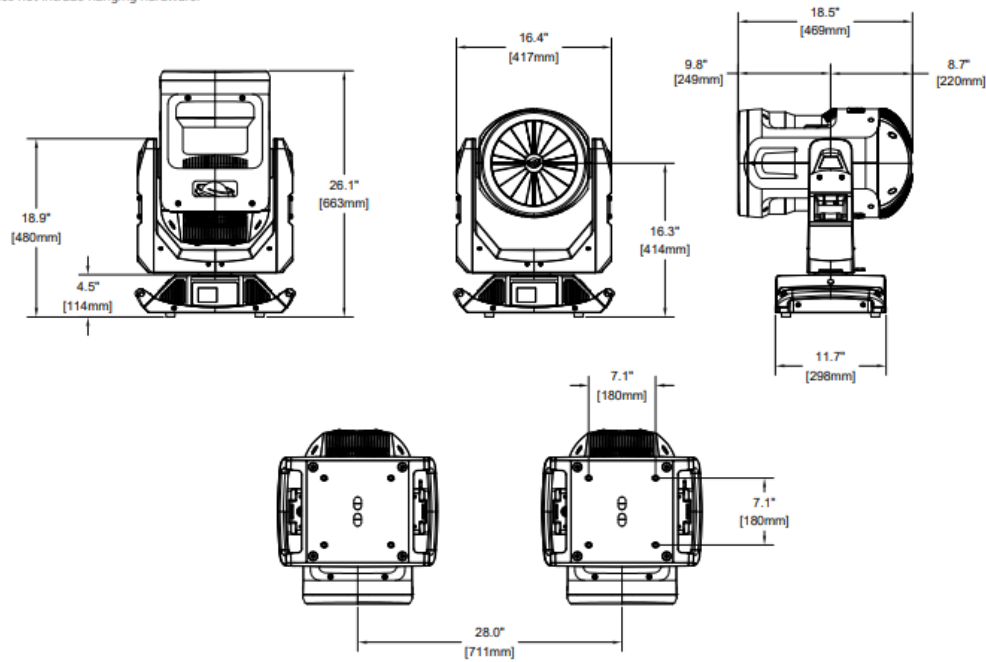




# HIGH END SYSTEMS

\*Does not include hanging hardware.

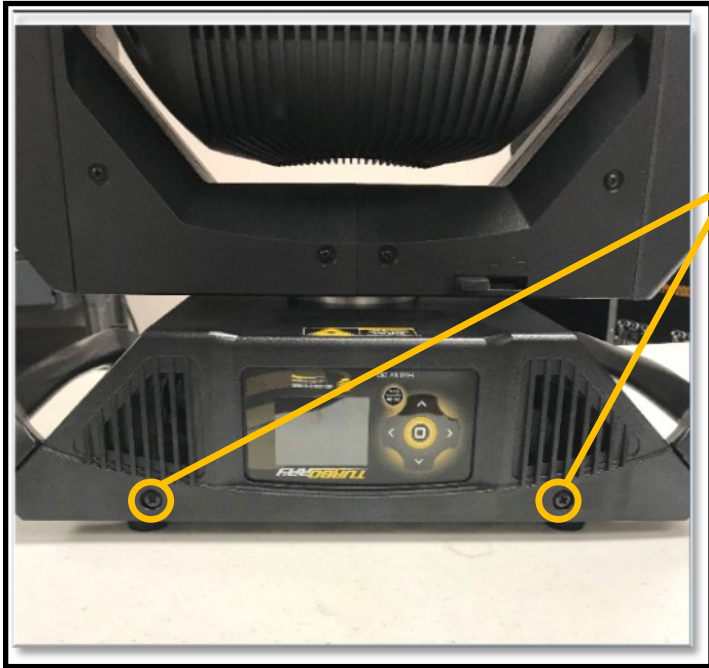


## TurboRay



# TurboRay

## Accessing the Electronics



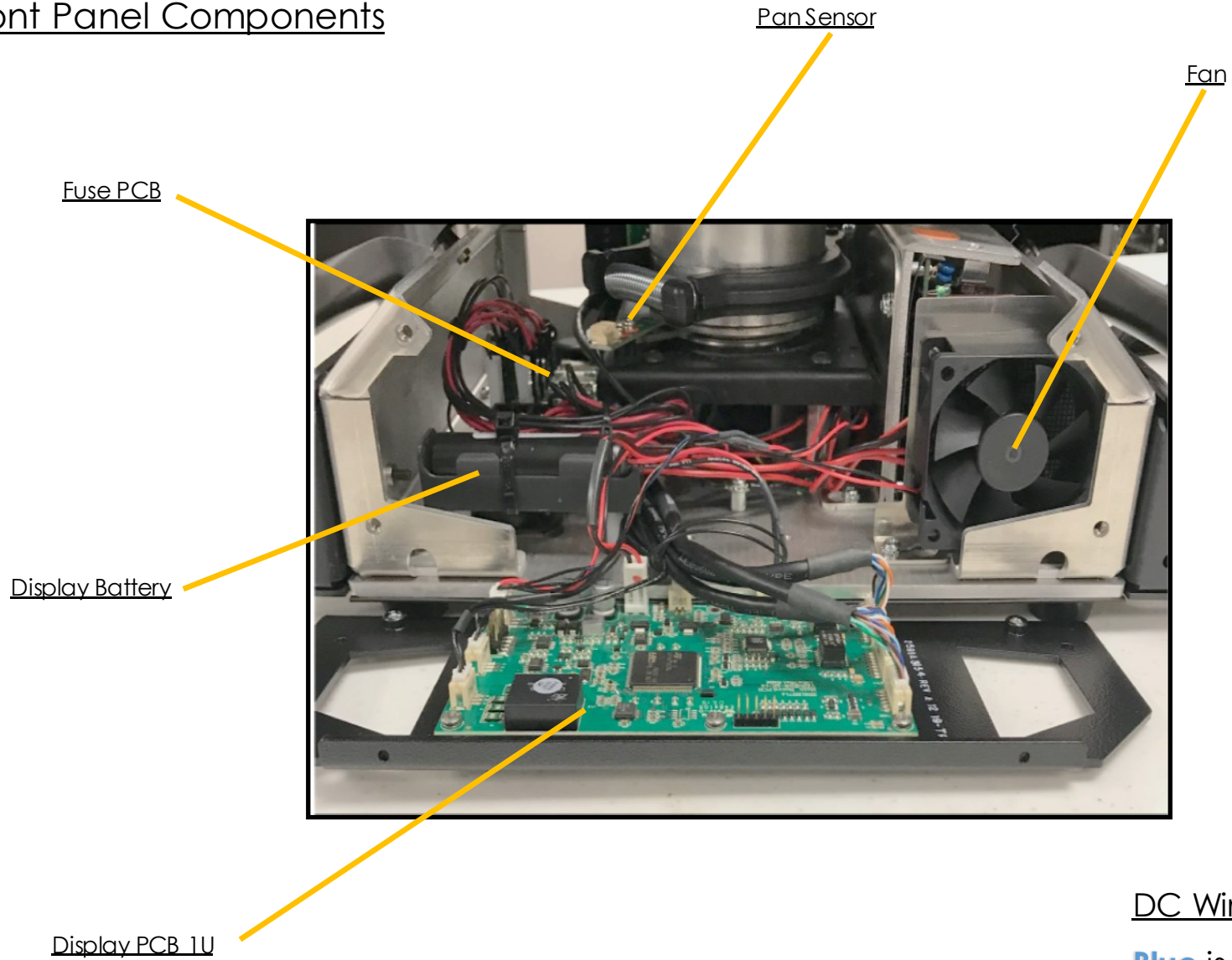
Remove 2X Philips head screws on the front and rear covers, remove covers



