

BARCO

BARCO PROJECTION SYSTEMS

BARCO LCD + X-CUBE
Helios Kit

R8172181K

INSTALLATION MANUAL

KIT LCD + X-CUBE FOR HELIOS PROJECTORS

Date :
140901

Rev :
00

Art. No. :
R5976364

Due to constant research, the information in this manual is subject to change without notice.

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Safety

Who	This procedure is intended for use only by qualified service technicians who have been trained and authorized by BARCO !
Hot Surface	Switch the projector to stand by and let it cool down for at least 15 minutes before starting with the LCD + X-Cube replacement.
Risk of Electrical Shock	Power down the projector and unplug the power cord from the wall outlet. Once the projector is cooled down and the power is off, continue with the replacement procedure.
Antistatic Protection Steps	Wear a wrist band which is connected to the ground while handling the static sensitive parts.
Sensitive Device	LCD panels are very sensitive devices. Observe full precautions for handling electrostatic devices. Do not touch the glass surface. Hold only by the surrounding metal parts.

Contents of the Kit

Type The kit contains a LCD + X-Cube to be mounted in a Helios series projector.

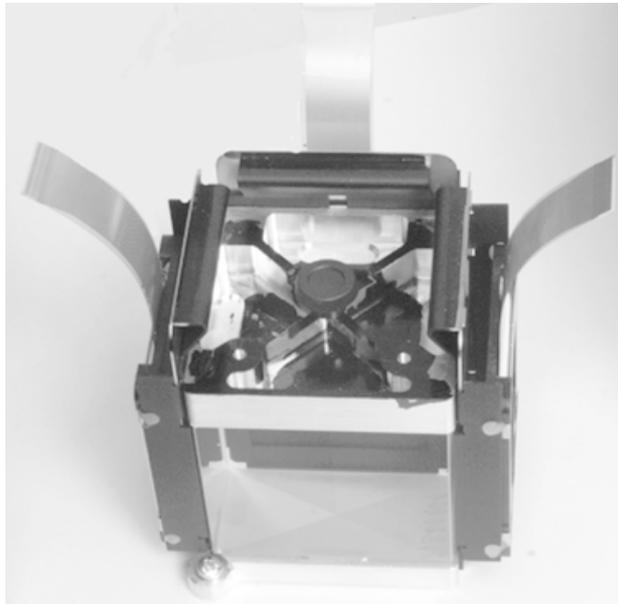
Attention ! LCD panels are very sensitive devices. Observe full precautions for handling electrostatic devices. Do not touch the glass surface and the anti-reflective coating. Hold only by the surrounding metal parts.

Antistatic Protection Steps Wear a wrist band which is connected to the ground while handling the static sensitive parts.

Part Listing The following parts are in the kit :

Part Number	Description	Indication
R8172181	LCD + X-CUBE HELIOS	1
R5976364	MAN INS LCD + X-CUBE HELIOS	

Illustration of the Kit



Access to the LCD + X-CUBE

What has to be done

The lens has to be removed and the top cover has to be opened.

Necessary Tools

Screwdriver 8 mm.

Necessary Parts

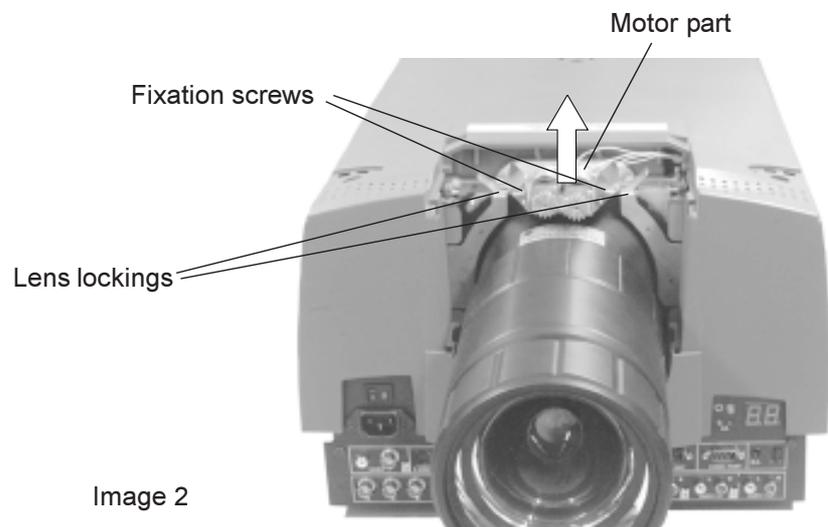
None

Removing the Lens

To remove the lens, follow the next procedure:

Step	Action	Image
1	Open the lens cover by pivoting it backwards and hook it of.	1
2	Loosen the fixation screws of the motor part and pivote it upwards.	2
3	Open both lens locks by pulling them backwards.	2
4	Take the lens out of the lens house.	

