

NA - D7000

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 more than 75 metres for housings with a depth rating of 60 metres or 150 metres for housings with a depth rating of 100 metres to ensure optimum quality.

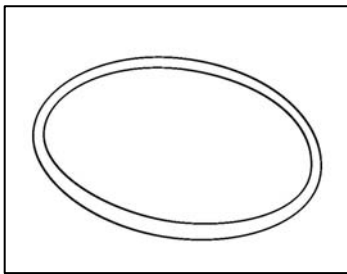
Please read this manual carefully before using the housing, this will maximise its performance as well as its lifetime.

Warranty

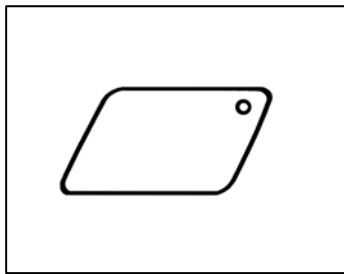
1. All NAUTICAM Products are warranted against any material and manufacturing defects for one year from the date of purchase for consumer use.
2. NAUTICAM accepts no liability for any damage to and defects in the housing caused by improper use and/or poor maintenance; it is the responsibility of the 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

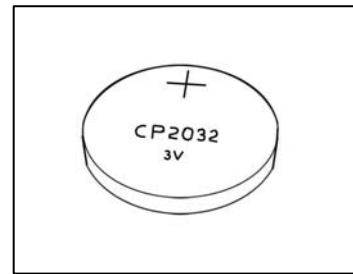
1. NA-D7000 housing
2. Instruction manual
3. Spare silicone rubber main o-ring
4. O-ring remover
5. CR2032 battery (for moisture alarm)
6. Lubricant
7. Set of Allen keys



Spare silicone rubber o-ring



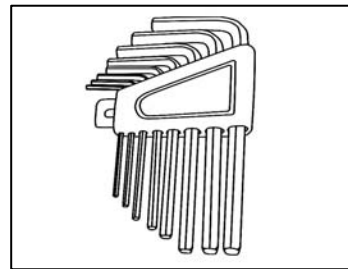
O-ring remover



CR2032 battery



Lubricant



Set of Allen keys

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.

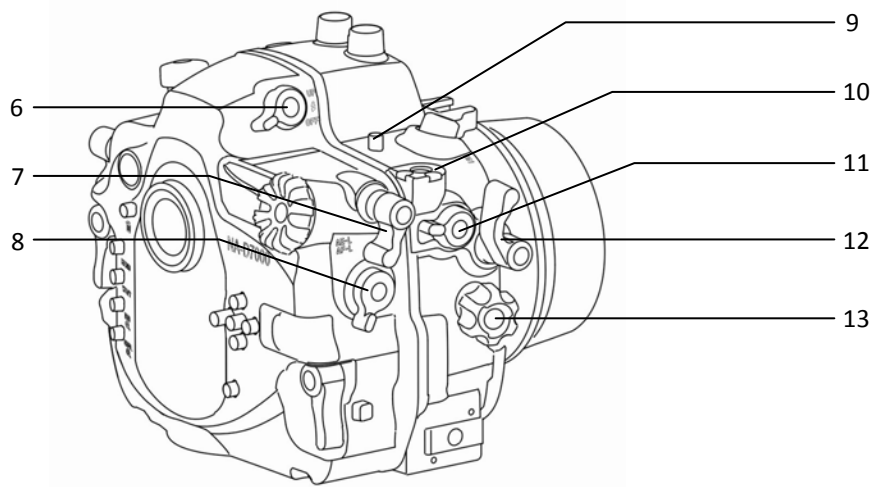
Table of Contents

<i>Specifications</i>	6
<i>Identification of Parts</i>	7
<i>Preparation of the Housing</i>	12
<i>Opening and Closing the Housing</i>	15
<i>Installing the Camera</i>	16
<i>Flash Operation</i>	19
<i>Mounting the Port</i>	20
<i>Connecting the Strobe System</i>	22
<i>Changing the Viewfinder</i>	26
<i>Care and Maintenance</i>	28
<i>Optional Accessories</i>	29

