Cyberlight LED

1149 mm
(45.2 in)

430 mm
(16.9 in)

527 mm
(20.7 in)

349 mm
(13.7 in)

Optional Yoke Mounting Position

376 mm
(14.8 in)

16 mm
(0.6 in)

LED Engine
470 W high-integrity
color rendering

Color
CMY + CTO
+ Color Wheel

Zoom
10° - 28.5°

Output
12,750 Lumens

Weight
37.6 kg / 83 lb

Gobos
14 Rotating
across two wheels

Prism
4 Facet rotating

Frost
Light + Heavy

Mirror
Ultra-fast, break-resistant
mirror + Whisper Home
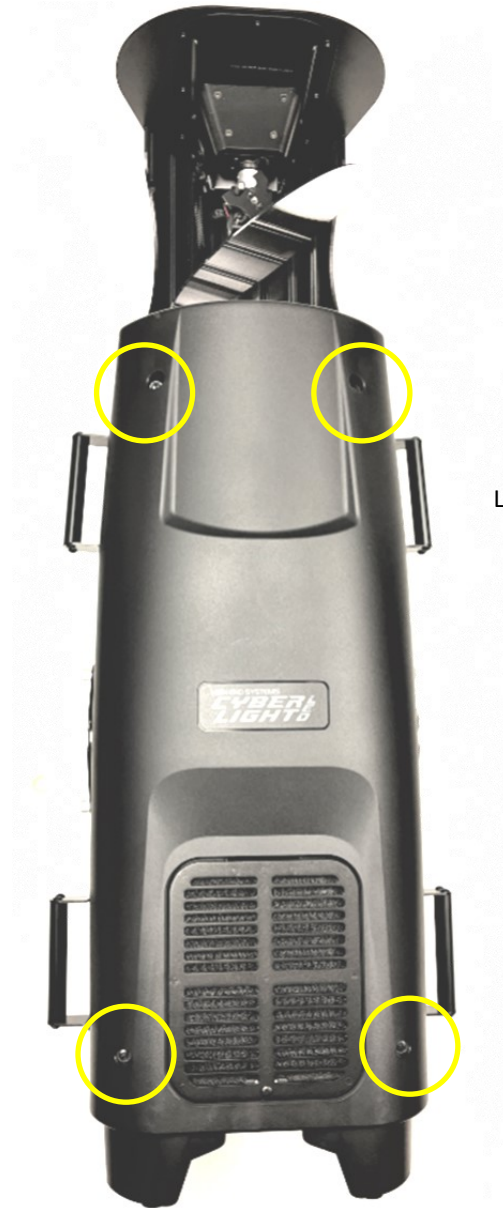positional encoding
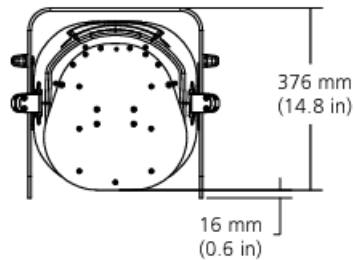
Cyberlight LED

Accessing the Electronics and Optics

Loosen 4X Philips head screws to remove cover
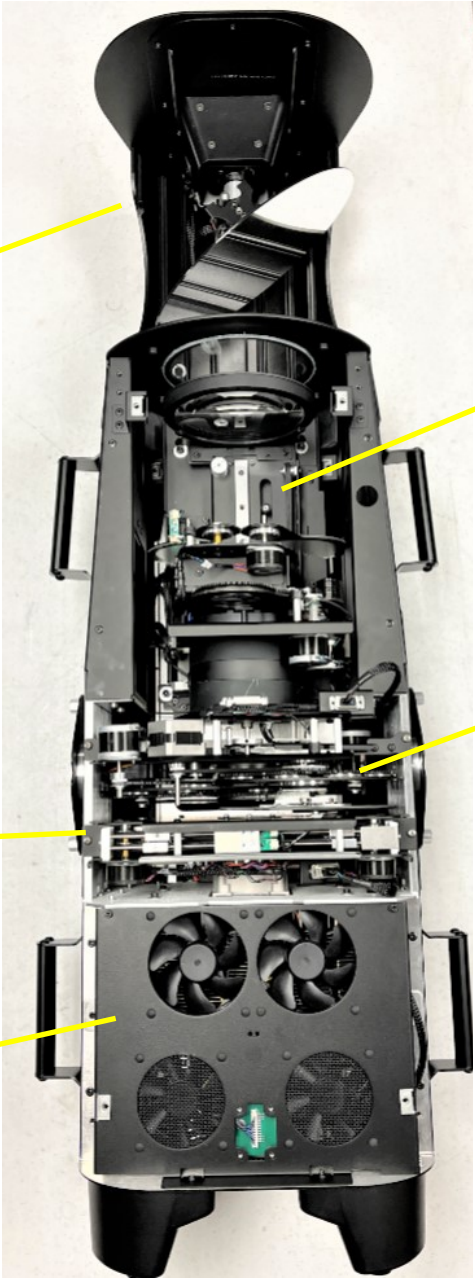
Cyberlight LED

Components

Mirror Head Assembly

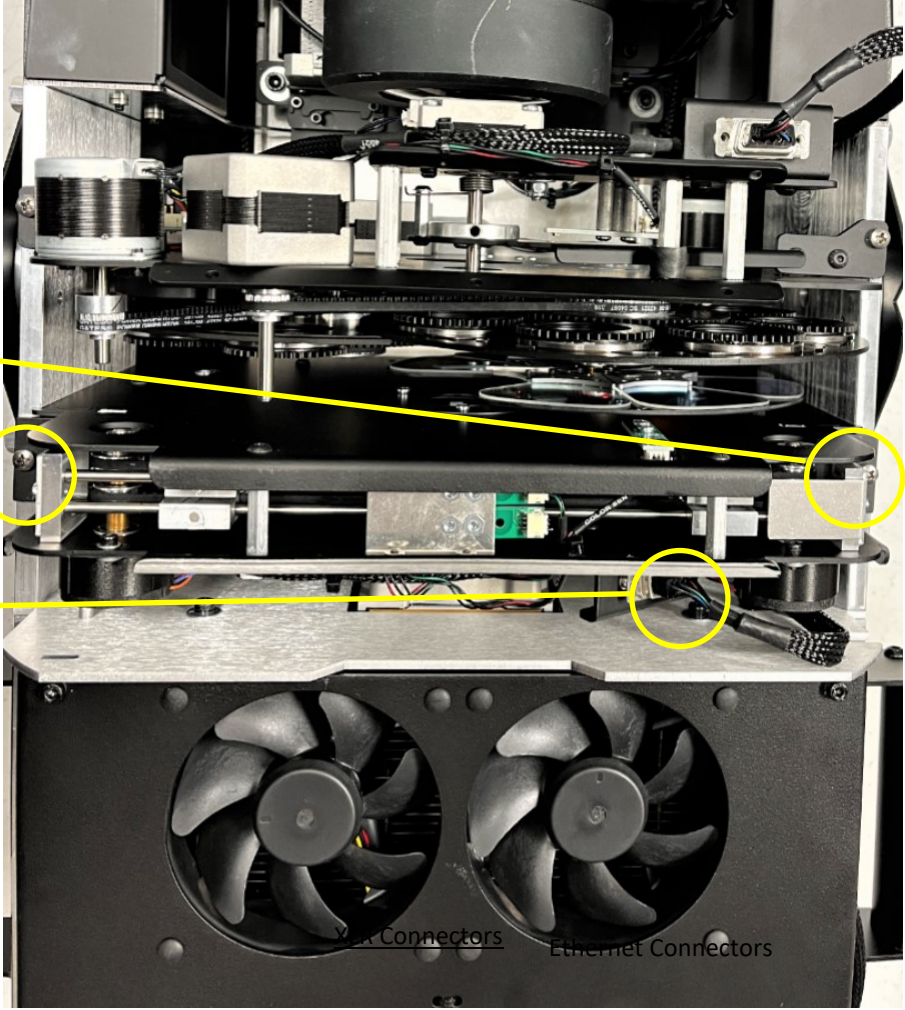Focus, Zoom Module

Gobo Module

Color Module

Electronics Housing

Cyberlight LED

Remove Color Module

Remove 2x Phillips head screws

Remove module harness connection

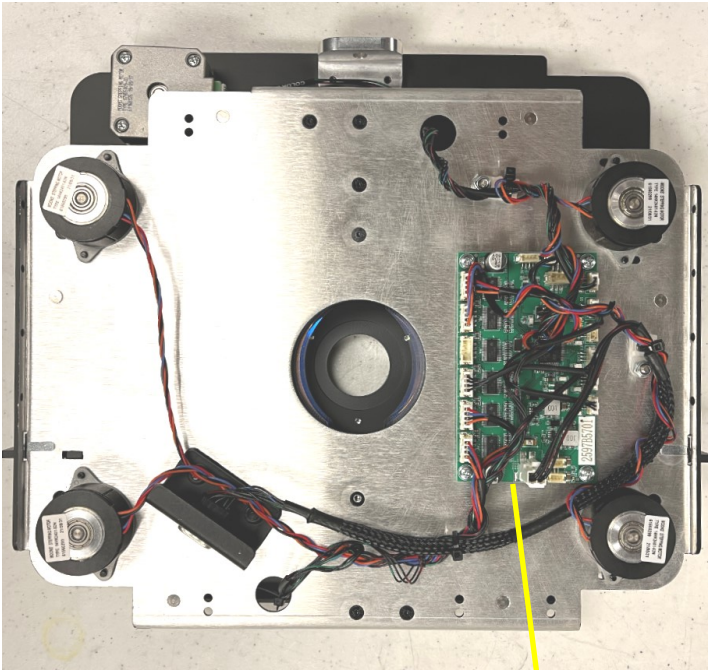Carefully pull out color module
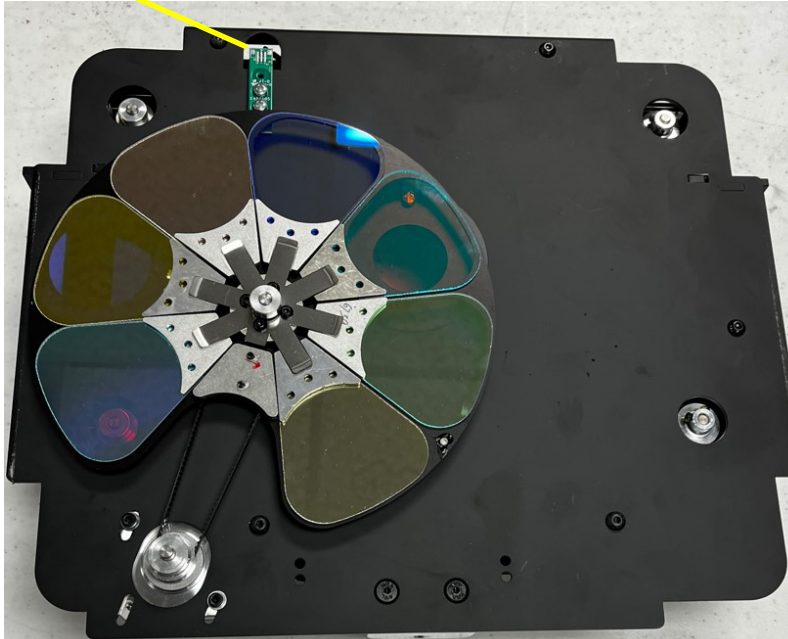
XLR Connectors   Ethernet Connectors

Cyberlight LED
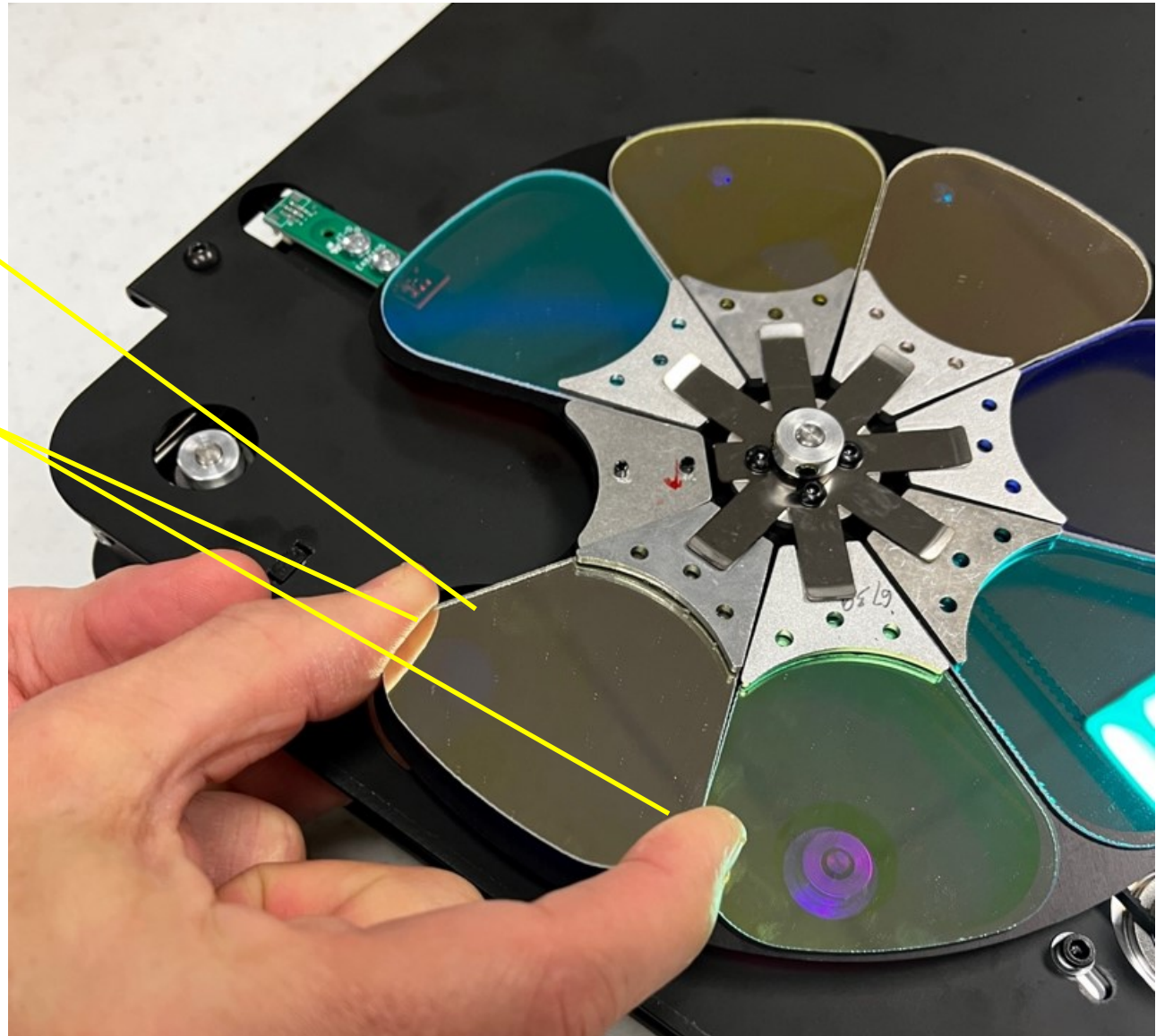
Color Module

Color wheel sensor

Color PCB

Cyberlight LED

<u>Remove Color Wedge</u>

Gently push up on color wedge though aperture hole. Only push up enough to grasp the wedge

Then pinch sides of the wedge and work it out of the holder.

