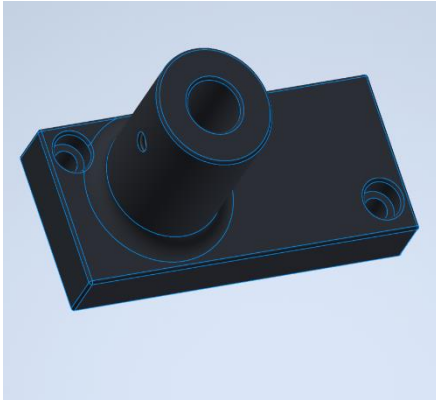


TI DLPDLC3010EVM-G2 modification guide

3d printed parts

Lightguide adapter



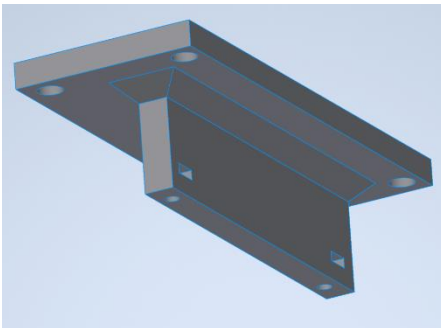
The Lightguide adapter should be printed in black with a SLA, MJF or SLS printer. If needed there are online printing services such as <https://www.hubs.com/3d-printing/>

The hole on the side of the barrel will need to be tapped for a 2-56 set screw. <https://www.mcmaster.com/90291A074/> (a 0.035" allen wrench will also be needed <https://www.mcmaster.com/7122A37/>)

This part is compatible with any LLG with an outer diameter of 5mm <https://www.thorlabs.com/thorproduct.cfm?partnumber=LLG3-6H>

If the fit is too snug the lightguide barrel can be reamed to the proper diameter using a #8 drill bit.

PCB Brace



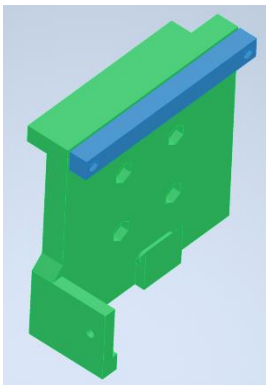
Replaces the cooling fan assembly to support the circuit boards.

M2 nuts are inserted into the bottom slots and the M2 screws from the fan assembly are reused on the top 4 holes while 8mm M2 screws are needed for the bottom 2

<https://www.mcmaster.com/90116A015/>

<https://www.mcmaster.com/91828A111/>

Vertical Mounting Plate and Retaining bracket



Designed to fit Thorlabs KM200B/M kinetic mount

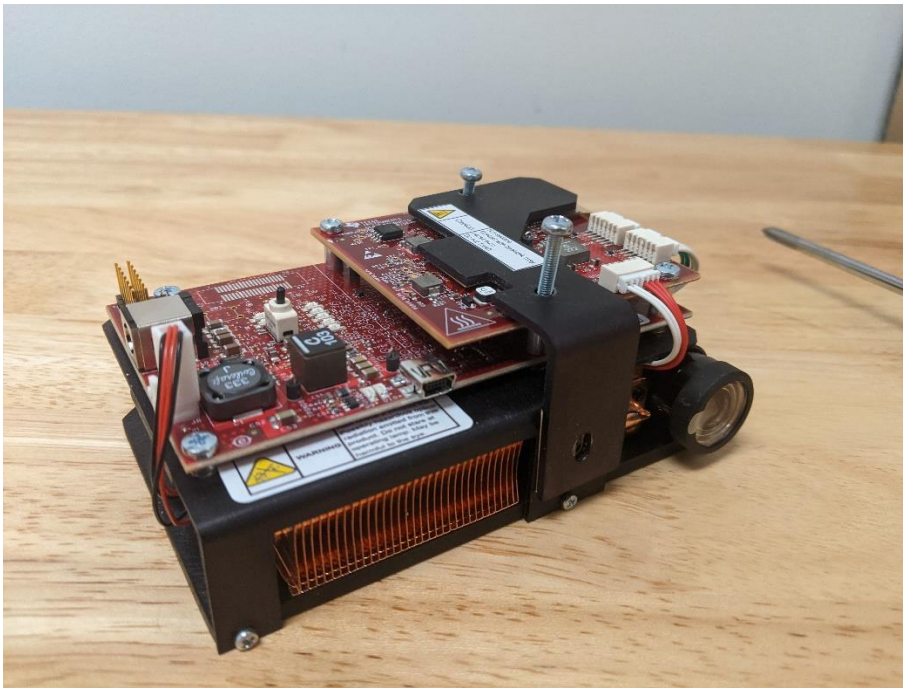
<https://www.thorlabs.com/thorproduct.cfm?partnumber=KM200B/M>

