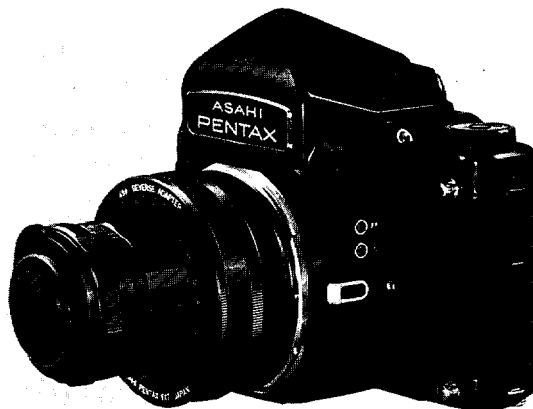


ASAHI PENTAX 6x7

REVERSE ADAPTOR 49mm & 67mm



From the standpoint of optical design if a lens is used for magnifications larger than lifesize without being reversed, there is a tendency for optical quality to deteriorate. Thus, with high-magnification photography better results are obtained if the lens is reversed. The reverse adaptor unit is a device which enables the lens to be mounted in reverse. Two types are available for the Pentax 6x7: the 49mm Reverse Adaptor (enabling use of 35mm format interchangeable lenses with the Pentax 6x7) and the 67mm Reverse Adaptor (enabling use of 6x7 lenses with 67mm filter threads with the Pentax 6x7).

49mm Reverse Adaptor Weight: 50 grams (1.8 ozs.) **Diameter:** 89mm (3.5 in.)
67mm Reverse Adaptor Weight: 49 grams (1.7 ozs.) **Diameter:** 89mm (3.5 in.)

Usable Lenses

28mmF3.5

35mmF2

35mmF3.5

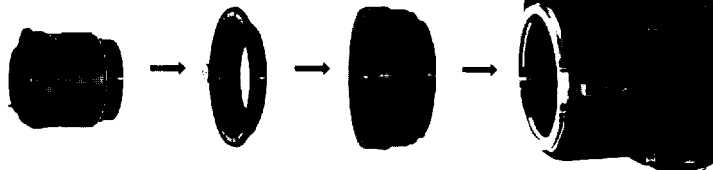
50mmF1.4

50mmF4 Macro

50mmF4 Macro

49mm
Reverse Adaptor

Helicoid
Extension Tube



1

After attaching the Helicoid Extension Tube to the 6x7 camera body:

1. Tighten the adjuster screw of the Reverse Adaptor by turning it clockwise.



2

2. Line up the red dot on the Reverse Adaptor with the red dot on the Helicoid Extension Tube. Then, fit the adaptor into the bayonet mount of the tube, and turn it to the right until it locks in place.



3

3. Screw the reversed lens into the Reverse Adaptor unit. Tighten firmly to secure in place.



4

4. Loosen the screw on the Reverse Adaptor and adjust the lens so that the \blacklozenge index mark is at the top. Then, retighten the screw. When using the camera vertically, position the screw so that it is easy to adjust.



*

* To remove the Reverse Adaptor unit, press the lock button at the side of the Helicoid Extension Tube and turn the adaptor counterclockwise until it comes loose.

The 6x7 Reverse Adaptor Units may also be used for close-up accessories other than the Helicoid Extension Tube. However, the magnification will differ depending upon the lens in use, even when the extension of the accessory used is the same as that of the Helicoid Extension Tube. In addition, picture area, film-to-subject distance, and exposure factors also differ.

Focusing

With automatic diaphragm lenses, set the AUTO/MAN. selector to AUTO and focus with the Helicoid Extension Tube. Then, before you take the picture, set the lever to MAN. and stop the lens down to shooting aperture. This will enable you to see the depth of field and make adjustments accordingly. Because the depth of field is shallow in close-up photography, a small lens aperture is usually required. To avoid camera shake, mount the camera on a sturdy tripod and use a cable release. When the TTL Pentaprism Finder is used, exposure factors are automatically compensated by the through-the-lens exposure system.

