SLIDE PROJECTOR UNIT

Model	A092-17	A092-25	A092-27	A105-17	A105-27
A984-17	O	X	X	O	X
A984-27	X	O	O	X	X
A711-27	X	X	X	X	O

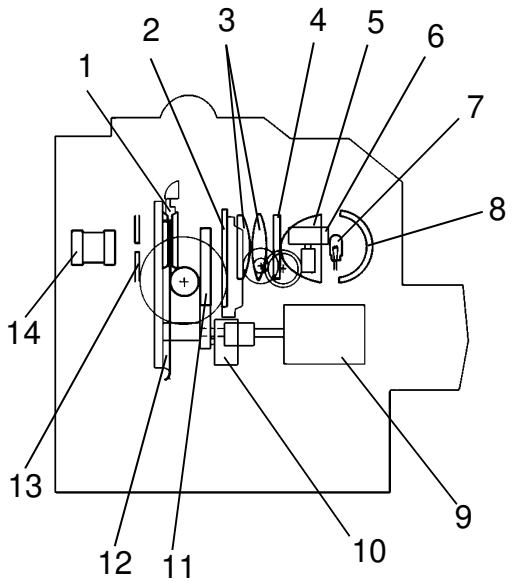
O: The SPU can be connected to the copier.
X: The SPU cannot be connected to the copier due to the safety standard.

1. SPECIFICATIONS

Acceptable Film Type:	35 mm positive and negative film, mounted film or strip film (up to six frames per strip)
Warm-up Time:	0 sec.
Copy Speed:	4 cpm/8 1/2"x11", A4
1st Copy Time:	42 sec. (After pressing the start key)
Magnification Range:	50 to 400% ratios smaller than 50% are not available when using the SPU
Focusing:	Fixed focus
Projection Method:	Slit (Horizontal)
Scanning Method:	Moving Film
Projection Ratio:	x 8.73
	NOTE: For 115V/60Hz version, 93% is automatically selected on the main frame.
Effective Film Area:	21.5 x 33.0 mm (Full film size 24 x 36 mm)
Copy Image Size:	194 x 288 mm (Centering mode)
	NOTE: Paper must be set lengthwise.
Power Source:	115 V/50, 60 Hz/ 10 A 220 ~ 240 V/50, 60 Hz/7 A
Power Consumption:	0.25 kw
Dimensions (W x D x H):	Projector Unit: 12.5" x 18.5" x 11.4" (317 x 470 x 289 mm) Mirror Unit: 1.8" x 10.1" x 1.8" (44 x 248 x 44 mm)
Weight:	Projector Unit: Approx. 28.7 lbs (13.0 kg) Mirror Unit: Approx. 1.1 lbs (0.5 kg)

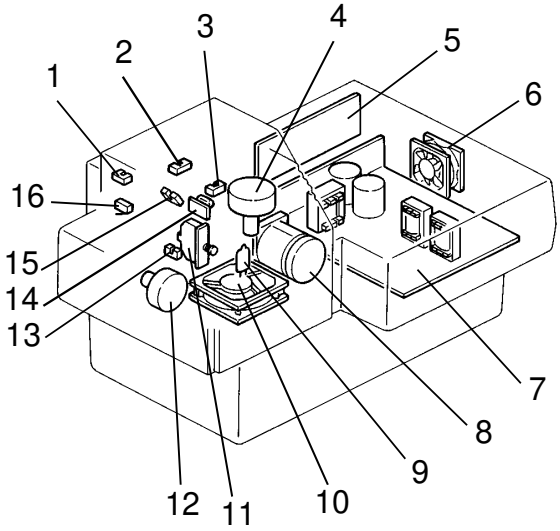
2. COMPONENT LAYOUT

Mechanical Components



1. Film Holder
2. Light Compensation Filter
3. Condenser Lens
4. Heat Filter
5. Nonspherical Lens
6. Light Compensation Filter Motor
7. Halogen Lamp
8. Reflector
9. Film Scanning Motor
10. Color Compensation Filter Motor
11. Color Compensation Filter
12. Film Scanning Belt
13. Diaphragm
14. Projection Lens

Electrical Components



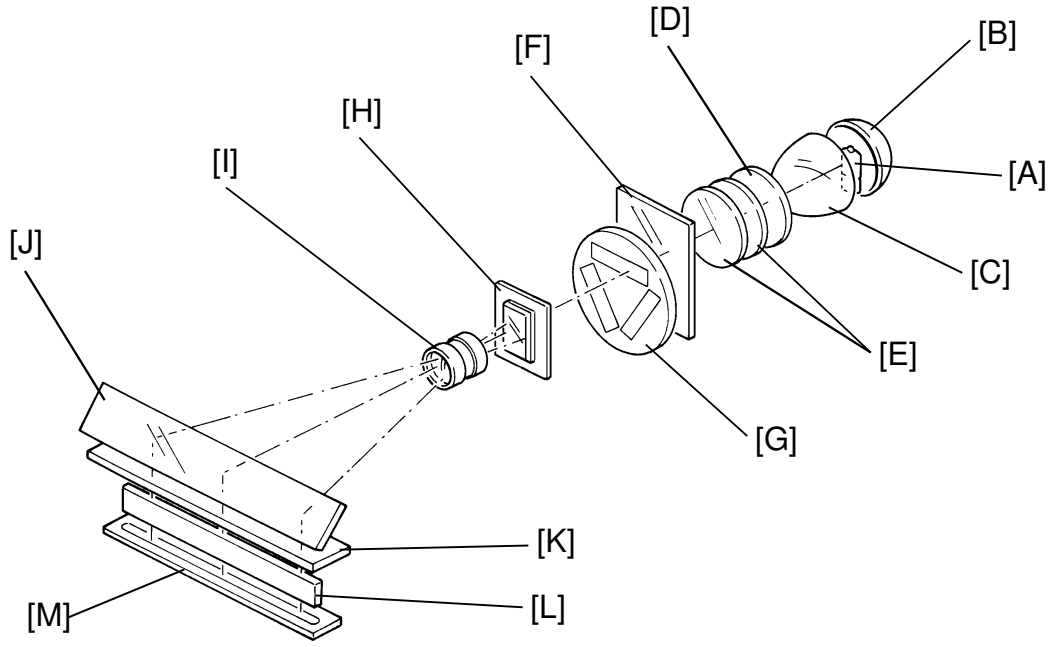
1. Film Scan H.P. Sensor
2. Mount Holder Set Sensor
3. Light Compensation Filter H.P.
4. Light Compensation Filter Motor
5. Main PCB
6. PSU Outlet Fan
7. PSU (Power Supply Unit)
8. Film Scanning Motor
9. Halogen Lamp
10. Lamp Inlet Fan
11. Safety Switch
12. Color Compensation Filter Motor
13. Color Compensation Filter H.P. Sensor
14. Thermo Fuse
15. Lens Cover Sensor
16. Film Strip Holder Set Sensor

3. ELECTRICAL COMPONENT DESCRIPTIONS

Symbol	Name	Function	Location
Motors			
M1	Light Compensation Filter Motor	Stepping motor to move the light compensation filter up and down.	4
M2	PSU Outlet Fan	Cools the PSU.	6
M3	Film Scanning Motor	Stepping Motor to move the film for scanning.	8
M4	Lamp Inlet Fan	Provides a flow of air to the halogen lamp to cool it.	10
M5	Color Compensation Filter Motor	Stepping Motor to turn the color compensation filter.	12
Switches			
SW1	Safety Switch	Cuts DC 15 V current of the halogen lamp when the lamp cover is opened.	11
Sensors			
S1	Film Scan H.P. Sensor	Notifies the CPU when the film is at the home position.	1
S2	Mount Holder Set Sensor	Notifies the CPU when the mount holder is set.	2
S3	Light Compensation Filter H.P. Sensor	Notifies the CPU when the light compensation filter is at the home position.	3
S4	Color Compensation Filter H.P. Sensor	Notifies the CPU when the color compensation filter H.P. sensor is at the home position.	13
S5	Lens Cover Sensor	Notifies the CPU whether the lens cover is open or closed.	15
S6	Film Strip Holder Set Sensor	Notifies the CPU when the film strip holder is set.	16
PCBs			
PCB1	Main PCB	Controls the slide projector unit's function and communicates with the copier.	5
PCB2	PSU	Provides DC 15 V, 5 V, 12 V, and 24 V current.	7
Lamp			
L1	Halogen Lamp	Supplies high intensity light to the film for exposure.	9
Others			
TF	Thermofuse	Opens the 15 V line if the halogen lamp overheats.	14

4. BASIC OPERATION

4.1 SUMMARY



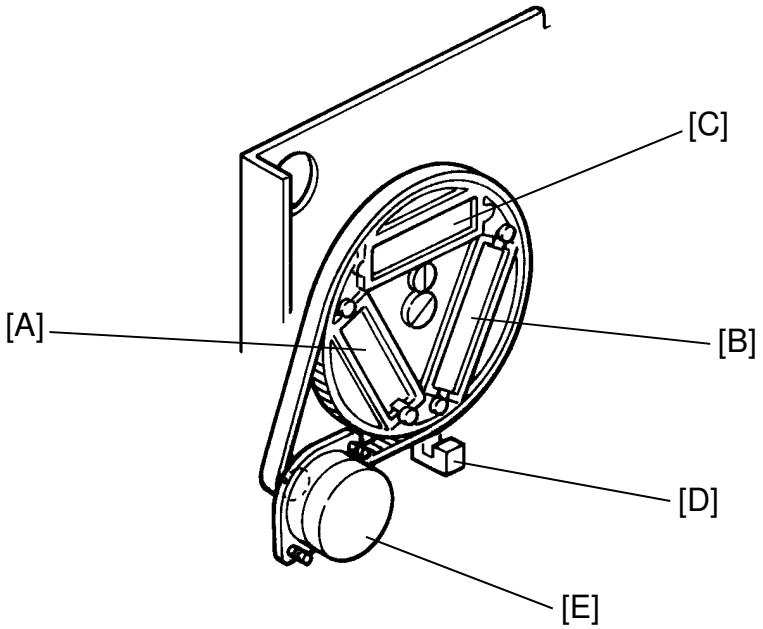
The light of the halogen lamp (150 W, 15 V) [A] is reflected by the reflector [B] and it goes through the nonspherical lens [C], the heat filter [D], the condenser lens [E], the light compensation filter [F], the color compensation filter [G], and the film [H].

