injury.

Always check O-rings, batteries and flashlight operation before using to avoid flooding, malfunction and unexpected deactivation of the product due to battery exhaustion, which could lead to an accident.

Stop operating and turn off the flashlight immediately if any water is observed inside flashlight or flashlight operates improperly.

Flammable gas may build up and cause explosion of the product, which may result in serious injury. Remove batteries being careful to avoid electrical shocks or burns. Contact your local dealer for repair.

DO NOT use flammable solvent containing alcohol, benzene or thinners, oil and fat containing/chemical material like organic solvent, rust inhibitor, lubricant, polish, or alkaline detergent to clean the flashlight.

The use of these substances may lead to fire, explosion or damage to the flashlight.

Keep the flashlight out of reach of children.

Their inability to read and understand warnings may lead to serious injury. They may swallow parts of the strobe or batteries. See a doctor immediately if a child swallow parts or batteries.



CAUTION

DO NOT apply strong vibration or shock to the flashlight by dropping or hitting it against something.

Damage to the flashlight could cause malfunction or flooding possibly leading to injury or fire. Strong vibration/shock could deform batteries or damage battery case causing battery to leak or to generate heat resulting in fire or injury.

DO NOT “jump” into the water with the flashlight or other photographic equipment to avoid injury which may be caused by malfunction, flooding or unexpected movement of equipment.

DO NOT leave/store the flashlight in a place subject to strong sunlight or high temperatures, such as a beach, the deck of a boat, dashboard or trunk/boot of a vehicle.

Otherwise damage to the flashlight may result in injury, fire or malfunction.

Partially unscrew the Light Head or remove it for flying or traveling to other areas with lower air pressure than sea level (traveling across mountains for example) to avoid damage to waterproof integrity which may result in flooding or injury.



DANGER

DO NOT use batteries other than batteries specified in user manual.

[Compatible batteries]

- Panasonic AA “eneloop” rechargeable battery (BK-3MCC) [recommended] ,
- Panasonic AA “eneloop pro” rechargeable battery (BK-3HCC, BK-3HCD) [recommended] , and
- (“eneloop” type) “new generation” NiMH battery with same performance
- “Conventional” NiMH battery (1.2V) other than above [good quality]
- AA Alkaline (1.2V)

DO NOT use any battery which you observe irregularity including leakage, deformation, discoloration or damage on battery jacket etc.

DO NOT throw a battery in a fire or heat it. Never attempt to disassemble or short-circuit a battery.

DO NOT immerse battery in water or allow it to get wet.

DO NOT mix old and new batteries, recharged and discharged batteries or batteries of different capacities, types, brand or manufacturer.

DO NOT attempt to recharge non-rechargeable batteries.

Be sure to recharge rechargeable batteries with specified battery charger. Follow battery and battery charger instruction manual.

DO NOT load batteries with the +/- battery terminal reversed

Follow any other instructions indicated in the battery/battery charger user manual.

Dispose batteries in accordance with all applicable federal, state and local regulations.

If the battery should leak • • •

- Keep away from fire to avoid ignition/explosion.
- Should inner liquid contact skin or eyes, or get into mouth, immediately wash with a lot of fresh water and seek medical advice.

INON

INON LF2400h-EW

Thank you for purchasing INON product.

The INON LF2400h-EW is a watertight LED flashlight equipped with high-intensity power LED producing powerful 2400 lumen intensity/super wide 100° coverage underwater, and fine 12 power settings in its compact body operated by easily obtainable and versatile 6 x AA batteries.

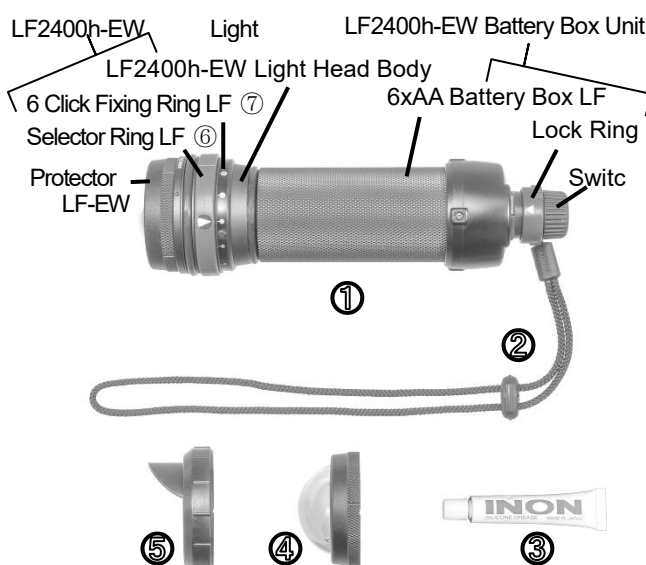
Before using, please read through this user manual and separate leaflets 「Safety precautions」/「Measures to Prevent Accidental Flooding」to ensure proper operation of the product. This product is not usable on land except functional check not exceeding 1 minutes operation time in total. Refer to「Handling precaution」section in this manual for detail.

Features

- Usable as serious lighting device for photography/videography with 100° ultra wide coverage underwater, color temperature 6,500K to reproduce natural color in addition to a diving light carrying 120m depth rating thanks to its durable corrosion-resistant aluminum alloy and double O-ring construction for moving parts.
- Color temperature is approx. 6500K making it easier to reproduce natural color when mixing with ambient light or strobe light comparing to warmer color temperature torch.
- Simple yet durable and user-friendly rotary switch assures you reliable ON/OFF operation with LOW/FULL mode and “Selector Ring LF” around the light head further provides fine 6 different power outputs each on LOW mode and FULL mode supporting total 12 different power settings.
- Operated by easily obtainable 6 x AA batteries. Compatible batteries including “eneloop” / “eneloop pro” etc. support approx. 35 minutes (FULL mode with maximum power setting) or approx. 3,185 minutes/53hrs 05min (LOW with minimal power setting) continuous operation (※) at minimal running cost.
※Average time to get half brightness comparing to initial performance when using “eneloop pro” batteries [Model code : BK-3HCD] underwater at 25°C/77°F.
- The LF2400h-EW comes with two bundled accessories. The 「Light Shade LF-EW」 has a rotatable shade to block unnecessary light shining a lens directly to suppress ghost/flare or suspended particles between the camera and subject to avoid backscatter. The other bundled “Dome Red Filter LF-EW” changes color with same 100 degree coverage not to stimulate marine lives.
- Wide varieties of optional accessories are available including “Light Holder” products to attach this product on your camera/video system.
- Light Head is interchangeable with other compatible model to provide flexible usages.
- Equipped with on-board “overheat protection” to avoid malfunction caused by overheating like when function check on land exceeds operational limitation etc.

