The only limitation is your imagination ...

Hugyfot User Manual
HFC-7DMkII

MADE IN BELGIUM

Hugyfot User Manual

History

In 1953, René Hugenschmidt is introduced to the diving sport in the Italian city of Nervi and realises that from that moment on his life will be dedicated to underwater photography.

The young construction engineer transforms his workshop at the Zürichzee into a Hugyfot assembly plant. At first the production is limited to housings for Agfa, Edixa, Exakta, Kodak, Leitz, Voigtländer and Zeiss cameras.

At the same time, the Cousteau-Gagnan regulator makes it's entry and in Paris the world's first diving related magazine is released. Hans Hass gets well-known with his movies 'Abenteuer im Roten Meer' and 'Unternehmen Xarifa' and arouses a general interest in the world below sea level. The diving industry is starting to get organised ...

Philosophy

From the early start in 1953, the Hugyfot philosophy consisted of developing housings that were not only functional and of high quality, but that also distinguished themselves from other brands by their well-considered and stubborn design.

picture: Luc Eeckhaut
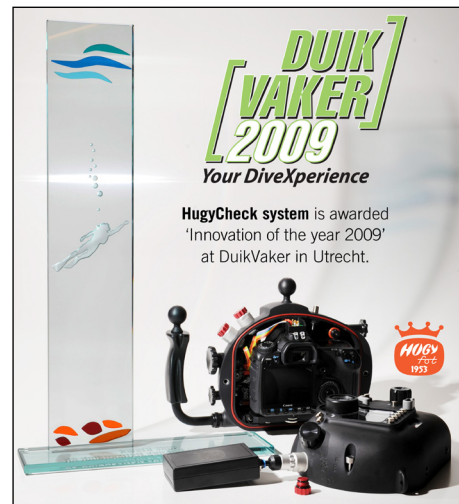
The HugyCheck system is awarded 'Innovation of the year 2009' at Duikvaker in Utrecht.

The HugyCheck system allows the diver to check prior to the dive whether the housing has been closed properly and whether the O-rings are intact. Hugyfot was the first company to introduce a vauum check system for underwater housings.

1953 ...

1. Introduction

Thank you for purchasing Hugyfot products.

When taking off to remote areas in order to shoot exceptional images, one should leave nothing to chance since there might never be a second chance. When shooting pictures under water, reliable equipment is even more important. An underwater camera housing should not only protect your expensive camera equipment from the surrounding water, it should also allow you to control your camera as easily as if it weren't there. Underwater photography in extreme situations requires a compact, yet ergonomically designed housing that allows you to shoot pictures without having to trouble your mind with how to set the camera controls. Hugyfot is renowned for its compact and ergonomically designed housings, machined from solid aluminum. Since, by definition, travel often involves keeping luggage to a minimum, these housings have proven to be the best choice particularly when reliability, handiness and weight become of significance.

Your Hugyfot housing has been designed and developed by using the latest CAD/CAM techniques. It has been milled out of a solid block of seawater resistant aluminum and has been treated with a Teflon coating after it has been anodised. All controls have been fitted by hand and your housing has been tested to ensure swift and flawless operation.

This user manual will guide you through the steps necessary to install your camera into your Hugyfot housing and to ensure it functions correctly throughout the dive. Please read this manual carefully and always take your time to carry out (and to practice) these steps.

Your Hugyfot housing has been milled out of a solid block of seawater resistant aluminum.

2. Safety precautions

To prevent personal injury and/or damage to the equipment, carefully read this manual as well as the manual of your camera and all other devices being used in combination with this housing.