The heat filter cuts off heat from the halogen lamp and prevents the film from deforming.

The light goes through the projection lens [I], it is reflected 90° by the mirror [J] and goes through the frosted glass (upper layer: fresnel lens, lower layer: diffused surface) [K] and the optical fiber array [L] to the full color CCD [M] located on the copier's scanner unit.

NOTE: Film mounts with protective glass or filters can not be used. These are too thick to let the slide mount holder close properly, resulting in a poorly focused image. In this case, take the film out of the mount with film protection glasses and set it to a normal mount for copying.

4.2 FILM COLOR CORRECTION



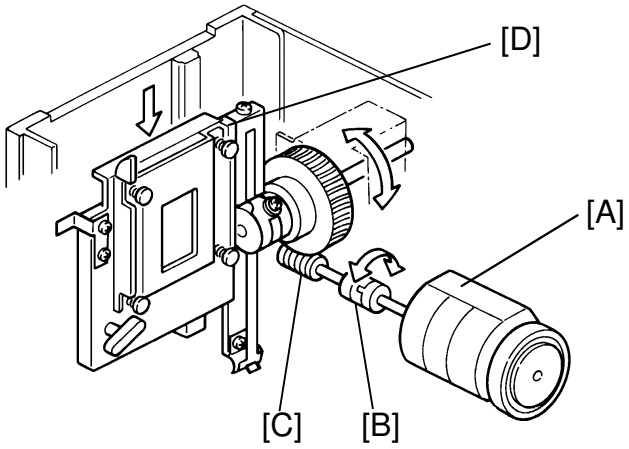
The RGB Gamma characteristics are different between positive film and negative film. The color compensation filters are used to compensate the RGB Gamma characteristics of each film.

There are 3 windows on the disk. One is the filter [A] for positive film, one is the filter [B] for negative film, the other is no filter [C] for detecting initial condition, or for SPU focus adjustment (SP92).

Home position is detected by the color compensation filter H.P. sensor [D].

The color compensation filter is rotated by the color compensation filter motor [E].

4.3 FILM SCANNING



Magnification	Speed
50%	17.17 mm/sec
100%	8.59 mm/sec
200%	4.29 mm/sec
300%	2.86 mm/sec
400%	2.15 mm/sec

The film is scanned by being moved.

The scanner of the copier stays at 45 mm left of its home position. The film is moved down 50 mm (the length of film is 35 mm) at a specified speed. See the table above.

The film scan motor [A] moves the film up and down. The drive is transferred through the coupling [B], worm gear [C], and film scan belt [D].

When 100% magnification is selected from the operation panel, the 35 mm film image is actually enlarged 873% on the copy.

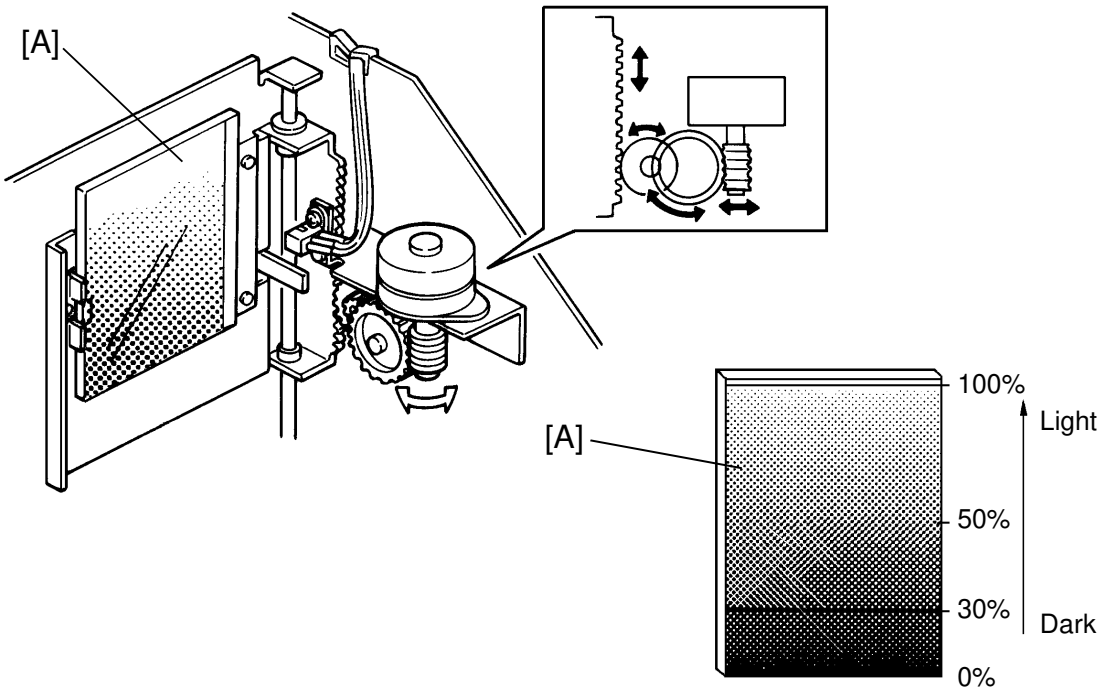
For other magnification ratios, film scanning speed controls magnification in the paper feeding direction, while image processing controls magnification in the main scan direction.

Concerning leading edge registration and side to side registration, they will be easily changed between each copy or each original due to its reproduction ration (1 : 8.73). If the scanning is delayed 0.5mm, the image is shifted about 4 mm to the trailing edge.

For 115V/60Hz models, 93% reproduction ratio is automatically selected to accommodate 8 1/2" x 11" paper. 11" (279 mm) is too short to select 100%. The Effective film area is 21.5 x 33 mm.

- Copy image on A4 lengthwise paper (210 x 297 mm):
  21.5 x 8.73 = 187.7 mm
  33 x 8.73 = 288.1 mm
- Copy image on 8 1/2" x 11" lengthwise paper (216 x 279):
  187.7 x 0.93 = 174.6 mm
  288.1 x 0.93 = 268.0 mm

4.4 SHADING



Shading corrects the following variations of the video data.

- Variations in sensitivity between bits of the CCD (arising from production processes).
- Variations in characteristics of the color compensation filter, light compensation filter, mirror unit, lenses, and optical fiber array unit in the copier.
- Loss of brightness at both front and rear ends of the exposure on the CCD.
- Variations in characteristics of the negative film

Negative film:
Color negative film comes in many kinds. A negative is a photo image laid on a transparent strip of plastic (called a base). All emulsions are to some extent similar, but most bases are different. The bases will affect color balance, but the effect is corrected by the shading function.

Positive films:
Positive films have more or less identical bases. So, the film base does not affect shading.

Before scanning the original film, the shading function must be performed. Set the base film (negative film mode) or no film (positive film mode) in the film holder and press the shading key. The film holder goes down and stops in position for scanning of its the center area. The machine reads it as it would a white reference board.

In this case, the light compensation filter [A] goes down to expose the 30% density area of its filter. (100%: Clear, 0%: Pure black) See the previous page. The maximum data is compared with the data in of the Video Processing Board. If the data is lower (darker) than the data in this board, the light compensation filter will be moved to expose the lighter area. If the data is higher (brighter) than the data in the board, the filter will be moved to expose the darker area. The appropriate color compensation filter is selected.

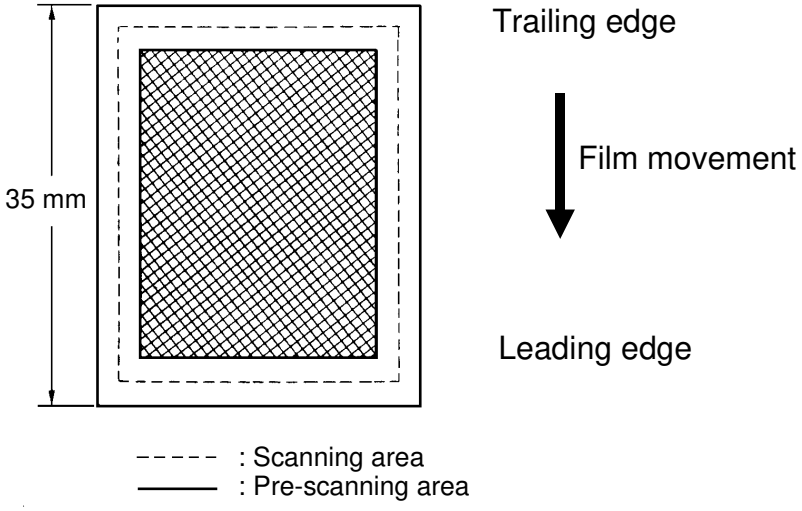
For the next step, the machine scans 16 lines while the film is going up. The Video Processing Board averages the 16 lines pixel by pixel for one main scan, and the calculated data is stored in that board. This is the white wave form data, which is used to correct the distortion of the video signal. See page 2-29 of the PDC-1E service manual.

NOTE: If the mirror unit on the exposure glass suffers any vibration after shading, vertical lines will appear on the copy image due to improper shading data of each picture element of the CCD.
To prevent or minimize these lines, do the following;

1) Fix the machine on the floor using four leveling shoes.
2) Advise the operator to take care against vibrations to the copier after shading.
3) Reset the mirror unit and perform shading again.

