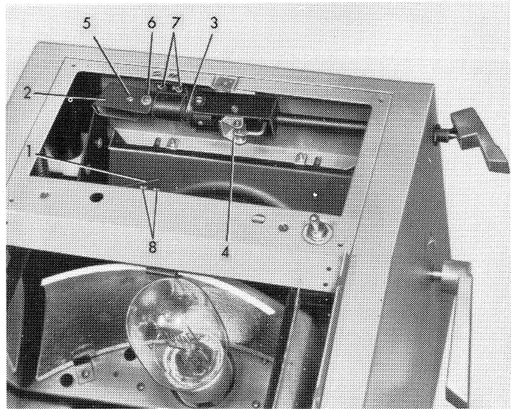

Figure 8—Pointer System

1. Aperture Plate
2. Pickup Mirror
3. Tube
4. Movable Mirror
5. Pivot Screw
6. Locking Screw
7. Tube Locking Screws
8. Aperture Plate Screws

adjustable elements into the mid position of their adjustable limits. Tighten all these adjustments slightly so that they will not be moved accidentally.

(f) Look at the light striking the pickup mirror (2, Fig. 8), and adjust the arrow aperture plate (1, Fig. 8) so that the hottest part of the light beam passing through the arrow aperture strikes the center of the mirror.

(g) If a powerstat is not being used to lower the voltage, then place a dense filter over the pointer window to protect your eyes from the bright light. Look into the pointer window and down through the center of the tube. Adjust the pickup mirror (2, Fig. 8) until the arrow appears in the center of the tube. If the arrow is too high or too low, revolve the pointer tube (3, Fig. 8) until it is centered. If the arrow is displaced to the left or right, then adjust the angular position of the pickup mirror (2, Fig. 8).

If all the adjustments have been properly made, a bright, sharp image of the arrow can be projected anywhere within the 5′ x 5′ screen area obtained in (a) above.

If a satisfactory image is not obtained all over, observe the screen while making slight lateral movement of the aperture plate until the image is satisfactory.

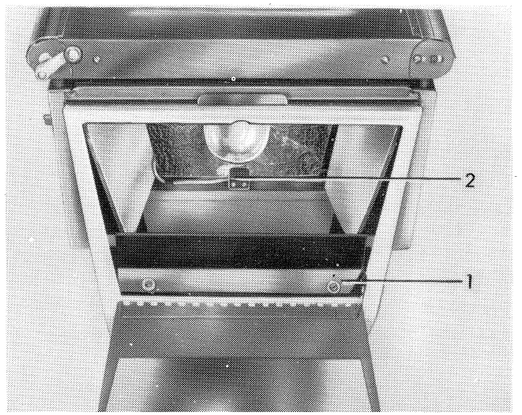

Figure 9—Vu-Lyte III Inverted for Replacement of Front Surface Mirror

1. Mirror Retaining Screws
2. Reflector Retaining Screws

C. *REPLACING THE FRONT SURFACE MIRROR*

Make sure that the rear door is latched. Turn the projector over on its back, and then open the rear door. Remove the two screws which fasten the front surface mirror retaining strip (1, Fig. 3). The mirror can then be removed from the projector. Insert the new mirror and replace the mirror retaining strip.

D. *REPLACING THE PARABOLIC REFLECTOR*

Open the rear door and remove the lamp. Remove the screws which hold the reflector retaining clip (2, Fig. 9). The reflector can the be removed and the new one inserted following a reverse procedure.

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vidually spring loaded, are locked by a single locking knob; however, the locking action is individually adjustable for each leg as follows:

a. Remove the Plug Buttons (1, Fig. 5) from each side of the Base.

b. Release Elevating Lock Handle (2, Fig. 5) by turning handle counterclockwise.

c. Turn Adjusting Screw (3, Fig. 5) with a screwdriver clockwise to tighten and counterclockwise to loosen the leg lock.

Caution: Try elevating lock after each ¼ turn on the adjusting screw to determine if further adjustment is required.

3. *Feedomatic Belt*:

Loosen the screws (2, Fig. 2) on each end of the idler roller. Move idler roller for desired belt tension and tighten screws. (Note: Equal tension should be maintained on both ends of the idler roller.)

4. *Pointer*:

Adjustment of the pointer is not easy, and therefore should not be attempted unless absolutely necessary.

