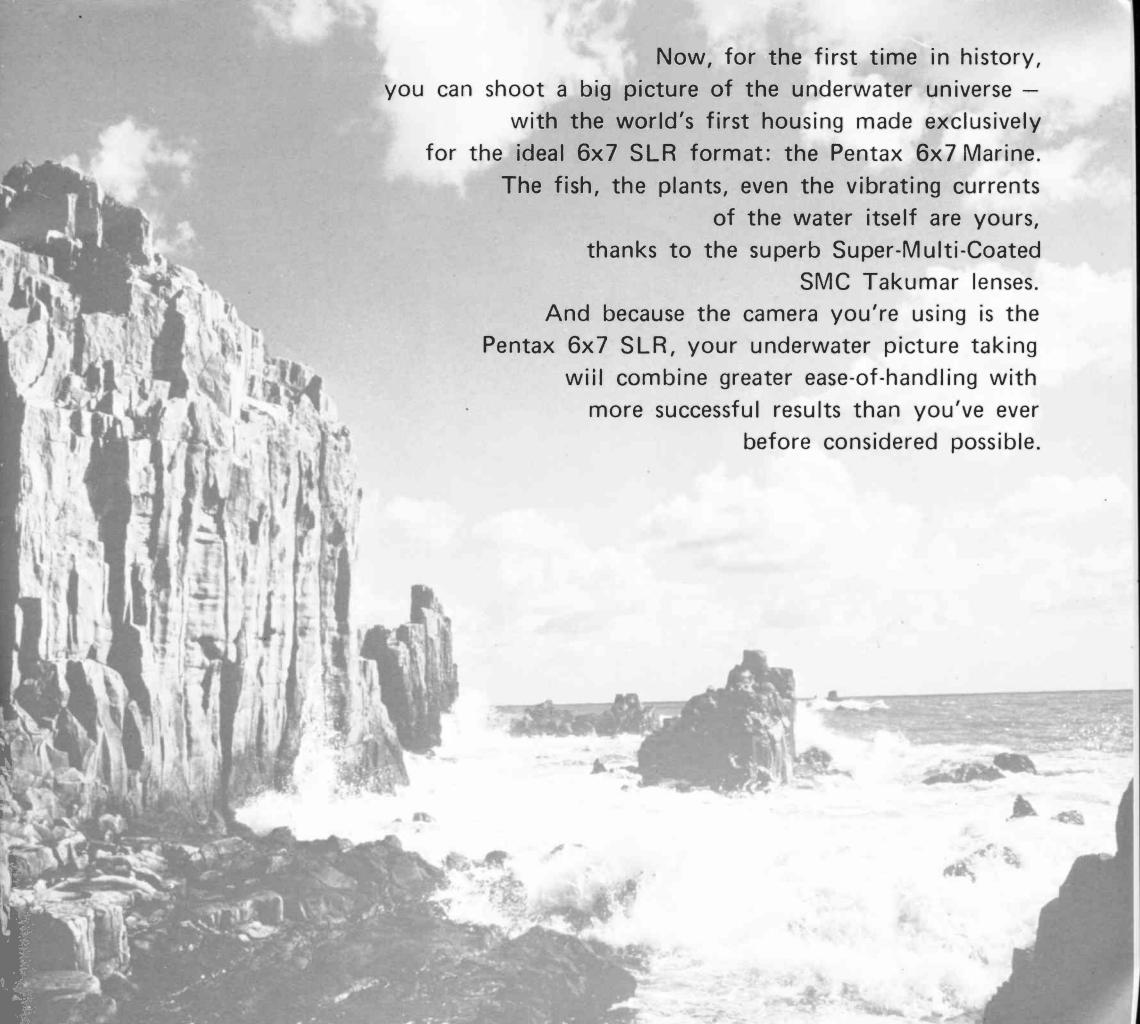
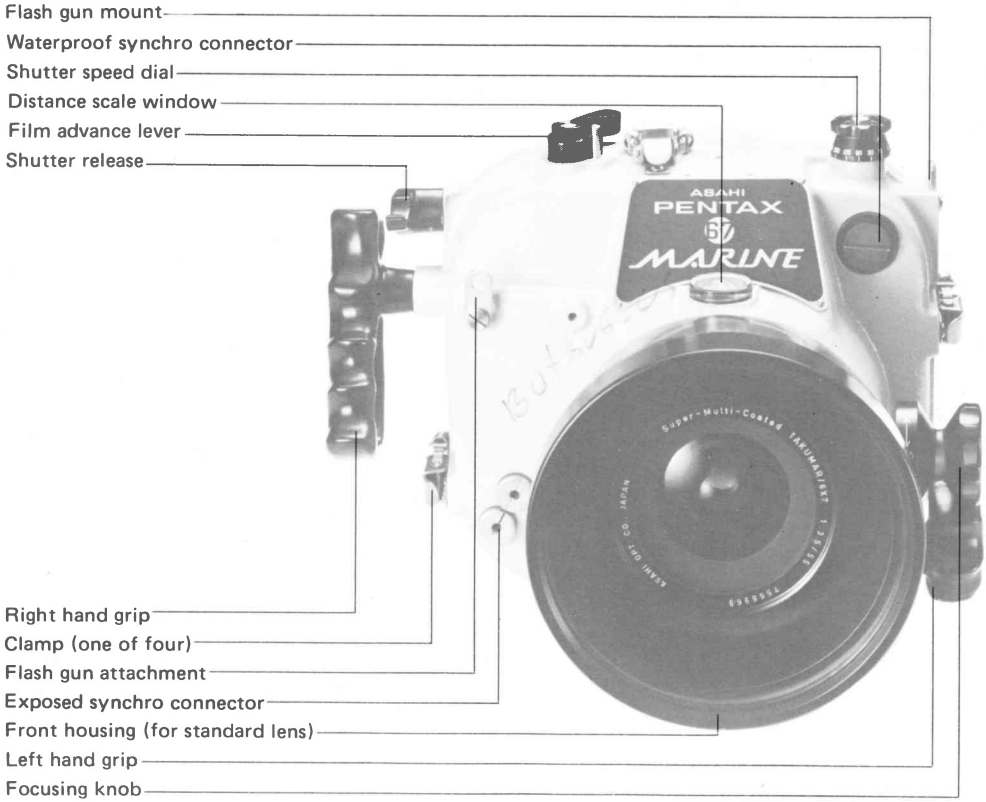
ASAHI PENTAX 6x7 MARINE