However, in negative mode, vertical lines in low tone areas are normal, and it is not possible to eliminate them completely. In positive mode, these lines will be reproduced in high tone areas on the copy.

4.5 AUTO IMAGE DENSITY

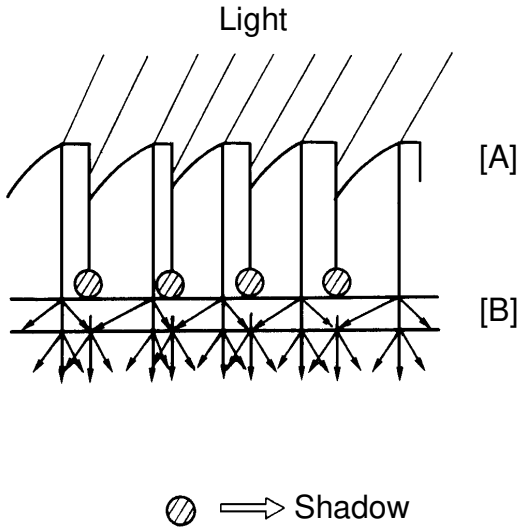


After shading, the original film [A] is pre-scanned to detect the brightest point. The pre-scanning area is smaller than the scanning area.

Exposure area:	35 mm x 24.0 mm
Pre-scanning area:	31 mm x 20.2 mm
Scanning area:	33 mm x 22.2 mm

Based on the data from the brightest point, the light compensation filter position is re-adjusted. This prescanning is performed just before copying.

4.6 MIRROR UNIT

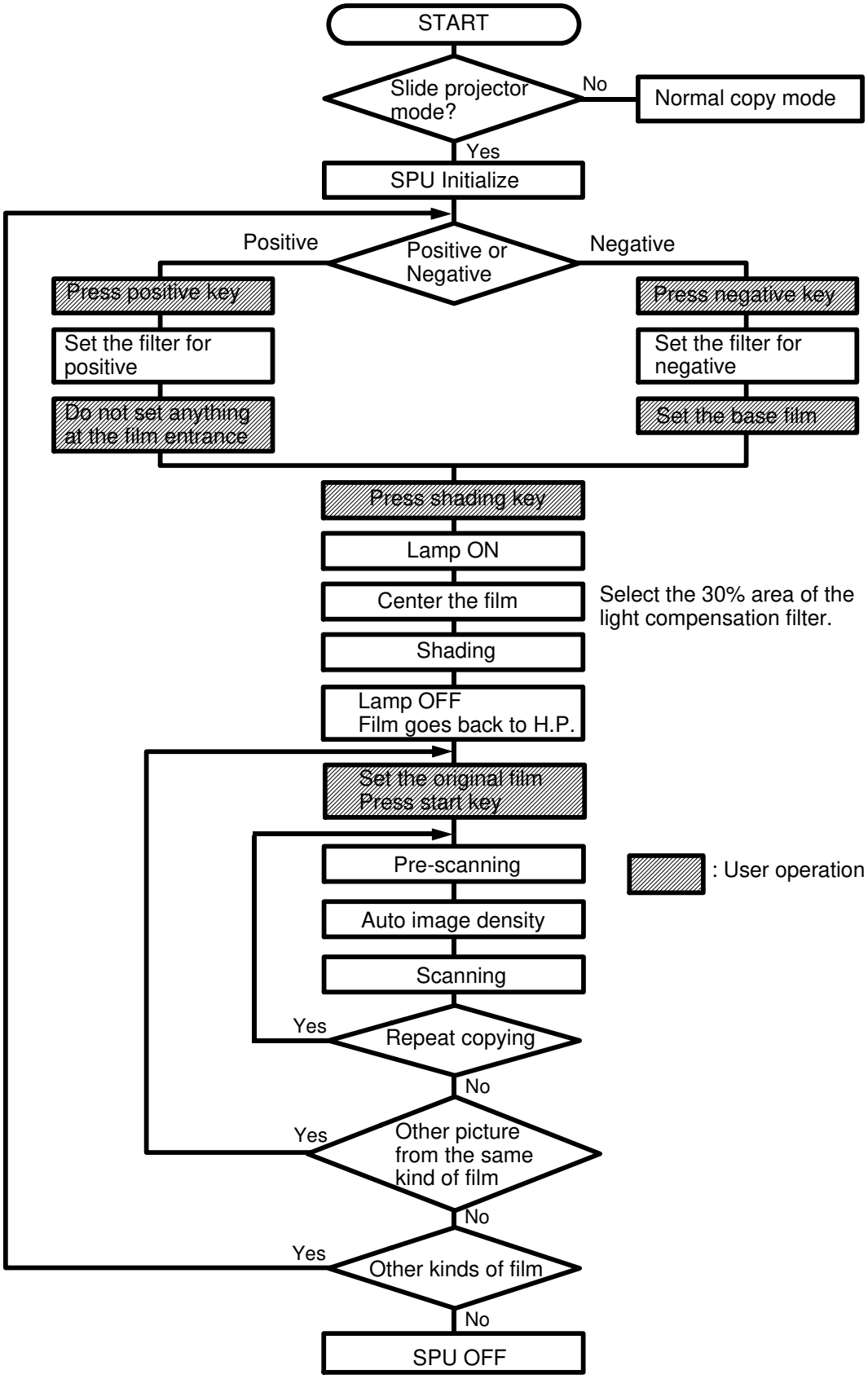


The mirror unit consists of the mirror, and the frosted glass (upper layer: fresnel lens, lower layer: diffused surface). See the summary.

The fresnel lens [A] changes the reflected image light path to parallel, and the frosted glass [B] clears the shadow from the fresnel lens.

The image is formed on the frosted glass, which is in contact with the copier's exposure glass. The image is then seen by the optical fiber array.

OPERATION FLOW



5. INSTALLATION

5.1 ACCESSORY CHECK

Make sure that each accessory listed in the following table is in the box. Also check the condition of each item.

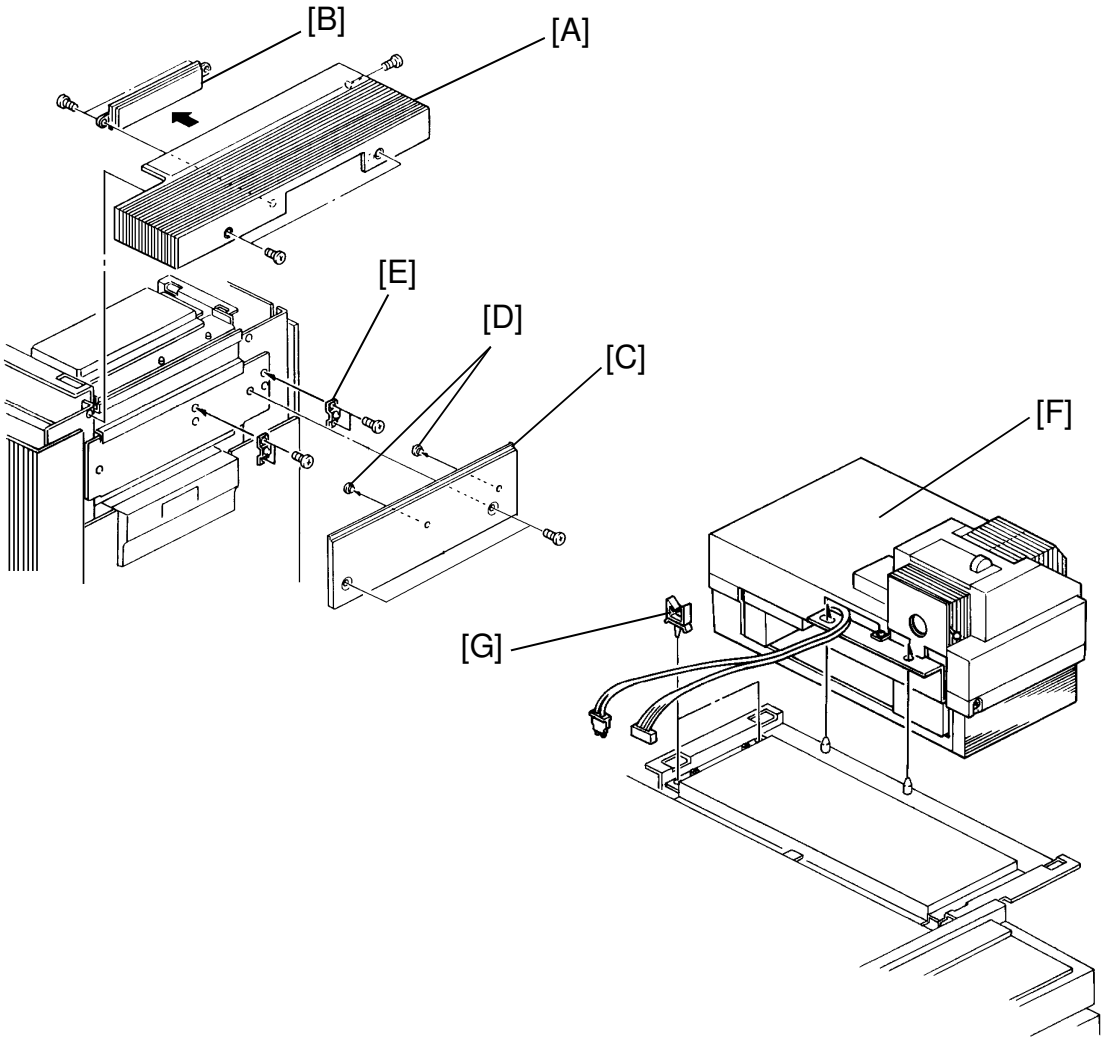
Description	Q'ty	
Installation Procedure	1	
NECR	1	
Envelope for NECR	1	(USA only)
Operating Instructions	1	
Support Bracket	2	
Mirror Unit	1	
Film Strip Holder	1	
Slide Mount Holder	2	
Slide Mount	1	
Base Film (AGFA, FUJI, KODAK)	3	
Blower Brush	1	
Safety SW Actuator	1	
Philips Pan Head Screw M4 x 8	6	

