Kern paillard STEREO

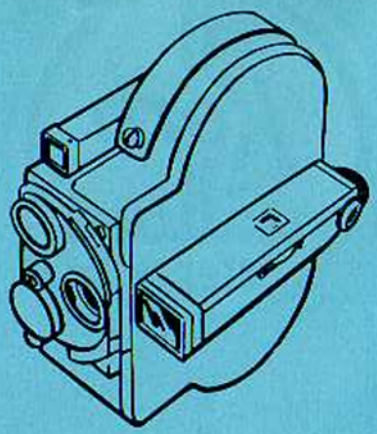


INSTRUCTION MANUAL

BOLEX STEREO MOVIES

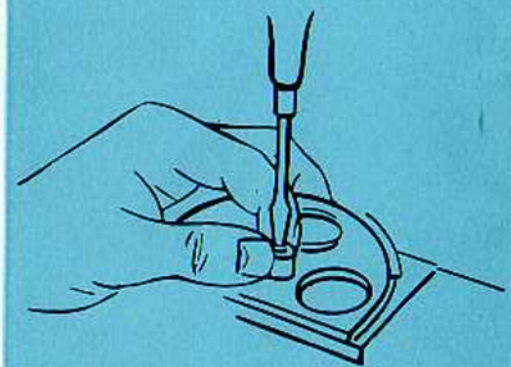
BOLEX 16 MM DE LUXE

The Bolex Stereo System is designed exclusively for the Bolex H-16 camera equipped with the Octameter finder. First remove all regular movie lenses from the turret.



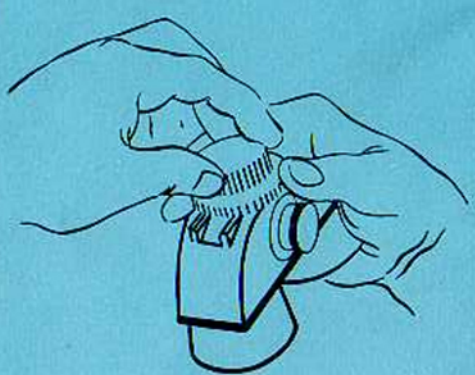
REPLACE TURRET CENTER POST

Remove the turret center post by unscrewing the screw that holds it to the turret. During this operation, take care to hold the post to prevent its shooting forward as the spring inside it extends. Replace it with the **new turret center post** *supplied with the accessories. Your Bolex Dealer will be glad to make this replacement for you if desired.*



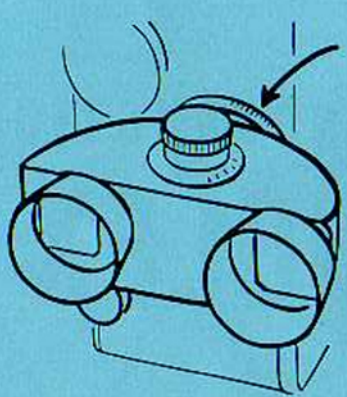
REMOVE DUST CAP

Remove the dust cap from the rear of the Taking Lens by holding the fastening ring and unscrewing the cap.



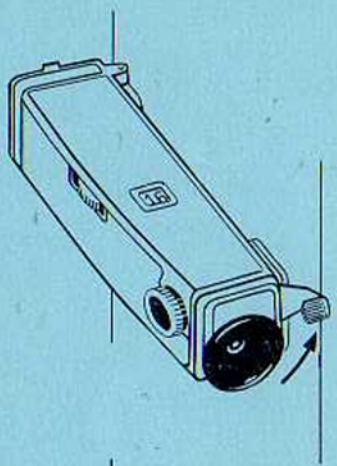
ATTACHING TAKING LENS

Place the Taking Lens on the turret in front of the taking aperture. The head of the new turret center post should fit into the groove at the rear of the Taking Lens to assure accurate horizontal alignment. Then screw the fastening ring down hard. Now screw in the turret clamp screw into the turret opening opposite the Eye Level Focus position.