Exposure

If using the TTL Pentaprism Finder, first, adjust the aperture and set the AUTO/MAN. selector to MAN. Then, turn the shutter speed dial until the needle centers between the brackets inside the finder. When the needle fails to center in the brackets because of low lighting, open the lens to a larger aperture where you can obtain a sufficient exposure reading. Then, stop down to a smaller aperture and make the exposure at a slower shutter speed where equal exposure value is obtained. For example, if the exposure called for is $f/4$ at $1/4$ sec., select an appropriate exposure setting with a smaller aperture from the following.

Aperture	4	5.6	8	11	16	22
Shutter Speed	$\frac{1}{4}$ sec.	$\frac{1}{2}$ sec.	1 sec.	2 sec.	4 sec.	8 sec.

With exposures longer than 1 sec., set the shutter speed dial to "B" and make time exposures using a cable release.

When not using the TTL Pentaprism Finder:

First, focus and selecting the lens aperture; then, make an exposure reading with a handheld exposure meter and determine the exposure time on the basis of the exposure factor. (See Close-up Tables.) For example, if the given reading at $f/16$ is $1/125$ sec. and the exposure factor is 2X. Thus, $1/125 \times 2$ gives you a shutter speed of $1/60$ sec. Either shoot at $1/60$ sec. at $f/16$, or stop down to $f/11$ and shoot at $1/125$ sec., etc.

- Because of differences in the reproduction quality of color films, lengthy time exposures with color film should be made taking into consideration the reciprocity characteristics of the film. Generally, with exposures which are 1 sec. or longer, it is best to increase exposure somewhat to compensate.
- When using a filter in conjunction with the Reverse Adaptor, insert the filter between the Reverse Adaptor and the lens. Because, the lens will protrude a little more when a filter is used, extra consideration must be given to this when using the exposure factors in the Close-up Tables.

Lens	Magnification	Lens Extension	Picture Area (mm)	Film-to-Subject Distance (cm)	Exposure Factor
28mm	4.22	Tube at Min. Length	16 x 13	20.7	X23.1
F3.5	4.92	Tube at Max. Length	14 x 11	22.6	X30.1
35mm	3.33	Tube at Min. Length	21 x 17	22.4	X15.1
F2	3.88	Tube at Max. Length	18 x 14	24.2	X19.7
35mm	3.27	Tube at Min. Length	21 x 17	20.4	X16.2
F3.5	3.84	Tube at Max. Length	18 x 14	22.2	X21.1
50mm	2.05	Tube at Min. Length	34 x 27	22.4	X 7.7
F1.4	2.44	Tube at Max. Length	29 x 23	24.0	X10.1
Macro	2.12	Tube at Min. Length	33 x 26	23.8	X10.2
50mmF4	2.50	Tube at Max. Length	28 x 22	25.4	X12.8

The No. 2 Extension Tube can be used as a lens hood when attached to a reversed lens.

Two Helicoid Extension Tubes Used Jointly

Lens	Magnification	Lens Extension	Picture Area (mm)	Film-to-Subject Distance (cm)	Exposure Factor
55mm F1.8	2.10	# 1 Tube at Min. Length	33 x 26	25.6	X9.5
		# 2 Tube at Min. Length			
	2.45	# 1 Tube at Min. Length	28 x 22	27.2	X11.8
		# 2 Tube at Max. Length			
	2.81	# 1 Tube at Max. Length	25 x 20	28.9	X14.3
		# 2 Tube at Max. Length			
Bellows Takumar 100mm F4	0.64	# 1 Tube at Min. Length	108 x 86	42.1	X3.6
		# 2 Tube at Min. Length	81 x 65	40.4	X4.4
	0.85	# 1 Tube at Min. Length			
		# 2 Tube at Max. Length	66 x 52	40.1	X5.3
	1.05	# 1 Tube at Max. Length			
		# 2 Tube at Max. Length			
Macro Takumar 100mm F4	0.72	# 1 Tube at Min. Length	96 x 76	41.2	X3.8
		# 2 Tube at Min. Length	75 x 60	40.2	X4.7
	0.92	# 1 Tube at Min. Length			
		# 2 Tube at Max. Length	62 x 49	40.2	X5.6
	1.12	# 1 Tube at Max. Length			
		# 2 Tube at Max. Length			

Slight vignetting will occur when two Helicoid Extension Tubes are used together.