M4 nuts should be inserted and glued into hexagonal holes to receive 10mm M4 screws through the kinematic mount. <https://www.mcmaster.com/91292A116/>

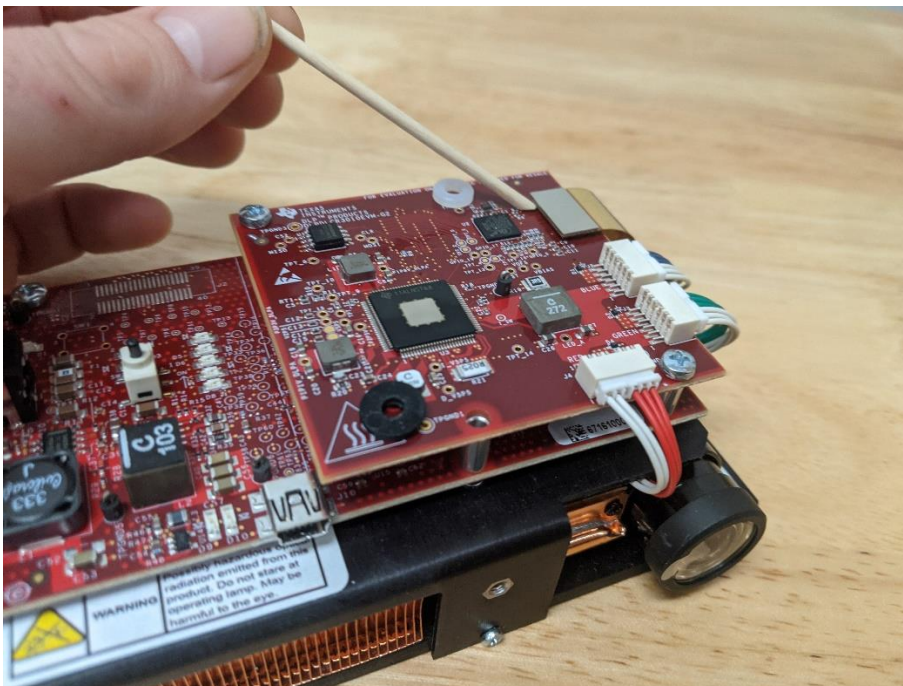
Retaining bracket(blue) clamps the mount to the projector board with 2, 15mm M2 screws. <https://www.mcmaster.com/91292A002/>