Illustrations on Removing the Lens



To be continued on next page.

Access to the LCD + X-CUBE (Continued)

Removing the Top Cover

To remove the top cover, follow the next procedure:

Step	Action	Image
1	Pull the 3 rubber sealing pieces.	1
2	Turn out the 3 fixing screws.	2
3	Take off the top cover.	

Illustrations on Top Cover Removal

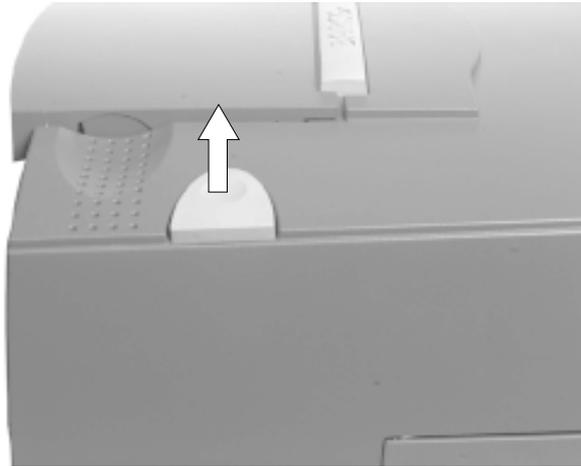


Image 1

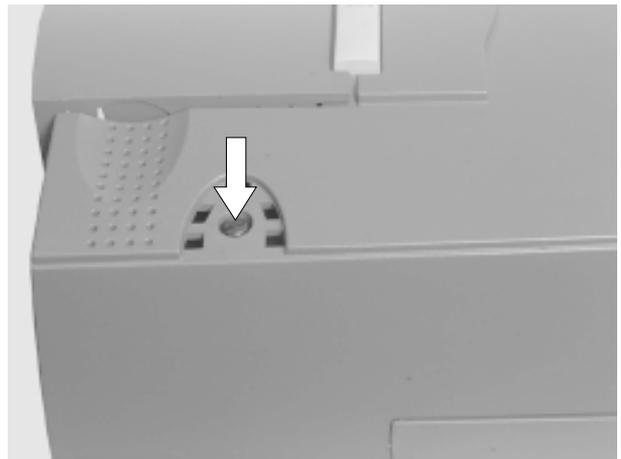


Image 2

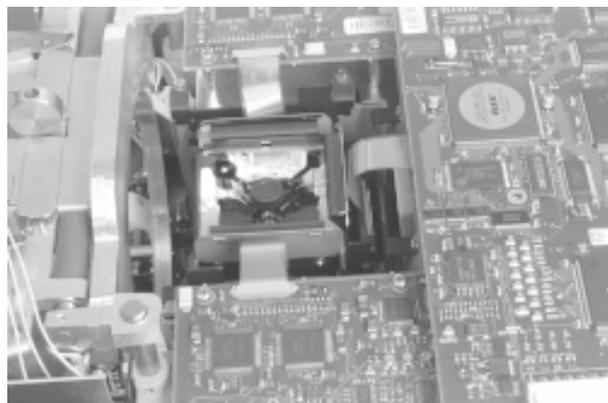


Image 3

Removing the EMC Plate (when present).

What has to be done

The EMC plate covering the Pixel Map Processor has to be removed.

