1 Parts and Module Replacement

CP2000-ZX

This document includes parts and module replacement procedures that apply to CP2000-ZX. Refer to *1.2 Index of Parts and Modules* for a list of available replacement parts and the page number on which the procedure begins.

Sections include:

- *1.1 Ordering Parts*
- *1.2 Index of Parts and Modules*
- *1.3 Safety Warning and Guidelines*
- *1.4 Replacement Procedures*

1.1 ORDERING PARTS

When ordering replacement parts provide the following information found on the product license label:

- Christie Digital Systems Part Number for each required item
- Projector Model
- Projector Serial Number
- Manufacture Date

Table 1.1 Technical Support Contact Information

AMERICAS		
Canada Toll Free: 1-800-221-8025 Tel: 519-744-8005 Fax: 519-749-2776	**USA** Toll Free: 1-800-221-8025 Tel: 519-744-8005 Fax: 519-749-3302	**Chile** Toll Free: 1-800-221-8025 Tel: 519-744-8005 Fax: 519-749-3302

EUROPE, MIDDLE EAST AND AFRICA		
United Kingdom Support/Service Centre Tel: +44 (0) 118 977 8111 Fax: +44 (0) 118 977 8112 **Italy** eHome Italia Service Tel: +39 (0) 2 9902 1161 Fax: +39 (0) 2 9902 2641 **Middle East & Africa** Support/Service Centre Tel: +44 (0) 118 977 8111 Fax: +44 (0) 118 977 8112	**Germany** Support Tel: +49 (0) 1749 9834 95 Fax: +49 (0) 2161 6645 46 Service Centre Tel: +49 (0) 2161 56620 22 Fax: +49 (0) 2161 6645 46 **Spain** Marcus Fernandez Christie Spain c/o Esher Tel: +34 91 633 9990 Fax: +34 91 633 9991 Mobile: +34 667 447 707 **Eastern Europe** Support/Service Centre Tel: +44 (0) 118 977 8111 Fax: +44 (0) 118 977 8112	**France** Support Tel: +33 (0) 1 47 48 28 06 Fax: +33 (0) 1 47 48 26 06 Service Centre Tel: +33 (0) 1 47 48 28 88 Fax: +33 (0) 1 47 48 26 06 **Hungary & Russia** Support/Service Centre Tel: +44 (0) 118 977 8111 Fax: +44 (0) 118 977 8112

ASIA-PACIFIC		
Singapore Tel: +65 877 8737 Fax: +65 877 8747 **Japan - Tokyo** Tel: +81 3 3599 7481 Fax: +81 3 3599 7482	**China - Beijing** Tel: +86 21 6278 7708 Fax: +86 21 6278 7707 (Shanghai Office) **South Korea** Tel: +82 2 702 1601 Fax: +82 2 702 1602	**China - Shanghai** Tel: +86 21 6278 7708 Fax: +86 21 6278 7707

** For the most current listings, refer to the website at* www.christiedigital.com

AVAILABILITY: *Not all parts identified in this booklet are available separately. Some parts are stocked as inventory and are available only until the current supply lasts.*

1.2 INDEX OF PARTS AND MODULES

All replacement parts and accessories for CP2000-ZX projector models can be found in Table 1.2 and Table 1.3. Each table contains a description of the part, the service kit part number, exploded view label and the page on which its replacement procedure begins, if any.

Exploded views can be found at the end of this booklet.

Table 1.2 CP2000-ZX Service Parts List

EXPLODED VIEW LABEL	PART NAME/DESCRIPTION	CHRISTIE SERVICE KIT PART #	PROCEDURE BEGINS ON PAGE...
58	AC Line Filter (30A)	003-001461-01	11
41	AC Relay	003-001209-01	12
59	AC Terminal Block	003-001510-02	12
11	Access Panel Frame (right side)	003-001635-01	10
14	Air Filter (5 filter pack)	003-001184-01	13
13	Air Filter Cover	003-001511-01	10
61	Anode Clamp	003-001512-01	-
16	Anode Yoke Assembly	003-001513-01	14
8	Back Cover	003-001516-01	8
60	Base Plate	n/a	n/a
24	Cathode Connector	n/a	n/a
33	Card Cage Frame	n/a	n/a
18	Ceramic Plate (3" x 3")	003-001517-01	15
55	Cold Mirror	003-001527-01	15
9	Control Panel Display (CDP) (includes harness)	003-001514-01	16
26	Douser Motor Assembly	003-001518-01	17
27	Douser Knob	n/a	n/a
38	Enhanced Formatter Interface Board (EFIB)	03-260729-52P	18
32	Fans - Card Cage (12V DC, 120mm; one fan per kit)	003-000735-01	19
44	Fan - Intake (12V DC, 120mm; one fan per kit)	003-001202-01	21
45	Fan - LAD	003-001201-01	36
23	Fan - Main AC Blower 230V	003-001563-01	22
62	Feet (x4, adjustable)	003-001193-01	23
56	Fold Mirror	003-001528-01	24
49	Front Faceplate	n/a	n/a
21	Front Lamp Duct	n/a	n/a
2	Front Lid	003-001524-01	7
47	Heatsinks, DMD	n/a	n/a
15	Igniter	03-900547-51P	25
39	Input Panel Faceplate	n/a	n/a
-	Illumination Optics System (IOS) (includes, cold and fold mirrors, yellow notch filter, lint free gloves)	003-001199-01	26
48	Integrator Assembly (include holder, nitrile gloves)	003-001529-01	26
36	Interface Board	03-000756-01P	27
53	Knockout Plate	003-001515-01	n/a

EXPLODED VIEW LABEL	PART NAME/DESCRIPTION	CHRISTIE SERVICE KIT PART #	PROCEDURE BEGINS ON PAGE...
64	Laminar Airflow Device - Filter (3 filters per kit)	03-001982-51P	27
-	Lamp (bulb not shown)	*various - see Table 1.3*	28
19	Lamp Adjuster Assembly (includes motors)	003-001188-01	31
28	Lamp Ballast, 3kW	003-001195-01	31
7	Lamp Door	003-001557-01	8
-	Lamp Door Interlock	003-001559-01	33
20	Lamp Extension Nut (for CDXL-30SD lamp only)	003-001560-01	n/a
6	Left Access Cover (front lamp side)	003-001523-01	9
52	Lens	*various - see Table 1.3*	n/a
50	Lens Boot	n/a	n/a
51	Lens Mount	003-001459-01	33
-	Light Engine (optical head includes aperture assembly, bracket, DMD formatter PCBs)	003-001198-01	34
63	Light Sensor Module	003-001206-01	35
-	Liquid Cooling Assembly (includes reservoir, heat exchanger, 12VDC pump assembly)	003-001561-01	36
40	Low Voltage Power Supply (LVPS)	003-001194-03	40
10	LVPS/Ballast Cover	003-001562-01	11
34	Motherboard PCB	003-001197-01	41
12	PCM Cover	003-001565-01	10
37	Processor PCB	003-000847-01	43
35	Processor Control Module PCB (PCM)	003-001196-01	43
29	Rear Cross Bar	n/a	n/a
1	Rear Lid	003-001564-01	7
22	Reflectors (includes lint free gloves)	003-001189-01	43
25	Stepper Driver Board (SDB)	003-110242-01	45
60	Temperature Sensors (one per DMD on light engine)	003-001567-01	45
17	UV Filter	003-001568-01	46
31	Vane Switch - Exhaust (kit also includes shorter main blower vane switch)	003-001208-01	47
30	Vane Switch - Main Blower (kit also includes longer exhaust vane switch)	003-001208-01	48
54	Yellow Notch Filter (1 filter, disposable nitrile gloves)	03-008004-52P	48
	Filter CM AC Line	003-002136-01	
	Harness Tamper Switch	003-001566-01	

Table 1.3 Other Parts/Options

PART NAME/DESCRIPTION	CHRISTIE SERVICE KIT PART #
Lamps	
CDXL-20 (2.0kW Xenon)	003-000598-02
CDXL-30 (3.0kW Xenon)	003-000599-02
CDXL-30SD (3.0kW Xenon)	003-001165-01
Lenses	
High Brightness Primary Zoom Lenses	
1.25 - 1.45:1	108-274101-01
1.45-1.8:1	108-275101-01
1.8 - 2.4:1	108-276101-01
2.2-3.0:1	108-277101-01
3.0 - 4.3:1	108-278101-01
4.3 - 6.0:1	108-279101-01
5.5 - 8.5:1	108-280101-01
High Contrast Prime Zoom Lenses	
1.25-1.45:1	38-809079-01
1.45-1.8:1	38-809061-01
1.8-2.4:1	38-809052-01
2.2-3.0:1	38-809053-01
3.0-4.3:1	38-809069-01
4.3:6.1	38-809081-01
5.5-8.5:1	38-809080-01
1.25x Anamorphic *(requires optional Anamorphic Lens Mount)*	38-809054-01
1.26x Wide Converter Lens	108-281101-01
Miscellaneous Components / Options	
Flex Cable 50 - Pin RoHS	003-000850-01
CDP extension harness (25ft.)	108-283101-01
Hex Key Set on lamp door (includes 5/32", 9/64", 3/16" hex keys and holder)	003-001525-01
High Security Lock and Key	003-001526-01
Motorized Auxiliary Lens Mount (optional)	108-111102-01 108-111102-02
Protective Clothing Safety Kit (Kevlar gloves, flack jacket, face shield)	598900-095
Rack Stand, no panels	108-272101-02
Rack Stand Panel Kit	108-273101-02
Rack Stand, including panels	108-282101-02
Rack Stand End Shroud Kit	108-307101-01
Cooling Liquid Kit	003-001837-01
Bracket Foot Lock	116-100101-01

1.3 SAFETY WARNING AND GUIDELINES

⚠ WARNINGS ⚠

Always power down and disconnect power sources prior to servicing.

⚠ HIGH VOLTAGES MAY BE EXPOSED

Always unplug the projector prior to disassembly.

⚠ QUALIFIED SERVICE TECHNICIANS REQUIRED

All module replacement procedures must be performed by qualified service technicians.

⚠ NON-INSULATED DANGEROUS VOLTAGES MAY BE EXPOSED.

Always disconnect from AC prior to disassembly.

⚠ OBSERVE ALL ELECTROSTATIC PRECAUTIONS

Use a grounded wrist strap when handling electronic assemblies.

⚠ ALLOW LAMP AND PROJECTOR TO COOL DOWN

Once you have turned off the projector, allow the cooling fans to automatically turn off before disconnecting from AC and opening the projector. This takes approximately 10 minutes.

1.4 REPLACEMENT PROCEDURES

Tools Required:

- Keys for security locks
- Long magnetic-tip Phillips screw drivers - #1, #2 and #3
- Hex keys - 3/32”, 7/64”, 5/32”, 3/16”, 2.5mm, 3mm
- Nut drivers - 9/16”, 7/32”, 7mm
- Electrostatic protective strap and pad
- Disposable Nitrile gloves (included with optical components)

Servicing Guidelines:

- Always power down and disconnect power sources prior to servicing.
- Follow all service safety guidelines.
- Refer to *Table 1.2* along with the Exploded View to locate each module within the projector.
- When re-installing a module, follow “removal” instructions in reverse unless otherwise indicated.
- Refer to the Interconnections drawing at the end of the booklet when re-connecting harnesses.

1.4.1 REMOVING CASE COVERS

WARNING

Never operate the projector or the fans without all the covers installed.

FRONT LID

(1 minute)

The front lid is a lockable cover that provides access to the opto-electronic processing modules of the projector. To remove:

1. Unlock the front lid with the high security key.
2. Raise the lid and slide it out from the opposite side. (Figure 1-1)

When re-installing, repeat instructions in reverse.

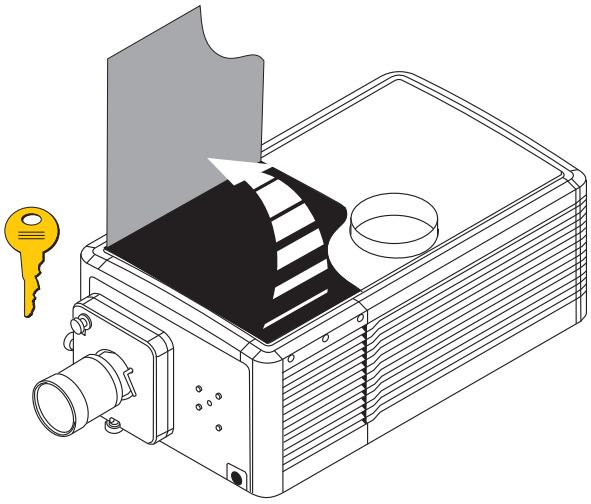


FIGURE 1-1 REMOVE FRONT LID

REAR LID

(10 minutes)

1. Remove external ducting.
2. Remove front lid. See above.
3. Remove 3, #2 Phillips screws securing rear lid to chassis.
4. Using a low security key, unlock and open the lamp door.
5. Remove 3, #2 Phillips screws from the top of the LVPS/Ballast side cover. Lift the cover up and remove
6. Lift rear lid up and remove.

When re-installing, repeat instructions in reverse.

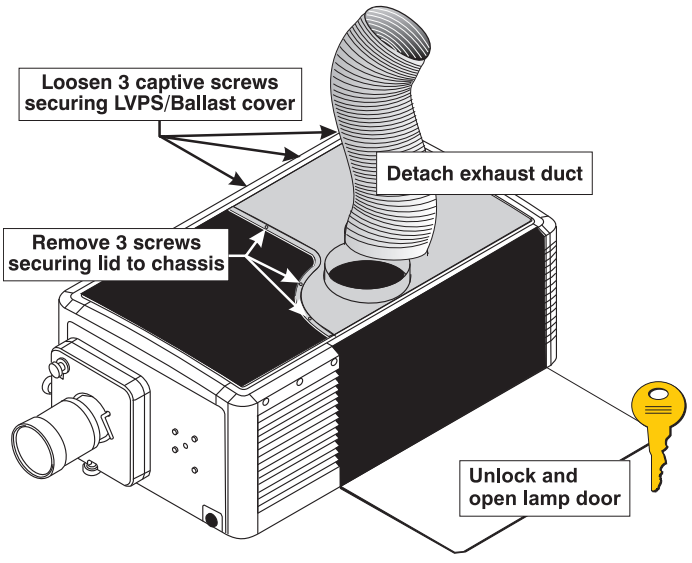


FIGURE 1-2 REMOVE REAR LID

BACK COVER

(5 minutes)

1. Remove the Control Display Panel (CDP). See _.
2. Unlock and open the lamp door.
3. From the inside of the back cover, remove the locking pin from douser indicator knob. Remove the knob.
4. Using a #2 Phillips, loosen 3 captive screws securing the back cover to the chassis.
5. Lift up the back cover enough to clear the tabs at the bottom and remove.

When re-installing, repeat instructions in reverse.

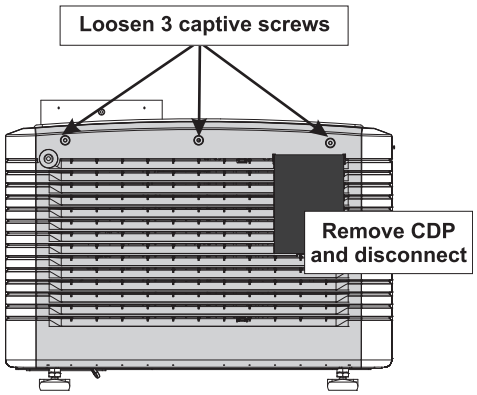


FIGURE 1-3 REMOVE BACK COVER

LAMP DOOR

(2 minutes)

1. Unlock the lamp door and open.
2. Release the tether strap from inside the door.
3. Through the cutout on the lower right side of the door, slide the locking pin in to release. See Figure 1-4 on next page.

When replacing, repeat instructions in reverse.

TIP: Insert the bottom left side of the lamp door first, then the right. The spring loaded pin will snap into place once the door is installed.

IMPORTANT: Ensure tether strap is secure before closing door

Continued on next page.....

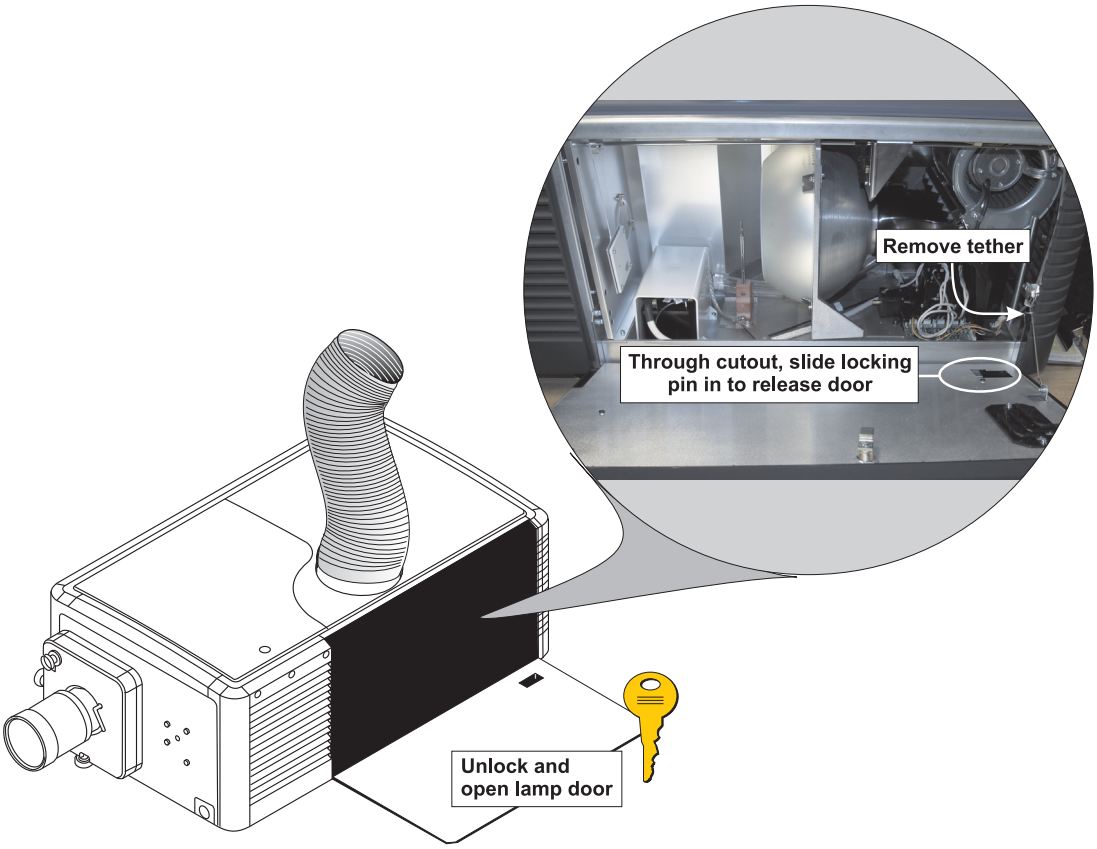


FIGURE 1-4 REMOVE LAMP DOOR

LEFT ACCESS COVER

(1 minute)

This panel is located next to the lamp door and is removed when accessing components within the light engine compartment.