Remove 4X Philips head screws on front and rear panels

# TurboRay

## Front Panel Components



DC Wiring:

**Blue** is -

**Red** is +

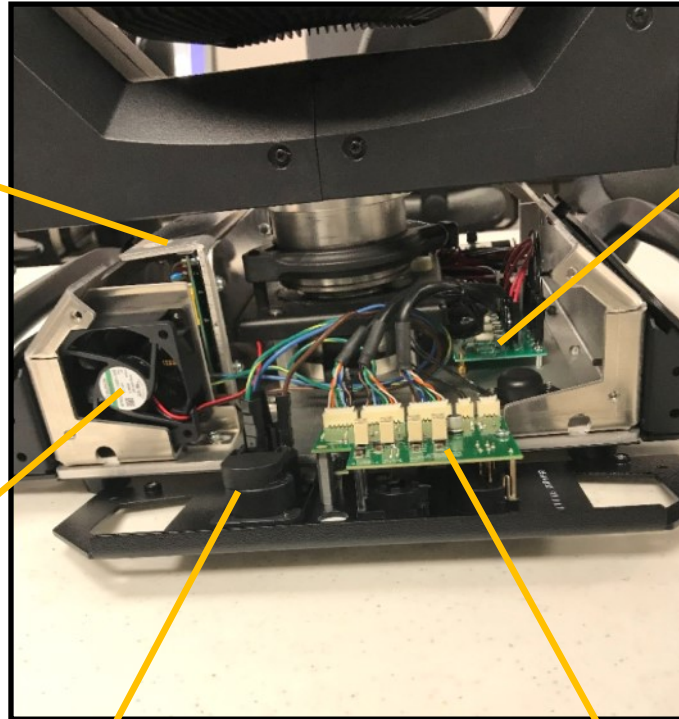
# TurboRay

## Rear Panel Components

Power Supply

Fan

Tru1 Power Connector



Fuse Board 5A 250V Slow Blow Ceramic

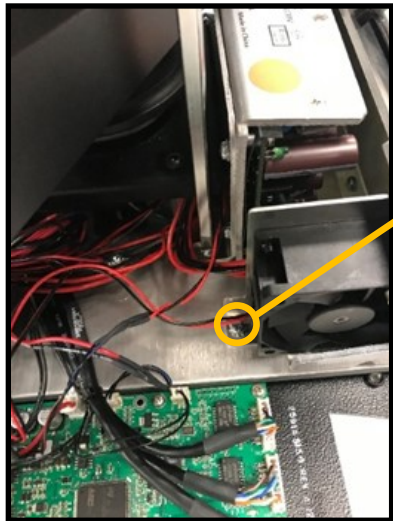
DMX, Cat5, and USB Connectors

# TurboRay

## Removing the Power Supply



Remove 1X Philips head screw from fan bracket



Remove screw next to front fan

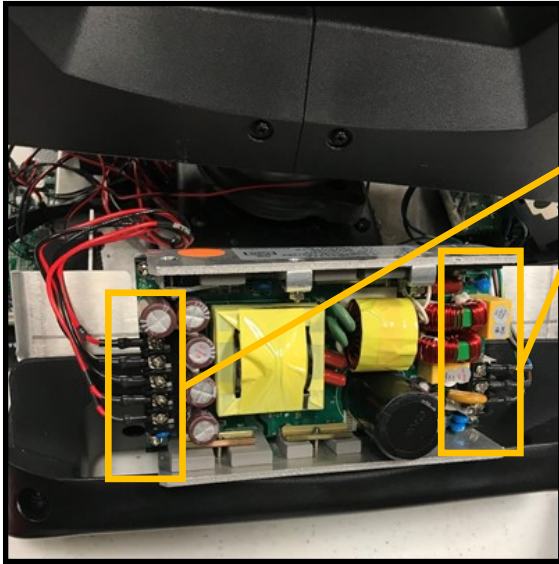
Remove screw next to rear fan



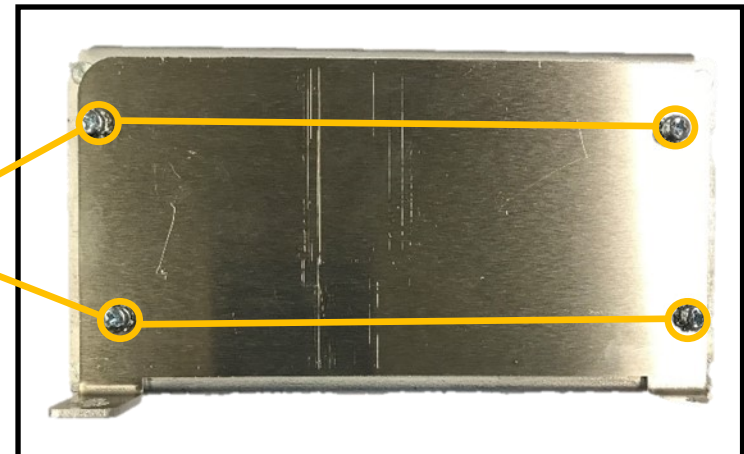


# TurboRay

## Removing the Power Supply



Loosen screws and remove input and output connectors



Remove 4X Philips head screws to remove mounting bracket and replace on the new power supply