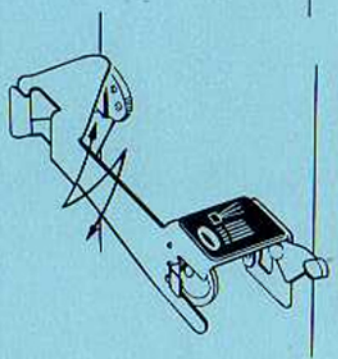
REMOVE THE OCTAMETER FINDER

At the rear of the Octameter finder is a locking lever. Swing this lever upward to disengage. Then give the Octameter a quarter turn downward to disengage it from the front clamp on the lid of the camera.



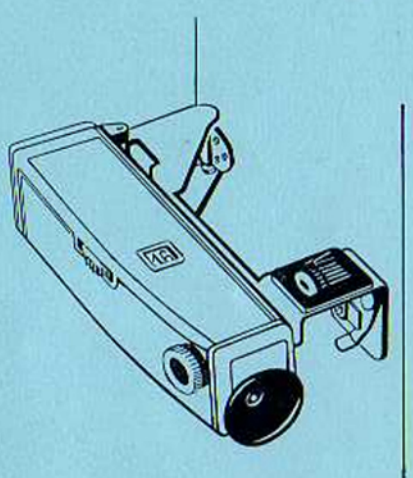
ATTACH STANDOFF SUPPORT

Insert the hinged shaft of the standoff into the front clamp of the lid by turning it as needed in the direction of the arrows indicated on the diagram. With the lever in a raised position, lower the standoff so that it will enter into the back clamp of the lid. Lower the lever toward the bottom as far as it can go. The standoff is then firmly attached to the lid.



ATTACH OCTAMETER FINDER

The Octameter is fastened to the standoff in the same manner that the standoff is attached to the camera lid.



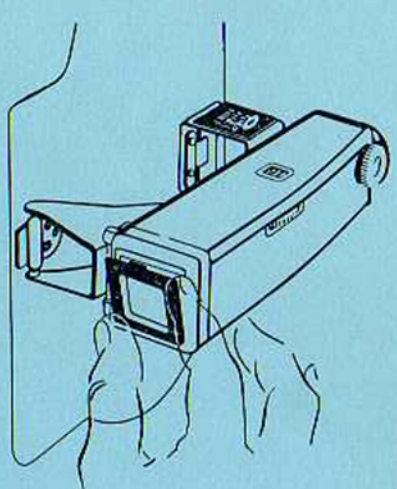
ATTACH VIEWFINDER MASK

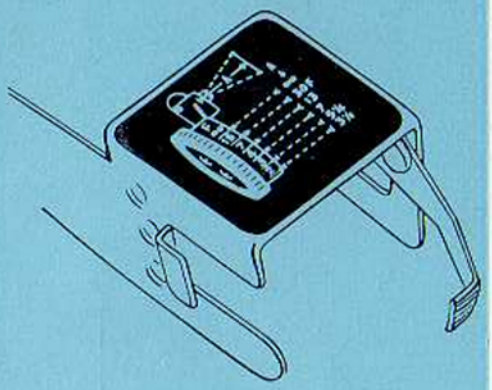
(Identified by a white and a blue circle.)

Set the viewfinder at 16 mm position (or 15 mm according to the type).

a) **Mask with Clamps** *for Octameter Viewfinder without forward grooves :*
Press the mask with clamps over the front of the Octameter with the thumb. Bend the clamps slightly to insure a tight fit if necessary.

b) **Slide Mask** *for Viewfinder with forward grooves :*
Slide the mask into the grooves.