NOTE:

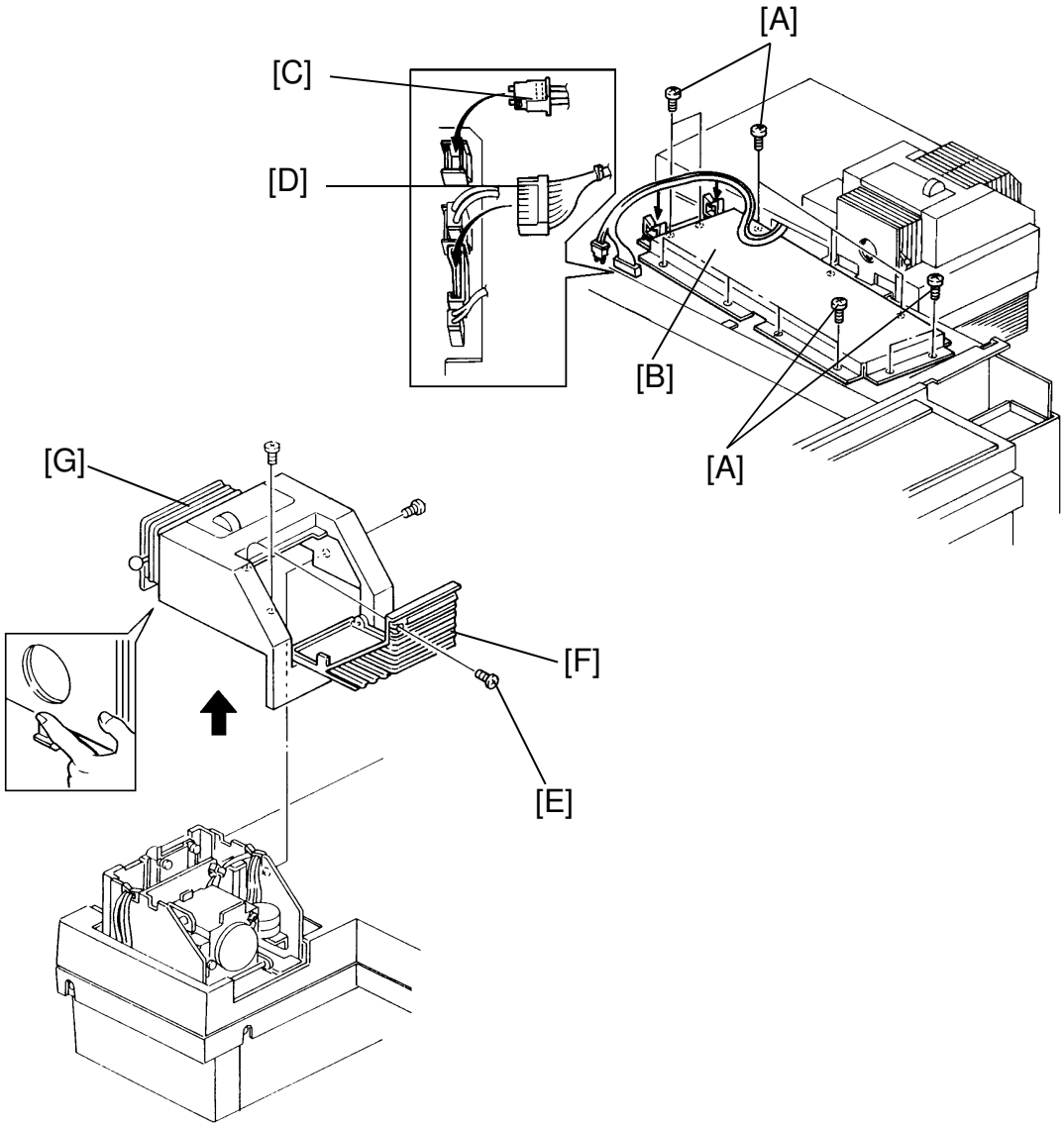
Model	A092-17	A092-25	A092-27	A105-17	A105-27
A984-17	O	X	X	O	X
A984-27	X	O	O	X	X
A711-27	X	X	X	X	O

O: The SPU can be connected to the copier.
X: The SPU cannot be connected to the copier due to the safety standard.

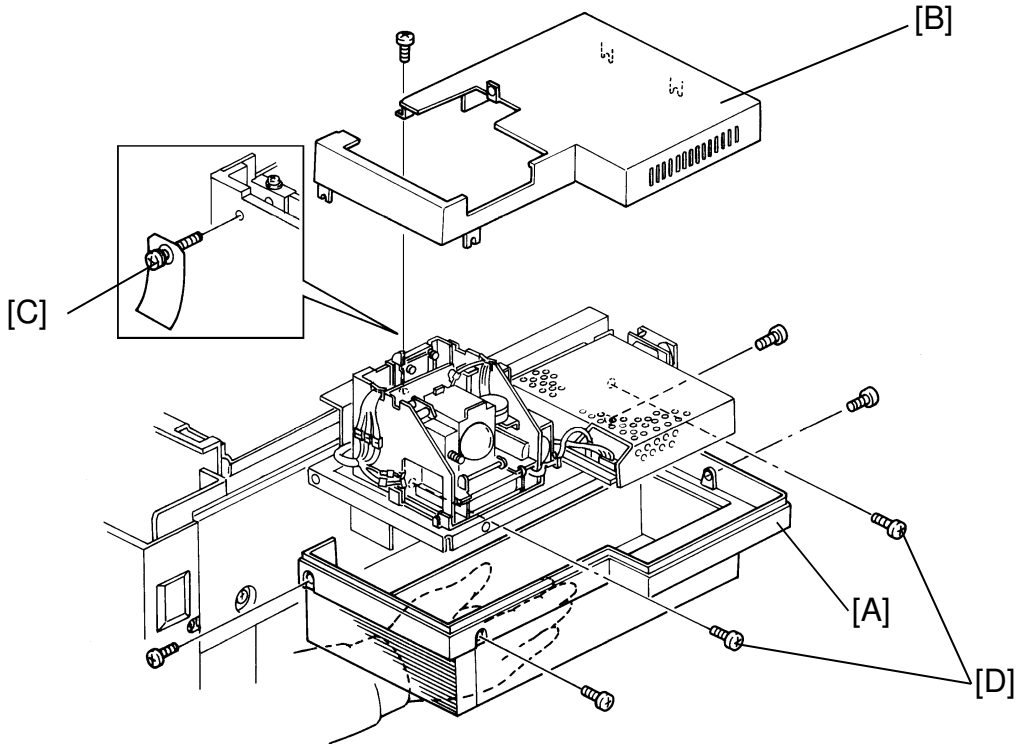
5.2 INSTALLATION PROCEDURE



1. Turn off the main switch of the copier.
2. Remove the upper right cover [A] (3 screws).
3. Remove the connector cover [B] (2 screws).
4. Remove the right upper cover [C] (2 screws) and 2 caps [D] from the right upper cover.
5. Install 2 support brackets [E] (2 screws each) and reinstall the right upper cover removed in step 4.
6. Hang the slide projector unit [F] on the base copier.
7. Install 2 harness clamps [G] which are in the accessory box.



8. Remove 11 screws [A] that fix the PCB cover.
9. Slide the PCB cover [B] to the right a little.
10. Connect the fiber cable [C] and 8 pin connector [D], and clamp the harness by the harness clamps.
11. Reinstall the PCB cover.
12. Remove one screw [E] and open the lamp cover [F].
13. Remove the 3 shipping protectors and remove the top cover [G] (2 screws and one hook).

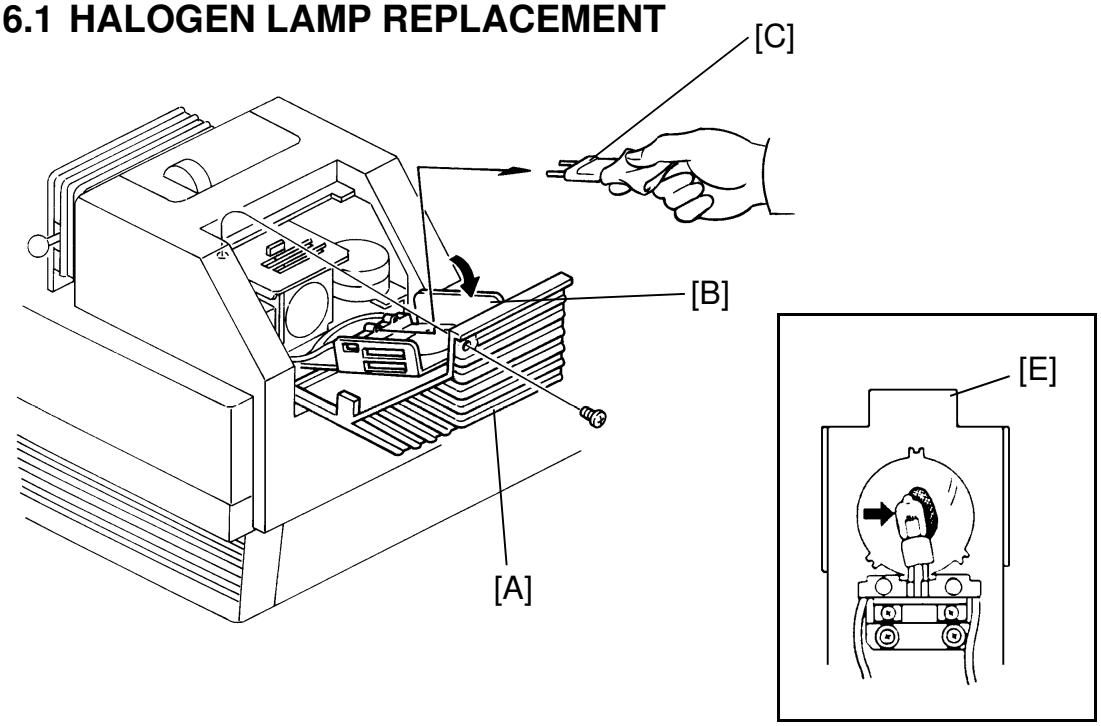


14. Remove the bottom cover [A] and upper cover [B] while supporting the bottom cover (5 screws).
15. Remove the clamp screw [C]. As this screw will be used for servicing, keep it in the developer catch pan.
16. Secure the 2 screws [D] in the accessory box.
17. Confirm that the copier is held in place by the leveling shoes.
18. Make copies for negative film and positive film. If these are unsatisfactory, see the service manual adjustment section.
    - Side to side registration adjustment – Page 25
    - Scanner leading edge registration adjustment – Page 26
    - RGB gamma adjustment – Page 27
19. Reassemble the covers removed in the previous steps.
20. Fix the machine on four leveling shoes.