1. Using a #2 Phillips, loosen 3 captive screws from the top of the cover and remove.

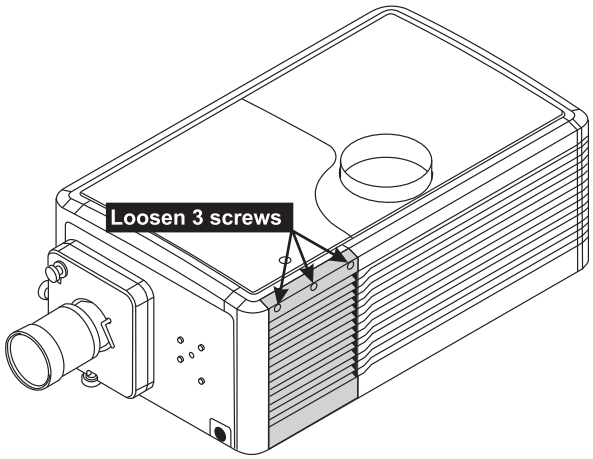


FIGURE 1-5 REMOVE LEFT ACCESS COVER

AIR FILTER COVER

(1 minute)

1. Push down on the two top tabs of the cover.
2. Tilt the cover slightly then lift to remove.

PCM COVER

(1 minute)

Located behind this cover is the projector's communication panel. To remove:

1. Push on the tab at the top of the cover. See Figure 1-6.
2. Tilt the cover slightly then lift enough to clear tabs at the bottom and remove.

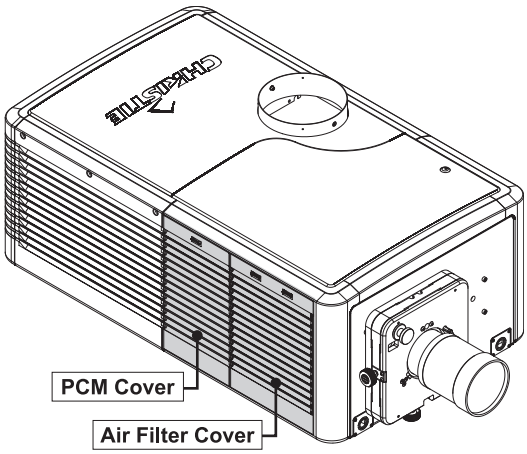


FIGURE 1-6 AIR FILTER COVER AND PCM

ACCESS PANEL FRAME

(4 minutes)

The access panel frame is located on the right side of the projector behind the PCM cover and the Air Filter Cover. It must be removed to access components within the front portion of the projector.

1. Remove the air filter cover. See above.
2. Remove the PCM cover. See .
3. Remove the 4, #2 Phillips screws securing the access panel frame to the chassis.
4. Lift the frame enough to clear the LVPS/Ballast cover and remove. Note the tabs on the bottom of the frame (important to insert this end first when re-installing).

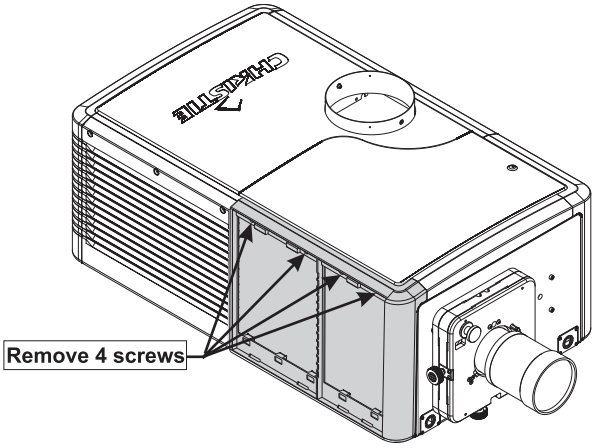


FIGURE 1-7 REMOVE ACCESS PANEL FRAME

LVPS/BALLAST COVER

(2 minutes)

This cover is located on the right hand side, closest to the back of the projector. It allows access to the Low Voltage Power Supply (LVPS), the AC relay, fire alarm and ballast connections. To remove:

1. Using a #2 Phillips, loosen 3 captive screws at the top of the panel. (Figure 1-8)
2. Lift cover enough to clear tabs at the bottom and remove.

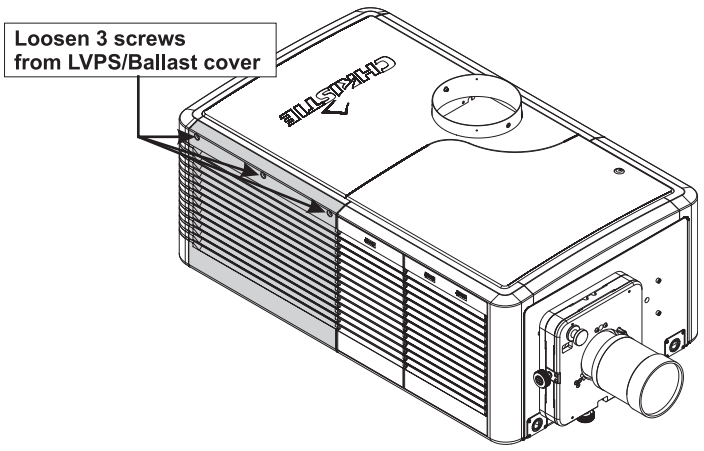


FIGURE 1-8 REMOVE LVPS/BALLAST COVER

1.4.2 AC LINE FILTER

(10 minutes)

The AC Line Filter is located under the Illumination Optics System (IOS) and accessible from the bottom of the projector.

1. Remove the AC cover plate from the bottom of the projector by removing 7, #2 Phillips screws.
2. Disconnect 4 harnesses from the AC Line Filter (4 nuts).
3. Remove 2, #2 Phillips screws securing the AC Line Filter to the base. Remove the module.

When re-installing, repeat instructions in reverse. Use the Interconnections Drawing provided at the end of these instructions when connecting harnesses.

1.4.3 AC RELAY

(15 minutes)

The AC Relay Module is a small PCB mounted above the low voltage power supply on a vertical mounting bracket.

1. Remove 3 screws from the top of the LVPS/ballast side cover. Lift the cover up and remove.
2. The AC relay is located under a plastic shield. Pinch the sides of the cover in slightly to release its tabbed ends and remove.
3. Disconnect incoming DC from LVPS to drive relay coil by removing 2, #2 Phillips screws.
4. Disconnect outgoing AC by removing 4, #2 Phillips screws.

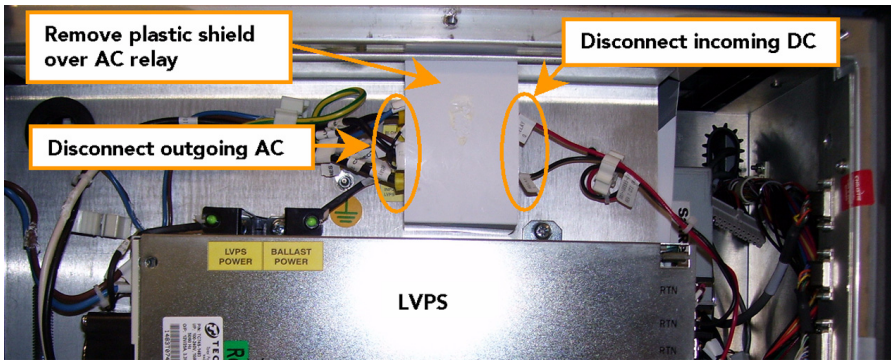


FIGURE 1-9 AC RELAY

5. Remove 1, #2 Phillips securing AC relay to its mounting bracket. Loosen the second #2 Phillips screw and slide the relay off.

When replacing, repeat instructions in reverse.

1.4.4 AC TERMINAL BLOCK

(10 minutes)

The AC Terminal Block is located under the Illumination Optics System (IOS) and accessible from the bottom of the projector.

1. Loosen knob and slide the sub-plate until it can be lifted away from shoulder bolts.
2. Remove 4 AC connections (4 slot head or #2 Phillips screws).
3. Remove 2, #2 Phillips screws securing the AC terminal block to the sub-plate and remove.

When replacing, repeat instructions in reverse.

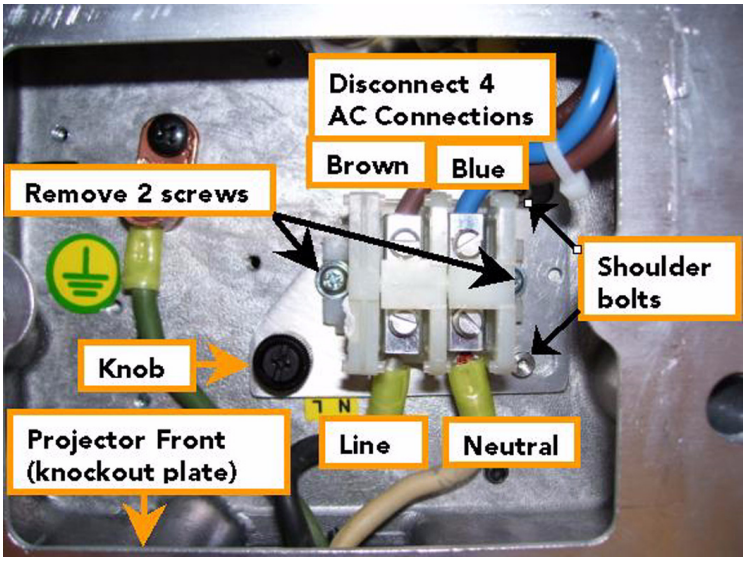


FIGURE 1-10 AC TERMINAL BLOCK

1.4.5 AIR FILTER

(2 minutes)

The air filter is easily accessible from the input side of the light engine compartment. No tools are needed. It is recommended the air filter be replaced whenever the lamp is replaced or sooner in dusty operating environments.

1. Release two tabs on the air filter cover.
2. Lift the cover and remove. (Figure 1-11)
3. Slide the air filter out of the back of the cover and discard

When replacing, insert a new air filter with the ***airflow indicator pointing*** into the projector. *NOTE: Never reuse an air filter. The air filters in this product cannot be cleaned thoroughly enough for reuse and can lead to the contamination of optical components.*

⚠ CAUTION

Install the air filter with the airflow indicator pointing into the projector. Always discard used air filters.

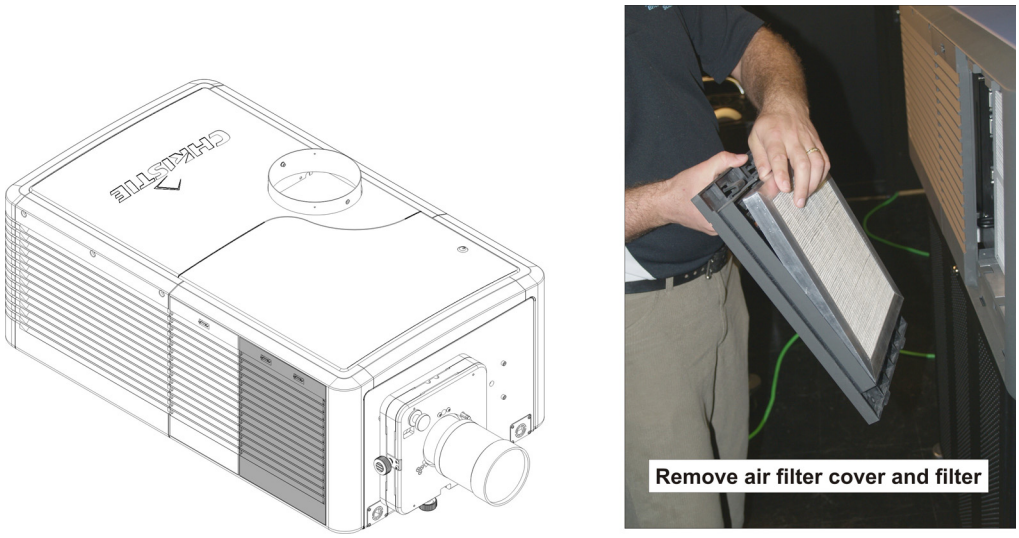


FIGURE 1-11 REPLACING AN AIR FILTER

1.4.6 ANODE YOKE ASSEMBLY

(22 minutes)

The anode yoke assembly is located behind the igniter. To remove:

1. Open the lamp door. See *Lamp Door.*
2. Remove the lamp. See *1.4.19 Lamp.*
3. Remove 2 screws securing the anode yoke assembly to the base. (Figure 1-12)

Installation instructions continued on next page.

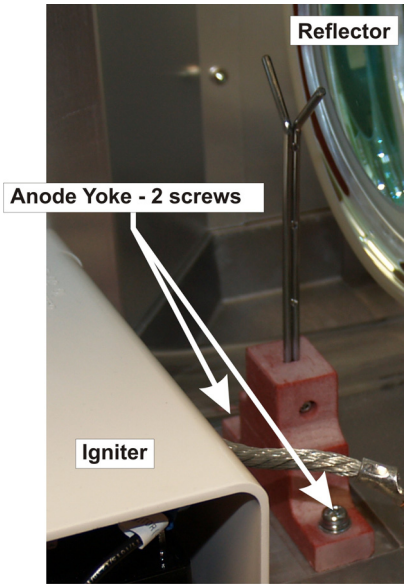


FIGURE 1-12 ANODE YOKE ASSEMBLY

When re-installing, repeat instructions in reverse. Make sure to correctly position the anode yoke assembly according to the lamp type you are using. Refer to Figure 1-13 for these positions.

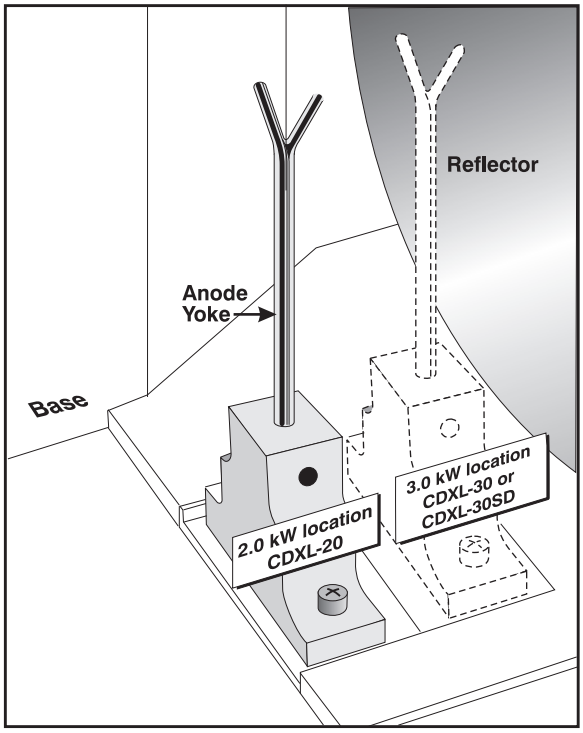


FIGURE 1-13 ANODE CLAMP POSITION

1.4.7 CERAMIC PLATE

(25 minutes)

The 3”x3” ceramic plate is located on the douser blade and is used to absorb heat from the light emitted by the lamp. Over time this part will show wear and require replacement. To replace:

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.
3. Remove 4, #2 Phillips screws securing the ceramic plate to the douser blade. (Figure 1-14)

When replacing, repeat instructions in reverse. Once installed, perform *LampLOC™ Alignment*. See CP2000-ZX USer’s Manaul for details.

FIGURE 1-14 DOUSER CERAMIC PLATE

1.4.8 COLD MIRROR

(45 minutes)

The cold mirror is the angle-mounted glass secured with 3 clips near the light sensor module.

⚠ CAUTION

Wear clean lint-free cotton gloves when handling the cold mirror and handle by its edges only. Fingerprints left on the surface can negatively impact a displayed image.

1. Remove the front lid. See *1.4.19 Lamp* .
2. Remove the light sensor module. See *1.4.25 Light Sensor Module*.

Continued on next page...

3. Loosen the 2, 3/32” screws from the bottom tab securing the cold mirror.
4. On the two other tabs, *loosen* one 3/32” screw from each and *remove* one 3/32” screw from each. This allows the tabs to be swung out of the way without fully removing them.
5. Wearing clean lint free cotton gloves, carefully slide the mirror out.

When replacing the cold mirror, repeat instructions in reverse. Make sure to place the cold mirror into the holder with its ***reflective surface facing in***. The reflective side will show no gap with its reflection when an object is held at the surface; the non-reflective side will show a prominent gap. After installation, LampLOC™ alignment and Measured Color Gamut Data (MCGD) calibration is required. See the *CP2000-ZX User’s Manual* for details.

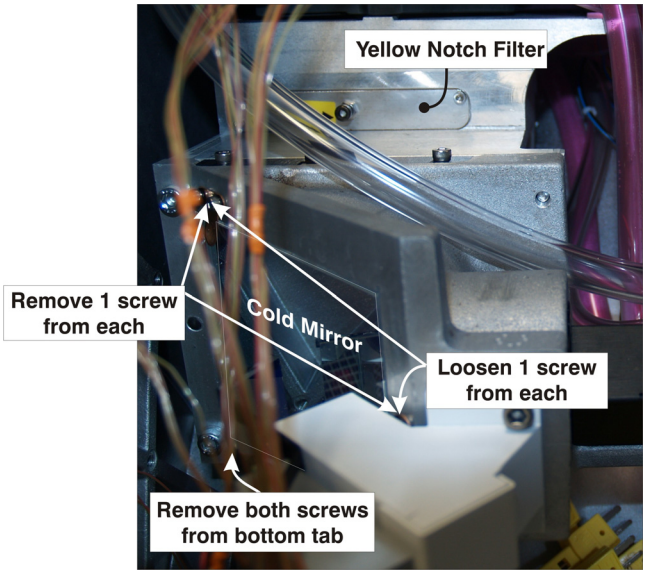


FIGURE 1-15 REMOVE COLD MIRROR

1.4.9 CONTROL DISPLAY PANEL (CDP)

(2 minutes)

The CDP is mounted to the back cover and can easily be replaced by doing the following:

1. Push the CDP off to one side to create a small gap between it and the locating pin holding it in place. Release this corner of the CDP first, then do the same for the other side. Pull the CDP module forward to release it from the projector.

   See Figure 1-16 below.

