

Installing the Boxer fan upgrade kit

To reduce projector noise and improve cooling install the fan upgrade kit.

Affected products

The following products are affected:

- Boxer 4K30
- Mirage 304K

Parts list

The following parts are required for the installation of the Boxer fan upgrade kit.

- Boxer fan upgrade kit P/N: 003-005513-XX
- Minimum software version V1.1.0

Tools required for installation

Make sure the following tools are available during the installation:

- Long and stubby neck magnetic-tip ball drivers—2.5 mm, 3 mm, and 5 mm provided in projector toolbox
- Needle nose wire cutter
- 2.5 mm hex driver
- 3 mm hex driver

Safety precautions

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.



Warning! Failure to comply with the following could result in death or serious injury.

- SHOCK HAZARD! Disconnect the product from AC before moving, servicing, cleaning, removing components, or opening any enclosure.
- EXPLOSION HAZARD! Allow sufficient time for the lamp to cool down before powering down the product, disconnecting it from AC, and opening the lamp door.
- Always handle optics by their edges.
- All procedures must be performed by Christie qualified technicians.
- Use protective eye wear and gloves when cleaning and servicing the product. Follow workplace guidelines for using personal protective equipment when cleaning and servicing products.



Notice. Failure to comply with the following may result in property damage.

- SHOCK HAZARD! All harnessing must be properly routed and secured as originally installed, especially in high voltage areas.

Turning the projector off

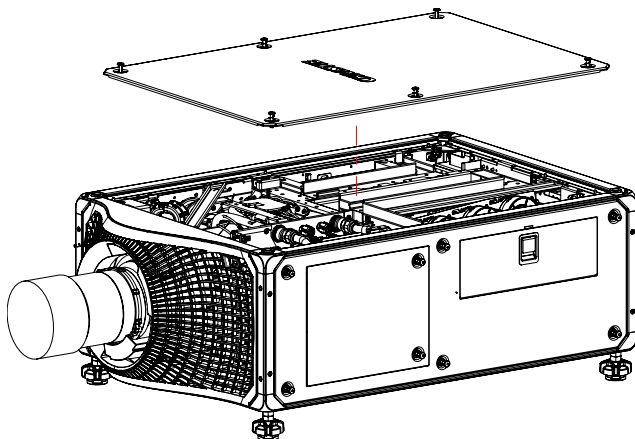
When powering off in preparation for inspection or maintenance, always disconnect from AC.

1. To turn the lamps off, press and hold the **Power** button until you hear a beep.
When powering off the projector, allow the projector to complete its cool down cycle. Do not immediately unplug the projector if this can be avoided.
2. To turn off power to the projector, disconnect from AC power.

Removing the top cover

The top cover provides access to the light engine, HKBA board, and various other components.

Estimated replacement time: 1 minute

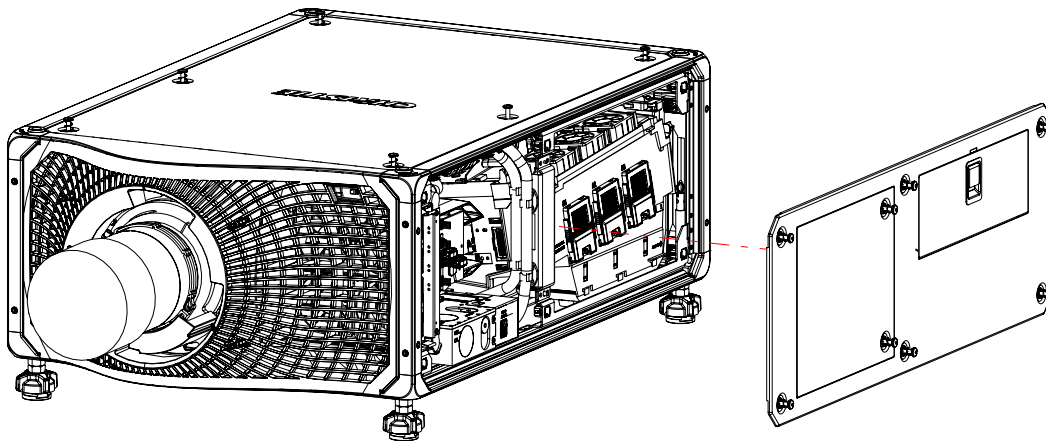


1. Loosen the six captive screws securing the top cover.
2. Remove the top cover.
3. To install the top cover, repeat these steps in reverse order.

