

# *Condensed Instructions*

*for using the*

## Filmo 70-D Camera



EVERY Bell & Howell Filmo Camera is guaranteed for Two years, provided your name, address, and the camera's serial number are registered at Bell & Howell headquarters at Chicago. Guarantee is very liberal, but of course, does not cover damage due to negligence, nor for spoiled film.

Be sure to fill in completely the registration card which you receive with the camera and mail at once. Camera number is near tripod hole on bottom of camera; projector number is at back of motor housing.

### *Observe The Following:*

Read the Instruction Book (Form No. 15,024) thoroughly and with your camera before you for convenient reference.

Keep the camera clean, particularly the film gate and lens. Use the small camel's hair brush for cleaning film gate and aperture, also interior of camera. Examine gate and aperture before loading each new roll and clean if necessary.

Be sure that all parts of the lens are screwed tightly together and that the lens is properly set in the camera. Keep the lens scrupulously clean.

Use only lens tissue or soft, clean, lintless cloth for cleaning lens.

Make sure that the flanges on your empty spool are not bent. Test them with the gauge provided with camera.

See that the paper leader is properly engaged on the spool hub and that it does not catch between the flanges anywhere.

Camera cannot be closed and fastened until film gate arm is pressed firmly against aperture. See paragraph 10, page 8, Filmo 70 Instruction Book.

Do not remove cover from camera after loading (unless in dark room) until entire roll has been run off.

To ascertain if camera is loaded, remove lens and press starting button for a single picture, observing if film or paper is in aperture. Film appears whitish; paper, black.

The purpose of the rubber lens cap is to keep lens clean. Obviously it must be removed before using camera.

Study the exposure chart and follow it carefully.

*Panoram very slowly.* Avoid most inclinations to panoram.

Be sure to give each scene sufficient footage. Normally, the period of projecting the picture will equal the duration of taking. Be sure to set footage dial when reloading and to wind spring after each exposure. Spring allows for about 27 feet of exposure.

## Using Filmo 70-D Seven Speed Camera

### *The 70-D Turret Head*

THE Filmo 70-D Camera may be purchased with from one to three lenses mounted upon its built-in-turret head. If less than three lenses are purchased with the camera, the remaining one or two openings in the head are closed with metal caps. These caps may be unscrewed and additional lenses screwed in at any time.

The 1" F 3.5 T-H. C. lens is recommended for use with every Filmo 70-D Camera, regardless of which two optional lenses may be selected. This lens is the one to use for the usual run of scenes under speed and light conditions which do not demand an opening greater than F 3.5. It produces clear, sharp pictures of good depth, and is of sufficiently short focal length so that rock-steady pictures may be made with it by taking reasonable care in holding the camera in the hands.

When it is desired to turn the turret to take a scene through another lens, grasp the edge of the head and revolve it in either direction until the desired lens is in position. An audible click tells when the lens is properly seated, as does a feeling of the revolving motion being automatically stopped at the correct spot and the registration of the index mark on the turret head with the word "Run" on the camera proper. (See Figure 4, page 7). The starting button is automatically locked until a lens is correctly seated—a feature which saves film and disappointments.

### Lens Combination for the Filmo 70-D Turret

ALMOST any Filmo 70 lens listed in the Filmo General Catalog may be used upon the Filmo 70-D Turret Head, and fine combinations for every type of work may be mounted simultaneously. However, certain combinations cannot be used together because of interference with the field of the wider angle lenses. The following chart specifies which lenses may be used together without interference.

Short Focus Lenses	Lenses which may be used on 70-D Turret with short focus lens listed at left						
20 mm.	20 mm.	1"	2"	3"	3 3/4"	4"	
1"		1"	2"	3"	3 3/4"	4"	6" F5.5
2"			2"	3"	3 3/4"	4"	6" F5.5 6" F4.5
3"			2"	3"	3 3/4"	4"	6" F5.5 6" F4.5

### Lens Mounts

IN order to fit the Filmo 70-D Turret Head, lenses must have a shorter thread than those mounted for Filmo 70 Cameras bearing serial numbers below 54,090. This short thread mount is known as the Type C mount.