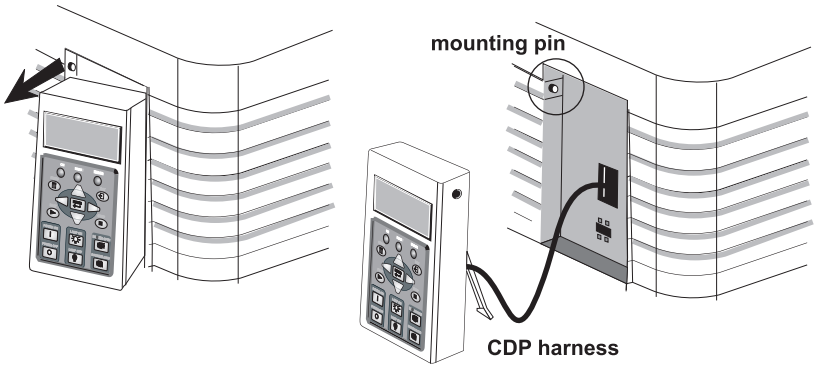


FIGURE 1-16 REMOVE CDP

2. Disconnect the CDP harness from the back of the CDP case. (Figure 1-17)

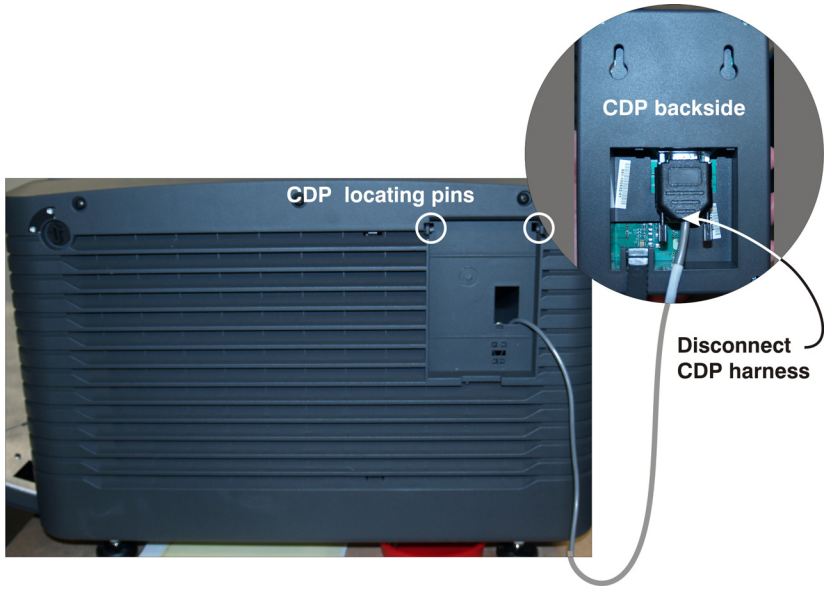


FIGURE 1-17 DISCONNECT CDP

When replacing, repeat instructions in reverse.

DOUSER MOTOR

(25 minutes)

The douser motor is located in the lamp compartment. It is mounted to the same bracket as the lamp door interlock. To remove:

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.

Continued on next page...

3. Disconnect the douser motor harness from P1 on the stepper driver board (SDB).
4. Remove 2, nuts securing the douser motor to the mounting bracket. A short “stubby” screwdriver is recommended to reach the screws.

When replacing, repeat instructions in reverse. When reconnecting the harness to the Stepper Driver Board, make sure to route it through the 5 clips along the projector frame to prevent it from falling within the lamp area. Once installed, perform *LampLOC*™ alignment as described in the User’s Manual.

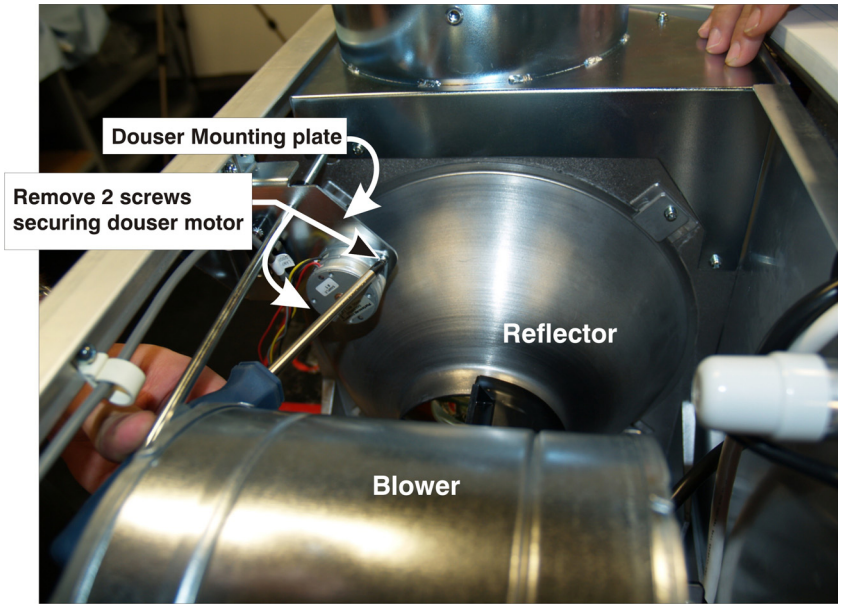


FIGURE 1-18 REMOVE DOUSER MOTOR

1.4.10 ENHANCED FORMATTER INTERFACE BOARD (EFIB)

(25 minutes)

The EFIB is located in the card cage and is the PCB closest to the light engine with flex cable harnessing. To replace:

1. Remove the air filter cover. See *Air Filter Cover.*
2. Remove the PCM cover. See *PCM Cover.*
3. Remove the access panel frame. See *Access Panel Frame*
4. Remove the front lid. See *Front Lid*.
5. Remove the PCM assembly. Perform steps 1-4 of *1.4.30 Projector Control Module (PCM).*
6. Remove 2 screws securing the card cage retaining bracket to the base of the projector. (Figure 1-20)

7. Remove 3 screws securing the liquid cooling fan pack. Swing the panel out and hang it on the outer screws of the frame. See Figure 1-45.
8. Disconnect the 6 flex cables and 3 power cables from the EFIB PCB. (Figure 1-19)
9. Pull top and bottom ejectors on the EFIB PCB, then slide it out.

When replacing, repeat instructions in reverse. Refer to the Interconnections Drawing when reconnecting harnesses to the EFIB. *NOTE: A software upgrade may be required when a new EFIB board is installed.*

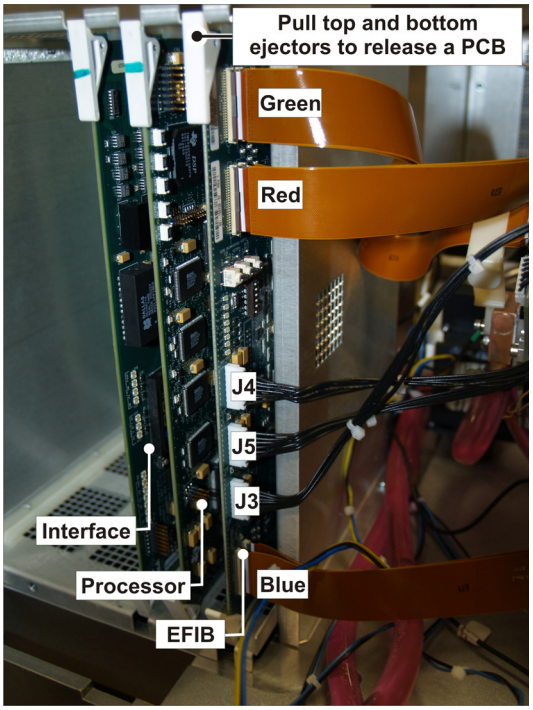


FIGURE 1-19 EFIB PCB

1.4.11 FANS

CARD CAGE FANS

(60 minutes)

The two card cage fans are located under the card cage. These fans are responsible for drawing air across the main electronics of the projector. Each fan can be replaced separately.

1. Remove the PCM cover. See *PCM Cover.*
2. Remove the front lid. See *Front Lid*.
3. Remove PCM assembly. Perform steps 1-4 of *1.4.30 Projector Control Module (PCM).*
4. Remove 2, #2 Phillips screws securing the card cage to the base. The screws are located on the side closest to the light engine. (Figure 1-20)
5. Disconnect all harnesses from the Motherboard (14 in total), which are accessible from the back of the card cage.
6. Carefully, pull the card cage out using caution not to pull of any of the loose harnesses.
7. Loosen 2, #2 Phillips screws securing the cover plate over the fans to the base of the projector. Remove the cover to expose the fans.

8. Remove 4, #2 Phillips screws securing the bottom cover/fan assemblies to the base. (Figure 1-21)
9. Each fan is held in place by 4 rubber isolators. Pull the fan off that needs replacement
10. Remove the LVPS/ballast cover to route fan harnessing out. See *LVPS/Ballast Cover.*

When replacing card cage fans, repeat instructions in reverse. NOTES: 1) Make sure to install fan(s) with the label side down for the correct airflow direction. 2) Mount a fan using all four rubber isolators. If a rubber isolator is pulled off when a fan is removed, simply insert a small portion of the rubber into the fan mounting hole and using a sharp ended object, like a pencil, poke it into place. 3) Route fan harnesses through the ballast compartment and then back into the light engine compartment for connection to the Motherboard. 4) Refer to the Motherboard label (Figure 1-53) on the inside of the top cover or the Interconnections drawing provided at the end of this booklet.

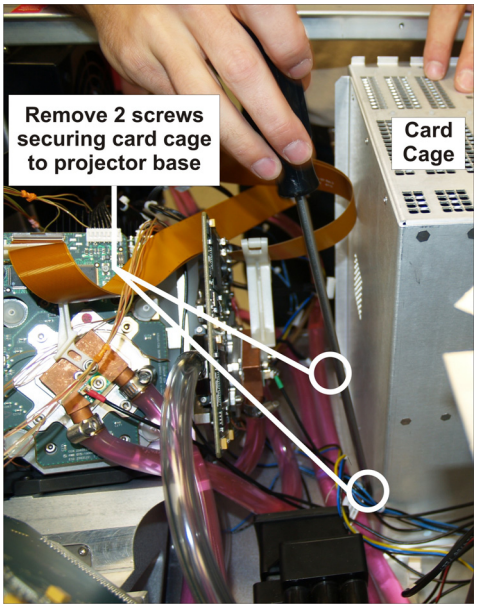


FIGURE 1-20 REMOVE CARD CAGE

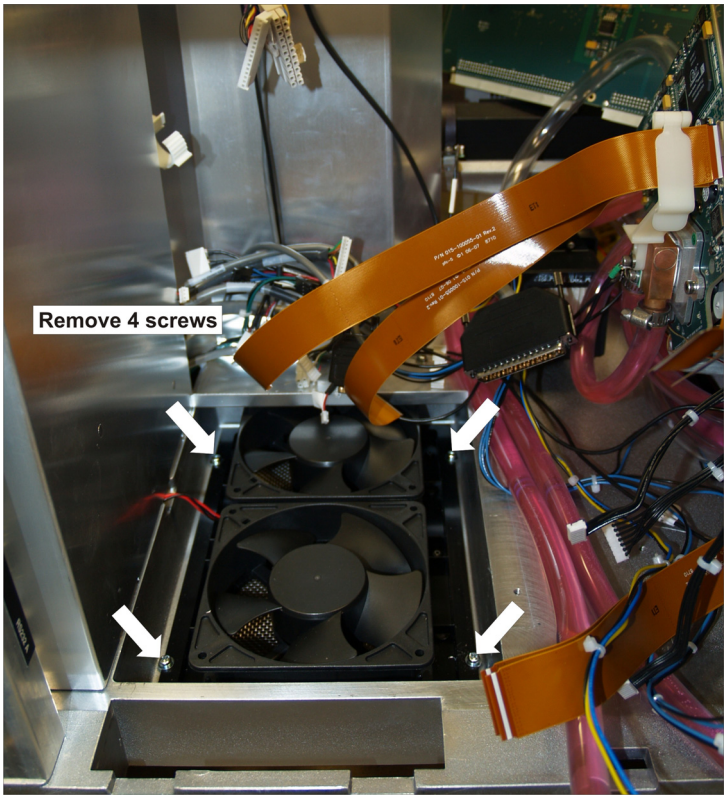


FIGURE 1-21 REMOVE CARD CAGE FANS

INTAKE FANS

(15 minutes per fan)

The three intake fans are located behind the mesh air filter grille. To replace a fan:

1. Remove the PCM cover. See *PCM Cover.*
2. Remove the front lid. See *Front Lid*.
3. Remove the access panel frame. See *Access Panel Frame* (Figure 1-22).
4. Remove 3, #2 Phillips screws securing the liquid cooling panel. (Figure 1-22)
5. Swing the panel out, and for convenience hook it on the outer screws for the remainder of the procedure. (Figure 1-43)

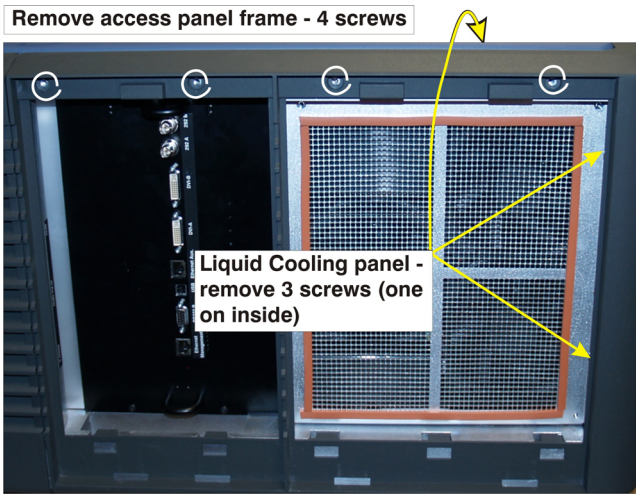
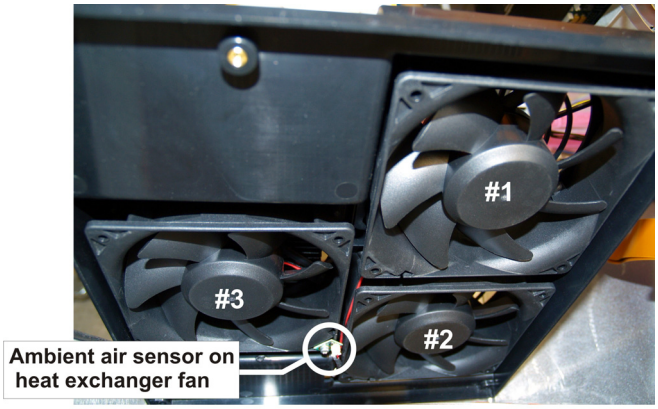


FIGURE 1-22 REMOVE LIQUID PANEL SCREWS

6. Remove 4, #2 Phillips screws securing the liquid cooling fan pack to the frame.
7. Remove the ambient air sensor from the heat exchanger fan (if needed) by removing a single #1 Phillips screw. (Figure 1-23)
8. Pull the fan(s) off of their rubber isolator mounts.



Intake fans - view from the back of the mounting panel

FIGURE 1-23 INTAKE FANS

When replacing, repeat instructions in reverse. NOTES: 1) Install a fan with the label side facing into the mounting panel (into the projector). 2) Make sure that any rubber isolator that may have been pulled off during fan removal be replaced. Use a sharp ended object such as a pencil to poke the isolator back into its opening. 3) ⚠ Use caution when replacing the liquid cooling panel so as not to pinch any harnesses or introduce any kinks into the coolant hoses. 4) make sure liquid cooling hoses are looped around the lad fan. 5) Fan harnesses are interchangeable. They are labelled to allow for easier identification in the event of software alarm. However, the numbering of fans shown in Figure 1-23 is recommended.

LAMINAR AIRFLOW DEVICE (LAD) FAN

(12 minutes)

The LAD fan is part of the Laminar Airflow Device. The LAD filter, which is also part of the assembly is replaced separately.

1. Remove the front lid. See *Front Lid*.
2. Remove 2, #2 Phillips screws securing the LAD assembly to the base. (Figure 1-24)
3. Remove 4, 3/32” hex screws to release the LAD fan from the plastic frame to which its mounted.
4. Disconnect the LAD fan harness from the Motherboard (P8).

When replacing, repeat instructions in reverse to Step 2. Before installing the front lid, disconnect the three LAD hoses and turn the power on to blow out any shavings which may have accumulated during the process. This step ensures no particles are deposited onto the DMDs. Then re-connect these hoses.

NOTE: To replace the LAD Filter, see 1.4.18 LAD Filter.

NOTE: Ensure that LAD fan hoses are not linked and do not come into contact with the integrator case.

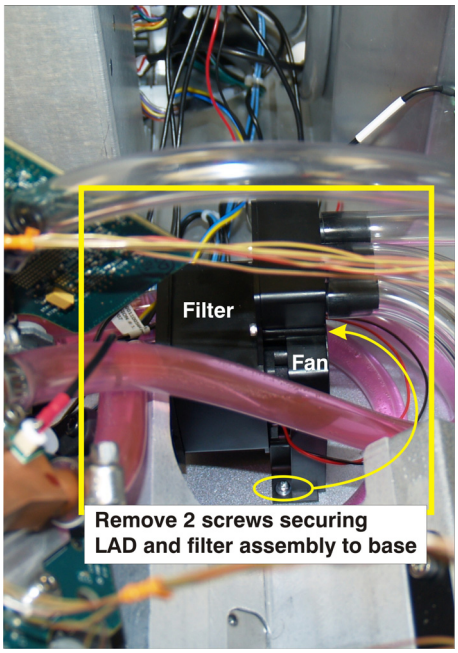


FIGURE 1-24 REMOVE LAD ASSEMBLY

MAIN AC BLOWER

(35 minutes)

The main AC blower is located at the rear of the projector direcly behind the lamp.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.
3. Remove the rear lid. See *Rear Lid*.
4. Remove the back panel for additional accessibility. See *Back Cover.*

5. Disconnect the main AC blower harness (Fan Ctrl) from the top connector.
6. Remove the grounding strap between the blower and the frame.
7. Remove 4, #2 Phillips screws (and spacers) securing the fan to its mounting bracket. (Figure 1-25)
8. Carefully, remove the fan.

When replacing, repeat instructions in reverse. Route the AC blower harness behind the rear support to allow it to reach the top connector.

NOTE: Ensure that silcone vibration isolator is seated correctly when reinstalling.

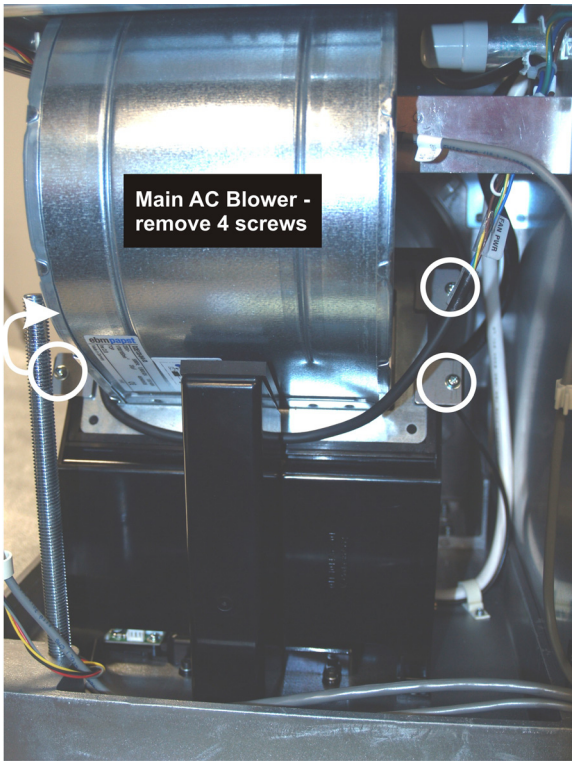


FIGURE 1-25 REMOVE MAIN AC BLOWER

1.4.12 FEET

(5-10 minutes)

The front and rear feet are threaded into the bottom of the projector.