To prevent personal injury:

- Use only the type of battery specified in this manual and carefully read and follow up the manufacturers guidelines.
- Immediately remove the battery from the housing in case it should leak. While doing this, be careful not to suffer injuries due to acid or other chemicals produced by the battery.
- Keep the batteries away from children.
- While using the housing under water, keep track of your depth and decompression information.
- The depth rating of this housing (100 metres) may exceed your personal level of training and skills. Do not use this housing at depths beyond your training level and skills.
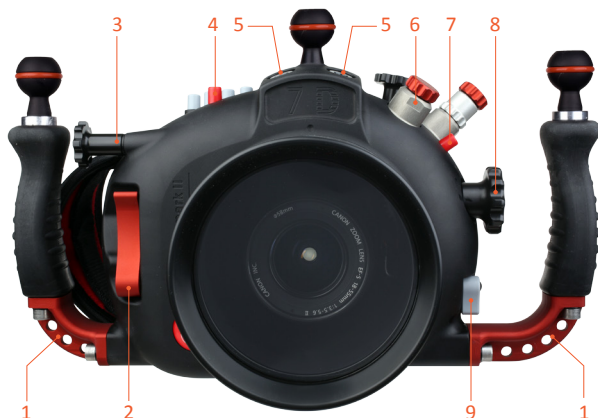
To prevent damage to your equipment:

- Do not put the housing in direct sunlight as it may heat up and cause damage to the components inside.
- Avoid direct sunlight falling into the viewfinder (any type) as this may converge and cause damage inside the housing.
- Do not use thinner, benzene or other organic solvents to clean your housing. These can cause fire and are harmful to your health.

3. Tips

- Your housing has been developed and machined with great precision. Treat it with great care and avoid dropping it or exposing it to physical shocks.
- The inside of the housing is not waterproof and should be kept dry at all times. Avoid drops of water on the inside of the housing (especially on the HugyCheck circuit board). If ever salt water gets into the housing or on the HugyCheck circuit board, immediately remove with a slightly moist (fresh water!) cloth and dry immediately.
- When moving the housing from a cold to a warm environment, condensation may form on the inside of the housing and on the circuit board. To avoid condensation being formed, move the housing from a cold to a warm environment in a sealed bag or case. Once the housing has reached the surrounding temperature, you can remove it from the bag or case.
- If condensation does form on the inside of the housing, do not use it. Remove the camera and battery and wait until the condensation has evaporated.
- When the housing has not been used for an extended period, check the housing and all of its functions before taking it under water.
- After a dive (especially a salt water dive) thoroughly rinse your housing in a fresh water tank. Push all buttons several times to create a flow of water behind the buttons, through the spring mechanism.
- Check and grease the O-rings before every dive or at least whenever the housing is opened/closed or whenever a port has been removed/fit.
- Grease the O-ring and threaded part of the connectors on the sync cords whenever they are connected to the housing bulk heads. Greasing the threaded part will allow swift fitting and removal of the connectors and will avoid corrosion on the bulkheads.

4. Housing overview

1. Aluminium handle (2)
2. Shutter release lever
3. Shutter control
4. Function button
5. Optical bulkhead (2)
6. Nikonos 5-pin bulkhead
7. Flash pop-up button
8. Zoom control
9. Lens release
10. ON/OFF swich
11. Mode selector
12. HugyCheck valve
13. i-button
14. Menu button

15. Picture style button
16. Locking bolt (2)
17. Protect image button
18. Zoom in/out button
19. Playback button
20. Delete button
21. White balance
22. Drive
23. ISO
24. Backlight
25. AF-on
26. AE-lock
27. AF-point select
28. Neoprene strap

29. Video start/stop
30. Photo/Video selector
31. Multi controller
32. Aperture control
33. Set button
34. Quick menu

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5. Installing the camera

When installing the camera into the housing, make sure you have a clean, flat and large enough surface at your disposal. Avoid carrying out the installation in a windy, sandy or moist environment.

Make sure the camera battery is fully charged and the memory card has been emptied (if required). Remove the camera strap and any lens mounted to the camera (if applicable). Make sure the bayonet catch of the camera body is equipped with a dust cap. Open the housing with the supplied allen key.
Prior to mounting the camera in the housing, check the function and battery status of the HugyCheck system and leakage alarm. The HugyCheck system is located at the bottom of the camera support. Make sure a CR123 Lithium battery is installed correctly. Pushing and holding the switch on the HugyCheck system to the right will activate the battery test mode. If the LED turns green, the battery is OK. If the LED turns red, the battery does not have enough power left and needs to be replaced. By pushing the switch to the left, the HugyCheck system is activated.

