

# PANAGOR<sup>®</sup>

## AUTOMATIC EXTENSION TUBE SET



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### PANAGOR AUTOMATIC EXTENSION TUBES

AUTOMATIC EXTENSION TUBES are the most convenient accessories for extending the close focusing range of all your camera lenses.

They maintain the automatic diaphragm operation and meter coupling of your automatic lenses, but may also be used with nonautomatic lenses. The automatic feature has the unique advantage of permitting hand-held "normal" camera operation in your close-up work.

The individual tubes are engraved in millimeters indicating the extension provided. In addition to providing the extreme close-up function for your normal lens, the tubes will also prove valuable in extending the focusing range of your telephoto lenses for exciting telephoto close-ups.

## OPERATION OF THE AUTOMATIC EXTENSION TUBE SET

The Automatic Tubes nest into each other and are joined together in the same manner in which the lens is inserted into the camera body. They are placed between the lens and the camera, and may be used individually or in combination with each other, in any sequence desired.

In most cases, the smallest tube extension will start the focus (with the lens set at infinity) at the near limit of the lens; then focusing the lens will continue the focusing range to its new near limit, avoiding any large gap in the focusing range of the lens itself and the lens-tube combination.

### FOCUS:

Focusing at the nearer distances provided by the tubes becomes more critical since the depth of field decreases the closer you get to the subject. Where feasible, a tripod or copystand should be used for extreme close-ups.

The various groundglass focusing aids such as rangefinder prisms and microgrids tend to be inoperative as the lens is

extended from its normal camera position. Under these conditions, focus is obtained by observing the plain groundglass portion of the viewing screen. Similarly, as the lens is extended from the camera body, there is an apparent black-out along the upper edge and corners of the viewfinder. This is the image of the edge of the mirror and is only a limitation of the viewfinder/mirror system. The picture will be complete and fill the entire frame.

## EXPOSURE:

As the lens is extended from its normal position (seated directly in the camera), the exposure must be increased to compensate for the added distance the light must travel to the film plane. On cameras with behind-the-lens metering, this is compensated for automatically.

## SPECIAL INSTRUCTIONS FOR USE OF METER COUPLED MODELS:

Minolta MD. The Minolta coupled tubes, individually and in combination, automatically engage the meter to the camera. Simply mount any tube or combination of tubes into the camera body in the usual manner; then mount the lens to the tube.

Nikon AI. The meter coupled automatic tubes for Nikon models engage the diaphragm ring of the automatic lens and the meter coupler arm to provide full diaphragm and meter automation.

Mount the entire assembled tube set to the camera body by aligning the mounting dot of the rear tube with the mounting dot on the camera. Grasp the narrow knurled ring of the front tube and twist counterclockwise to turn the tube set into the body locked position.

Avoid grasping the main section of the tube which is merely the meter coupler. Do not twist the meter coupler to the f16 position since there is no lens in the tube and this would release the automatic maximum aperture meter setting to f/5.6.

Mount the lens to the tube(s) by aligning the mounting dot of the lens to the mounting dot on the front tube, at the same time position the meter coupler of the tube and the lens diaphragm coupler so that they are in line. Twist the lens counterclockwise to lock into the tube. Turn the diaphragm to the f/16 position and then back to the maximum aperture meter setting of TN models.

It is easiest to disassemble and reassemble the tube set while it is mounted in the body. Mount the entire set to the body, remove any tube or tubes by pressing the tube release lever towards the camera body and twisting the tube apart by the knurled section. The coupler of the shortest tube is especially designed to clear the meter housing of the Photomic models.

With the automatic meter coupled tubes, the camera is used in a normal manner, and all exposure compensation is achieved automatically through the behind-the-lens meter system.

Canon EF, AE-1. First attach auto extension tube to camera body and then attach lens to tube.

Contax/Yashica, Konica, Olympus, Pentax-K. Mount and un

mount tube to body, and lens to tube, in the same manner as normal lens to body. Mount tube to body first, then lens to tube.

Pentax-S. Simply screw the auto extension tube to the camera body, then screw lens into tube.

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