Removing the optics-side cover

The optics-side cover provides access to liquid cooling module, integrator focus module, zoom/focus module, NFC readers, and other components.

Estimated replacement time: 1 minute

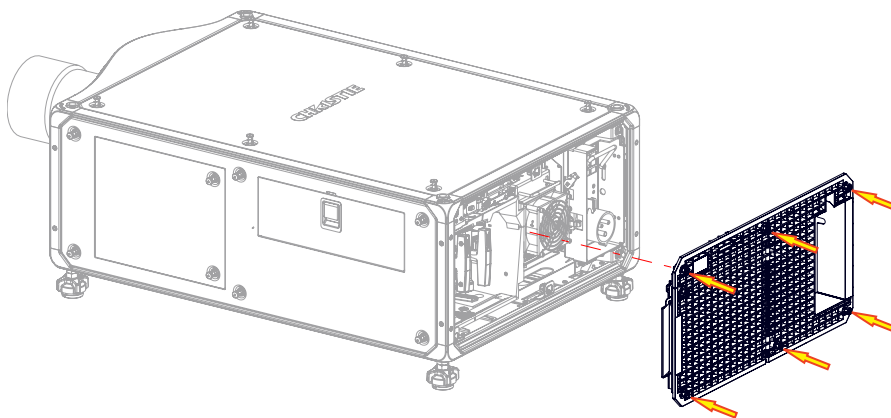


1. Loosen the six captive screws securing the optics-side cover.
2. Remove the optics-side cover.
3. To install the optics-side cover, repeat these steps in reverse order.

Removing the rear cover

The rear cover provides access to lamp and lamp driver modules.

Estimated replacement time: 1 minute



1. Loosen the six captive screws securing the rear cover.

2. Remove the rear cover.
3. To install the rear cover, repeat these steps in reverse order.

Removing the integrator module

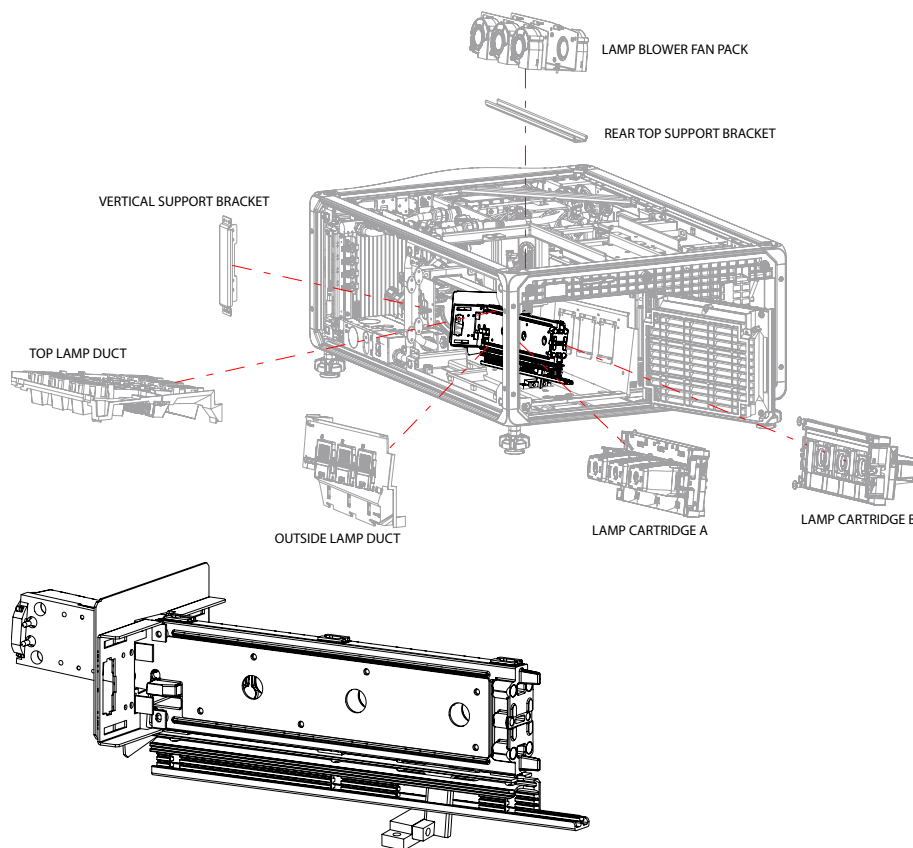
The integrator module is positioned between the two lamp cartridges and captures light from up to six lamps and combines it into a uniform rectangular light source for the light engine.