Package contents :

- LF2400h-EW ① ×1
- LF2400h-EW Light Head ×1
 - LF2400h-EW Light Head Body
 - 6 Click Selector Ring LF Unit
 - Selector Ring LF ⑥
 - 6 Click Fixing Ring LF ⑦
 - Protector LF-EW
- LF2400h-EW Battery Box Unit ×1
 - 6xAA Battery Box LF
 - Switch
 - Lock Ring
 - 6xAA Battery Cartridge LF ×1 (preinstalled in the battery box)
- Hand Strap ② (preinstalled on ①) ×1
- INON Grease ③ ×1
- Dome Red Filter LF-EW ④ ×1
- Light Shade LF-EW ⑤ ×1
- This user manual ×1
- Safety Precautions ×1
- Measures to Prevent Accidental Flooding ×1
- Maintenance on Battery Terminals/Contacts ×1
- Maintenance of Selector Ring LF Unit ×1
- User manual of filter/Light Shade ×1



Preparation :

Prepare compatible batteries

Following 3 types are compatible with this product (*1). Prepare 『six』 batteries (same type/model) from same battery manufacture.

- 1) **Panasonic AA “eneloop” rechargeable battery (BK-3MCC) 【recommended】 , Panasonic AA “eneloop pro” rechargeable battery (BK-3HCC/BK-3HCD) 【recommended】 , And equivalent (“eneloop” type) “new generation” NiMH battery (*2)**
- 2) **AA “conventional” NiMH rechargeable battery other than above (1.2V) [good quality] (*3)**
- 3) **AA Alkaline battery (1.5V)**

*1 Other batteries are **not** usable such as AA Manganese battery, AA Oxyride battery or AA Lithium (1.5V) battery etc. Make sure to follow precautions of handling batteries described in separate 「Safety Precautions」.

*2 Including “new generation” NiMH batteries (“eneloop” type) carrying less self-discharging and heat generating characteristic comparing to “conventional” or “high-capacity” NiMH,

*3 Some “conventional” or “high-capacity” NiMH rechargeable batteries have significant self-discharge and heat-generating characteristic resulting difficulty to keep their performance during usage. We recommend using recommended batteries.

(continued)

Turn OFF, lock, remove LF2400h-EW Light Head

Turn OFF the LF2400h-EW by rotating the “switch” counterclockwise until it has been stopped. Pull up the Lock Ring (①) and rotate it counterclockwise(②) to match its ▽ mark with “LOCK” position on “6xAA Battery Box LF” (③). Then screw in the switch (④) until it has been stopped to lock the switch position at OFF.



Next, with holding the “6xAA Battery Box LF” (⑤) firmly, slowly turn the “LF2400h-EW Light Head Body” with holding the black O-ring (⑥) on the light head counterclockwise to separate whole of the Light Head from the battery box unit.

To keep waterproof property, make sure slowly turn the switch/LF2400h-EW Light Head to prevent O-ring from being damaged/twisted.



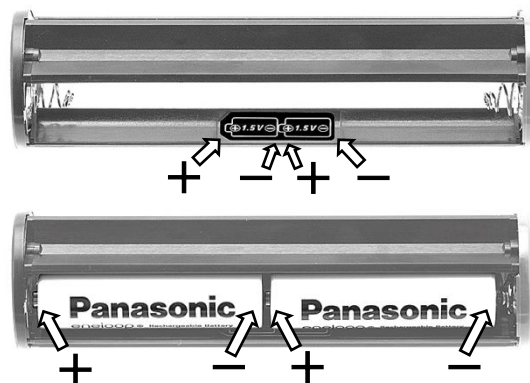
It is recommended **not to remove the “Protector LF-EW” from the “LF2400h-EW Light Head Body”** to protect the “LF2400h-EW Light Head Body” except for installing packaged filter etc. or conducting maintenance after use. Refer to respective user manual of filter/Light Shade or 「Maintenance」 section of this manual for detail of handling precautions when installing/removing “Protector LF-W”.

Load Batteries in 6xAA Battery Cartridge LF

Take out “6xAA Battery Cartridge LF” from “6xAA Battery Box LF”. Conduct maintenance of “6xAA Battery Cartridge LF” in reference to 「Terminals/Contacts Maintenance」 section of this user manual.

Then install batteries in the “6xAA Battery Cartridge LF” with correct orientation as shown on stickers inside of the “6xAA Battery Cartridge LF” [Negative terminals must touch spring contacts]

Also make sure to follow any handling precautions on battery mentioned in separate 「**Safety Precautions**」.



Once batteries are loaded in “6xAA Battery Cartridge LF”, put it immediately in “6xAA Battery Box LF” with the LF2400h-EW being OFF or in an insulated container such as ziplock.

NEVER leave or carry battery loaded “6xAA Battery Cartridge LF” as its battery contacts being exposed.

Doing so may have short circuit causing batteries to produce heat/explode/leak battery fluid resulting in fire/injury/property damage

Install 6xAA Battery Cartridge LF after Checking O-ring etc.

Check conditions of O-rings etc. and conduct leak test if necessary to ensure waterproof property in accordance with separate paper 「**Measures to Prevent Accidental Flooding**」.

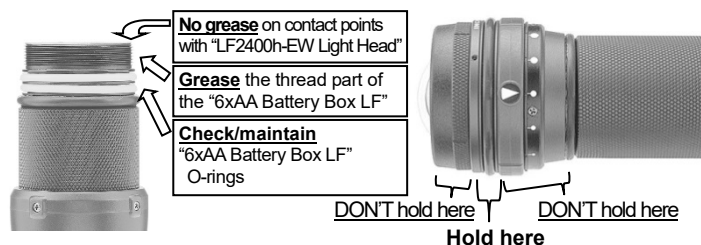
Next, conduct maintenance in reference to 「Terminals/Contacts Maintenance」 section of this user manual, then install the 6xAA Battery Cartridge LF with correct orientation as shown in image right and indicated on a sticker inside of the “6xAA Battery Box LF”.

[Positive terminal [Red] facing up]

**Attach the LF2400h-EW Light Head**

Apply thin film of INON grease on the thread part of the “6xAA Battery Box LF” to prevent 「salt build-up」 or 「electric corrosion」 causing anchoring between the “LF2400h-EW Light Head” and the “6xAA Battery Box LF”. **DO NOT** apply grease on electrical contacts to avoid bad connection.

Make sure the LF2400h-EW is OFF once again at this stage, then hold the black O-ring on the “LF2400h-EW Light Head Body” to slowly screw whole of the “LF2400h-EW Light Head” onto the “6xAA Battery Box LF” as shown in the right image until it has been stopped with holding the “6xAA Battery Box LF” firmly.



(continued)

Never hold the “Protector LF-EW” or “6 Click Selector Ring LF Unit” when screwing the LF2400h-EW Light Head to prevent damage on the “Protector LF-EW”, “6 Click Selector Ring LF Unit” or “LF2400h-EW Light Head Body”.

To keep waterproof property, make sure slowly turn the “switch”/“LF2400h-EW Light Head” to prevent O-ring from being damaged/twisted.