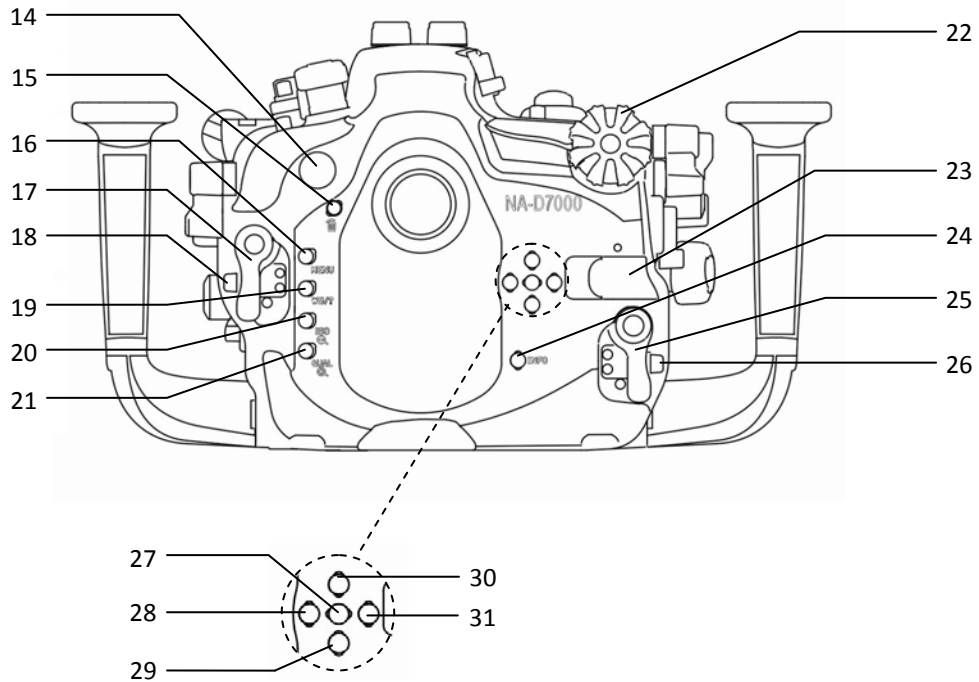
Specifications

Construction	Housing body:	Aluminium alloy
	Surface treatment:	Hard anodised
	Display window:	Abrasion resistant polycarbonate
	Grip handles:	Polycarbonate and rubber
Dimensions (with handles)	Width:	326 mm
	Height:	172 mm
	Depth:	125 mm
Weight	2.55 kg (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.
	Exposure compensation lever	Allows easy exposure adjustments from the right handle.
	Flash up/off lever:	Allows the camera's built-in flash to be disabled underwater.
	Live view lever/Movie record button	Specially designed for the easy operation of the movie recording.

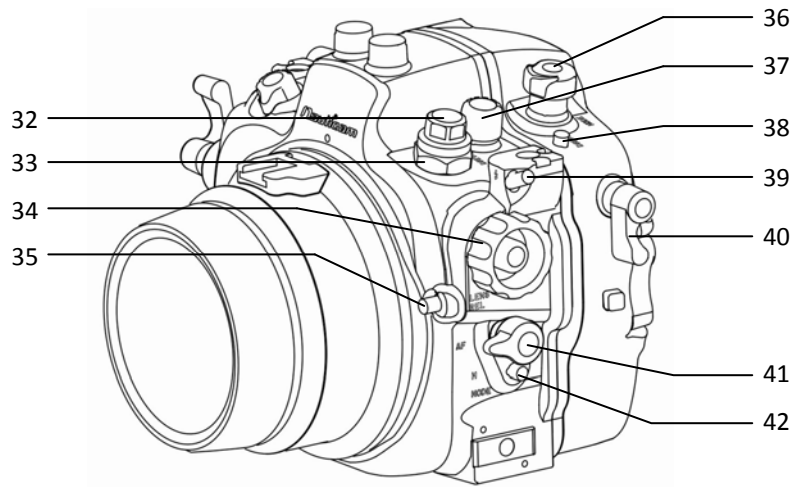
Identification of Parts



1	On/Off control knob	8	Live view lever
2	Grip handle x 2	9	Metering button
3	Port lock/release lever	10	Strobe mounting base x 2
4	Optical bulkhead for strobe connections x 2	11	Exposure compensation lever
5	Port alignment index	12	Shutter release lever
6	Flash up/off lever	13	Sub-command knob
7	AE-L/AF-L lever		



14	Moisture alarm window	23	Movie record button
15	Delete button	24	Info button
16	Menu button	25	Housing lock (R)
17	Housing lock (L)	26	Housing lock safety button (R)
18	Housing lock safety button (L)	27	OK button
19	Help/White balance button	28	Left selection button
20	Thumbnail/Playback zoom out button	29	Down selection button
21	Playback zoom in/Image quality button	30	Up selection button
22	Main command knob	31	Right selection button



32	M14 threaded plug	38	Release mode dial lock release button
33	M16 to M14 step down adaptor	39	Flash mode/flash compensation button
34	Zoom/focus knob	40	Playback lever
35	Lens release button	41	Focus mode selection knob
36	Mode knob	42	AF mode button
37	Release mode knob		

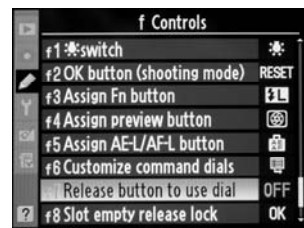
Shooting Tips

1. By setting the “Release Button to Use Dial” function of the D7000 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.

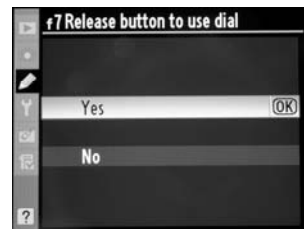
To enable this function, under Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter ‘f’ Controls.



Then scroll to ‘f7’ Release Button to Use Dial and enter.