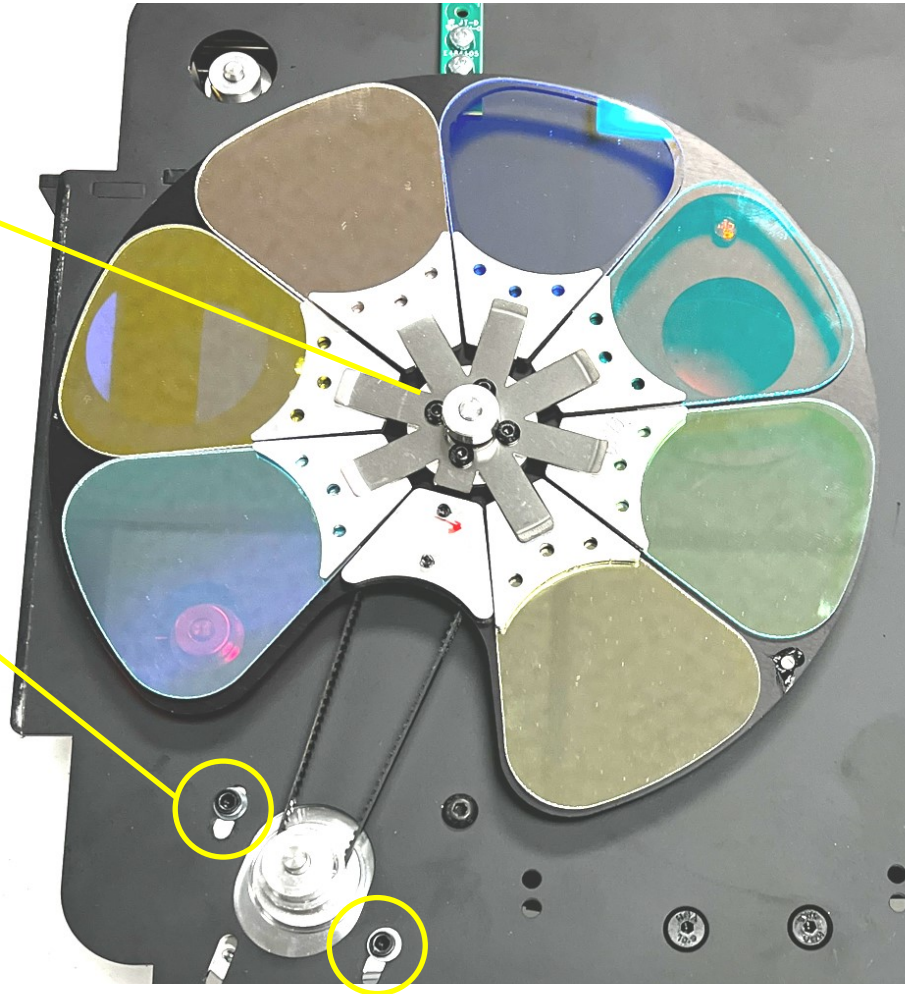Install new wedge by inserting wedge into retaining spring until it snaps into place.

Cyberlight LED

Remove Color Wheel

Loosen 2x set screws on top collar using 2mm hex tool. Note color orientation and remove.

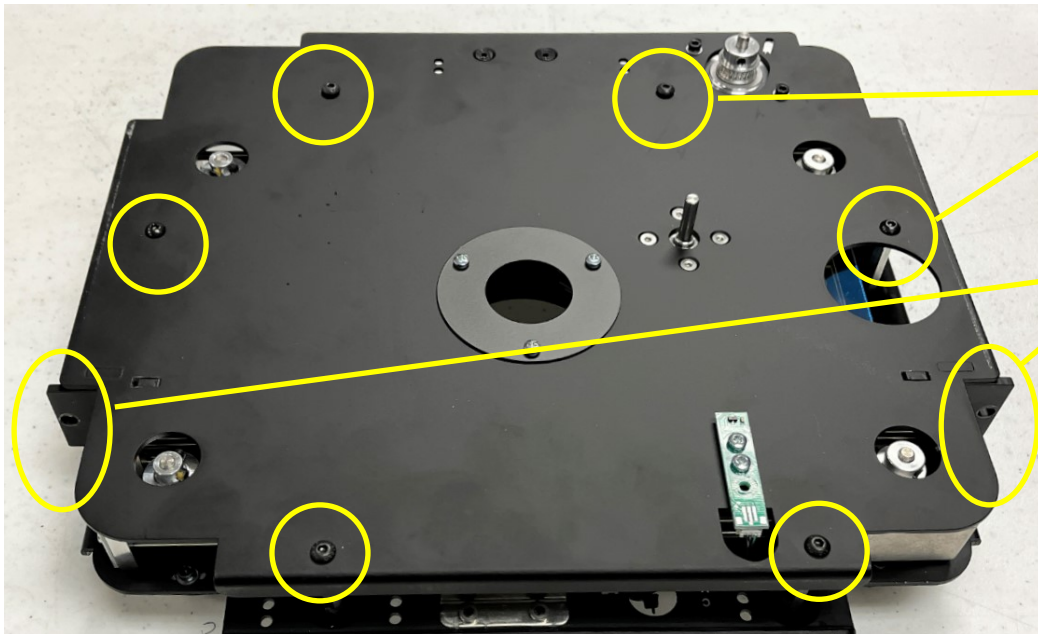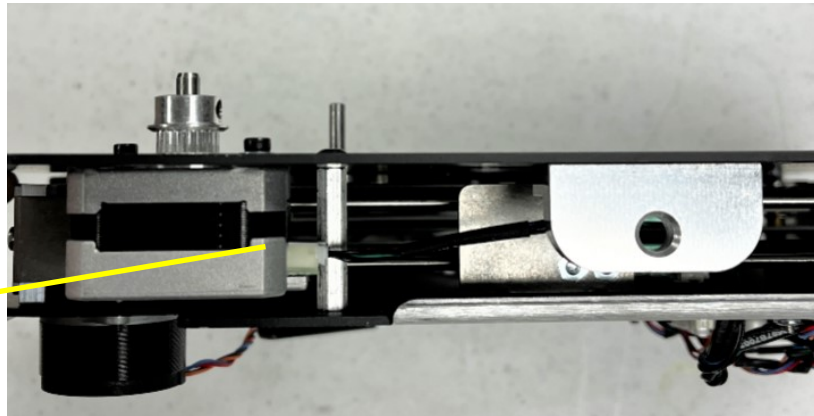Loosen 2x motor screws using 2.5mm hex tool

Now that the color wheel motor is loose the color wheel and belt can both be removed
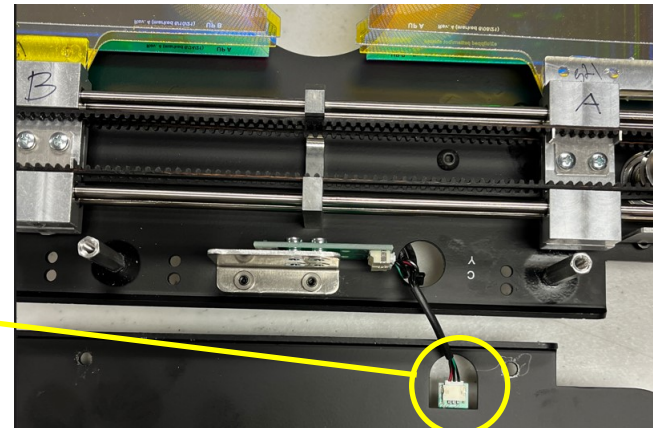
Cyberlight LED

Access Color Flags

Disconnect color wheel motor wire

Remove 6x screws surrounding plate using 2.5mm hex tool

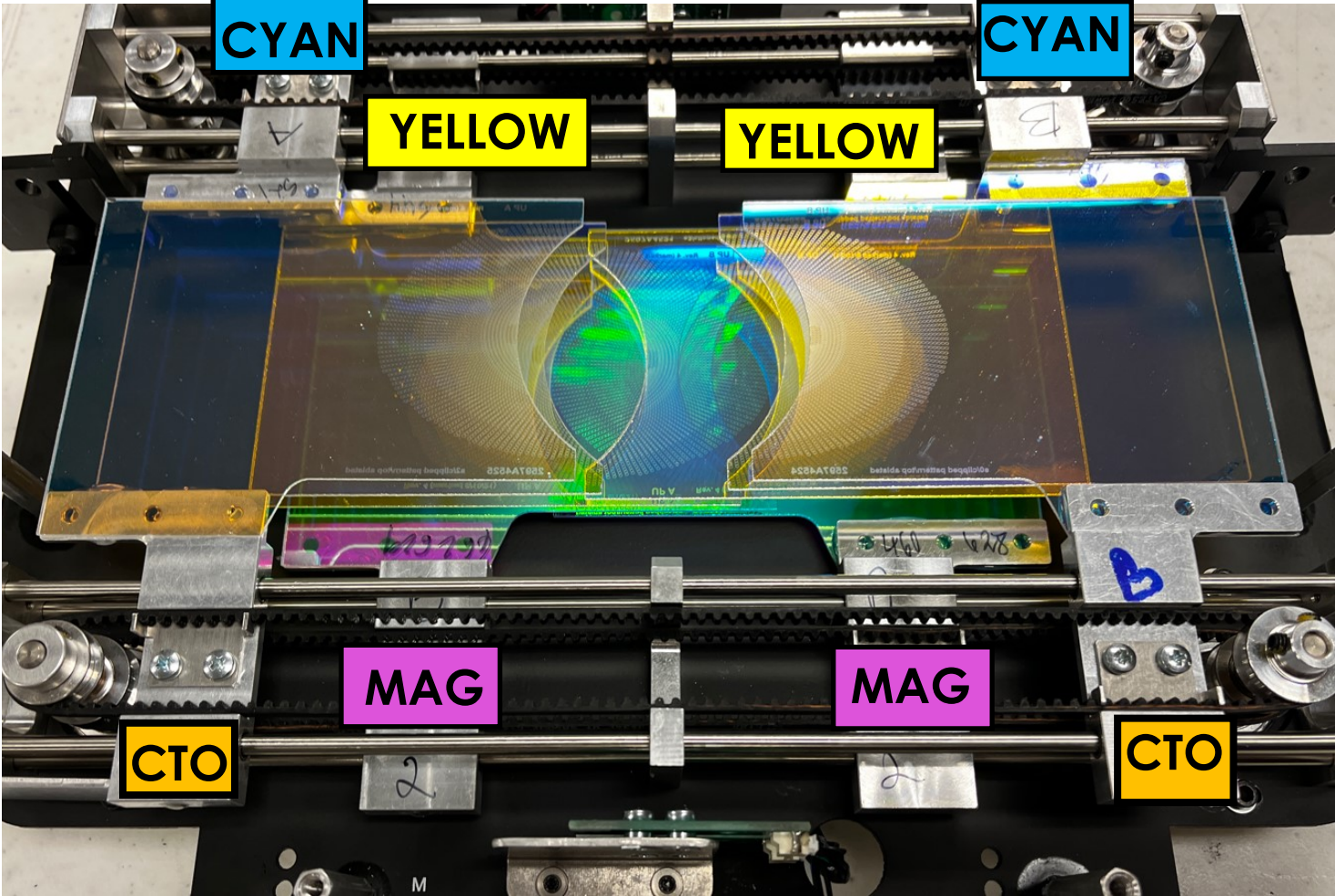Remove 4x screws (hidden) from module mount plates using 2.5mm hex tool(2x screws on each side)

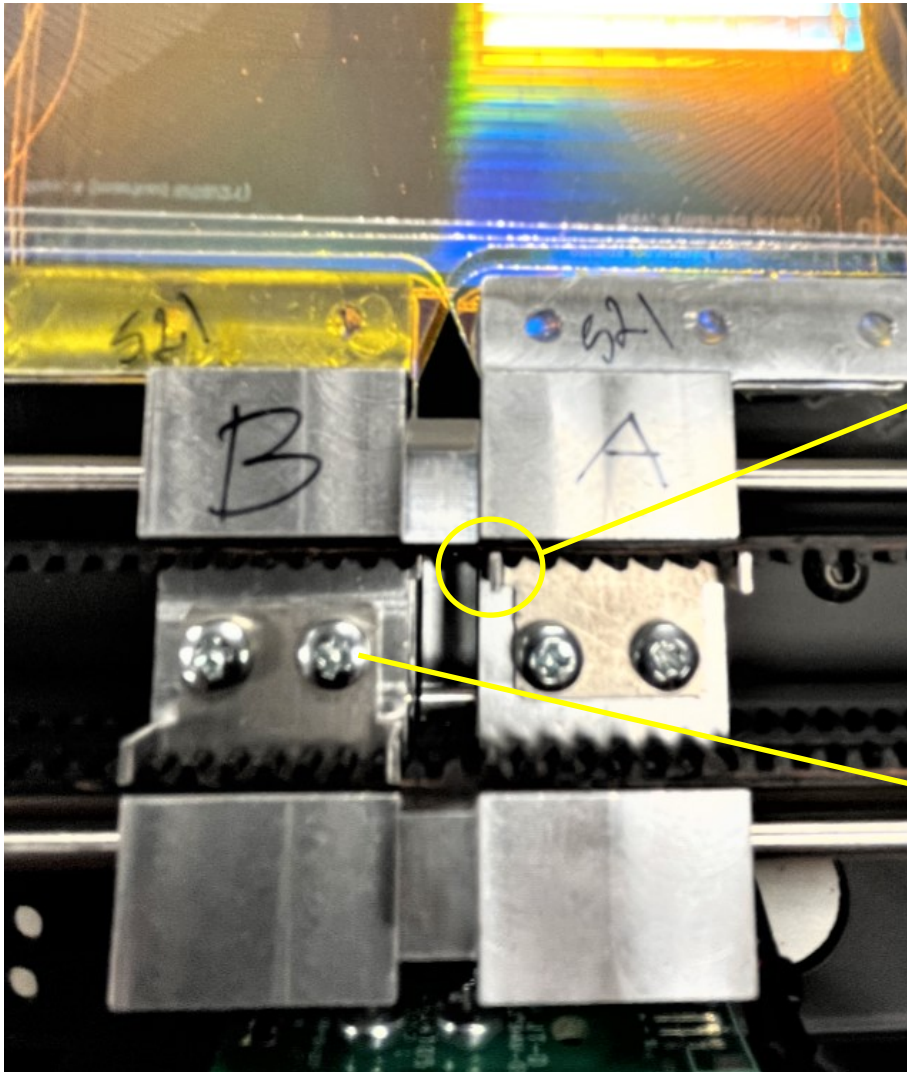Carefully tilt plate toward color wheel sensor and disconnect sensor wire

Cyberlight LED

Flag Locations

Cyberlight LED

Replace Color Flag

Carefully close all color flags until they hit their stops

The flag clip is in the first tooth of the belt adjacent to the stop.