# TurboRay

## Accessing the Yoke Components



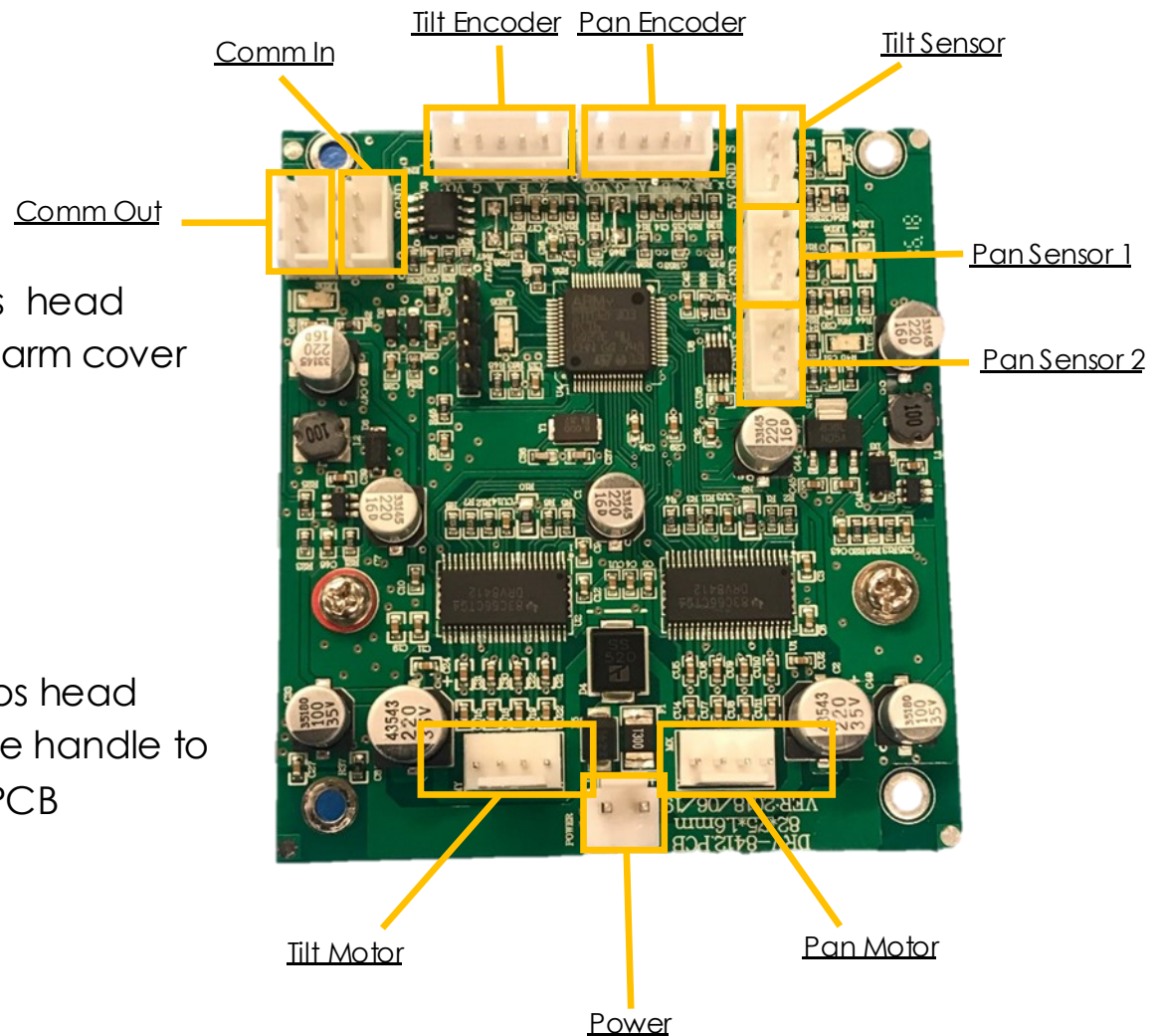
Loosen 2X Philips head screws on each arm cover to remove