Estimated replacement time: 16 minutes

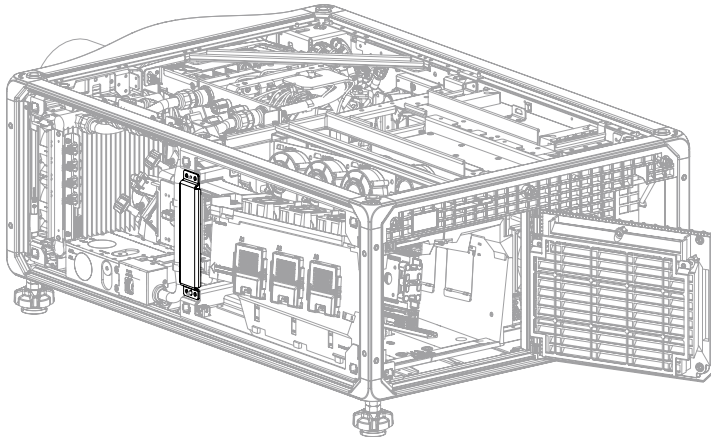


Warning! Failure to comply with the following could result in death or serious injury.

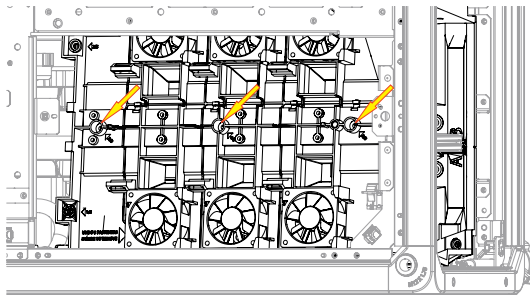
- Always handle optics by their edges.



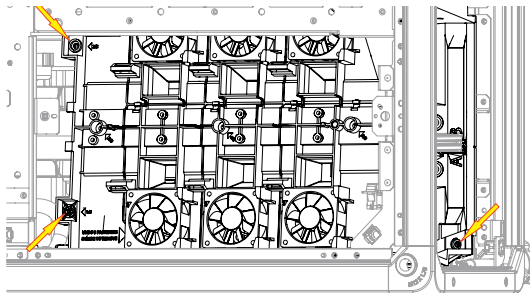
1. Remove the top cover (on page 2).
2. Remove the optics-side cover (on page 3).
3. Remove the two screws securing the rear top support bracket.
4. Remove the rear cover (on page 3)
5. Loosen the two captive screws to release the lamp cartridges.
6. Use the handles to pull out the lamp cartridges.
7. To release the vertical support bracket, remove the four screws.



8. To free the lamp blower fan pack, loosen the captive screw securing it.
9. Slide the lamp blower fan pack towards the front of the projector to release the assembly from the tabs.
10. Disconnect the J73 (blue and white) and J74 (yellow and white) harnesses.
11. Free the harnesses from the clips.
12. Remove the lamp blower fan pack.
13. Disconnect the J75 (pink and white) harness and route free from the harness clips.
14. Disconnect the J72 NFCR (purple) harness (A side).
15. To release the top lamp duct module, remove the three screws.