Disassembly

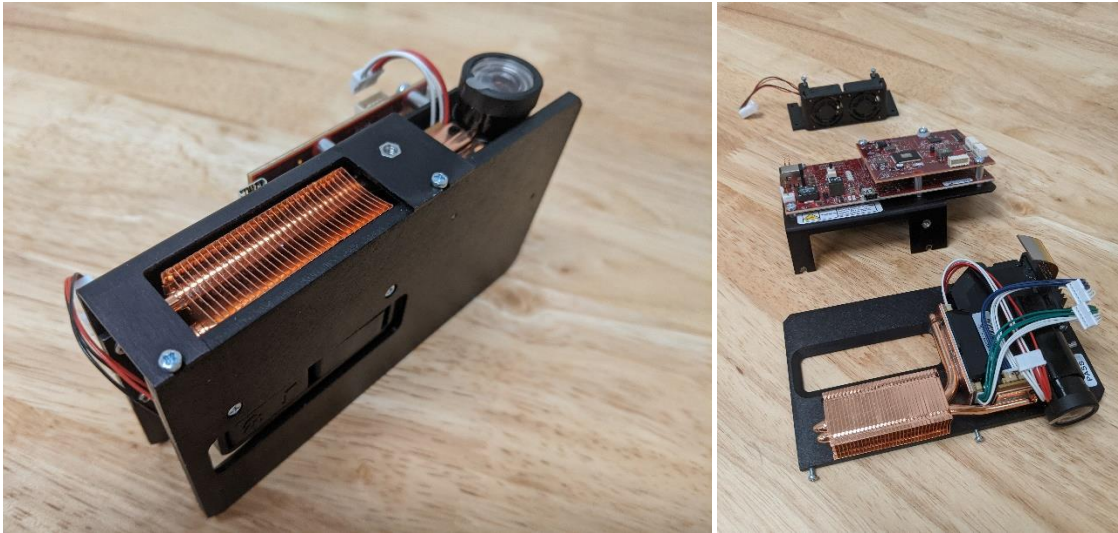
1. Remove the top heat sink shielding.



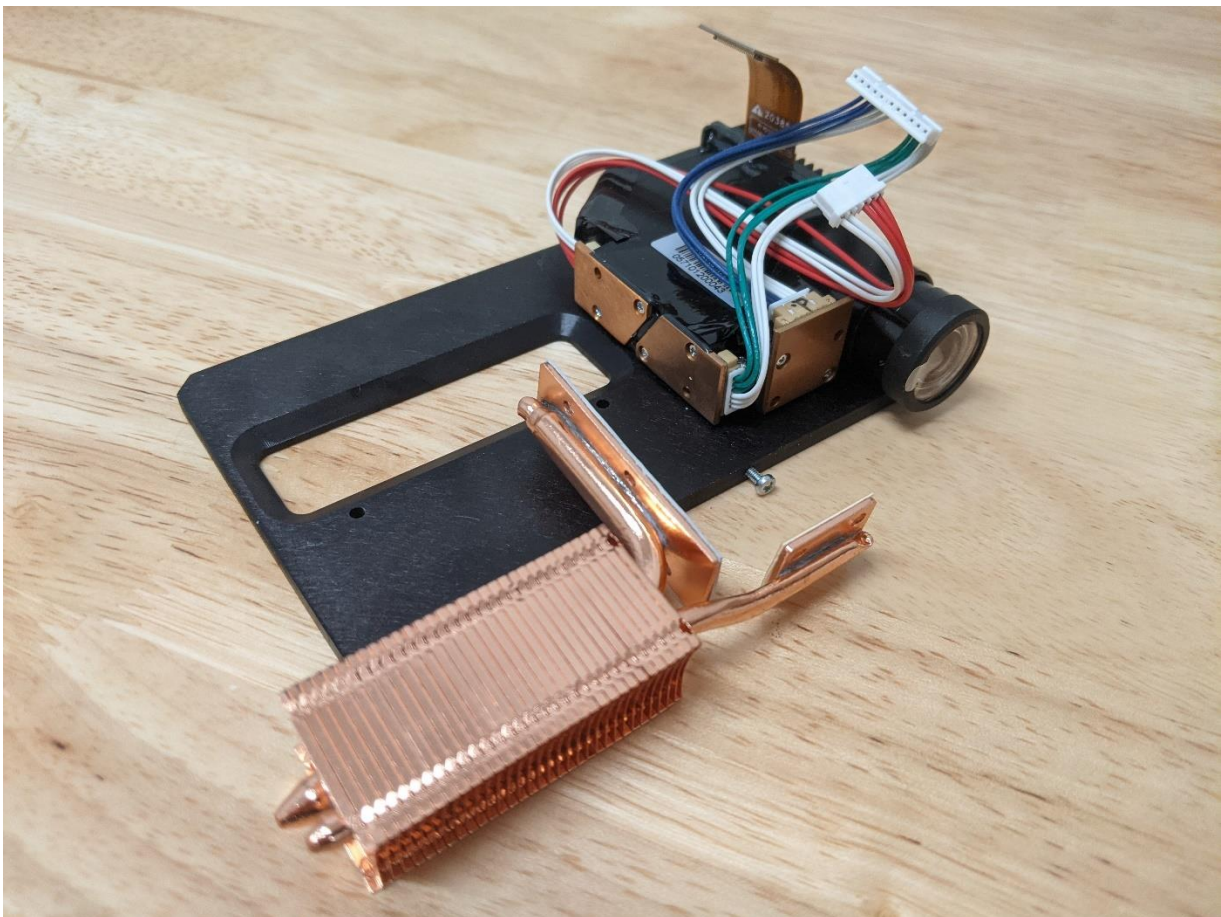
2. Carefully pry ribbon cable up and remove fan and RGB LED connectors.