Select ‘Yes’ and press OK.

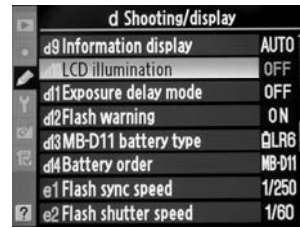


2. By setting the “LCD illumination” function of the D7000 camera to **On**, the top control panel backlight can be turned on by pressing the shutter release lever halfway while exposure meters are active; the length of time that the camera continues to meter exposure can be assigned by the “Auto Meter-off Delay” setting.

To enable the “LCD illumination” function, under Menu, scroll to Custom Setting Menu, enter ‘D’ Shooting/Display.



Then scroll to 'd10' LCD illumination and enter.



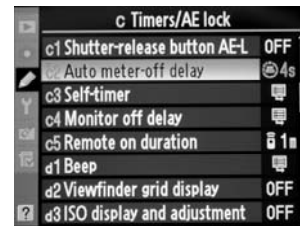
Select 'On' and press OK.



To control the time period of exposure meters, under Menu, scroll to Custom Setting Menu, enter 'c' Timers/AE lock.



Then scroll to 'c2' Auto Meter-off Delay and enter.

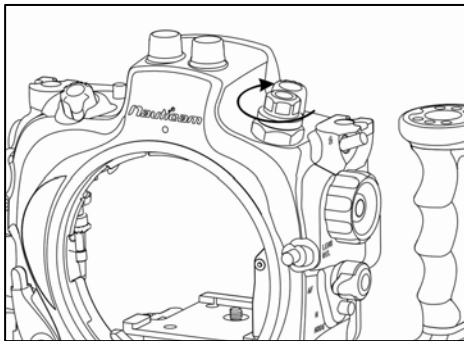


Select the preferred time period and press OK.

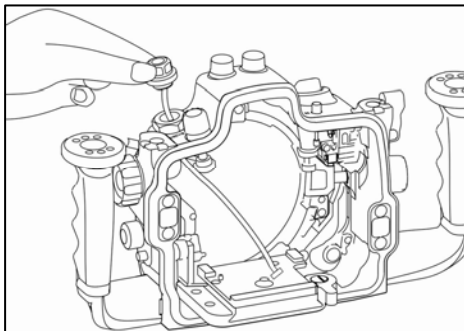


Preparation of the Housing

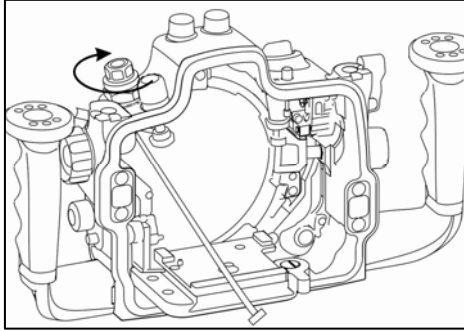
1. After verifying that the main O-ring is in good condition, lightly coat it with the lubricant provided.
2. Make sure the O-ring groove located in the front part of the housing is free from any foreign material; the groove can be cleaned with the aid of a microfiber cloth.
3. Place the main O-ring into the groove by gently pushing it, first at the corners, then the whole perimeter.
4. If necessary, spacers can be used to increase space between the grip handles and the housing; please use the longer screws provided to attach the grip handles and the spacers to the housing.
5. (Optional) To install the Nikonos 5-pin bulkhead:



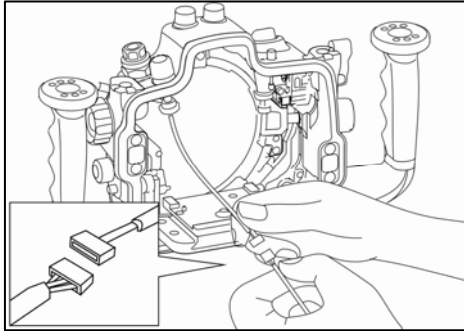
- i. Unscrew the M14 plug from the threaded hole in the M16 to M14 step down adaptor with a spanner.



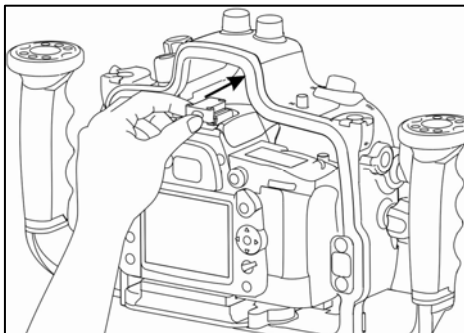
- ii. Insert the 5-pin bulkhead through the threaded hole.



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

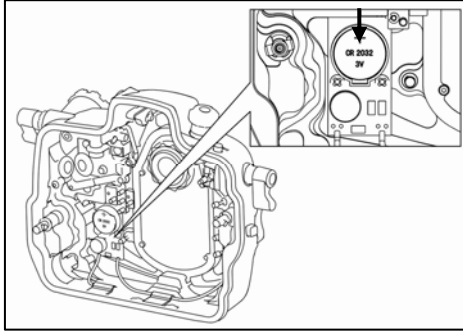


- iv. Connect the 5-pin bulkhead to the accessory shoe plug.