Attach accessory as necessary

Attach [Light Shade LF-EW] or [Dome Red Filter LF-EW] if necessary. Refer to respective user manual for detail. [Dome Red Filter LF-EW] is designed to use underwater only. **DO NOT** use it on land.

Operation

Unlock the switch *Reverse procedure of previous “Turn OFF, lock, remove LF2400h-EW Light Head” section
Rotate the switch counterclockwise until lightly stopped, turn the Lock Ring clockwise to match ▽ mark with △ mark on the “6xAA Battery Box LF”, then hold it down to unlock the switch.

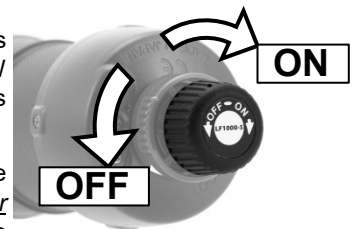
Always lock the switch at OFF position except for activating the light.

NEVER leave or carry the product with being the switch unlocked.

Doing so may cause unexpected operation of the product resulting in fire/injury/property damage.

ON/OFF, Selecting Power

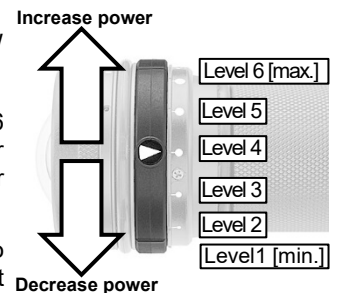
To turn **OFF** the LF2400h-EW, slowly turn the switch counterclockwise until it has been lightly stopped. To turn **ON** slowly turn the switch clockwise to get first **LOW** mode and rotate further until it has been lightly stopped for **FULL** mode. (LOW is FULL -1.5EV)



Make sure to turn all the way to the either end to turn ON(FULL)/OFF the LF2400h-EW. When using LOW mode, make sure to turn 1/4 rotation further after activating the light. Any position except OFF/LOW/FULL may possibly cause unstable operation like unexpected ON/OFF or flicking of the LF2400h-EW.

To keep waterproof property, make sure slowly turn the “switch”/“LF2400h-EW Light Head” to prevent O-ring from being damaged/twisted.

By turning the “Selector Ring LF”(red ring on the light head) further provides 6 different power adjustments at approx. 1.0 EV(FULL) or approx. 0.9 EV (LOW) for each click. Size of a dot matching with the white triangle mark on the “Selector Ring LF” stands for output volume; larger dot setting has brighter output.



This product is equipped with “overheat protection” feature to dim light output to minimum automatically on either mode once the inside temperature of the light head exceeds operational limitation, then come back to the originally selected power output when the temperature gets back lower than the limitation. This feature won't be activated under usage within operable circumstance (underwater) and temperature range (0°C~30°C/32°F~86°F).

Should you experience activation of the “overheat protection”, please stop using the product immediately and check if usage circumstance and temperature is within operational limitation. Never exceed functional check 1 minutes operation time in total on land. Please refer 「**Handling precautions**」 section in this manual for detail.

When turning the “Selector Ring LF”, make sure to lightly hold the ring only with two fingers to adjust the power setting within 6 different positions

DO NOT

- Hold “Selector Ring LF” too tight
- Hold other than the “Selector Ring LF”
- Turn the “Selector Ring LF” only with fingertips
- Try to turn the “Selector Ring LF” over its operable limit

As these actions could cause accidental flooding or damage on “Protector LF-EW”, “6 Click Selector Ring LF-EW”, “LF2400h-EW Light Head”.



Change/Remove Batteries

The LF2400h-EW must be dry to change/remove batteries in accordance with previous 「Preparation」 section. If even a small amount of water contacts inside “LF2400h-EW Light Head” or contacts/terminals for short period of time, there will be corrosion of contact points or cause short circuit, and the LF2400h-EW may become inoperable. **Changing/removing batteries is not recommended if the LF2400h-EW is not completely dry. However if you have to change/remove battery before drying the LF2400h-EW, follow procedure below:**

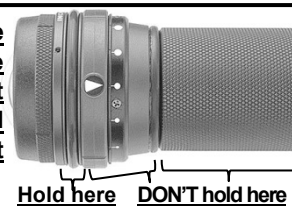
- 1) Thoroughly wash the LF2400h-EW in fresh water and wipe off water drops with an air blower etc. in reference to “Maintenance” section.
- 2) Hold the LF2400h-EW with facing up so that no water droplets can enter inside the “LF2400h-EW Light Head” or drip on contacts/terminals.
- 3) Slowly unscrew the “LF2400h-EW Light Head” with facing it up to prevent water from getting in to take out batteries.

Maintenance

Rinse and Dry Completely

After dive soak the LF2400h-EW in fresh water for several hours (water temperature should be 0°C~+30°C/32°F~86°F) **without any protector/accessory** to remove salt etc. Slowly turn the "switch"/"Selector Ring LF" to remove trapped salt etc. but **DO NOT** turn the "LF2400h-EW Light Head" underwater. Then **wipe off water droplets by an air blower etc.** and dry the product completely in shaded and well ventilated area (it may take several days completely dry).

When removing the Protector LF-EW/Filter/Light Shade, **make sure to hold the black O-ring on the "LF2400h-EW Light Head Body" instead holding the "6xAA Battery Box LF" or "6 Click Selector Ring LF Unit" to prevent "LF2400h-EW Light Head Body" from loosening resulting in accidental flooding or damage on "6 Click Selector Ring LF Unit"/"LF2400h-EW Light Head"**.



Remove Batteries and Check/Clean/Grease Thread Part/O-rings etc.

Make sure that the LF2400h-EW is completely dry, and "Protector LF-W" is attached. Remove batteries in reverse procedure to loading batteries explained in [Preparation] section. Check/clean/grease O-rings, O-ring grooves, O-ring contact surfaces and thread parts of the "LF2400h-EW Light Head"/"6xAA Battery Box LF" in reference to separate leaflet **"Measures to Prevent Accidental Flooding"**.

DO NOT screw protector/filter/Light Shade too tight.

Doing so could cause jamming leading to accidental flooding as the "LF2400h-EW Light Head Body" could be loosen when removing accessory and/or damage on protector/filter/Light Shade or "6 Click Selector Ring LF Unit", "LF2400h-EW Light Head Body".

If the "Selector Ring LF" is too tight or too loose, please consult your purchasing dealer for maintenance or conduct self-maintenance (cleaning/greasing) of the "Selector Ring LF" in referring to separate "Maintenance of Selector Ring LF Unit". The "6 Click Fixing Ring LF" may need to be replaced if the part has been worn.

Storage

Make sure to remove all batteries, then store in shaded and well-ventilated area within temperature range of [0°C~30°C/32°F~86°F].

Avoid storing near chemicals, high ozone, large temperature and humidity fluctuations (even in the temperature range described above) and magnetic fields (TV sets etc.) to prevent the product from possible malfunction and flooding.

