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PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the projector have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, etc. Replacement parts which have these special safety characteristics are identified in this service manual. Electrical components having such features are identified by shading on the schematic diagram and the parts list of this service manual and by the supplementary sheet for this chassis to be issued subsequently.

SAFETY PRECAUTIONS

North america

NOTICE: Observe all cautions and safety related notes located inside the cabinet and on the chassis.

Warning

1. Operation of this projector outside the cabinet or with the cover removed presents a shock hazard from the projector power supplies.
2. When a short-circuit has occurred, replace those components that indicate evidence of overheating.
3. Grounding circuit continuity is vital for safe operation of equipment. Do not remove ground connection while the power cord is still connected to the supply. Disconnect supply before servicing.

Caution

Risk of explosion if battery is replaced by an incorrect type.
Replace battery with MATSUSHITA battery, type CR2025 only.
Dispose of used batteries according to the instructions.
Battery may explode if mistreated.
Do not recharge, disassemble or dispose of in fire.

Leakage current check

Before returning the projector to the customer, it is recommended that leakage current be measured according to the following methods.

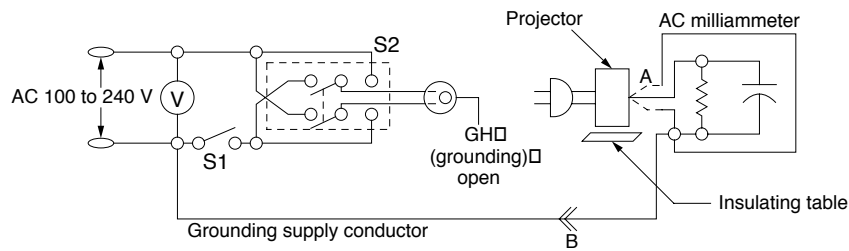
1. Cold check

With the AC plug removed from the AC 100 to 240 V, place a jumper across the two AC plug prongs. Turn the projector AC switch on. Using an ohm-meter, connect one lead to the AC plug and touch the other lead to each exposed metal part (metal cabinet, screwheads, metal overlays, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 megohm. Any resistance below this value indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

2. Hot check

Use the circuit in figure to perform this test.

- (1) With switch S1 open, connect the projector to the measuring circuit. Immediately after connection, measure the leakage current using both positions of switch S2, and with the switching devices in the projector in all of their operating positions.
- (2) Switch S1 is then closed, energizing the projector. Immediately after closing the switch, measure the leakage current using both positions of switch S2, and with the switching devices in the projector in all of their operating positions. Current measurements of items (1) and (2) are to be repeated after the projector has reached thermal stabilization. The leakage current must not be more than 0.5 milliampere.



Figure

Europe, other than USA

NOTICE: Observe all cautions and safety related notes located inside the cabinet and on the chassis.

Warning

1. An isolation transformer should be used between the projector and the AC supply point before any test/service is performed on a LIVE chassis projector.
2. Operation of this projector outside the cabinet or with the cover removed, involves a shock hazard from the projector power supplies. Work on the projector should not be attempted by anyone who is not thoroughly familiar with precautions necessary when working on high voltage equipment.
3. When service is required, observe the original lead dressing. Extra precaution should be given to assure correct lead dressing in the high voltage area. Where a short-circuit has occurred, replace those components that indicate evidence of overheating.

Caution

- Risk of explosion if battery is replaced by an incorrect type.
- Replace battery with MATSUSHITA battery, type CR2025 only.
- Dispose of used batteries according to the instructions.
- Battery may explode if mistreated.
- Do not recharge, disassemble or dispose of in fire.

Leakage current cold check

Before returning the projector to the customer, it is recommended that leakage current be measured according to the following methods.

With the AC plug removed from the AC source, place a jumper across the two AC plug prongs. Turn the projector AC switch on. Using an 500 V D.C. Insulation Tester, connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (screwheads, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 4 megohm. Any resistance below this value indicates an abnormality which requires corrective action.

PRECAUTIONS FOR RESOLDERING

Lead-free solder is handled in a different way from eutectic solder. See below for details.