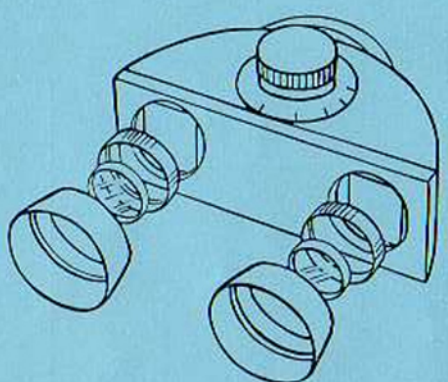
VIEWFINDER PARALLAX

Because the Octameter has been extended, its parallax correction markings are no longer true. The **scale on the standoff bracket** *is the conversion chart to correct for the new position.*
Thus if filming distance A = 30 ft. (9 m), the scale should be set to 15 ft. (5 m), the new corrected reading.



DIAPHRAGM SETTING

The diaphragm is used in the same way as with ordinary work. However, when shooting in color, the effect will be more pleasing if the images are slightly overexposed by 1/4 to 1/2 a stop. The diaphragm is adjusted by a milled knob on top of the taking lens. The scale is graduated from 1:2,8 to 1:22. Since the taking lenses are of fixed focus, **it is unnecessary to focus.**
All images from 5 ft. to infinity will be clear.



FILTERS AND SUNSHADES

The filters, used in pairs, are screwed in the front of each taking lens. The sunshades may also be screwed to the filter-mounts.
For color films use Paillard-Bolex filter rings fitted with Kodak or Ansco glass mounted filters.



FILM

The Bolex Stereo Camera uses the same 16 mm black and white or color films as other 16 mm cameras.

TRIPOD

Steady the camera by using a tripod or other stable support. Otherwise keep the camera as motionless as possible.

Subjects should be arranged so that these extreme distances, measured from camera to subject, do not overstep certain limits, known as the limits of stereoscopic depth of field ; otherwise the result, when projected on the screen, will be found tiring on the eyes.



The nearer the subject is to the camera, the more essential it is to keep within the prescribed limits of stereoscopic depth of field.
For instance, when filming a subject located at a distance of 4 ft. from the camera, avoid including another subject situated 10 ft. from the camera in the same shot.





STEREOSCOPIC DEPTH OF FIELD

Upon projection, the screen seems to disappear, and instead the subjects that were filmed appear to be behind or in front of the plane of the screen. They will appear to be located at or near the plane of the screen when filmed with the basic Bolex Stereo unit from a distance of 10 ft.
In order to obtain good stereo effect, it is best, before filming, to consider the depth of the scene to be shot, i. e., to bear in mind the extreme distances at which the main subjects are situated which will appear together in the scene.

Before filming, consult the Bolex stereoscopic depth of field disc chart. *It indicates, whatever the shooting distance, the possible depth of the scene. Lacking the table, keep to these three areas :*

Ten ft. to infinity : *This area offers the movie maker the greatest field of action. Subjects 10 ft. to 20 ft. away show marked stereo effect. The farther away the objects, the smaller the stereo effect becomes, until from 100 ft. onward it becomes negligible. For best stereo effect, add an object or some other action about 10 to 14 ft. from the camera.*

Seven ft. to seventeen ft. : *Subjects filmed in this area appear with strong stereo effect.*

Five ft. to ten ft. and four ft. to seven ft. : *Subjects filmed in this area appear, upon projection, to be in front of the screen, and the stereo effect is very marked indeed.*
When shooting distance is less than 10 ft. it is essential that the subject, whatever it is, should not be cropped by the sides of the frame. This cropping destroys the realism of three dimensions, creating the illusion of persons with cut off limbs, etc. Thus, compose close-up scenes by keeping the subject or action in the middle of the picture. If this precaution is taken, the stereo effect at these distances will produce striking effects.
Some objects may be brought very close to the camera to create a startling effect... snowball, balloon.