Necessary Tools

Philips screwdriver

Necessary Parts

None

Removing the plate

Step	Action	Image
1	Begin with unscrewing the screw A retaining the electrical conductor.	1
2	Turn out the screws B retaining the little plate	1
3	Remove the little plate	1
4	Turn carefully the remaining screws C out , be aware not to drop these screws into the apparatus.	1
5	Remove the EMC plate	

Illustrations

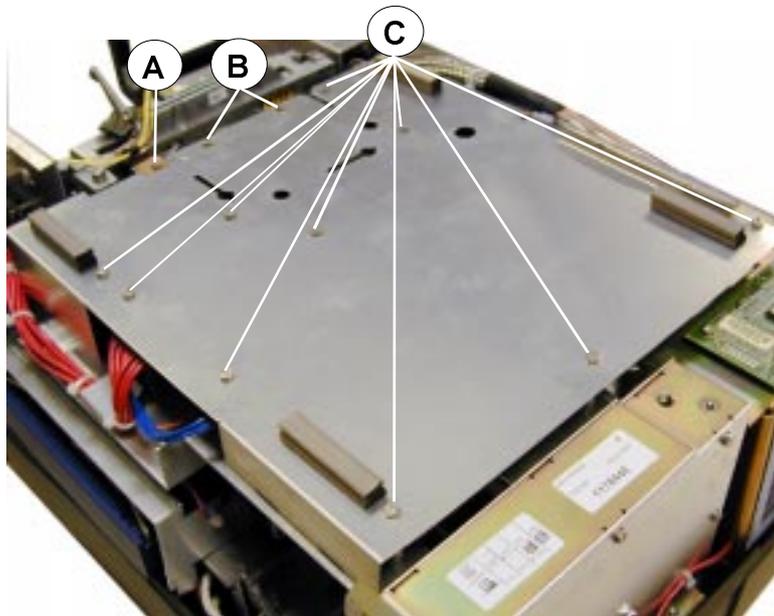


Image 1

Removing the LCD + X-CUBE Assembly

What has to be done

The LCD + X-Cube assembly has to be removed out of the projector.

Necessary Tools

Screwdriver 8 mm.

Necessary Parts

None

Electrical disconnection of the X-Cube.

Before removing the X-Cube, it must be electrically disconnected from the driver board. Follow the next procedure:

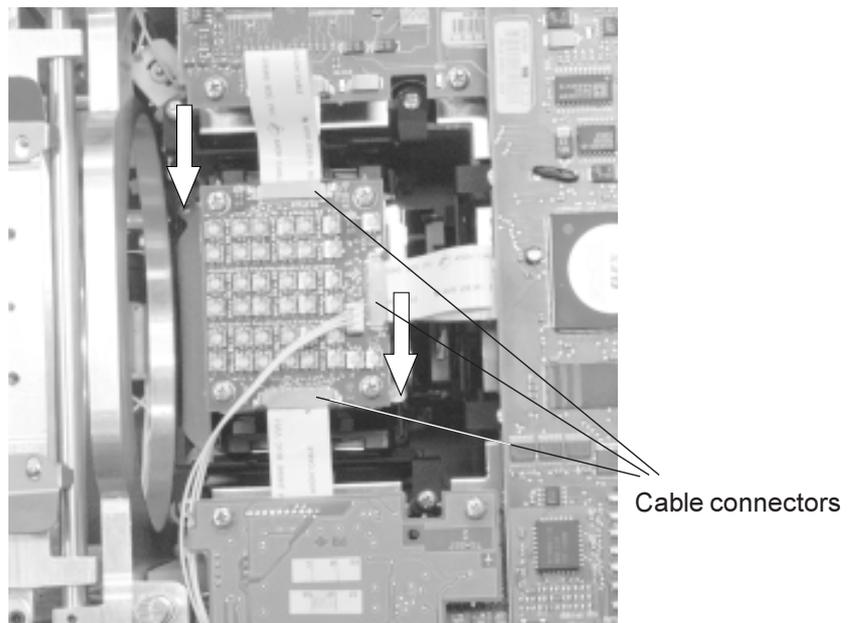
Step	Action	Illustration
1	Press very carefully on both sides of the indicated points to unlock.	
2	Pull out the cable.	

Removing the X-Cube Adjustment Unit

To remove the LCD + X-cube unit together with the adjustment unit, follow the next procedure:

Step	Action	Image
1	Loosen both fixing screws down under by inserting Philips screwdriver with a shaft of minimum 150 mm.	1
2	Slide out the assembly very carefully.	1

Illustration



Disassembling the LCD + X-CUBE Assembly

What has to be done The LCD + X-Cube assembly has to be disassembled.