How to distinguish circuit boards using lead-free solder from those using eutectic solder

Circuit boards using lead-free solder

A mark of **(Pb)Solder** or **LFS** (for limited marking space) is printed near the board assembly number on the component side.

Circuit boards using eutectic solder

Circuit boards using eutectic solder are divided into two groups.

- Boards having no mark of **(Pb)Solder** or **LFS** (for limited marking space) near the board assembly number.
- Boards having a mark of **(Pb)Solder** or **LFS** (for limited marking space) that is painted out by a magic marker near the board assembly number.
- * Circuit boards using lead-free solder and those using eutectic solder may be used together in the same product.

Instructions for resoldering

- For circuit boards using lead-free solder, use lead-free solder.
 - For circuit boards using eutectic solder, use eutectic solder.
 - For lead-free solder, it is advisable to use a soldering iron of at least 40 W because lead-free solder has a melting point approx. 35°C higher than that of eutectic solder as conventionally used. For wire solder, use M705ESC made by Senju Metal Industry Co., Ltd.
 - To remove solder, you can use desoldering wires for eutectic solder as conventionally used.
- Note:** Wipe solder residue off the tip of the soldering iron completely.

PCB LOCATION

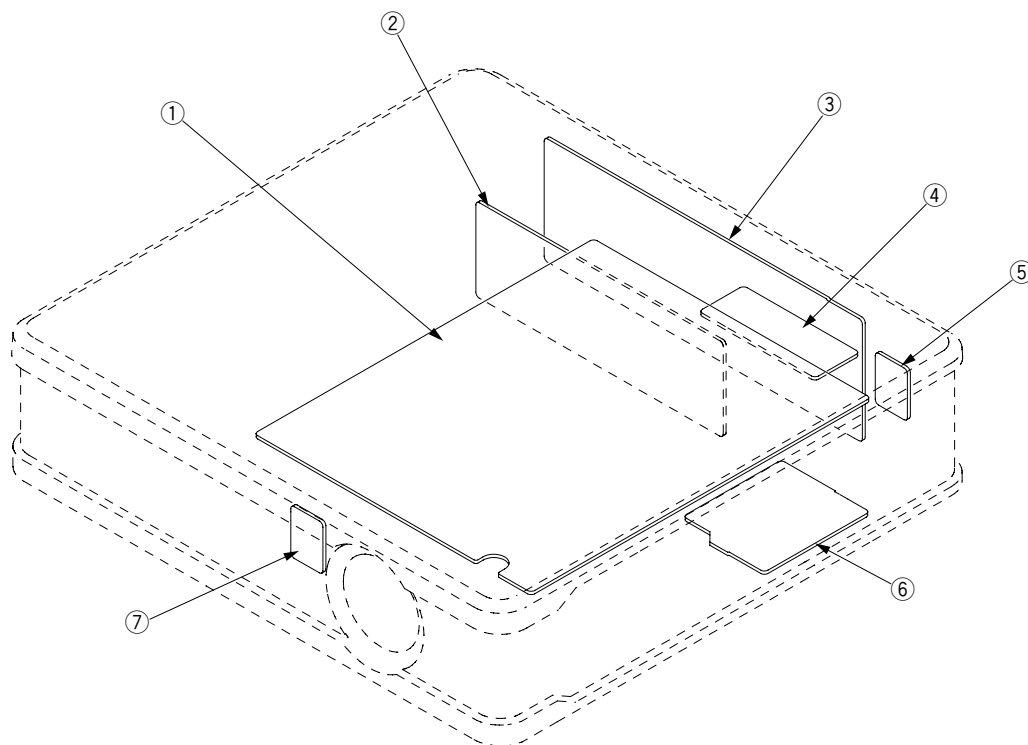


Fig. 1

Parts list : See page 2 of PARTS LIST.