Handling precautions:

- **DO NOT** disassemble the "LF2400h-EW Light Head Body" to avoid malfunction/flooding.
- Protect from impact shock and vibration, such as vibrating boat deck to avoid accidental damage not only on this product but also on batteries.
- Prevent sands or foreign substances from entering between the "6xAA Battery Box LF", "switch", "Selector Ring LF" and "6 Click Fixing Ring LF" to avoid malfunction/flooding etc.
- **DO NOT** leave the product to extreme heat, such as inside of a sun-heated car or in front of a heater, or in hot direct sunlight, such as a beach or boat deck to avoid malfunction/flooding etc.
- Always hold the "6xAA Battery Box LF" instead holding the Protector/Filter/Light Shade or "LF2400h-EW Light Head Body" only to prevent accidental separation of the Protector/Filter/Light Shade leading to drop of this product or loosening of the "LF2400h-EW Light Head Body" leading to flooding.
- **This product is not usable on land except function check for short period of time(※).** When conducting the function check on land, be sure to use heat-safe gloves etc.

Though this product is equipped with an on-board "overheat protection" to dim automatically when inner temperature of the light head exceeds operational limitation, depending on circumstances/air temperature, the "LF2400h-EW Light Head" surface and "6xAA Battery Box LF" surface could have heat more than 50°C/122°F causing personal injury like burn/low temperature burn or damage on the product.

※The function check on land can be conducted only when outer surface of the LF2400h-EW is below air temperature and **test time should be limited within 1 minutes**. If you need to do consecutive function check, make sure to cool down the unit until its surface gets below air temperature. Working/storage temperature of this product is 0~30°C/32~86°F.

- Follow any other handling instructions/precautions explained in separate paper **/Safety precautions/**.
- When turns OFF this product, **always lock the switch at OFF position**. **Unload all batteries** when not in use including during transportation to avoid accidental malfunction/fire/personal injury resulting from unexpected activation of this product by vibration etc.

Battery

- As batteries have been used, battery voltage gradually decreases making the LF2400h-EW intensity gets dark little by little. The rated continuous operable time is the duration to get half brightness comparing to initial performance.
- In general, battery performance will decrease as temperature lowers, voltage will recover when not in use and batteries will slowly discharge over time when not used. And, usable time can greatly vary depending on water temperature and how the batteries are used etc. **We recommend replacing with sufficiently charged batteries even before they have been fully drained or carrying spare LF2400h-EW to avoid battery run out in the middle of a dive especially for night dive.**
- Some NiMH batteries have high self-discharge rates and will begin to decrease their performance (intensity/continuous operable time etc.) immediately after charging. So we recommend using those NiMH batteries within one day after charging.
- Also battery performance will decrease gradually with repeated charging and discharging, even within the possible number of charge-discharge cycles stated on the product package. When you observe less intensity/continuous operable time even with fully-charged (or refreshed) batteries, we recommend to change all batteries.
- Together with these guidelines, be sure to read and understand **"Safety Precautions"** and any instructions that come with your batteries(rechargeable batteries/battery charger) and comply with any battery manufacturer requirements to ensure proper operation.

Options

- Single Light Holder LF
Optional product to attach single INON LF series LED flashlight including this product on “「YS Adapter」compatible arm”. Especially for handy and compact camera system set-up with INON 「Shoe Base II」 or「Grip Base D4」.
- Strobe Light Holder LF
Optional product to attach one or two INON LF series LED flashlight on compatible lighting arm together with INON 「S-2000」, 「D-200」or「Z-330」etc.
This product is attached on “「YS Adapter」compatible arm” including 「Shoe Base II」/「Grip Base D4」etc. through 「Z Joint」. Combination with the 「Z Adapter II」/「Z Adapter」 enables to attach on INON “Arm II System” or “Float Arm System” with 「Clamp III」.
- Single Light Holder LF for Tripod
Optional product to attach one INON LF series LED flashlight on a tripod with 1/4-20UNC standard tripod screw hole. Usable for off camera lighting applications like backlighting or fish-lamp etc.
- Z Joint
Optional product to attach 「Strobe Light Holder LF」 on “「YS Adapter」compatible arm”.
- Z Adapter II
Optional product to attach「Strobe Light Holder LF」 on INON “Arm II System” or “Float Arm System” with 「Clamp III」.
The ball-joint is made from metal to firmly fix strobe position by lightly clamp the 「Clamp III」.
- Spare O-ring Set (LF)
Set of two yellow oil-bearing O-rings.
Refer to「Measures to Prevent Accidental Flooding」for detail.
- INON Grease
③ in the product image.
- Dome Red Filter LF-EW
Light Shade LF-EW
④,⑤ in the product image. Refer to respective user manual for detail.
- Selector Ring LF
- 6 Click Fixing Ring LF(incl. fixing screws)
⑥, ⑦(including 4x fixing screws) in the product image. Please refer to separate manual 「**Maintenance of Selector Ring LF Unit**」.
- LF2400h-EW Light Head
- LF3100-EW Light Head
Optional Light Head which produces same underwater coverage 100 degree as this product with 12 fine power adjustment at maximum 3100lm/5000K. This Light Head is interchangeable with the original 「LF2400h-EW Light Head」 for other application.
- LF1400-S Light Head
Optional Light Head which produces 1400 lm/5000K with 30 degree coverage. This Light Head is interchangeable with the original 「LF2400h-EW Light Head」 for other application.
- 6xAA Battery Cartridge LF



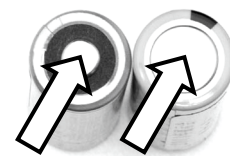
Terminals/Contacts: Maintenance

With the increased capacity, improved performance, and longer lifespan of different types of rechargeable batteries, it is possible for the performance of the LF2400h-EW to become unstable (the LF2400h-EW doesn't turn ON or flickers) due to bad contacts, caused by dirt or oxidation of the terminal surface of the rechargeable battery itself in addition to ["LF2400h-EW Light Head" terminal/contact] / ["6xAA Battery Cartridge LF" terminal/contact] / ["6xAA Battery Box LF" terminal/contact]. For rechargeable battery terminals, it is difficult to distinguish through visual inspection of the terminal surface. As some rechargeable batteries can cause the above problems immediately after purchase because the terminal surface has already been oxidized, it is recommended to inspect and conduct maintenance periodically on the rechargeable battery terminals and LF2400h-EW terminals/contacts, by following the procedures described below.

● Battery Terminals

Conduct following maintenance within limitations/precautions described in battery instructions etc. if maintenance is necessary considering terminal conditions/performance of this product.

- 1) Wipe each terminal surface with a dry soft cloth/clean cotton swab (or similar) to remove any oil or similar residue.
- 2) If above step does not fully clean the terminal, dap a small amount of 『silver polish』 on a cotton swab (or similar) and wipe terminal surface until fully clean. Then clean off any 『silver polish』 residue with a clean swab.