> **Activate the HugyCheck system prior to closing the housing.**

Make sure the hot shoe connector is removed from the housing dust cap (velcro) and is placed outside of the housing.

Pushing and holding the switch to the right will activate the battery test mode. Green LED: battery is OK. Red LED: replace battery. Pushing the switch to the left: activate HugyCheck system (LED blinks red/green/red).
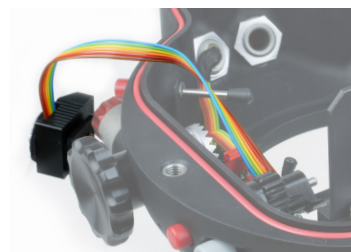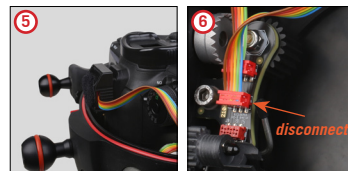
Installing the camera

Put the front shell of the housing on a clean, flat and large enough surface. No port or lens should be fitted at this time.
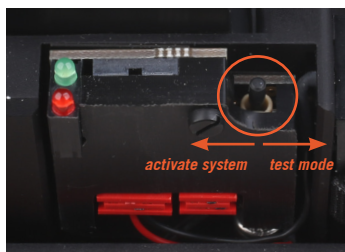

The camera support is equipped with a quick release system. Turning the lever to the left will disengage the lock. Turning the lever to the right will engage the lock. Turn the lever to the left and remove the camera support **(1)**. Fix the camera support tightly to the bottom of the camera by turning the tripod screw clockwise **(2)**. Take the camera body and slide it into the camera support receiver **(3)**. Make sure to keep the camera body perpendicular. As soon as the camera touches the controls on the front, it is in position.
Lock the camera support in place by turning the locking lever to the right **(4)**. The camera body should now be centered and locked.

Slide the hot shoe onto the camera accessory shoe **(5)** keeping the ribbon cable on the left hand side. If the housing is used with fiber optic strobes, the hot shoe is not to be used and can then be disconnected from the connector board located on the left side inside the housing **(6)**.

Check the main housing O-ring (red 180*3 O-ring). This O-ring should be laying inside its groove and should be clean. No dirt, hairs or other substances should be covering this O-ring. If necessary, clean this O-ring with micro fiber cloth. Do not use cloth that produces fluff. As this is a static O-ring (which does not move or rotate in relation to any other part) it doesn't need to be greased.

Set the on/off switch on the housing **(1)** and camera **(2)** to the 'off' position. Set the photo/video mode selector on the housing **(3)** and camera **(4)** to the photo mode.

Take the housing back shell with both hands and hold it over the front shell containing the camera **(5)**. The top side of the back shell should be about 3 cm over the top side of the front shell. Gently lower the top part of the back shell while bringing it backwards **(6)**. While bringing the back shell backwards, make sure not to lift the top part of the back shell as this will also pull the hot shoe backwards, disturbing the hot shoe connection (this will result in strobe malfunction). Stop when the top parts of both shells are in line with each other and are touching. Then gently lower the bottom part of the back shell until both shells slide into one another **(7)**. Make sure nothing gets between the two shells when closing the housing (lanyards, …).

Fasten the closing bolts with the Allen key supplied (8). Fasten both sides gradually and stop turning when the resistance on the Allen key increases significantly. When the housing is fully closed, both shells will be in contact with each other and no gap should be visible between them.

The housing is now closed.
Please check all camera functions before proceeding.

6. Fitting the lens

When using zoom lenses, fit the zoom gear before fitting the lens to the camera. When using fixed focal lenses, fit the focus gear (if applicable) before fitting the lens to the camera body. Hugyfot provides several zoom and focus gears depending on the brand, model or type of lens. Please check the lens charts on our website to look up the appropriate zoom or focus gear for your lens.