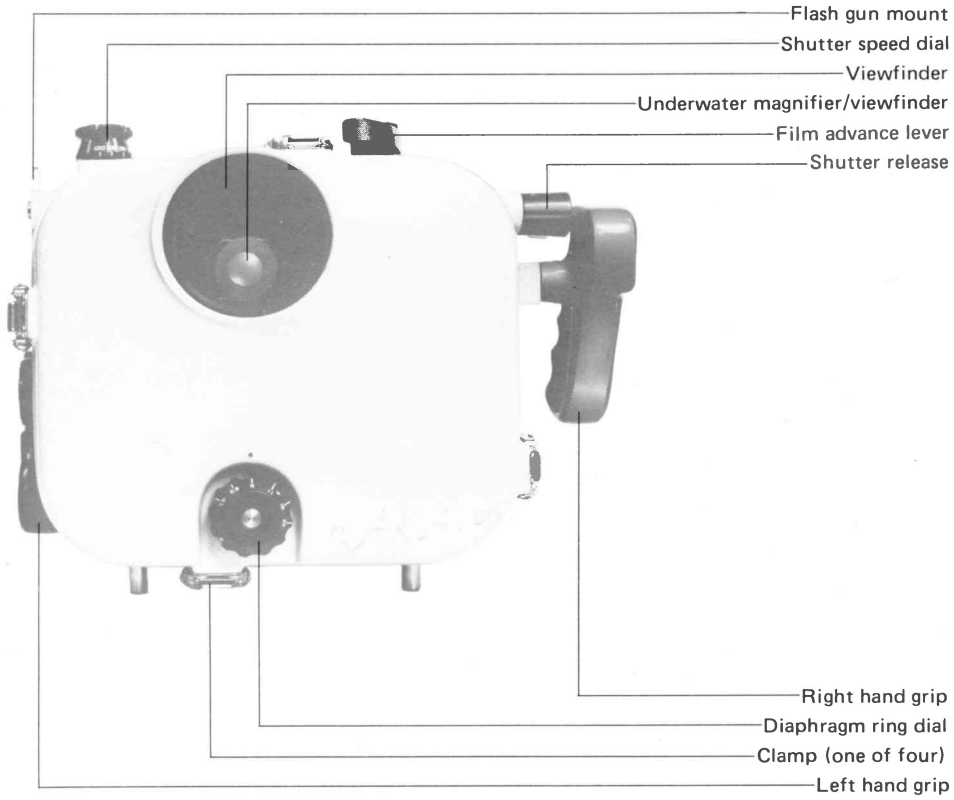
ASAHI PENTAX INTRODUCES
THE ALL-NEW PENTAX 6X7 MARINE –
THE FIRST UNDERWATER HOUSING
EVER MADE FOR AN IDEAL-FORMAT SLR.
IT LETS YOU SEE
THIS FANTASTIC
"WORLD BELOW" WITH CLARITY,
EASE AND RESULTS
NEVER BEFORE POSSIBLE.