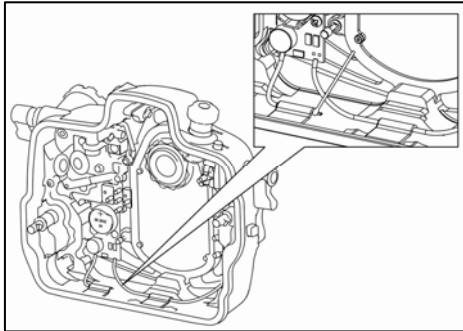


- v. Slide the accessory shoe plug of the housing into the accessory shoe of the camera.

Setting up the moisture alarm



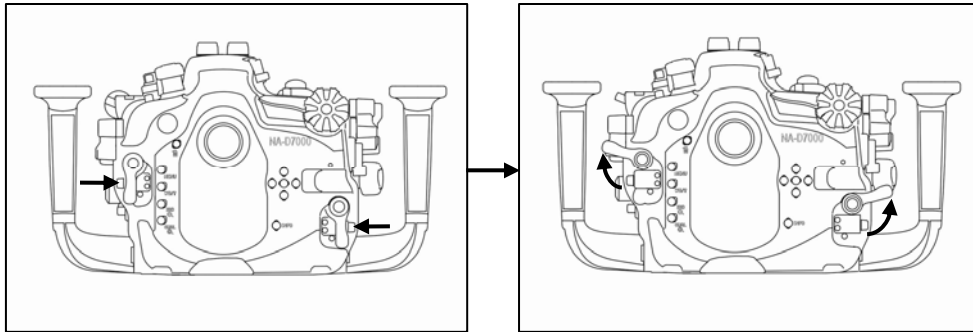
1. Install the CR2032 battery provided into the battery compartment on the circuit board inside the rear part of the housing.



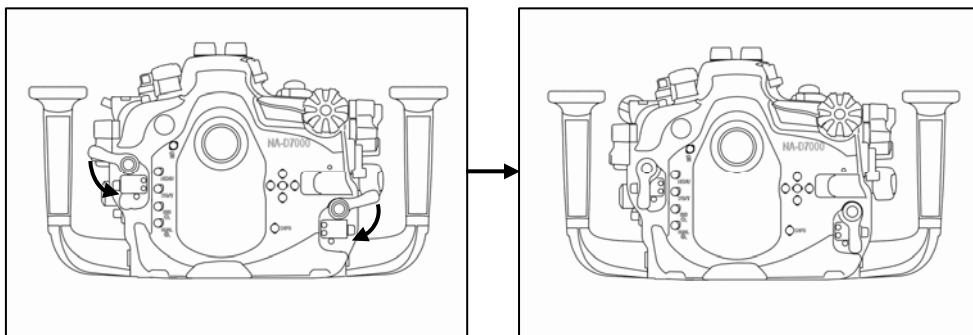
2. Test the alarm by contacting the two wires near the bottom of the housing with a damped cotton bud; the alarm should start giving out a repeating “beep” sound along with a flashing red light. The “beep” sound and the light should keep on going for 5 seconds after the removal of the damped cotton bud.

Opening and Closing the Housing

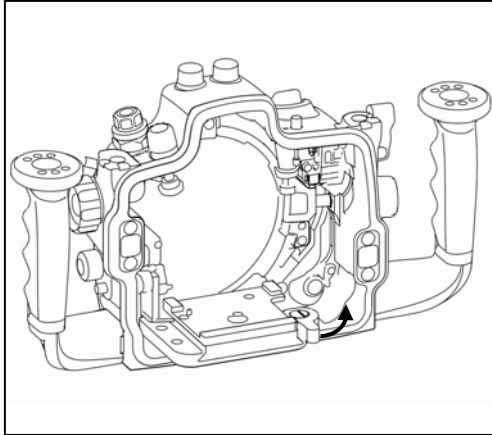
1. Always open and close the housing with the front facing down, place the housing on a flat surface or in your lap.
2. When closing, make sure there is nothing caught between the closing surfaces of the two halves of the housing.
3. The housing can be opened and closed by operating the two housing locks;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



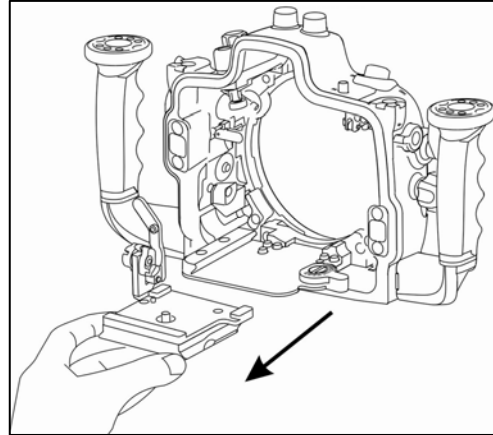
4. To close, turn the locks towards the housing, and then make sure they are locked in place securely.