● "6xAA Battery Cartridge LF" Positive(+) Terminal

● "6xAA Battery Cartridge LF" Contacts

● "LF2400h-EW Light Head" Terminal/Contacts

● "6xAA Battery Box LF" Contacts

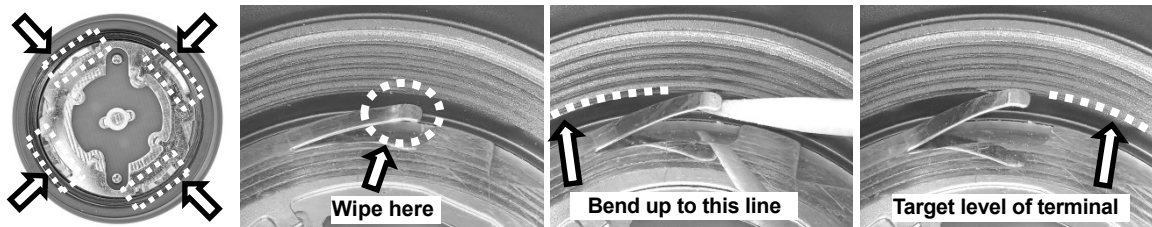
Clean up surface of contacts/terminals with clean cotton swab to wipe off any dirt/residual oil considering contacts/terminals condition/performance of this product.

"6xAA Battery Box LF" contact has gold coating so maintenance should not be necessary under normal circumstances. If you observe foreign substances or water droplet etc. clean the contact with clean cotton swab as in the right image



If above step fails to recover expected performance, conduct following maintenance on terminals (4 points) of the "LF2400h-EW Light Head".

- Dap a small amount of 『silver polish』 on a cotton swab (or similar) and wipe terminal surfaces until fully clean. Then clean off any 『silver polish』 residue with a clean swab.
- Slowly bend up all terminals by a bamboo stick etc. as shown in below images.



● "Switch" Contact (Not mandatory)

Maintenance of the switch contact may be necessary only for high frequent users when significant blinking is observed during switch operation. In this case contact your purchasing dealer for servicing.

INON Waterproof LED Light LF2400h-EW Specifications (*1)

| | |
|---|---|
| LED | High-intensity Power LED (Cree XM-L2™T4™) |
| Max. Luminous flux (*2)(*3) | approx. 2,400-75 lumen [FULL mode, 6 steps power setting (approx. 1.0EV per step) Max. value with "eneloop pro" battery] approx. 950-45 lumen [LOW mode: 6 steps power setting (approx. 0.9EV per step) Max. value with "eneloop pro" battery] |
| Coverage (Underwater) | approx. 100° [without a filter and with packaged Dome Red Filter LF-EW] |
| Color Temp. (*3) | approx. 6,500K |
| Operable Duration 【Underwater】 (*4)(*5) | approx. 35 minutes ~ 1,310 minutes (21hrs 50mins) ["eneloop" battery at FULL, Level 6(Max.) ~ Level 1(Min.)] |
| | approx. 110 minutes ~ 2,340 minutes (39hrs 00mins) ["eneloop" battery at LOW, Level 6(Max.) ~ Level 1(Min.)] |
| | approx. 45 minutes ~ 1,715 minutes (28hrs 35mins) ["eneloop pro" battery at FULL, Level 6(Max.) ~ Level 1(Min.)] |
| | approx. 140 minutes ~ 3,185 minutes (53hrs 05mins) ["eneloop pro" battery at LOW, Level 6(Max.) ~ Level 1(Min.)] |
| | approx. 25 minutes ~ 915 minutes (15hrs 15mins) ["Alkaline" battery at FULL, Level 6(Max.) ~ Level 1(Min.)] |
| | approx. 60 minutes ~ 1,940 minutes (32hrs 20mins) ["Alkaline" battery at LOW, Level 6(Max.) ~ Level 1(Min.)] |

| | |
|-----------------------------|---|
| Compatible Battery | AA "eneloop" / "eneloop pro" battery x 6 (*6) |
| | AA NiMH [good quality] x 6 (*7) |
| | AA Alkaline battery x 6 |
| Depth rating | 120m / 394'(*8) |
| Size | Max. diameter 52.1mm/2.1" x 179.0mm/7.0" |
| Weight (*9) | Air: 390.7g/13.8oz, Underwater: approx. 172g/6.1oz |
| Working/Storage Temperature | 0°C ~ 30°C / 32°F ~ 86°F |
| Working circumstances | Underwater only |
| LED life time | approx. 10,000 hours |
| Material/Finishing | Corrosion resistant aluminum alloy/rigid almite, ABS, PC, PMMA etc. |
| Standard accessory | Light Shade LF-EW, Dome Red Filter LF-EW, Hand Strap, INON Grease |
| EMC standards | EN 55015:2013, EN 61547:2009, |
| | CRF 47 FCC Part 15 Subpart A and B, ICES-003:2016(Issue 6, Amendment 1) |

*1) Subject to change without prior notice

*2) Nominal value calculated from LED manufacture specification sheet.

*3) Due to individual variability of LED, drive circuit or battery etc., luminous flux, color temperature or intensity may vary within rated specification.

*4) Average time to get half brightness when continuously turn ON the product with below listed batteries underwater (approx. 25°C/77°F).

- "eneloop" battery : Panasonic "eneloop", BK-3MCC, 1.2V, Min. 1,900mAh
- "eneloop pro" battery : Panasonic "eneloop pro", BK-3HCD, 1.2V, Min. 2,500mAh
- Alkaline battery : Panasonic "EVOLTA NEO" LR6NJ, 1.5V

*5) Actual measured data by INON. The value may vary depending on product individual variability, battery manufacture/model, test condition.

*6) "New generation" NiMH batteries carrying less self-discharging and heat generating characteristic comparing to "conventional" or "high-capacity" NiMH including right listed batteries in right confirmed compatible by INON INC. as same as recommended ["Panasonic "eneloop"/"eneloop pro" battery (BK-3MCC, BK-3HCC, BK-3HCD)"] .

- Panasonic Corporation Model name: eneloop [recommended] / Model code: BK-3MCC
 - Panasonic Corporation Model name: eneloop pro [recommended] / Model code: BK-3HCC, BK-3HCD
 - SANYO Electric Co., Ltd. Model name: eneloop [recommended] / Model code: HR-3UTG/HR-3UTGA/HR-3UTGB
 - SANYO Electric Co., Ltd. Model name: eneloop pro [recommended] / Model code: HR-3UMX
 - Sony Corp. Model name: Cycle Energy Blue/Model cod : NH-AA-2BKA, NH-AA-4BKA
 - Panasonic Corporation Model name: Rechargeable Ni-MH (AA)/Model code : HHR-3MPS
 - Maha Energy Corporation Model name: IMEDION/Model code : MHR4A4
 - GP Batteries International Ltd/Model name: ReCyko+/Model code : 210AAHCB
 - ANSMANN AG Model name: maxE/Model code : 5030991, 5030992, 5035052
 - Electrochem Automation Inc. Model name: NEXcell energy/ON/Model code : n/a (AA2000mAh)
- *7) Some "conventional" or "high-capacity" NiMH rechargeable batteries have significant self-discharge and heat-generating characteristic resulting difficulty to keep their performance during usage. We recommend using recommended batteries.
- *8) Without operating the "Switch". INON has confirmed depth rating 70m/230' including switch operation.
- *9) Including 6 x AA "eneloop" batteries.