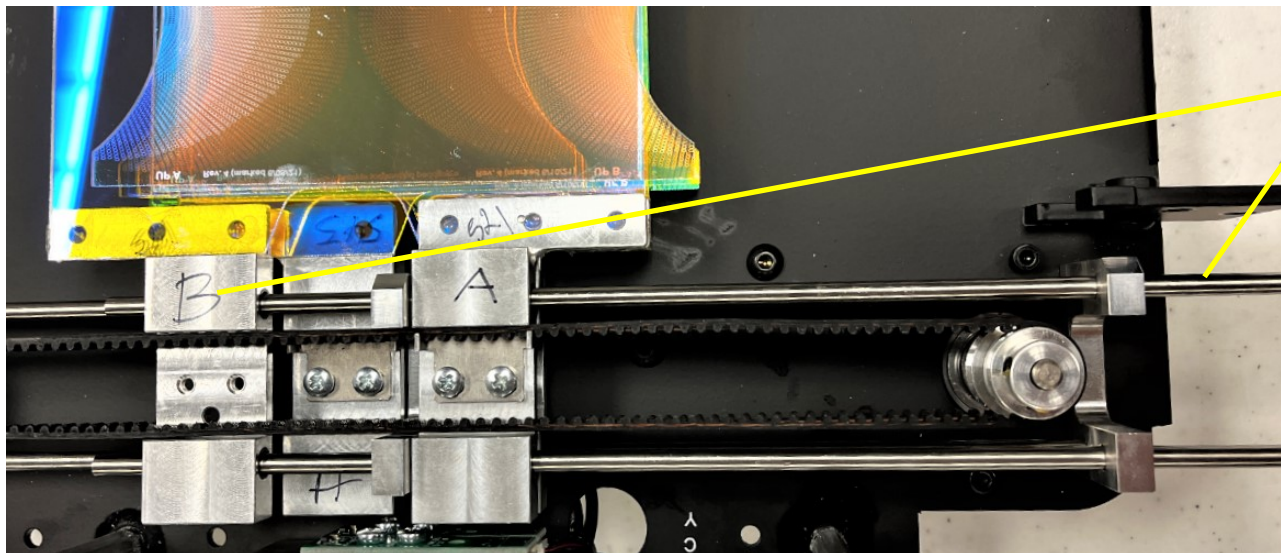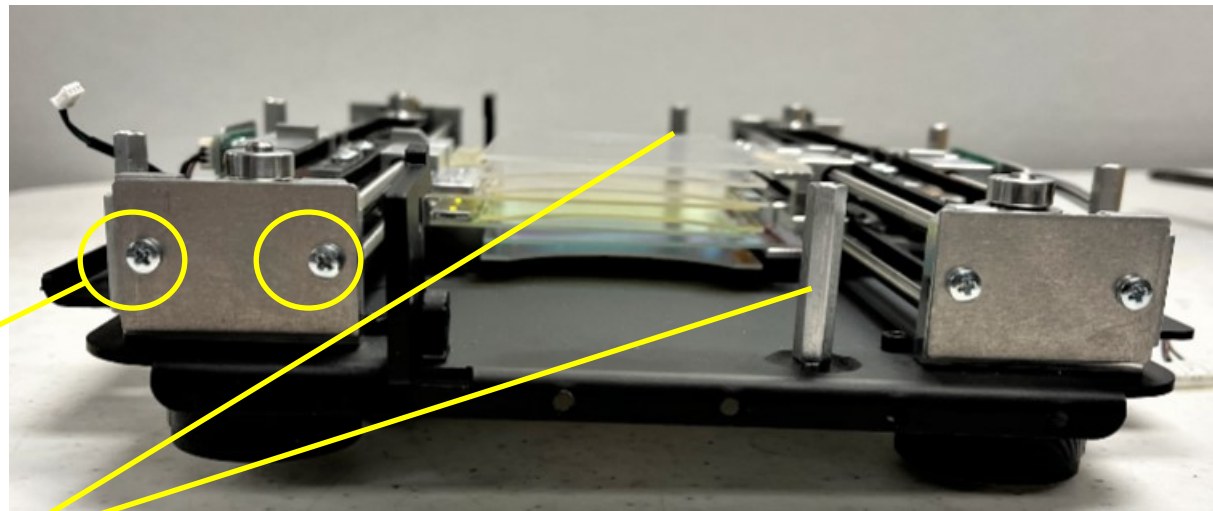Keep this in mind when installing a new color flag.

While the flags are still closed, remove the 2x clip screws using a Phillip's head screwdriver

Cyberlight LED

Replace Color Flag

Remove the opposite side's rail plate using a Phillips head screwdriver

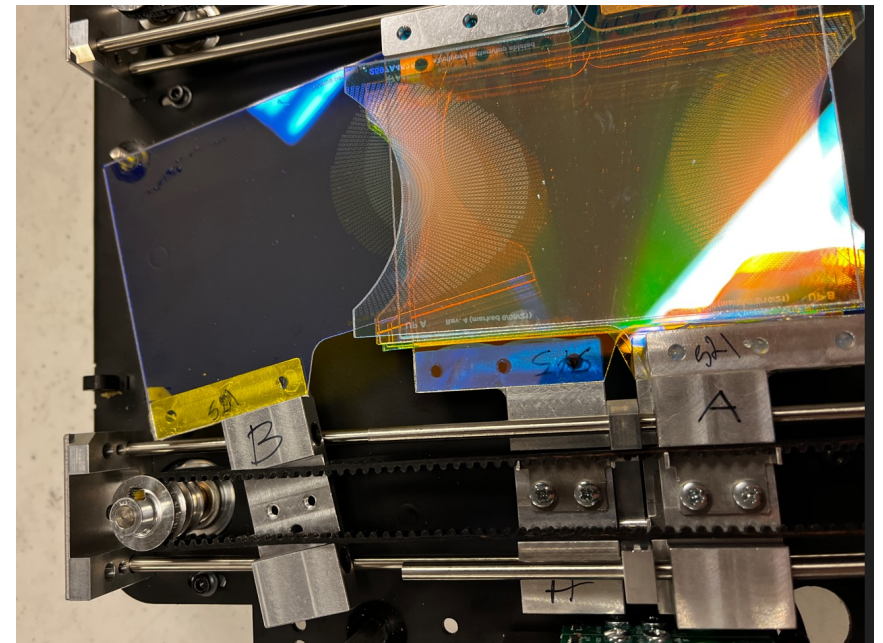Remove both standoffs using a 6mm nut driver or wrench.

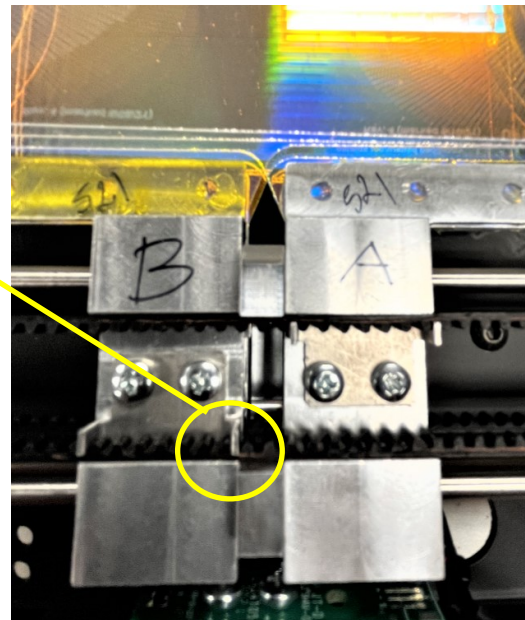Pull the rails just past the color flag that is to be removed

Cyberlight LED

Replace Color Flag

Now that the flag is free it can be carefully removed form the module.

Install new flag in reverse order of removal instructions. Ensuring the clip is in the correct belt tooth as described above.
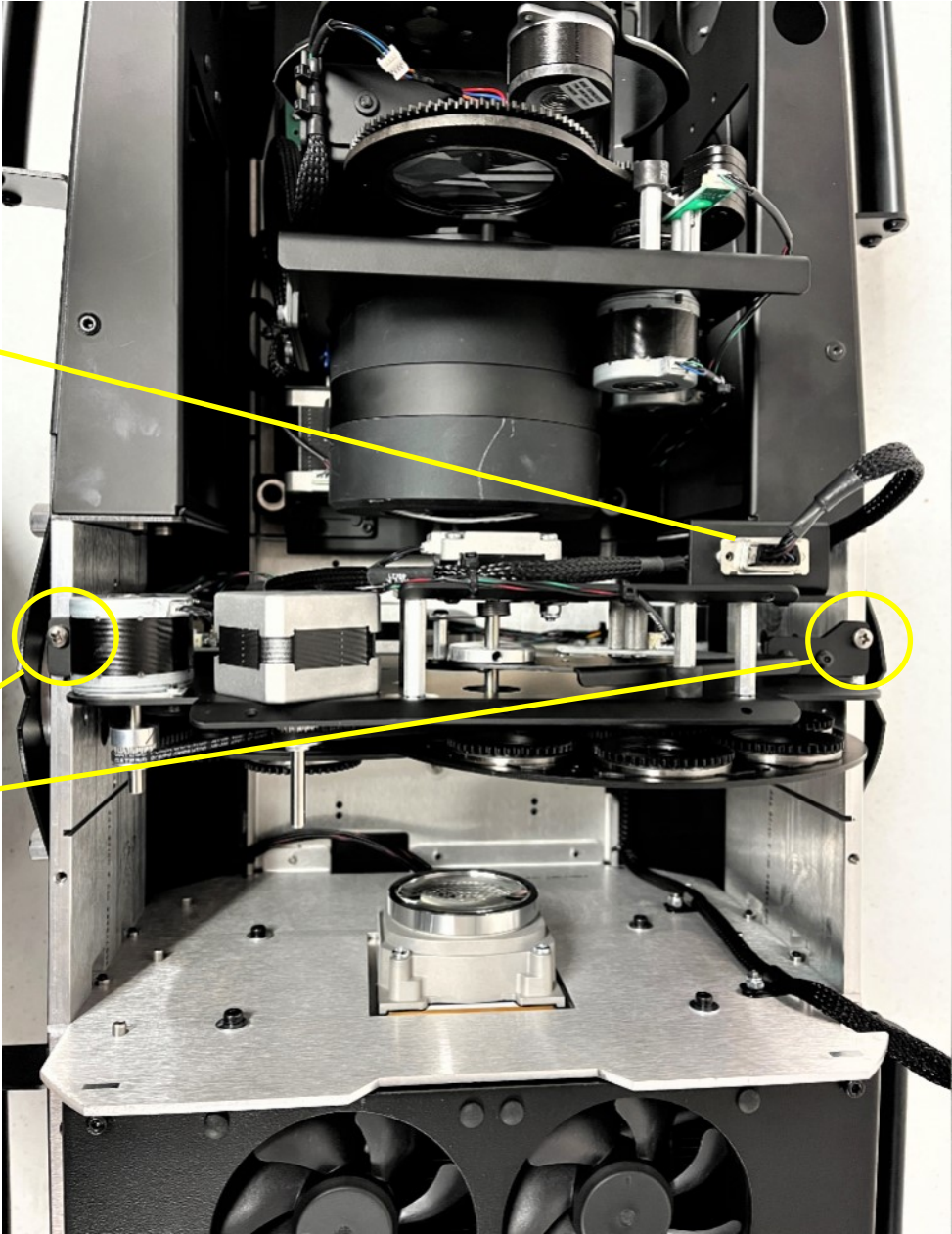
Cyberlight LED

Remove Gobo Module

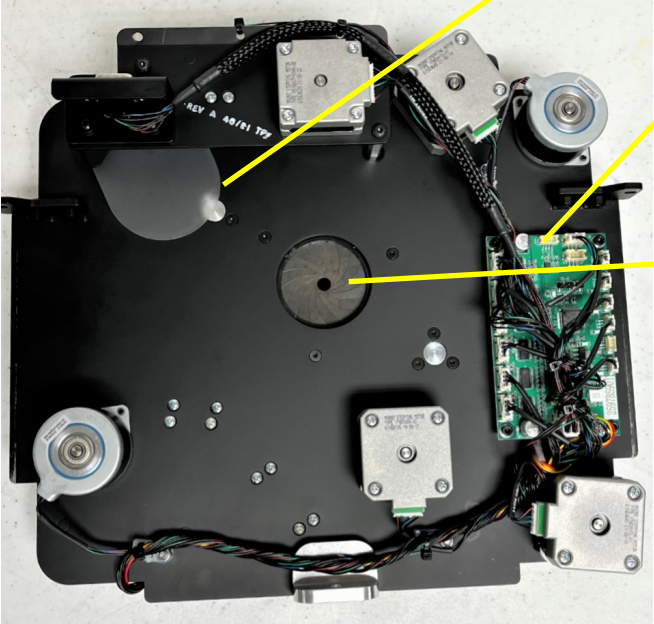
Remove module harness connection

Remove 2x Phillips head screws

Carefully pull out gobo module

Cyberlight LED

Gobo Module Components

Heavy Frost Flag

Gobo PCB

Iris

*Note mounting holes used when replacing a Homing Sensor

Gobo Wheel 1 Homing Sensor

Gobo Fan

Gobo Wheel 1 Rotate Sensor

Gobo Wheel 1

Gobo Wheel 2 Homing Sensor

Gobo Wheel 2 Rotate Sensor

Gobo Fan

Gobo Wheel 2

Cyberlight LED

Replace a Gobo

Push gobo holder from the non gear side and pull outward until free

If the new gobo has an alignment tab,

line it up with the notch in the

Gobo holder

Install gobo spring with the

bent end on top

Note: the spring must not
extend past the gobo holder

Remove the spring, install new gobo according to the

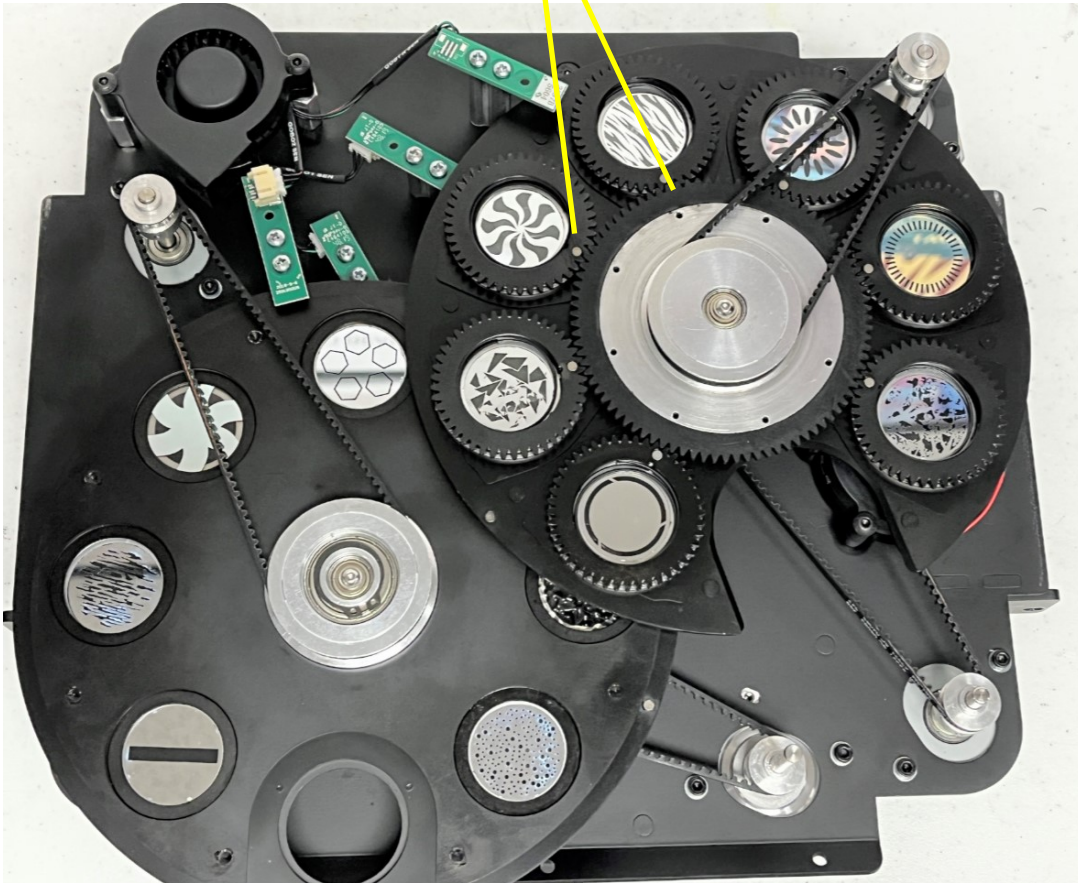gobo manufacture's orientation.