Remove 4X Philips head screws to remove handle to access Pan/Tilt PCB

Pan/Tilt PCB

Pan Encoder Sensor

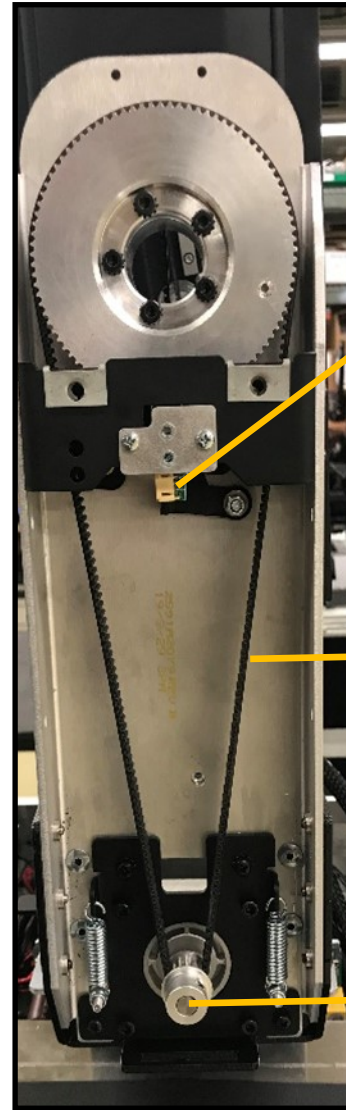


# TurboRay

## Accessing the Yoke Components



Loosen 2X Philips head screws on each arm cover to remove



Tilt Sensor

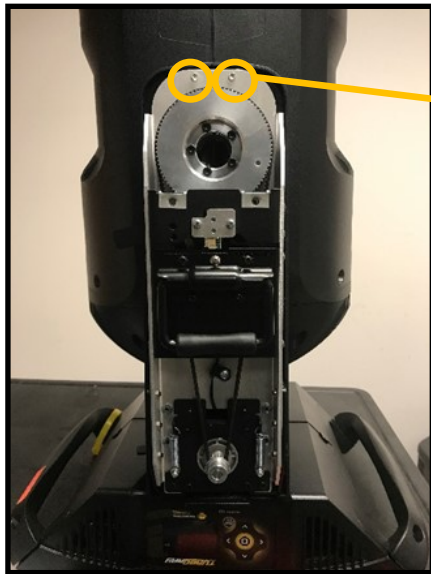
Tilt Belt

Tilt Motor



# TurboRay

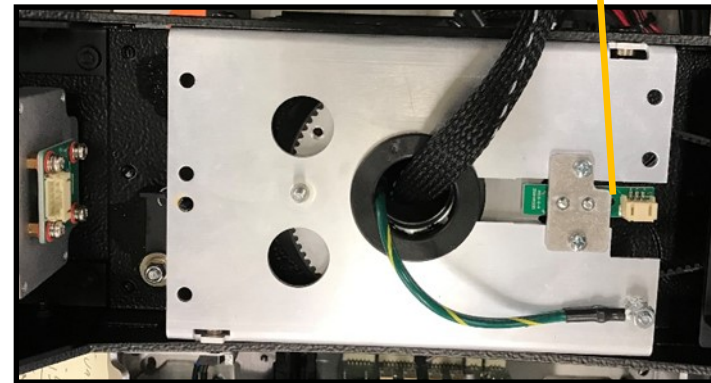
## Accessing the Pan Homing Sensor



Remove 2X Philips head screws on inner yoke arm on each side



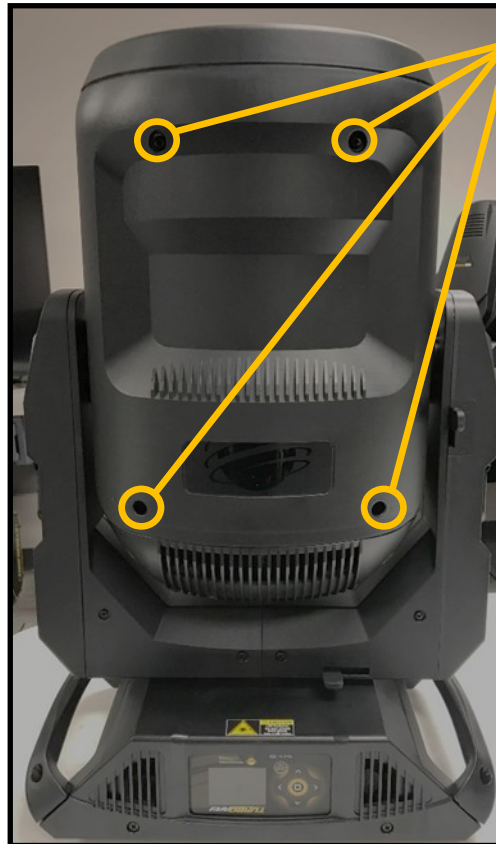
Remove 4X outer yoke cover Philips head screws on each side