Item No.	Part name
①	MAIN PCB ASSY
②	Lamp power unit
③	POWER PCB ASSY
④	POWER SUB PCB ASSY
⑤	PREAMP R PCB ASSY
⑥	INLET PCB ASSY
⑦	PREAMP F PCB ASSY

Table 1

EXPOSED VIEW

LVP ASSY

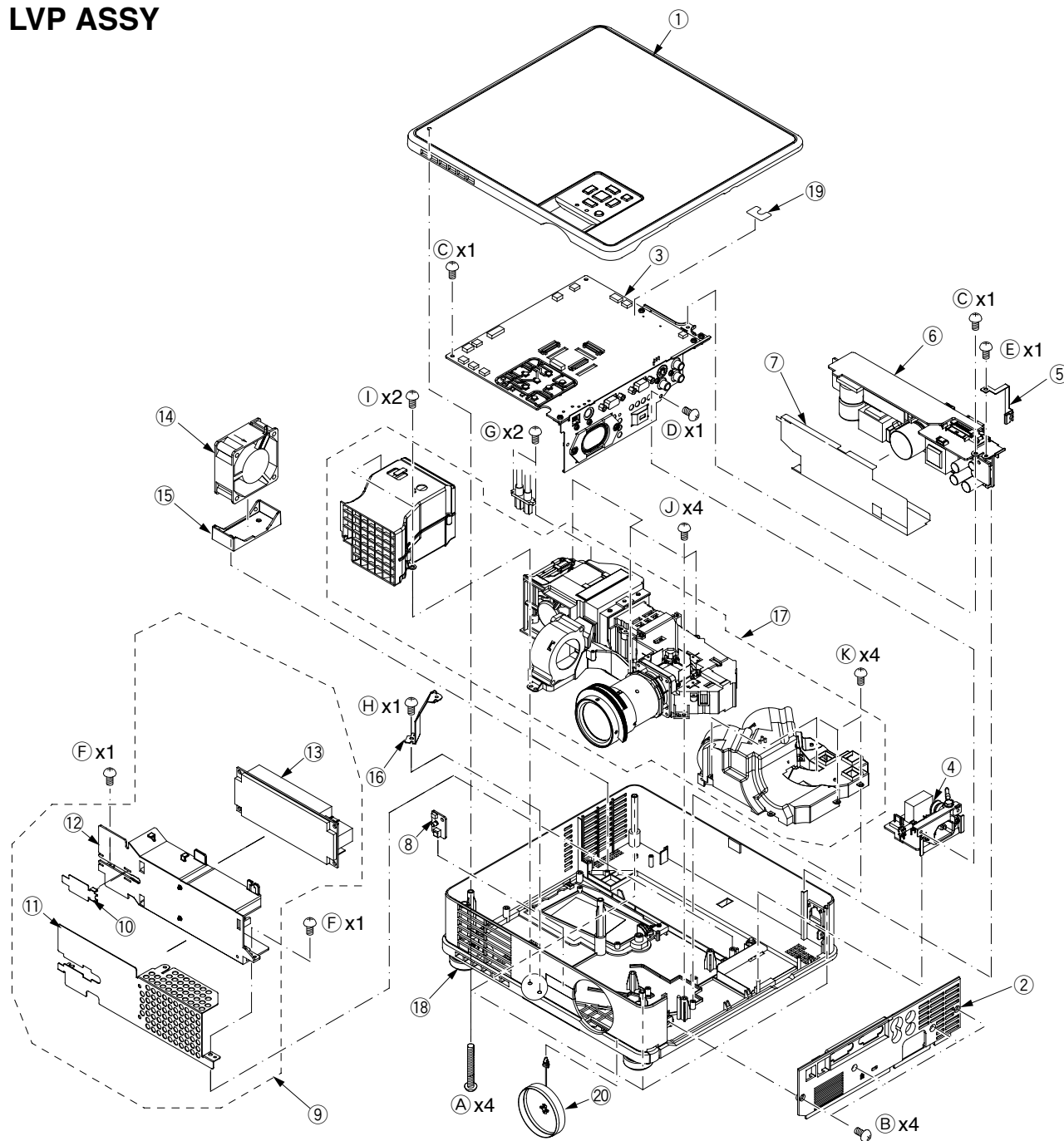


Fig. 2-1

Parts list : See page 3 of PARTS LIST.