To fit the zoom or focus gear, keep in mind the following guidelines:

- the black teethed outer ring should be positioned onto the lens as far to the back (bayonet) as possible without touching the camera's internal strobe (keep approx 3 mm of play);
- the white inner ring should be fit into the black teethed outer ring so it exactly matches the lenses' zoom or focus ring;
- when inserting the white inner ring, make sure that its grooves coincide with the ones inside the black outer ring.

Depending on the brand, model or type of lens, it may be necessary to slide the complete gear set over the lens starting from the front end or starting from the back end. A larger lens diameter at the front will make you start from the back while control switches at the back of the lens will make you start from the front end.

While fixing the zoom or focus gear, make sure that your lens is equipped with a dust cap on both ends to prevent the optics from becoming dirty (fingerprints, …).
Before fixing the lens, make sure that the lens release lever is upwards **(1)**. Once the lens is fitted, try the lens release lever to check on its function. After testing, turn the lens release lever upwards again to ensure that the lens release button on the camera is not pushed. The housing is now ready to be fitted with the port.

position of silicon ring in zoom gear

gap of 3 mm

width of zoom ring on lens

①
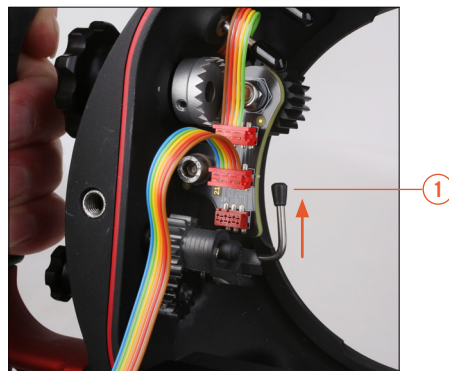
7. Fitting the port

Depending on the lens being used, different Hugyfot ports and extension rings are available. Please check our port charts in order to determine which port and extension ring you need for a specific lens. Before fitting any port or extension ring, make sure that it is fitted with the proper O-ring (black 105x3) and see to it that this O-ring is clean, slightly greased and that it doesn't show any damage or cracks.

The front of the Hugyfot housing shows two marks (see picture) which are used to align and fit any Hugyfot port or extension ring. The smallest mark (approx at 10 o'clock) indicates the starting point while the largest mark (at 12 o'clock) indicates the end point. Each port and extension ring has a mark (Hugyfot logo) on the top side (at 12 o'clock) next to the bayonet. When fitting a port or extension ring, turn the port or extension ring so its top mark faces the starting point on the housing (at 10 o'clock).

Apply a steady and perpendicular pressure to insert the port or extension ring into the housing. Once fully inserted, turn the port or extension ring clockwise until the top mark on the port faces the top mark on the housing. The housing is now fully closed.

5" glass fisheye dome

7" acrylic fisheye dome

6.5" glass/acrylic wide angle port

9" glass/acrylic wide angle port

L70 glass/acrylic flat port

L90 glass/acrylic flat port

8. Connecting the strobes

Your Canon 7DMkII housing is equipped with 1 Nikonos 5-pin bulkhead and 2 fiber optic connector ports.

Nikonos 5-pin bulkhead

Fiber optic connector port

Connecting a sync cord

Each sync cord (whether it is a 5-pin or a 6-pin) will have a plug on the housing side of the cable that will correspond with the bulkhead on the housing. Before fixing the sync cord, make sure that the plug is fitted with the appropriate o-ring and that this o-ring is clean, slightly greased and free of dirt or cracks. We strongly recommend greasing the threaded part of the plug as well as this will allow swift fitting and removal of the plug and will prevent corrosion to the threaded part due to exposure to salt water. When inserting the plug into the bulkhead, make sure that the pinhole layout of the plug is symmetrical to the pin layout inside the bulkhead. If you should feel any resistance when insert-

ing the plug into the bulkhead, do not force the plug any further. Remove the plug and check the pinholes positions compared to the pins inside the bulkhead. Once fitted, tighten the locking nut to prevent the plug from getting loose during the dive. If the housing is to be used without external strobes, the bulkheads should be fitted with sealing caps. Make sure that these sealing caps are fitted with the proper O-rings and see to it that these O-rings are clean, slightly greased and that they don't show any damage or cracks.