Pan Homing Sensor

# TurboRay

## Accessing the Head Components



Loosen 4X Philips head screws per side

Zoom Lens Assembly

Color Wheel Sensor

Animation Wheel/  
Secondary Diffusion

Output Lens

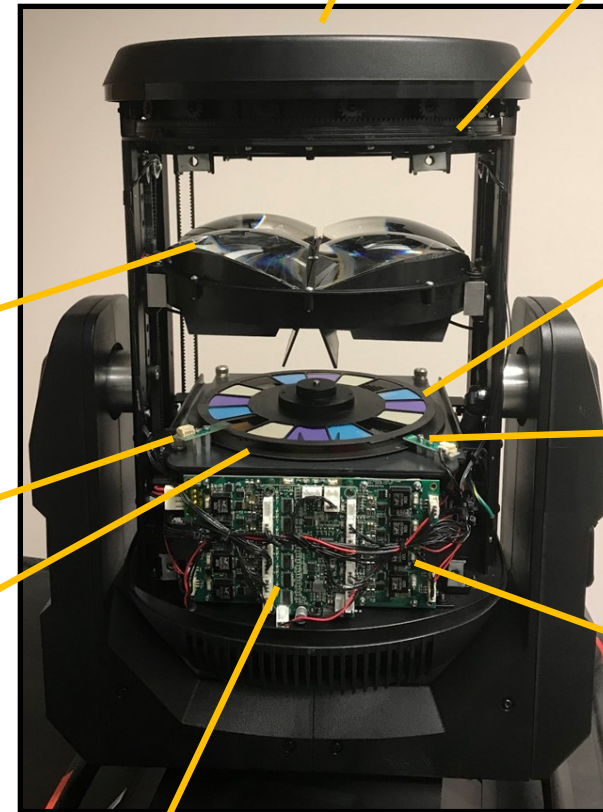
Primary Diffuser

Color Wheel

Animation Sensor

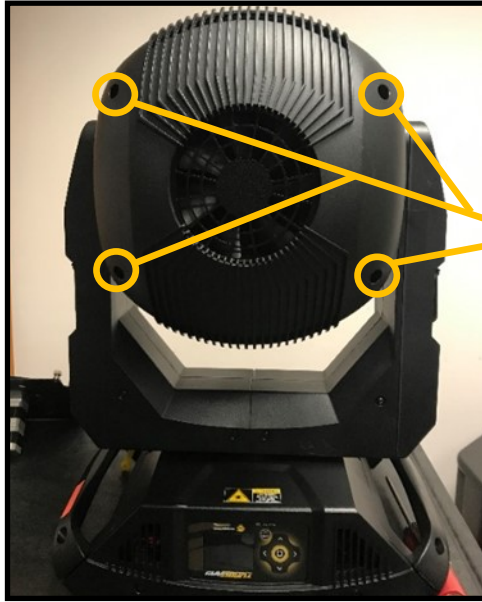
LED Driver PCB

Zoom/Focus/Color/Animation PCB

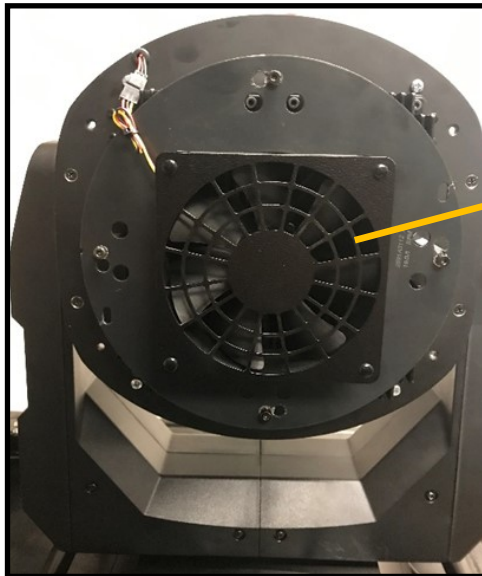


# TurboRay

## Accessing the Head Components



Loosen 4X Philips head screws to remove rear head cover

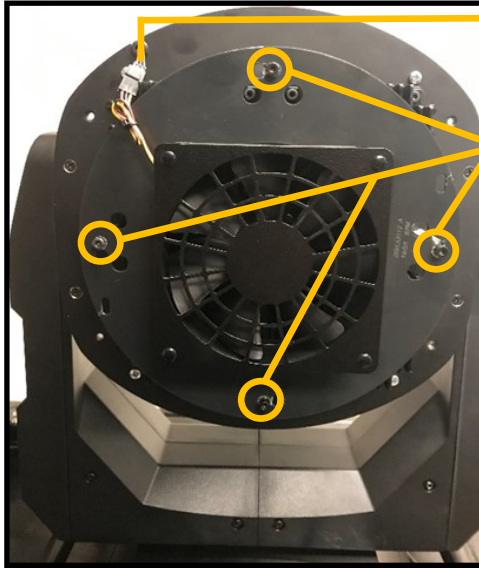


Main Head Fan

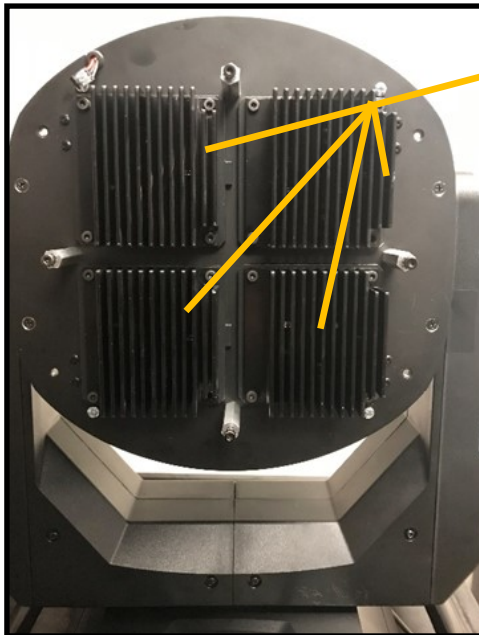
# TurboRay

## Accessing the Head Components

Disconnect main head fan



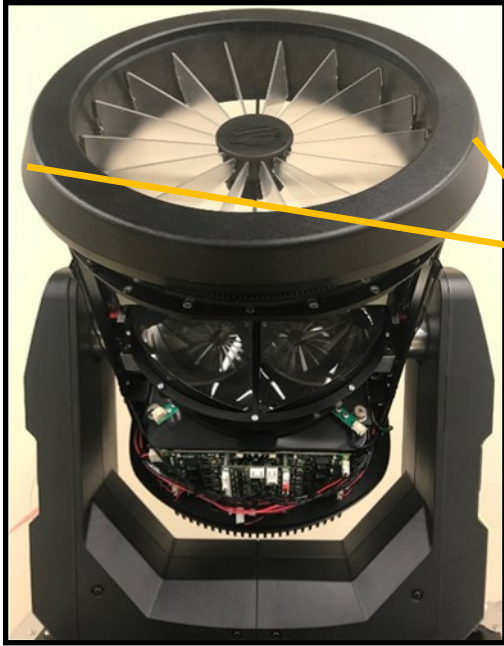
Loosen 4X 3mm socket cap screws  
Turn assembly clockwise to remove