Part name	Number of screws	Part name	Number of screws
① Top case unit	A x4	⑪ Lamp power shield	None
② Terminal cover	B x4	⑫ Lamp power holder	F x2
③ Main ASSY	C x2	⑬ Lamp power unit	G x2, 1 hook
④ Inlet ASSY	D x1	⑭ Cooling fan (power)	None
⑤ Terminal earth	E x1	⑮ Fan holder	None
⑥ Power ASSY	None	⑯ F main earth	H x1
⑦ Power barrier	None	⑰ Optical unit	I x2, J x4, K x4
⑧ PREAMP F PCB ASSY	None	⑱ Bottom ASSY	None
⑨ Lamp power ASSY	None	⑲ Mp barrier	None
⑩ Power sheet	None	⑳ Lens cap	None

The number of screws shows the number of screws that hold the relevant part.

Table 2-1

Bottom ASSY

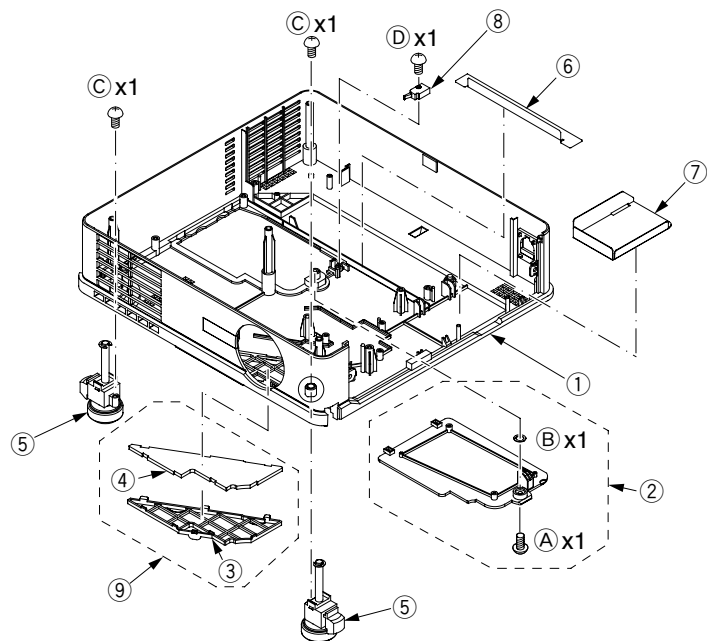


Fig. 2-2

Parts list : See page 4 of PARTS LIST.

Part name	Number of screws
① Bottom case	None
② Lamp cover	A x1, B x1 (Washer)
③ Filter cover	None
④ Filter	None
⑤ Adjustment foot (front)	C x2
⑥ Lead barrier	None
⑦ Inlet barrier	None
⑧ Micro switch	D x1
⑨ Filter cover unit	None

The number of screws shows the number of screws that hold the relevant part.

Table 2-2

Main ASSY

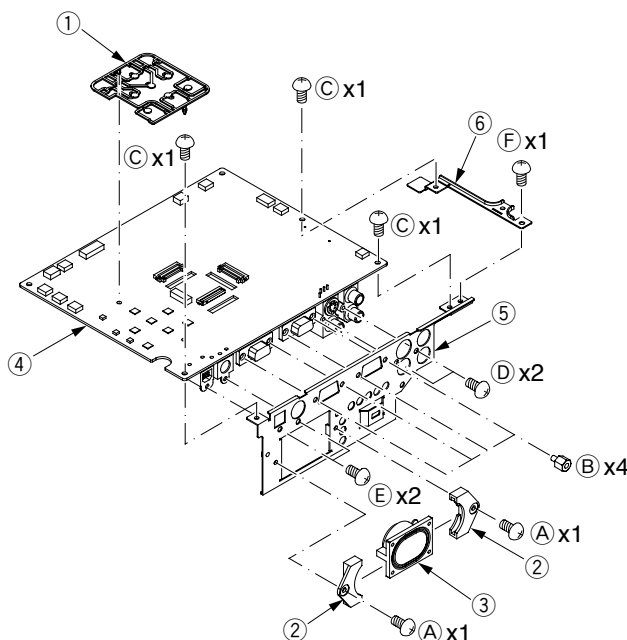


Fig. 2-3

Parts list : See page 4 of PARTS LIST.