67mm REVERSE ADAPTOR

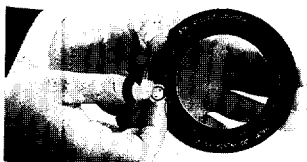
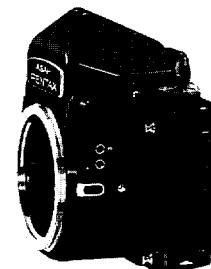
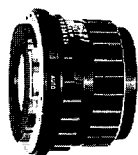
Usable Lenses

90mmF2.8
105mmF2.4
135mmF4 Macro
Takumar

105mmF2.4
Standard Lens

67mm
Reverse Adaptor

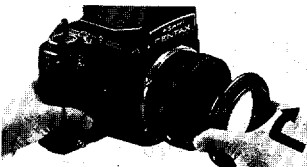
Helicoid
Extension Tube



1

After attaching the Helicoid Extension Tube to the 6x7 camera body:

1. Tighten the adjustor screw of the Reverse Adaptor by turning it clockwise.



2

2. Line up the red dot on the Reverse Adaptor with the red dot on the Helicoid Extension Tube. Then, fit the adaptor into the extension tube and turn it clockwise to lock in place.



3

3. Screw the reversed lens into the Reverse Adaptor unit. Tighten firmly to secure in place.



4

4. Loosen the adjustor screw of the Reverse Adaptor and adjust the lens so that the ♦ index mark is at the top.



*

* To remove the adaptor, press the lock button at the side of the Helicoid Extension Tube and turn the adaptor counterclockwise until it comes loose.



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67mm Reverse Adaptor Close-Up Table

Lens	Magnification	Lens Extension	Picture Area (mm)	Film-to-Subject Distance (cm)	Exposure Factor
90mm F2.8	1.16	Tube at Min. Length	60 x 47	35.6	X3.9
	1.38	Tube at Max. Length	50 x 40	36.3	X4.9
105mm F2.4	0.69	Tube at Min. Length	101 x 81	42.9	X2.6
	0.88	Tube at Max. Length	79 x 63	41.5	X3.2
135mm F4	0.29	Tube at Min. Length	240 x 191	78.0	X2.2
	0.44	Tube at Max. Length	158 x 126	64.1	X2.6
90mm F2.8	1.54	Tube at Max. Length + No. 1 ET	45 x 36	37.1	X5.6
	1.69	Tube at Max. Length + No. 2 ET	41 x 33	37.9	X6.3
	2.00	Tube at Max. Length + No. 3 ET	34 x 27	40.0	X8.1
	2.16	Tube at Max. Length + No. 3 + 1 ET	32 x 26	41.0	X8.9
	2.32	Tube at Max. Length + No. 3 + 2 ET	30 x 24	42.1	X9.9
	2.47	Tube at Max. Length + No. 3 + 2 + 1 ET	28 x 22	43.2	X10.9
105mm F2.4	1.01	Tube at Max. Length + No. 1 ET	68 x 54	41.3	X3.7
	1.14	Tube at Max. Length + No. 2 ET	60 x 48	41.5	X4.3
	1.41	Tube at Max. Length + No. 3 ET	49 x 39	42.6	X5.4
	1.54	Tube at Max. Length + No. 3 + 1 ET	45 x 36	43.3	X6.1
	1.68	Tube at Max. Length + No. 3 + 2 ET	41 x 33	44.2	X6.7
	1.81	Tube at Max. Length + No. 3 + 2 + 1 ET	38 x 30	45.1	X7.5
135mm F4	0.54	Tube at Max. Length + No. 1 ET	128 x 102	59.6	X3.0
	0.64	Tube at Max. Length + No. 2 ET	107 x 86	56.9	X3.4
	0.85	Tube at Max. Length + No. 3 ET	81 x 65	54.6	X4.2
	0.95	Tube at Max. Length + No. 3 + 1 ET	72 x 58	54.3	X4.6
	1.06	Tube at Max. Length + No. 3 + 2 ET	65 x 52	54.3	X5.1
	1.16	Tube at Max. Length + No. 3 + 2 + 1 ET	59 x 47	54.6	X5.5

The No. 2 6x7 Extension Tube can be used as a lens hood when attached to a reversed lens.
 ET=Extension Tube.