*HES gobos are installed with the coated side away from the

LED source. The reflective side goes toward the LED source.

Cyberlight LED

Replace a Gobo

Before installing the gobo holder, align the remaining gobo holder magnets with holes on rotate gear
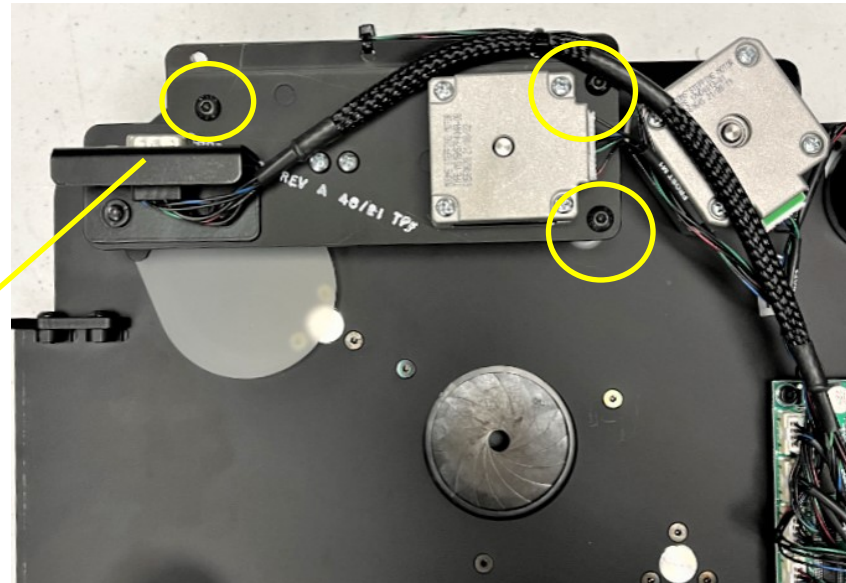
Ensure the gobo holder is fully seated and engaging the rotate gear. The gobo must spin when the rotate gear moves.
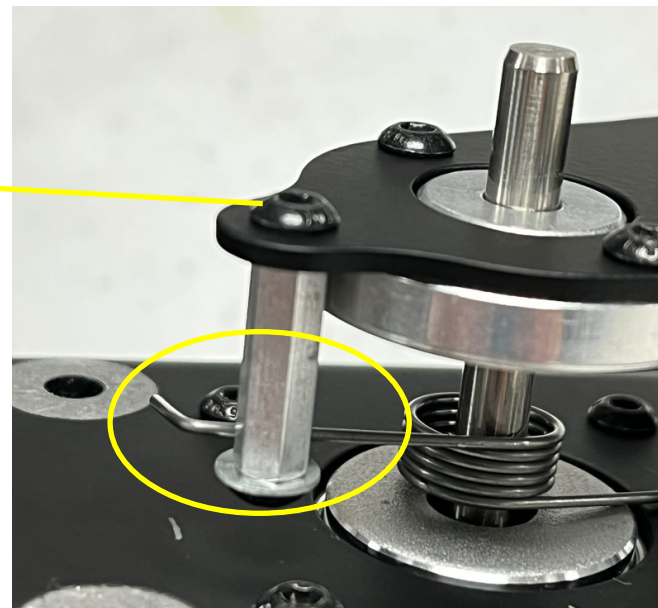
Cyberlight LED

Replace Heavy Frost and

Access Heavy Frost Sensor

1. Remove 3x screws using 2.5mm hex tool

2. Carefully flip the assembly to side of the module with wiring still connected.

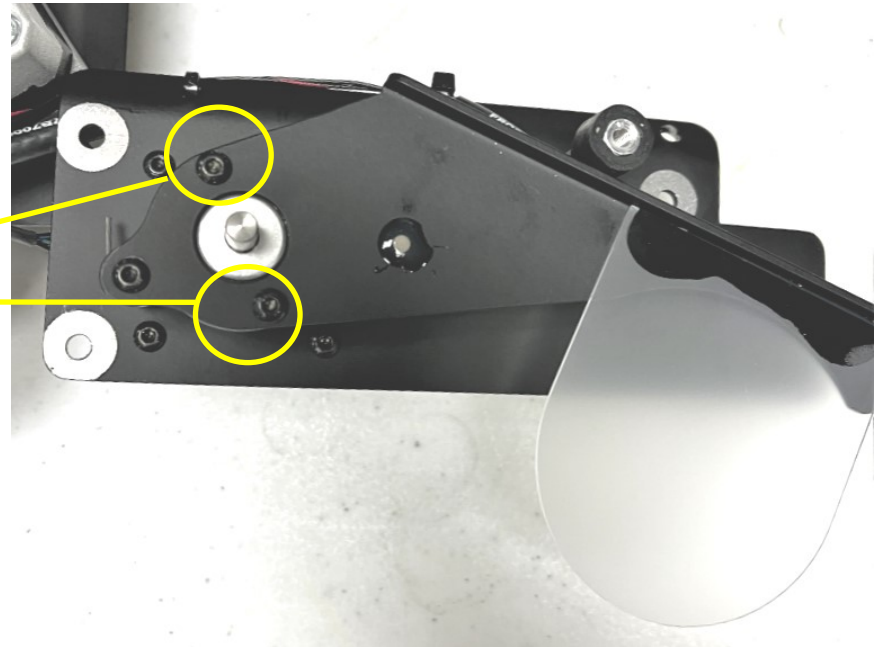3. Note location of spring and remove standoff using 2mm hex tool

Cyberlight LED

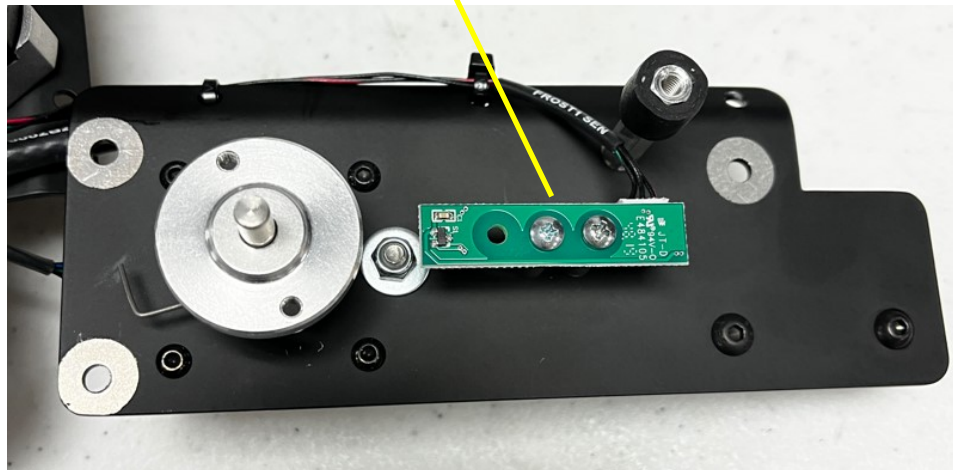## Replace Heavy Frost and

Access Heavy Frost Sensor

4. Remove 2x screws using 2mm hex tool

5. Remove frost flag. Install standoff onto new flag

Install new flag not mount and ensure spring is in the correct orientation as mentioned above
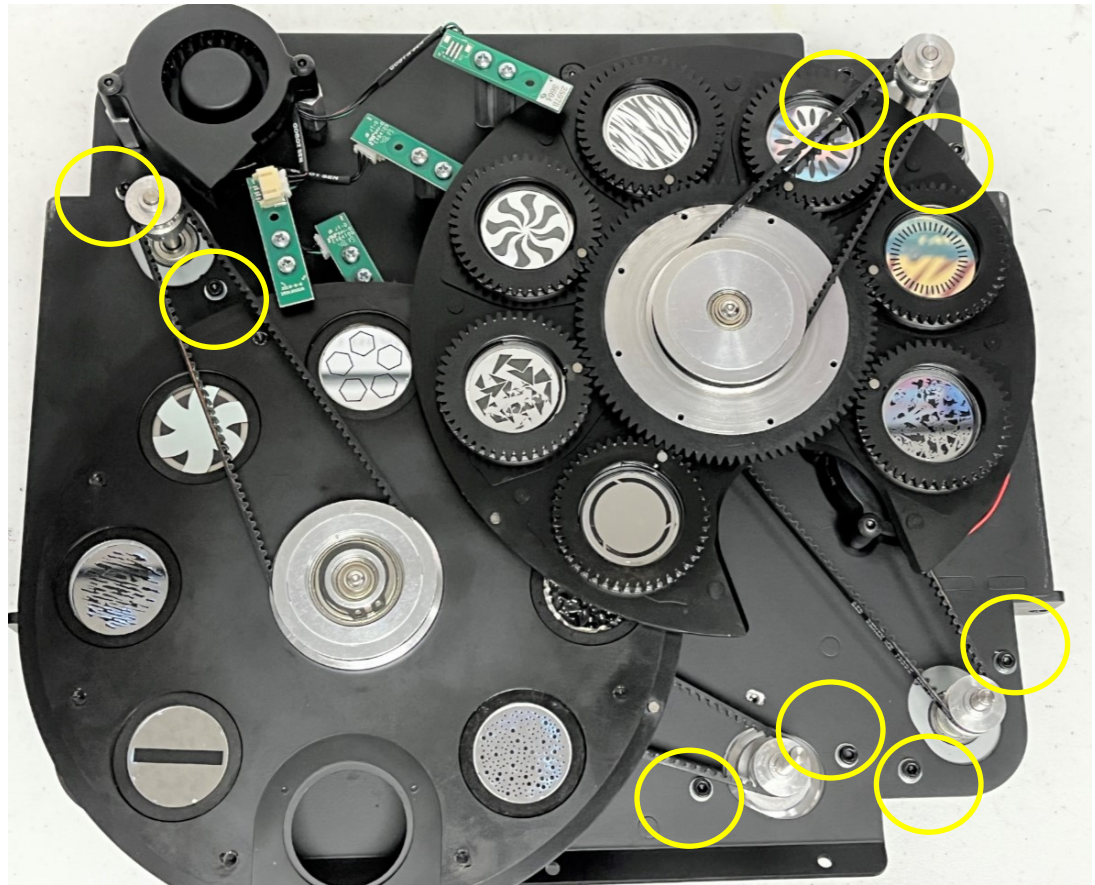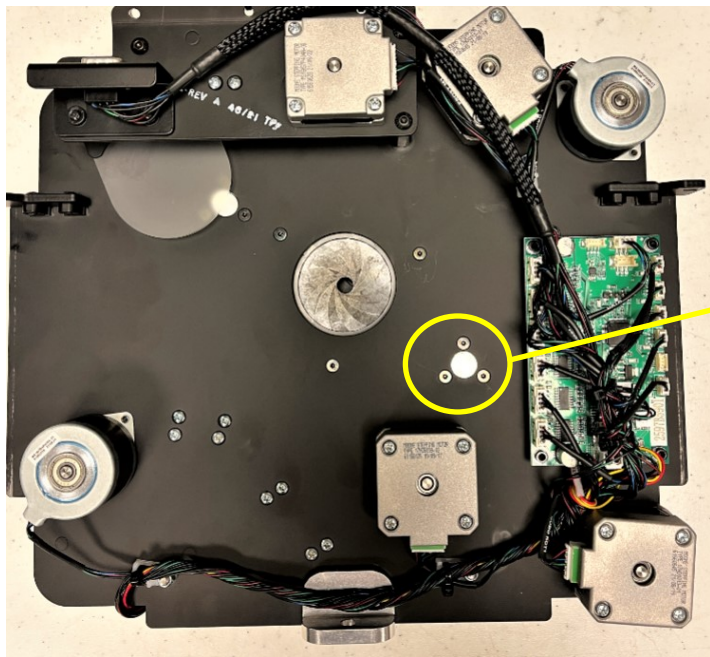
Note mounting holes used when changing sensor

Cyberlight LED

Remove Gobo Wheels

Loosen the screws of all 4 gobo motors using a 2.5mm hex tool. Do not remove the screws.

This will loosen the tension of all of the gobo belts

Flip module and remove the 3 screws using a 2mm hex tool

Gobo wheel 2 is now free and can be removed. Note the belt locations . The longer belt is for the wheel rotation.
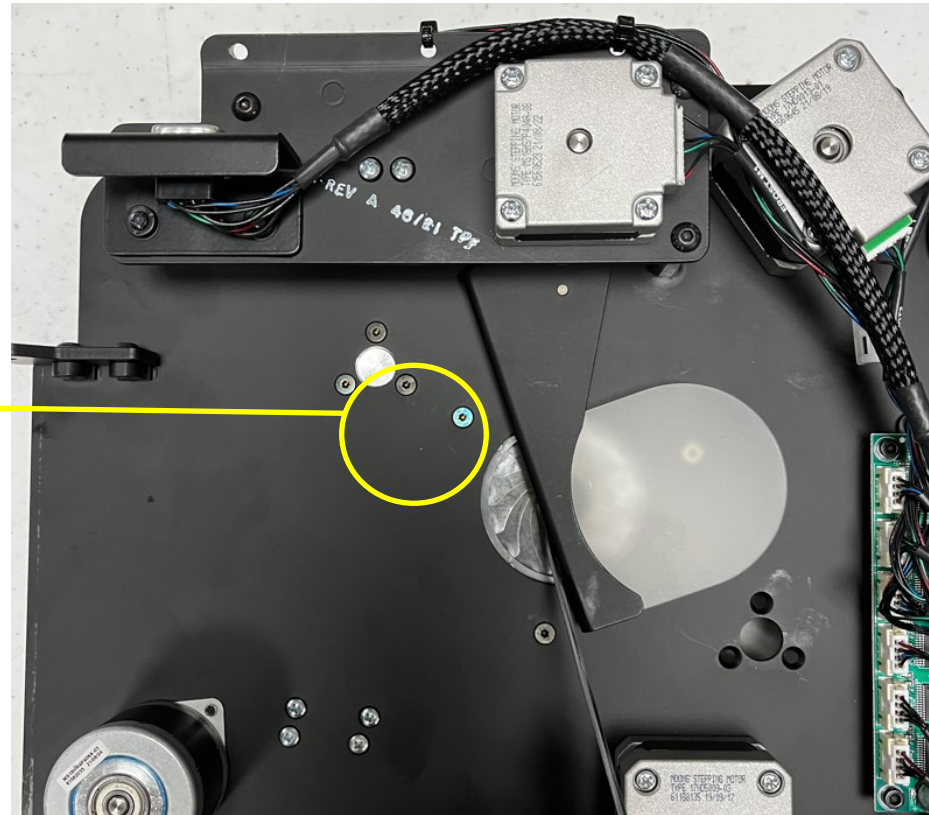
Cyberlight LED

Remove Gobo Wheels

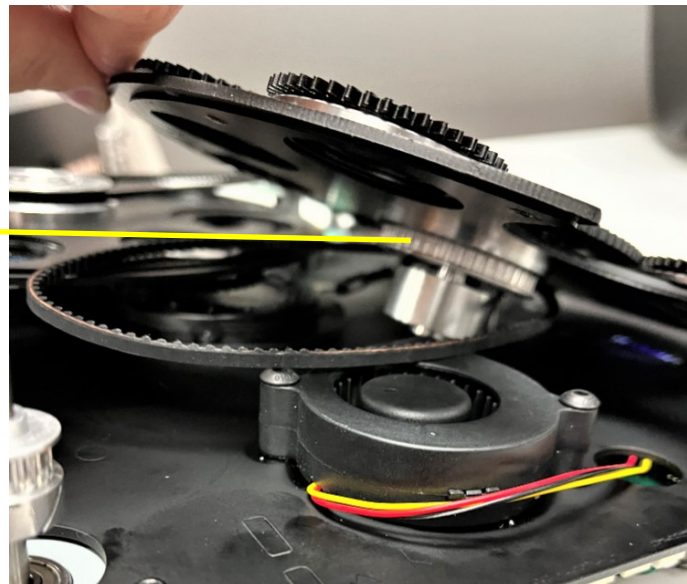Remove the 3 screws using a 2mm hex tool

This will loosen the tension of all of the gobo belts

Gobo wheel 1 is now free and can be removed.