When ordering extra lenses for use on Filmo 70-D, specify "Type C mount." If you have lenses which were purchased for use on a Filmo 70 Camera bearing a serial number below 54,090 and which you now wish to use on a new Filmo 70-D, these lenses should be sent to the Bell & Howell factory with instructions to alter the mount to correspond with the Type C mount. This can be done on all except one or two lenses.

### The 70-D Viewfinder

AFTER turning the turret head from one lens to another, revolve the viewfinder dial (Figure 1) in either direction until the figure corresponding to the focal length of the lens to be used coincides with the index mark on the viewfinder tube just in front of the dial. This action locates, within the viewfinder tube, a rectangle which restricts the angle of vision through the viewfinder to exactly that of the photographic lens.



Figure 1

The Filmo 70-D Viewfinder, showing the dial set for showing the field included by the one-inch lens

### 70-D Speed Adjustment Dial

THE Filmo 70-D Speed Adjustment Dial is illustrated in Figure 2. Any one of seven speeds (8, 12, 16, 24, 32, 48, and 64 exposures per second) may be selected.



Figure 2

The Filmo 70-D Speed Adjustment Dial shown set for normal (16) speed operation

Notice that the outer knurled ring revolves about the disc upon which these seven speeds are indicated. To obtain the 8, 16, 32 or 64 speed, turn the outer knurled ring until the upper index mark upon it coincides with the index dot on the edge of the segment in which the desired speed is designated.

To obtain the 12, 24 or 48 speed, use the lower index mark on the knurled ring, setting it opposite the desired speed index dot at the bottom of the numbered disc.

Intermediate speeds may be used since the variation from one speed to another is gradual and not confined to the markings of the speed control dial.

### Relative Exposure Indicator

THE Filmo 70 Exposure Chart gives the diaphragm settings to use under various lighting conditions and for various types of subjects, and is correct for pictures taken at normal (16) speed. Each of the other six speeds at which Filmo 70-D may be operated requires an exposure modification to compensate for the increase or decrease in shutter speed. For this reason a relative exposure indicator is built into the Film 70-D camera. This indicator is located low down on the right side, and is shown in Figure 3.

As an illustration of how the relative exposure indicator is used, let us assume that the exposure chart specifies F 11 as the correct normal speed diaphragm setting for a particular scene. We turn the inner dial until the figure 16 (normal speed) index mark coincides with F 11 index mark on the outer dial. The correct lens stop setting for any speed may now be



Figure 3

The Filmo 70-D Relative Exposure Indicator, shown set for a normal speed exposure of F 11. Exposures for all other speeds are read directly

read directly on the outer dial, opposite the index marks of the various speeds on the inner dial.

If 64 is the speed to be used on the scene in question, we look at the 64 speed index mark and find that it now falls opposite the F 5.5 index mark. Therefore, F 5.5 is the correct setting at 64 speed for a scene which would require F 11 at 16 speed.

### 70-D Starting Button Lock

THE Starting Button of the Filmo 70-D Camera may be locked, if desired, to prevent accidental starting of the camera. This is done by revolving the turret 7-16 inch so that any one of the three index marks on the edge of the turret head falls opposite the word "Lock" (Figure 4) on the camera proper. To release, turn the turret until an index mark falls opposite the word "Run."



Figure 4

The Filmo 70-D Starting Button (N), and "Lock" and "Run" Control

### Lubrication of Filmo 70-D

THE Filmo 70-D Camera, because of the high speeds at which it may be operated, requires more attention to its lubrication than the slower speed Filmo 70 models. Five oil holes are



Figure 5

Showing the four oil holes in the Filmo 70-D mechanism plate

provided, one in the center of the turret head and four in the mechanism plate beneath the film spools. These four oil holes are shown in Figure 5. Every hole should receive one or two drops of Filmo Camera Oil after each five or six hundred feet of film are exposed. Should the camera remain unused for ten days or more, oil it before using regardless of the film footage used since the last lubrication.



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