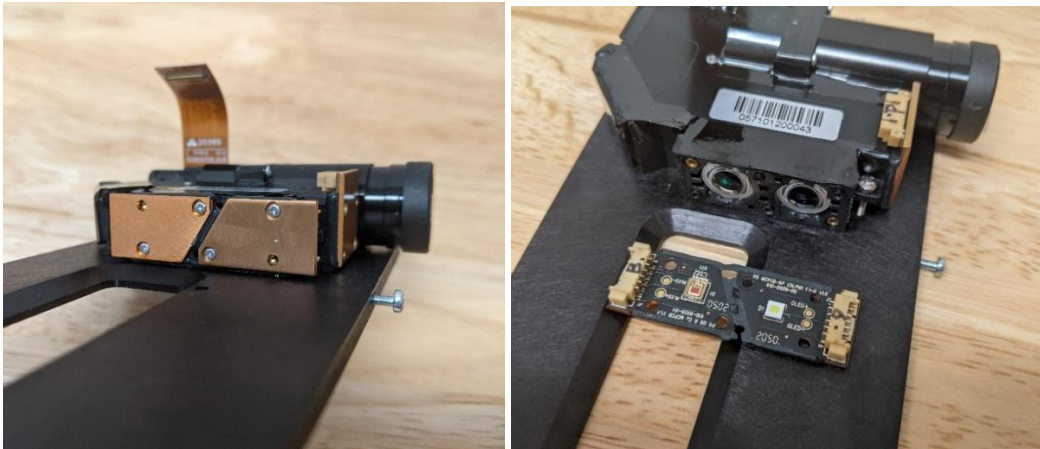
3. Separate the circuit board assembly from the baseplate and then remove fan assembly. **Save fan screws for PCB brace.**



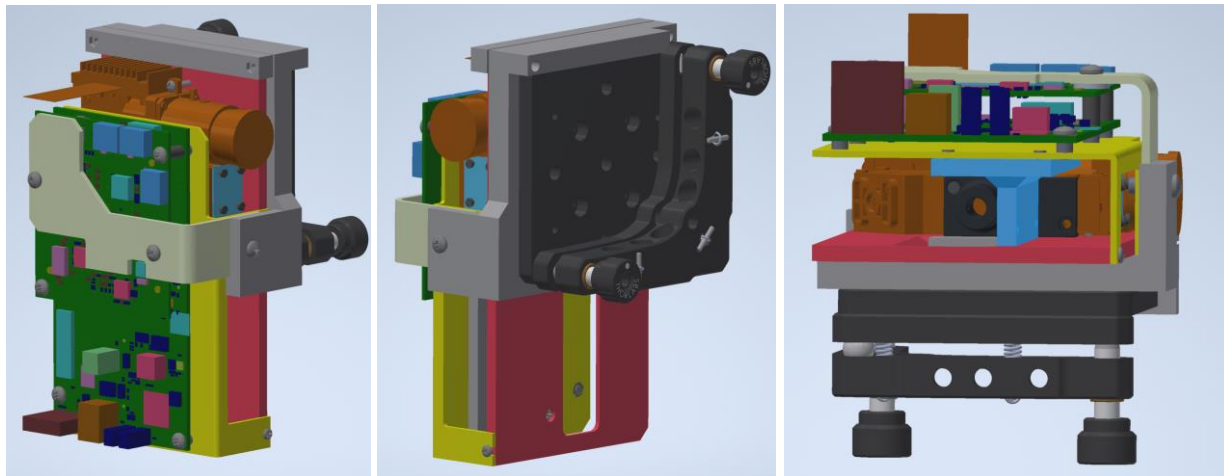
4. Remove the copper heat sink. **Save the 4 black screws for the Lightguide adapter.**



