

## **Camera Housing – Model 5 D Mark II (Canon)**

### **User Manual**

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#### **1. Introduction**

10 BAR Underwater Housings are small, light and rugged enough to be used on every dive. Use of a clear polycarbonate allows for visual inspection of camera condition and the O-ring seal. 10 BAR Housings are designed for the ever -increasing variety of models of digital still and video cameras. Advanced computer aided design and CNC manufacturing technologies ensure precise dimensions. Each housing body is first injection molded, and then machined to configure to individual camera model. A range of lens ports and controls are fitted, to tailor the housing to your camera model.

## 2. Specifications 5 D Mark II

Test Pressure	10 Bar (300 ft.) Housings are individually tested
Closure Design	<b>Double O-rings, Key-hole Lock</b>
Body Material	<b>6061 Aluminium</b>
Overall Size	<b>137 x 190 x 167 mm (LxWxH) / 130mm (Port only)</b>
Total Weight	<b>Approximately 2.55 Kg (Housing only) 0.90Kg (Port only)</b>
Buoyancy (with camera)	Approximately neutral in salt water
Features	Visible main O-ring for final pre-dive check Double O-ring design on all controls Bulkhead and hot shoe plug for External 580-EX e-TTL strobe Standard Zoom Port 18~55mm Lens
Accessories	5D Mark II Opening key / Lever Silicone O-ring grease Spare main O-ring Carrying bag Cleaning Kit
Optional accessories	Semi-Dome Port for xxxxxx mm Lens 580-EX e-TTL Flashlight Housing Flex Arm Ball-Joint Arm Synchronous Cord

## 3. Function Controls 5 D Mark II

1. **Flashlight syn bulkhead**
2. **Flashlight syn bulkhead**
3. **Mode Dial**
4. **Metering / White Balance**
5. **AF.Drive**
6. **ISO speedset**
7. **Light**
8. **Main Dial**
9. **Shutter**
10. **Screen Display**
11. **Menu**
12. **Picture Style**
13. **INFO**
14. **Playback**
15. **Erase**
16. **Print**
17. **Viewfinder eyepiece**
18. **Control dial**
19. **AF Mode**
20. **Auto Exposure**
21. **AF point selection**
22. **Setting**
23. **Turntable**
24. **Power On / Off**
25. 26. 27. 28. **Key Hole Lock**



## 4. Set up Instructions

### 4.1 Special note on responsibility for watertight integrity

Each housing is individually inspected and hydrostatically tested in the factory. The design of the main piston O-ring seal is among the most reliable in the industry and the watertight integrity is excellent. This special O-ring design provides a perfect seal even if there is any movement between the body and lid due to change of ambient pressure. However please note that responsibility for ensuring the integrity of the watertight seal lies entirely with the user. 10BAR accepts no liability for damage to, or loss of any equipment used with, or placed inside the housing. *Users are highly recommended to carry out in-water test of the housings without installing of the camera for their first dive, after change of new ports or alternation of any new configuration. The test can be carried out by lowering the housing with ballast to the working depth or dive down to the safe diving range.*



**The O-ring seal is the main barrier between the water outside and the air space within the camera. It is an effective barrier only if the seal is properly maintained. The O-ring seal should be inspected before every dive. The following information is provided for your guidance in using and maintaining the O-ring seal.**

### 4.2 Maintaining the O-ring Seal

If the main body to lid O-rings are not installed, install the O-rings before diving. Their care and maintenance are critical to the watertight integrity of the housing. If the O-rings are contaminated, or not already installed; inspect, grease and install the O-rings according to the following guidelines.



### 4.3 Inspection, cleaning and re-instillation of the O-rings

#### Tools

A soft cotton bud or sponge applicator, make sure these are free of all contamination such as loose fibers, and the tube of silicone grease supplied with the housing. Note other types of silicone grease specifically for use with underwater camera equipment can usually also be used. It is advised to carry out the following procedure on a firm clean level surface, e.g. at a table, to prevent skidding especially when diving from a boat.

## When to maintain the O-ring seal

Remove the O-ring periodically for inspection. It is not necessary to remove, clean and re-install the O-ring after every dive provided the O-rings are not become contaminated. As a rule of thumbs set up the camera and housing before a day's diving. If the housing is required to be opened between dives for changing memory card or re-charging batteries, make sure the outside of the housing is thoroughly toweled dry before opening up. After removing the lid and servicing the camera, replace the lid straight away, rather than leaving it lying around. Before replacing the lid, check the o-rings and make sure that no contamination such as dust, hair, salt, sand etc. has fallen onto the O-ring or O-ring recess, as a precaution we recommend to inspect the O-ring every time the lid is opened and to carry out the maintenance only if necessary.