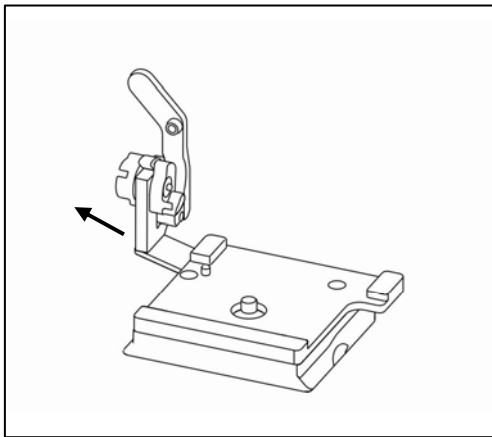
Installing the Camera



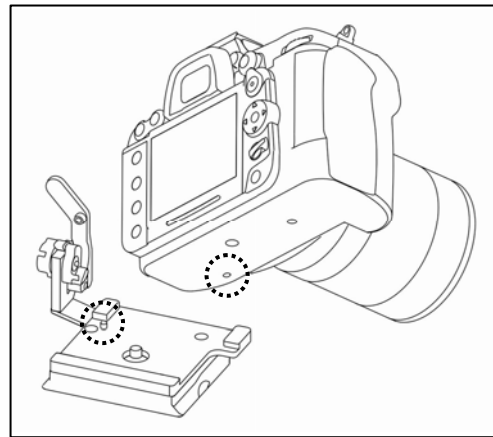
1. Turn the locking lever on the tray of the housing to the “open” position.



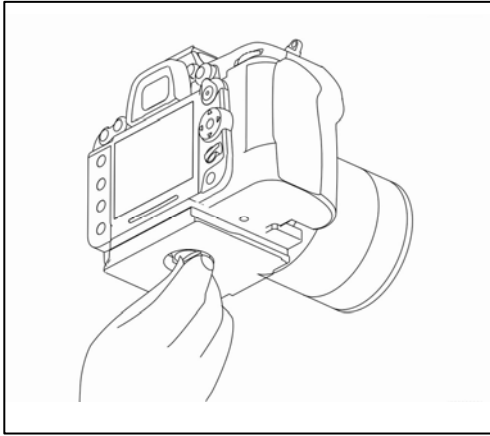
2. Remove the camera saddle from the housing.



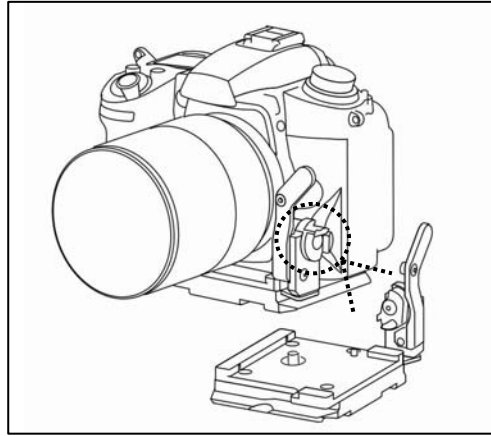
3. Pull the sliding bar on the saddle to its outward position.



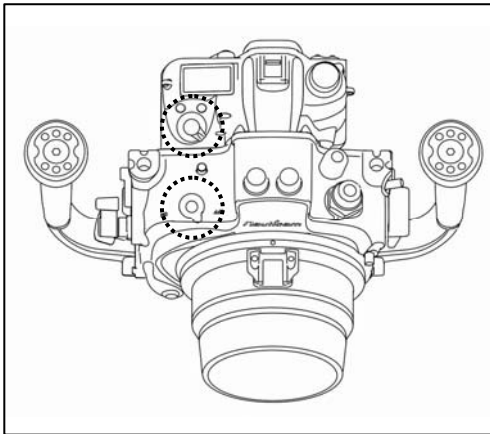
4. Align the pin on the saddle with the opening in the bottom of the camera as indicated in the diagram.



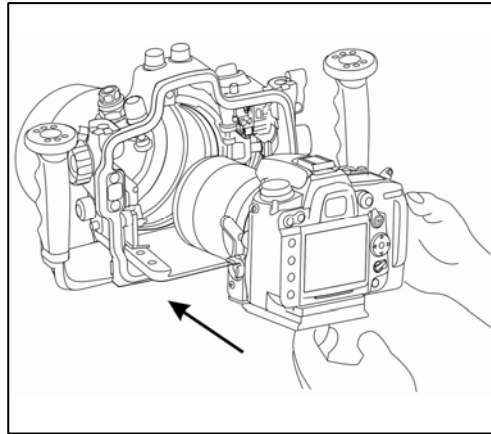
5. Attach the saddle to the camera by tightening the screw to the tripod socket of the camera with a screwdriver or a coin.