4X 40W LED Light Engines

# TurboRay

## Removing the Primary Diffusion



Remove 2X Philips head screws to remove the output Lens

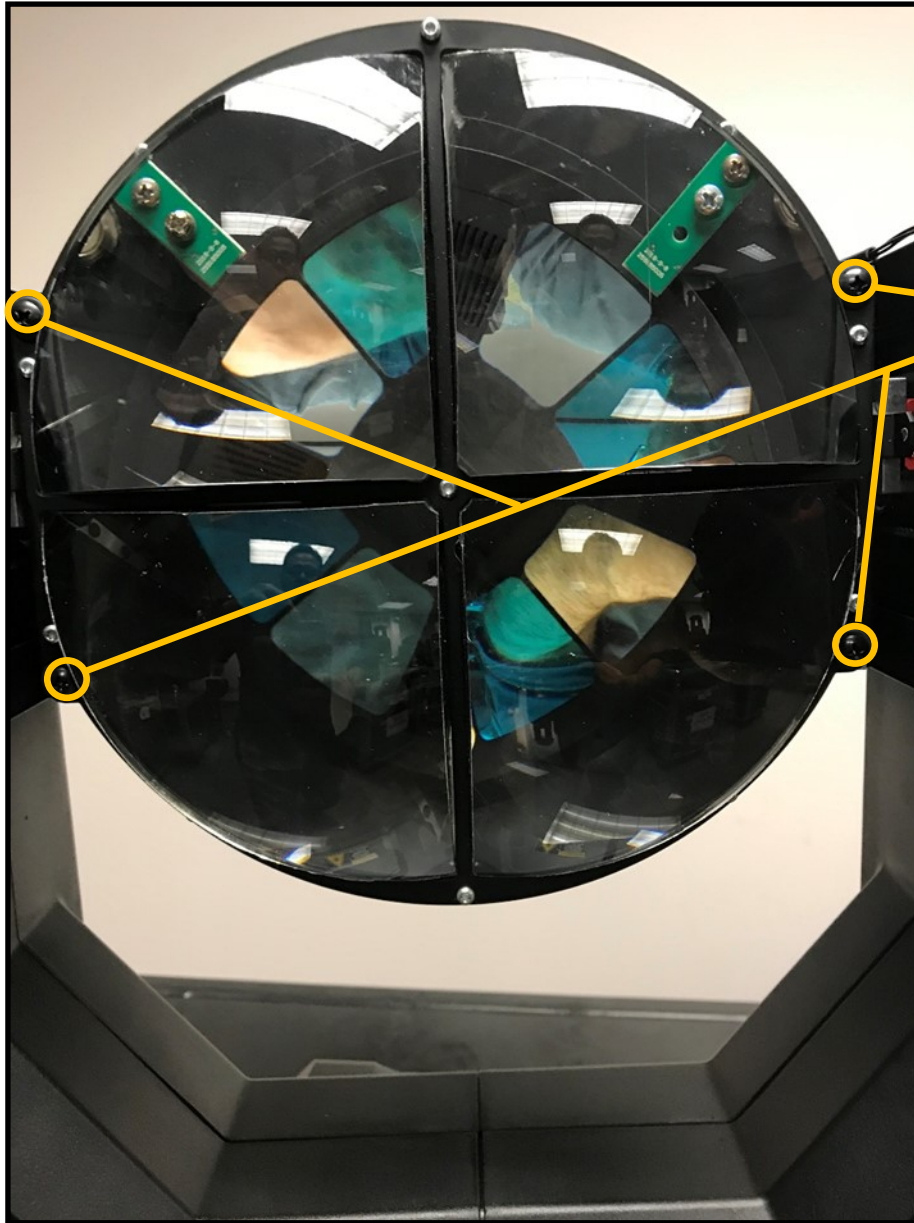


Loosen 4X Philips head screws to remove the primary diffusion



# TurboRay

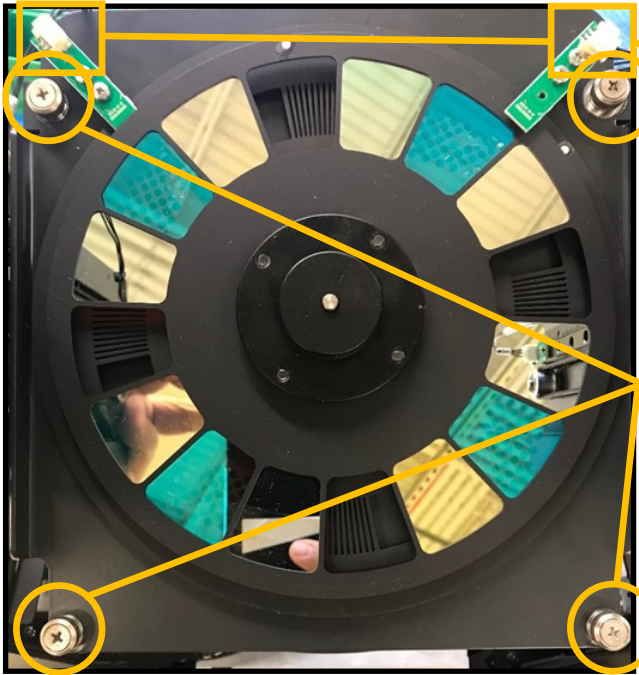
## Removing the Zoom Assembly



Remove 4X Philips head screws to  
remove the Zoom Assembly

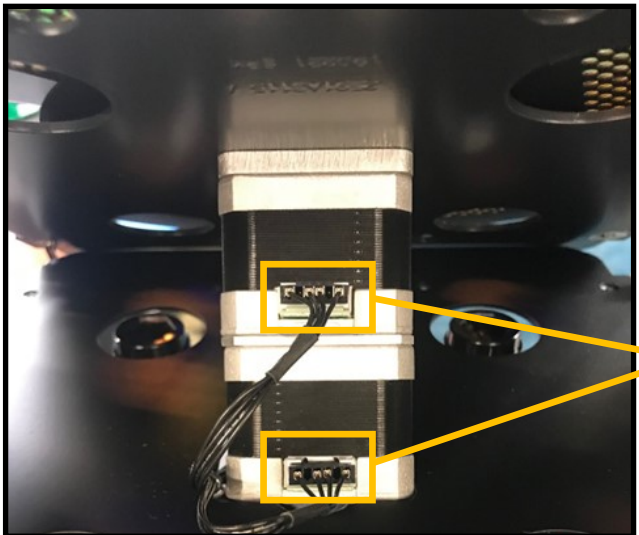
# TurboRay

## Removing the Color/Animation Assembly



Disconnect Color/Animation sensor

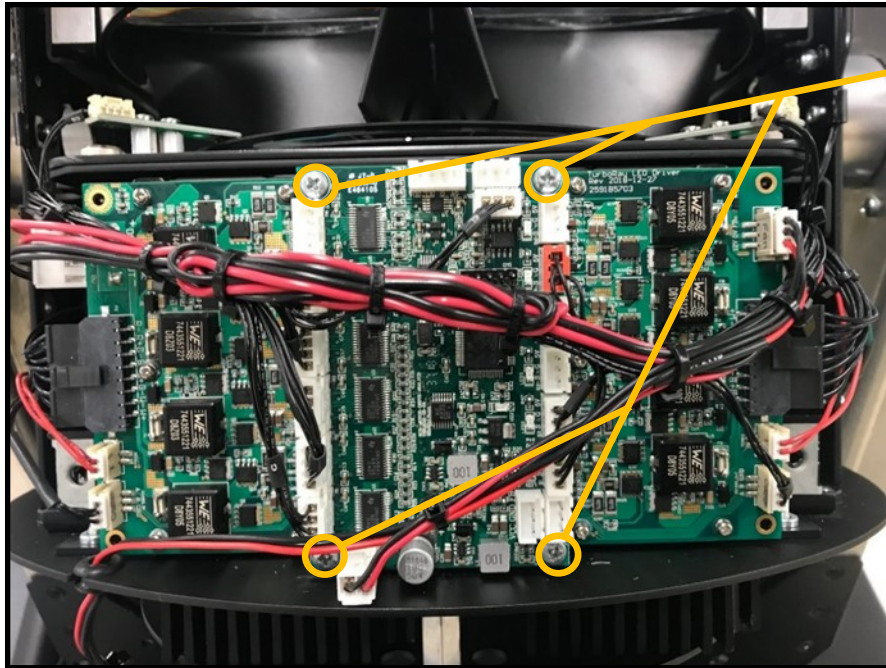
Remove 4X Philips head screws to remove the Color/Animation assembly