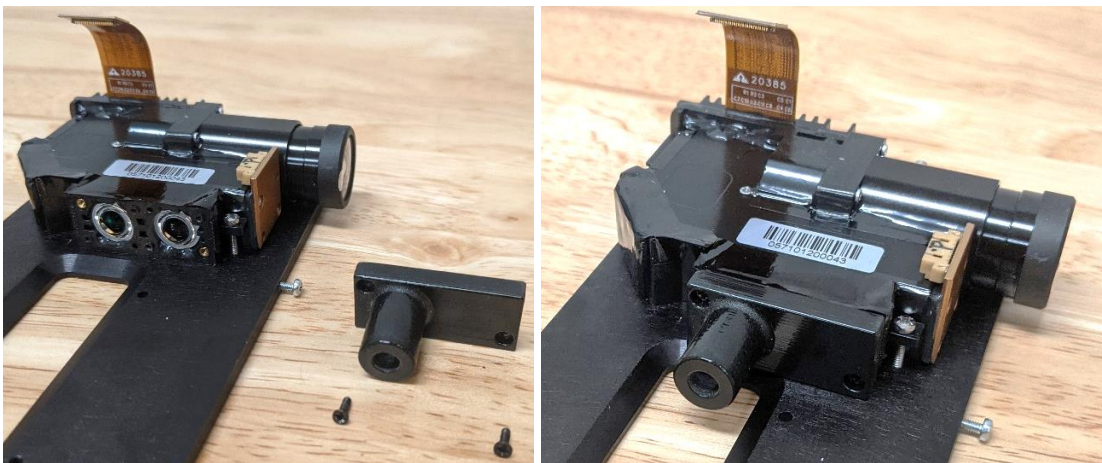
5. Remove the red and green LED assembly.



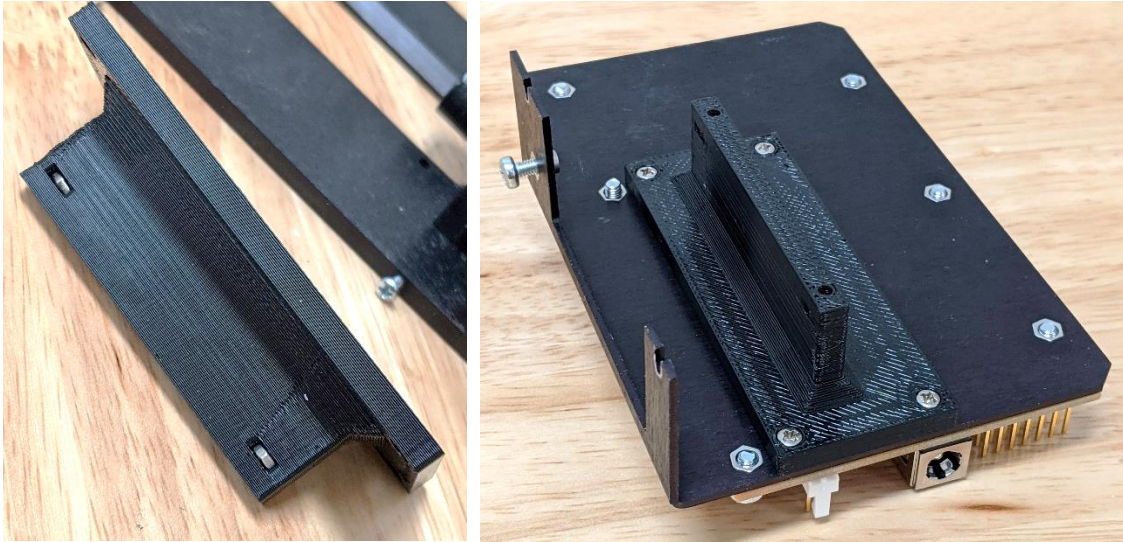
Modification and reassembly



6. Align the 3d printed Lightguide adapter with the left lens and use the screws from step 4 to secure it. The adapter should already have it's set screw in place before installation.