6. REPLACEMENT AND ADJUSTMENT

CAUTION: Before starting the job, disconnect the power cord.

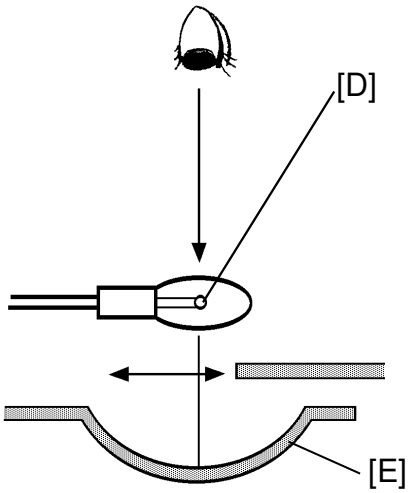
6.1 HALOGEN LAMP REPLACEMENT



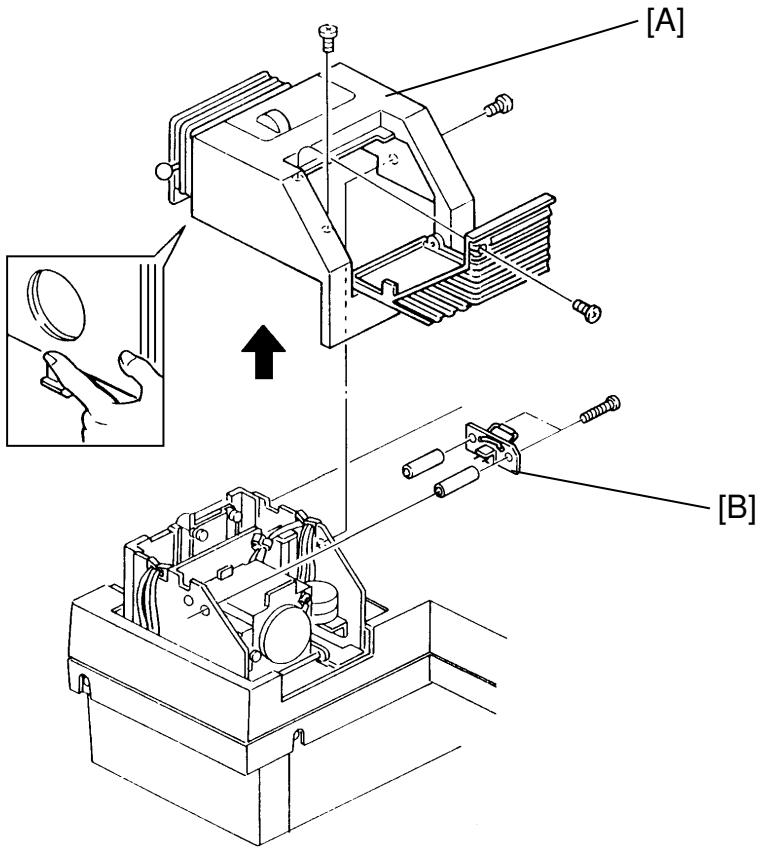
CAUTION: Use a piece of paper or a soft cloth for removing the halogen lamp to keep finger oil off the lamp.

1. Open the lamp cover [A] (1 screw).
2. Open the reflector [B].
3. Remove the halogen lamp [C].
4. While viewing the reflector from the upright position, install the halogen lamp to match the lamp filament [D] to the reflection [E].

   NOTE: While moving a piece of paper as shown, make sure that the reflected image of the filament overlaps with the actual filament. You should not be able to see a double image.

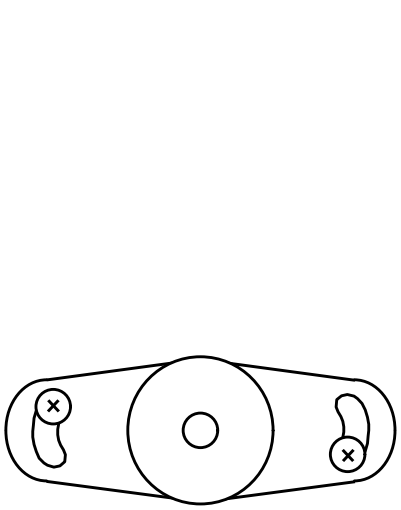


6.2 THERMOFUSE REPLACEMENT

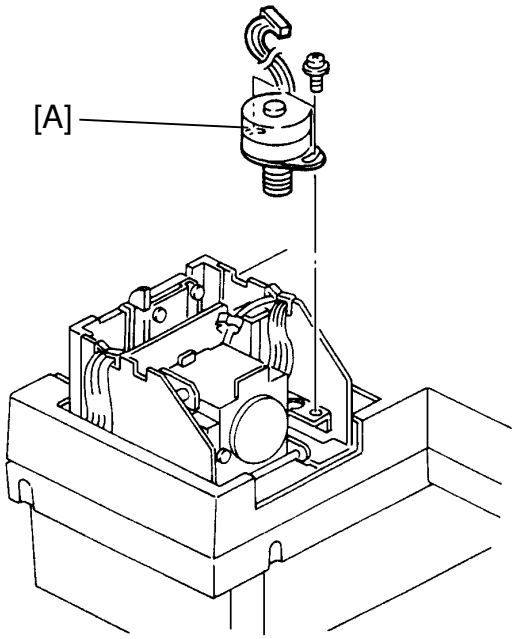


1. Remove the top cover [A] (3 screws, 1 hook).
2. Remove the thermofuse [B] (2 long screws and one connector).

6.3 LIGHT COMPENSATION FILTER MOTOR REPLACEMENT



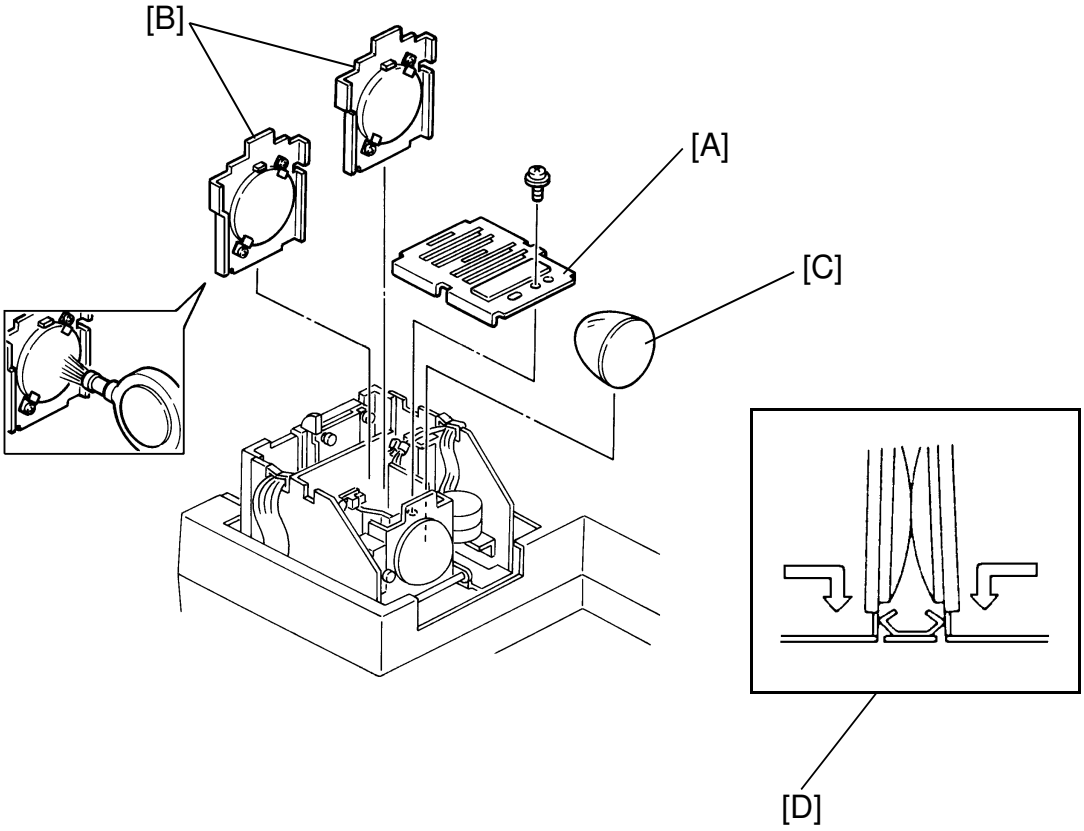
Top View



1. Remove the top cover. See thermofuse replacement step 1.
2. Remove the light compensation filter motor [A] (2 screws and 1 connector).