When the whole scene is filmed at less then 10 ft., *keep the main subject in the middle of the finder and keep secondary items to the side.*

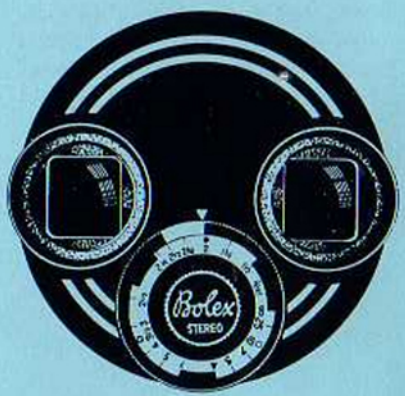
BOLEX STEREO CLOSE-UP DEVICE

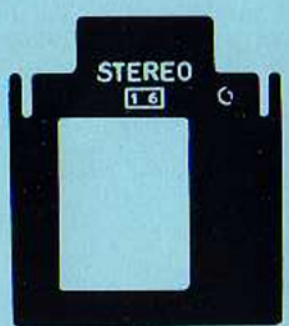
The special Bolex Stereo device for taking close-ups permits filming between 1 1/2 ft. and 4 ft. It can also be used for distances covered by the basic unit, i. e. from 4 ft. to infinity.
The device has selector dial engraved in three segments or scales. The dial controls 2 sets of prisms.

1. *Scale with white dot (basic unit without prisms)*
   This scale is identical to that on the stereoscopic depth of field table supplied with the basic unit.
   Distances from 4 ft. to infinity.
2. *Scale with blue dot (first set of prisms)*
   Distances from 28 in. to 7 ft.
3. *Scale with black dot (second set of prisms)*
   Distances from 18 in. to 34 in.

The selector dial is surrounded by a stereoscopic depth of field indicator (white area) useable for each of the three scales.
According to the filming distance, the subjects are presented, upon projection, in front of, in the plane of or behind the screen. They will be located at or near the plane of the screen when filmed at the following distances:

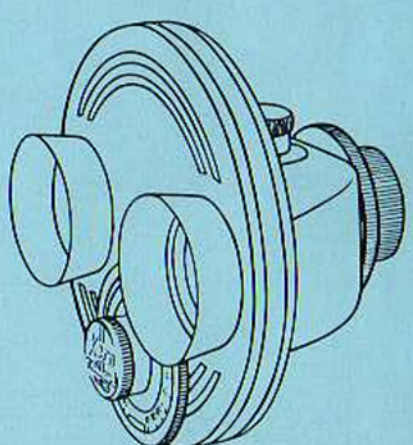
10 feet with scale on white dot;
40 in. with scale on blue dot;
24 in. with scale on black dot.





Viewfinder Close-up Mask

A mask with an off-center aperture and marked with a black circle is included with the close-up device. It replaces the usual mask (with blue circle and white circle) **for close-ups between 18 in. and 34 in.**
This mask also fits into the grooves in front of the Octameter. A mask with clamps is furnished for Octameter without forward grooves.



INSTALLATION

The Bolex Stereo Close-Up device is made with the precision of a fine Swiss Watch. Therefore, the installation of the device on the basic unit should be done **only** *by the Accredited Bolex Service Center, through your Bolex Franchised Dealer.*

CHOICE OF SCALE

The choice of scale depends on :