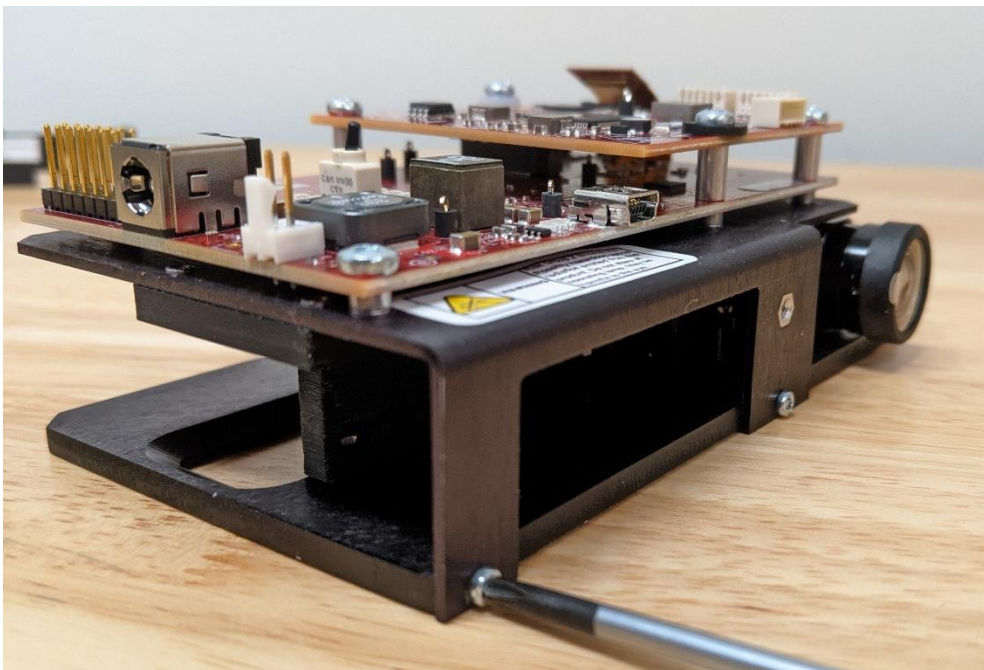


7. Insert M2 nuts into the side slots of the PCB Brace. Attach to the underside of the circuit board assembly using the M2 screws saved from Step 3. Be sure the vertical rib is offset toward the front of the projector.



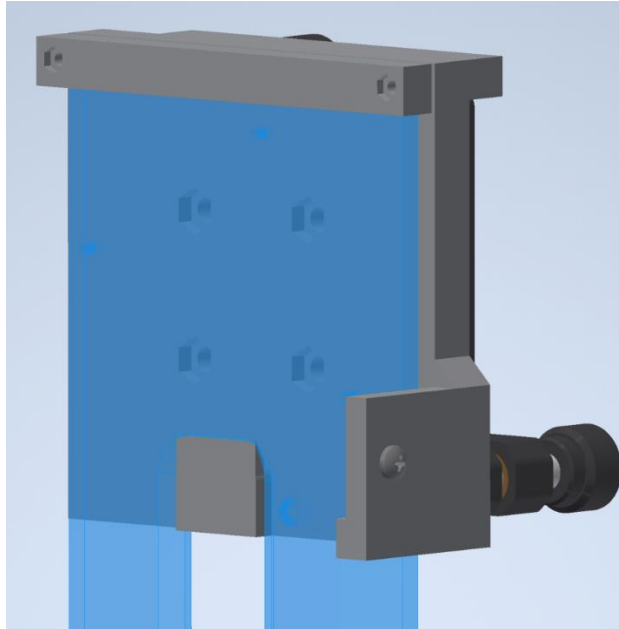
8. Reassemble the 2 halves of the projector. First secure the two 8mm M2 pan head screws through the bottom into the m2 nuts in the PCB brace then replacing the two front screws.