⚠ WARNING

Use of the rear safety strap is MANDATORY in any installation. Ensure the strap is in place during replacement of the projector's feet to prevent the projector from tipping. Keep 3 of the projector feet on the table at all times!

1. With the rear safety strap in place, carefully pull the corner of the projector with the foot you need to replace off the table. NOTE: 4.0" of clearance is required for front feet and 12" of clearance is required for rear feet.
2. Using a 19mm wrench, loosen lock nut and unthread the foot until it can be removed.

When replacing, repeat instructions in reverse. Make sure to tighten the lock nut after a foot is installed. Return the projector back to its original position.

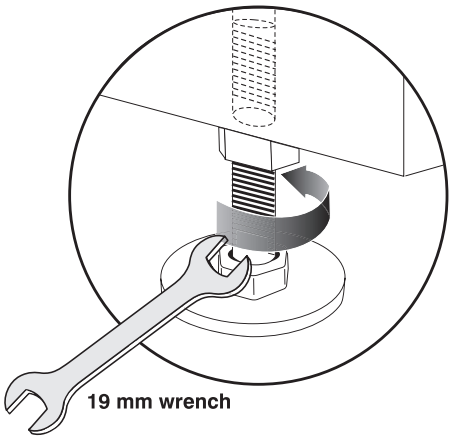


FIGURE 1-26 ADJUSTABLE FEET

1.4.13 FOLD MIRROR

(25 minutes)

1. Remove the fold mirror cover plate located under the front portion of the projector.
2. Remove one, 2.5mm screw from each of the three tabs.
3. Loosen the other 2.5mm screw from each of the three tabs.
4. Holding the mirror in place, swing the tabs off to the side.
5. Carefully, lower the fold mirror and remove.

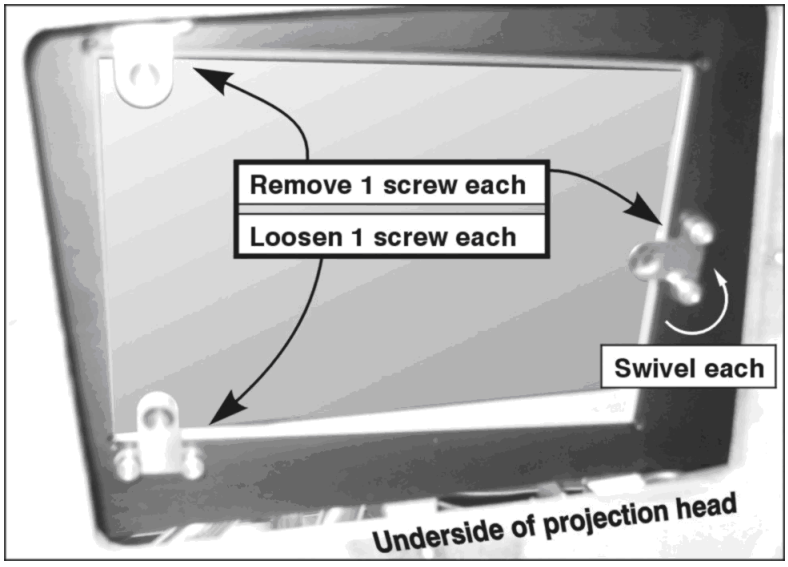


FIGURE 1-27 FOLD MIRROR

When replacing, repeat instructions in reverse. Adjust the *Fold Mirror* as needed. See Figure 1-28 on next page.

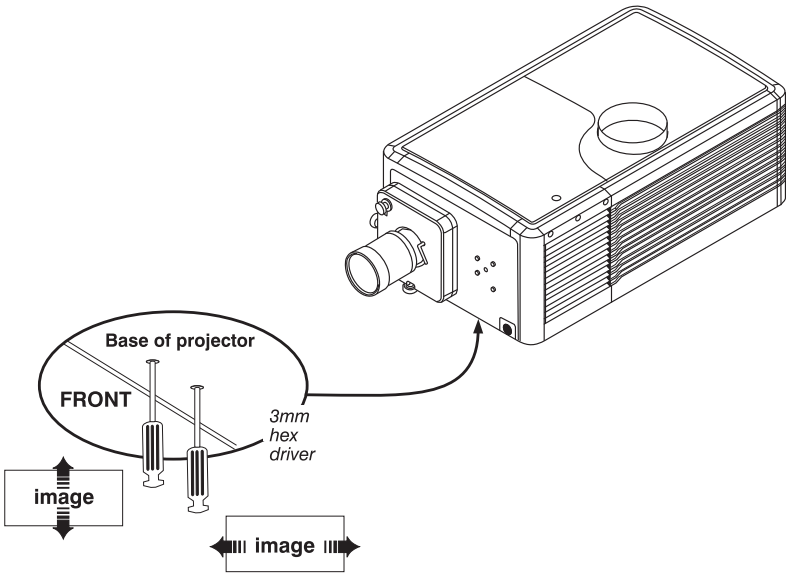


FIGURE 1-28 ADJUST FOLD MIRROR

1.4.14 IGNITER

(35 minutes)

The igniter is located below the UV filter.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.
3. Remove the exhaust ducting from the top of the projector.
4. Remove the 3/16” screw securing the anode clamp to the anode braid. Once the anode braid is loose, push it through the opening in the shield.

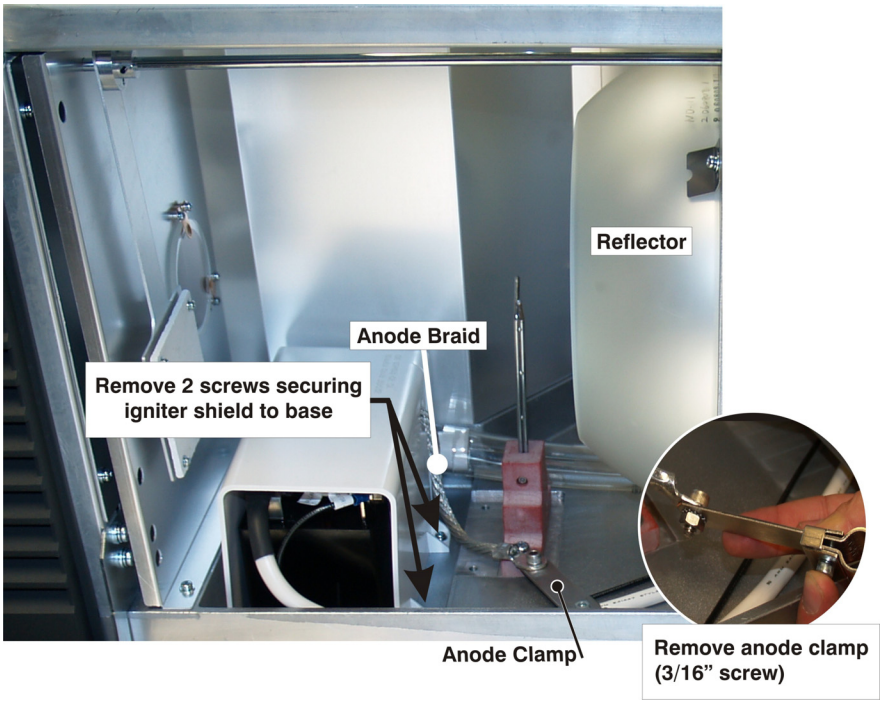


FIGURE 1-29 REMOVE IGNITER SHIELD AND DISCONNECT ANODE CLAMP

5. Remove 2, #2 Phillips screws securing the igniter shield to the base of the projector. (Figure 1-29) Pull the shield up and move it off to the side closest to the anode yoke to allow access to the igniter.
6. Remove 4, #2 Phillips screws securing the igniter to the base. TIP: Look through the exhaust duct to get a better view of the igniter’s rear screws.
7. Remove 2 nuts (13mm) to disconnect the Ballast +, Anode + and Igniter - wires from the igniter.
8. Disconnect the anode braid.

When replacing, repeat instructions in reverse. Check all connections carefully.

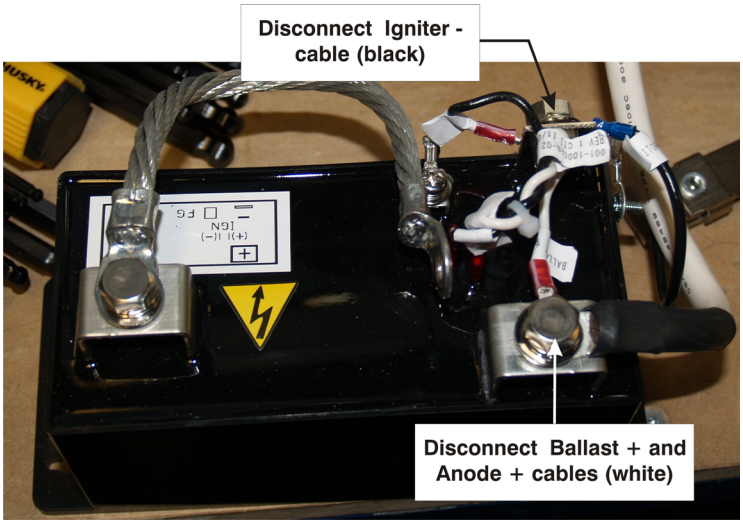


FIGURE 1-30 DISCONNECT CABLES FROM IGNITER

1.4.15 ILLUMINATION OPTICS SYSTEM (IOS)

(2 hours)

The Illumination Optics System (IOS) is located in the front compartment of the projector and is mounted to the base. It includes all optical components between the integrator assembly and light engine.

1. Remove the light engine. See *1.4.24 Light Engine*.
2. Remove 4, M6 screws from underneath the front portion of the projector.
3. Remove the integrator assembly. See *1.4.16 Integrator Assembly*.
4. Remove the light sensor module. See *1.4.25 Light Sensor Module*.
5. Lift the IOS to remove.

When replacing the IOS, repeat instructions in reverse. Perform an evaluation on the IOS removed and re-calibrate the projector.

1.4.16 INTEGRATOR ASSEMBLY

(15 minutes)

The integrator assembly is mounted between the lamp compartment and the Illumination Optics System.

⚠ WARNING

Wear Nitrile gloves provided, whenever handling the integrator.

1. Remove the front lid. See *Front Lid*.
2. Remove the 2, 3mm hex screws securing the mounting strap to the rear of the integrator.
3. Wearing Nitrile gloves provided, carefully remove the integrator.

When re-installing the integrator, repeat instructions in reverse. Once installed, power up the projector and adjust the integrator and fold mirror for proper aperture alignment.

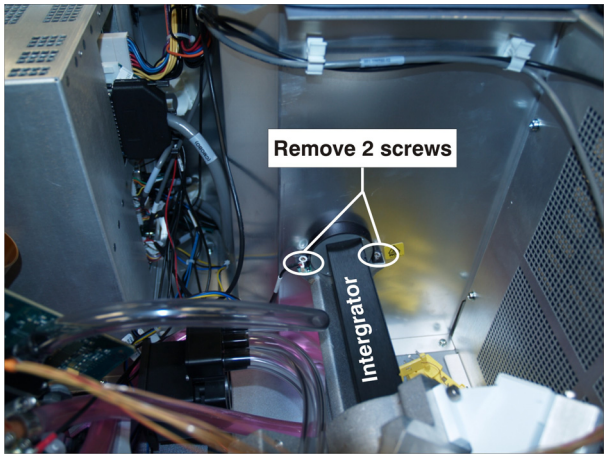


FIGURE 1-31 REMOVE INTEGRATOR ASSEMBLY

1.4.17 INTERFACE PCB

(35 minutes)

The Interface PCB is located next to the Processor PCB in the card cage. If possible, it is recommended a back-up file be created with all the information contained on this PCB and copied on the replacement PCB. Information contained on the Interface PCB includes source, screen and gamut files as well as the unique IP addresses assigned to the projector.

1. Remove PCM cover. See *PCM Cover*.
2. Remove front lid. See *Front Lid*.
3. Remove PCM PCB. See *1.4.30 Projector Control Module (PCM)*.
4. Pull top and bottom ejectors on the Interface PCB, then slide it out of the card cage. See Figure 1-19 for PCB location in the card cage.

When re-installing, repeat instructions in reverse.

1.4.18 LAD FILTER

(7 minutes)

The LAD filter is located between the engine and card cage beside the integrator.

1. Remove the front lid. See *Front Lid*.
2. Pull the LAD filter out. (Figure 1-32)

When installing a LAD fan, repeat instructions in reverse. Run the projector briefly without the air hoses connected to the LAD. This will prevent any old filter dirt or new shavings that have rubbed off the filter lining from being deposited directly on the DMDs. Then reconnect the three LAD hoses.

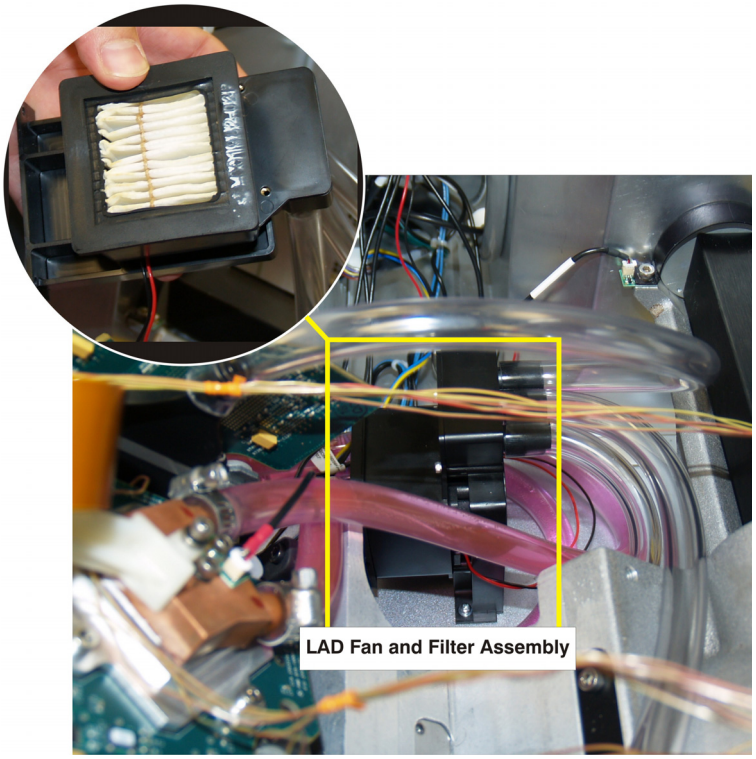


FIGURE 1-32 REMOVE LAD FILTER

1.4.19 LAMP

⚠ WARNING

Always wear protective safety clothing and face shield when handling the lamp and performing lamp replacement.

1. Turn off main AC.
   a. Allow the fans to run for at least 10 minutes for cooling.
   b. At the wall breaker, set the main AC circuit breaker to off.

⚠ WARNING

Never attempt to remove the lamp when it is hot. The lamp is under a great deal of pressure when hot and may explode, causing personal injury or death and/or property damage. Allow lamp to cool completely.

2. Open the lamp door. With protective safety clothing and face shield on, unlock the lamp door and open it. If desired, release the latch mechanism to remove the door entirely.
3. Remove the front lamp duct to reveal the cathode end (-) of the lamp.
4. Remove the old lamp and inspect the reflector.
   a. Loosen screw from negative/cathode (rear, 7/64”) and positive/anode (front, 3/16”) lamp connectors. Make sure to apply minimal torque and DO NOT STRESS the quartz tube.
   b. Carefully slip the anode clamp off.
   c. Handling by the cathode end only, unscrew the lamp from the rear connector. Carefully remove lamp from the projector and immediately place it inside the protective cover or carton the bulb originally came in. To complete the procedure, place the lamp on the floor where it cannot fall or be bumped.
   d. With the lamp removed, visually inspect the reflector for dust. Clean the reflector if necessary.

⚠ WARNING

Handle box with extreme caution – the lamp is hazardous even when packaged. Dispose of lamp box according to safety regulations for your area.

Continued on next page...

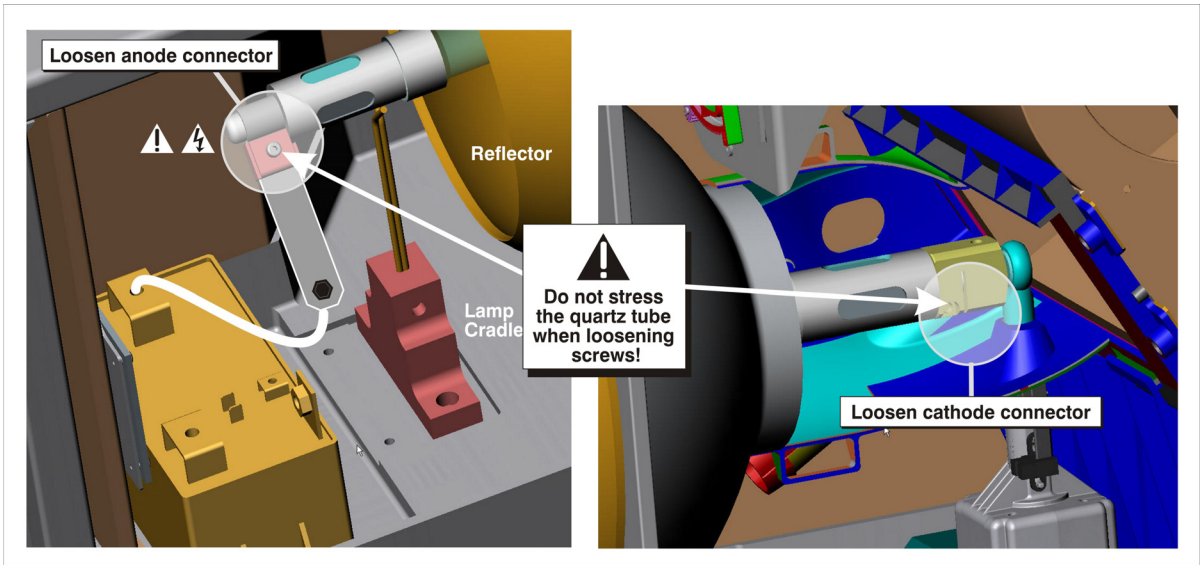


FIGURE 1-33 LOOSEN CATHODE (-) AND ANODE (+) CONNECTORS TO REMOVE BULB

When installing a lamp, do the following:

1. Remove the protective cover from the new lamp.
   a. Remove tape, knurled nut and locking star washer securing the lamp within its cover.
2. Install new lamp.