Necessary Tools Screwdriver 8 mm.
Nutdriver 5.5
Philips screwdriver

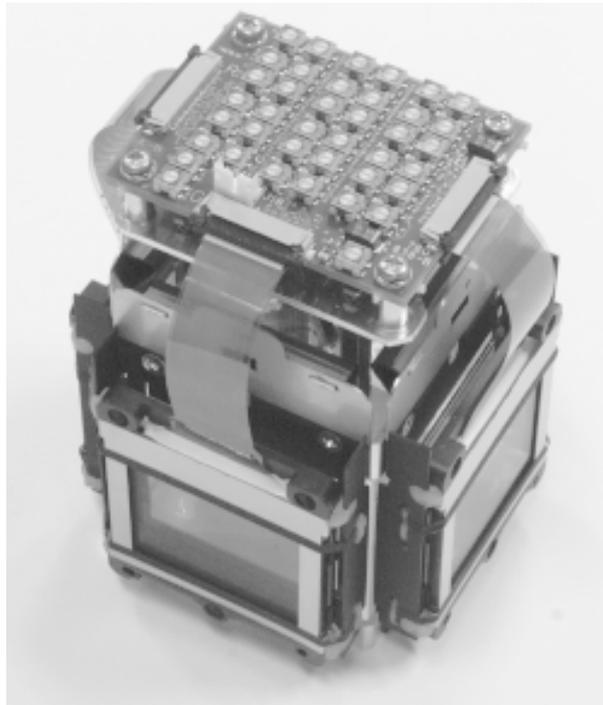
Necessary Parts None

Tip While removing the screws and the parts, put them on a row to find them back the correct assembling order.

Electrical disconnection of the X-Cube. Before disassembling the X-Cube assembly, it must be electrically disconnected from the adjustment board. Follow the next procedure:

Step	Action	Illustration
1	Press very carefully on both sides of the indicated points to unlock.	
2	Pull out the cable (see image 1).	

Illustration



To be continued on next page.

Disassembling the LCD + X-CUBE Assembly (Continued)

Disassembling the X-cube Assembly

To disassemble the X-cube assembly, follow the next procedure:

Step	Action	Image
1	Turn out the 4 fixing screws with Philips screwdriver.	1
2	Take off the unit.	1
3	Turn out the 4 fixing screws with a nutdriver or flat screwdriver.	2
4	Take off the metal unit holder.	2
5	Turn out the 4 spacer and remove the washers	3

Illustration

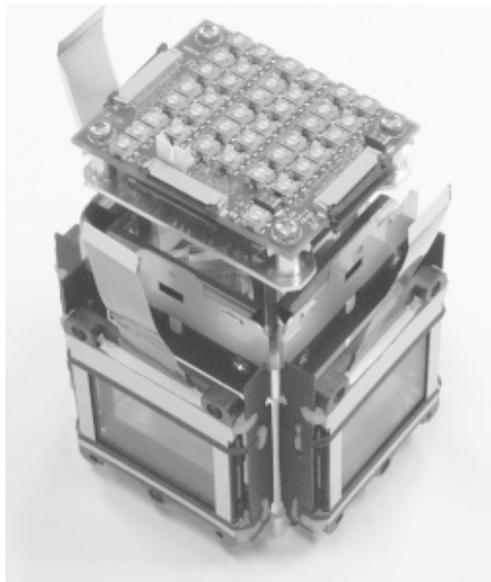


Image 1

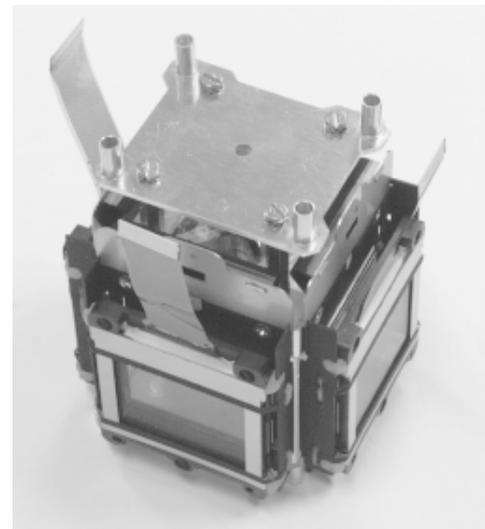


Image 2



Image 3

Assembling the LCD + X-CUBE Assembly

What has to be done

The LCD + X-Cube assembly has to be re-assembled.

Necessary Tools

Screwdriver 8 mm.
Nutdriver 5.5
Philips screwdriver

Necessary Parts

New LCD + X-Cube

Tip

Start with the last disassembled part and continue to the first one in the queue.