Waterproof LED flashlight
MODEL : LF2400h-EW
BATTERY : 1.5V x 6
INON Inc. MADE IN JAPAN

FCC Notice

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Information to user

The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ICES-003 Notice

This Class B digital apparatus complies with Canadian ICES-003.

Avis NMB-003

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Bundled accessory Light Shade LF-EW is developed based on Mr. Masakazu Akagi's idea.

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Measures to Prevent Accidental Flooding

Thank you for purchasing INON product.

The INON LF series LED flashlight is waterproof by rubber O-rings enabling underwater use. These O-rings must be inspected each time before using LED flashlight to ensure waterproof integrity. Equally important are O-ring contact surfaces. Always check/maintain O-ring contact surfaces for contaminants or scratches.

O-ring Inspection Locations

User serviceable O-rings/O-ring contact surfaces are O-rings on a "Battery Box" (Light Head side) and O-ring contact surfaces on a "Light Head" indicated in image right. Be sure to check condition of each O-ring including dust/foreign substances and condition of O-ring in accordance with next section.

Factory overhaul of an O-ring for switch part may be necessary depending on frequency of use/condition of product like when you feel too tight to turn the switch or foreign substances have been trapped between the "Switch" and the "Battery Box". Refer to 「Maintenance of O-ring」 section for detail.



O-ring Inspection Method

These are the essential factors ensuring waterproof property:

- O-ring itself
- O-ring contact surface
- O-ring groove
- If O-ring is properly seated in groove
- Grease

If any of the following are evident, there is a high chance that the product will flood if placed in water. Be very careful about checking these points when you exercise following inspection.

If hair, sand, lint or other debris is attached to the O-ring

Remove O-ring and wipe-off the debris in reference to next section 「Installing/Removing O-ring」.

If the O-ring is cut or cracked

The O-ring must be replaced with a new O-ring. See 「Installing/Removing O-ring」 for replacement.

If the O-ring is twisted

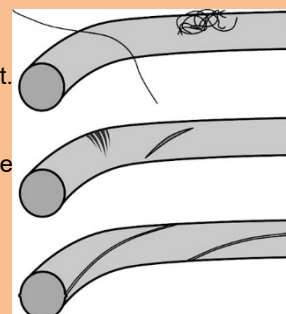
The O-ring must be removed and reinstalled uniformly with no twists or other irregularities. See next section 「Installing/Removing O-ring」 for reinstallation.

If there is hair, sand, lint or other debris on the O-ring contact surfaces

Wipe off any debris.

If there is a scratch, blemish on the O-ring contact surfaces

The product must be inspected at manufacture, and repaired if possible. Contact your purchasing dealer for advice.



O-ring Maintenance Method

INON yellow O-rings are compounded with a special type of oil which naturally migrates to the O-ring surface, but which is not compatible with all grease types while benefit you with less frequent maintenance. **DO NOT use any other grease or other oil/fat containing material, which may cause the O-rings to swell or deform, causing poor seal and water leakage.** Use 「INON Grease」 only. Use of non-INON grease will void warranty.

“Battery Box” O-ring (Light Head side) / “Light Head” O-ring Contact Surface

First, clean O-ring contact surface of the “Light Head” with a cotton swab (or similar) to wipe off old grease and residue then **periodically apply thin film of supplied INON grease** both on “Battery Box” O-rings (Light Head side)/“Light Head” O-ring contact surface ensuring waterproof integrity with oil film to prevent damage/twist caused by friction during removing/installing the “Light Head”. Also put a little amount of grease between two yellow O-rings.

Never put grease on any terminals/contacts of “batteries”, “Light Head”, “Battery Box”.

Always slowly turn the “Light Head” whenever remove/attach it to prevent excessive load on O-rings.

If O-rings are heavily stained or debris are attached, conduct necessary maintenance in accordance with next section 「Installing/Removing O-ring」.

“Battery Box” O-ring Contact Surface (switch side) / “Switch” O-ring (Non user-serviceable)

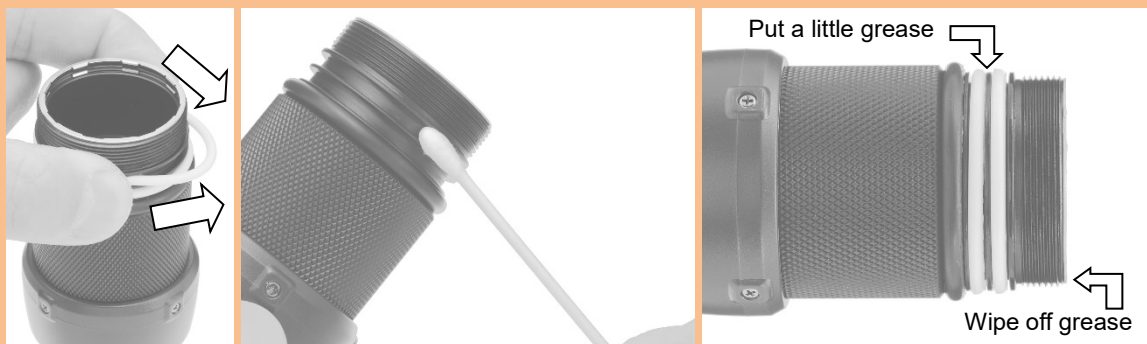
Maintenance is not necessary under normal condition and frequency of usage. However if you observe problem to turn the “Switch” due to heavy usage/salt build-up or any foreign substances have been trapped between the “Switch” and the “Battery Box”, “Switch” O-ring maintenance is necessary. Contact your purchasing dealer for overhaul

Installing and Removing O-ring

Your LF series LED flashlight has been pressure tested, inspected and passed before shipping. It is now your responsibility to prevent any water leakage by properly maintaining O-rings. It may be necessary to remove O-ring(s), for cleaning or replacement. *Accordingly, please follow the next steps carefully.*

To remove each O-ring, lightly squeeze from the sides so it bulges out from one side, grasp and pull off, as in figure below. Clean any residual grease or debris from O-ring, O-ring grooves and contact surfaces, and check their condition. If you need to replace O-ring, optional O-ring set is available to purchase. Refer to LF series user manual for detail of options and prepare optional /Spare O-ring Set (LF)/.