## Procedure

- I Place the lid on firm non-slip level surface.
- I The O-ring can be extracted using an O-ring extractor tool (make sure the tool has no sharp edges). Alternatively use the flats of the thumbs to gently stretch the O-ring on two faces thus making a small loop protruding a few mm. The loop can then be grasped between finger and thumb, to pull the O-ring over the lip.



- I Clean the O-ring recess (the square groove where the O-ring sits) with a cotton bud.
- I Inspect the O-ring all the way round its surface for damage such as cuts tears or contamination. This should be done visually and also by feeling the surface texture between finger and thumb.

## **IF THE O-RING IS DAMAGED OR SUSPECTED OF BEING DAMAGED, DISCARD IT IMMEDIATELY.**

A spare O-ring is supplied with your housing, or a replacement O-ring can be ordered from 10 BAR. If the O-ring is contaminated or suspected of being contaminated, clean it with a cotton cloth that is free of all chemicals or contamination. After cleaning inspect the O-ring again.

Once the O-ring has been inspected and verified fit for use, apply a small amount of silicone grease to the O-ring. The silicone grease must be evenly distributed round the O-ring.

Replace the O-ring into the groove; run a finger round the O-ring, to make sure it is snugly seated in the groove.

#### 4.4 Key Hole Lock

The Key-hole Lock is simple and easy to use and adding security.

To open the housing, turn the levers of the lock perpendicular to the wall of the housing until the lock is released on both sides.



Opening Key

Pull out the lid by holding on the grip near the lock



#### 4.5 Mounting the camera in the housing:

Remove the lens cap and wrist strap.

Attach the plastic slide tray to the camera's tripod mounting fixture with a screwdriver or the end of the universal tool supplied. Take care not to excessively tighten the screw. Slide the camera into the body along the guide rail. Make sure the camera body reach the limit and test the function of the on/of button on the body of the housing. Slide the hot shoe plug into the hot shoe.



Note: If you find that the buttons do not align properly with the controls, please check again that the camera is properly seated to the limit of the guide rail.

Slide the camera into the body along the rubber packing. Make sure the camera body reach the limit and test the function of the On/Off button on this body of the housing.

Align the bulkhead cable as shown and check the cable is not jammed under any button or over the o-ring. Slide the hot shoe plug into the hot shoe



To close the housing, place the lid over the housing and align the key-hole and press down the lever.



Turn the lever towards the wall of the housing and check the key is at lock position



Replace the lid and make sure the lever is perpendicular to the side wall of the housing. Lock the lid by press down the lever and turn until the lever is parallel to the side wall of the housing. After replacing and locking the lid, make a final visual inspection of the main O-ring for contamination.

**Note: If the O-ring is in good contact, a thin black line, about 0.5 to 1mm in width should be visible, where the O-ring is in contact with the lid. Follow this line all the way round the edge of the seal, as a final check that the seal is good.**

After replacing the lid, make a final visual inspection of the main O-ring for contamination



**Note: If the O-ring is in good contact, a thin black line, about 0.5 to 1mm in width should be visible, where the O-ring is in contact with the lid. Follow this line all the way round the edge of the seal, as a final check that the seal is good. The housing is now ready for the dive.**

#### **4.6 Inspection, cleaning and re-instillation of the O-ring:**

##### **Tools:**

A soft cotton bud or sponge applicator, make sure these are free of all chemicals or contamination such as loose fibers, and the tube of silicone grease supplied with the housing are required. Note other types of silicone grease specifically for use with underwater camera equipment can usually also be used. It is advised to carry out the following procedure on a firm clean level surface, (e.g. at a table), to prevent skidding especially useful to have when diving from a boat.

##### **When to maintain the O-ring seal:**

Remove the O-ring periodically for inspection. It is not necessary to remove, clean and re-install the O-ring after every dive provided the O-ring did not become contaminated. As a rule of thumb set up the camera and housing before a day's diving. If the housing is required to be opened between dives for changing memory card or re-charging batteries, make sure the outside of the housing is thoroughly toweled dry before opening up. After removing the lid and servicing the camera, replace the lid straight away, rather than leaving it lying around. Before replacing the lid, make sure that no contamination such as dust, hair, salt, sand etc. has fallen onto the O-ring or O-ring recess, as a precaution we recommend to inspect the O-ring every time the lid is opened and to carry out the maintenance if necessary.