The bets are the same size for Gobo Wheel 1.

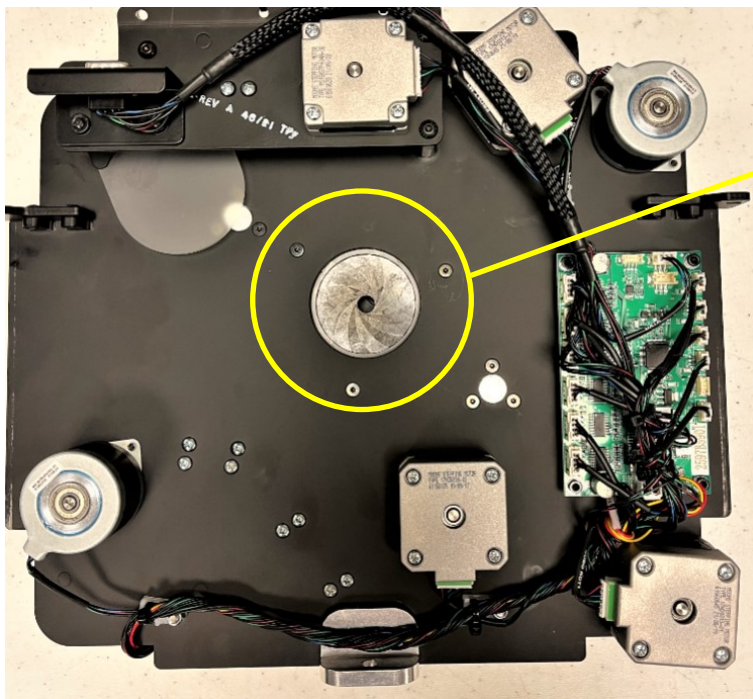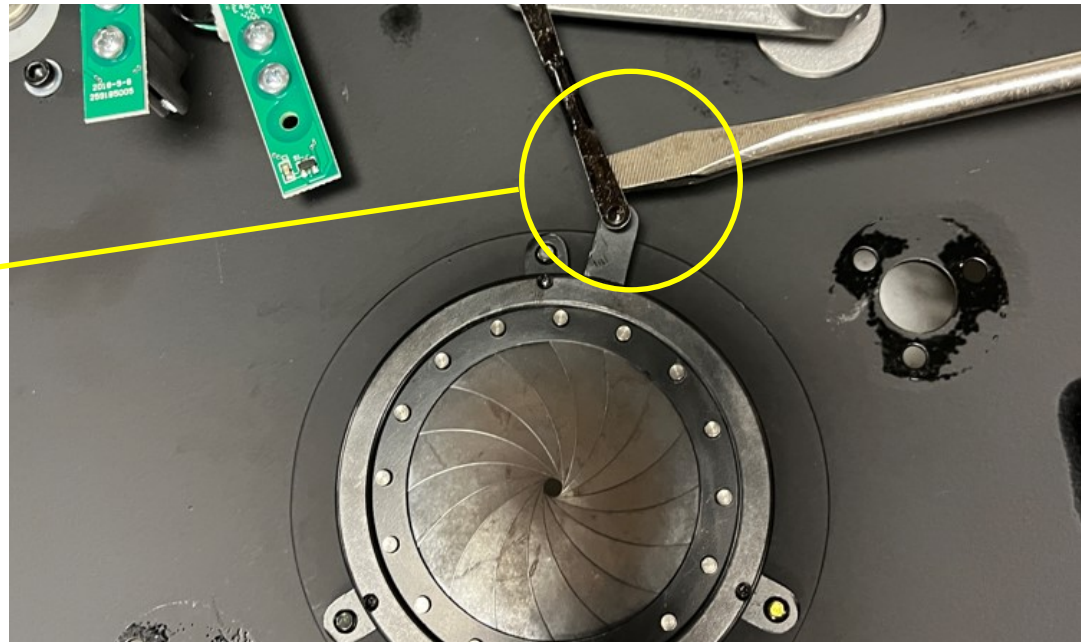Before installing the gobo wheels, be sure to have the lower belt under the wheel

Cyberlight LED

Remove Iris

Fully close iris then pry open the clevis just enough to disconnect it from iris arm.

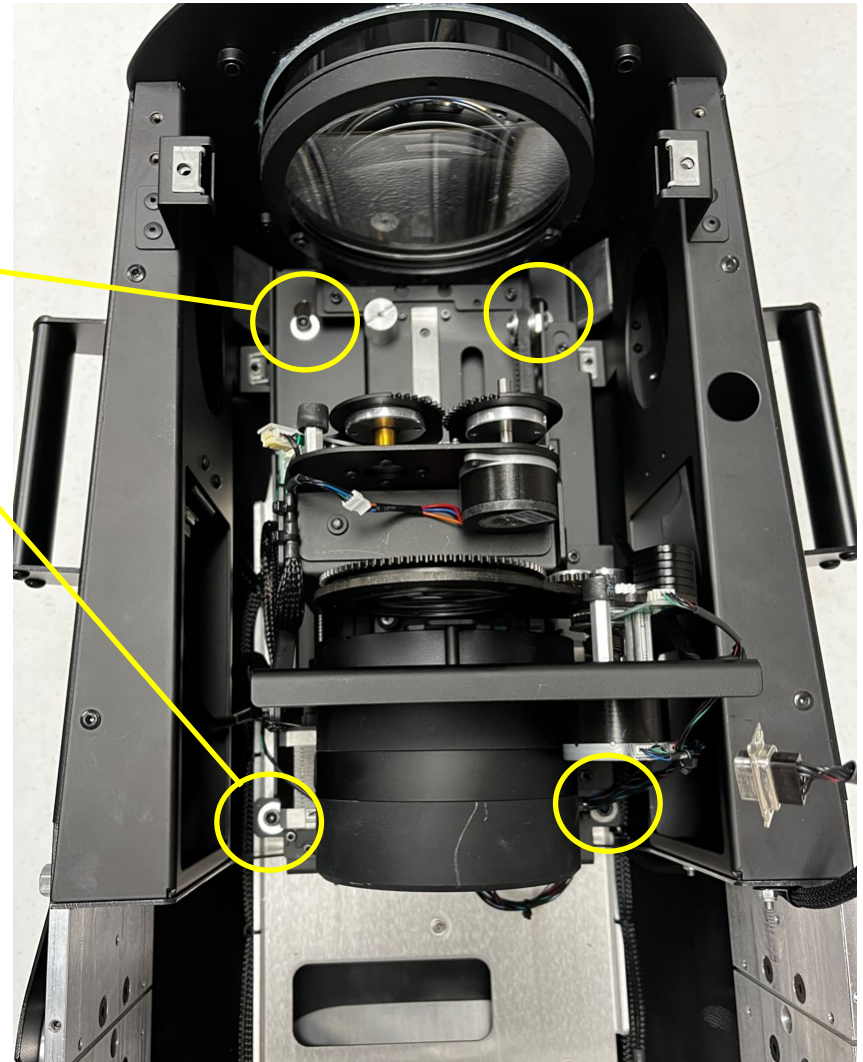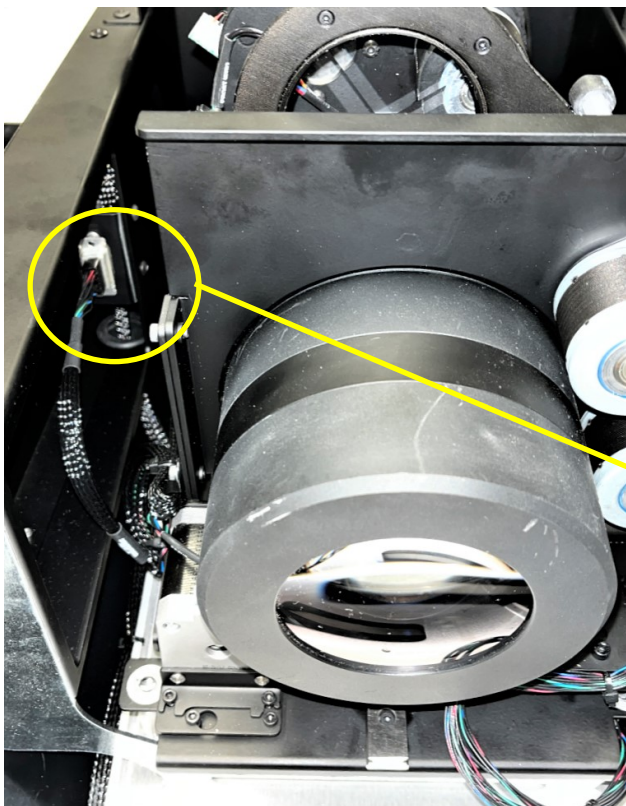Closing the iris help with orientation when installing the new iris

Remove the 3 iris screws using a 2mm hex tool

Install the new iris when full closed for orientation to the clevis

Cyberlight LED

Remove Focus and Zoom Module

Using a 5mm hex tool loosen the 2 front mounting screws
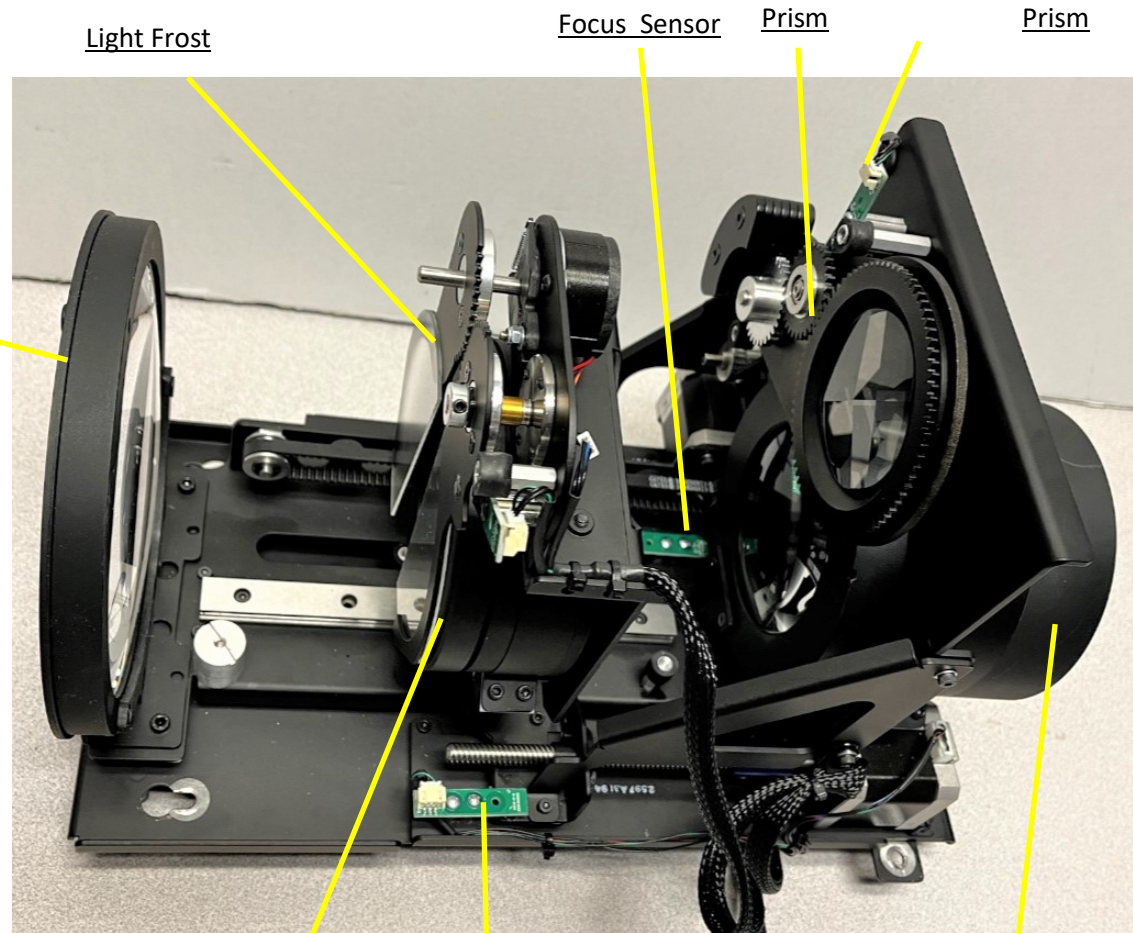and remove the 2 rear mounting screws

Disconnect the wire harness, hidden on the left side

Module is now free to be removed.

