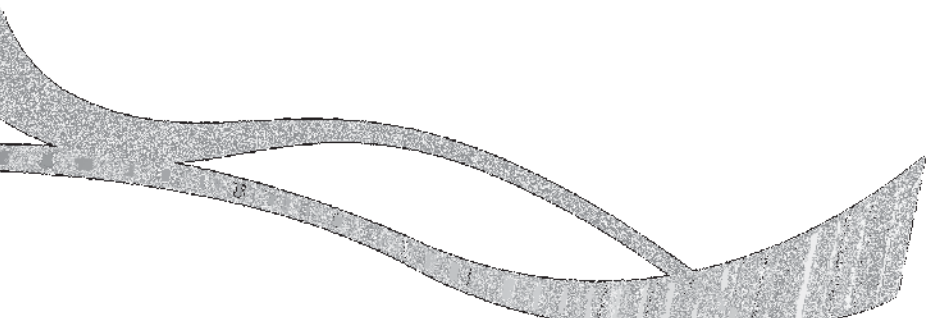


NA - D7100

Underwater Camera Housing
Instruction manual



Foreword

Thank you for your purchase of a NAUTICAM digital camera housing.

At NAUTICAM, we pride ourselves on the ability to recognise the requirements of professional as well as amateur underwater photographers and fulfill them through the innovative designs of our products. We strive to achieve a high level of user-friendliness by allowing stress-free installation and easy operation of all important functions of the camera.

Each housing is individually inspected and water pressure tested to ensure optimum quality.

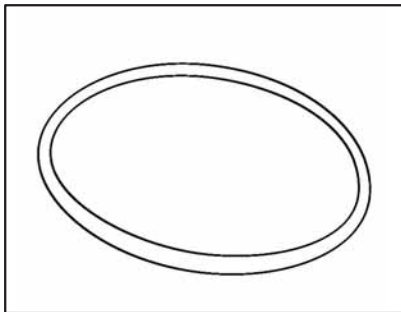
Please read this manual carefully before using the housing, this will maximise its performance as well as its lifetime.

Warranty

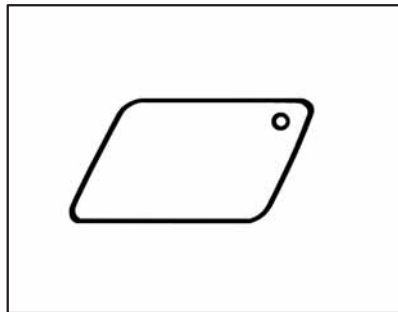
1. All NAUTICAM Products are warranted against any material and manufacturing defects for one year from the date of purchase for consumer use.
2. NAUTICAM accepts no liability for any damage to and defects in the housing caused by improper use and/or poor maintenance; it is the responsibility of the owner to carefully follow the instructions in this manual.
3. NAUTICAM does not hold responsibility for damage, of any nature, to any equipment used with and/or placed within the housing.
4. NAUTICAM accepts no liability for any loss of captured images or the inability to capture images even if it is due to the malfunctioning or leakage of the housing.
5. This warranty only applies to products purchased from authorised NAUTICAM dealers and does not extend beyond the original retail purchaser.
6. Unauthorised modifications and/or repairs of the housing will automatically invalidate this warranty.
7. To return products for service, please contact our regional distributor, normally you would need to notify them by email first and ship them the product by registered mail, along with your contact details and a brief description of the defect.

Package Contents

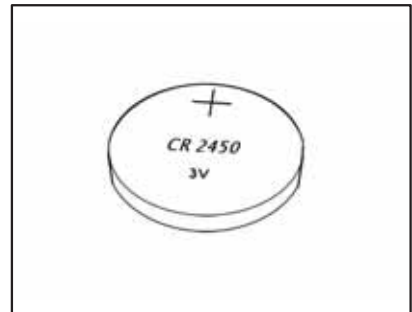
1. NA-D7100 housing
2. Instruction manual
3. Spare silicone rubber main o-ring
4. O-ring remover
5. CR2450 battery (for moisture alarm)
6. Lubricant
7. Set of Allen keys
8. M14 plug
9. M16 to M14 step down adaptor for electrical bulkhead



Spare silicone rubber o-ring



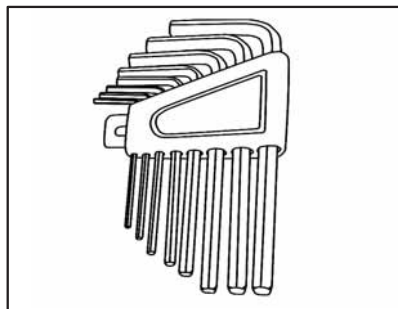
O-ring remover



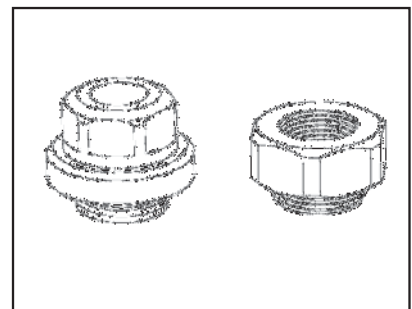
CR2450 battery



Lubricant



Set of Allen keys



M14 plug and M16 to M14
step down adaptor

Precautions

1. A water-tight test without the camera inside the housing is highly recommended when using the system for the first time and after the changing of port and O-ring(s).
2. Do not use lubricants from other brands with the silicone rubber O-ring on this housing, only use the lubricant provided by NAUTICAM.
3. Discontinue use immediately should you notice any leakage.
4. Store the housing in a robust, shock-proof container during transportation; avoid transporting with any equipment, such as a camera, inside the housing.
5. When travelling by air, do not close the housing if the port is installed, as this may lead to a pressure difference between the atmosphere and inside the housing.
6. Care must be taken when opening the housing, as pressure may build up inside the housing which increases the opening force.
7. Do not open the product in a wet or sandy environment. Protect the interior from moisture and debris in order to prevent malfunction or leakage.
8. Do not store the product in an environment of high humidity.
9. Do not leave the housing and the camera in direct sunlight for prolonged periods.
10. Keep out of reach of children, failure to do so could result in injury.
11. Defective products should be shipped to our distributors for service, unauthorized disassembling and/or modifications could result in malfunction or leakage.