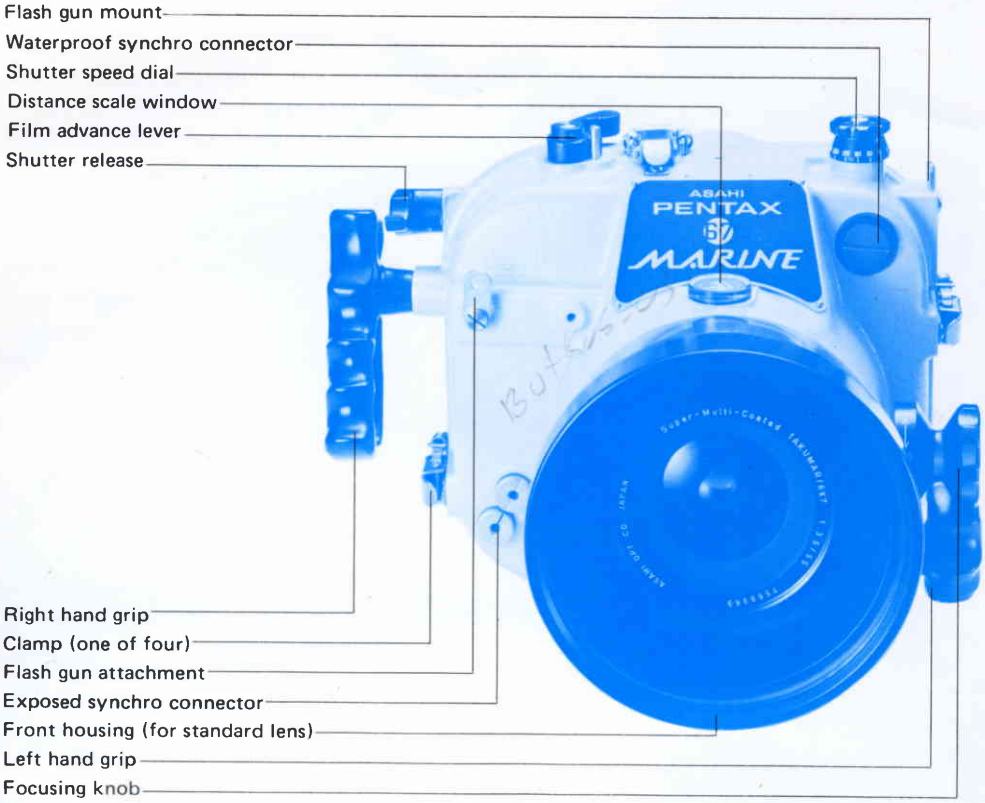
Now, for the first time in history,
you can shoot a big picture of the underwater universe —
with the world's first housing made exclusively
for the ideal 6x7 SLR format: the Pentax 6x7 Marine.
The fish, the plants, even the vibrating currents
of the water itself are yours,
thanks to the superb Super-Multi-Coated
SMC Takumar lenses.
And because the camera you're using is the
Pentax 6x7 SLR, your underwater picture taking
will combine greater ease-of-handling with
more successful results than you've ever
before considered possible.