## **5. Use & Care of Housing:**

### **5.1 Pre Dive Function Check.**

Just before entering the water, make a habit of reviewing the proper steps to close the housing and connect the bulkhead. Make a visual check of the O-ring seal. It is also useful to switch on the camera, and check that the controls e.g. on/off, zoom, shutter functions operate normally.

- | Check housing is closed
- | Check O-ring is in the groove between housing and Acrylic
- | Check battery and memory card status on the LCD display
- | Check control knob and zoom function
- | Check the Bulkhead is properly connected or blanked.

**Always avoid submerging the housing in hot water for a prolonged time or a cleansing tank where the water may be heated up by the sun.**



## 5.2 General Operation.

The control levers and push buttons consist of internal double O-ring seals on a stainless steel shaft. This arrangement is very reliable, however as a precaution, when operating the controls, avoid excessively rapid movements, as this may distort the O-ring. Also please allow for the fact that the camera takes a few seconds to power on. If the camera does not appear to respond to a control action, make sure that no other controls are pressing on the camera, i.e. locking out further actions. Wear the wrist strap; it is easy to inadvertently let go of the housing, especially if you are distracted.

## 5.3 Cleaning & Storage.

The body & lid of the housing are made of polycarbonate. Polycarbonate was selected for its outstanding strength stiffness, hardness and toughness. As well as its crystal clear transparency and high gloss surface. It has good resistance to weathering, although long-term exposure to sunlight should be avoided. Normal operating temperature range is 3°C to 36°C (Storage temperature: -10°C to 50°C)

It is good practice to rinse off your housing with fresh water after every dive. Avoid exposure to fine sand. After a series of 10 or more dives, e.g. after a dive holiday, it is recommended to immerse the housing for 2-3 hours in warm water to dissolve any salt deposits that may have built up. No chemical cleaners should be used. Mild detergents e.g. shampoo and soap based cleaners are permitted.

## Important !!!

**Some household chemicals may harm Polycarbonate; the housing should never be exposed to the following classes of chemicals: benzene, toluene, xylene, chlorinated hydrocarbons, methanol, any other solvents, strong acids and bases.**

**For long term storage please remove the main o-ring from body.**

## 5.4 Transportation.

When transporting by air, please ensure the housing is not sealed, to allow the air pressure to equalize. Either remove the O-ring (recommended), or open the pressure release port (a spacer is provided to keep the pressure plug in the open position, please make sure there is no bending of the plug while open).

Please protect the housing during transportation. It is recommended to remove the sync cord, and wrap the housing in foam or bubble wrap.

## 5.5 Accidents.

The impact resistance of the housing is excellent. However after an accident the alignment of the housing may have been damaged. Therefore in the event of your housing suffering an impact force, e.g. being dropped, it is essential you do not use the housing for diving. Please return the housing immediately for service. Please put a note inside to indicate the nature of the accident, so that we can assess the severity.

## 6. Service

To ensure the continued performance of your housing, it should be serviced every year, or after every 200 dives. Please note the terms for servicing the housing posted at our website. A full service will include:

- **Inspection of all components for wears or damage (report if repair necessary)**
- **Cleaning of all sealing surfaces, and replacement of all O-ring seals.**
- **Hydrostatic pressure test to 10 Bar.**

**Note: the replacement of damaged components (except replacement O-rings) may require additional cost.**

## 7. Warranty

The warranty is valid within two years from the date of first purchase. The warranty applies only to the housing itself. **10 BAR does not accept any liability either implicit or otherwise for any equipment housed inside, or used together with the housing.** In the event of the housing flooding within the period of warranty, 10 BAR will repair or replace the housing. Please note that disassembly of the housing will invalidate warranty. Please fill in the information below, and return a copy to 10 Bar Underwater Housing at the address below, to validate the warranty.

(Copy to be retained by user)

<b>Housing Type</b>		<b>Date of Purchase</b>
<b>Serial Number : (Labelled inside housing)</b>		<b>Dealer :</b>
<b>Owner's Name :</b>		<b>E-mail :</b>
<b>Owner's Address:</b>		<b>Tel :  Fax :</b>

### Office & Showroom:

Unit C, 2/F., Wing Hin Factory Building, 31-33 Ng Fong St.,  
San Po Kong, Hong Kong.

Tel: (852) 2573 3228 Fax: (852) 2811 9180.

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### Please keep this document for future reference

(Note: due to continuous improvement the latest model housing may differ slightly from those described in this document) (Copy to be returned to 10 Bar Underwater Housings)