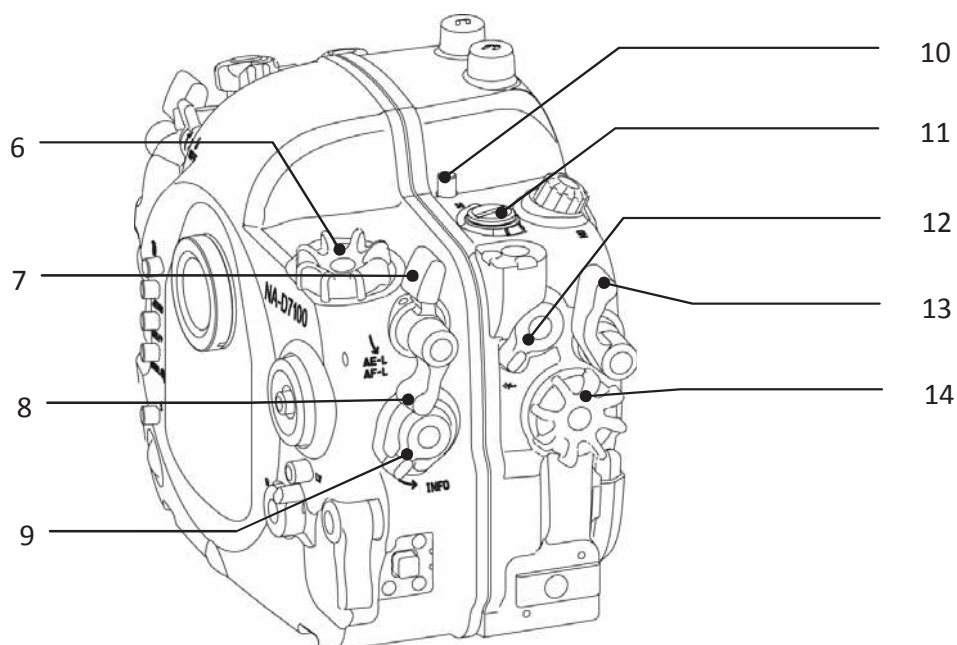
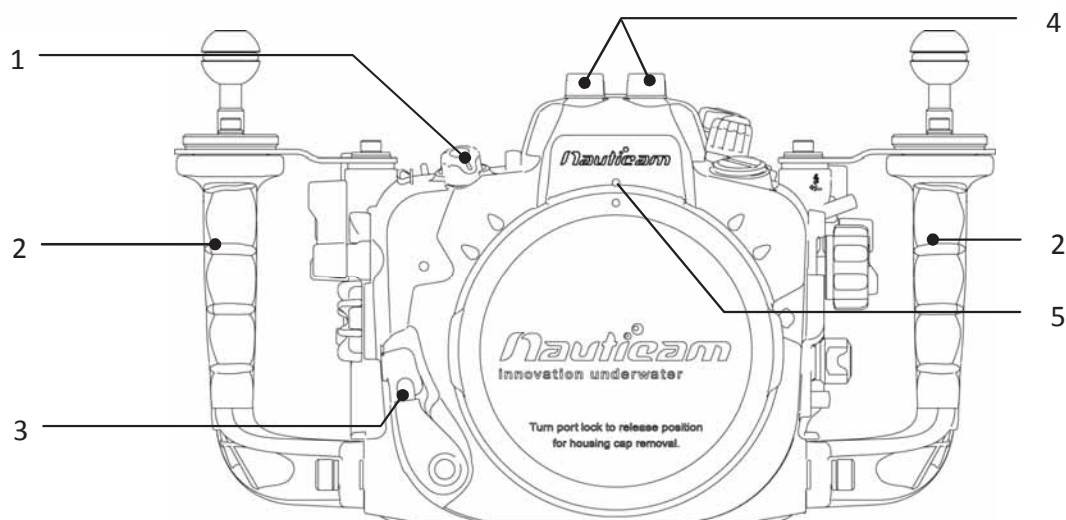
Table of Contents

<i>Specifications</i>	6
<i>Identification of Parts</i>	7
<i>Preparation of the Housing</i>	11
<i>Opening and Closing the Housing</i>	15
<i>Installing the Camera</i>	16
<i>Release mode dial Operation</i>	19
<i>Flash Operation</i>	20
<i>Mounting the Port</i>	21
<i>Connecting the Strobe System</i>	23
<i>Changing the Viewfinder</i>	27
<i>Care and Maintenance</i>	28

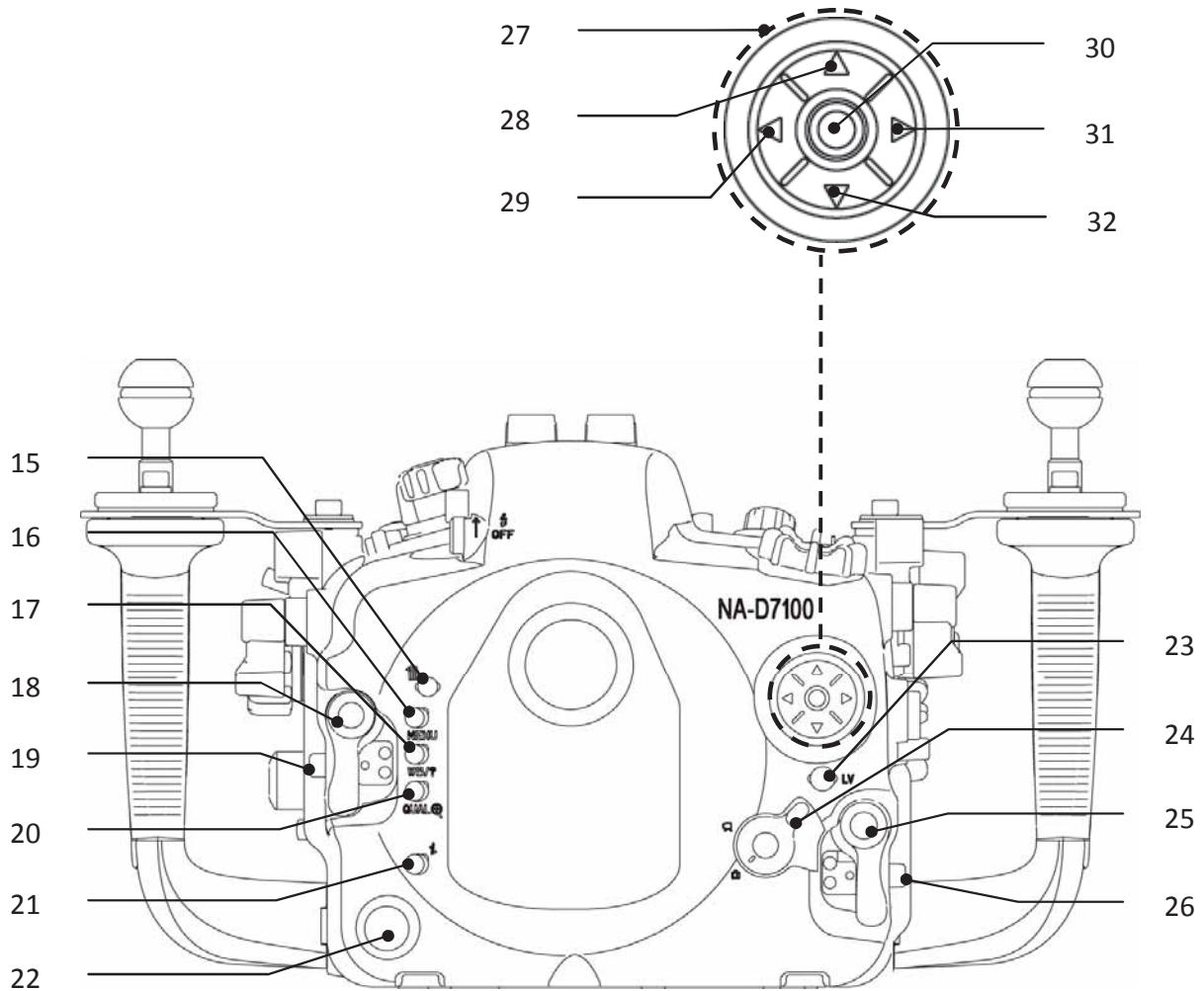
Specifications

Construction	Housing body:	Aluminium alloy
	Surface treatment:	Hard anodised
	Display window:	Abrasion resistant polycarbonate
	Grip handles:	Polycarbonate and rubber
Dimensions (with handles)	Width:	343 mm
	Height:	186 mm
	Depth:	134 mm
Weight	Approx. 3.03kg (without camera)	
Buoyancy	Slightly negative	
Depth rating	100 metres	
Features	Moisture alarm:	Blinking LED and audible alarm
	Viewfinder:	0.66X viewfinder
	TTL capability:	Single Nikonos 5-pin bulkhead (optional)
		2 optical bulkheads utilising on camera pop-up flash as commander
	Port mount:	Patented port locking lever for easy port installation.
	Multi selector:	Allows diagonal movement in addition to the up/ down/ left/ right functions.
	ISO sensitivity lever:	Allows easy ISO adjustments from the left handle.
	Exposure compensation lever:	Allows easy exposure adjustments from the right handle.