⚠ CAUTION

For 3.0kW CDXL-30SD lamps only - install the lamp spacer provided with the projector on the cathode end connector before installing the lamp. Required for proper positioning of this lamp type only. Ensure the anode clamp is in the right position also.

   a. With protective clothing and face shield on, insert the threaded cathode (-) end of the lamp into the negative lamp connector nut located in the rear of the lamp compartment and screw in fully by handling the cathode end only. Hand-tighten only.
   b. Rest the anode (+) end of the lamp on the lamp cradle as shown, and slip the anode connector over the bulb end.
   c. Tighten screws in both negative and positive lamp connectors. See Figure 1-34.

Continued on next page...

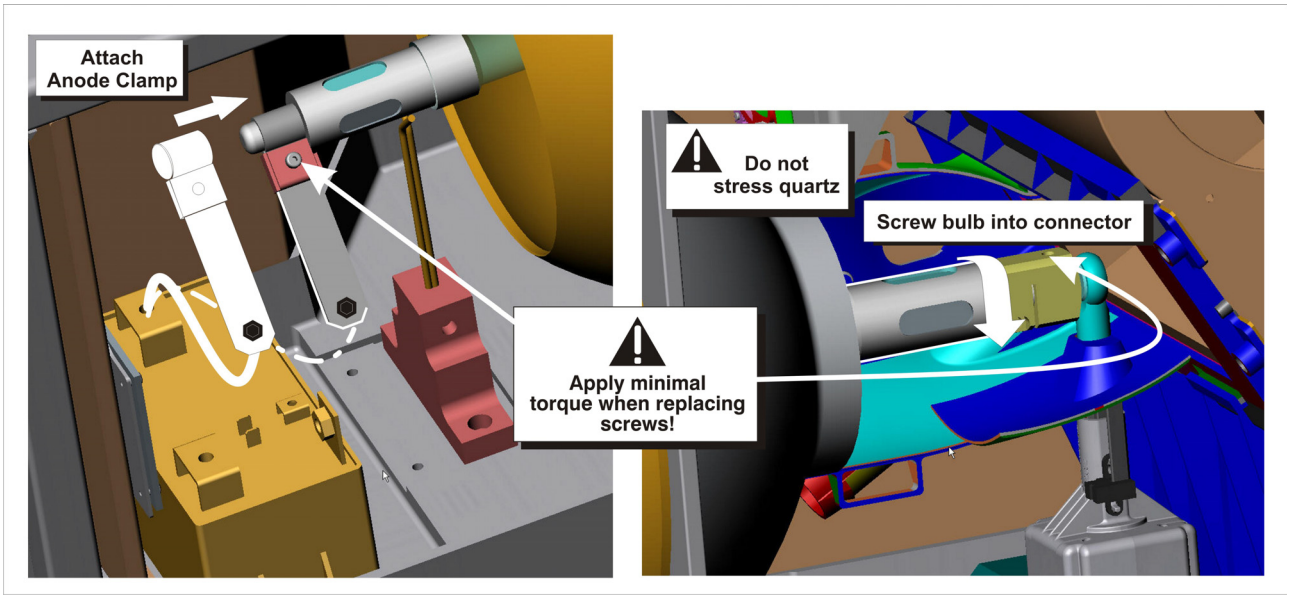


FIGURE 1-34 INSTALL NEW LAMP

IMPORTANT! Proper electrical contact prevents resistance in the lamp connectors.

⚠ CAUTION

1) Handle the lamp by the cathode/anode end shafts only, never the glass. DO NOT over-tighten. DO NOT stress the glass in any way. 2) If you accidentally touch the quartz body of the lamp with your bare hands, clean it as described earlier in this section.

⚠ CAUTION

Check leads. Make sure the anode (+) lead between the lamp and igniter is well away from any projector metal such as the reflector or firewall.

3. ⚠ **Critical**. Re-install the front lamp duct. Lift the rear light shield when installing to ensure a good fit with the permanent half of the duct.
4. Close lamp door.
5. Once the lamp is installed and you power the projector back on, remember to record the lamp type serial number and number of hours logged on the lamp (if any). This can be done via the CDP **Lamp** menu or through the **Advanced: Lamp History** menu.
6. Adjust lamp position (LampLOC™). This can be done via the CDP **Lamp** menu or via the **Advanced: Lamp** menu. By adjusting lamp position, you can achieve optimized light output - the lamp (bulb) is well-centered with the reflector and distanced correctly from the center of the illumination system.

1.4.20 LAMP ADJUSTER ASSEMBLY

(30 minutes)

The lamp adjuster assembly is located below the main AC blower and ducting.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp.*
3. Remove the back cover. See *Back Cover*
4. Disconnect P11 and P1 from the Stepper Driver Board PCB. (Figure 1-35)
5. Remove one 3/16” screw from the cathode nut and disconnect the wires.
6. Remove 4 hex screws (3mm) securing the lamp adjuster assembly to the base. Remove assembly out the lamp door side.

When replacing, repeat instructions in reverse.

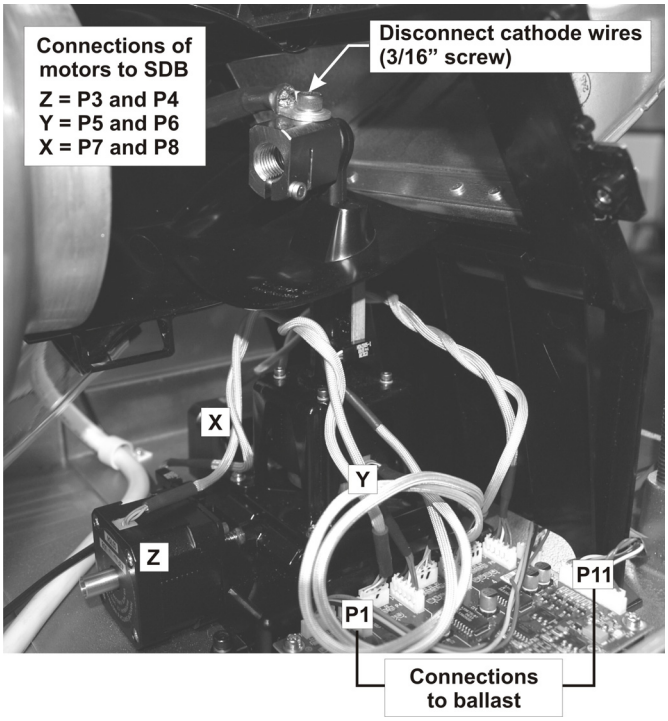


FIGURE 1-35 REMOVE LAMP ADJUSTER ASSEMBLY

1.4.21 LAMP BALLAST

(55 minutes)

The lamp ballast is located at the back of the projector, between the firewall and the LVPS mounting wall. Before removing the lamp ballast make sure the rear safety strap is secured to prevent the projector from tipping.

WARNING

Use of rear safety strap is MANDATORY to prevent the projector from tipping when removing the lamp ballast.

WARNING

Keep the anode lead from the igniter at least 15mm away from the 1” hose used in cooling the igniter.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.
3. Remove rear top lid. *Rear Lid*.
4. Remove the back cover. See *Back Cover*.

5. Remove the white plastic cover over the igniter to allow access to cables (2 screws).
6. Remove the air dam from the top of the projector between the LVPS and ballast compartment.
7. Disconnect white anode cable from igniter (M12 nut). (Figure 1-30)
8. Disconnect black cathode cable from cathode nut (3/16" screw). (Figure 1-30)
9. Route anode and cathode cables through the firewall between lamp compartment and ballast.

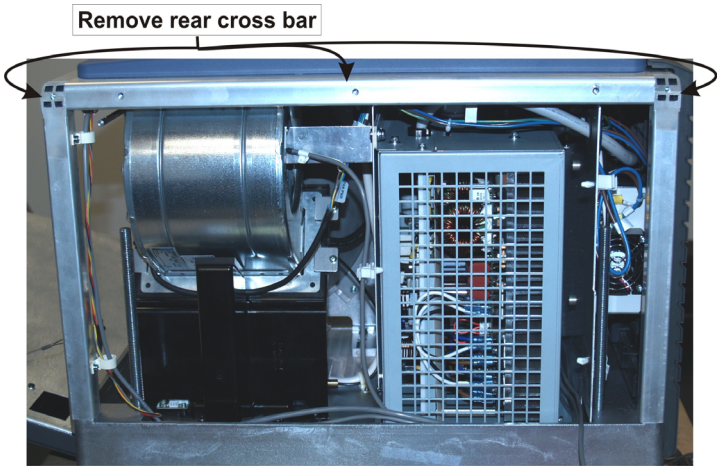


FIGURE 1-36 REMOVE REAR CROSS BAR

10. Remove plastic shield over AC Relay cover.
11. Remove 2 screws (#2 Phillips) securing AC connections from the blower and ballast to AC relay terminals two and six.
12. Route AC connections through LVPS mounting wall.
13. Disconnect ground lead from the PEM stud (7mm nut).
14. Remove the rear cross bar - 2, 4mm end screws and 1, #2 Phillips center screw. (Figure 1-36)

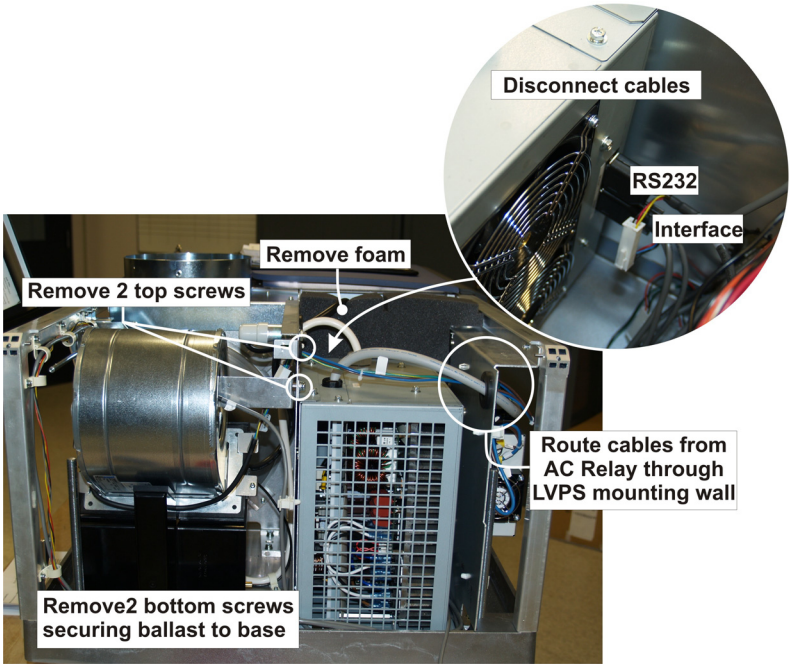


FIGURE 1-37

15. Remove 4 screws (#3 Phillips) securing the lamp ballast to the firewall and projector base. (Figure 1-37)
16. Remove the two connections (RS232 and Interface) from the front of the ballast. (Figure 1-37)
17. With the rear safety strap in place, carefully lift the ballast up and slide it out the back. Use caution not to catch any wires while removing.

When re-installing, repeat instructions in reverse. *NOTES: 1) ⚠ When routing the anode lead from the igniter, ensure it is kept at least 15 mm away from the 1" coolant hose used in cooling the igniter. 2) Once installed, perform LampLOC alignment.*

1.4.22 LAMP DOOR INTERLOCK

(25 minutes)

The lamp door interlock is mounted to the same bracket as the douser motor assembly.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. See *1.4.19 Lamp*.
3. Disconnect red and black leads from the lamp door interlock. *NOTE: Red lead to "NO" label on interlock and black lead to "COM" label*.
4. Remove 2 nuts (7/32") securing switch to bracket.

When replacing, repeat instructions in reverse.

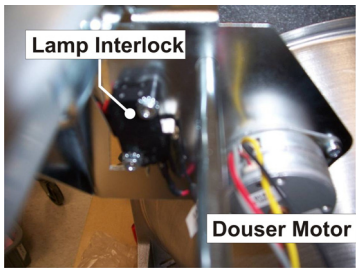


FIGURE 1-38 LAMP DOOR INTER-

1.4.23 LENS MOUNT

(10 minutes)

The lens mount is designed to fit into a large boot cover at the lens opening which prevents dust and debris from entering into the optically sensitive area behind the lens. Once the lens mount is installed bore sight alignment is required.

NOTE: The spacer supplied in the Lens Mount service kit is not required for CP2000-ZX models and can be discarded. Do not install this spacer.

1. Remove the lens.
2. Using the offset knob on the lens mount, center the lens mount vertically and horizontally.
3. Remove 3, 3/16" hex screws from the lens mount. These are the same screws used in the Bore Sight Alignment procedure.
4. Slide the rubber boot off of the lens mount. Remove lens mount.

When replacing, repeat instructions in reverse. Use the neck strap provided to hold the lens mount while using both hands to slide the boot cover back on. See Figure 1-40. Once the lens mount is installed, perform *Bore Sight Alignment.*

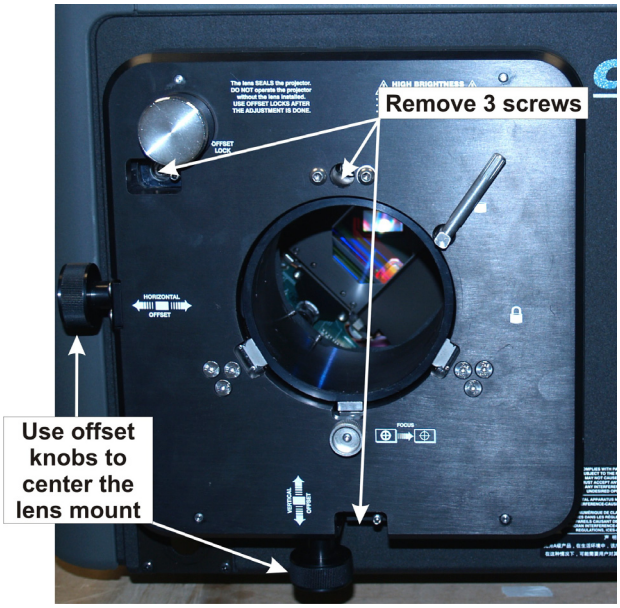


FIGURE 1-39 LENS MOUNT REMOVAL

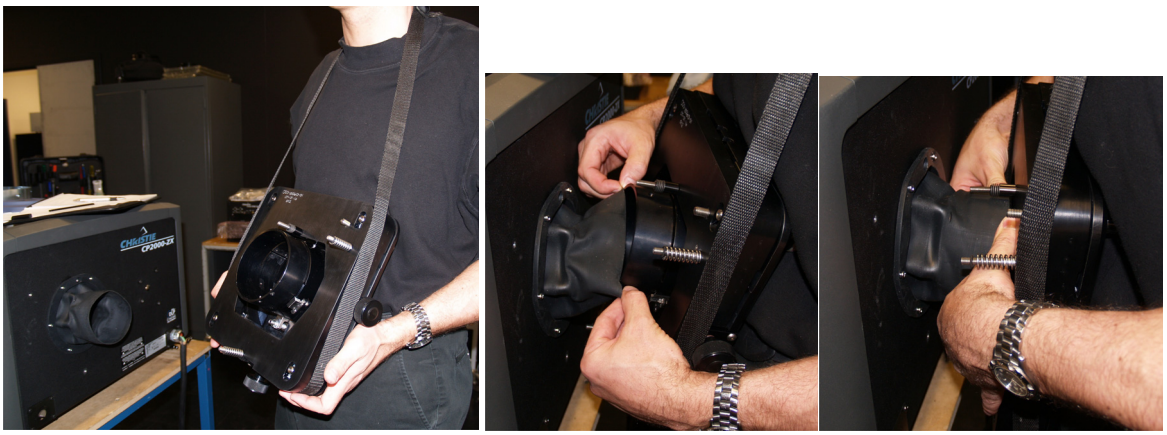


FIGURE 1-40 INSTALLING THE LENS MOUNT USING THE SUPPLIED STRAP

1.4.24 LIGHT ENGINE

(1hr 40 minutes)

The light engine is mounted directly behind the lens opening and is connected to other components with cooling hoses, flex cables and harnessing. To replace:

1. Remove front lid. See *Front Lid*.
2. Remove the lens.
3. Remove PCM cover. See *PCM Cover.*
4. Remove the PCM PCB. See *1.4.30 Projector Control Module (PCM)*.
5. Remove the access panel frame, which is located on the input side of the projector. See *Access Panel Frame.*
6. Remove 3, #2 Phillips screws securing the liquid cooling panel. Swing the panel out and hang on outer screws. See Figure 1-45.
7. Remove one, #2 Phillips screw securing the light engine heat dump. Remove the heat dump.
8. Disconnect 6 flex cables and 3 power cables from the light engine.

⚠ WARNING

Keep the DMD heatsinks electrically isolated from the heat exchanger (part of the liquid cooling assembly).

9. Disconnect the thermal sensor harness from each DMD.
10. Disconnect the thermal sensor from the top of the light engine prism.
11. Disconnect each DMD heat sink by removing 2, 7/64” screws.
12. Disconnect the LAD connections from each DMD - 2, 1mm hex screws.
13. Remove 3, 3mm hex screws securing the light engine to the base.
14. Carefully lift the light engine out of the projector.

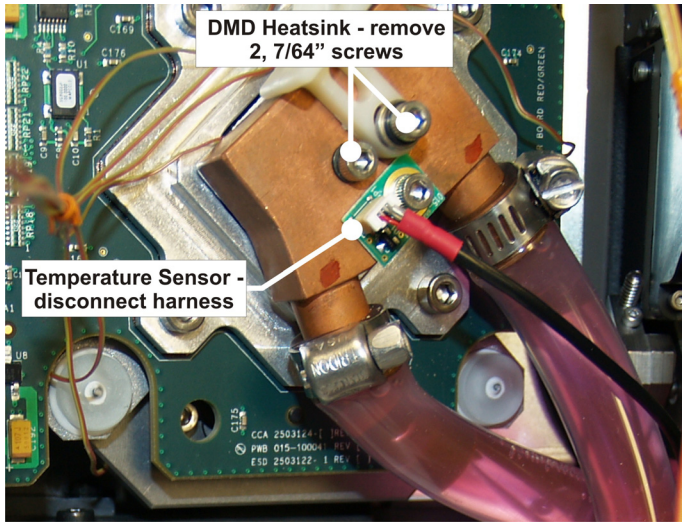


FIGURE 1-41 DMD HEATSINK

When replacing the light engine, repeat instructions in reverse. *NOTES: 1) Make sure the coolant hoses are routed in the same manner in which they were installed. In general, the clear hoses from the Laminar Airflow Device route over top of the coolant filled hoses running to the DMD heatsinks. 2) Use caution so as not to introduce any kinks into the coolant hoses as this can result in overheating issues later on. 3) Re-calibration of the projector is required as a last step in this procedure.*

1.4.25 LIGHT SENSOR MODULE

(20 minutes)

The light sensor module is located near the IOS and is positioned in such a way as to sample the light coming in through the cold mirror.