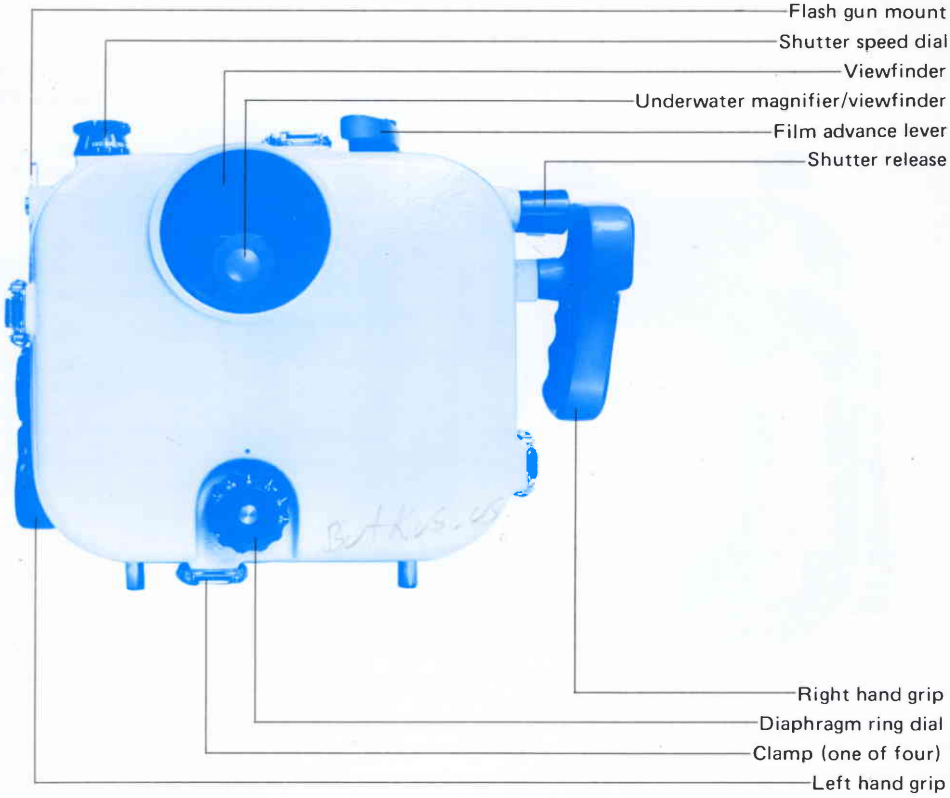
Marine Features




Flash gun mount
Shutter speed dial
Viewfinder
Underwater magnifier/viewfinder
Film advance lever
Shutter release
Right hand grip
Diaphragm ring dial
Clamp (one of four)
Left hand grip

Marine Features

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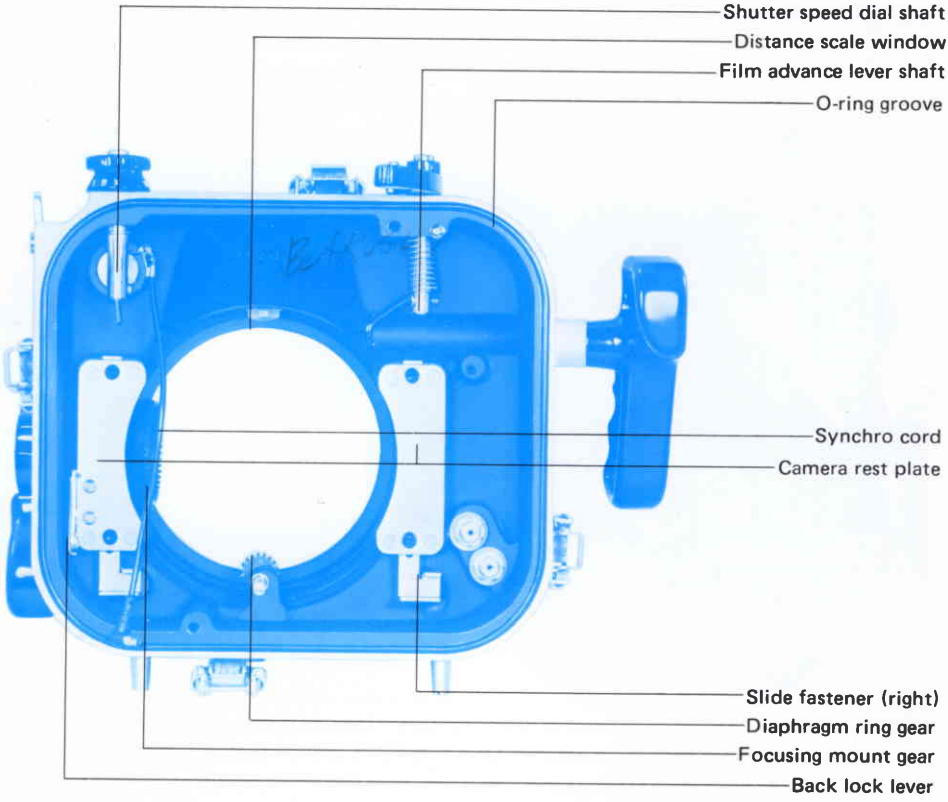
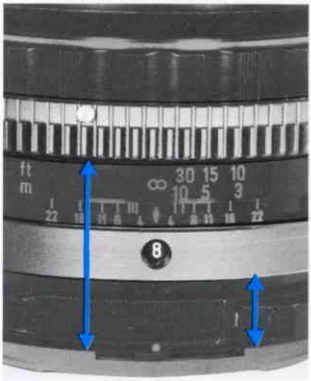


Basic Camera	Asahi Pentax 6x7	
Front Housing		
For standard lenses	SMC Takumar/6x7 55mm f/3.5	
	SMC Takumar/6x7 75mm f/4.5	
	SMC Takumar/6x7 105mm f/2.4	
For fish-eye lenses	SMC Fish-eye Takumar/6x7 35mm f/4.5	
For macro lenses	SMC Macro Takumar/6x7 135mm f/4	
	SMC Takumar 6x7/150mm f/2.8	
	SMC Takumar 6x7/200mm f/4	
Depth Capability	up to 50 meters or 6 atmospheres (5kg/cm^2)	
Flash Connection	X/FP (Exposed and waterproof synchro terminals)	
Viewfinder	with the underwater magnifier/viewfinder, image magnification in the 6x7 camera viewfinder is 0.6x. Field of vision same as camera.	
Size	308mm wide x 246mm high x 245mm deep with standard front housing attached	
	308mm wide x 246mm high x 210mm deep with Fish-eye housing attached	
	308mm wide x 246mm high x 290mm deep with Macro housing attached	
Weight	approx. 6.6kg (housing only) out of water, 1kg (including camera and 55mm lens) underwater	
Other	non-corrosive aluminum alloy, sea water resistant paint, O-rings for each of the joining parts, external shutter speed dial and diaphragm ring dial, and distance scale window	
Accessories	gears for focusing mount and diaphragm ring	1 each
	(Note: Different gears are required for different lenses.)	
	spare O-ring for main housing	1
	underwater magnifier/viewfinder	1
	O-ring grease	1 pack