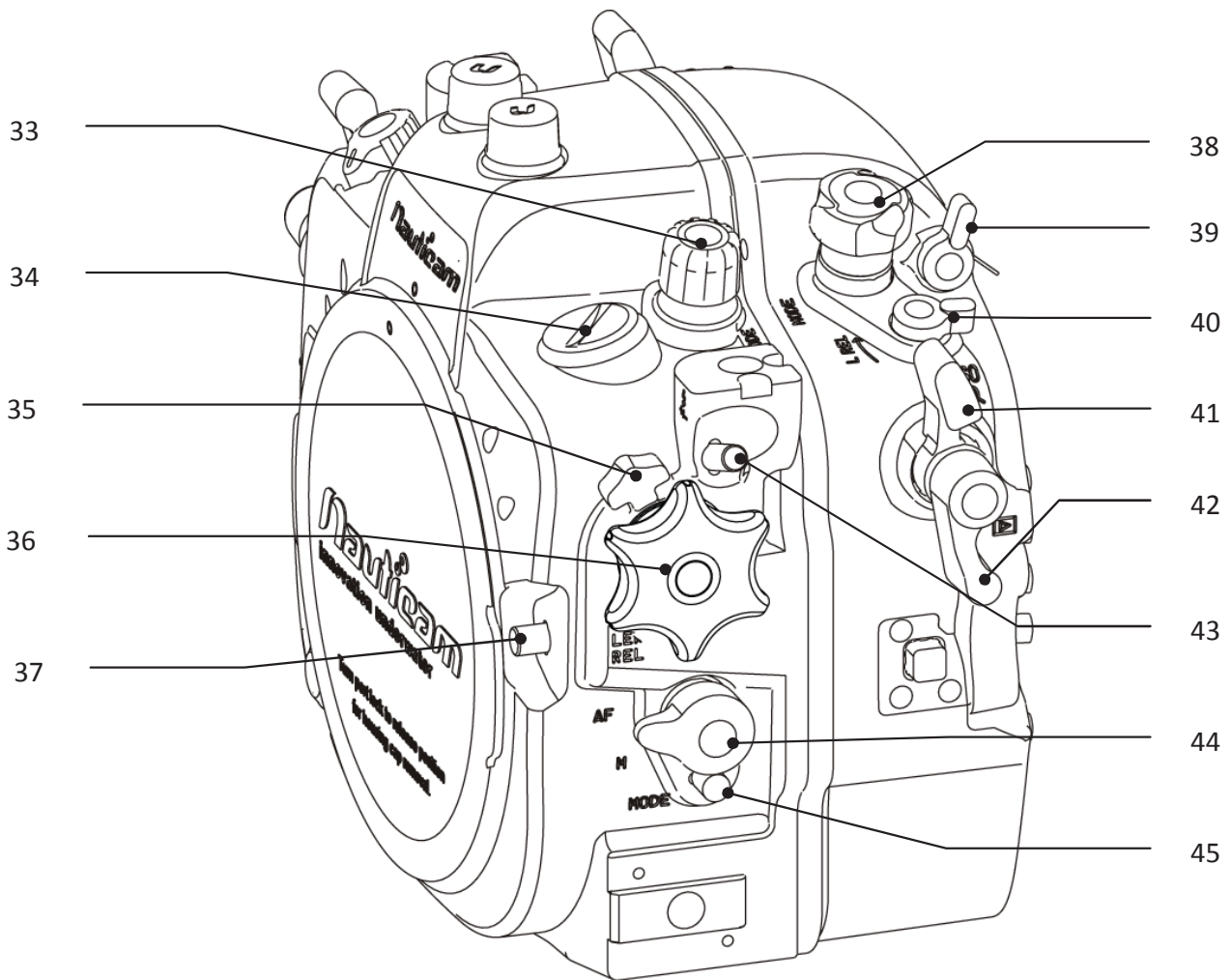
Identification of Parts



1	On/Off control knob	8	AE-L/AF-L lever
2	Grip handle x 2	9	Info lever
3	Port lock/release lever	10	Metering button
4	Optical bulkhead for strobe connections x 2	11	M16 accessory port
5	Port alignment index	12	Exposure compensation lever
6	Main command dial	13	Shutter release lever
7	Movie-record lever	14	Sub-command dial



15	Delete button	24	Live view selector lever
16	Menu button	25	Housing lock (R)
17	WB/Protect/Help button	26	Housing lock safety button (R)
18	Housing lock (L)	27	Multi selector
19	Housing lock safety button (L)	28	Up selection button
20	QUAL/Playback zoom in button	29	Left selection button
21	<i>i</i> button	30	OK button
22	Moisture alarm window	31	Right selection button
23	LV button	32	Down selection button

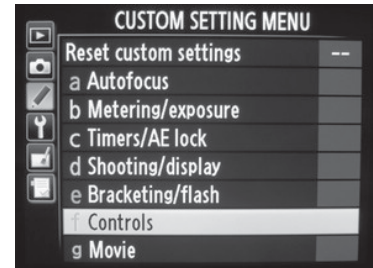


33	Release mode knob	40	Release mode dial lock release lever
34	M16 optional accessory port	41	ISO/Playback zoom out lever
35	Zoom/ focus gear disengagement lever	42	Playback lever
36	Zoom/focus knob	43	Flash pop-up/ flash compensation button
37	Lens release button	44	Focus mode selection knob
38	Mode knob	45	AF-mode button
39	Flash Off lever		

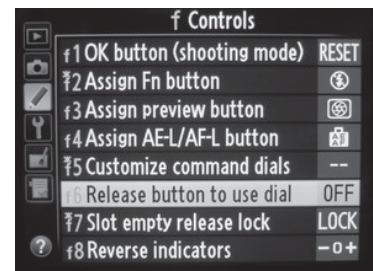
Shooting Tips

1. By setting the “Release Button to Use Dial” function of the D7100 camera to **Yes** allows adjustments which are normally made by holding down a button and rotating a command dial to be made by rotating the command dial after the button is pressed and released.

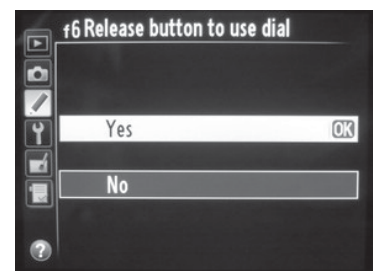
To enable this function, under Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter ‘f’ Controls.



Then scroll to ‘f6’ Release Button to Use Dial and enter.

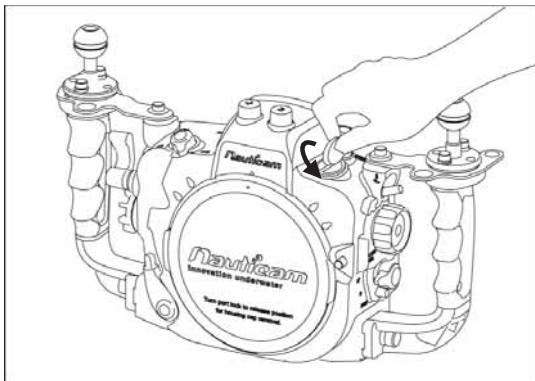


Select ‘Yes’ and press OK.

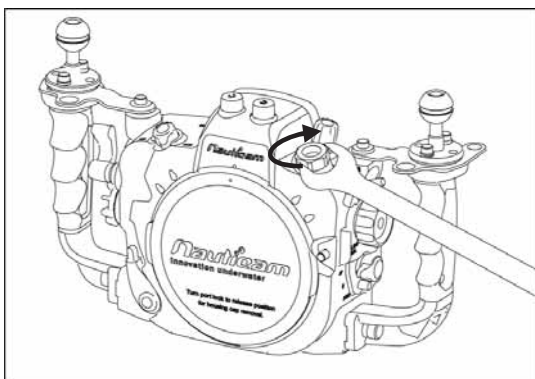


Preparation of the Housing

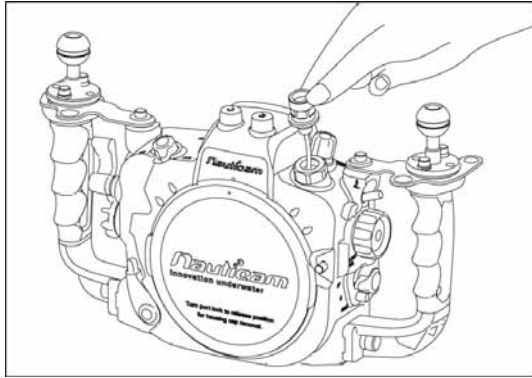
1. After verifying that the main O-ring is in good condition, lightly coat it with the lubricant provided.
2. Make sure the O-ring groove located in the front part of the housing is free from any foreign material; the groove can be cleaned with the aid of a microfiber cloth.
3. Place the main O-ring into the groove by gently pushing it, first at the corners, then the whole perimeter.
4. (Optional) If necessary, spacers (25011) can be used to increase space between the grip handles and the housing; A pair of small handles (28123) is also available to decrease space between the grip handles and the housing.
5. (Optional) To install the electrical bulkhead:
 - i. Remove the M16 plug from the threaded hole with a coin.