Connecting an fiber optic cable

Your Canon 7DMkII housing is equipped with 2 fiber optic connector ports on top of the housing. These ports are compatible with Sea & Sea and Inon fiber optic cable systems. The plug at the end of a Sea & Sea or Inon fiber optic cable fits in the fiber optic connector ports on top of the housing. When using this system, the internal strobe has to be popped up so it can trigger the external strobe by sending its light through the fiber optic cable. The hot shoe inside the camera cannot be used when fiber optic cables are be-

ing used. You can unplug the camera hot shoe cable and store the hot shoe.

Installing the strobe arms

Your Hugyfot housing comes with three 25mm (1") arm balls (one on top of each handle and one on top of the housing). The Hugyfot strobe arms are also equipped with 25mm (1") arm balls on both ends and are fixed to the housing (and to each other) by means of clamps.

HugyFloat Adjustable Buoyancy system

9. Installing a viewfinder (standard, straight or 45°)

Your Hugyfot housing comes with a standard viewfinder which is depth rated to 100m (150m with an optional spring upgrade for your housing). Your housing can also be equipped with a straight or a 45° viewfinder. Both viewfinders offer a larger magnification of the camera viewfinder image and are depth rated to 70m. To remove a viewfinder, unlock the retaining nut of the viewfinder on the inside of the housing. Once the retaining nut has been removed, the viewfinder can be pulled out of the acrylic window. Before installing another viewfinder, make sure that the viewfinder is fitted with the appropriate O-ring and that this O-ring is clean, slightly greased and free of dirt or cracks. Check the hole in the acrylic window and make sure that it is clean and free of cracks. Gently push the viewfinder through the hole in the acrylic window. When installing a 45° viewfinder, see to it that the two little metal pins on the back of the viewfinder base slide into the 2 holes in the acrylic window. These pins will keep the base of the 45° viewfinder in place when the viewfinder is rotated.
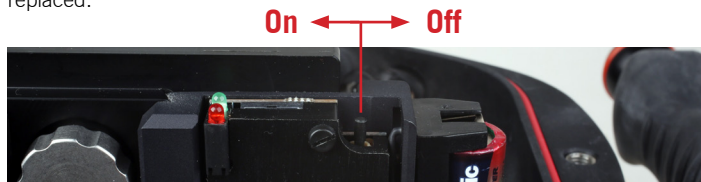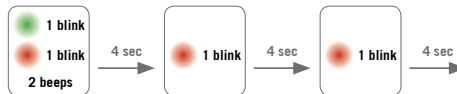
10. Using the HugyCheck system

Your Hugyfot underwater housing is equipped with the 'genuine' HugyCheck pre-dive check system. Introduced in 2008, this system has constantly proven its value and has been improved continuously. The latest version now comes with even more functionality. The HugyCheck system is a pre-dive check system that allows you to check prior to the dive whether the housing has been closed properly and whether the o-rings are in good condition. A vacuum pump will create a slight under pressure inside the housing which can be monitored by means of an LED pressure indicator.
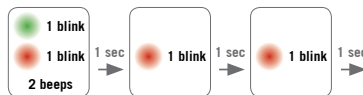
1. On/off & battery status switch

The mini-HugyCheck circuit board is equipped with a power on/off switch (located at the right side of the bottom of the camera tray). When the HugyCheck system is activated, two 'beeps' will sound and both LED's (red and green) will blink once every 4 seconds. At start up, when the battery is low on power, the red LED will blink every second to indicate that the battery needs to be replaced.