Assembly

1 2



Focusing Mount Gear Ring

1. First attach the "open" focus ring around the focusing mount. Then lay the focusing mount gear ring on top of the open ring so that the gear teeth are between 38mm* and 46mm from the lens mount side. Then tighten the three small screws (see diagram).

* This can be done very simply by merely lining up the edge with the printed numerals in the focusing scale.

Diaphragm Gear Ring

2. Attach the diaphragm gear ring at a distance of 12mm* to 26mm from the lens mount. The position of the small window in the band of the gear ring is important – it should be positioned over the f/8 stop.

- Turn the focusing ring and the diaphragm ring to check that both gear rings have been attached squarely.
- Set the automatic diaphragm release lever to AUTO.
- If the 55mm compensation lens (purchased separately) is to be used, be sure to attach it before placing the camera into the housing.

3

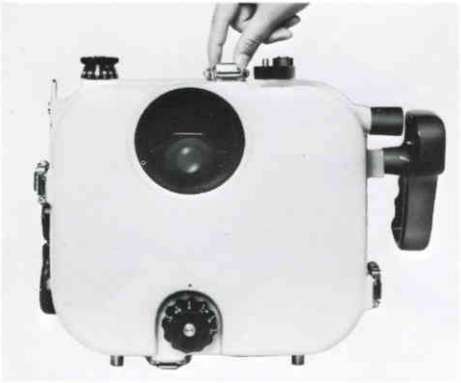
Shutter Speed Dial Ring

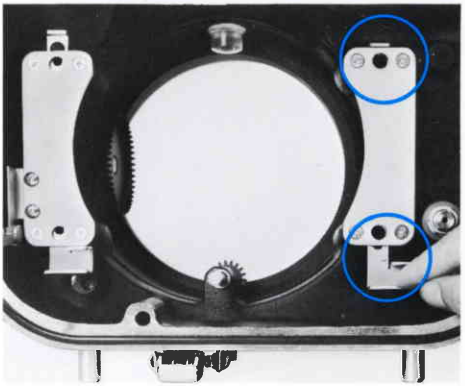
3. Place the ring over the shutter speed dial, and depress it fully. Set the red dot on the ring opposite the X position on the dial, and tighten the three screws.

4

Underwater Magnifier/Viewfinder

4. Take out the ordinary viewfinder eyepiece, and screw in the underwater magnifier/ viewfinder. 0.6X magnification.

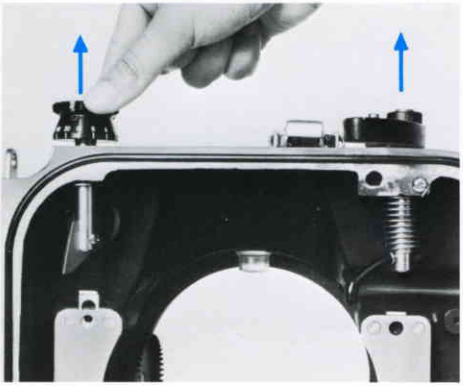




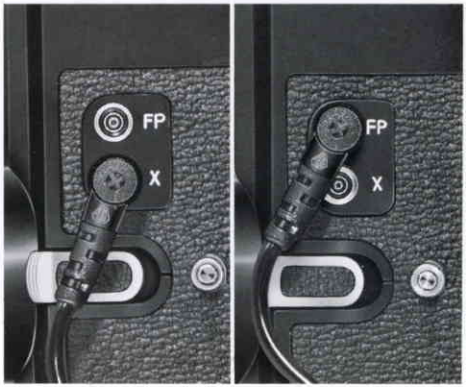
Setting the Camera into the Housing (1)

5. Place the housing face down (back cover facing upwards) on a flat surface. Release the four clamps holding the housing together, and remove the back cover.

6. Pull back the left and right side slide fasteners from underneath the camera rest plates. This action will expose a set of four holes in the rest plates. The four universal hooks built into the front of the camera fit into these four holes.
After the two slide fasteners have been pushed back into position, the back cover of the housing can be reattached. This operation is reversed to remove the camera.