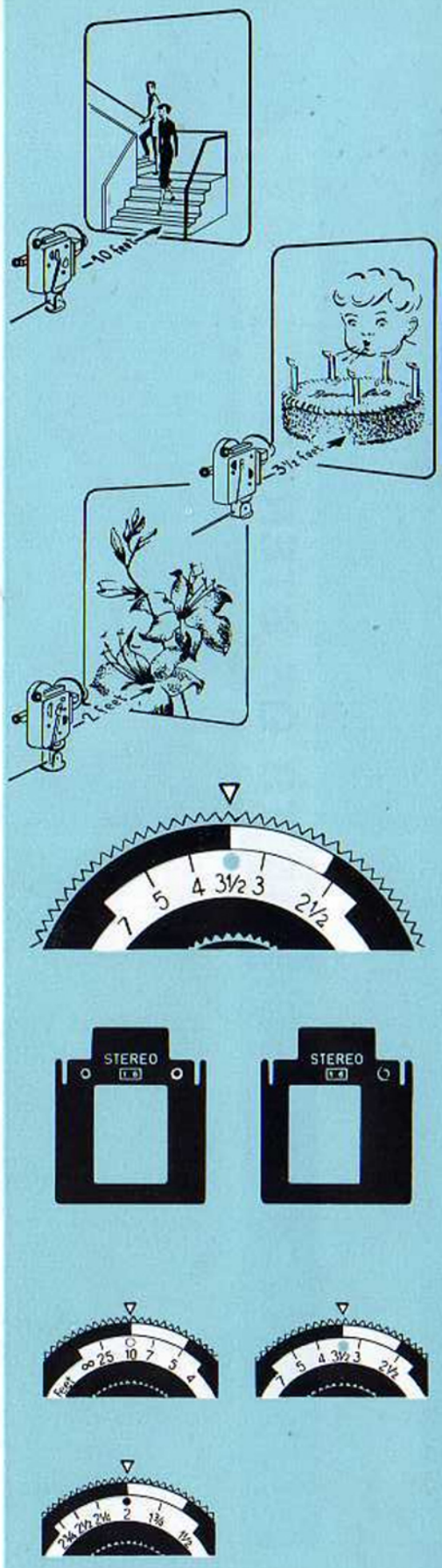
a) The position the subject occupies with relation to the three distances... 10 ft., 40 in. or 24 in.

b) The effect desired upon projection ; i. e. whether the subject should be located in front, at, or behind the screen to produce the best stereo effect.

Preferably choose the scale in which the distance indicated by the colored dot (blue, white, black) is within the range of the "camera-to-foreground" shooting distance.
If, while filming, the subject moves toward the camera to such an extent that, on projection, it might appear in front of the screen, take care to keep the subject in the center of the finder... to avoid cropping any part of the body or otherwise destroying the effect of stereo realism.
Many objects filmed to within a short distance of the camera give striking surprise effects — such as soap bubbles blown directly toward the lens.

USING THE CLOSE-UP DEVICE

1. *Turn the dial to bring the colored dot of the indicating scale opposite the triangular fixed reference mark (for example, scale with blue dot according to illustration).*
2. **Check** *whether the various subjects in the scene come within* **the stereoscopic depth of field area** *available, indicated by the white surface of the movable disk located at the edge of the dial. If such is the case, the stereo effect will be perfect.*
   On the diagram opposite the outer limits of the white area are 2 1/2 ft. to 3 1/2 ft. The subjects should come within these two distances.
   The shorter the distance between subject and camera, the more essential it is to keep the camera within the stereoscopic depth of field.
3. *Select the viewfinder mask which bears a circle of the same color as the dot on the indicating scale. Fasten the mask on the frontal window of the finder. In our example, this will be the mask with white and blue circles.*
4. *Set the Octameter finder to 15 or 16, according to the model.*
5. *Make the parallax correction be referring to the correction table on the mount of the finder.*
   Note : When using the mask engraved with the black circle, *set the parallax at 2 ft. This correction is suitable for all close-ups.*
6. *Make a light meter reading and set the diaphragm of the Stereo Lens.*



DO'S AND DON'TS OF STEREO

Do keep the rules of ordinary movie shooting in mind.

Do film up or down for breathtaking scenes.

Do keep the subject in the center of the finder whenever possible when filming action.

Do use a sunshade for filming against the light.

Do use a tripod if possible.

Don't forget to consult the table of stereoscopic depth of field.

Don't make Stereo movies in flat lighting or in too dense shadow.

Don't crop the sides of close-up subjects.

Don't film subjects which move across the field of the finder.

Don't pan too much.

PROJECTING STEREO MOVIES

PROJECTION LENSES

The special twin projection lenses match the fine optical qualities of the taking lenses. They are fitted with Polarizing filters arranged at right angles to one another in each light channel.