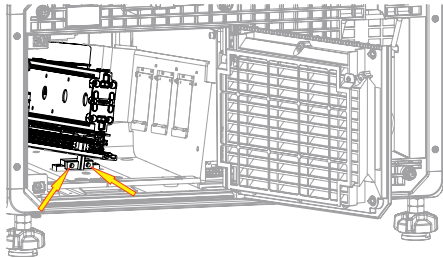
16. To remove the outside lamp duct, loosen the three captive screws.



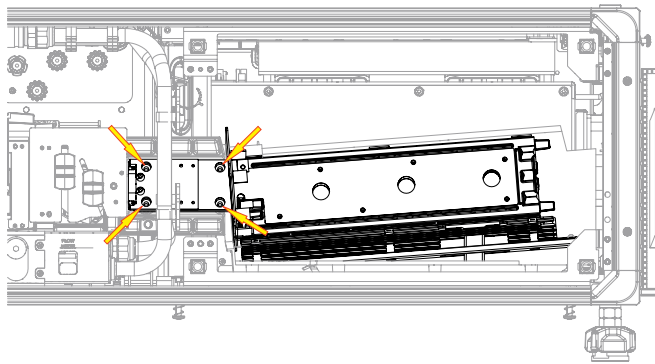
17. Disconnect the J72 (purple) inline connection located at the electronics bracket.
18. Slide the outside lamp duct assembly to the front of the projector and remove it.
19. Remove the top lamp duct module.
20. Disconnect the cartridge inline connector from the lamp driver and P89 (white) from the HKBA and route free from the harness clips.

21. Remove the two screws from the bottom of the integrator focus module to disengage it from the bottom of the projector.

Use caution when handling the integrator module assembly. Touching the glass with bare hands will impact the optics due to residue such as oil or dirt. The areas of the integrator module where light enters the module from the lamps can become hot and touching these areas could potentially cause damage to the lamps or the integrator module assembly.



22. Remove the four screws from the front of the integrator focus module connecting it to the zoom and focus module.

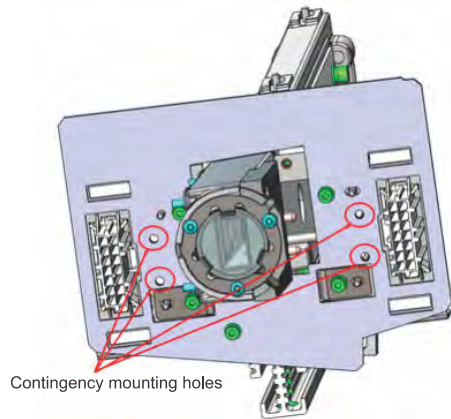


23. Slide the integrator module out the side of the projector.

Installing the lamp harness connector backplates to the integrator front plate

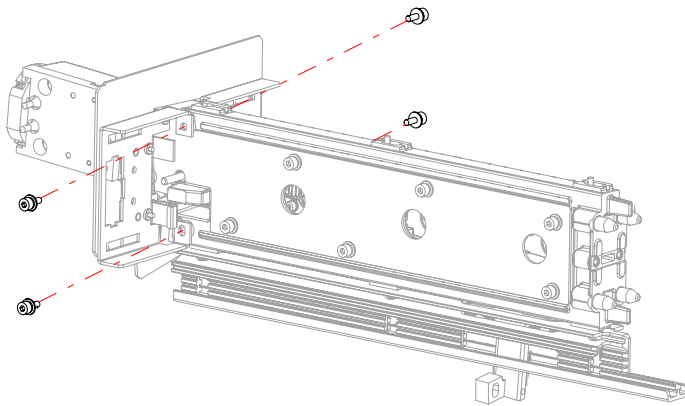
Install the lamp harness connector backplates to the integrator front plate and if required, replace the integrator front plate and connector mounting brackets.