1. Remove the front lid. See *Front Lid*.
2. Disconnect the light sensor harness.
3. Remove the M5 screw securing the light sensor to the IOS.

When re-installing the light sensor module, repeat instructions in reverse. Power up the projector and re-calibrate the min/max footlamberts.

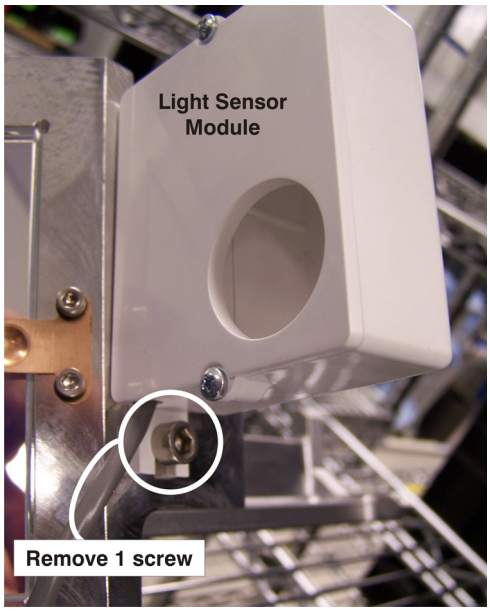


FIGURE 1-42 REMOVE LIGHT SENSOR MODULE

1.4.26 LIQUID COOLING ASSEMBLY

(25 minutes)

The liquid cooling assembly consists of a pump, coolant reservoir, radiator and heat sinks. All are connected together with hoses and mounted within the front portion of the projector. To replace:

1. Remove the PCM cover. See *PCM Cover.*
2. Remove the front lid. See *Front Lid*.
3. Remove the air filter cover. See *Air Filter Cover.*
4. Remove the access panel frame, which is located on the input side of the projector. See *Access Panel Frame.*
5. Remove 3 screws (#2 Phillips) securing the liquid cooling panel. Swing the panel out and hang it on the screws located on the frame. See Figure 1-43.

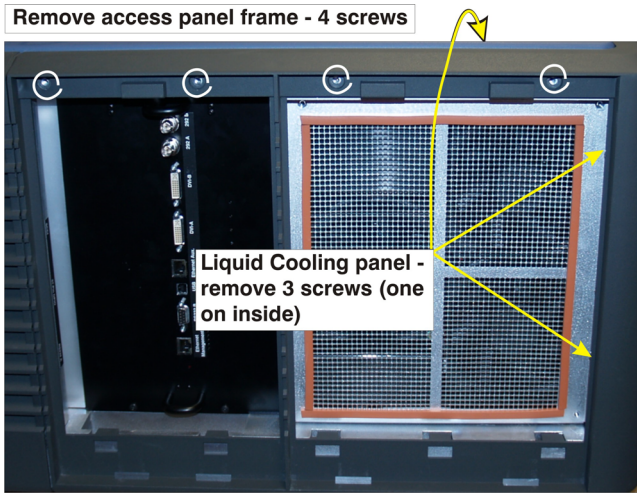


FIGURE 1-43 REMOVE LIQUID COOLING PANEL

6. Disconnect the harness from the temperature sensor on each DMD heatsink (3 total).
7. Remove the heatsink from each DMD, by removing 2, 7/64” screws per heatsink. (3 heatsinks total) (Figure 1-44)
8. Remove 3 screws (#2 Phillips) securing the reservoir and heat exchanger to the plastic fan pack. (Figure 1-45)

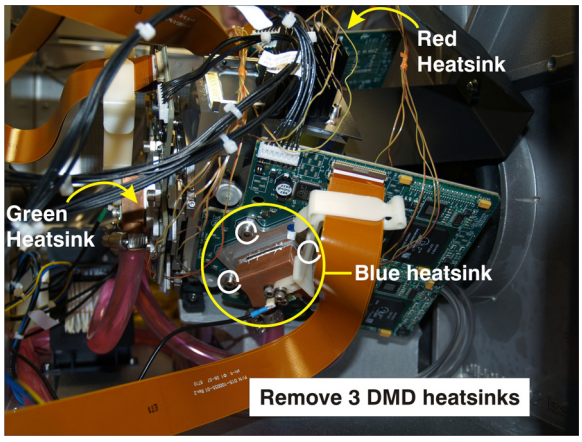


FIGURE 1-44 REMOVE DMD HEATSINKS

Continued on next page.....

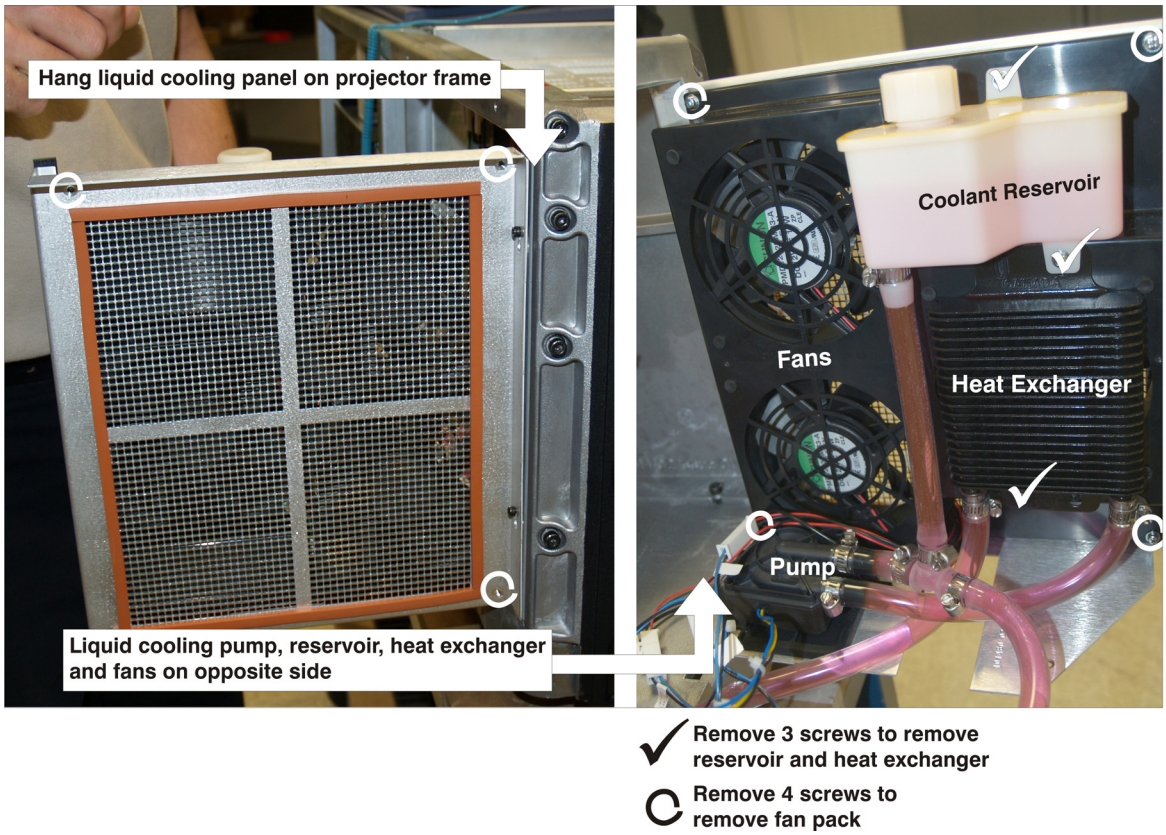


FIGURE 1-45 LIQUID COOLING ASSEMBLY

When replacing, repeat instructions in reverse. Routing of coolant hoses is extremely important. Refer to Figure 1-46 to Figure 1-50 for critical routing points. *NOTES: 1) For clarity, the images do not show all projector components. 2) In general, the coolant hoses from the liquid panel assembly are routed below the clear hoses from the Laminar Airflow Device. 3) When closing the liquid cooling panel use caution so as not to introduce any kinks into the coolant hoses or pinch any of the loose harnessing. It may be necessary to gently pull slack hose lengths under integrator rod.*

Continued on next page.....

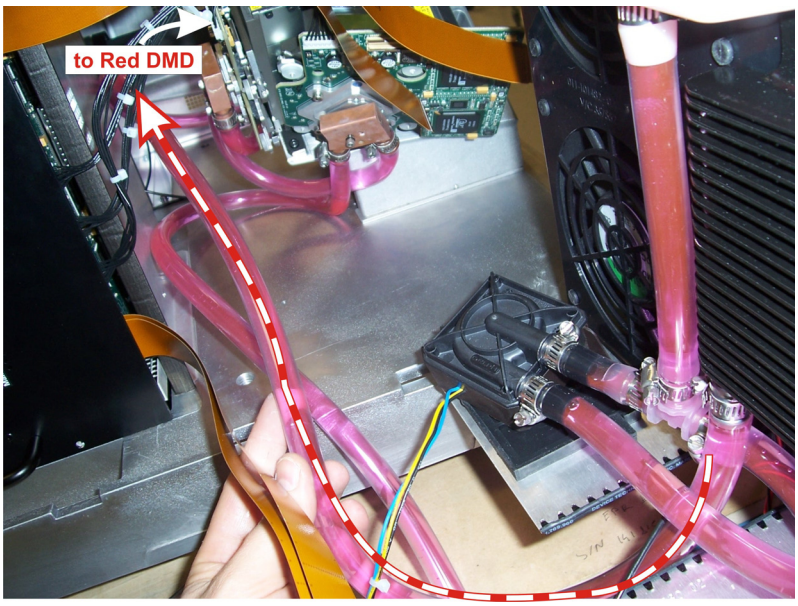


FIGURE 1-46 COOLANT HOSE ROUTING FROM HEAT EXCHANGER

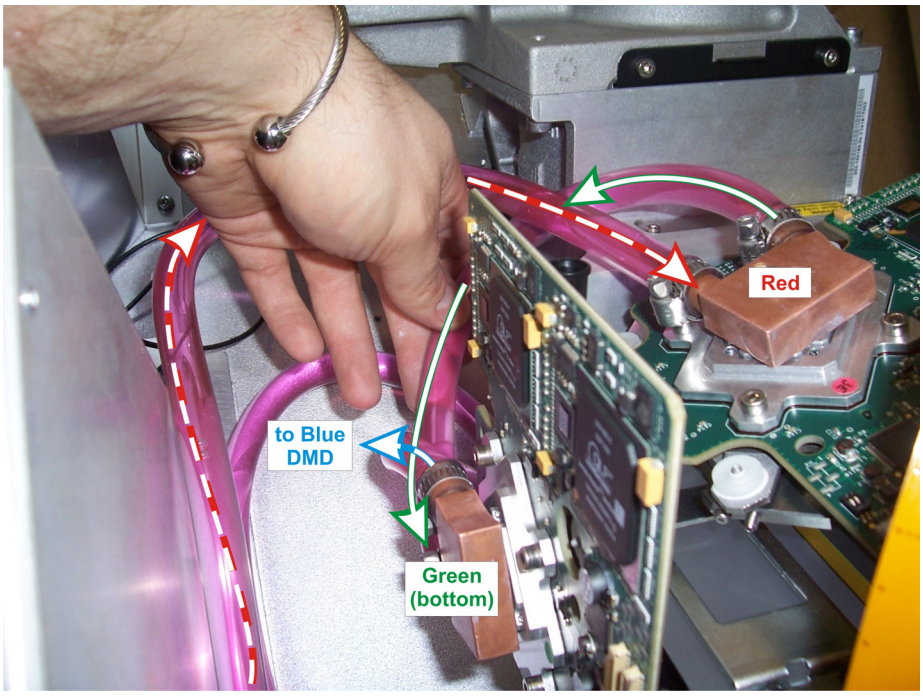


FIGURE 1-47 COOLANT HOSE ROUTING FROM HEAT EXCHANGER TO RED DMD

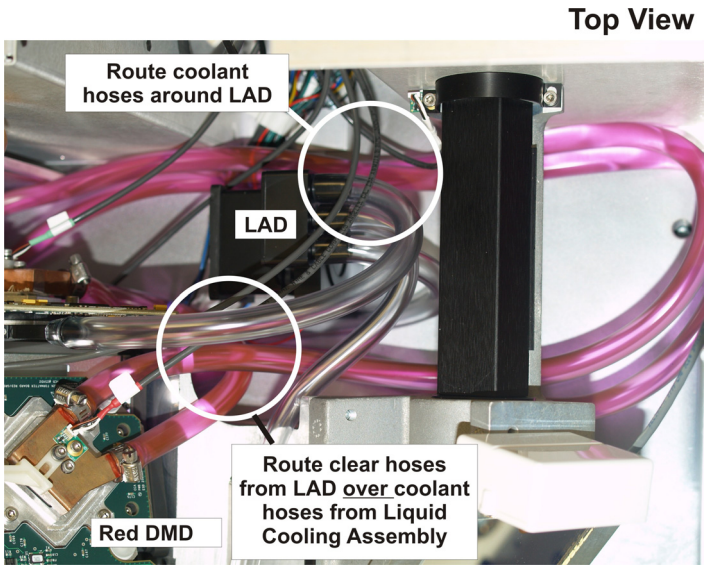


FIGURE 1-48 CRITICAL HOSE ROUTING AROUND LAD FAN

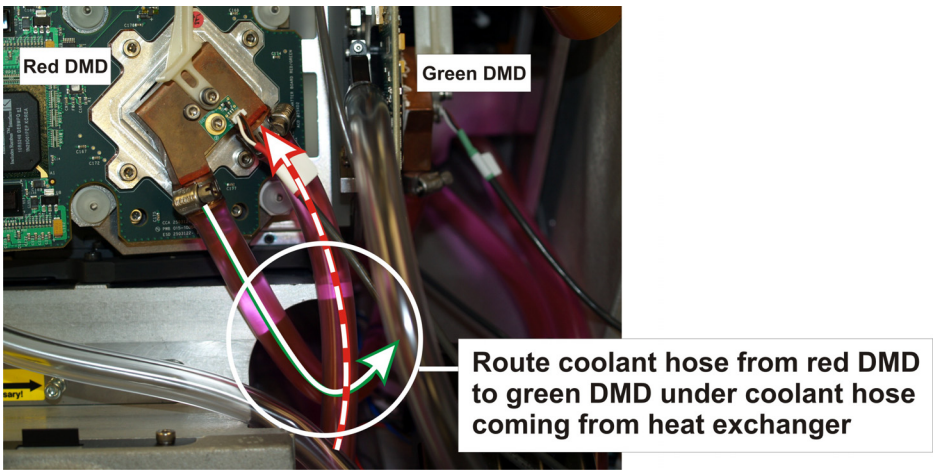


FIGURE 1-49 CRITICAL HOSE ROUTING FROM RED DMD TO GREEN DMD

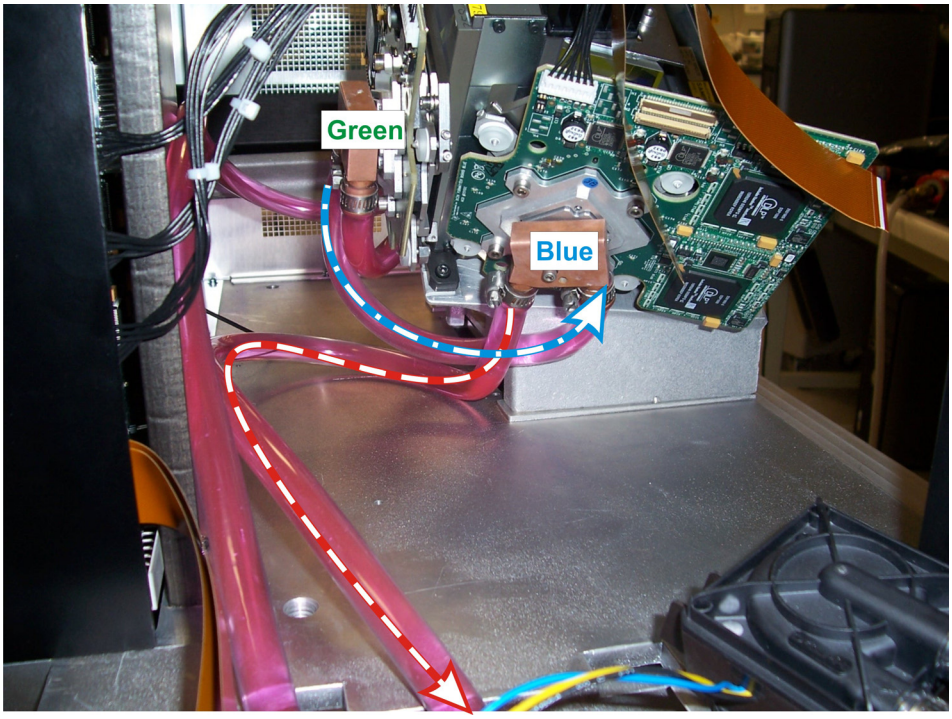


FIGURE 1-50 COOLANT HOSE ROUTING FROM DMD'S BACK TO HEAT EXCHANGER

1.4.27 LOW VOLTAGE POWER SUPPLY (LVPS)

(25 minutes)

The LVPS is mounted to a vertical plate near the lamp ballast. To replace:

1. Make sure power to projector is off. Turn off wall breaker.
2. Remove back cover. See *Back Cover* for instructions.
3. Remove LVPS/Ballast cover. See *LVPS/Ballast Cover.*
4. Remove the plastic shield (cover) over the AC relay. Pinch the sides of the cover in slightly to release the top and bottom tabs and pull out to remove.
5. Disconnect incoming DC (blue and black cables) by removing 2 screws (#2 Phillips). Disconnect brown and blue AC from relay terminals 4 & 8.
6. Remove 4, #3 Phillips screws securing the LVPS to the vertical plate.
7. Disconnect 11 harnesses: 9 from the LVPS and 2 from the AC relay.
8. With LVPS on table, disconnect LVPS AC and LED from Line and Neutral terminals. Note orientation and order of ring terminals (back-to-back).