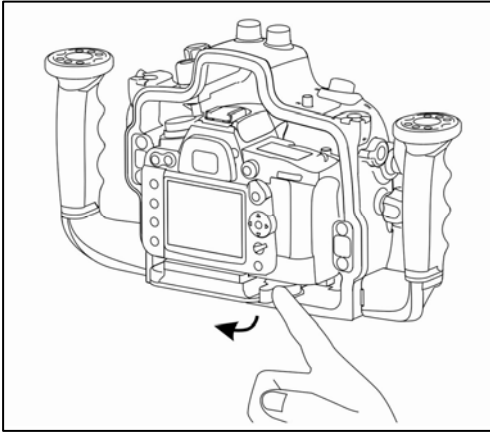
6. After ensuring the C/S/M activator on the sliding bar matches the focus mode selector of the camera, push the sliding bar to its inward position. Check that by rotating the activator, the focus mode of the camera can be altered.



7. Make sure the camera power is off and the On/Off control knob on the housing is in the "off" position.



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



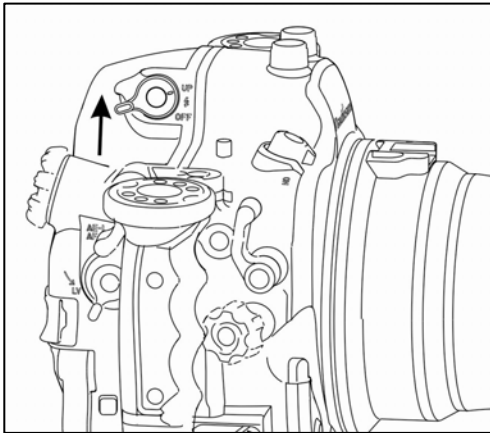
9. Lock the camera into place by turning the locking lever to the “lock” position.

10. Confirm that all the controls of the housing are correctly engaged.
11. For removal of the camera from the housing, reverse the above procedures.

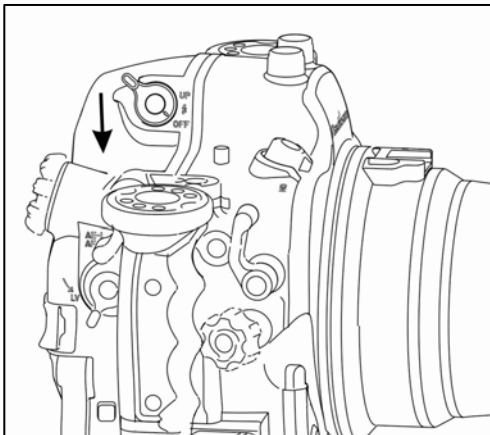
Flash Operation

The D7000 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 knob.



To disable the flash, turn the Flash up/off lever to the "Off" position.

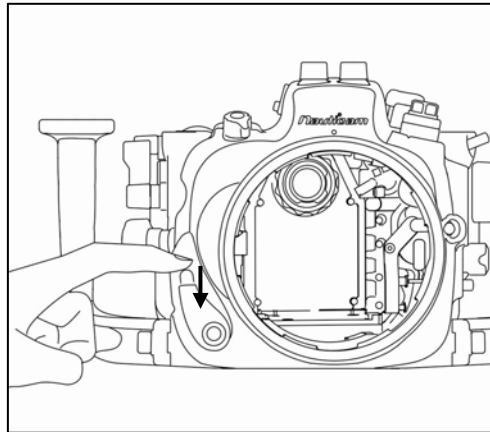


Turn the lever to the "Up" position to enable the flash again.

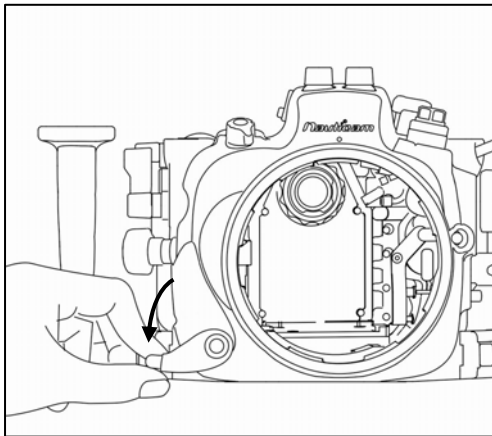
Mounting the Port

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.

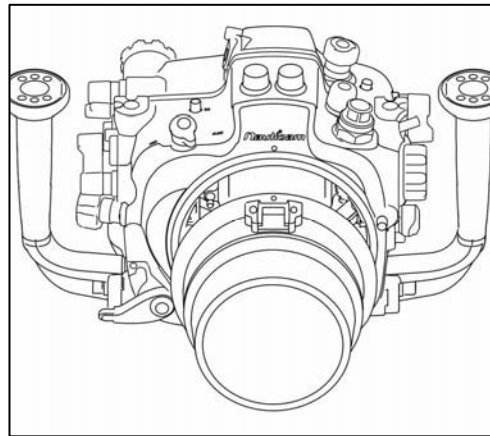
1. Remove the O-ring from the port, inspect for any damage and lightly coat it with the provided lubricant before placing it back into its groove.
2. Verify that the port opening of the housing is clean and free from foreign material.