CAUTION: When installing the light compensation filter motor, secure the screws as shown in the illustration [B].

6.4 OPTICAL LENS CLEANING

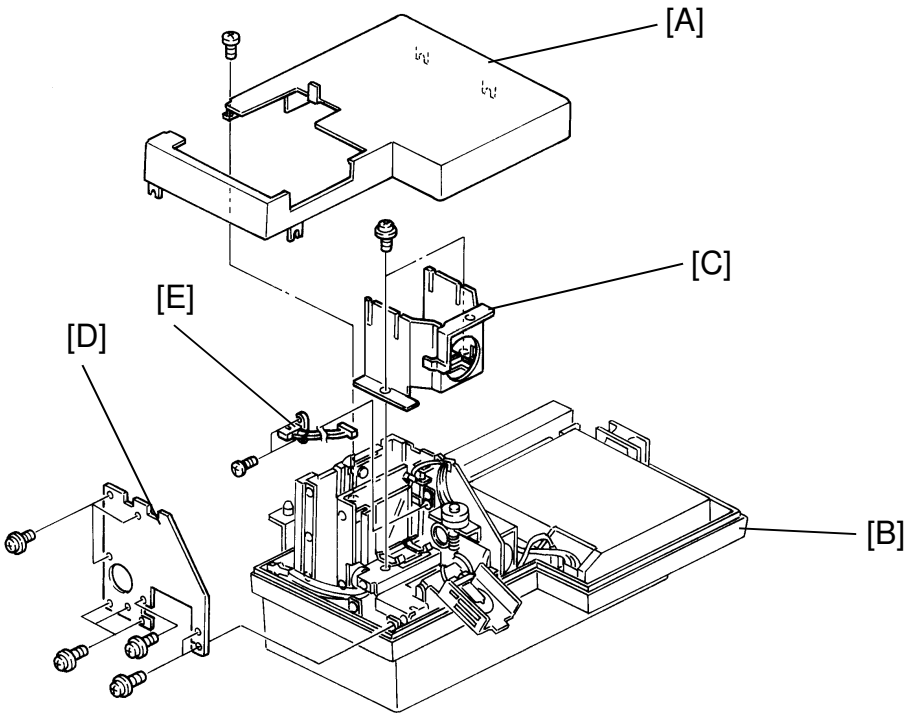


CAUTION: For cleaning lenses, use the blower brush in the drawer. Do not put your the fingers on the lens.

1. Remove the thermofuse. See the Thermofuse Replacement Procedure steps 1 to 2.
2. Remove the lens cover [A] (1 screw).
3. Remove the 2 condenser lenses [B] and clean them.
4. Remove the nonspherical lens [C] by covering it with soft paper and clean it.

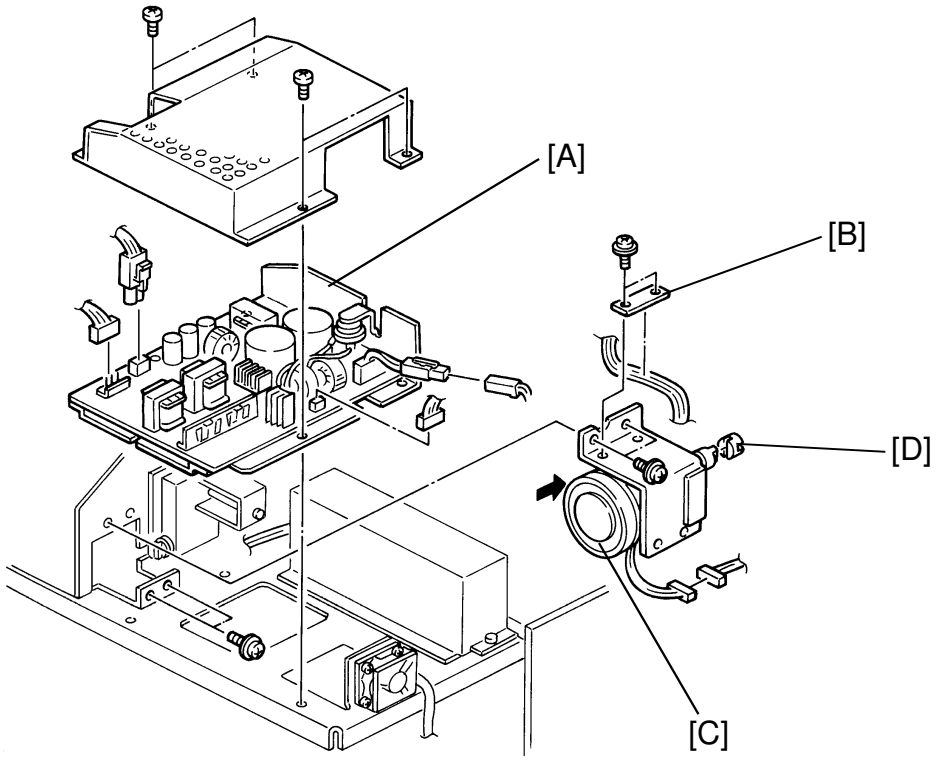
CAUTION: Set the condenser lenses as shown in the illustration [D].

6.5 LIGHT COMPENSATION FILTER SENSOR REPLACEMENT



1. Remove the condenser lenses and nonspherical lens. See Optical Lens Cleaning steps 1 to 4.
2. Remove the upper cover [A] and the lower cover [B] (5 screws) while supporting the lower cover.
3. Remover the condenser lens cover [C] (2 screws).
4. Remover the side plate [D] (9 screws).
5. Remove the light compensation filter sensor [E] (2 screws and 1 connector).

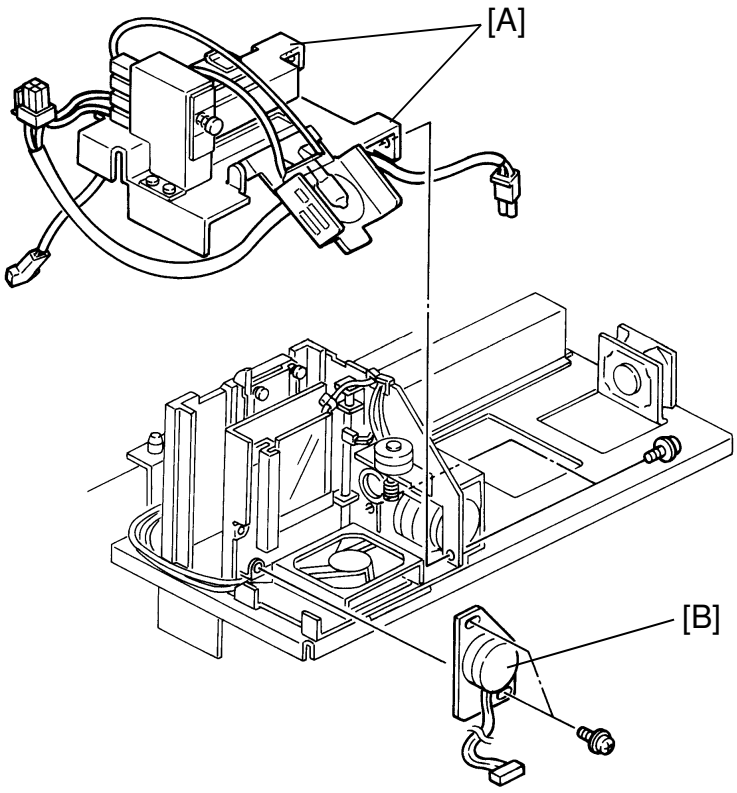
6.6 FILM SCANNING MOTOR REPLACEMENT



1. Remove the top cover, the upper cover and the lower cover. See Thermofuse Replacement section step 1 and Light Compensation Filter Sensor Replacement section step 2.
2. Remove the power supply unit [A] (4 screws and 4 connectors).
3. Remove the harness clamp [B] (2 screws).
4. Remove the film scan motor [C] (2 screws and 1 connector).

CAUTION: When installing the film scanning motor, confirm that the shafts on each side of the coupling [D] are straight and aligned.

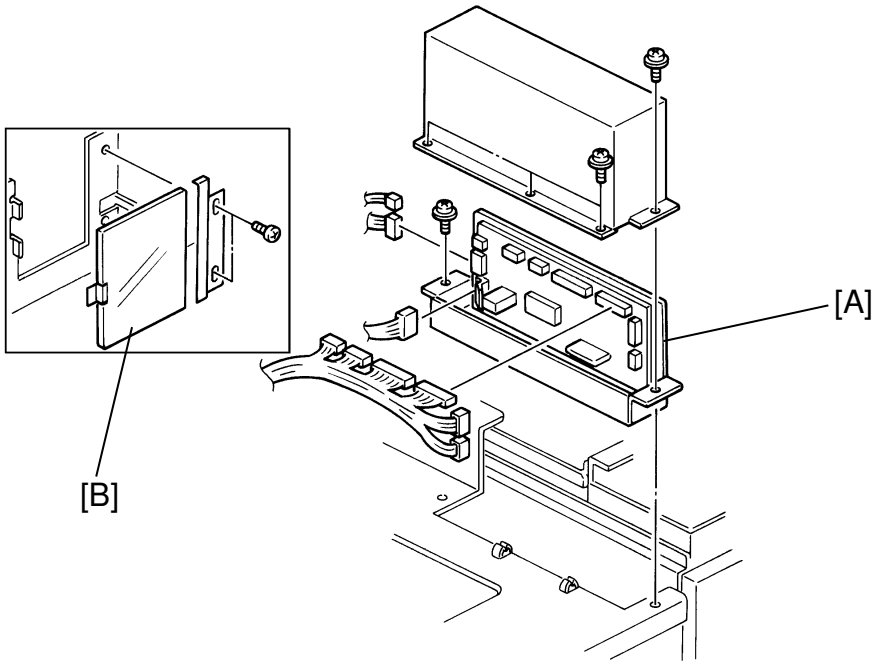
6.7 COLOR COMPENSATION FILTER MOTOR REPLACEMENT



1. Follow the light compensation filter replacement step 1 to 4.
2. Remove the power supply unit.
3. Remove the optical lens housing [A] (2 screws).
4. Remove the color compensation filter motor [B] (2 screws and 1 connector).