<https://www.mcmaster.com/90116A015/>

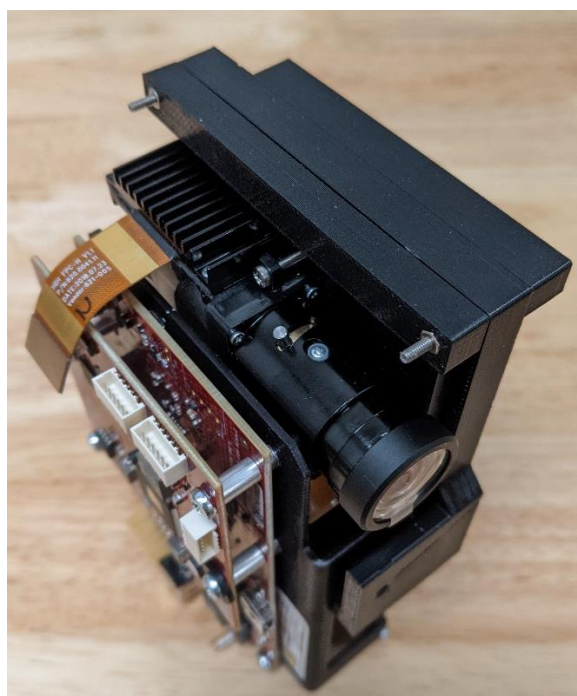


9. Insert the mounting plate cleat into the opening on the base of the projector and lift to seat it snugly. (Be sure the M4 nuts are glued into the mounting bracket beforehand)

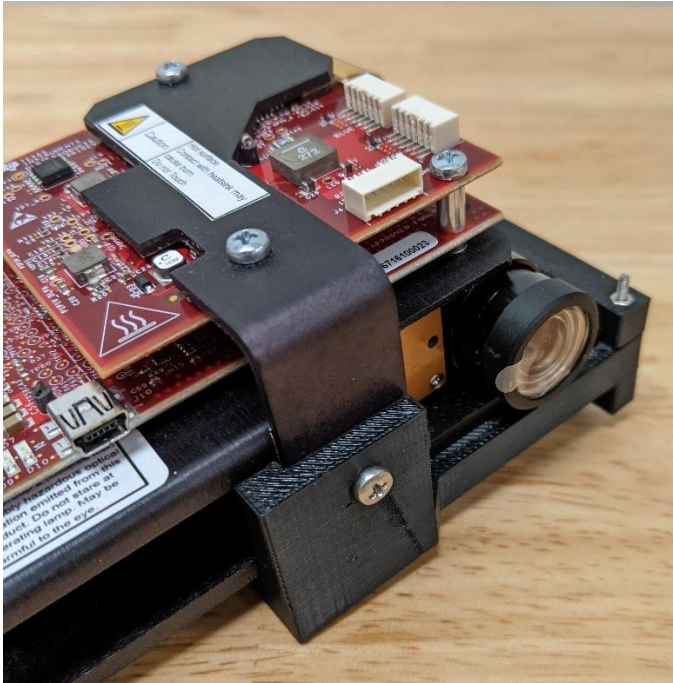
<https://www.mcmaster.com/91828A231/>



10. Insert M2 nuts into the retaining bracket. Secure the mounting plate and projector board to it with 16mm M2 socket head screws. <https://www.mcmaster.com/91292A002/>



11. Carefully reconnect the ribbon cable and replace the top heatsink making sure the plastic spacers are still in place on the screws. The front 6mm M3 screw should be replaced with a 10mm version to secure it to the mounting plate. <https://www.mcmaster.com/92000A120/>



12. Attach the Thorlabs KM200B/M mount to the 4 M4 nuts with 10mm M4 socket head screws. <https://www.mcmaster.com/91292A116/>