Part name	Number of screws
① B knob	None
② Sp spacer	A x2
③ Speaker	None
④ MAIN PCB ASSY	B x4, C x3, D x2, E x2
⑤ Terminal shield	None
⑥ Mp earth	F x1

The number of screws shows the number of screws that hold the relevant part.

Table 2-3

Power ASSY

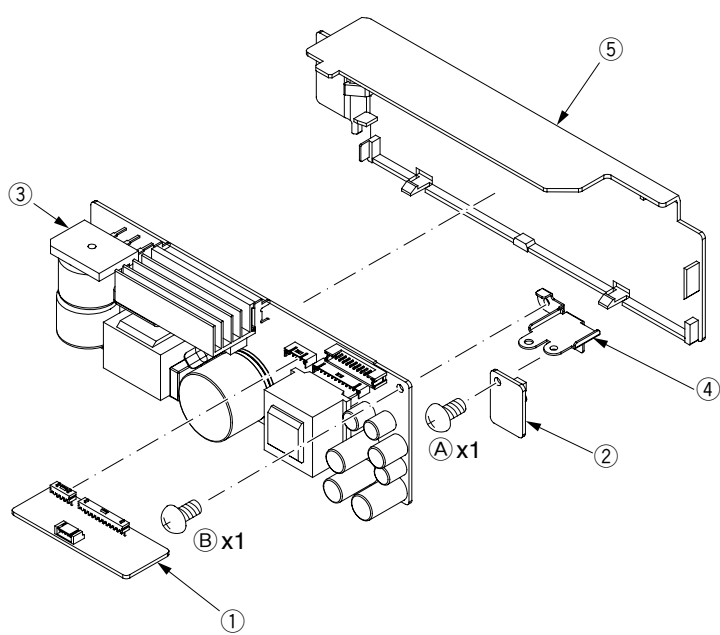


Fig. 2-4

Parts list : See page 5 of PARTS LIST.

Part name	Number of screws
① POWER SUB PCB ASSY	None
② PREAMP R PCB ASSY	A x1
③ POWER PCB ASSY	B x1, 2 hooks
④ Power earth	(Fixed by B x1)
⑤ Power holder	None

The number of screws shows the number of screws that hold the relevant part.

Table 2-4

Inlet ASSY

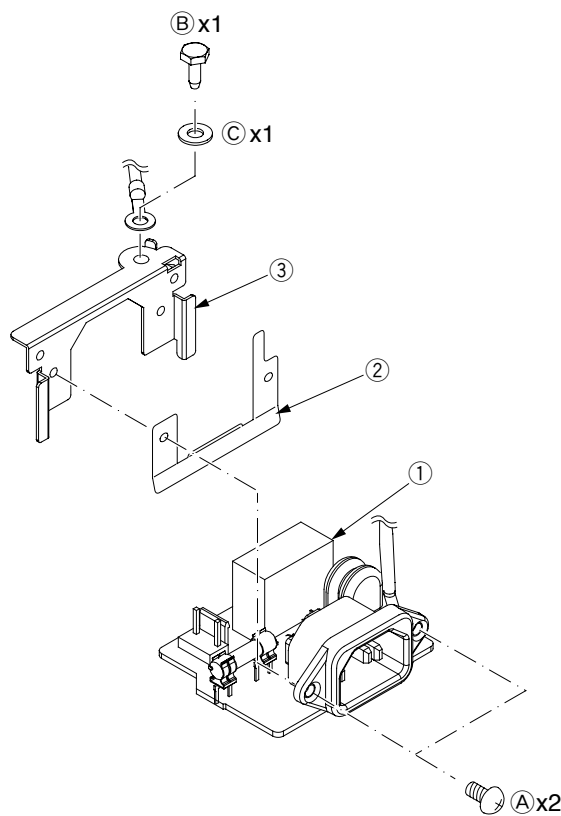


Fig. 2-5

Parts list : See page 5 of PARTS LIST.