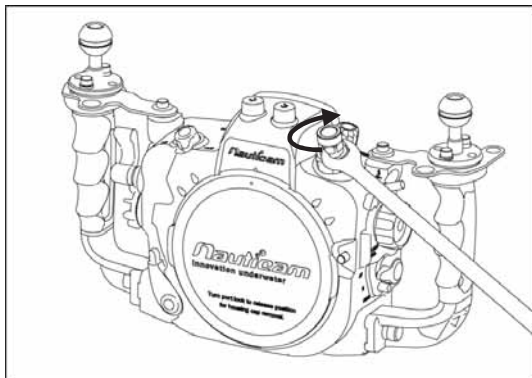
- i. Remove the M16 plug from the threaded hole with a coin.



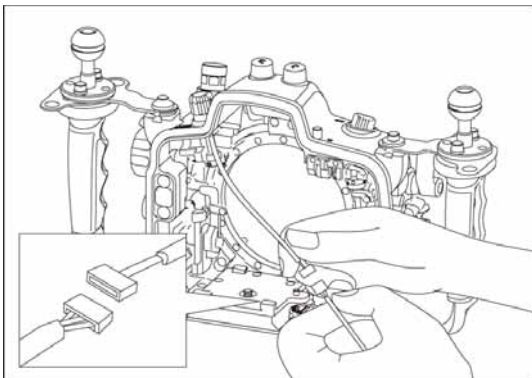
- i. Install the M16 to M14 step down adaptor with a spanner.



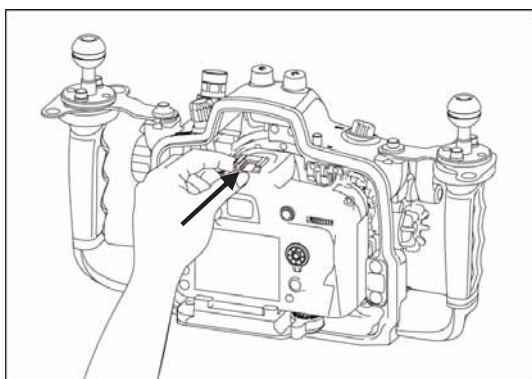
- iii. Insert the 5-pin bulkhead through the threaded hole.



- iv. Tighten the 5-pin bulkhead with a spanner.

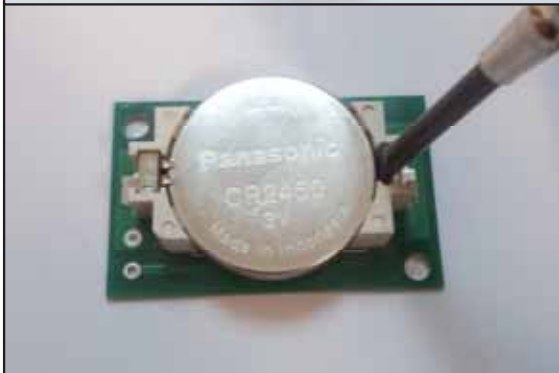
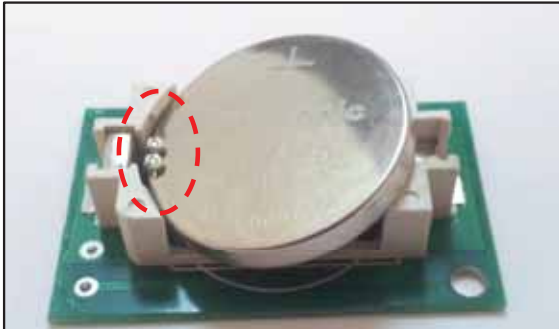


- vi. Connect the 5-pin bulkhead to the accessory shoe plug.



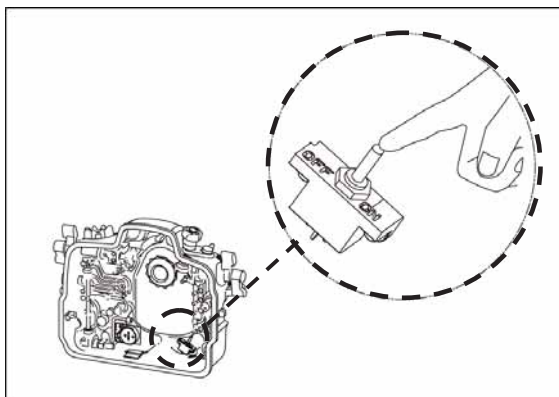
- v. Slide the accessory shoe plug of the housing into the accessory shoe of the camera.

6. Setting up moisture alarm:

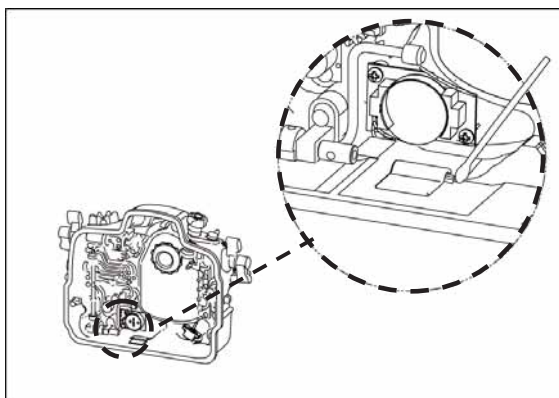


1. Install the CR2450 battery provided into the battery compartment inside the rear housing.

To remove the battery, use a small flat-head screwdriver to lift up the battery as shown.

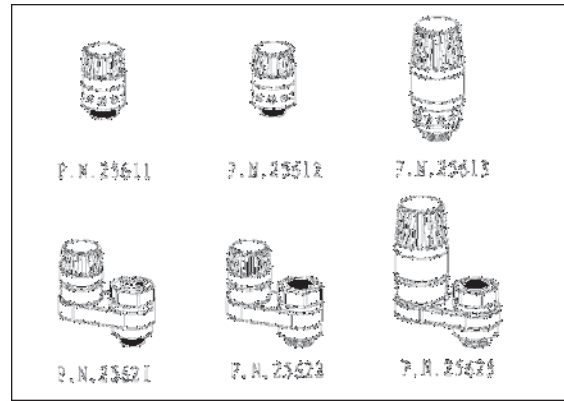


2. Switch the alarm on. The LED light will turn blue for five seconds indicating the battery is normal. Then it goes into flashing blue light standby mode.



3. Test the alarm by contacting the two wires near the bottom of the housing with a damped cotton bud; the alarm should start giving out a repeating “beep” sound along with a flashing red light. The “beep” sound and the light should keep on going for 5 seconds after the removal of the damped cotton bud .

(Optional) Vacuum valve can be attached to the housing via one of the accessory port for conducting a vacuum seal test. Please refer to the manual of the vacuum valve for more details of the operation.



LED status identification:

On start up:

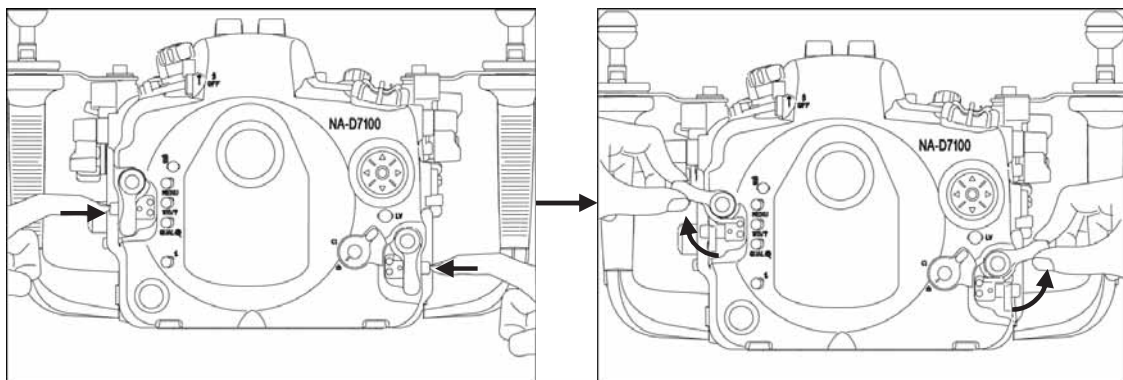
LED indicator	Status
Steady "Blue" light	Battery is normal, goes into flashing "Blue" light standby mode after 5 seconds.
"Blue" and "Red" lights alternating	Battery low. Replace battery as soon as possible. Goes into standby mode after 5 seconds.
Steady "Red" light	Battery empty, replace battery.