Assembling the X-cube Assembly

To assemble the X-cube assembly, follow the next procedure:

Step	Action	Image
1	Turn in the 4 spacers and insert the washers between the spacers and the X-Cube.	1
2	Put the metal unit holder on its place.	
3	Turn in the 4 fixing screws with a nutdriver or flat screwdriver.	2
4	Put the adjustment unit on its place.	
5	Secure this position with the 4 fixing screws (Philips screwdriver).	3

Illustration



Image 1

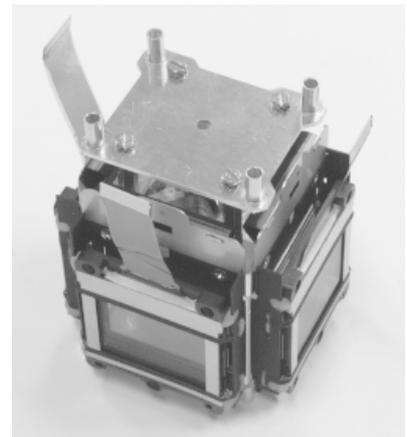


Image 2

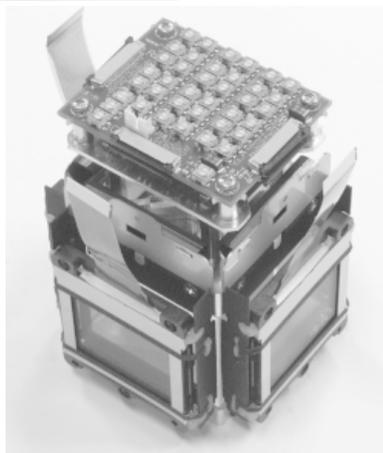


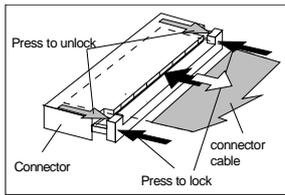
Image 3

To be continued on next page.

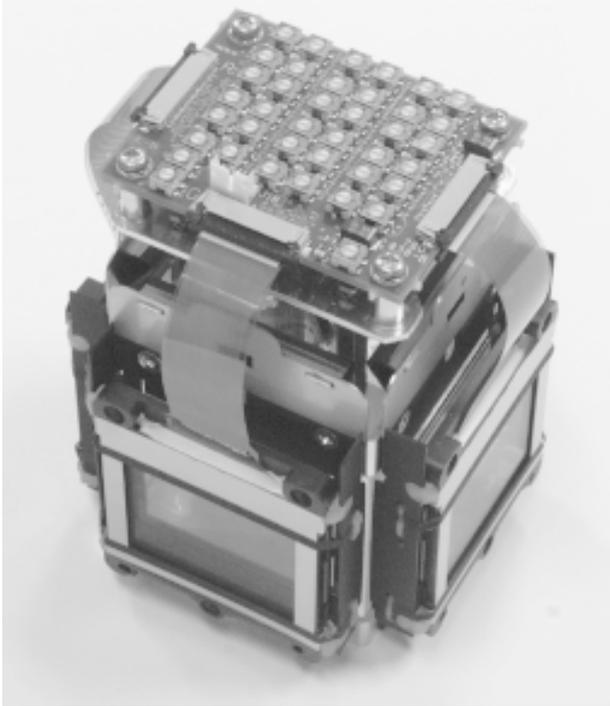
Assembling the LCD + X-CUBE Assembly (Continued)

Electrical Connection of the X-Cube.

Electrically connected to the adjustment board. Follow the next procedure:

Step	Action	Illustration
1	Insert the cable (see image).	
2	Press very carefully on both sides of the indicated points to lock.	

Illustration



Mounting the LCD + X-CUBE

What has to be done

The LCD + X-Cube has to be mounted in the projector.

Necessary Tools

Screwdriver 5 mm.