Part name	Number of screws
① INLET PCB ASSY	A x2, B x1 C x1 (Washer)
② Terminal barrier	None
③ Inlet holder	None

The number of screws shows the number of screws that hold the relevant part.

Table 2-5

Optical unit 1

Note: Technicians must put on a wrist band to protect LCD panel against static electricity during the repairs.

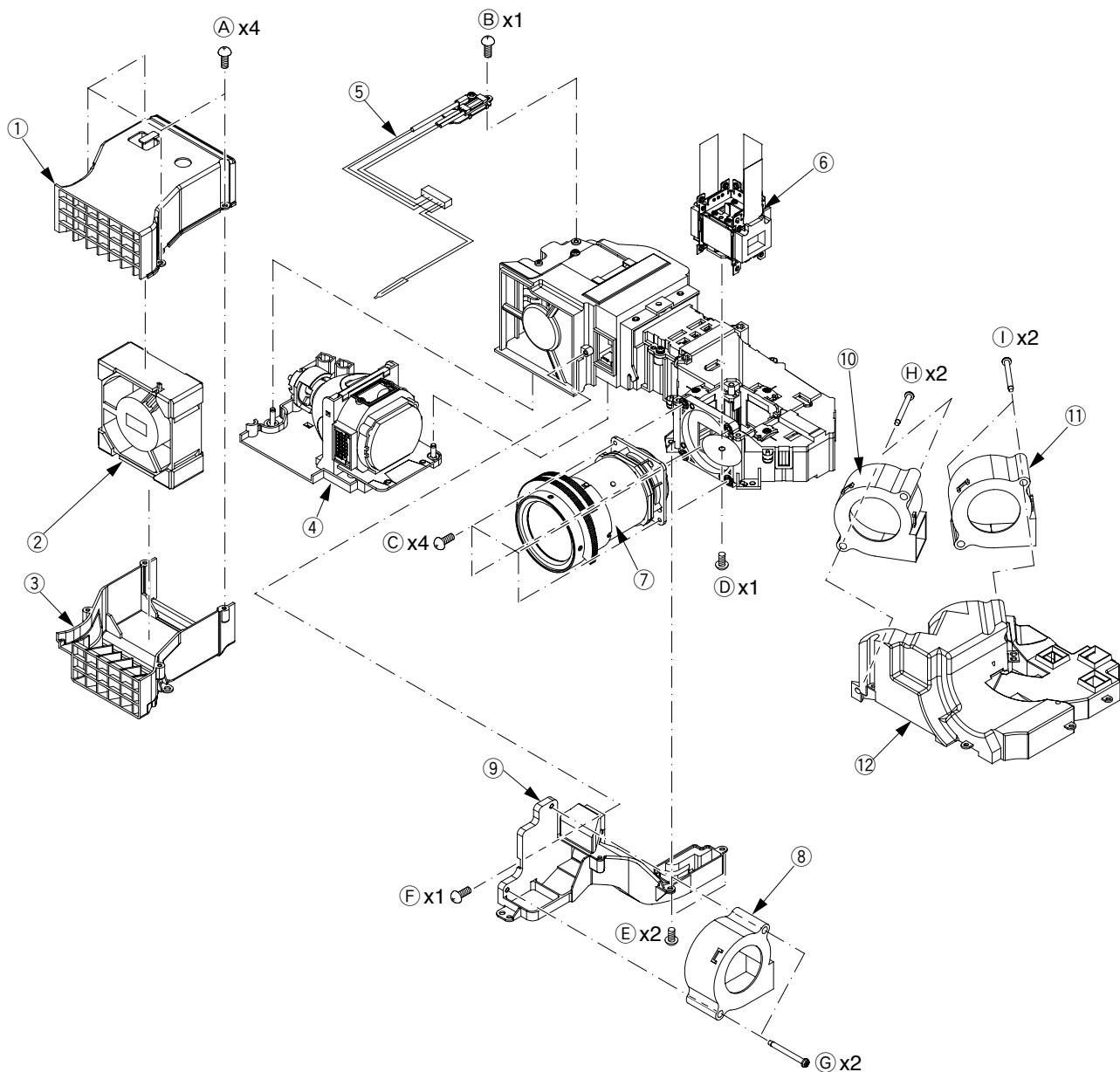


Fig. 2-6

Parts List : See page 6 of PARTS LIST.