Unplug the connectors on both the color and animation motors

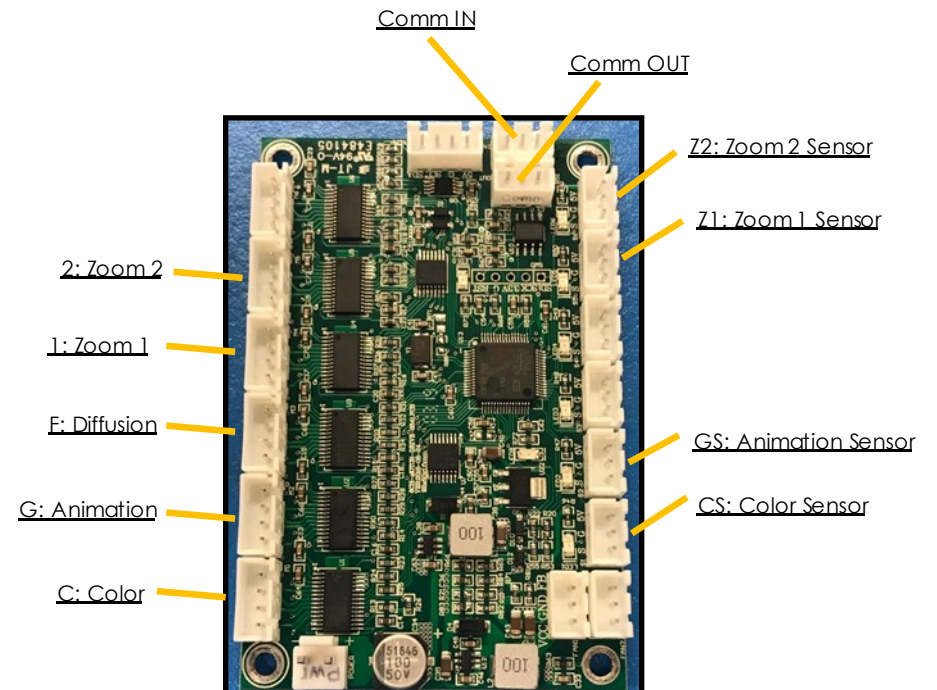
# TurboRay

## Removing the Zoom/Focus/Animation/Color PCB



Disconnect wires going into the PCB

Remove 4X Philips head screws to remove the PCB



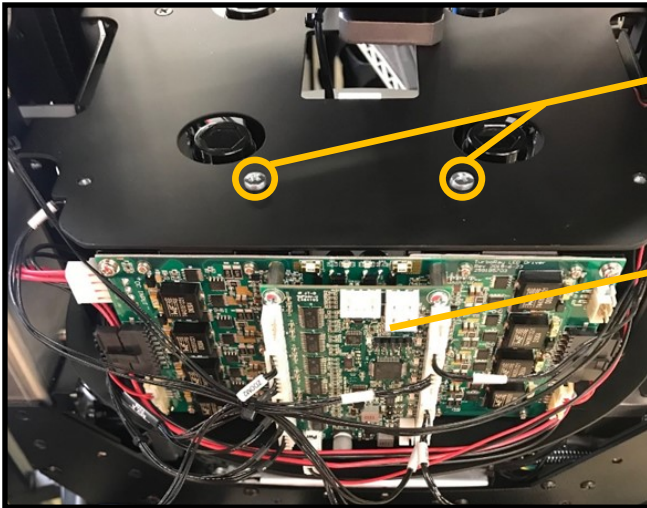


# TurboRay

## Removing the LED Driver PCB 1

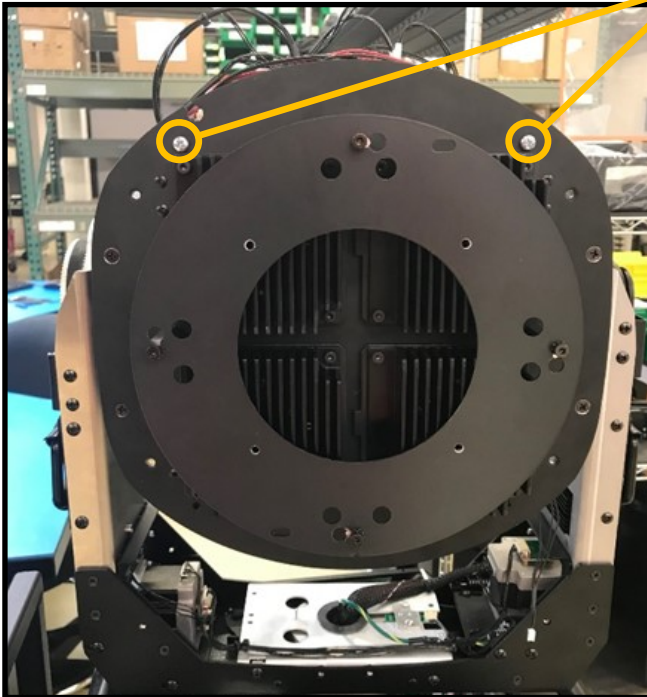
Begin by removing the Color/Animation module  
(see page 16)

Remove 2X Philips head screws



Remove Zoom/Focus/Color/Animation PCB  
(see page 17)