REMOVE PRESENT LENS

Bolex Stereo projection is similar to regular projection. Using your present 16 mm projector (the Bolex Stereo Projection Lens fits 90 % of all modern projectors) remove the regular lens.

SUBSTITUTE STEREO LENS

Type G. *This lens is designed for the Paillard-Bolex Projector, type G. The lens guiding pin should fit freely in the groove of the lens housing.*

Type S. *This lens fits most of the late model 16 mm projectors. Make sure that the red dot of the frontal ring of the lens is on top.*
The two knurled knobs assure focusing and horizontal alignment of the images.

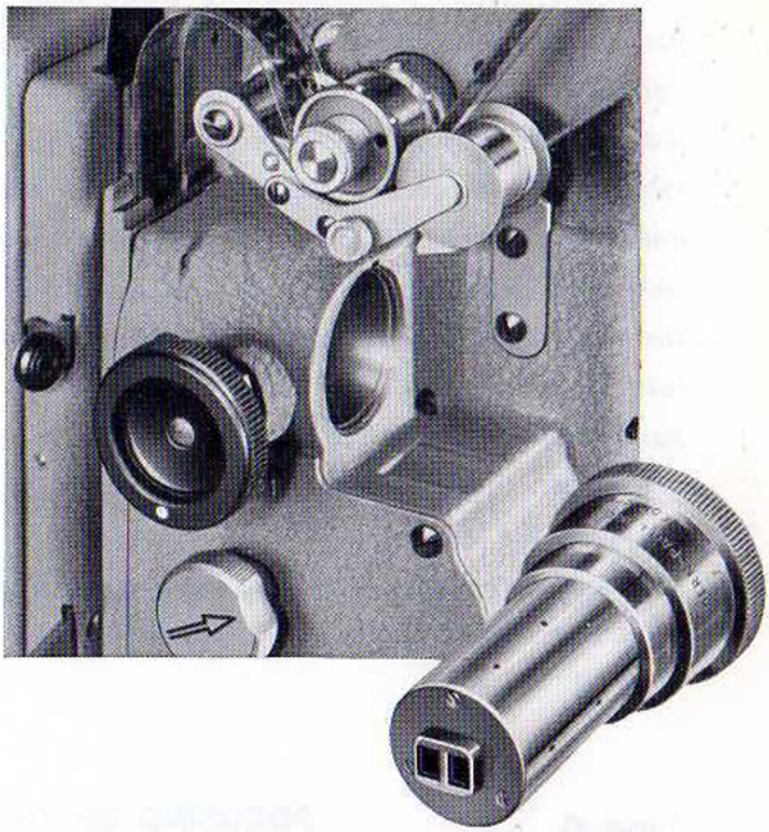
Adapter Sleeves :

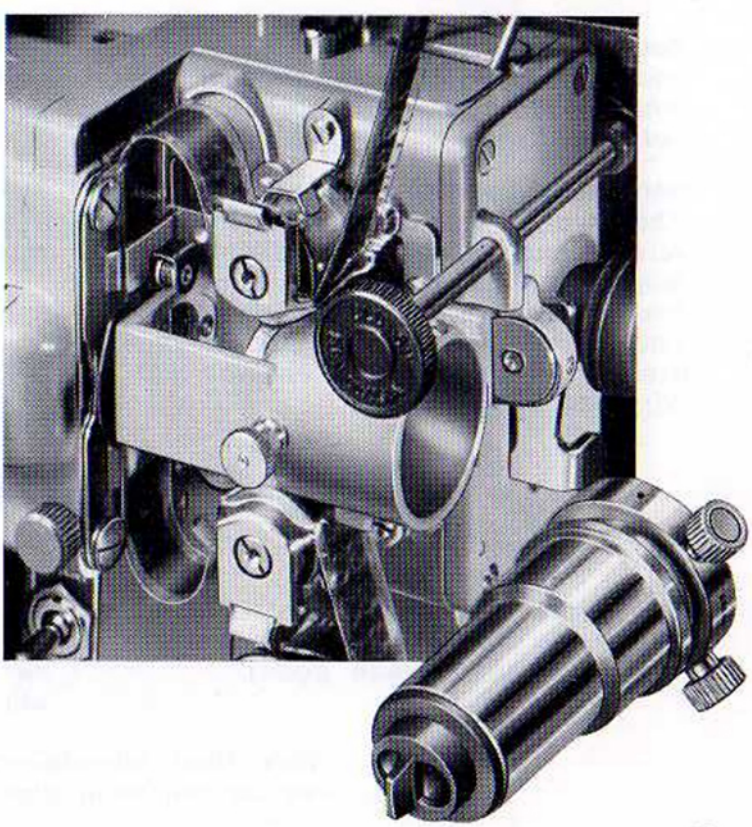
It is necessary to state the make and model of your projector, so that the correct sleeve adapter is supplied.