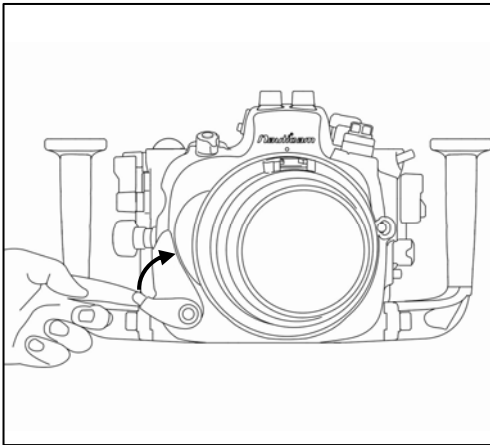
3. Push the safety button of the port locking lever downwards.



4. Turn the port locking lever to the outward position.



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



7. 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.
8. 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-D7000 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 D7000 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:

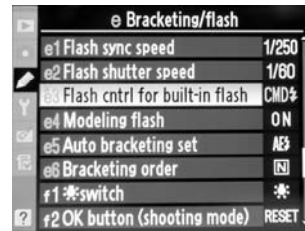
A1) Nikon i-TTL compatible strobes such as SB-R200, SB-600, SB-800, SB-900:

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 D7000 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.

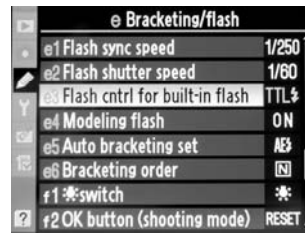
A2) Strobes with S-TTL (e.g. Inon z-240) or DS-TTL (e.g. Sea & Sea YS-110α) capabilities:

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 D7000 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.



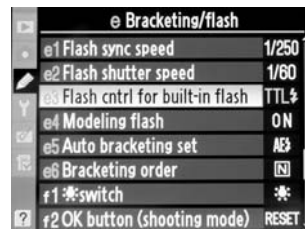
Scroll to *TTL* and press OK.



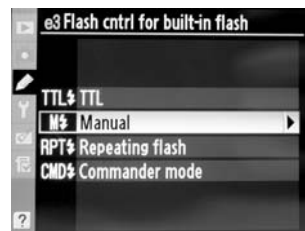
For Manual operation, set the built-in flash of the D7000 camera to *Manual* mode. From the Menu, scroll to Custom Setting Menu (Pencil shaped icon on the left of the LCD screen), enter 'e' *Bracketing/flash*.



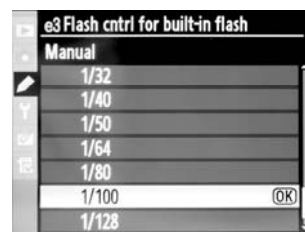
Then scroll to 'e3' *Flash cntrl for built-in flash* and enter.



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 D7000 battery energy.



A3) Other strobes

The optical signal from the D7000 built-in flash can also be utilised to trigger other strobes having an optical sensor.

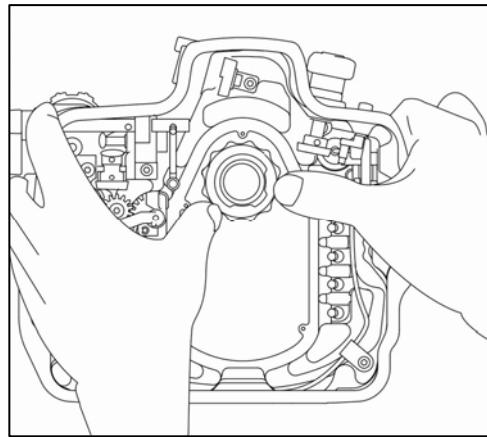
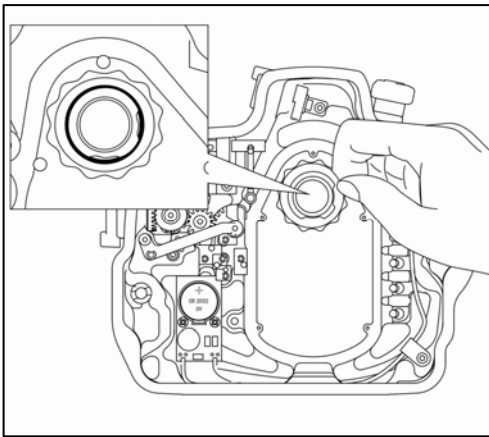
B) Using the Nikonos 5-pin bulkhead

The Nikonos 5-pin bulkhead connects to all the 5 contact points of the D7000 hotshoe for iTTL compatible operation.