CAUTION: When pressing the timing belt of the color compensation filter motor, it should be bent 1 cm. If the tension is too strong, the motor cannot turn. If the tension is too loose, the belt cannot drive the gear.

6.8 MAIN PCB AND LIGHT COMPENSATION REPLACEMENT

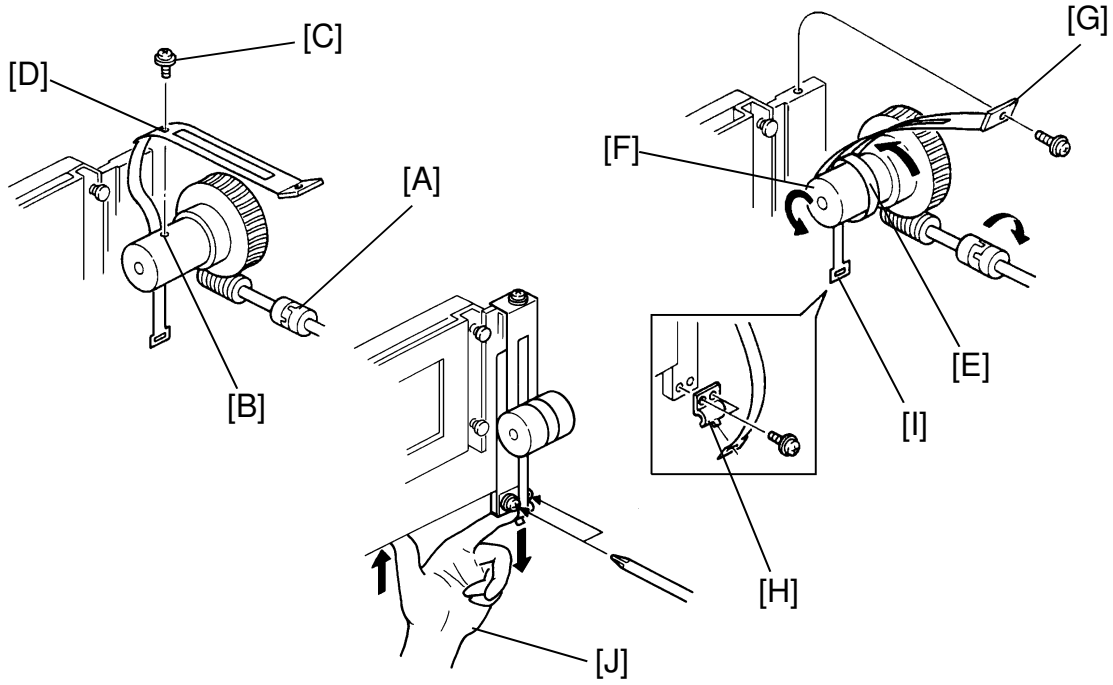


CAUTION: When replacing the main PCB or light compensation filter, both the main PCB and the light compensation filter should be replaced at the same time.

1. Follow the light compensation filter sensor replacement step 1 to 3.
2. Remove the main PCB [A] (7 screws and 9 connectors).
3. Remove the light compensation filter [B] (2 screws).

   NOTE: The darker side should be down.

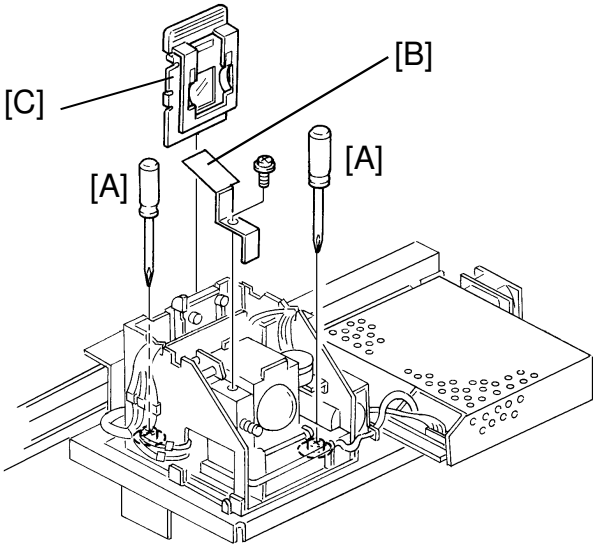
6.9 FILM SCANNING BELT REPLACEMENT

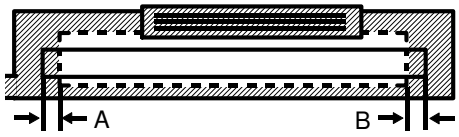


1. Follow the thermofuse replacement steps 1 to 2.
2. Turn the shaft of the film scanning motor [A] to locate the screw hole [B] at the top.
3. Fix the film scanning belt temporarily using the hole [D] as shown in the illustration (1 screw).
4. Turn the shaft of the film scanning motor clockwise to place the screw [C] at the bottom.
5. Wind the narrower side [E] on the pulley [F] as shown in the illustration.
6. Turn the shaft of the film scanning motor clockwise to wind the film scanning belt on the pulley, and fix the end [G] on the film case (1 screw).
7. Remove the bracket [H] (1 screw).
8. Turn the shaft of the film scanning motor clockwise again and hook the end of the film scanning belt [I] on the bracket which was removed at step 7.
9. Fix the bracket to its original position (2 screw) while pulling it and pushing up the film case as shown in the illustration [J].
10. Confirm the movement of the film scanning mechanism by turning the shaft of the film scanning motor. Secure the screw [C].

6.10 COPY IMAGE

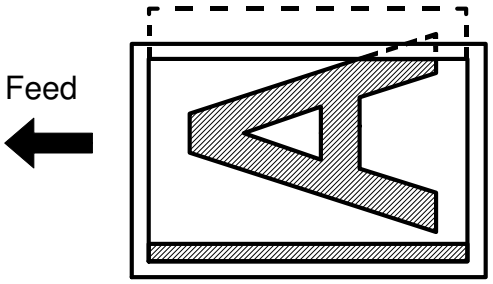
6.10.1 Side to Side Registration Adjustment



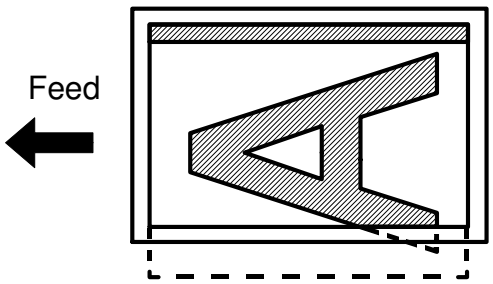


A = B: Image is center
A > B: Pattern 1
A < B: Pattern 2

1. Remove the PCB cover of the copier, the top cover, the upper cover, and the lower cover. See the installation procedure step 2 and steps 12 to 14.
2. Loosen 2 screws [A].
3. Install the safety switch actuator [B] (1 screw).
4. Set the slide mount holder with a negative base film [C] in the film entrance.
5. Set the mirror unit on the exposure glass.
6. Enter SP92 (SPU FOCUS ADJUSTMENT) to turn on the halogen lamp.
7. Center the bright area on the surface of the mirror unit by adjusting the direction the projector unit so that the shadowy areas at each edge are of the same size.
8. Check the copy image.