Using your fingertips, apply a thin uniform film of INON grease on the O-ring. Gently install the O-ring in the O-ring groove, not stretching it too much, and making sure it is seated uniformly and not twisted nor damaged by the thread part of the "Battery Box". If you see any twists, take off and re-install. Then put a little amount of INON grease between two O-rings and wipe off any grease on the "Battery Box" contact



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Fax. +81(0) 467-48-2178
As of April 2014

Maintenance on Terminals/Contacts

If you observe any unstable operation (the flashlight doesn't turn ON or flickers), check and make sure that;

- ① If all batteries have been properly loaded (orientation of batteries)
- ② If the battery cartridge has been loaded properly (orientation of the battery cartridge)
- ③ If batteries are fully charged and are not degraded
- ④ If battery terminals, terminals/contacts of this product are not corroded or do not have dirt.

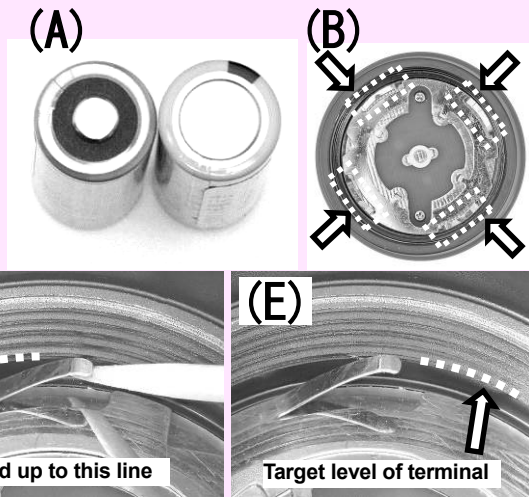
If you observe significant corrosion/dirt on terminals/contacts, conduct following maintenance.

- Dap a small amount of 『silver polish』 on a cotton swab (or similar) and wipe terminal surfaces (battery → positive/negative terminals (A), Light Head terminals → four terminals (B)) until fully clean. Then clean off any 『silver polish』 residue with a clean swab (C).
- Slowly bend up all Light Head terminals by a bamboo stick etc. as shown in below images(D)(E).

Refer to the instruction manual of this product for detail

- ① → 「Preparation---Load Batteries in Battery Cartridge LF」 (Page 2)
- ② → 「Preparation
--- Install Battery Cartridge LF after Checking O-ring etc.」(Page 2)
- ③ → 「Battery」(Page 4)
- ④ → 「Terminals/Contacts maintenance」 (Page 5)

If above does not improve situation, please consult with your purchasing dealer for servicing.



Maintenance on Terminals/Contacts

If you observe any unstable operation (the flashlight doesn't turn ON or flickers), check and make sure that;

- ⑤ If all batteries have been properly loaded (orientation of batteries)
- ⑥ If the battery cartridge has been loaded properly (orientation of the battery cartridge)
- ⑦ If batteries are fully charged and are not degraded
- ⑧ If battery terminals, terminals/contacts of this product are not corroded or do not have dirt.

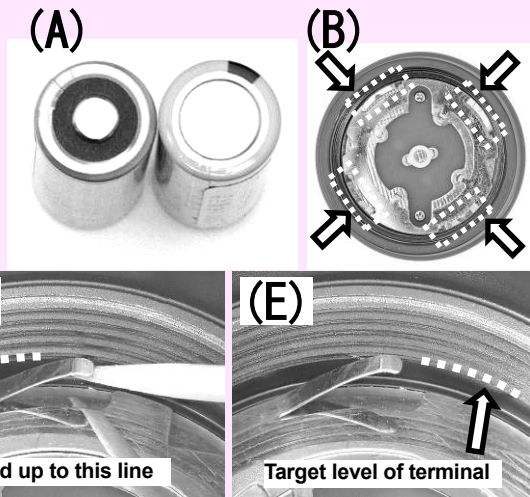
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--- Install Battery Cartridge LF after Checking O-ring etc.」(Page 2)
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- ④ → 「Terminals/Contacts maintenance」 (Page 5)

If above does not improve situation, please consult with your purchasing dealer for servicing.



Maintenance of Selector Ring LF Unit

It is required to conduct maintenance of the “Selector Ring LF” following below procedures if the ring becomes too tight/loose.

- Step①

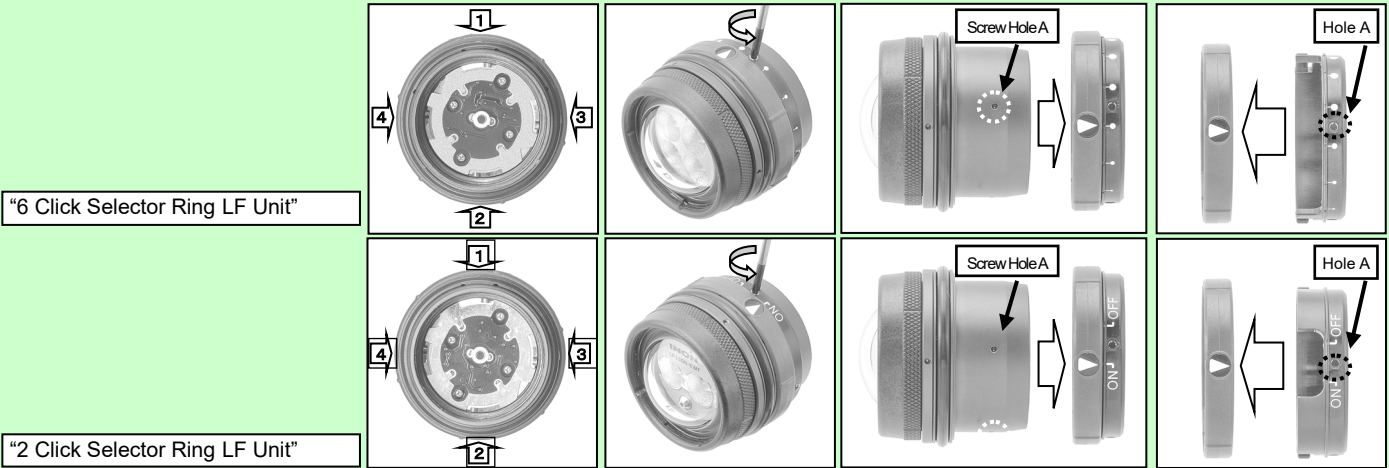
Remove “Selector Ring LF Unit” to separate “Selector Ring LF” and “Fixing Ring LF”.
- Step②

Clean, grease the “Selector Ring LF” and “Fixing Ring LF”. Replace the “Fixing Ring LF” as necessary.
- Step③

Reassemble “Selector Ring LF” and “Fixing Ring LF” then attach on the “Light Head Body”.
- Please DO NOT conduct this maintenance unless you have fully confidence on this maintenance properly as per instructed in this manual. Otherwise, please contact your purchasing dealer. **INON INC. assumes NO WARRANTY/LIABILITY for any damage caused by this maintenance.**

- Step①

Unscrew 4 x fixing screws on the “Selector Ring LF Unit” little by little following order shown in the below top-left image to remove the ring. Then separate “Selector Ring LF” and “Fixing Ring LF”.
- Check a hole (Hole A) located between two stickers on the “Fixing Ring LF” and the screw hole (Screw Hole A) which accepts a screw from the 「Hole A」.