Mounting the LCD + X-Cube

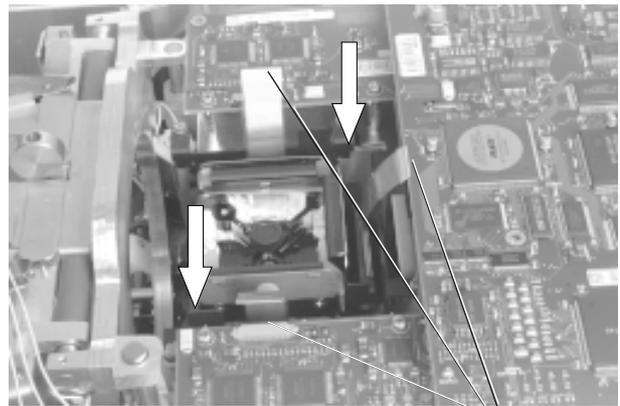
To mount the LCD + X-cube, follow the next procedure:

Step	Action	Image
1	Slide the LCD + X-cube with its frontside to the front of the projector very carefully into the projector.	1
2	Secure both fixing screws down under by inserting a flat screwdriver.	1

Illustrations on Top Cover Removal



Frontside LCD + X-Cube



Cable connectors

Electrical Connection of the X-Cube.

Mounting the X-Cube, it must be electrically connected to the driver board. Follow the next procedure:

Step	Action	Illustration
1	Insert the cable into the connector.	
2	Press very carefully on both sides of the indicated points to lock.	

Remounting the EMC Plate.

What has to be done The EMC plate covering the Pixel Map Processor has to be remounted. This plate is not always present.

Necessary Tools Philips screwdriver

Necessary Parts None

Remounting the EMC plate

Step	Action	Image
1	Put the plate back on the PMP	1
2	Turn in the indicated screws.	1
3	Put the little plate back on its place and fix it with the 2 screws	1
4	Fix the cable B with its screw	1
5	Turn the remaining screws in,	1

Illustrations

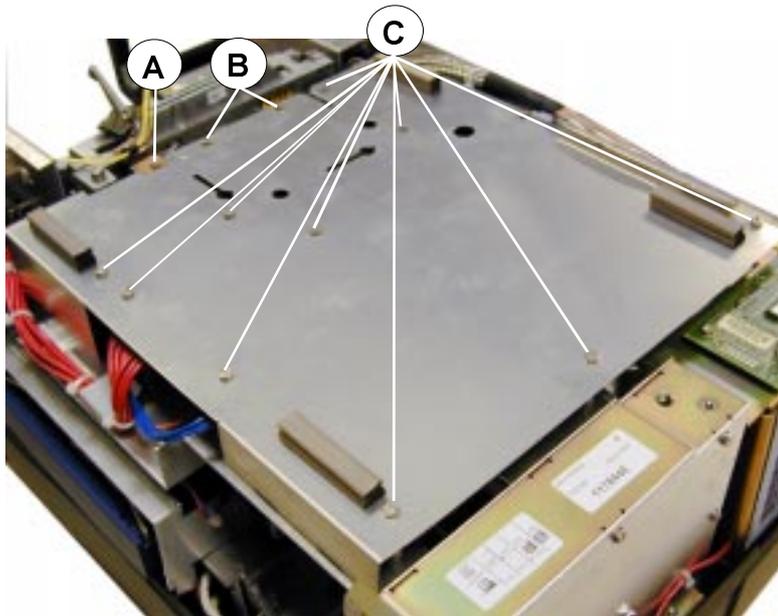


Image 1

Re-installing the covers and the lens

What has to be done

The top cover has to be mounted and the lens installed.

Necessary Tools

Screwdriver 5 mm.

Installing the Top Cover

To install the top cover, follow the next procedure:

Step	Action	Image
1	Put the top cover on its place.	
2	Turn in the 3 fixing screws.	1
3	Insert the 3 rubber sealing peaces on its place.	2