Cyberlight LED

Focus and Zoom Module Components

Light Frost

Focus Sensor

Prism

Prism

Front Lens

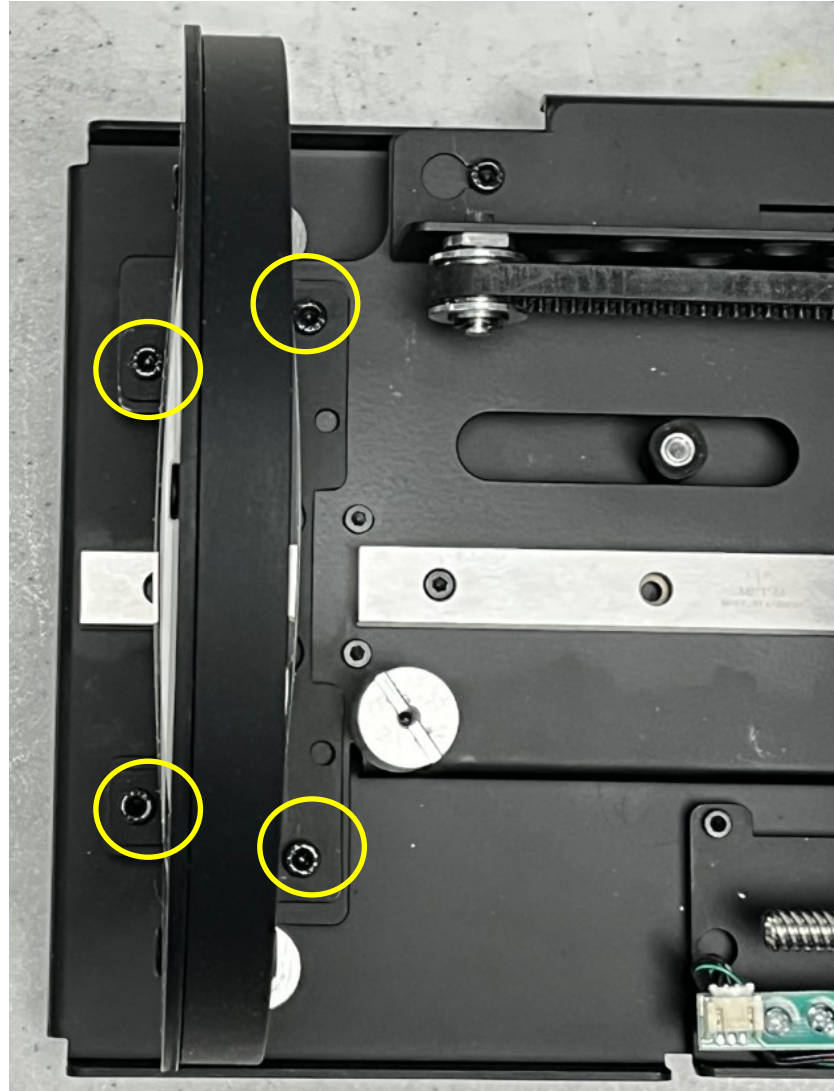Focus Lens

Zoom Sensor

Zoom Lens

Focus, Zoom, Prism, Frost Driver PCB

(underneath module)

Cyberlight LED

Remove Front Lens

Using a 3mm hex tool remove the 4 mounting screws

Cyberlight LED

Remove Frost Flag, Access Frost Sensor

Note the alignment of the frost flags and mounting holes of the sensor. This is important for re-installing

Using a 2mm hex tool loosen the 2 set screws of the flag on the motor

Carefully remove frost flags

Sensor screws are now accessible. Remove using 2mm hex tool
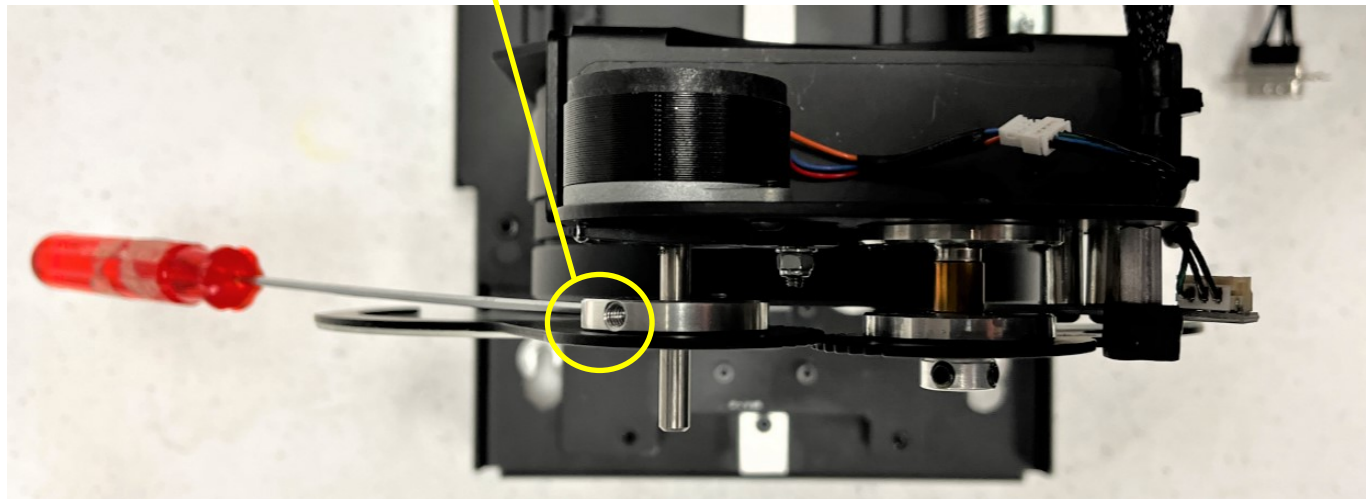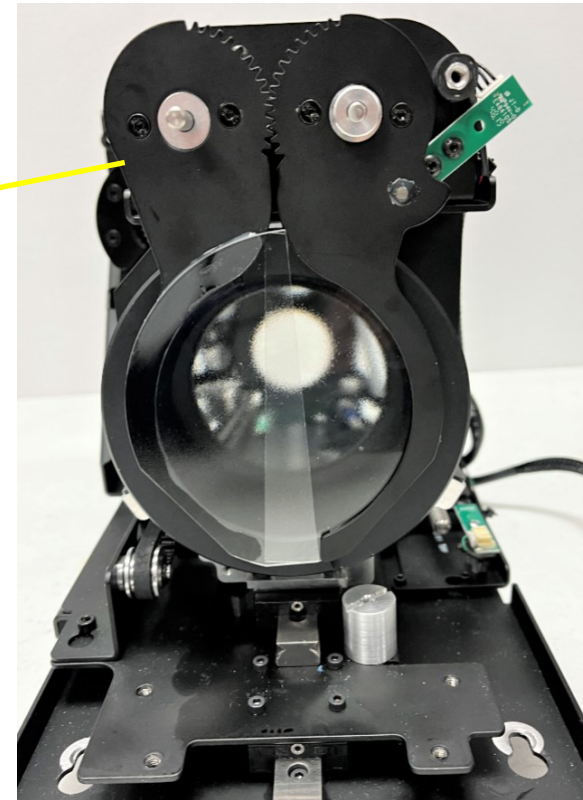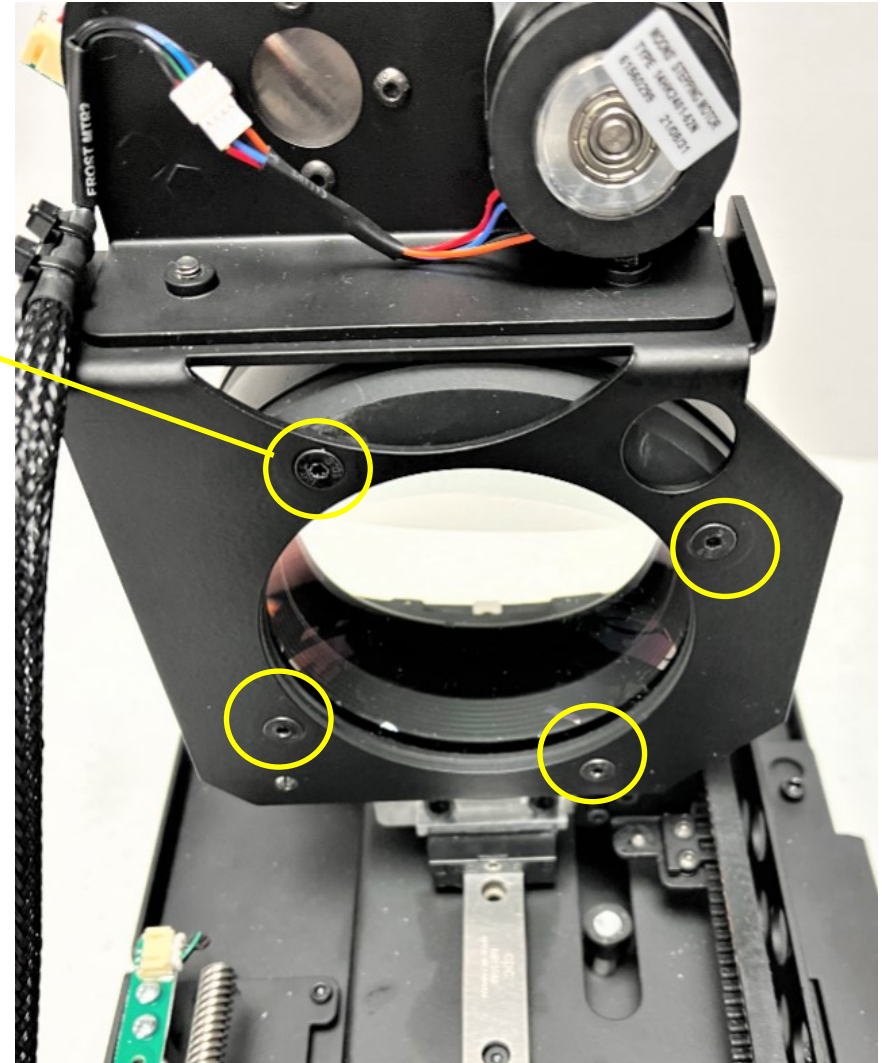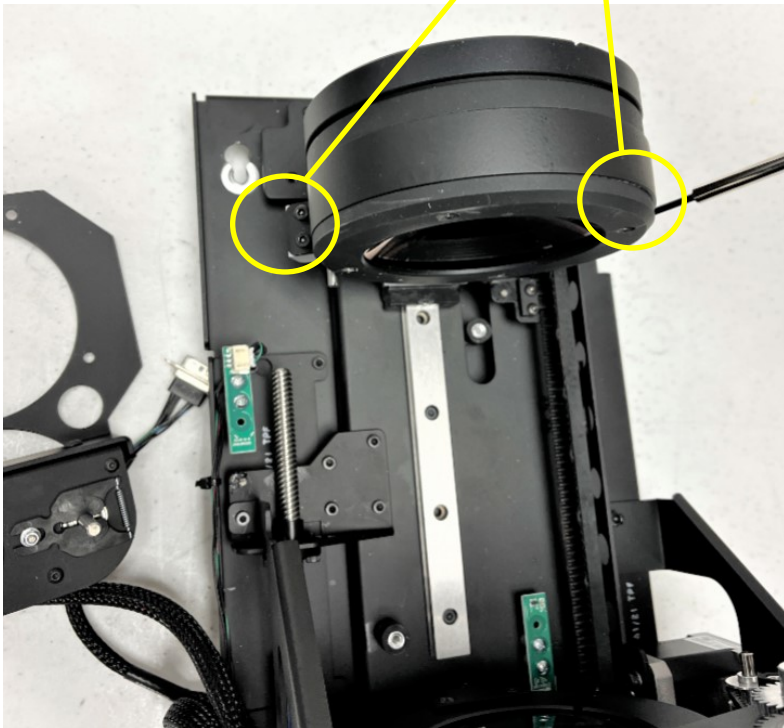
Cyberlight LED

Remove Zoom Lens

Remove frost mount by removing 4 screws using a 2mm hex tool.

Lay the assembly next to the module with the harnesses attached

Remove lens strap by removing 4 screws, 2 on each side, using a 2.5mm hex tool

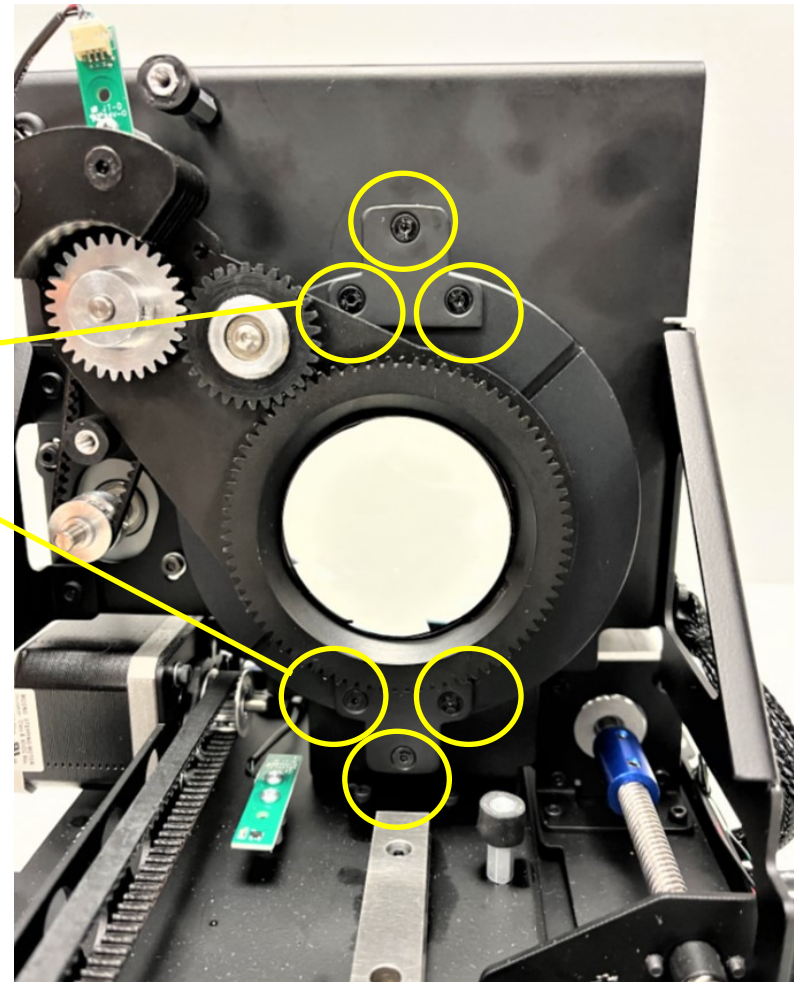Focus lens is now free and can be removed

Cyberlight LED

Remove Focus Lens

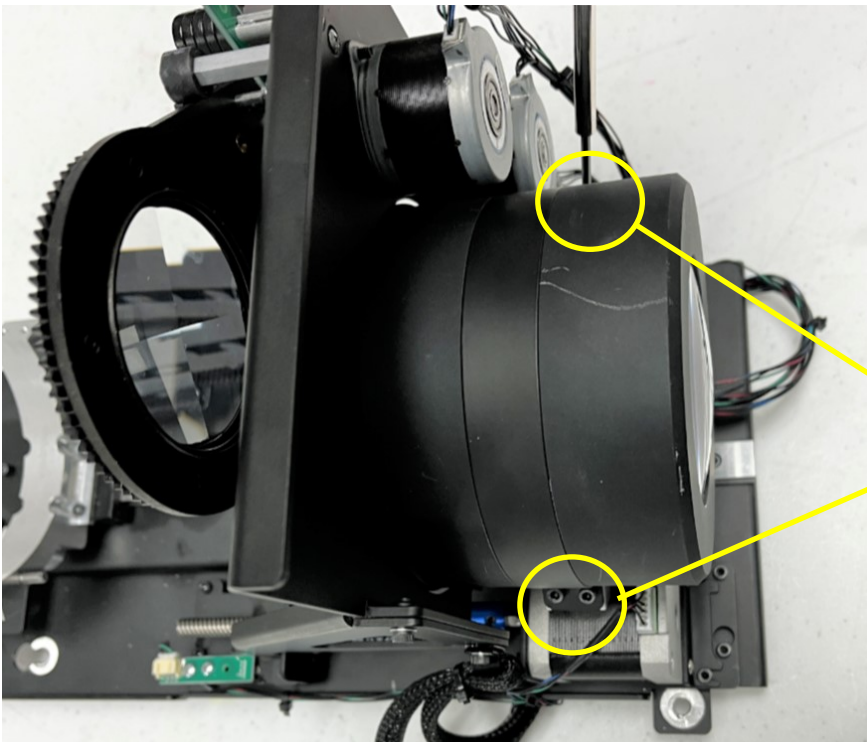Push the focus lens fully forward and the zoom lens fully back.