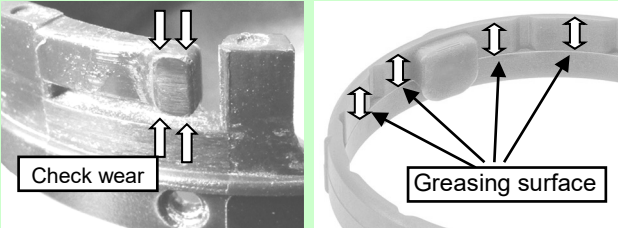


- Step ②

Clean to remove old grease, sands/iron sands from the “Selector Ring LF” and “Fixing Ring LF”. Then check the protruded part on the “Fixing Ring LF” if it gets worn.

It may require replacing the “Fixing Ring LF” if the protruded part gets worn as per right image and the “Selector Ring LF” is loose when turning.

| Type of “Selector Ring LF Unit” | Necessary part |
|---------------------------------|--|
| 6 Click Selector Ring LF Unit | 6 Click Fixing Ring (incl. fixing screw) |
| 2 Click Selector Ring LF Unit | 2 Click Fixing Ring (incl. fixing screw) |



Apply small amount of packaged grease (about size of a piece of rice) on the upper half of the “Selector Ring LF” inner surface shown on above right image all around evenly and uniformly.

- Step ③

Take reverse procedure of Step ① to assemble the “Selector Ring LF” and “Fixing Ring LF” then screw them on the “Light Head Body”.
- Reassemble the “Selector Ring LF” and “Fixing Ring LF” so that the triangle arrow on the “Selector Ring LF” points 「Hole A」 on the “Fixing Ring LF”.
- Align “Selector Ring LF Unit” 「Hole A」 and “Light Head Body” 「Screw Hole A」 then fasten them.
(The 「Screw Hole A」 is located close to small 「△ mark」 on the light emitting surface of the “Light Head Body”.)
(Make sure to get the screw in the 「Screw Hole A」 or the product won't work properly.)
- Tighten four screws evenly little by little taking reverse procedure. Stop tightening when you feel first stop. DO NOT tighten too tight to prevent deformation of the “Fixing Ring LF” causing tough operation when you turn the “Selector Ring LF”.
- “6 Click Selector Ring LF Unit”
- “2 Click Selector Ring LF Unit”

INON

INON Dome Red Filter LF-EW

INON Light Shade LF-EW

Thank you for purchasing INON product.

INON Dome Red Filter LF-EW/Light Shade LF-EW provides additional features below for compatible INON LED flashlight.

- Features** :
- **Dome Red Filter LF-EW ①**
 - 1) Suppress influence of light on shy subjects.
 - 2) Prevents LED light influence during S-TTL auto exposure in ultra macro shooting (shooting distance is 5cm/2" or less and distance between a strobe and subject is 10cm/4" or less) to support precise and accurate S-TTL auto exposure control. Refer to user manual of strobe for detail of S-TTL auto.
 - ※ 『Light Filter Sticker・Red』 supplied with S-TTL compatible strobe provides same benefit above.

The 「Dome Red Filter LF-EW」 is underwater use ONLY. Not usable on land.

- **Light Shade LF-EW ②**
 - 3) Rotatable partial shade to cut a part of LED light. By locating the shade part between light head and camera lens/attachment lens, it suppresses flare/ghost.

- Compatible product:**
- 「LF3100-EW」 (*1)
 - 「LF1300-EWf」 (*1)
 - 「LF2400h-EW」 (*1)
 - 「LF1100h-EWf」 (*1)

*1) 「Dome Red Filter LF-EW」/「Light Shade LF-EW」 are packaged.



- How to Attach** :
- Remove the "Protector LF-EW" from the compatible "Light Head Body" then screw this product straight on the "Light Head Body". Make sure not to screw too tight.



If the "Protector LF-EW" or this product has been screwed too tight, they can be jammed and "Protector LF-EW", this product or "Light Head body" could be damaged when trying to remove them from the Light Head.

When removing the "Protector LF-EW" or this product, make sure to hold the black O-ring on the "Light Head Body" instead holding the "3xAA Battery Box LF" or "Selector Ring LF Unit". Doing so may cause loose "Light Head Body" resulting in accidental flooding and/or damage on the "Selector Ring LF Unit" or "Light Head".



- Usage (Light Shade):**
- After installing the LED flashlight on your camera system, with holding it as shown in the right image, turn the shade to locate it between the light head and camera lens/attachment lens to block unnecessary light shining camera lens/attachment lens.



Bundled accessory Light Shade LF-EW is developed based on Mr. Masakazu Akagi's idea.

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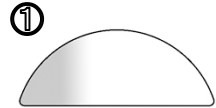
INON

Reflective Sticker LF-EW

Thank you for purchasing INON product.

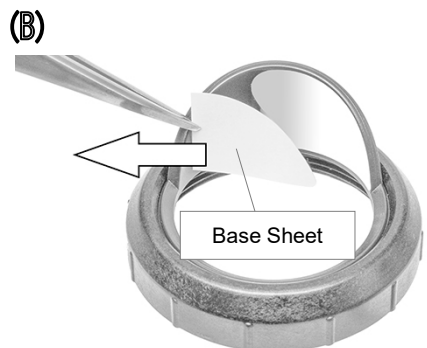
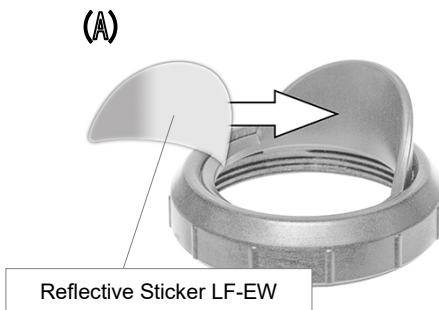
The *Reflective Sticker LF-EW* is a sticker with mirror surface designed to control coverage of LF series LED light by sticking it on a *Light Shade LF-EW* which is bundled with the *LF2400h-EW/LF1100h-EWf/LF3100-EW/LF1300-EWf* light.

- Package contents** .
- Reflective Sticker LF-EW ① ×1
 - This user manual ×1



- Compatible** : . LF2400h-EW, LF1100h-EWf
LED ILght . LF3100-EW, LF1300-EWf
 (as of January, 2020)

- Installation** :
- Put the *Reflective Sticker LF-EW* on the inner surface of a *Light Shade LF-EW* so that it covers inner surface of the light shade before removing its base sheet as per image (A) below.
 - Peel off a half of the base as per image (B) and stick with holding other half not to move. It would be good idea to stick from center towards to the edge not to allow air trapped.
 - Remove the other base sheet and then stick on the remaining part.



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