Illustrations on Top Cover Installation

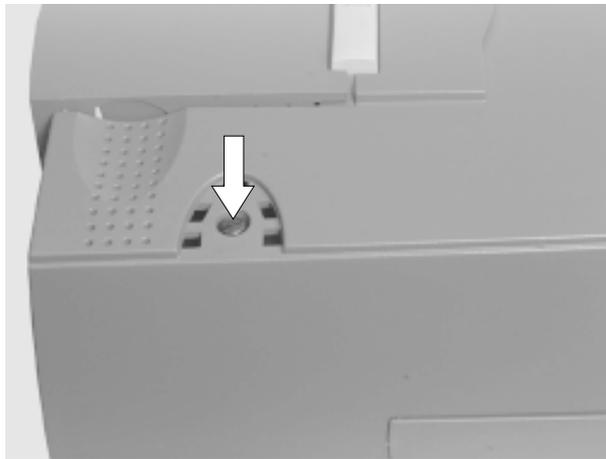


Image 1

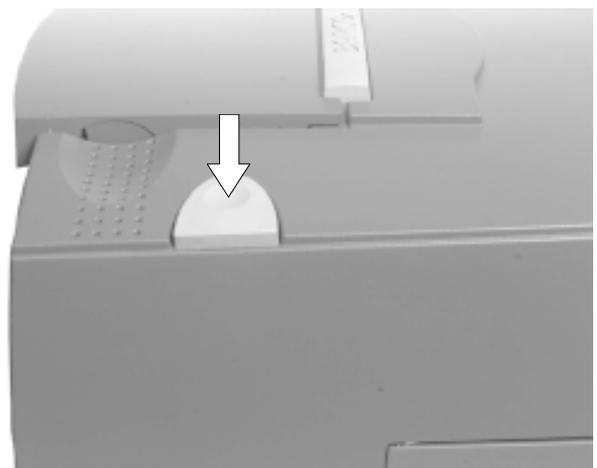


Image 2

To be continued on next page.

Re-installing the covers and the lens (Continued)

Installing the Lens

To install the lens, follow the next procedure or look into the owner's manual :

Step	Action	Image
1	Take the lens out of its packing material.	
2	Open the lens cover of the projector.	
3	Loosen the fixation screws (B) and pivote the motor part (A) up.	1
4	Open both lens locks (C) by pulling them backwards.	1
5	Put the lens on the lens holder with the tooth profile (D) (for zoom lenses) to the upside.	2
6	Fix the lens by closing the both locks until they are secured.	2
7	Pivote the motor part downwards. Ensure that the teeth of the motor matches those of the tooth profile. If not, turn the lens a little (for zoom lenses).	2
8	Secure the fixation screws (B).	2
9	Re-install the lens cover.	3

Illustrations on Removing the Lens

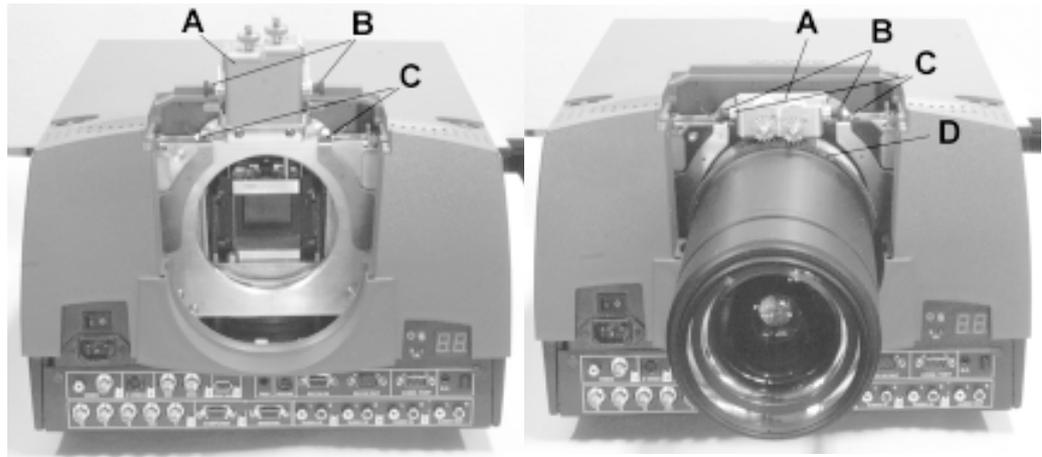


Image 1

Image 2

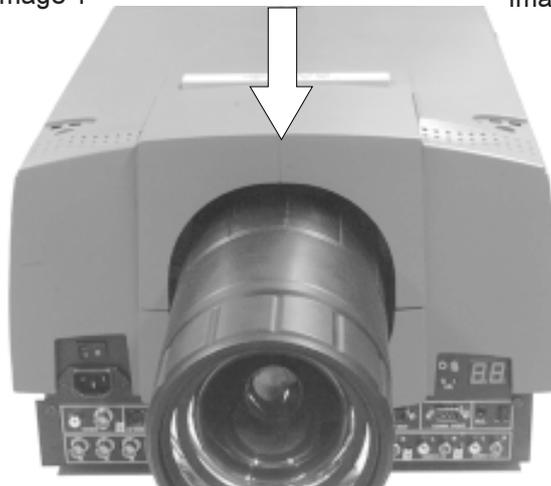


Image 3