Part name	Number of screws	Part name	Number of screws
① Exhaust duct (top)	A x4	⑦ Lens unit	C x4
② Cooling fan ASSY (exhaust)	None	⑧ Cooling fan ASSY (lamp)	G x2
③ Exhaust duct (bottom)	None	⑨ Lamp duct	E x2, F x1
④ Lamp unit	None	⑩ Cooling fan ASSY (in2)	H x2
⑤ Sensor unit	B x1	⑪ Cooling fan ASSY (in1)	I x2
⑥ LCD block	D x1	⑫ Panel duct	None

The number of screws shows the number of screws that hold the relevant part.

Table 2-6

Optical unit 2

Note: Directions of setting parts of ③ to ⑥ as shown in the pictorial below.

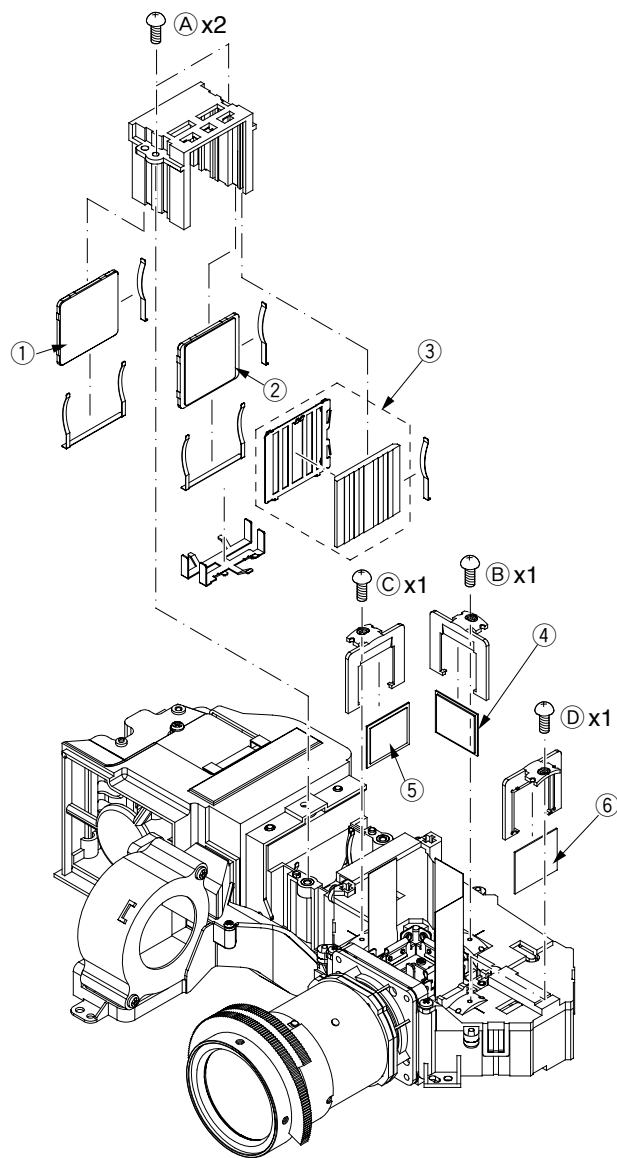


Fig. 2-7

Directions which the setting parts face in

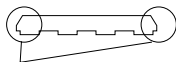
Light source side (Lamp side)	
③	④⑤⑥
Flat surface	Flat surface
	RGB Marking
Shaved edge Uneven surface	Surface to stick the polarizer on
Projection lens side	

Table 2-7-1

Parts list : See page 6 of PARTS LIST.