After start up:

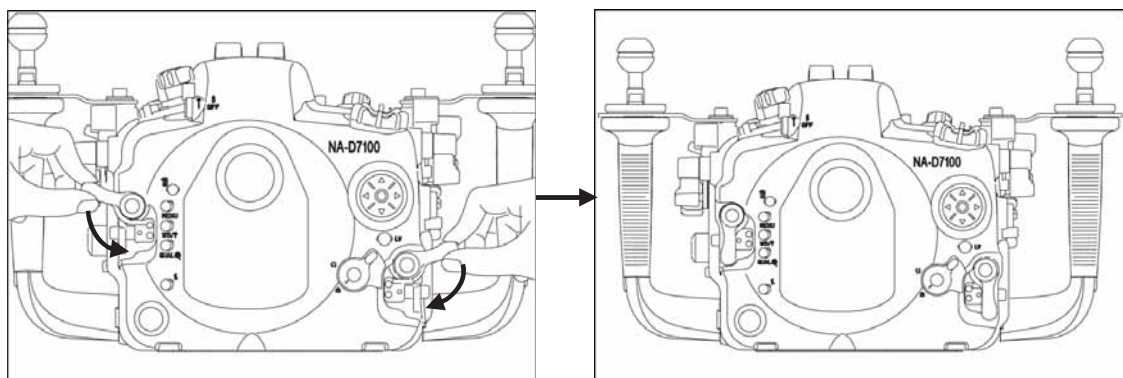
LED indicator	Status
Flashing "Blue" light	Standby mode. The moisture alarm is active, and the system is ready for vacuum indication whenever a vacuum is detected.
Flashing "Red" light with beeping sound	Moisture is detected.
Flashing "Yellow" light	Some vacuum is detected, target vacuum level is not reached.
Steady "Green" light	Target vacuum level is reached.
Rapidly flash "Yellow" light	Vacuum is dropping. (Will occur only after target vacuum level is reached)
Rapidly flashing "Red" light	Vacuum is totally lost. Circuit stalled until switched off. (Will occur only after target vacuum level is reached)

Opening and Closing the Housing

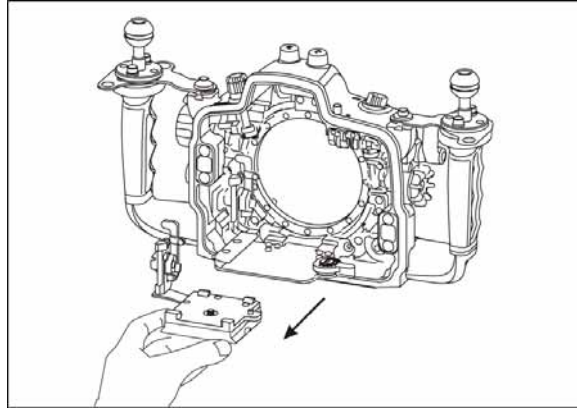
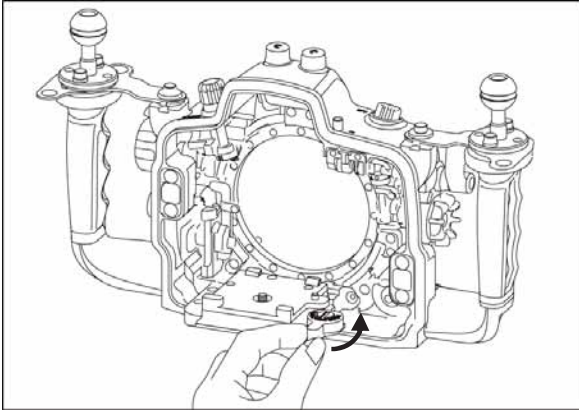
1. Always open and close the housing with the front facing down, place the housing on a flat surface or in your lap.
2. When closing, make sure there is nothing caught between the closing surfaces of the two halves of the housing.
3. The housing can be opened and closed by operating the two housing locks; when opening, press the safety buttons, then turn the locks outwards.



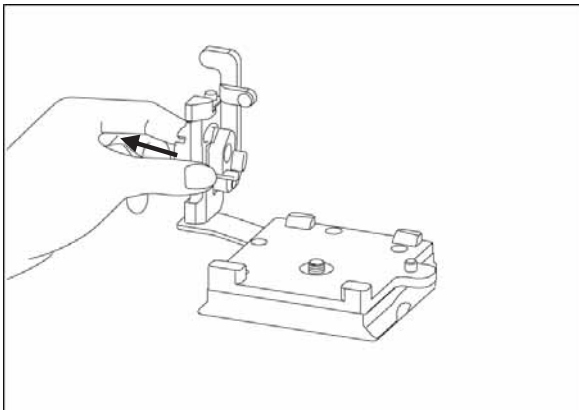
4. To close, turn the locks towards the housing, and then make sure they are locked in place securely.



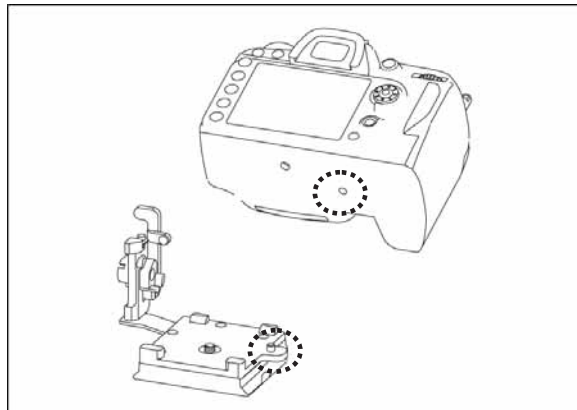
Installing the Camera



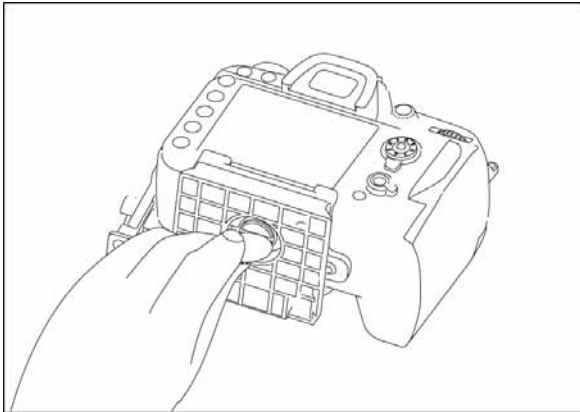
2. Remove the camera saddle from the housing to the “open” position.



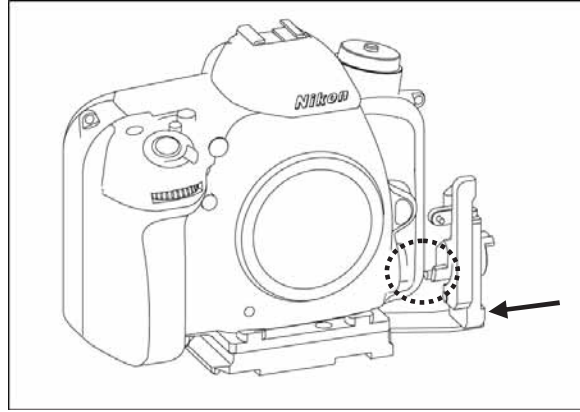
3. Pull the sliding bar on the saddle to its outward position.



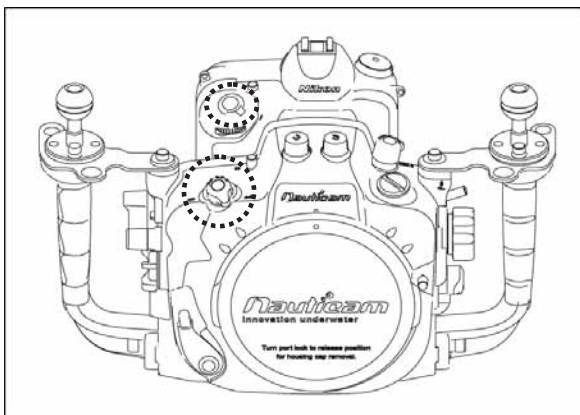
4. Align the pin on the saddle with the opening in the bottom of the camera as indicated in the diagram.