POLARIZING QUALITIES

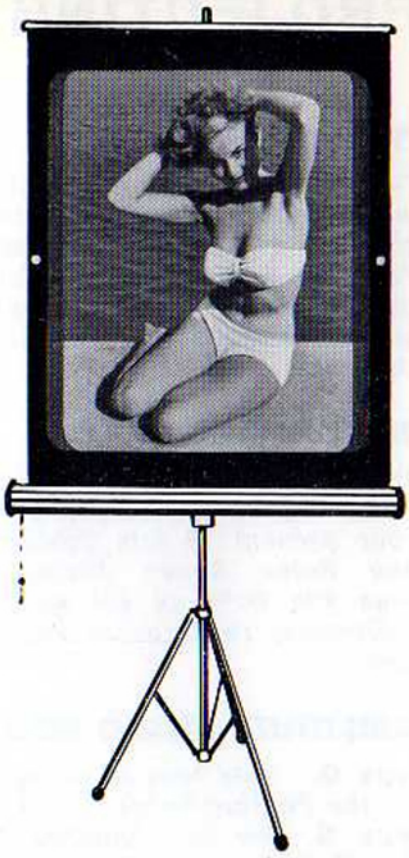
Only the special Bolex Stereo screen should be used because of its polarizing qualities. Dull or pearly screens will not work.

Note : *A frosted plastic sheet may be used as a rear-projection screen. If used, remember to rewind the film with emulsion side out so that titles will read correctly.*





BOLEX STEREO SCREEN



Place the standard screen 10 ft. away from the projector. It should be completely stretched and correctly centered.

Adjust the height of the projector so that the two images projected slightly cover the upper and lower black edges of the screen. In width, only the area formed by the superposition of the two images should appear on the bright surface of the screen. The right and left marginal parts of the stereo picture, which belong to only one image, should be covered by the black lateral edges of the screen.

A special screen (dimensions of the image : 38 in.× 50 in.) is also available for a projection distance of 17 ft.

FOCUSING OF THE IMAGE

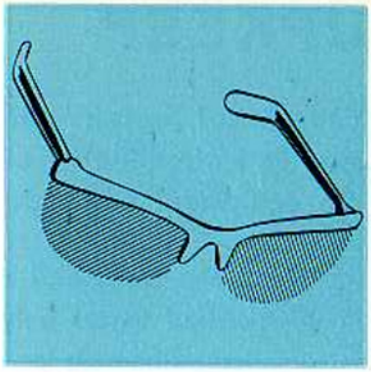
Type G	Type S
Rough Focus. *Move the lens back and forth in its housing, keeping the white dot of the focusing control pointing down.*	*Focus the image on the screen by sliding the lens back and forth in its housing.*
Horizontal Alignment of the two Images : *The two images projected on the screen must be perfectly aligned in height. For this adjustment, turn the lens slightly in the desired direction. The lateral play of the pin in the groove of the lens panel enables this adjustment to be made.*	*Turn the lens slightly in its housing. Finer adjustment can then be done by turning the uncolored knob on lens.*

Note : *This horizontal alignment must be arranged without wearing the polarized glasses.*