Part name	Number of screws
① Multi lens A	①x2
② Multi lens B	②x2
③ PBS unit	③x2
④ Polarizer (G) in	④x1
⑤ Polarizer (B) in	⑤x1
⑥ Polarizer (R) in	⑥x1

The number of screws shows the number of screws that hold the relevant part.

Table 2-7-2

Optical unit 3

Note: Directions of setting parts of ① to ③ as shown in the pictorial below.

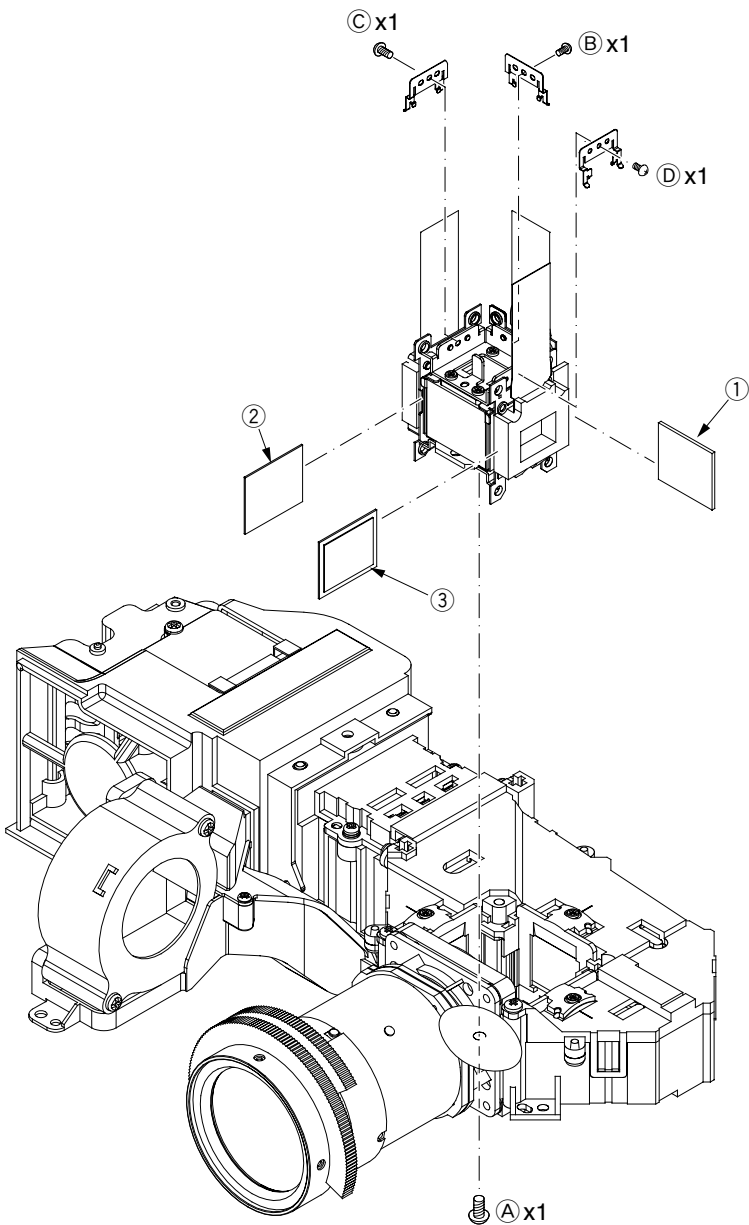


Fig. 2-8

Directions which the setting parts face in

Light source side (Lamp side)
①②③
Surface to stick the polarizer on

Flat surface
Projection lens side

Table 2-8-1

Parts list : See page 6 of PARTS LIST.

Part name	Number of screws
① Polarizer (G) out	Ax1, Bx1
② Polarizer (B) out	Ax1, Cx1
③ Polarizer (R) out	Ax1, Dx1

The number of screws shows the number of screws that hold the relevant part.

Table 2-8-2