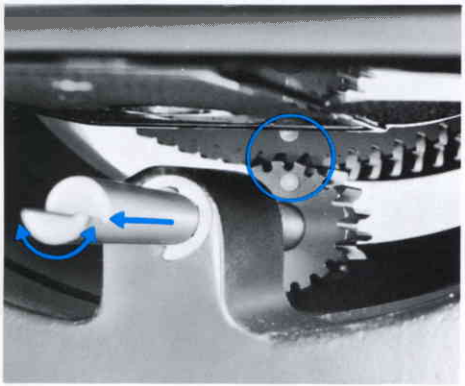
7. Pull the film advance lever and shutter speed dial shafts out as far as they will go.



8. Insert the plug end of the synchro cord into camera synchro terminals X or FP. Be careful that the cord does not interfere with any of the gears.

- When using artificial lighting, always check that the lighting is functioning properly.

9



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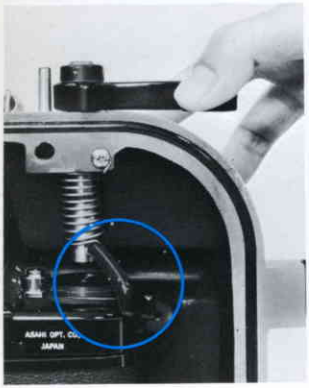
Setting the Camera into the Housing (II)

9. Align the red dot on the lower rear side of the diaphragm ring gear with the red dot on the diaphragm gear on the housing. In this position, the diaphragm f/stop on the camera will be 8. Slide the camera into the housing so that the gear ring meshes properly with the diaphragm gear ring.

10. After making sure that the four universal hooks are fitted into the four exposed holes, push in the slide fasteners.

- When the two slide fasteners are pushed in, two holes are exposed. These two holes receive the two pins on the back cover of the housing, thus preventing the camera from becoming dislodged from its position.

11



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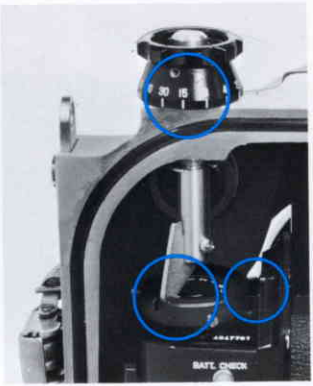
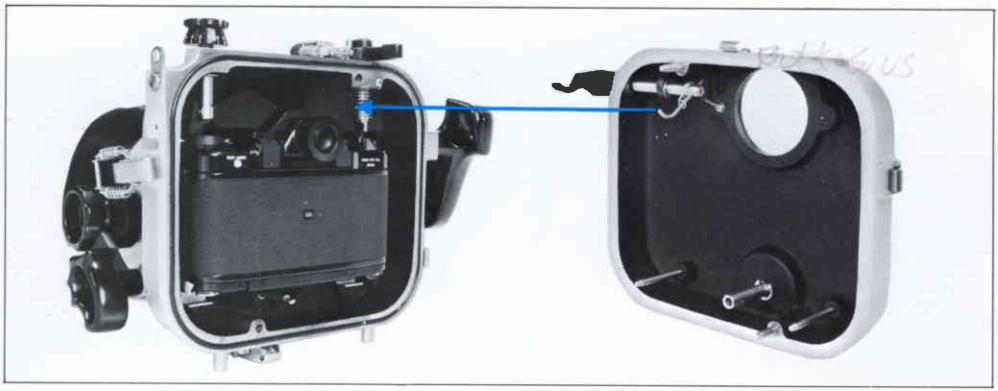


11. Drop the film advance lever shaft down so that it falls inside the advance lever of the camera.

12. Clip the inside claw on the back lock lever into the back lock of the camera.

13. Drop the shutter speed dial shaft down into the slot in the shutter speed dial ring. Turn the dial around, making sure that the speeds indicated on the camera shutter dial correspond with those indicated on the housing.

- Before loading film into the camera, see that it is functioning properly. For this, see the instruction manual for Asahi Pentax 6x7 series cameras. Check the film pressure plate adjustments and the film type dial, and see that they correspond to the type film being used (120, 220).



Opening and Closing the Housing Back Cover

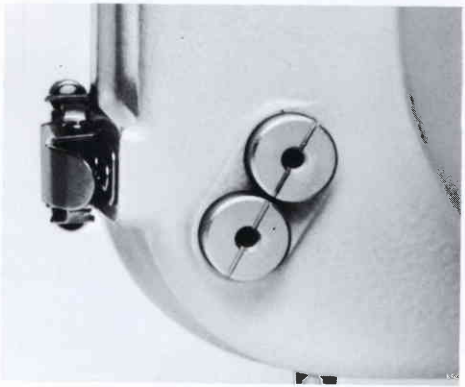
14. Before closing the back cover, check that there is no dirt, etc. in the groove for the O-ring, and that the O-ring has been inserted correctly. This is a very important check, so be very thorough. Spread a thin film of the grease supplied onto the opposing flange faces. When the back cover is to be closed, see that the shutter release arm fits in above the arm of the film advance lever shaft, and that the diaphragm ring dial on the back cover is set to f/8. Finally, clamp down all four clamps.