Fine Focus. *This adjustment is made by turning the knob of the projector (marked with a white point).*	*Turn the knob of the lens (circled in red) slightly in either direction, taking care not to throw off the horizontal alignment of the two images.*

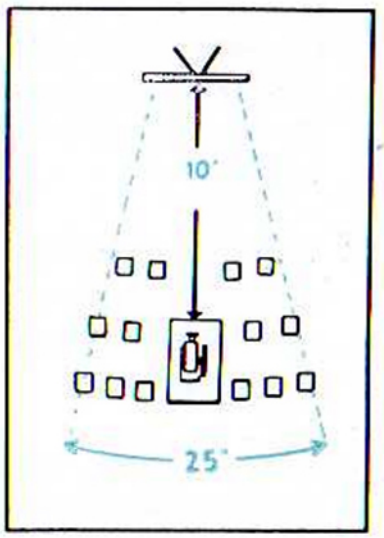
Note : *This final adjustment must be done while wearing polarized glasses.*

POLARIZED GLASSES



The polarized glasses are necessary to get the synthesis of the two projected images, and the stereo effect. Avoid inclining your head, lest you should neutralize the polarization effect, and see the two images with each eye separately.

SEATING ARRANGEMENTS



The best locations are those which are two-thirds of the distance from the screen between the screen and the projector. However, the audience may sit behind or on either side of the projector. The angle of vision should not exceed 25 degrees (see diagram).

FOR PERFECT PROJECTION

Use the special Bolex Stereo screen (white or beaded screens will not work).

If not... *No stereo effect on the screen.*

Check the focusing of the projection lens and align the two images horizontally.

Poor stereo.

Check the projection distance (the two images must completely cover the bright surface of the screen). Center the projector with relation to the screen.

The images have badly defined edges.

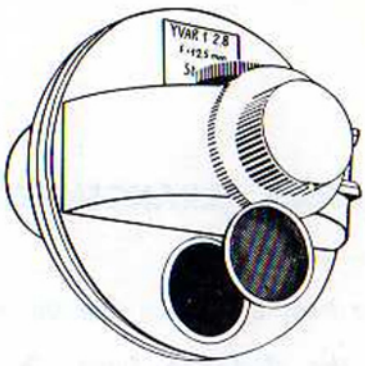
UPKEEP

The optical parts of the Bolex Stereo system should be treated with the same care and attention as other lenses and cameras. At all times, store and operate the equipment under dry and dust-free conditions.

1. *Clean the front and rear surfaces of the taking lenses with one or two drops of distilled water* **only** *and soft lens tissue (Kodak or Ansco tissue).* **Never** *use a brush, chamois or patent cleaning fluid. Keep the rear dust cap attached to the taking lens when off the camera.*

   Close-up device :

   Clean the accessible surfaces of the optics in the same way as indicated for the base lens. In order to clean the rear surface of the lenses, unscrew the **milled head** *(see illustration) and bring the different prisms opposite the opening by working the frontal knob. After cleaning, screw back the milled head.*



2. *Clean the twin-projection lens in a similar way. To avoid possible deterioration of the inner mounted polaroid filters, never leave the projector lamp on without film running through the gate* **while the Stereo twin projection lens is in position.**

3. *Dust and clean each pair of polaroid viewing spectacles before each show. Keep the aluminised fabric projection screen clean and taut. For all adjustments and service, make certain that the work is undertaken only by authorized Bolex Service Centers.*

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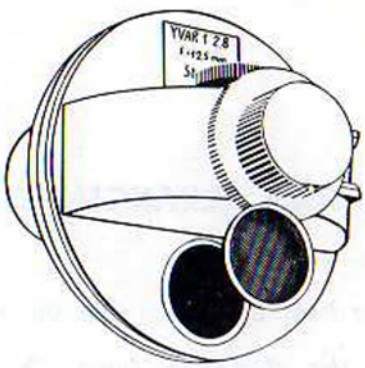
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