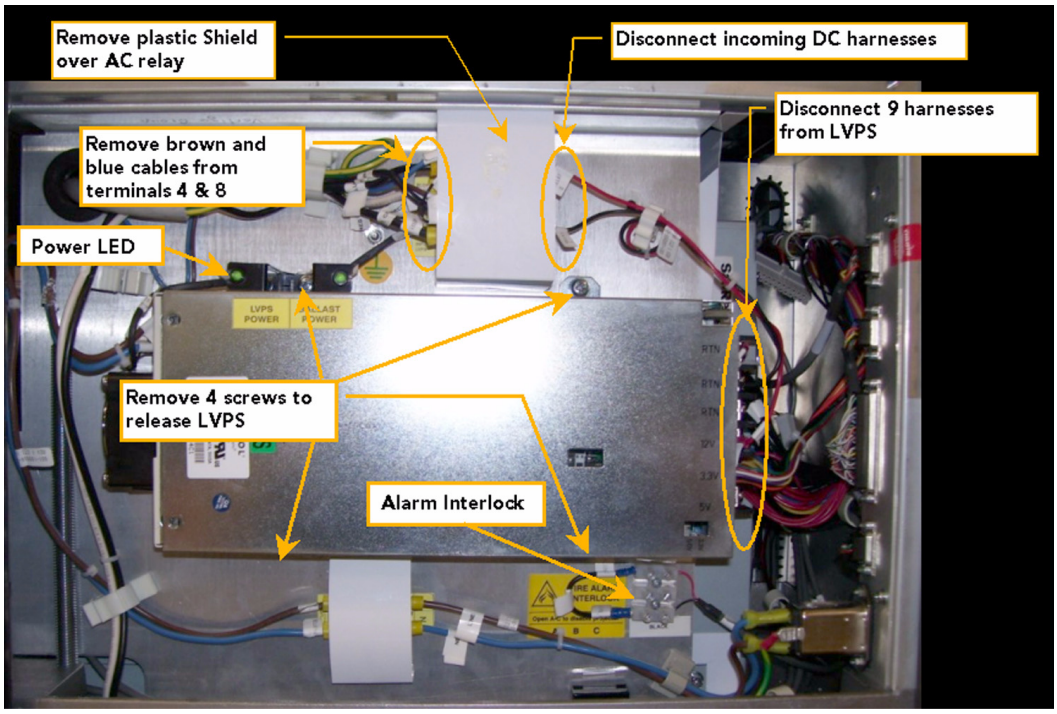


FIGURE 1-51 REMOVE LOW VOLTAGE POWER SUPPLY

When replacing, repeat instructions in reverse. Use the Interconnections Drawing provided at the end of these instructions when connecting harnesses.

1.4.28 MOTHERBOARD

(65 minutes)

The Motherboard is the PCB to which the PCM, EFIB, Processor and Inteface board connect to. It is located at the back of the card cage. To access and replace:

1. Remove the PCM cover. See *PCM Cover*.
2. Remove the front lid. See *Front Lid*.
3. Remove the PCM assembly. See *1.4.30 Projector Control Module (PCM)*.

4. Remove the access panel frame, which is located on the input side of the projector. See *Access Panel Frame*.
5. Remove the Enhanced Formatter Interface Board (EFIB), Interface PCB and Processor PCB. See *1.4.10 Enhanced Formatter Interface Board (EFIB)*, *1.4.17 Interface PCB*, and *1.4.29 Processor PCB*.
6. Remove 2, #2 Phillips screws securing the front side of the card cage to the base. (Figure 1-20)
7. Disconnect 14 harnesses from the back of the Motherboard.
8. Pull the card cage out of the projector.
9. Remove 18, #1 Phillips screws securing the Motherboard to the card cage. (Figure 1-53)
10. Slide the Motherboard out of the card cage.

When replacing the Motherboard, repeat instructions in reverse. Refer to the (Figure 1-53) or the Interconnections drawing, provided in this booklet when re-connecting harnesses.

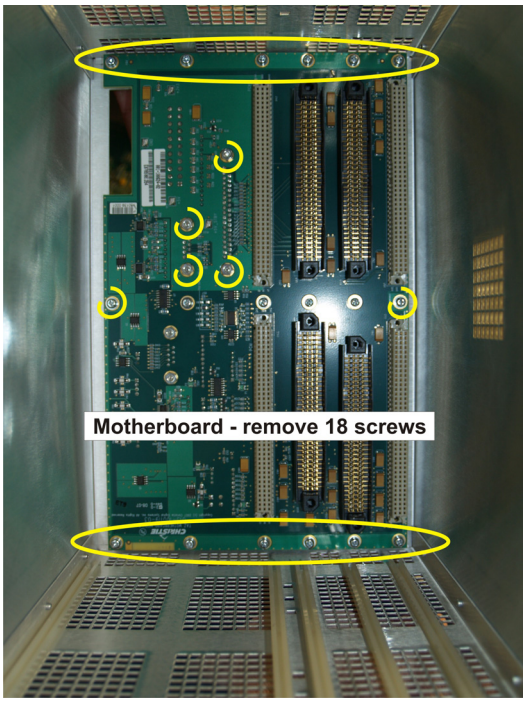


FIGURE 1-52 REMOVE MOTHERBOARD

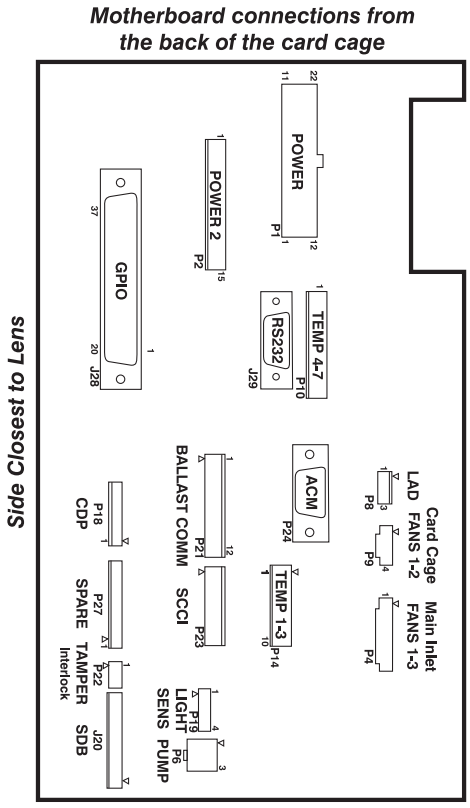


FIGURE 1-53 MOTHERBOARD CONNECTIONS

1.4.29 PROCESSOR PCB

(20 minutes)

1. Remove the PCM cover. See *PCM Cover.*
2. Remove the front lid. See *Front Lid*.
3. Remove the PCM assembly. See *1.4.30 Projector Control Module (PCM)*.
4. Pull Processor PCB out of the card cage.

When replacing, repeat instructions in reverse. *Adjust 5.1 and 3.35V rails as needed.*

1.4.30 PROJECTOR CONTROL MODULE (PCM)

(20 minutes)

1. Remove the PCM cover.
2. Remove the front lid. See *Front Lid*.
3. Remove 4, #2 Phillips screws securing the PCM faceplate; 2 from the inside and 2 from the outside.
4. Pull PCM assembly out of the card cage.
5. Remove 2, #1 Phillips screws from the L-shaped bracket securing the faceplate to the PCM.
6. Remove all hardware securing the BNC's and other connectors to the faceplate.

When replacing, repeat instructions in reverse.

FIGURE 1-54 REMOVE PCM ASSEMBLY

1.4.31 REFLECTORS

(55 minutes)

1. Remove the lamp door. See *Lamp Door.*
2. Remove the lamp. See *1.4.19 Lamp.*
3. Remove the rear lid. See *Rear Lid.*

Continued on next page...

4. Remove 4 screws (#3 Phillips) securing the reflector casting to the base.
5. Remove the lamp anode yoke. See *1.4.6 Anode Yoke Assembly.*

FIGURE 1-55 REMOVE REFLECTOR

6. Lift the casting up slightly to clear the alignment pins, then tilt the top of the casting forward and down.
7. Remove the entire reflector assembly out the open lamp door.
8. Remove the reflector duct (also called the heat dump) by removing 4, #2 Phillips screws. (Figure 1-56)
9. Remove the rear reflector by removing 4 pressure clips (#2 Phillips). (Figure 1-57)
10. Remove the front reflector by removing 4 pressure clips (#2 Phillips).

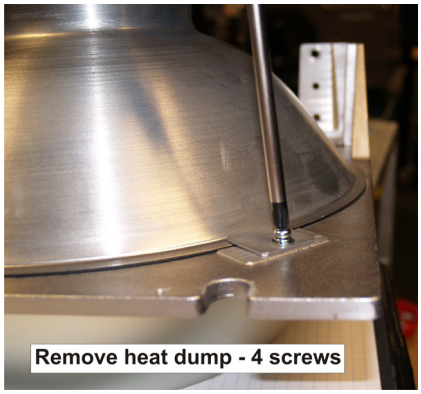


FIGURE 1-56 REMOVE HEAT DUMP

NOTE: Clips provided are specific for each reflector. Clips are not interchangeable.

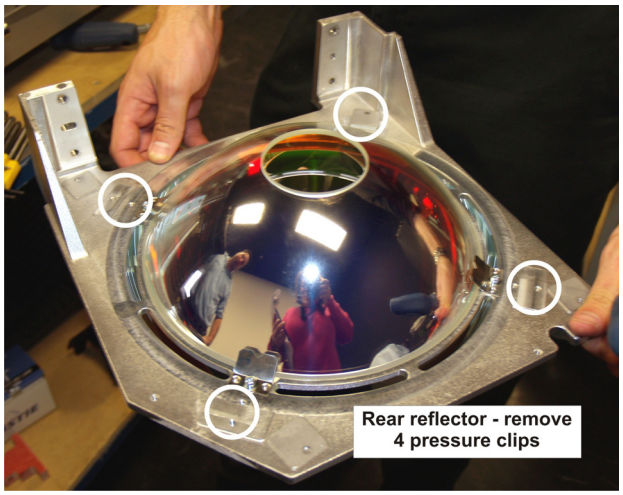


FIGURE 1-57 REMOVE REAR REFLECTOR

When re-installing, repeat instructions in reverse. Make sure the rear lamp duct fits around the outer edge of the heat dump. (Figure 1-58) Once installed, perform Lamp LOC alignment. Refer to the CP2000-ZX User's Manual.

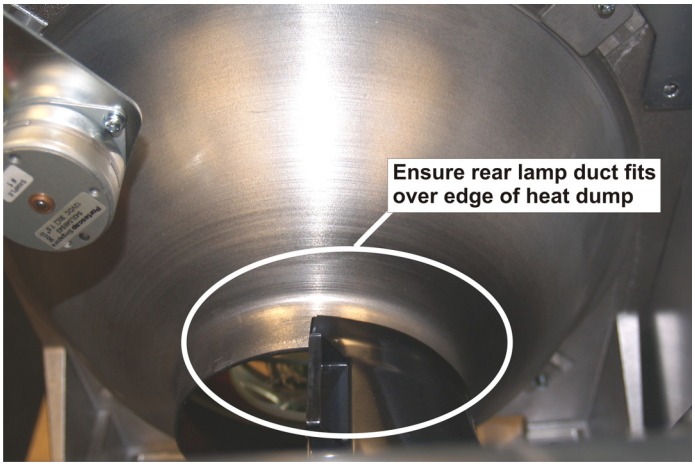


FIGURE 1-58

1.4.32 STEPPER DRIVER BOARD PCB (SDB)

(15 minutes)

The SDB is part of the Lamp Adjuster Assembly, but can be replaced separately. To remove:

1. Remove the Lamp Door. See *Lamp Door.*
2. Remove the Lamp. See *1.4.19 Lamp*.
3. Disconnect all 8 harnesses from the SDB.
4. Remove 4 hex screws (3mm) securing the Lamp Adjuster Assembly to the base.
5. Remove 3 screws (#1 Phillips) securing the SDB.

When replacing, repeat instructions in reverse. Refer to the Interconnections drawing at the end of this booklet when re-connecting harnesses. Make sure to route P1 back through the cable clip to prevent the nearby threaded foot from damaging the harness.

1.4.33 TEMPERATURE SENSORS (DMD)

(15 minutes)

1. Remove front lid. See *Front Lid*.
2. Remove the lens.
3. Remove PCM cover. See *PCM Cover*
4. Remove the access panel frame, which is located on the input side of the projector. See *Access Panel Frame*.

5. Remove 3, #2 Phillips screws securing the liquid cooling fan pack. Swing the panel out and hang on outer screws. See Figure 1-45.
6. Remove one 7/64” screw securing the thermal sensor to be replaced. (Figure 1-59)

When re-installing, repeat instructions in reverse.

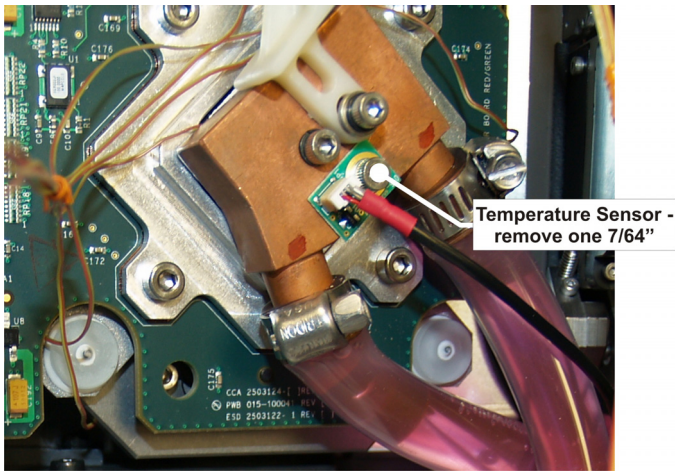


FIGURE 1-59 DMD THERMAL SENSOR

1.4.34 UV FILTER

(25 minutes)

The UV Filter is located at the front of the lamp compartment. This is a sensitive optical component that should be handled from its edges while wearing clean, lint free gloves only.

⚠ CAUTION

Handle the UV filter by its edges only while wearing clean, lint free gloves only.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. This is required for safety reasons only. See *1.4.19 Lamp*.
3. Remove 1, #2 Phillips screw from each of the three tabs securing the filter.
4. Loosen the remaining 3, #2 Phillips screws from the tabs and swing the tabs out of the way. Remove the UV filter.

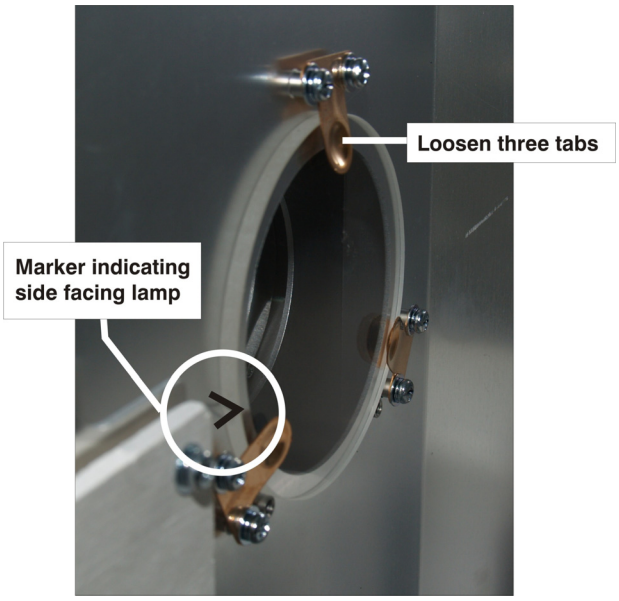


FIGURE 1-60

When re-installing, notice the “arrow” marking on the side of the UV filter. This indicates which side of the filter should face the lamp. Once the UV filter is in position, repeat instructions in reverse to secure in place. Perform *LampLOC Alignment.*

1.4.35 VANE SWITCHES

EXHAUST DUCT VANE SWITCH

(25 minutes)

The Exhaust Vane switch is mounted to the inside of the exhaust duct opening. It can be accessed by removing the lamp door if ducting is present.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. This is required for safety reasons only. See *1.4.19 Lamp*.
3. Remove exhaust duct (optional).
4. Remove 2 nuts (7/32”) securing the vane switch to the mounting bracket. *NOTE: Thermal sensor is connected to the inner most PEM stud. When re-installing make sure this is reconnected before installing the nut*.

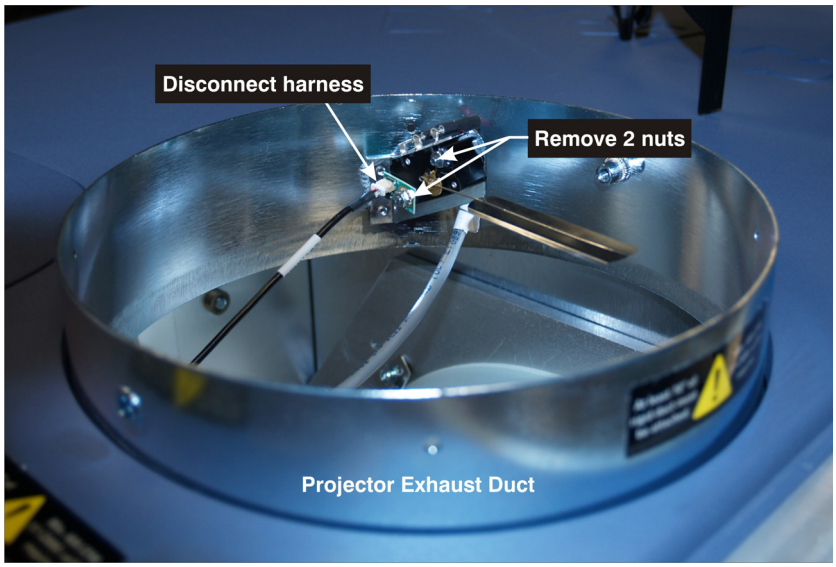


FIGURE 1-61 EXHAUST DUCT VANE SWITCH

When re-installing, repeat instructions in reverse. Once installed, perform *LampLOC Alignment*.

1.4.36 MAIN BLOWER VANE SWITCH

(35 minutes)

The Main Blower Vane Switch is located inside the Main AC Blower on the firewall side.

1. Remove the lamp door. See *Lamp Door*.
2. Remove the lamp. This is required for safety reasons only. See *1.4.19 Lamp*.
3. Remove exhaust duct (optional).
4. Remove the rear lid. See *Rear Lid*.
5. Remove 2 nuts (7/32”) securing the vane switch to the mounting bracket.

When re-installing, repeat instructions in reverse.

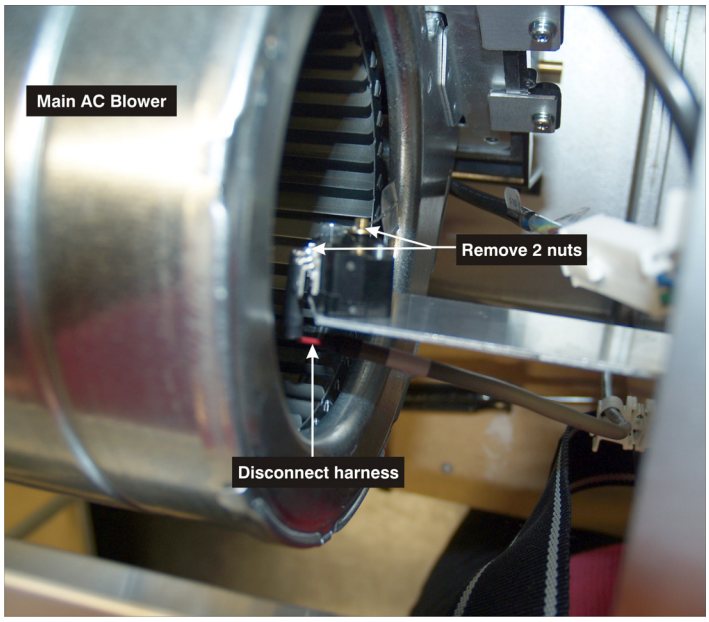


FIGURE 1-62 MAIN BLOWER VANE SWITCH

1.4.37 YELLOW NOTCH FILTER

(35 minutes)

The Yellow Notch Filter is located near the contrast aperture.