Caution

After closing the back cover, go through the procedure once again to check that there were no mistakes in assembly.
Then gently lower the whole assembly into water for an air tightness test. If any bubbles appear, take the camera out of the water immediately, and recheck all clamps and the O-ring.
Do not jump into water holding your 6x7 Marine camera, since this can be very dangerous.

Fish-eye lens (35mm), depth of 3m, 1/60 sec. f/8 ►

PHOTO by *J. ONOZAWA*



Flash Gun (Bulb)

The Pentax 6x7 Marine is provided with a waterproof synchro connector on the upper front and two exposed synchro connectors (DIN) on the lower front.

The waterproof connector is a Nikonos III type for generally available underwater electronic flash guns (Sunpak Marine 24 and TOSMARINE, etc.) Remove the connector cap and attach the synchro cord to the connector. For flash guns without a power source (Rollei, etc.), use the two exposed connectors and install a special power source (purchased separately) inside the housing.

- See the camera instruction manual for details on connecting the synchro cord to the X and FP terminals.

Flash Gun Adapters (Purchased separately)

The following adapters are available for fitting commercial flashes to the flash gun mount on the housing:

- Adapters for Nikonos flash guns (Sunpak Marine 24 and TOSMARINE)
- Adapters for Rollei flash guns, including power supply battery (Rollei)

Standard lens (55mm), depth of 5m, 1/60 sec. f/8 ►

PHOTO by *J. ONOZAWA*

Front Housing for Standard Lenses

Front Housing for Fish-eye Lenses
(with protector)

Front Housing for Macro Lenses

The following types of front housing are available:

For Standard Lenses

SMC Takumar/6x7 55mm f/3.5
SMC Takumar/6x7 75mm f/4.5
SMC Takumar/6x7 105mm f/2.4

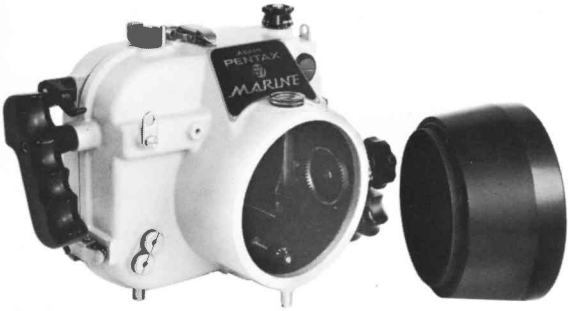
For Fish-eye Lenses

SMC Fish-eye Takumar/6x7 35mm f/4.5

For Macro Lenses

SMC Macro Takumar/6x7 135mm f/4
SMC Takumar/6x7 150mm f/2.8
SMC Takumar/6x7 200mm f/4

- As individual interchangeable lenses vary in the size of the focusing mount and diaphragm gear rings, it is advisable to use the gear rings recommended by the manufacturer.



Exchanging Front Housing

Unscrew the front housing by turning it counter-clockwise through eight full revolutions (it has normal thread).

When attaching the front housing, make sure both the O-ring and the groove are clean. Wipe with a little grease. Slowly revolve the front housing in the reverse direction until the threads "catch," then gently turn in the correct direction (clockwise) until it has been screwed in fully. Since the screw pitch is very fine, do not try to force it if it becomes stuck after 2 or 3 turns. Unscrew and start all over again. When the front housing has been properly screwed into the housing, even a thin sheet of paper will not fit in between them.

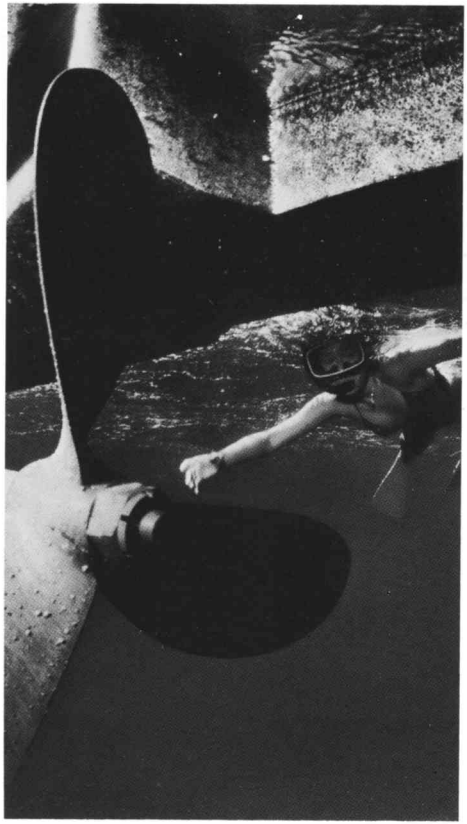
Caution

Stretch the O-rings out fully to make sure that there are no cuts, etc. Always remember to grease the O-rings before using them. They will not last forever, since they are easily cut, etc., and it will be necessary to change them occasionally.