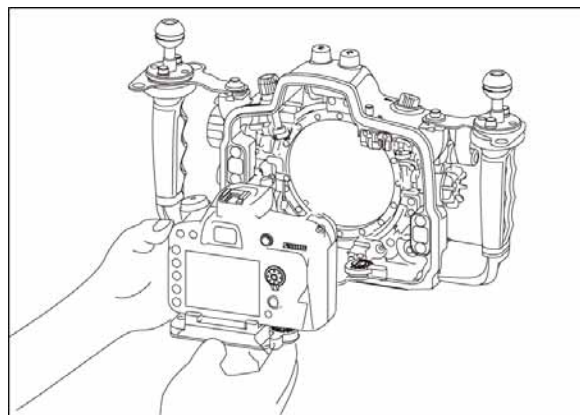
5. Attach the saddle to the camera by tightening the screw to the tripod socket of the camera with a screwdriver or a coin.



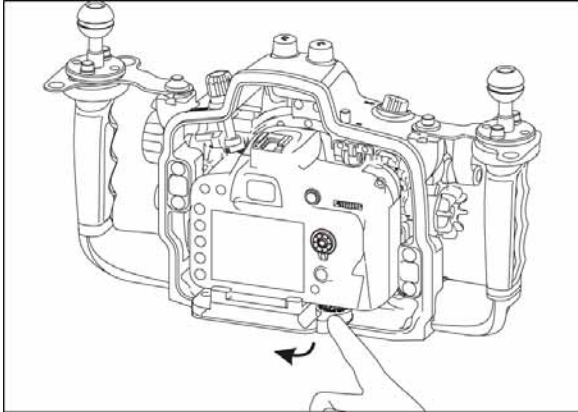
6. After ensuring the C/S/M activator on the sliding bar aligns correctly with the focus mode selector of the camera, push the sliding bar to its inward position. Check that by rotating the activator, the focus mode of the camera can be altered.



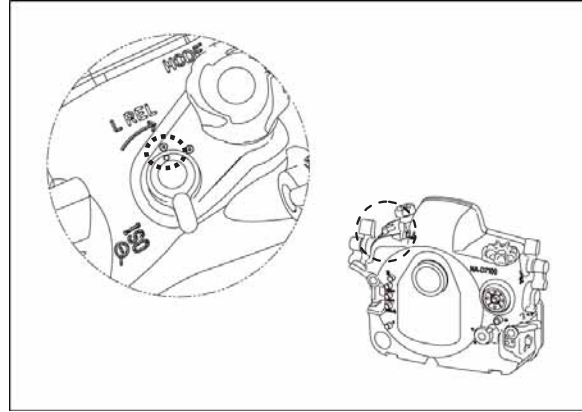
7. Disengage the zoom/focus gear using the zoom/focus gear disengagement lever.
8. Make sure the camera power is off and the On/Off control knob on the housing is in the “off” position.



9. Mount the camera by sliding the attached saddle along the rail in the housing until it cannot go in any further.



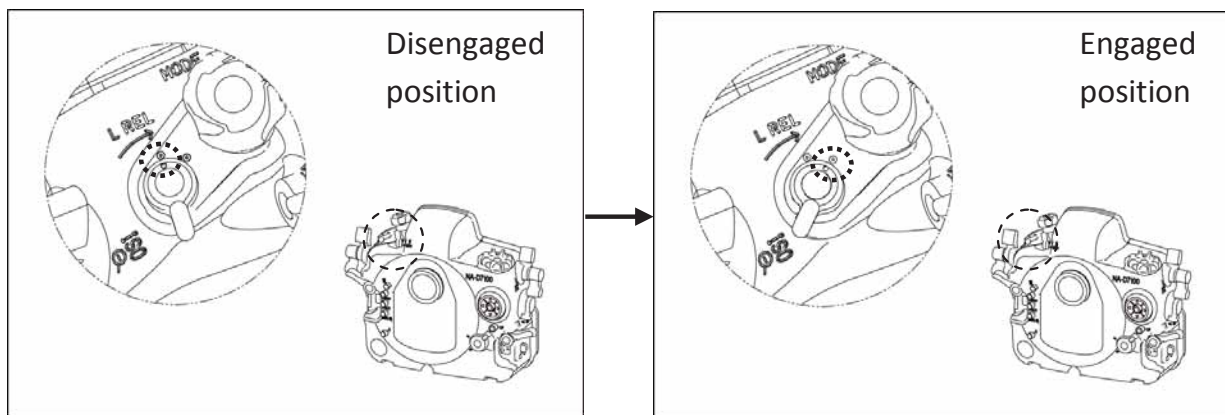
10. Lock the camera into place by turning the locking lever to the “lock” position.



11. Make sure the Release mode dial lock release lever is pointing at the WHITE dot i.e. the disengaged position, before aligning the rear housing with the front housing.
12. Confirm that all the controls of the housing are correctly engaged.
13. For removal of the camera from the housing, reverse the above procedures

Release mode dial Operation

To choose a release mode, turn the release mode dial lock release lever to the engaged position i.e. Pointing it at the RED dot. Then select the desired setting by turning the release mode dial.

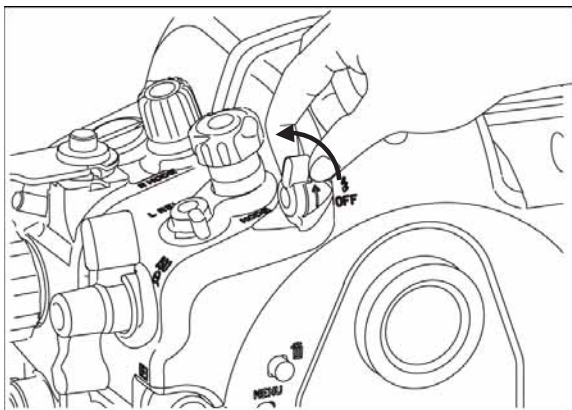


Please ensure the release mode dial lock release lever is in its disengaged position while opening and closing the housing.

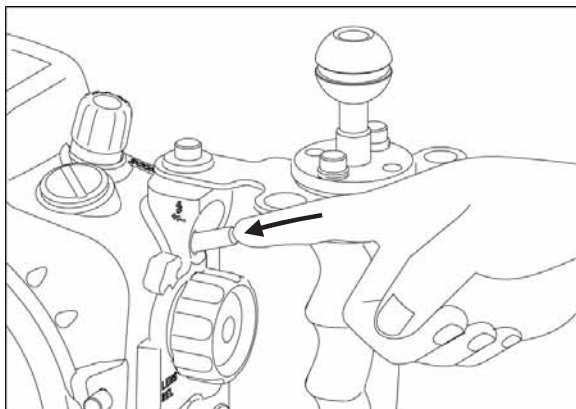
Flash Operation

The D7100 camera's built-in flash can be used for triggering external strobes.

To raise the flash after the camera has been installed into the housing, press the Flash mode/flash compensation button; pressing this button also allows the flash exposure to be adjusted by the sub-command dial.



To disable the flash, push the Flash off lever forward.

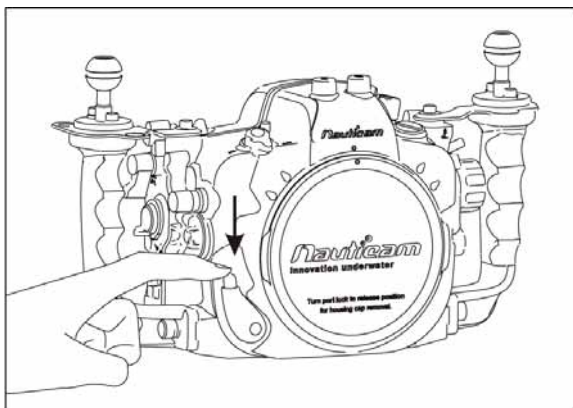


Press the Flash pop-up/ flash compensation button to enable the flash again.