If the integrator front plate does not have the contingency mounting holes, replace it (011-106558-XX) and the connector mounting brackets (011-105941-XX) from the Boxer Harness Connector kit. If the integrator front plate has existing contingency mounting holes, skip to step 9 to install the new connector backplates.

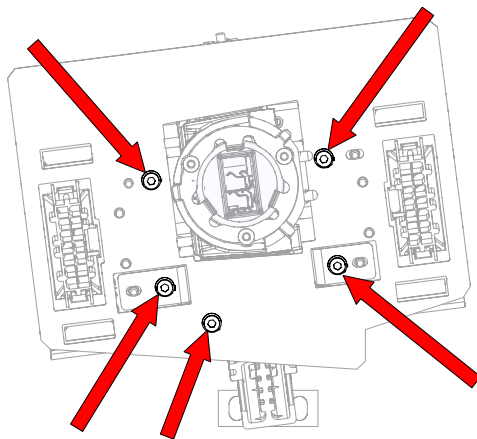


Contingency mounting holes

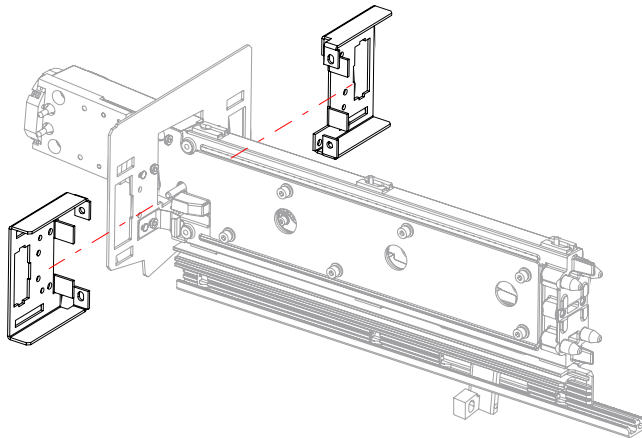
1. Remove the integrator module (on page 4).
2. Remove the four screws securing the front plate assembly to the integrator.



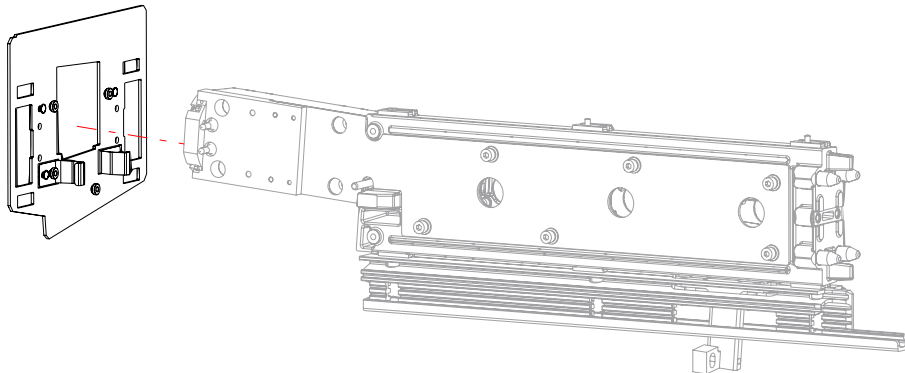
3. Remove the five screws securing the connector brackets to the front plate.



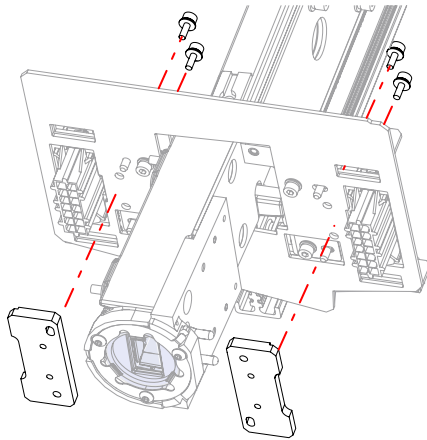
4. Remove the two harness connector brackets.