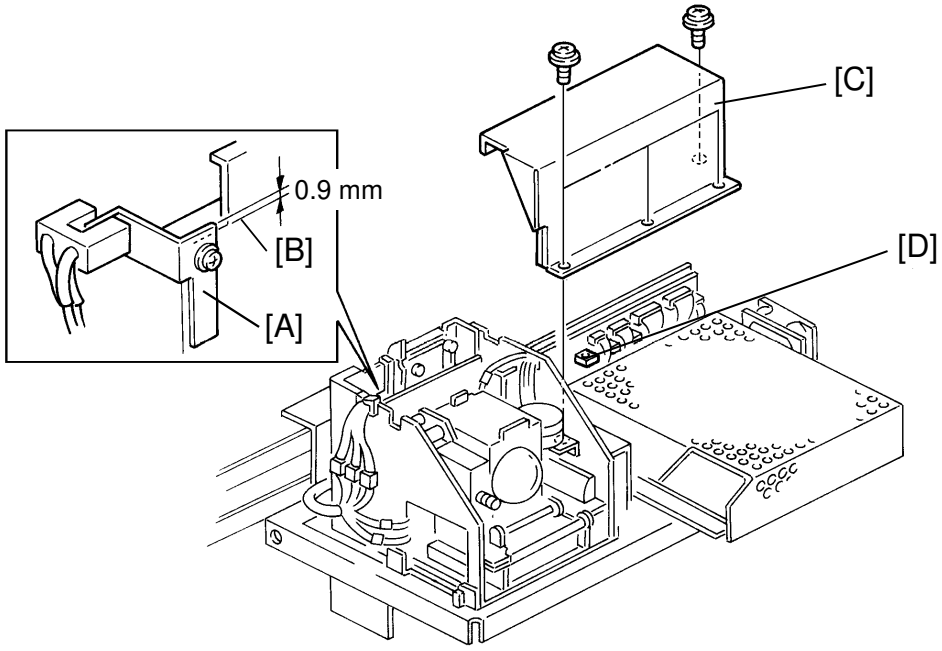
Pattern 1



Pattern 2

Slide Projector Unit

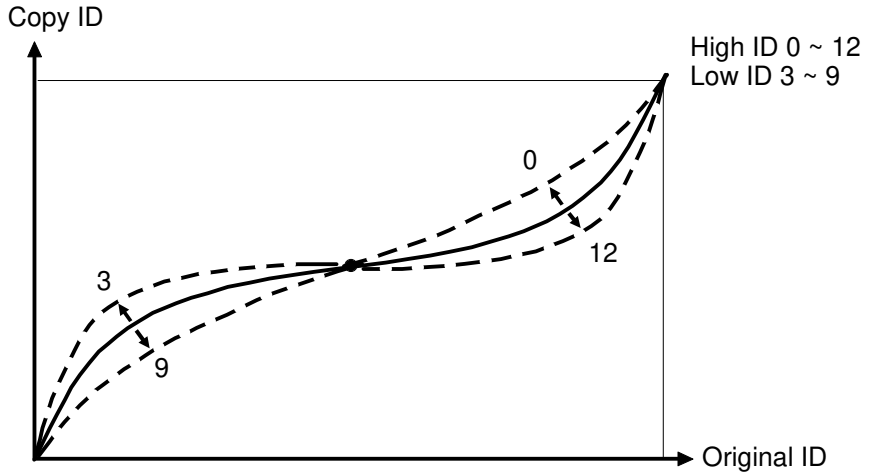
6.10.2 Scanner Leading Edge Registration Adjustment



1. Follow step 1 of the Side to Side Registration Adjustment section.
2. Check the positioning of the actuator [A] of the film scanning H.P. sensor. The top of the actuator should be 0.9 mm higher than the edge [B].
3. Remove the scanner main PCB cover [C] (4 screws).
4. Turn VR3 [D] to adjust the scanner leading edge.
   Counterclockwise - Image is shifted to the trailing edge
   Clockwise - Image is shifted to the leading edge

6.10.3 RGB Gamma Adjustment

SP90 RGB Gamma Adjustment for SPU Positive Mode
SP91 RGB Gamma Adjustment for SPU Negative Mode



When the black part of positive film or the orange base part of negative film is exposed onto the CCD, the output from each picture element with each color filter is not equal. As a result, color balance in SPU mode copy will be poor although it is good copy in normal mode. So in addition to RGB gamma adjustment by SP11 for normal copy mode, it is necessary to adjust RGB gamma in SPU mode.

For negative film, RGB gamma differs slightly from one kind of film to another, depending on the brand, the manufacturer, and the ASA. RGB gamma should be adjusted for each type of negative film. But, only one setting can be stored by SP 91. So, ask the operator for the film name which will be frequently used, and adjust the parameters for it. When other types of negative film is used, RGB gamma can be adjusted by the single color adjustment keys. (Low ID data for gamma adjustment is changed.)

For positive film, RGB gamma adjustment is not needed for each film. But, depending on the image, it may be adjusted.

For SP90 (RGB gamma for positive film) and SP91 (RGB gamma for negative film), RGB gamma is adjusted by Y, M and C, the high ID area can be changed over 12 steps, and the low ID area can be changed over 9 steps. The single color adjustment key can change the low ID area over 7 steps.

<Model A092 & A105>

MANUFACTURE	KODAK		AGFA		FUJI	
BRAND	GOLD100		XRG100		SUPER HG100	
ID	L	H	L	H	L	H
Cyan	8	8	9	9	8	7
Magenta	6	7	8	8	7	7
Yellow	3	4	3	3	3	5

Table 1: SP91 Recommended Parameter (ASA100)

MANUFACTURE	KODAK		FUJI	
BRAND	GOLD200		HG200	
ID	L	H	L	H
Cyan	9	10	9	10
Magenta	8	8	7	8
Yellow	5	5	3	2

Table 2: SP91 Recommended Parameter (ASA200)

MANUFACTURE	KODAK		AGFA		FUJI	
BRAND	GOLD400		XRS400		HG400	
ID	L	H	L	H	L	H
Cyan	9	10	9	9	9	9
Magenta	8	8	8	8	7	8
Yellow	5	5	3	3	3	3

Table 3: SP91 Recommended Parameter (ASA400)

1. Ask the operator for the kind of negative film which will be most frequently used.
2. Set the recommended parameter for the RGB gamma by SP91. See the table. If there is no recommended parameter for the film type you have, go to steps 3 and 4.
3. Borrow the negative film from the operator and set the base film (an unexposed frame) and the image film into the film strip holder.
4. Make a copy from the unexposed frame and adjust RGB gamma by SP91.
5. After setting the parameter of SP91, instruct the operator how to use the single color adjustment key to adjust the color for other kinds of negative films.
6. Borrow the positive film from the operator and make a copy from it. Adjust RGB gamma by SP90.

7. SERVICE TABLE

7.1 PM TABLE

	1/2 YEAR	1 YEAR	EM	
OPTICS	or 10K	or 20K		
Film Holder (Mount, Strip)	C	C	C	Blower Brush Optical Cloth
Mirror Unit	C	C	C	
Lens	C	C	C	
Halogen Lamp	I	I		
DRIVE				
Film Drive Belt		C		

7.2 VARIABLE RESISTOR (VR)

7.2.1 SPU Main Board

Symbol	Function
VR1	Factory use (to adjust the light compensation filter movement)
VR2	Factory use (to adjust the light compensation filter movement)
VR3	To adjust the scanning leading edge.

CAUTION: Never change the setting of VR1 and VR2 from the initial setting.

7.2.2 PSU

Symbol	Function
VR1	Factory use
VR2	Factory use (to adjust +15V line)
VR3	Factory use (to adjust +24V line)
VR4	Factory use (to adjust +12V line)

8. TROUBLESHOOTING

8.1 COPY IMAGE

[Too dark in positive mode, and too light in negative mode]

Symptom: At the SPU installation the copy image in positive film mode is too dark and there is almost no gradation in high tone areas of the film original. The copy image in negative film mode is too light, and there is almost no image from low tone areas of the film original.

Cause: The factory setting for VR506 on the video processing board is not suitable (too high) for the SPU installed.

Action: Check the voltage and adjust VR's:

1) Remove the exposure glass, and remove the cover of the video processing board (4screws).
2) Change the SP37 data from 1 to 3 or 4 (Autoreset time).

NOTE: Factory setting for automatic reset (SP37) is "1" (1 minute). It is too short to adjust VR's.

3) Select the negative film mode.
4) while performing shading, check and adjust the the following:
   Tester: TP523 (VREFP) and GND
   Value: 2.5 ± 0.1 V
   VR: VR505
5) Select the positive film mode.
6) While performing shading, check and adjust the following:
   Tester: TP523 (VREFP) and GND
   Value: 4.0 ± 0.1 V
   VR: VR508

7) While performing shading in positive film mode, check the present value, and decrease the value by 20 mV. Then, check the copy image. Repeat this step until the copy image with a certain voltage is reasonably good in both gradation in high tone areas and vertical lines.

NOTE: When voltage monitored at TP524–GND is decreased, the gradation in high tone areas on positive film is improved, resulting in a brighter image. However, vertical lines on copy will get worse if this voltage is too low.

Tester: TP524 (VREFM) and GND
Value: Factory setting is 50 ± 10 mV
VR: VR506

(Example)

1) 55 mV	Too dark
2) 35 mV	Still too dark
3) 15 mV	Still dark, but improved
4) 0 mV	Image density becomes normal, but vertical lines becomes worse.
5) 10 mV	Not so dark and reasonable vertical lines Then, 10 mV is the best setting for this machine.

[Vertical lines]

Symptom: Vertical lines on copy

Cause: 1) Shading figure
2) Voltage at TP524–GND was adjusted too low.

Action: 1) Fix the machine with four leveling shoes.
2) Reset the mirror unit, and perform shading again. Then, without giving any vibration to the copier, make a copy again.
3) Adjust VR506 on the video processing board to increase the voltage at TP524–GND.

8.2 SERVICE CALL CONDITIONS

CODE: SC280 FILM SCANNING H.P. DETECTION ABNORMAL

Condition: SC280 lights if the actuator does not leave or does not return to the film scanning H.P. sensor within the specified time.

Points to check:

Film scanning H.P. sensor
SPU main board
Film scanning motor

CODE: SC281 COLOR COMPENSATION FILTER H.P. DETECTION ABNORMAL

Condition: SC281 lights if the actuator does not leave, or does not return to the color compensation filter H.P. sensor within the specified time.

Points to check:

Color compensation filter H.P. sensor
SPU main board
Color compensation filter motor

CODE: SC282 LIGHT COMPENSATION FILTER H.P. DETECTION ABNORMAL

Condition: SC282 lights if the actuator does not leave, or does not return to, the light compensation filter H.P. sensor within the specified time.

Points to check:

Light compensation filter H.P. sensor
SPU main board
Light compensation filter motor

CODE: SC290 SPU COPIER COMMUNICATION ERROR

Condition: SC290 lights if the SPU does not communicate with the copier.

Points to check:

SPU power supply unit
SPU main board i/f cable between the spu and the copier
Mother board

How to check the optical cable

Expose the end of the fiber cable to the light from a flash light. Look at the other end of the fiber cable and check if the light is visible.

CODE: Nothing

Condition: When the SPU mode key is pressed, the message display continues to show "PROJECTOR; Open lens cover and set mirror unit."

Points to check:

No AC wall power is given to the SPU, for example:
1) The power code is not plugged in.
2) PSU failure (No DC power supply to the SPU main board.)

9. ELECTRICAL DATA

9.1 POINT TO POINT DIAGRAM