Remove focus lens plates by removing 6x screws using a 2mm hex tool.

Remove focus lens strap by removing 6x screws using a 2.5mm hex tool.

Focus lens is now free and can be removed

When installing the replacement lens, install the lens plates before installing the lens strap
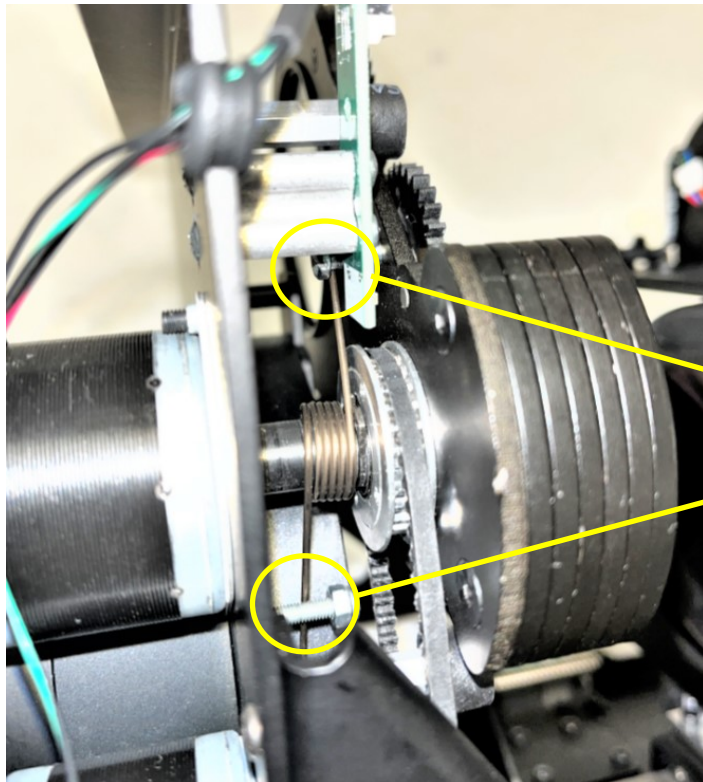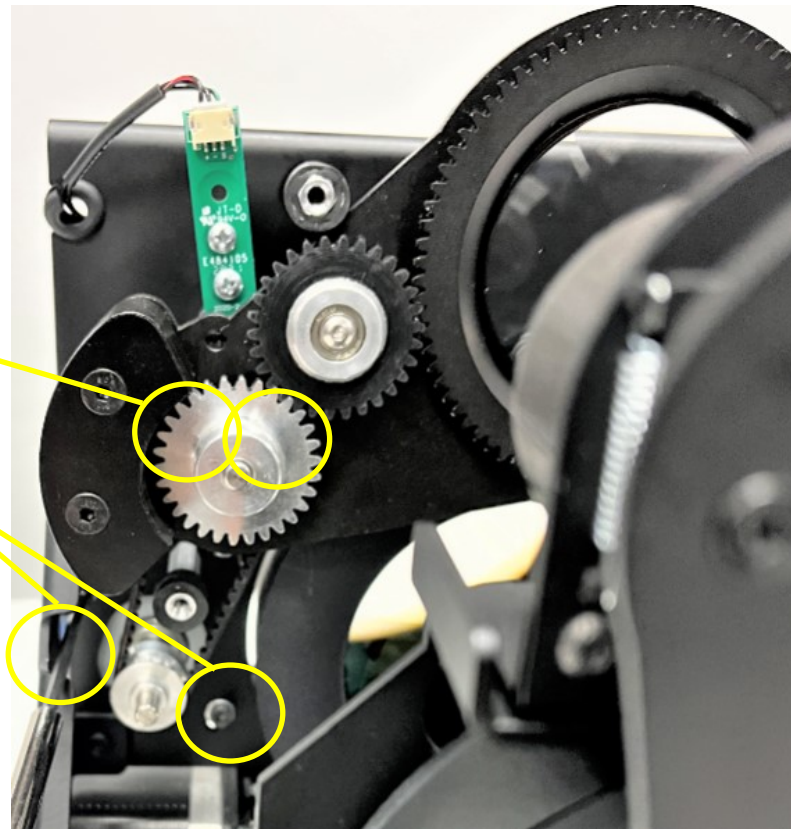
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Remove Prism Assembly

Loosen 2 set screws on rotate gear using a 2mm hex tool

Loosen motor mount screws using a 2.5mm hex tool

Note the location of the spring ends

Cyberlight LED

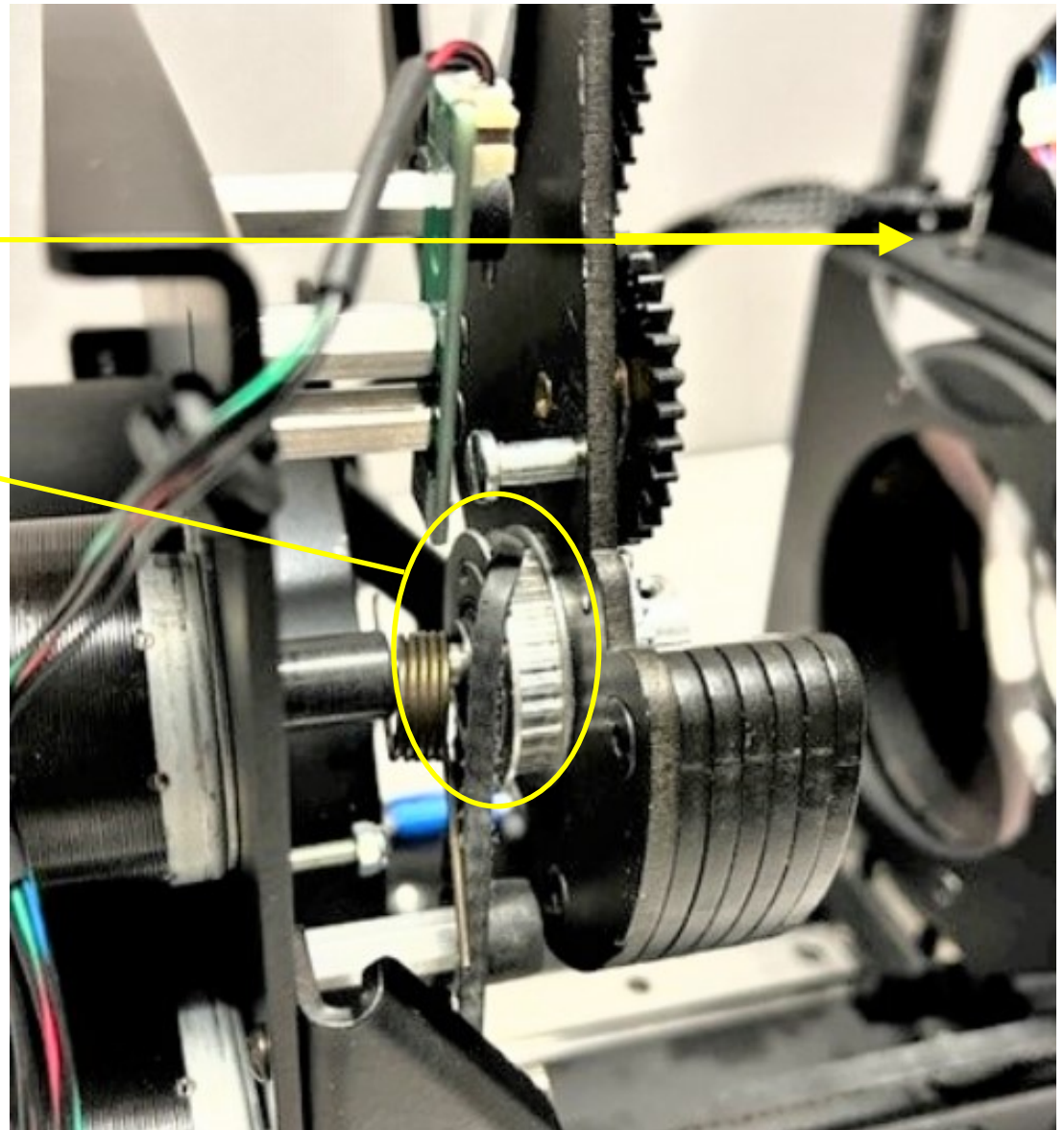## Remove Prism Assembly

Pull the prism assembly outward

Disengage the spring

Use the slack in the belt to start pulling over the prism's gear

Rotate the prism to disengage the belt

Prism Assembly is now free to be removed.

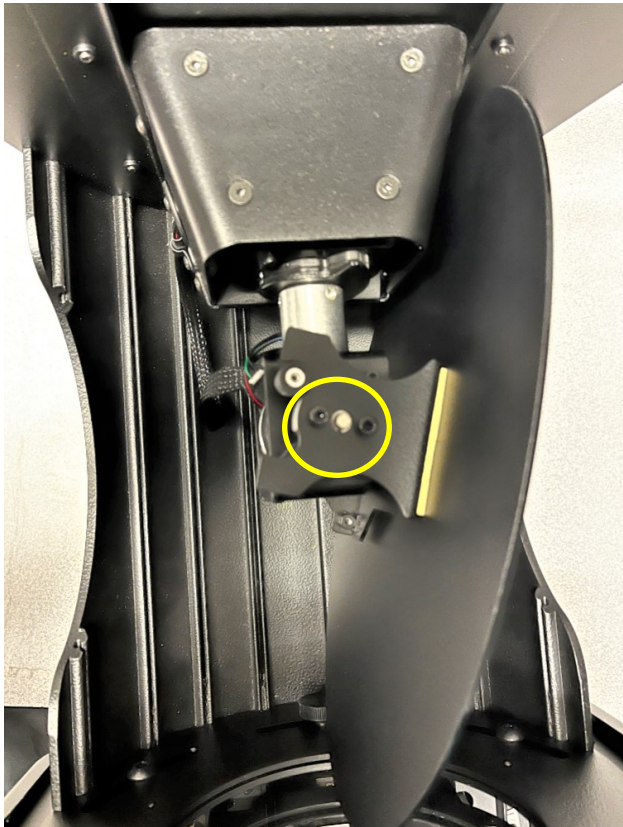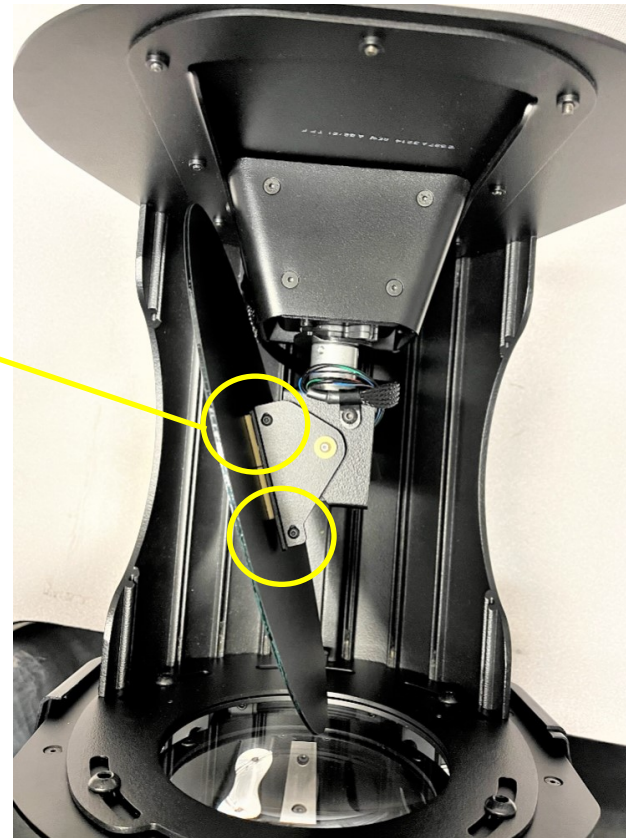Follow steps in reverse to install prism assembly

Cyberlight LED

Replace Mirror

Remove 2 screws from mirror support plate using a 2mm hex tool

 The plate and bushing are free to be removed

Remove 2 screws from mirror mount using a 3mm hex tool
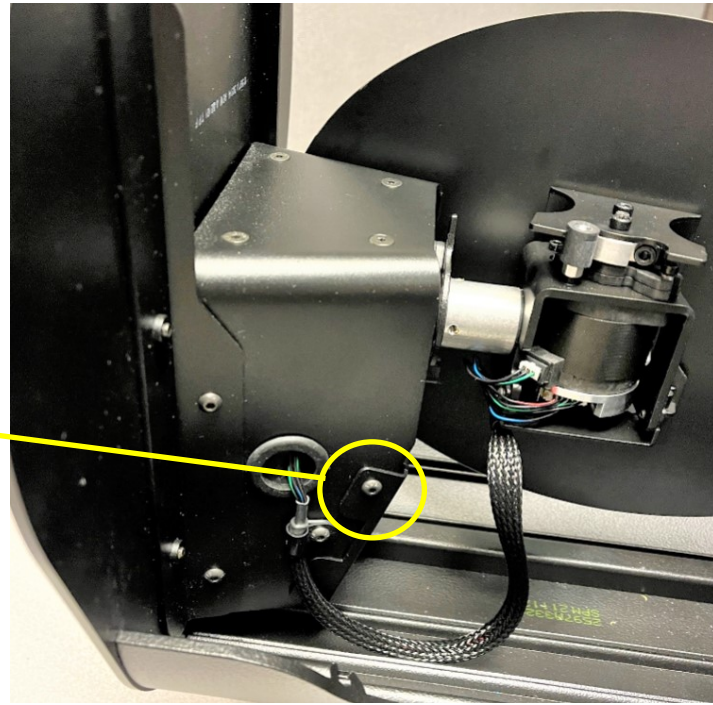
Mirror is now free to be removed

Install new mirror in reverse order.