5. To remove the integrator front plate, slide it towards the short end of the integrator.



6. Remove off any ink from the new integrator front plate and connector brackets with a Methyl Hydrate solution and cloth prior to installing the new parts.
Wear gloves to avoid skin contact and use in a well-ventilated area. Avoid flames and sparks when using this flammable liquid.
7. Examine the new parts to ensure all the ink has been cleaned off.
8. Replace the integrator front plate and harness connector brackets with the new ones provided in the upgrade kit that accommodate the harness connector backplates.
9. Install the new integrator front plate.
10. Install the two new harness connector brackets.
11. Install the new connector backplates.



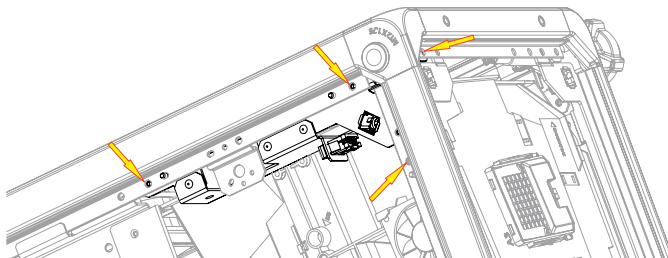
12. Reinstall the integrator module.

Replacing the rear electronics bracket

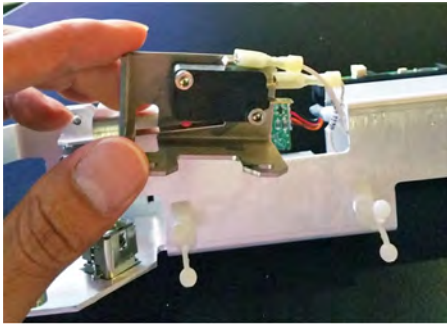
The rear electronics bracket holds the rear IR sensor board, lamp interlock, rear convenience light board (CLB), and status LED board (SLB)

When replacing the rear electronics bracket, transfer all the printed circuit boards and harnesses to the new bracket.

1. Disconnect the J1 SLB (multi-color) harness from the SLB.
2. Disconnect the J71 (multi-color) harness connection on the housekeeping board (HKBA).
3. To remove the rear electronics assembly, remove the four screws.



4. Remove the two screws for the SLB.
5. Remove the two screws from the lamp interlock.
6. Remove one screw from the rear IR mounting bracket.
7. Remove the two screws from the CLB holder.
8. Remove all the PCBs with the harness from the old electronics bracket.
9. Route the interlock switch and IR sensor through the rear electronics bracket.
10. Install the lamp interlock to the new interlock mounting bracket with two screws.



11. To transfer the remaining electronics to the new bracket, follow steps 4 to 8 in reverse order.



12. Install the new rear electronics assembly with the four screws removed in step 3.

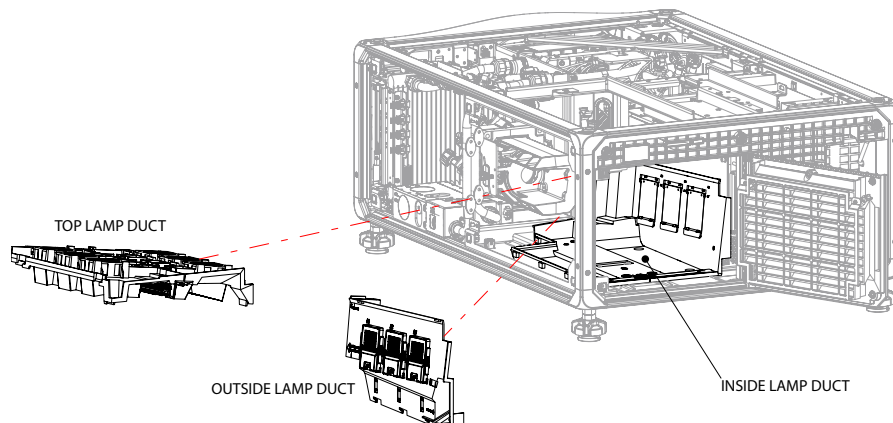
13. Connect the J71 (multi-color) harness connection on the HKBA.