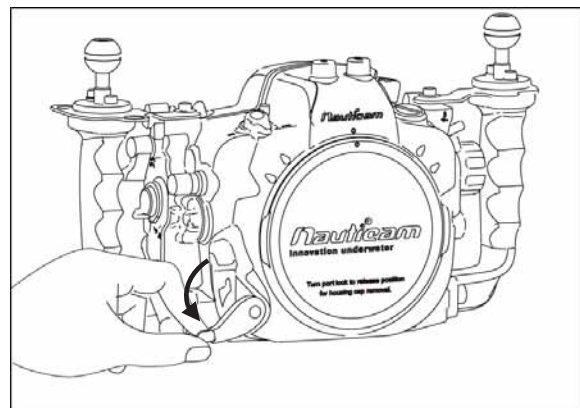
Mounting the Port

Please refer to the NAUTICAM port system chart for a range of compatible ports; note that extension rings may be needed for certain lenses and adaptors are available for the attachment of ports of other manufacturers.

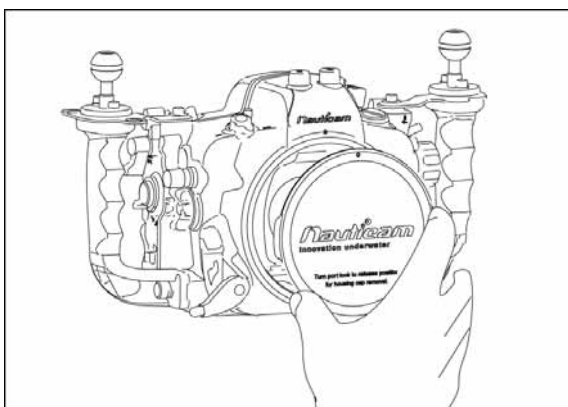
To remove housing cap:



1. Push the safety button of the port locking lever downwards.



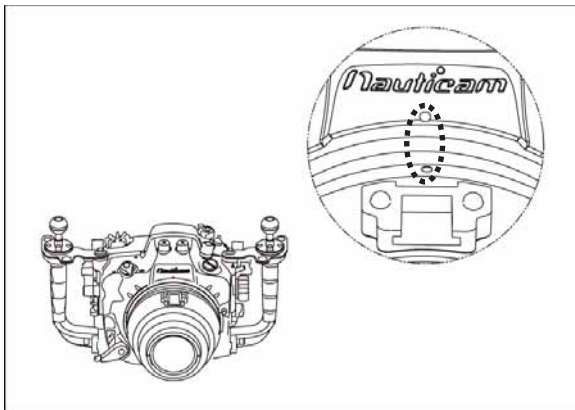
2. Turn the port locking lever to the release position as shown.



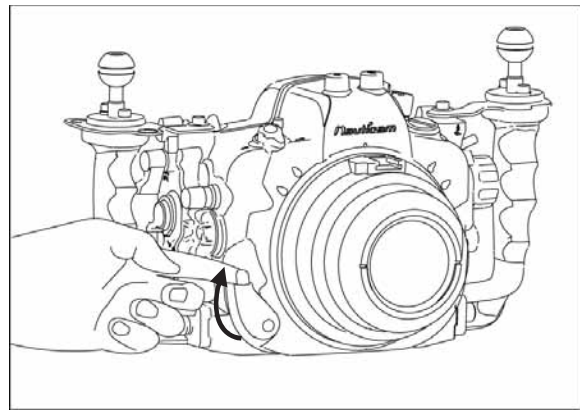
3. Lift housing cap.

To mount port:

4. Remove the O-ring from the port, inspect for any damage and lightly coat it with the provided lubricant before placing it back into its groove.
5. Verify that the port opening of the housing is clean and free from foreign material.



6. Align the mounting indices of the port and the housing; these appear as white circles on both the port and the housing.
7. Gently push the port into the opening of the housing, until it cannot go in any further.



8. Lock the port into place by turning the port locking lever to the inward position. To ensure that the port is securely mounted, confirm that the green line on the safety button of the port locking lever is visible.
9. To remove the port from the housing, simply turn the port locking lever to the outward position and gently pull it out.

Connecting the Strobe System

Optional strobe attachment balls can be attached to the strobe mounting bases on the housing or onto the top of the handles.

There are two ways of connecting strobes to the NA-D7100 housing: A) by optical connection through the Optical Bulkheads; B) by electrical connection through the Nikonos 5-pins bulkhead.

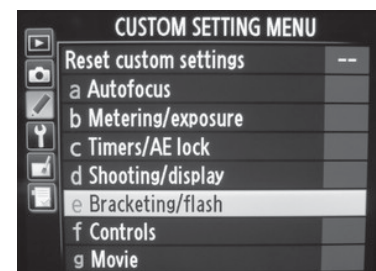
A) Using the Optical Bulkheads

The built-in pop-up flash of the D7100 camera can be used as a commander to send out signals (including i-TTL commands) to the strobes via the 2 Optical Bulkheads. It can be utilised in different ways depending on the type of strobes connected to the housing:

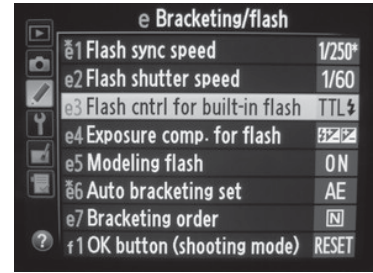
A1) Nikon i-TTL compatible strobes such as SB-R200, SB-600, SB-800, SB-900:

These strobes can fully utilise the Nikon i-TTL controls protocols enabling individual TTL exposure compensation of each of the 2 strobes connected to the Optical Bulkheads. Do ensure that the other ends of the optical fibres are pointing onto the light sensor window of the strobes.

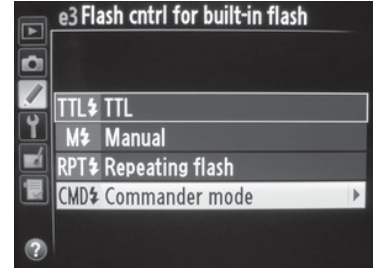
To set the D7100 camera to i-TTL Commander mode, under Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter 'e' *Bracketing/flash*.



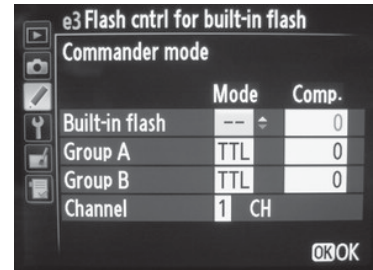
Then scroll to ‘e3’ *Flash cntrl for built-in flash* and enter.



Scroll to *Commander mode*.



Set the *Built-in flash Mode* to ‘--’, *Group A* (one of the strobes) to Mode ‘TTL’, and *Group B* (the other strobe) to Mode ‘TTL’.



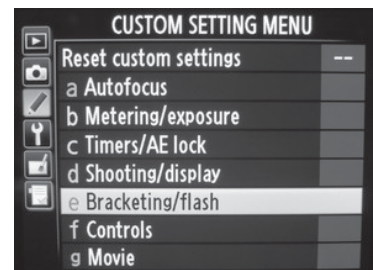
The exposure compensation of each strobe can be set individually (A and/or B) by entering the value under *Comp.*

Be sure the *Channel* number selected is the same of the 2 strobes.

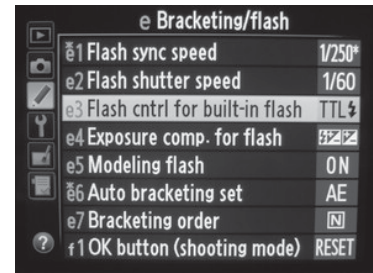
A2) Strobes with S-TTL (e.g. Inon z-240) or DS-TTL (e.g. Sea & Sea YS-110α) capabilities:

We recommend using these strobes in either S-TTL/DS-TTL or manual mode.

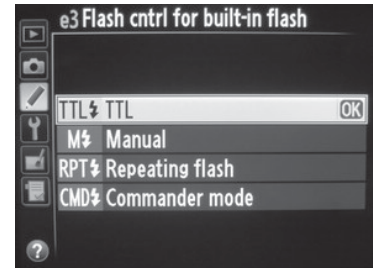
For S-TTL/DS-TTL operation, set the built-in flash of D7100 camera to TTL mode. From the Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter ‘e’ *Bracketing/flash*.