1. Remove the front lid. See *Front Lid*.
2. Remove the 2, 2.5 mm screws securing the yellow notch filter to the Illumination Optics System (IOS). Loosen the center nut if necessary.
3. Carefully, pull the yellow notch filter out of the IOS.

When re-installing the yellow notch filter repeat instructions in reverse. Then calibrate green primary and MCGD.

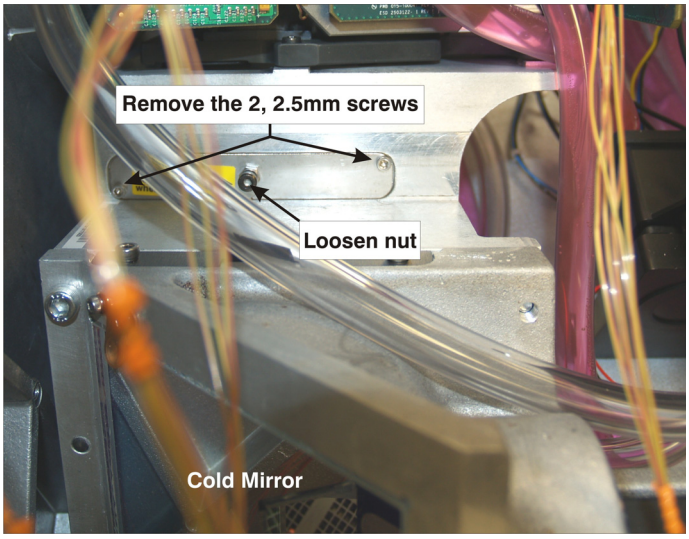
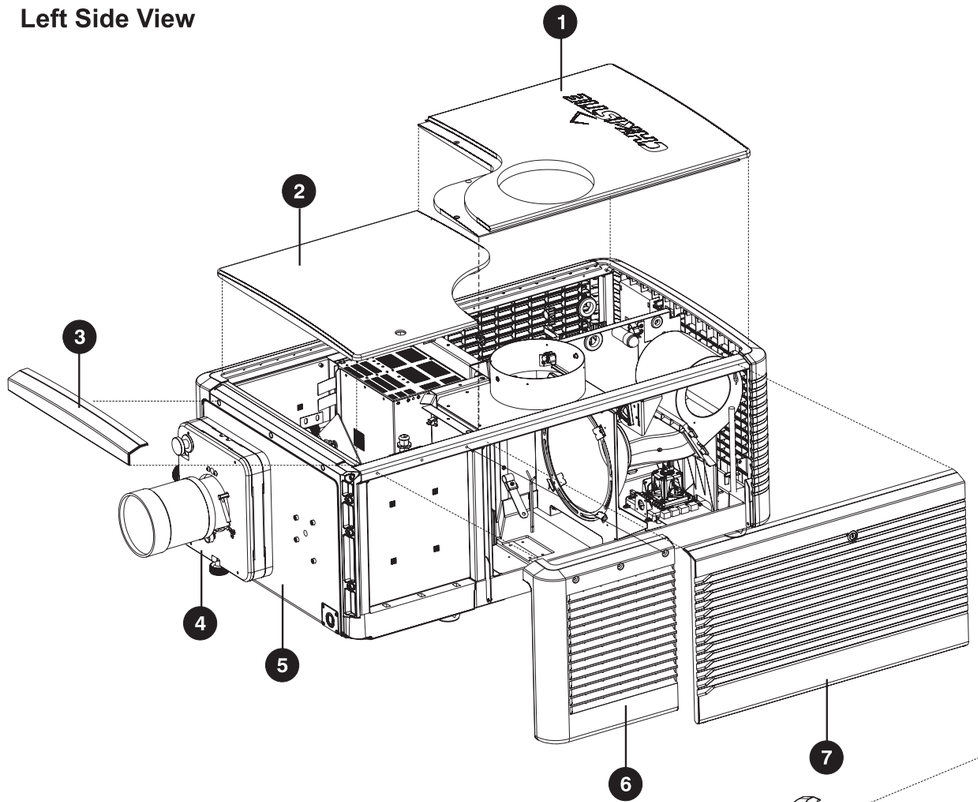


FIGURE 1-63 YELLOW NOTCH FILTER

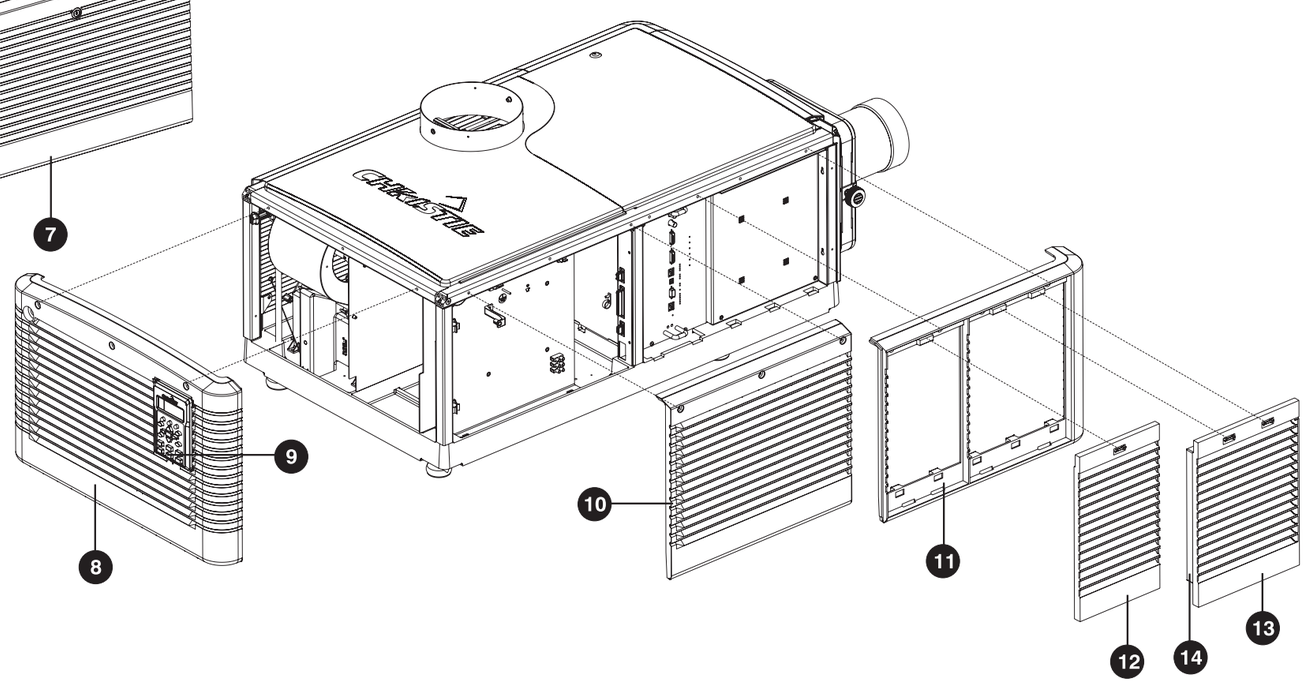
1 CP2000-ZX EXPLODED VIEW

Exploded View - Skins

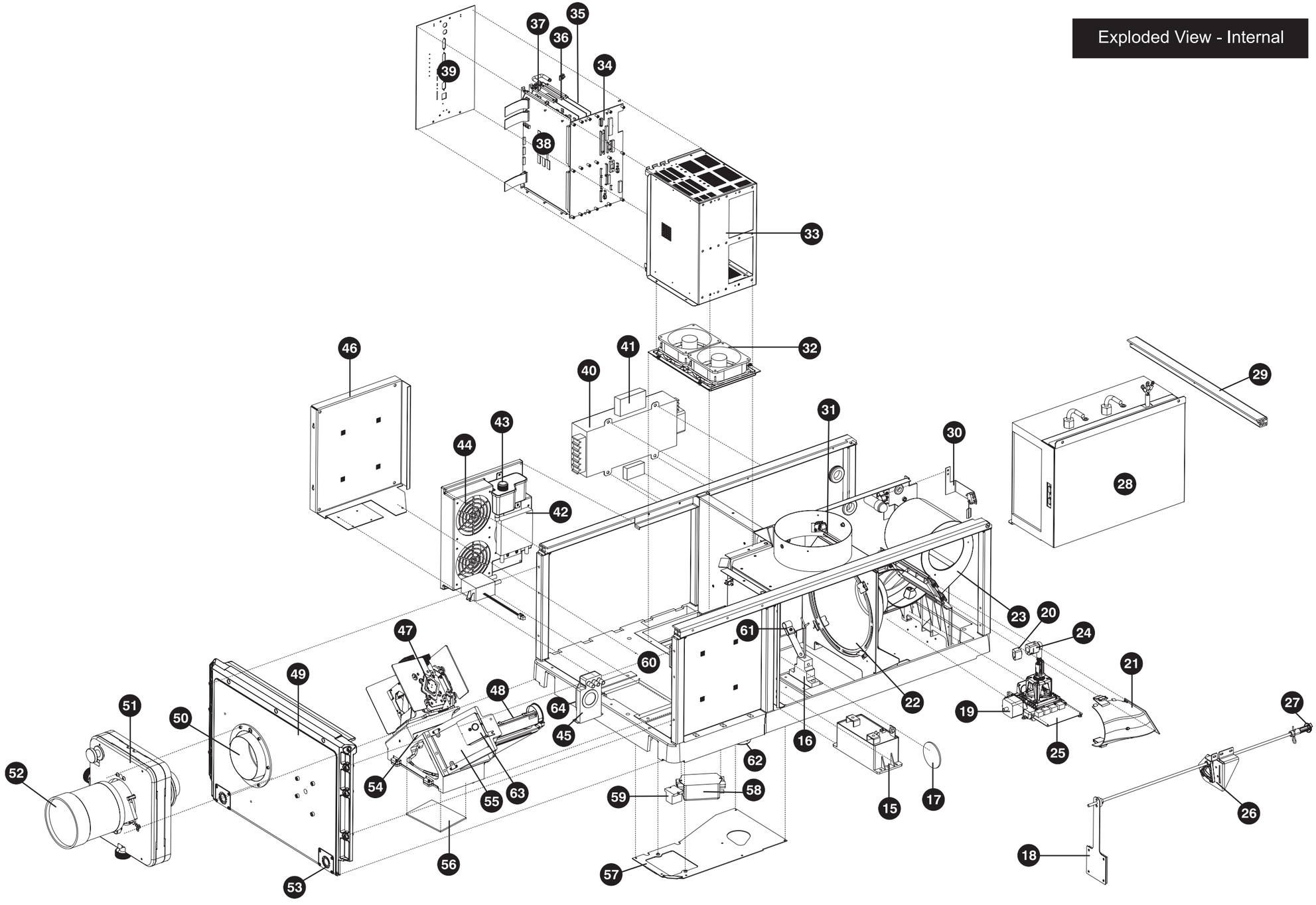
Left Side View

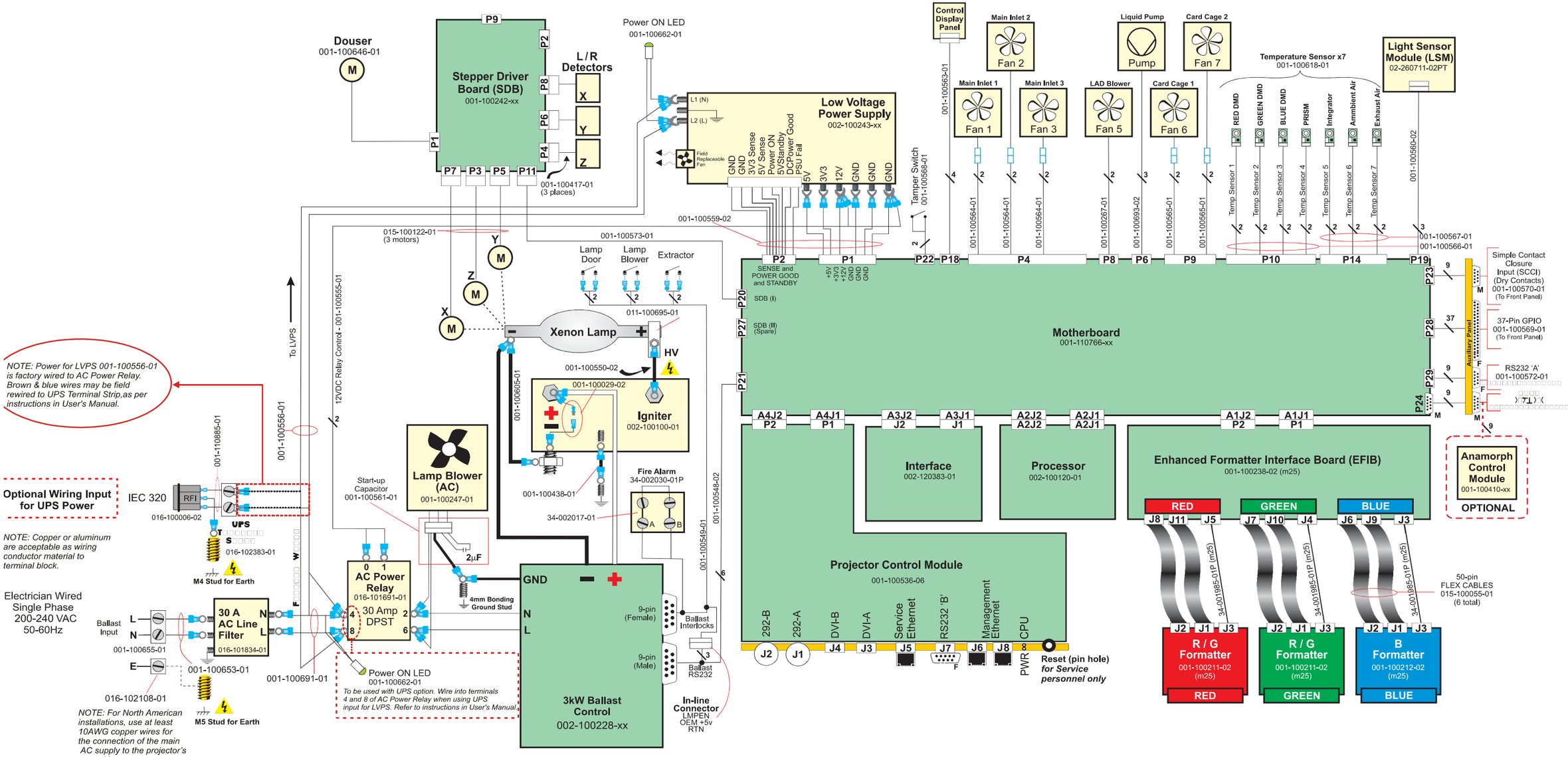


Right Side View



Exploded View - Internal




Douser
001-100646-01
Stepper Driver Board (SDB)
001-100242-xx
L/R Detectors
001-100417-01 (3 places)
Power ON LED
001-100662-01
Low Voltage Power Supply
002-100243-xx
Field Replaceable Fan
001-100559-02
Control Display Panel
001-100563-01
Tamper Switch
001-100568-01
Main Inlet 2
Fan 2
Main Inlet 1
Fan 1
Main Inlet 3
Fan 3
Liquid Pump
Pump
LAD Blower
Fan 5
Card Cage 2
Fan 7
Card Cage 1
Fan 6
Temperature Sensor x7
001-100618-01
RED DMD
GREEN DMD
BLUE DMD
PRISM
Integrator
Ammbient Air
Exhaust Air
Light Sensor Module (LSM)
02-260711-02PT
001-100560-02
001-100567-01
001-100566-01
015-100122-01 (3 motors)
001-100573-01
Lamp Door
Lamp Blower
Extractor
Xenon Lamp
001-100695-01
HV
001-100550-02
001-100029-02
Igniter
002-100100-01
001-100605-01
001-100438-01
Fire Alarm
34-002030-01P
34-002017-01
Motherboard
001-110766-xx
SENSE and POWER GOOD and STANDBY
SDB (I)
SDB (II) (Spare)
Simple Contact Closure Input (SCCI) (Dry Contacts)
001-100570-01
(To Front Panel)
37-Pin GPIO
001-100569-01
(To Front Panel)
RS232 'A'
001-100572-01
Auxiliary Panel
Anamorph Control Module
001-100410-xx
OPTIONAL
Interface
002-120383-01
Processor
002-100120-01
Enhanced Formatter Interface Board (EFIB)
001-100238-02 (m25)
Projector Control Module
001-100536-06
292-B
292-A
DVI-B
DVI-A
Service Ethernet
RS232 'B'
Management Ethernet
CPU
PWR
Reset (pin hole) for Service personnel only
RED
GREEN
BLUE
R / G Formatter
001-100211-02
(m25)
B Formatter
001-100212-02
(m25)
50-pin FLEX CABLES
015-100055-01
(6 total)
34-001985-01P (m25)
To LVPS
12VDC Relay Control - 001-100555-01
001-100556-01
001-110885-01
NOTE: Power for LVPS 001-100556-01 is factory wired to AC Power Relay. Brown & blue wires may be field rewired to UPS Terminal Strip,as per instructions in User's Manual.
Optional Wiring Input for UPS Power
IEC 320
RFI
016-100006-02
UPS
016-102383-01
M4 Stud for Earth
NOTE: Copper or aluminum are acceptable as wiring conductor material to terminal block.
Electrician Wired Single Phase 200-240 VAC 50-60Hz
Ballast Input
001-100655-01
016-102108-01
30 A AC Line Filter
016-101834-01
001-100653-01
M5 Stud for Earth
NOTE: For North American installations, use at least 10AWG copper wires for the connection of the main AC supply to the projector's ground lug.
001-100691-01
Start-up Capacitor
001-100561-01
Lamp Blower (AC)
001-100247-01
2µF
4mm Bonding Ground Stud
AC Power Relay
016-101691-01
30 Amp DPST
Power ON LED
001-100662-01
To be used with UPS option. Wire into terminals 4 and 8 of AC Power Relay when using UPS input for LVPS. Refer to instructions in User's Manual.
3kW Ballast Control
002-100228-xx
9-pin (Female)
9-pin (Male)
Ballast Interlocks
Ballast RS232
In-line Connector
LMPEN
OEM +5v
RTN
001-100548-02
001-100549-01