The Vu-Lyte III Pointer operates as follows: Light from the projection lamp comes through the clear aperture of the reflector and passes through the arrow aperture plate, which is a vertical plate mounted below the horizontal plate containing the switch (1, Fig. 8) and strikes the pickup mirror (2, Fig. 8). This mirror deflects the light so that it passes through the tube (3, Fig. 8) which contains a lens. The light then strikes the movable mirror (4, Fig. 8) by means of which the image can be moved to any position on the screen.

The adjustment of the pointer consists, essentially, of obtaining the correct lateral position and angular orientation of the pickup mirror, and the proper positioning of the arrow aperture plate in the path of light.

Angular adjustment of the pickup mirror (2, Fig. 8) is made by loosening screw (6, Fig. 8), pivoting on screw (5, Fig. 8) and by revolving the tube (3 Fig. 8) after loosening screw (7, Fig. 8).

Adjustment of the lateral position of the pickup mirror is made by an axial shift of the tube in its mounting bracket (with screw 7 loose).

Adjustment of the arrow aperture plate position is made by loosening the screws (8, Fig. 8).

(a) Set up the projector so that a 10″ x 10″ copy is projected to a 5′ x 5′ screen image.

(b) Remove the lens from the projector by loosening the lens clamping screw (rack the lens all the way out. Look at the bottom surface of the lens mounting casting and you will see a rectagular hole. The lens clamping screw is accessible through this hole.).

(c) Remove the top housing by removing 7 screws (1, Fig. 6) from each side of the projector.

(d) Remove the lens deck by removing 5 screws (1, Fig. 7) from the deck and switch nut (2, Fig. 7).

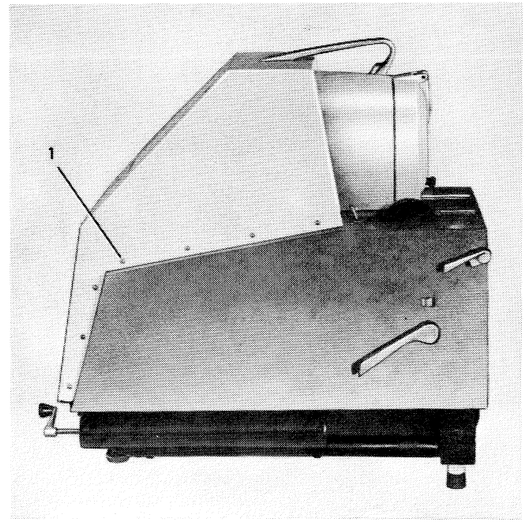

Figure 6—Side View
1. Screw

(e) Turn the switch to "On" position.
Caution: Do not look directly into the lamp. It is advisable to use a powerstat of proper current carrying capacity to lower the lamp voltage if available, but this is not absolutely necessary. If a powerstat is not available, the operator should shield the light from the projector body by using a non-flammable heat resistant shield over the projector body.

NOTE: A good starting point is to put all the

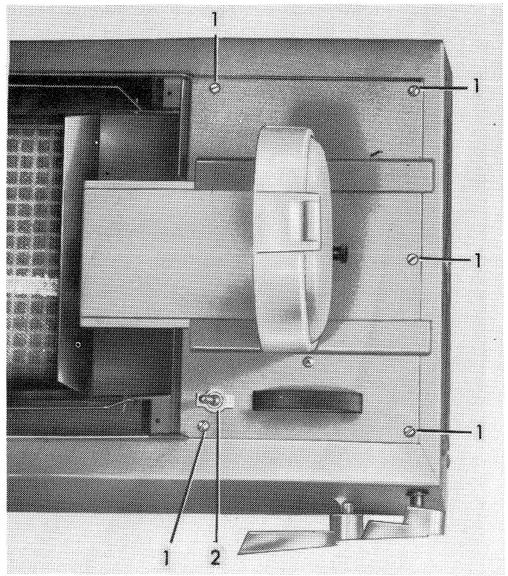

Figure 7—Deck Plate
1. Deck Screws 2. Switch Nut

and only vertical adjustment is necessary. Proceed as follows:

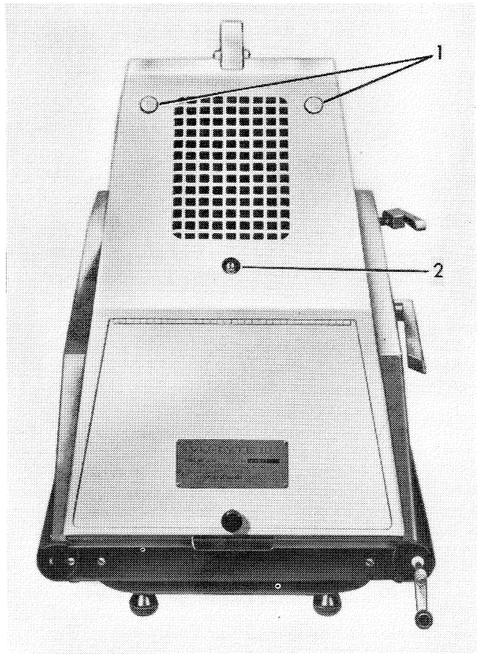

Figure 4—Rear View

1. Plug button
2. Hole with Plug Button Removed.

(1) Remove the three plug buttons (1, Fig. 4) which cover the slotted adjusting nuts.

(2) Focus the bottom portion of the screen sharply.

(3) Turn the bottom nut clockwise and observe the screen. The portion of the screen not in focus will either get better or worse.

(a) If it gets better, continue the adjustment, continually refocusing the lens, until the screen is sharp all over. If the nut reaches the end of its travel before the screen image is completely corrected, begin turning the upper nuts counter-clockwise, working first one, then the other, one-half turn at a time, until the correct adjustment is reached.

Caution: if any of the nuts are turned counter-clockwise too far, the mounting screws will become completely disengaged and the mirror frame will not longer be supported. From the completely tightened position, the nut can be backed off (turned counter-clockwise) 3/8" safely. This represents 12 complete turns. In this position, the screw is still engaged in the nut approximately 3/8".

(b) If turning the bottom nut clockwise makes the adjustment worse, then begin turning the upper two nuts clockwise, working first one, then the other, one-half turn at a time, until the best possible adjustment is reached. If, after these upper nuts have been turned clockwise as far as they will go, the picture is still not perfect, then begin turning the lower nut counter-clockwise slowly until adjustment is reached.

(4) Replace the plug buttons.

c. If the screen image is out of adjustment laterally, as well as vertically, (that is, if a narrow horizontal strip across the entire screen cannot be brought to sharp focus all at once) then the first step is to restore the lateral adjustment.

(1) Focus the upper portion of the screen so that the upper right-hand corner is sharp.

(2) Turn the upper right nut clockwise and observe the upper left corner of the screen.

(a) If the sharpness improves, continue turning the right-hand nut, continually checking by refocusing the lens, until the entire strip is sharp. If the nut reaches the end of its travel before the entire strip is sharp, begin turning the left-hand nut counter-clockwise until the strip is sharp.

(b) If the sharpness is not improved (but actually gets worse), stop turning the right-hand nut and begin turning the left-hand nut clockwise until the strip is sharp all across. If the end of its travel is reached before the entire strip is sharp, begin turning the right-hand nut counter-clockwise until the entire strip is sharp.

(3) The mirror is now in correct lateral adjustment. Proceed to make the vertical adjustment as described in Paragraph B-1-b.

2. *Elevating Legs*:

The elevating legs on the Vu-Lyte III, although indi-

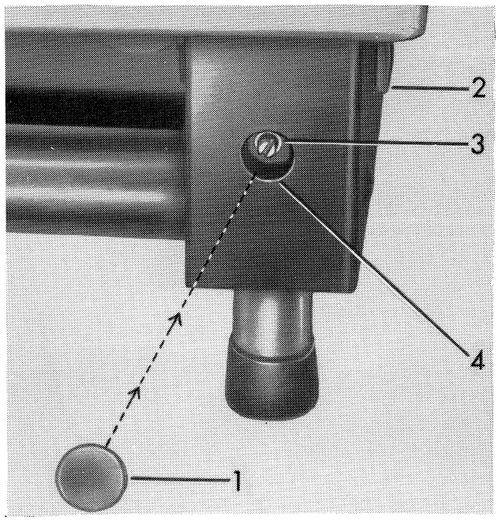

Figure 5—Elevating Leg

1. Plug Button
2. Lock Handle
3. Adjusting Screw
4. Hole with Plug Button Removed.

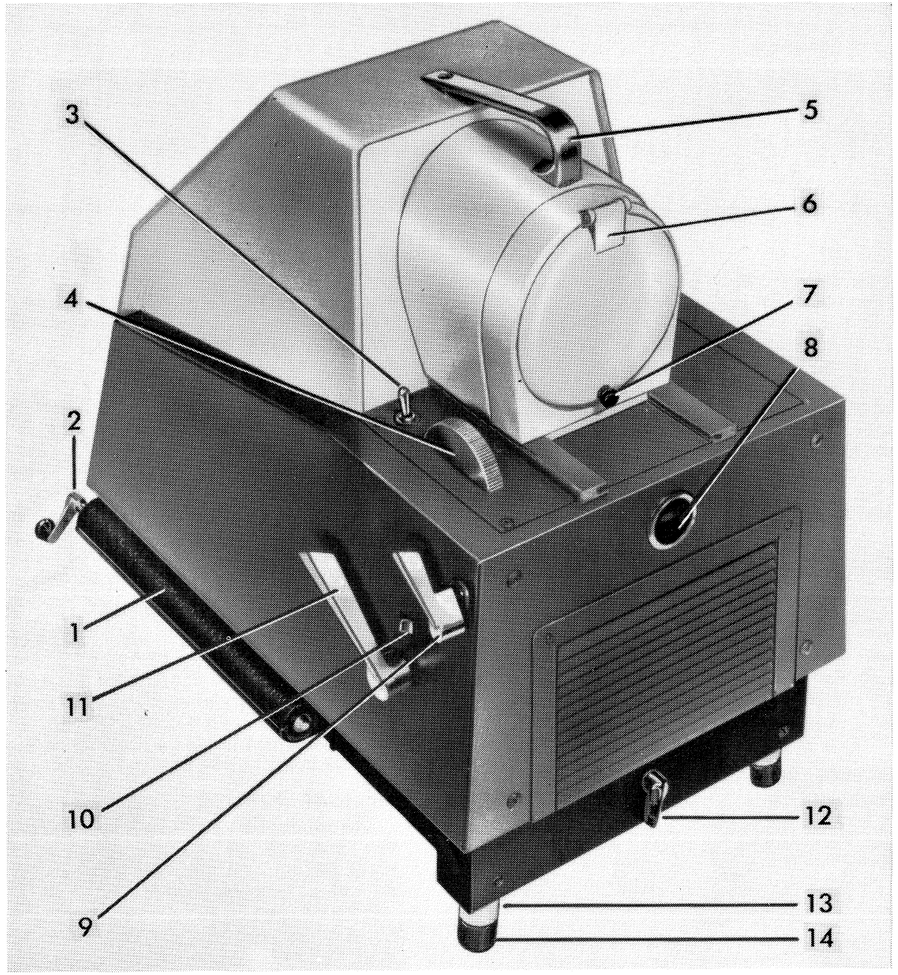

Figure 1—Vu-Lyte III with Principal Parts Identified

1. Feedomatic
2. Feedomatic Handle
3. Switch
4. Focusing Knob
5. Carrying Handle
6. Lens Cap
7. Cap Knob
8. Pointer Window
9. Pointer Handle
10. Copy Space Lock
11. Copy Space Handle
12. Elevating Lock Handle
13. Elevating Leg
14. Front Feet.

DESCRIPTION

The Vu-Lyte III is a completely new opaque projector designed and manufactured by the Charles Beseler Company. The Vu-Lyte III incorporates in its design some of the latest developments in function and style. Its performance and ease of handling plus its low silhouette make opaque projection simple and even more advantageous.

The Vu-Lyte III is equipped with a coated lens especially designed for opaque projection. A 1000 watt lamp backed up by a parabolic reflector forms the light source. Side and rear reflectors are high reflective non-breakable metal reflectors to minimize replacement and maintenance. A high quality polished front surfaced optical mirror bends the light rays permitting a vertical projection screen from a horizontal projection image plane.

A 15 foot 3 wire grounded power cord (2 prong adapter plug supplied for those who do not have 3 wire outlet) is permanently attached to the projector providing electrical energy to the lamp and a cooling motor. The motor and fan provide a constant flow of cooling air over the copy and light source and creates a suction type copy holddown. A three position switch provides for Projector "On", Projector "Off", and, in its middle position, for cooling only.

The Vu-Lyte III is shipped completely assembled ready to use.

VU-LYTE III PROJECTION TABLE

Projection Distance (Feet)	6	8	10	12	14	16
Size of Screen Image from 10″ x 10″ copy (Inches)	36	48	60	74	86	100

SETTING UP

Absolute darkness in the projection room is not necessary. However, it is preferable to reduce the ambient light as much as possible. The screen should be shielded from all direct light especially sunlight.