14. Connect the J1 (multi-color) harness connection on the SLB.

Replacing the lamp duct housing assembly

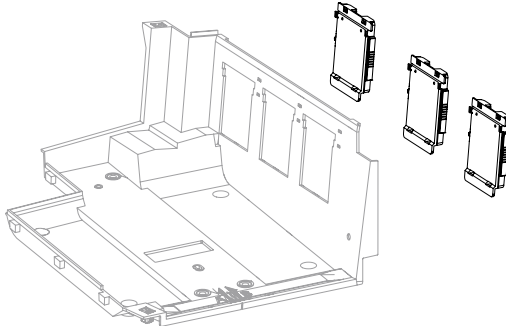
The lamp duct housing assembly supports the lamp cartridges, NFC holders, and cooling fans for the lamps.

When replacing the lamp duct housing assembly, transfer all NFC holders and harnesses, the linear guide track, the printed circuit boards, and harnesses to the new bracket.

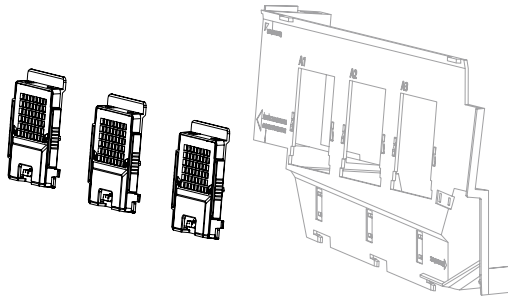


1. To remove the inside duct remove the seven screws.

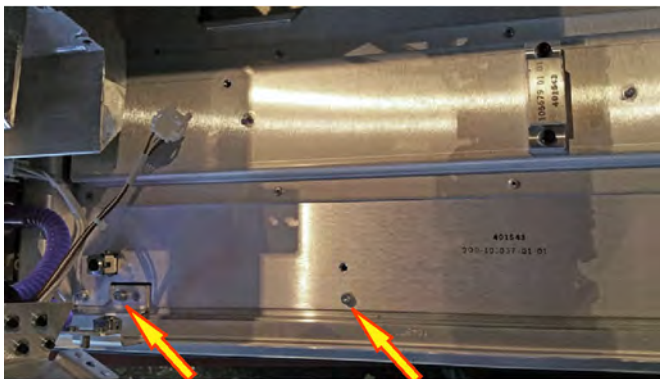
2. To release the harness clip located near the rear of the inside duct, pinch the tabs and push through.
3. Remove the three NFC holders and harnesses from the inside duct.



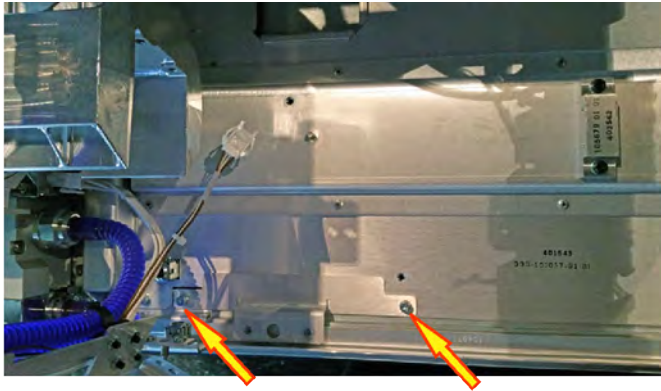
4. Transfer the three inside NFC holders and harnesses to the new inside duct.
5. Remove the three NFC holders, harnesses, and harness clips from the outside duct.