Remove 2X Philips screws



Remove 4X standoffs



# TurboRay

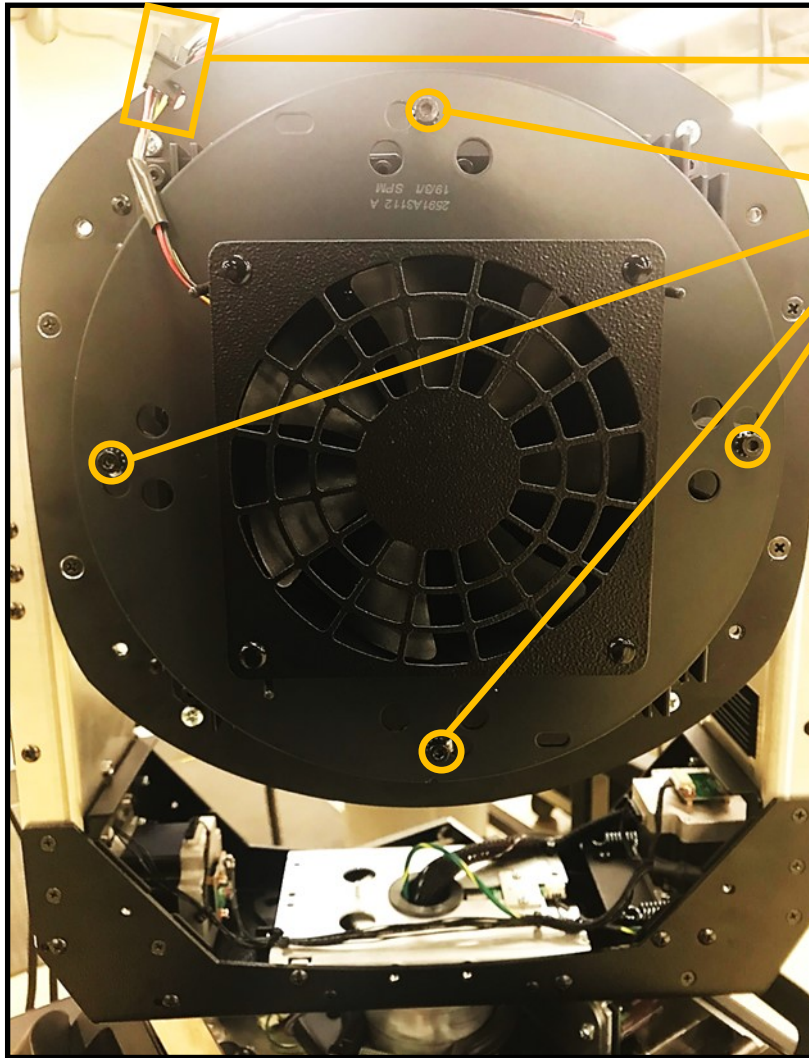
## Removing the LED Driver PCB 2





# TurboRay

## Removing the LED Engines



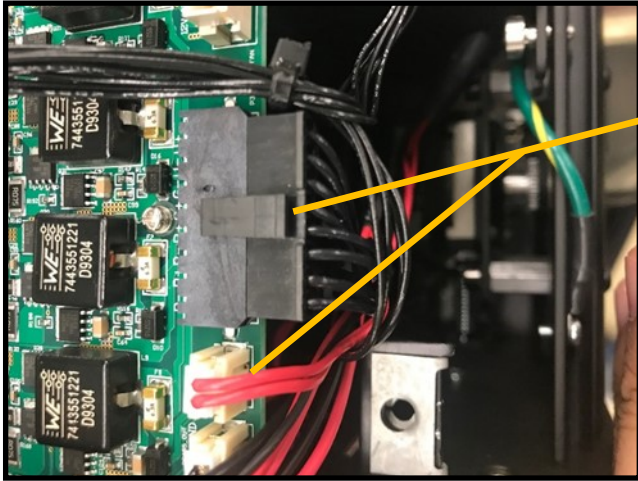
Disconnect Fan wire harness

Loosen 4X 3mm socket cap screws

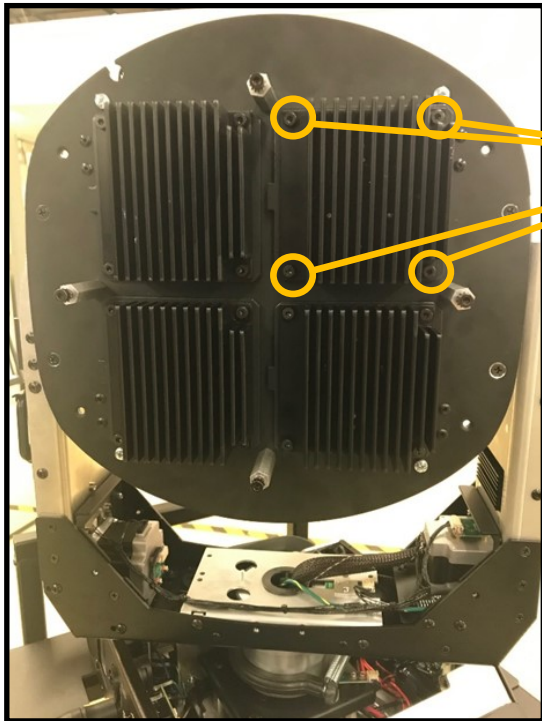
Turn fan assembly and remove assembly

# TurboRay

## Removing the LED Engines



Disconnect LED engine connectors



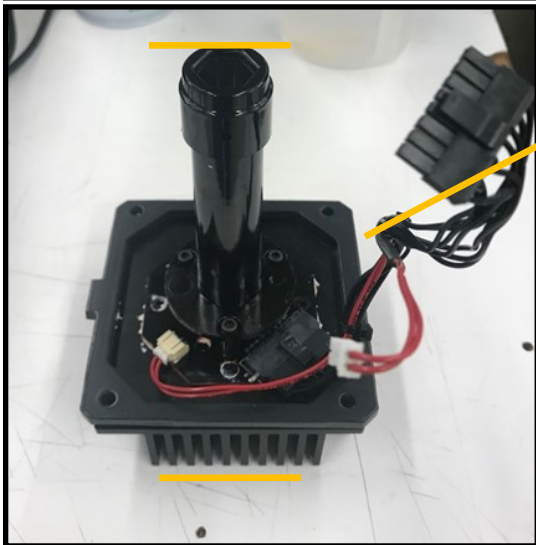
For each LED engine, remove 4X 3mm socket cap screw

# TurboRay

## Removing the LED Engines



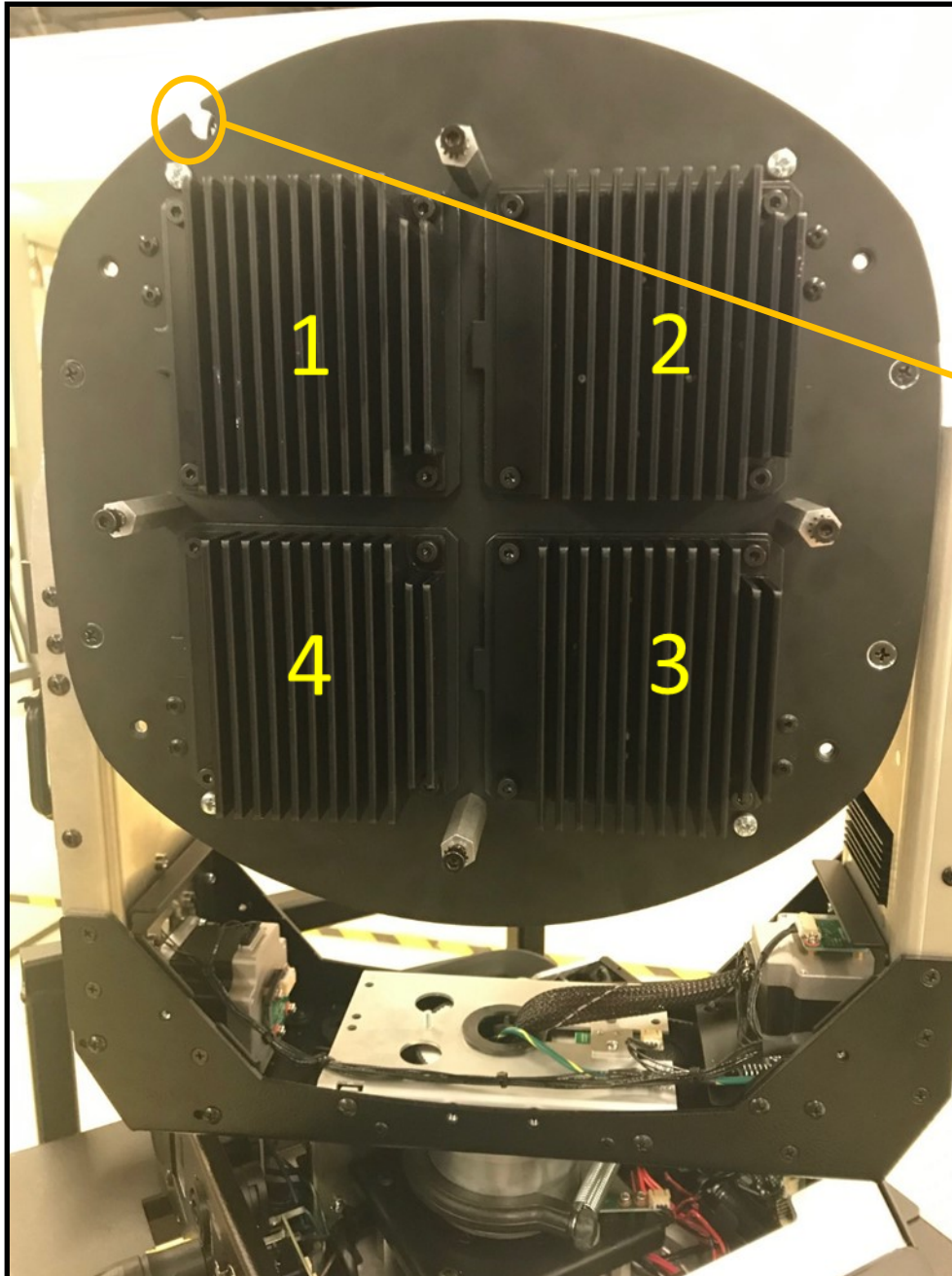
Remove the LED Light Engine one at a time and be sure to replace in the same position and orientation



The flat side of the prism on the light pipe should be perpendicular to the heat sink fins

# TurboRay

## Removing the LED Engines



The plate notch should be to the upper left side

Space on heat sink and tab should be to the left, facing the notch

LED Light Engines are placed in a clockwise direction