Place the projector on the projection stand or a table. The height of the table should be such that the feedomatic is at a comfortable working level. Plug the power cable into a suitable wall outlet. Open the lens cover and turn the switch to "On" position. Insert copy and focus it on the screen. Adjust the screen image laterally by moving the projector to one side or the other. Adjust the screen image vertically by use of the front elevating legs.

FOCUSING AND MAGNIFICATION

To focus the Vu-Lyte III, simply revolve the focusing wheel until a sharp image is obtained on the screen.

To increase the range of magnification on the Vu-Lyte III, loosen the lens clamping screw. For large magnification, push the lens back into its mount approximately 5⁄8″. To reduce magnification, pull the lens out approximately 1″. Caution: Be sure the lens is clamped by at least 3⁄8″.

PROJECTING REGULAR COPY

Insert the material to be projected in the space between the projector body and the feedomatic belt (bottom of the copy toward the screen). Convey the copy to the center of the projection stage by turning the feedomatic crank in the desired direction (counterclockwise for right to left and clockwise for left to right).

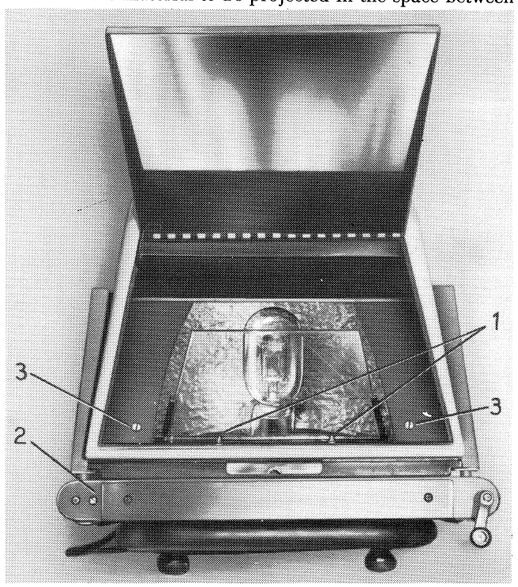

Figure 2
Interior of Vu-Lyte III with Heat Filter in Place
1. Mounting Post
2. Screws
3. Friction Adjusting Screw

PROJECTING THICK COPY

Release the "Carriage Lock" by pushing the slide button (10, Fig. 1), toward the front of the projector and simultaneously turn the handle (11, Fig. 1), in a clockwise direction to increase the copy space. Insert the copy and decrease copy space as required by turning handle counterclockwise.

The position of the copy space handle can be adjusted if desired by turning it as required when the projector body is in its lowest position (latched).

ELEVATING SCREEN IMAGE

The Vu-Lyte III is equipped with spring loaded elevating legs in front of the projector. These legs function independently but are controlled by a single centrally located lock. To elevate the screen image, release the leg lock by turning the knob, (12, Fig. 1), counterclockwise. Raise the front of the projector to the proper height and lock in position by turning the locking knob clockwise.

OPTICAL POINTER

The pointer receives its light from the projection lamp; therefore, with the projector turned on the pointer is ready for use. To move the arrow image vertically on the screen, turn the pointer handle, (9, Fig. 1), up or down. To move the arrow image horizontally, move the pointer handle to its left or to the right.

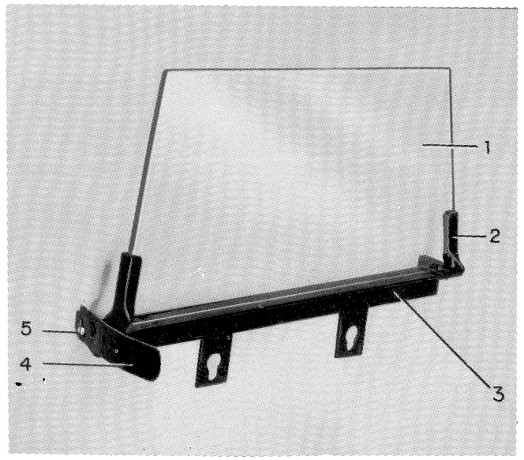

Figure 3—Heat Filter Attachment
1. Filter glass
2. Filter holder
3. Mounting plate
4. Spring clip
5. Adjusting screw

PRESSURE PLATE (ACCESSORY)

Projection of photographic material which tends to curl, and books and magazines which do not lie in a flat plane, are best projected by using the pressure plate. To insert the pressure plate, pull out the drawer and place the pressure plate into the drawer. Push drawer back into position.

COPY TRAYS (ACCESSORY)

A convenient side tray for catching copy as it is being cranked through the projector by the feedomatic. Mount the trays by sliding the return bend flange of the tray into the track provided under the feedomatic.