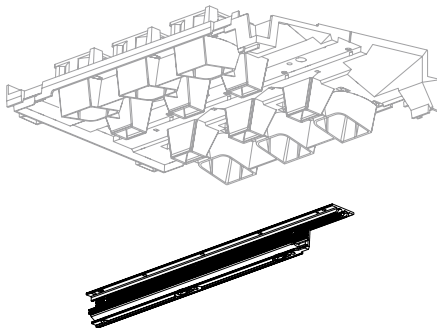
6. Transfer the three NFC holders, harnesses, and harness clips to the new outside duct.
7. Replace any damaged harness clips with the new ones provided in the kit.
8. Connect new duct cooling harness J93 into HKBA.
9. Route the new duct fan 28 to follow the bulb blower harness to the rear electronics assembly.
10. Route the new duct fan 29 to follow the LCM harness to the area behind it.
11. To mount the new support bracket for the bottom blower, remove the two existing screws.



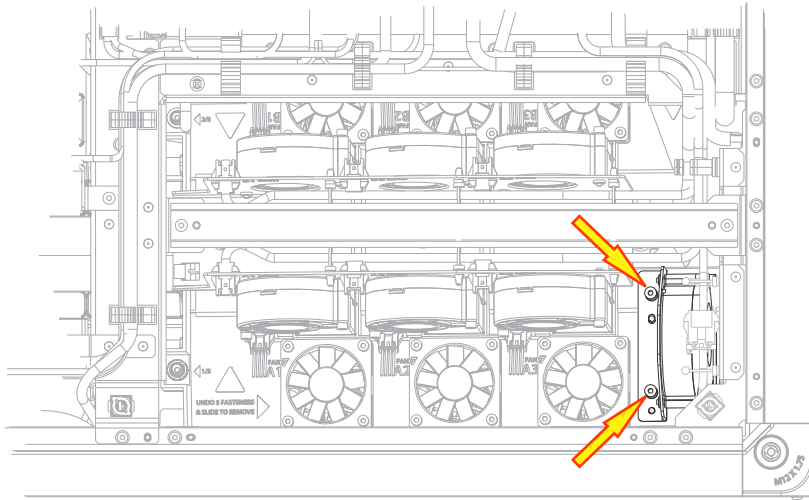
12. Install the new support bracket and fasten with the two screws.



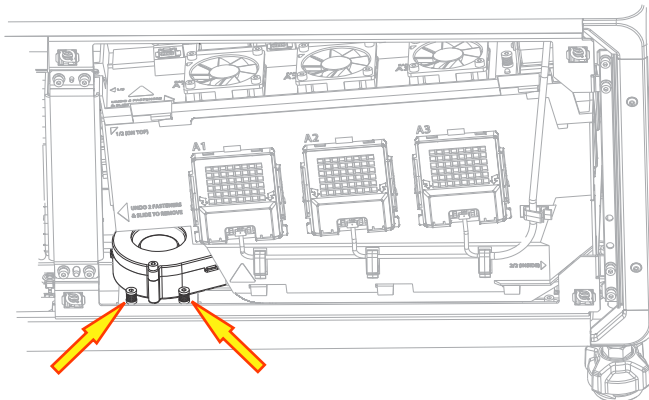
13. Position the new inside duct and reattach the cable management clips.
14. To secure the inside duct, install the seven screws.
15. Transfer the linear guide track from the old top duct to the new top duct.



16. Transfer the top duct harness to the new top duct.
17. To reinstall the integrator module follow the steps in reverse in the previous *removing the integrator module* (on page 4) procedure.
18. Install the new top duct assembly.
19. Install the new outside duct assembly.
20. Tighten the three captive screws and install the three screws for the top duct.
21. Connect the outside NFC harness to the inline connector located on the rear electronics bracket.
22. Install the new top duct fan assembly and fasten with the two captive screws.



- 23. Connect the top duct fan to the fan 28 connector.
- 24. Route the NFC harness through the two purse clips on the rear electronics assembly.
- 25. Connect the bottom duct fan to the fan 29 connector.
- 26. Install the new bottom duct fan with the two captive screws.



- 27. Reinstall the lamp blower fan pack.
- 28. Reinstall the vertical support bracket.
- 29. Reinstall both lamp cartridges.
- 30. Reinstall the optics cover, rear cover, rear top support bracket, and top cover.