On ← → Off

System is activated and battery is OK:

| 1 blink
1 blink
2 beeps | 4 sec | 1 blink | 4 sec | 1 blink | 4 sec |

System is activated and battery is NOT OK:

| 1 blink
1 blink
2 beeps | 1 sec | 1 blink | 1 sec | 1 blink | 1 sec |

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2. Vacuum system

As soon as the system is activated, the HugyCheck system will beep twice and will turn to 'stand-by' mode. The red LED below the camera support will blink once every 5 seconds. To start the vacuum procedure, please make sure that the system is in 'stand-by' mode. Start the vacuum procedure at least 30 min prior to the dive.

- Make sure that the one-way valve is fitted with the appropriate O-ring and that this O-ring is clean, slightly greased and free of dirt or cracks.
- Fit the one-way valve to the bulkhead on the back of the housing **(1)**.
- Remove the sealing cap **(2)** from the one-way valve.
- Put the vacuum pump **(3)** onto the one-way valve and start pumping.
- As soon as the HugyCheck system detects a pressure between 950hPa and 850hPa, the red LED will blink once each second.
- When the HugyCheck system detects a pressure between 850hPa and 750hPa, the red LED will blink 3 times each second.
- When a pressure of 750hPa (or less) is registered the red LED will stop blinking and the green LED will take over **(4)**.
  Stop pumping as soon as the green LED is activated!

If the housing hasn't been closed properly or if an O-ring is faulty, the pressure of 750hPa will not be reached or will not be kept. In this case a loss of vacuum will be registered by the system and the red LED will be reactivated while the green LED will stop blinking.
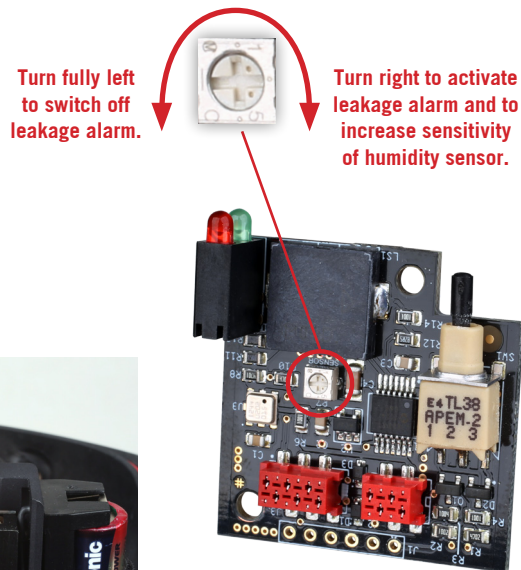When opening the housing after a dive, the vacuum has to be released by unscrewing the one way valve from the bulkhead.
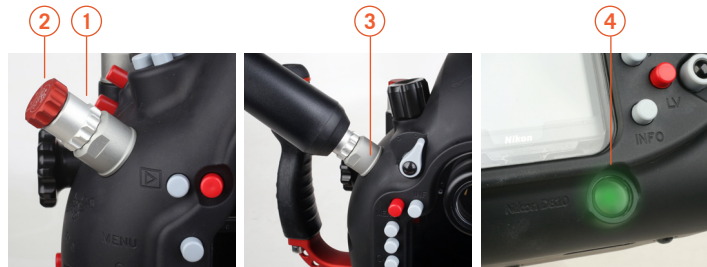
3. Leakage alarm

The mini-HugyCheck circuit board is equipped with a leakage alarm which is triggered by a humidity sensor (located at the bottom of the housing). In some cases of extremely high air humidity, it may be necessary to decrease the sensitivity of the humidity sensor or to completely deactivate the leakage alarm. To decrease the sensitivity or deactivate the humidity sensor, the protective cover of the circuit board is to be removed by loosening a black plastic bolt **(5)**.

A potentiometer in the center of the circuit board controls the humidity sensor. When turned fully to the left, the leakage alarm is deactivated and 2 beeps will sound. When turned to the right, the leakage alarm is activated and 1 beep will sound. The more the potentiometer is turned to the right, the more sensitive the humidity sensor will be.

Turn fully left to switch off leakage alarm.

Turn right to activate leakage alarm and to increase sensitivity of humidity sensor.

Fits your camera like a glove