HEAT FILTER (ACCESSORY)

The heat filter should be used when projecting heat sensitive materials.

Fig. 2 shows the attachment in place with the filter glass raised to its operating position. It is mounted in the projector by means of two posts (1, Fig. 2) on either side of the lamp socket. To insert the attachment move the spring latch to the right and swing the glass so that the hinge is open approximately 90°. Slip the key holes over the mounting posts and pull the unit back toward the rear door to engage the small part of the keyhole slot. Swing the glass upwards until the spring latch is engaged. The rear surface of the glass should be approximately 1⁄4 to 3⁄8 in front of the lamp. The adjusting screw, on the spring latch (5, Fig. 3), is provided to adjust this distance.

When the filter is in place it is not necessary to remove it in order to change the projection lamp. Merely move the retaining spring to one side and hinge the glass down over the projection plane. The lamp can then be changed.

Caution: The filter glass gets very hot in use. Do not handle it immediately after use.

MAINTENANCE AND ADJUSTMENTS

Simple care and occasional cleaning will keep the Vu-Lyte III in good working order.

A. *MAINTENANCE*

The following optical elements should be cleaned by wiping with a lint-free rag, damp chamois or lens tissue:

1. *The Projection Lens*:

The projection lens is sealed at the factory and it is only necessary to clean the external surfaces. The rear surface of the lens is easily reached through the rear door of the projector.

2. *Parabolic Reflector*:

This is accessible through the rear door. Remove the projection lamp so that the entire surface can be cleaned.

3. *Secondary Mirrors*:

These can easily be reached through the rear door of the projector.

4. *Front Surface Mirrors*:

The front surface mirror in the opaque projector is one of the most important optical elements.

In contrast with ordinary mirrors, which have the reflecting coating on the rear of the glass, the front surface mirror is coated on the front of the glass and is not protected. This coating is extremely delicate, and care should be taken not to get fingerprints or other marks on it. If the mirror has not been soiled, then dust can be removed from its surface with a soft camel hair brush. If the mirror has been badly soiled, then it may be wiped gently with a clean lint-free cloth or lens tissue. This, however, will scratch the surface slightly and should not be done unless the mirror has been badly soiled.

5. *Projection Lamp*:

Change the lamp through the rear door. Push the lamp gently down and turn counterclockwise 1⁄4 turn to remove lamp. Turn lamp clockwise to install lamp. Note: Align lamp socket ears with matching slots in lamp socket when installing lamp.

6. *Motor*:

The motor in the Vu-Lyte III is equipped with oil impregnated bronze bearings which do not need lubrication frequently. However, approximately once every six months these bearings should be lubricated with light machine oil. The bearings are readily accessible by removing the front grill of the projector.

B. *ADJUSTMENTS*

Your Vu-Lyte III projector has been assembled and adjusted by experts at the factory. Do not attempt to make any adjustment unless it is absolutely necessary. No adjustment should be required unless the projector has been subjected to physical damage.

1. *Front Surface Mirror*:

Correct adjustment of the front surface mirror is necessary for the proper performance of any opaque projector and this is also true of the Vu-Lyte III. The front surface mirror forms a part of the optical system, and if it is not properly adjusted, it will be impossible to obtain good resolution all over the field and the screen image will not be square but will exhibit what is called keystone effect. When the mirror is in proper adjustment, a horizontal line on the surface of the mirror would be parallel with the front of the projector. Also, the line of intersection of the mirror with a vertical plane through the projector, would form equal angles with the axis of the lens and the perpendicular to the copy plane.

If the first condition is not met, it means that one side of the mirror is further away from the front than the other side and the result on the screen will be that one vertical edge of the screen image will be longer than the other.

If the second condition is not met, then the two horizontal edges of the screen image will not be of the same length. In either case, when one portion of the screen is brought to a sharp focus, other portions will not be in focus.

To adjust the front surface mirror, it is necessary to turn the mounting nuts and keep refocusing the lens until the proper adjustment is obtained, judging by the squareness of the screen image and the over-all sharpness of focus.

Set up the projector with the base level (elevating legs retracted). Insert copy, such as a printed page of a magazine. Turn on the switch and focus the copy as sharply as possible.

a. If the copy can be focused sharply over the entire screen area, the mirror is properly adjusted. Do not attempt to readjust it.

b. If the copy can be focused sharply across a horizontal area, but at the same time is not sharp from top to bottom, then the lateral adjustment is satisfactory