Changing the Viewfinder

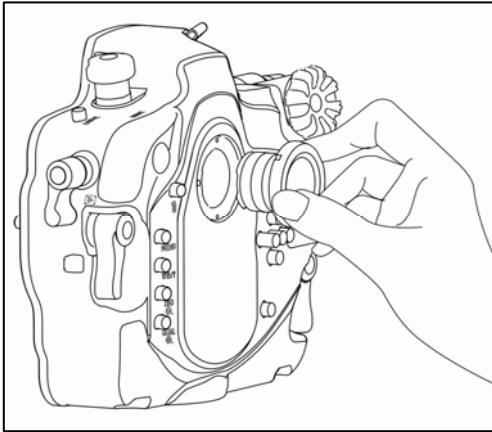
In order that users can change to a preferred viewfinder easily, the 0.66X viewfinder which comes with this housing is designed so that it can be removed and re-installed by following the simple steps described below.

To remove the viewfinder:

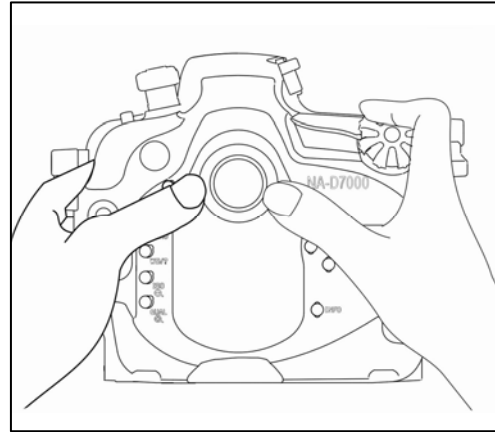


1. Remove the retainer O-ring of the viewfinder inside the rear half of the housing by making use of the recess on the viewfinder.
2. Gently push the viewfinder from the inside of the housing.

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.

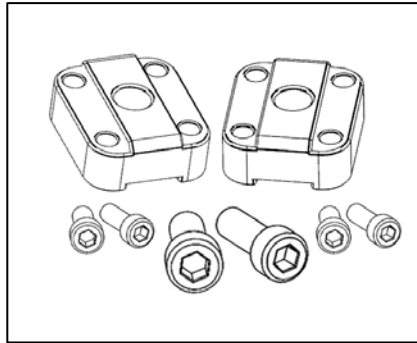


3. Push the viewfinder from the outside of the housing until it cannot go in any further.
4. Place the retainer O-ring of the viewfinder back from inside the housing.

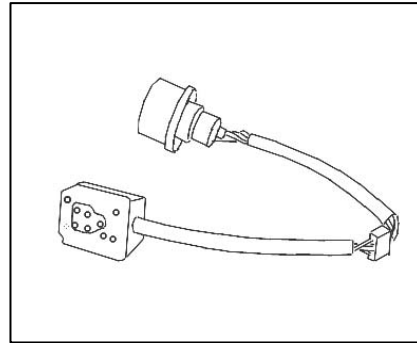
Care and Maintenance

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. 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.
3. Replace the main O-ring annually.
4. It is recommended that you ship the housing to our distributor for a complete overhaul every year or after every 200 dives.

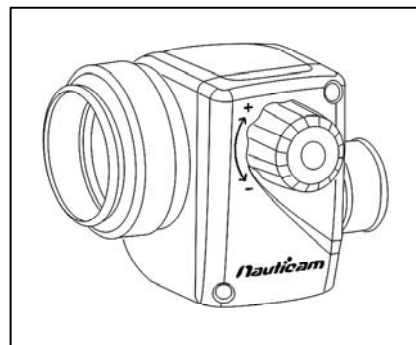
Optional Accessories



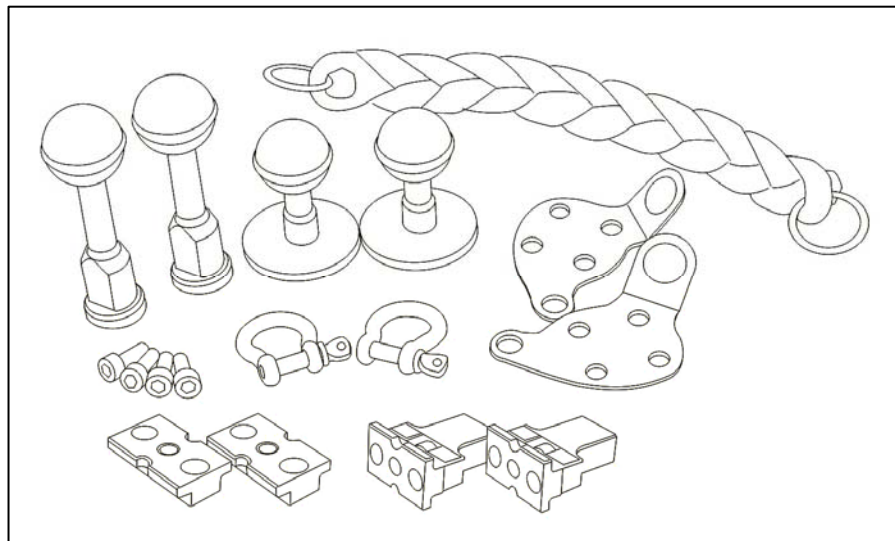
Set of spacers



Nikonos 5-pin bulkhead



**Enhanced 180° viewfinder
(with external dioptric adjustment knob)**



Strobe mounting accessories and lanyard

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