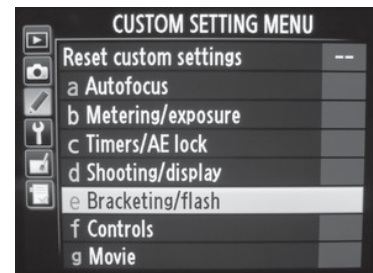
Then scroll to 'e3' *Flash cntrl for built-in flash* and enter.



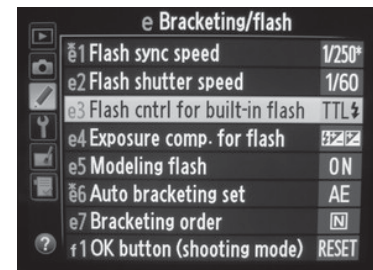
Scroll to *TTL* and press OK.



For Manual operation, set the built-in flash of the D7100 camera to *Manual* mode. From the Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter 'e' *Bracketing/flash*.



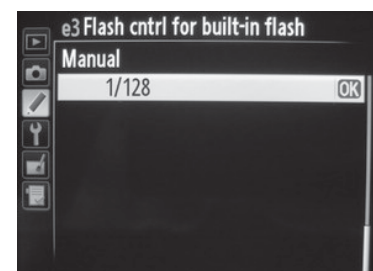
Then scroll to 'e3' *Flash cntrl for built-in flash* and enter.



Scroll to *Manual*.



A list of power outputs (of the built-in flash) will appear, selecting a relatively small output (1/100 or 1/128 and press OK) should be adequate to trigger the Inon strobes while saving the D7100 battery energy.



A3) Other strobes

The optical signal from the D7100 built-in flash can also be utilised to trigger other strobes having an optical sensor.

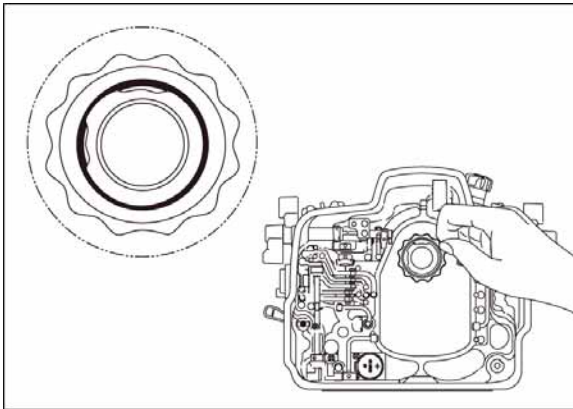
B) Using the Nikonos 5-pin bulkhead

The Nikonos 5-pin bulkhead connects to all the 5 contact points of the D7100 hotshoe for iTTL compatible operation.

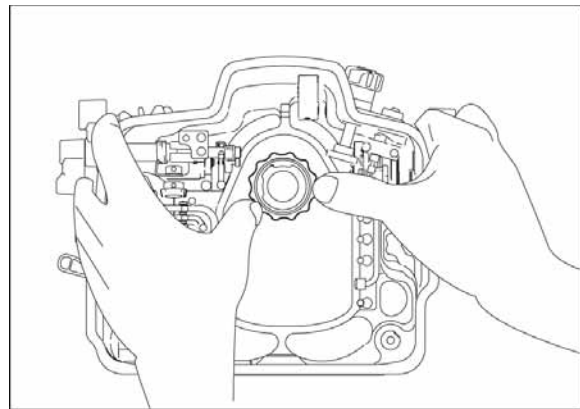
Changing the Viewfinder

In order that users can change to a preferred viewfinder easily, the 0.66X viewfinder which comes with this housing is designed so that it can be removed and re-installed by following the simple steps described below.

To remove the viewfinder:

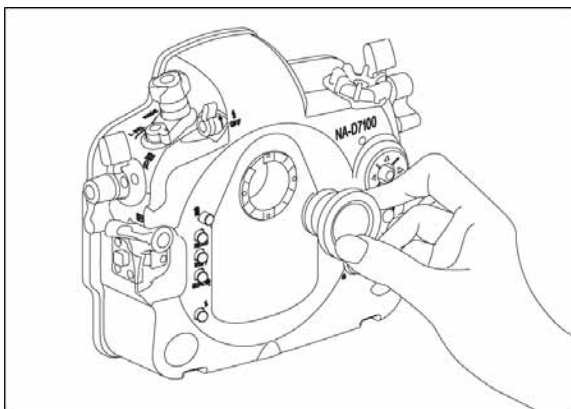


1. Remove the retainer O-ring of the viewfinder inside the rear half of the housing by making use of the recess on the viewfinder.

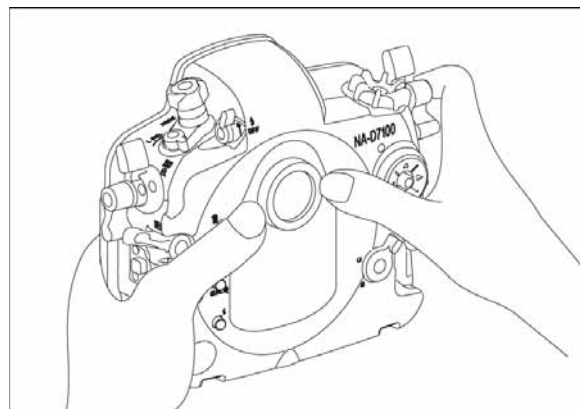


2. Gently push the viewfinder from the inside of the housing.

To re-install the viewfinder:



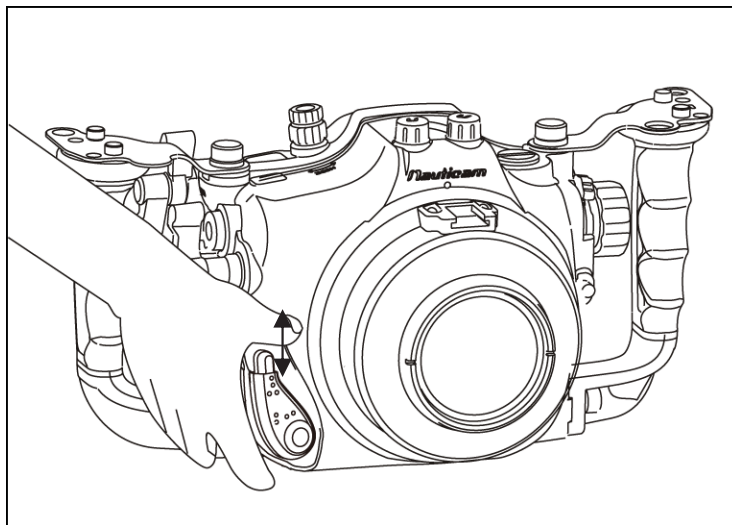
1. Lightly coat the O-rings on the outer periphery of the viewfinder body with lubricant.
2. Align the viewfinder with the sleeve in the display window.



3. Push the viewfinder from the outside of the housing until it cannot go in any further.
4. Place the retainer O-ring of the viewfinder back from inside the housing.

Care and Maintenance

1. Soak the housing system in fresh water after each salt water use, during which all control buttons/knobs should be operated a few times to avoid the accumulation of salt residue; wipe the housing with a towel before opening.
2. Carefully press the port locking safety button and the two housing lock safety buttons for a few times to avoid the accumulation of salt residue. Hold the port lock in "locked" position while pressing the safety buttons.



3. After each day of diving, it is advisable to have the main O-ring in the front part of the housing removed from its groove with the O-ring remover and inspected for damage. Also check that the O-ring retains its original circular shape; never stretch the O-ring excessively or remove it with a sharp object. The O-ring groove should be cleaned to ensure it is free from any salt deposit or foreign material; lightly coat the O-ring with the provided lubricant before reinstalling it in the groove. A damaged O-ring should be discarded immediately and replaced only with one that is provided by NAUTICAM.
4. Replace the main O-ring annually.
5. It is recommended that you ship the housing to our distributor for a complete overhaul every year or after every 200 dives.

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