Under high pressures underwater, even a single grain of sand may cause leakage, etc.

★ **The camera dislikes any kind of moisture.**

When releasing the back cover of the housing, wipe it down with a towel or cloth so that no drops of water will fall onto the camera. After you have finished using the camera, wipe it with a dry, salt-free cloth.



Compensation lens

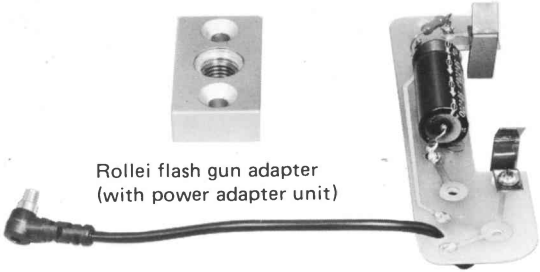
O-Ring

- **55mm Compensation Lens**
  Because of the different refractive indices for different wave lengths at the border between water and air, slight smudging of the colours, or blurring of images in black-and-white photographs, occur when using the 55mm lens for underwater photography. The compensation lens overcomes this drawback, especially for wide-angle lenses. No other additional lenses are necessary.

Gear rings

Flash gun adapter
(For Nikonos flash guns,
Sunpack Marine 24, etc.)

- **A Selection of Gear Rings**
  For 35, 55, 75, 105, 135, 150, and 200mm lenses
- **Flash Gun Adapters**
  For Rollei flash guns (including power supply battery)
  For Nikonos flash guns
- **A Selection of O-Rings**
  Main housing O-Ring
  Front housing O-ring
- **Viewfinder**
  An inverted image Mirror Finder which shows 100% of the picture area is available as a special accessory for the Marine housing. The Mirror Finder has a magnification of 1X and produces large, bright images underwater.



Rollei flash gun adapter
(with power adapter unit)

Viewfinder

Please note:

1. If the camera is dropped or knocked about, the shock may affect the precisely adjusted parts.
   When transporting the camera and housing by car or boat, etc., they may be damaged, so always carry them separately wrapped in dry clean cloth.
2. Remove all 4 clamps when shipping the Pentax 6x7 Marine by air.
   If the clamps are left in position, the low pressure at high altitude will cause a vacuum to form inside the housing which may prevent the rear cover from opening on the ground because the inside of the housing has not returned to atmospheric pressure.
3. Although quality glass with good heat conductance has been used, it may still cloud over when immersed in cold water. Addition of a dehydrating agent like silica gel inside the housing will help avoid this problem.
4. The refractive indices in air and water are different. The viewing angle is reduced to 3/4 when photographing under water with lenses of the same focal length. So, many people prefer the wide-angle lenses underwater.
   The SMC Takumar/6x7 55mm f/3.5 lens is the most suitable for the 6x7 Marine.
5. Light scatters when it enters the water, so photographing with your back against the water surface, you will be shooting with the light. The degree of clarity of sea water differs greatly depending on the locality. Exposure readings near the surface of the water are much the same as those made on land, but for every meter of water, open the diaphragm by one stop to approximately compensate for the difference.
6. Besides the standard 55mm lens, we would also like to recommend the SMC Fish-eye Takumar 6x7 35mm f/4 lens for special illusory effects, and the SMC Macro Takumar 135mm f/4 lens for undistorted factual photography.

Maintenance of the 6x7 Marine

- After using the 6x7 Marine (Housing) in sea water, immerse it for a while in fresh water, and then wash it.
- In order to remove all the salt contamination, particularly from behind the grips and other obscured places, wash under a jet of high pressure water from a faucet.
- Remove the camera only after completely drying the housing.
- Remove any dust or dirt from inside the housing with a dry cloth, wiping it dry both inside and out.
- Thoroughly check the O-rings once again, grease, and then replace them in the grooves, where they may be left.
- Clean the connecting joint screw thread between the main and front housings. If not used for some time, always check this thread before using again.
- In order to get the very best results from your 6x7 Marine, we would like to suggest that you have it cleaned periodically (once every two years) at any of our service facilities.

- Grease for O-Rings
  This grease for the O-rings has excellent temperature characteristics and viscosity as well, with a formulation that is particularly resistant to sea water. Do not apply this grease to parts other than the O-rings.

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