Cyberlight LED

Replace Pan/Tilt PCB

Remove PCB cover plate using a 2.5mm hex tool

(one screw on each side)

Remove center screw using a 2mm hex tool

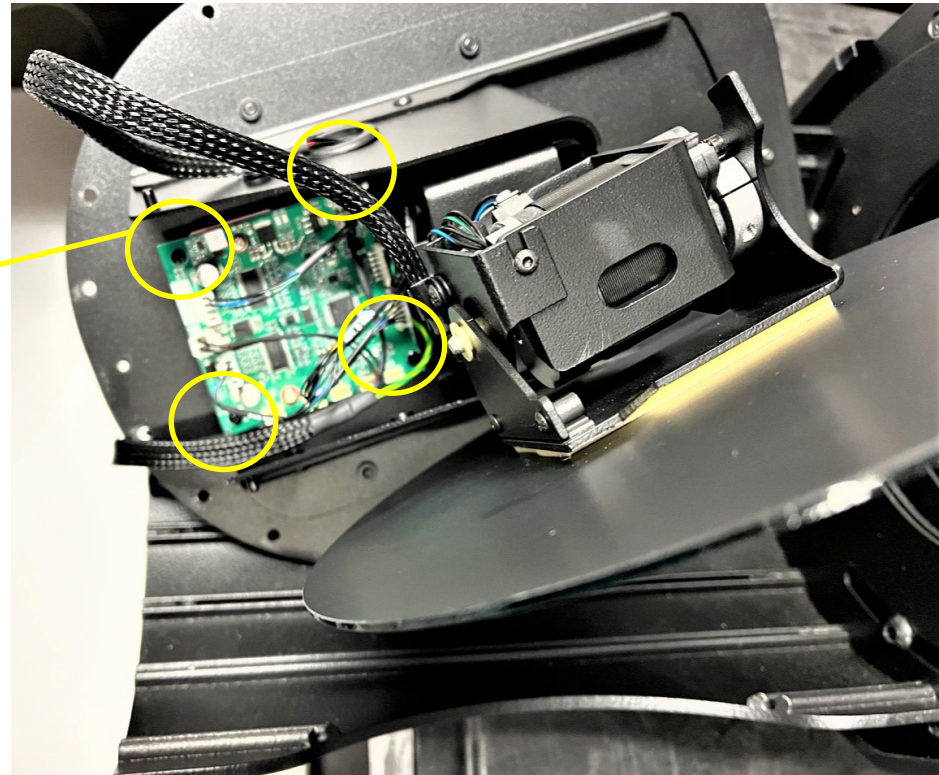Remove 8 screws around bottom perimeter using a 2.55 hex tool.

Support the mirror head front plate while removing the last screw

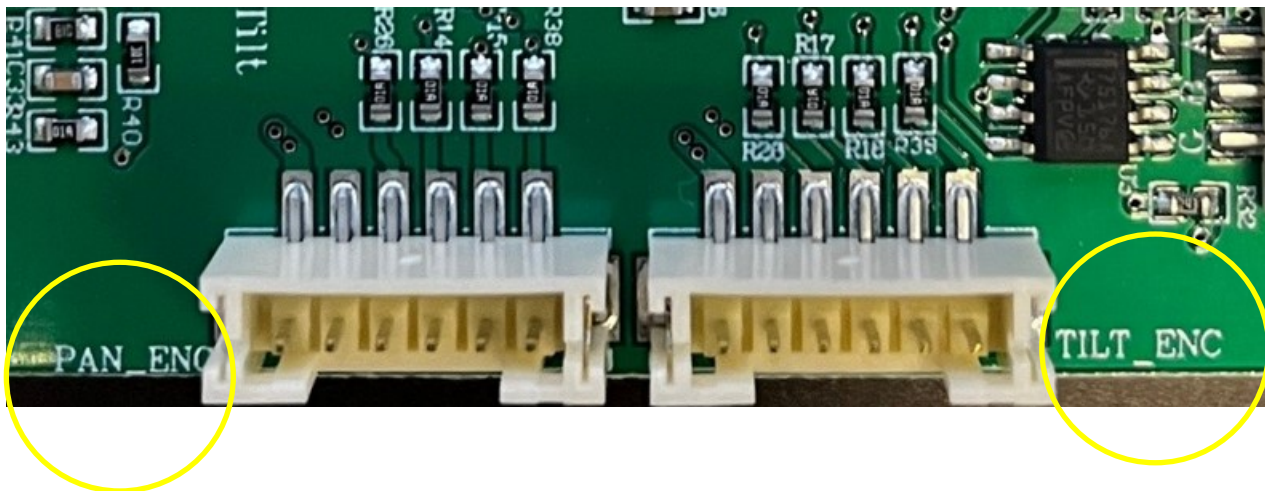Rest the front plate assembly in the mirror head

Cyberlight LED

Replace Pan/Tilt PCB

Remove 4 PCB screws using a Phillips head.

Harnesses have labels with location names and locations are
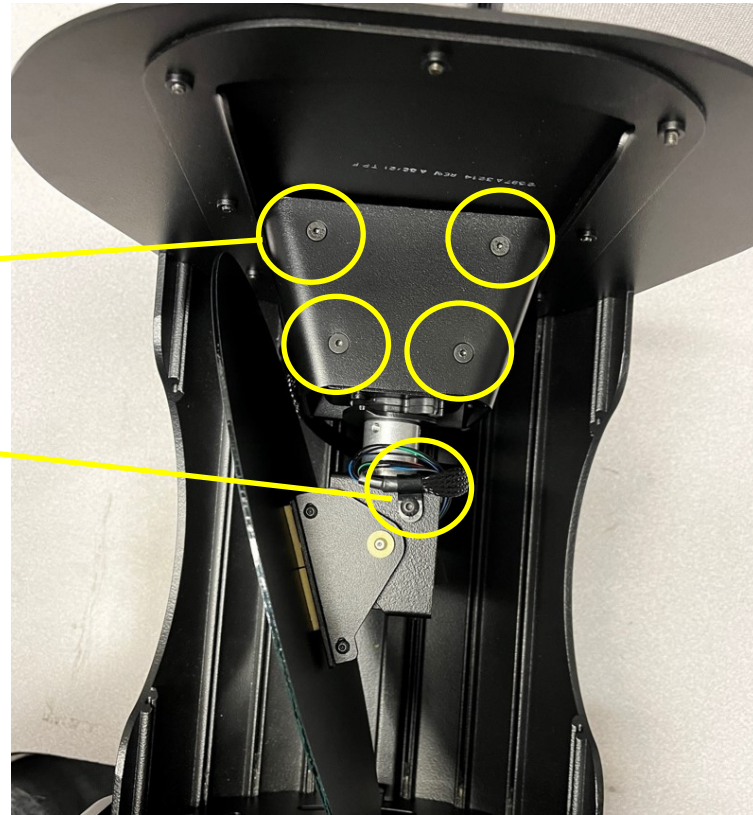
silkscreened onto the PCB :

Cyberlight LED

Replace Pan/Tilt Motors

Remove 4 screws using a 2.5mm hex tool

Remove tilt harness clamp using 2.5mm hex tool.

Take note of the harness routing and disconnect harnesses

Remove center screw using a 2mm hex tool

Remove 8 screws around bottom perimeter using a 2.55 hex tool.

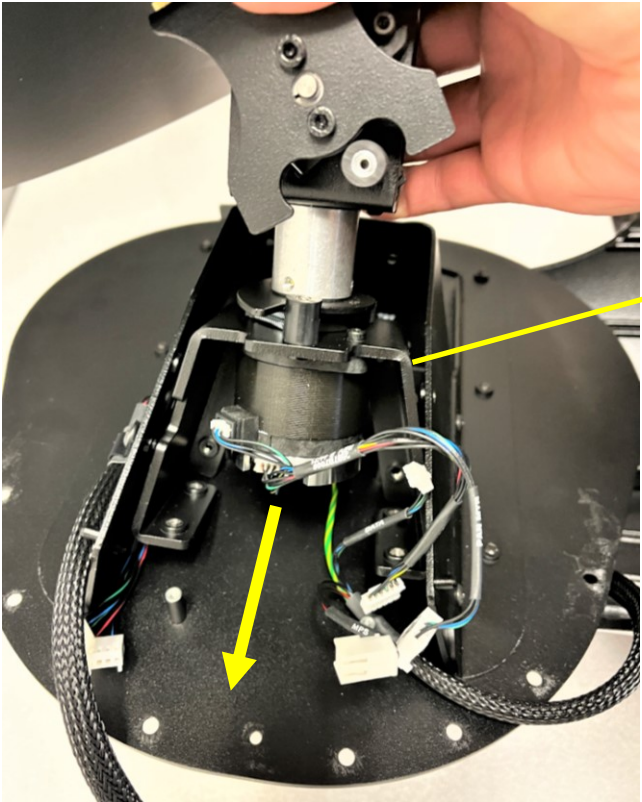Support the mirror head front plate while removing the last screw

Rest the front plate assembly in the mirror head

Cyberlight LED

Replace Pan/Tilt Motors

Remove 4 screws using a 2.5mm hex tool

Support pan/tilt Assembly while removing last screw

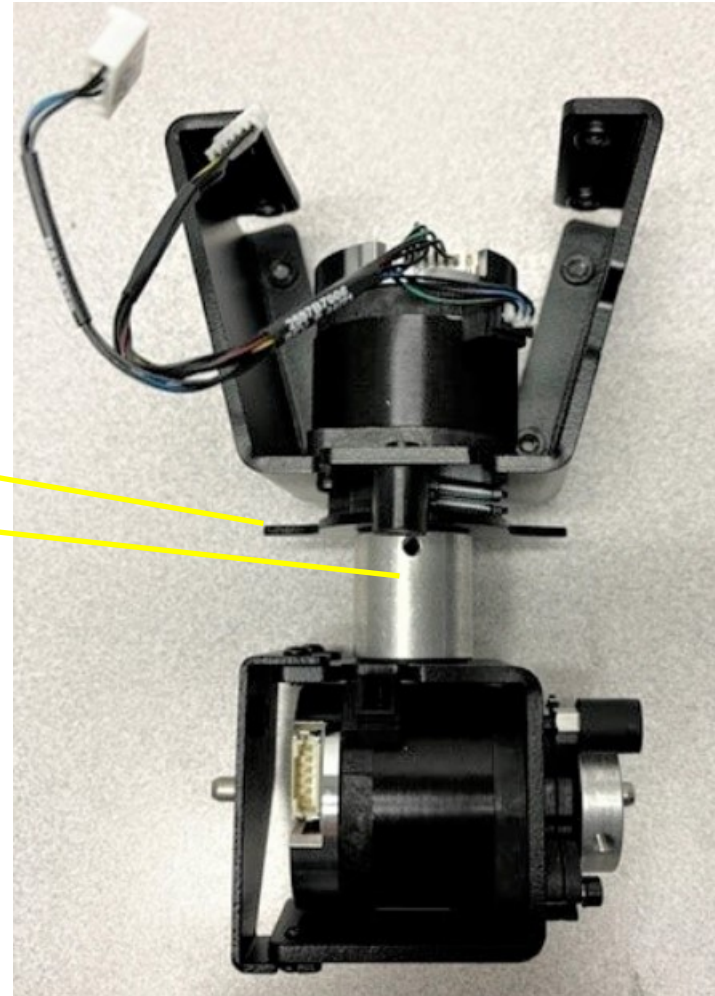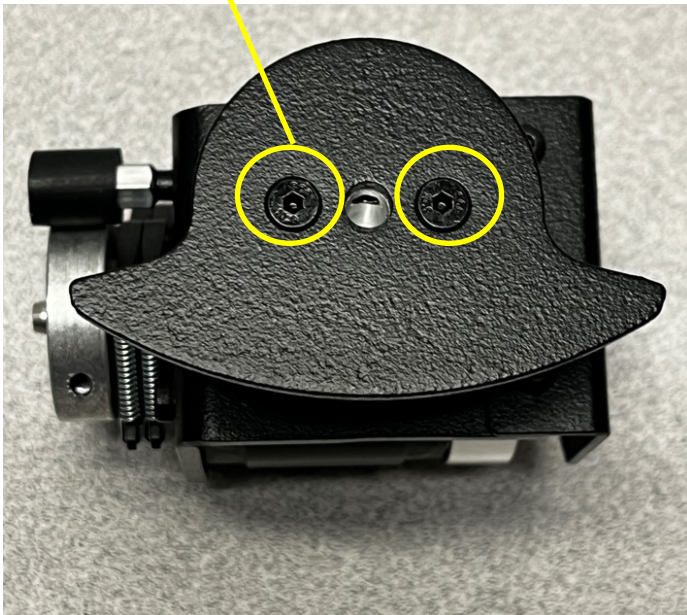Carefully slide out pan/tilt assembly

Cyberlight LED

Replace Pan/Tilt Motors

Note the orientation of the pan stop plate.

Loosen 3 set screws on pan tube using a 2mm hex tool ,remove tilt assembly

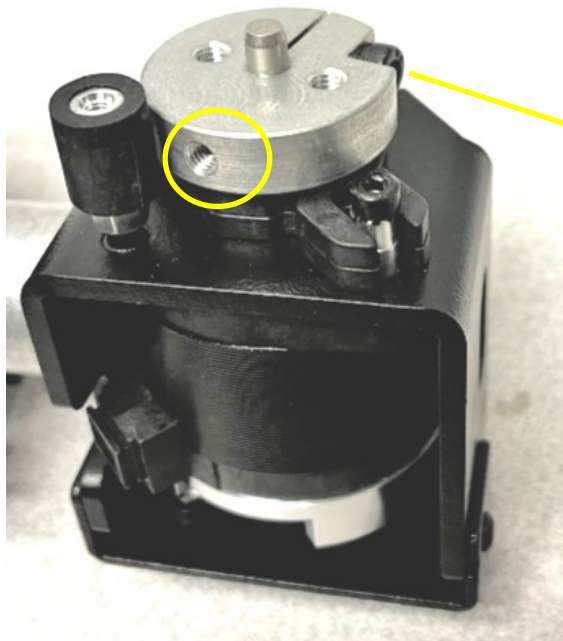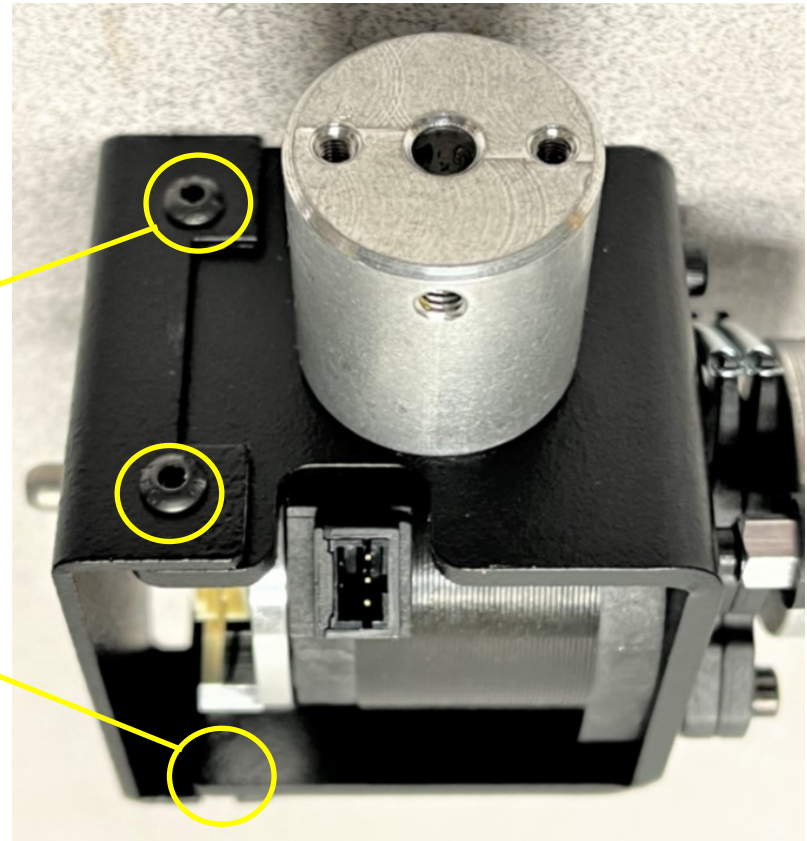Remove pan stop plate using 2mm hex tool

Cyberlight LED

Replace Pan/Tilt Motors

Remove 3 screws on tilt motor plate using a 2mm hex tool.

(3rd screw is on opposite side)

Loosen hub screw using a 3mm hex tool

Loosen set screw using a 2mm hex tool, remove hub

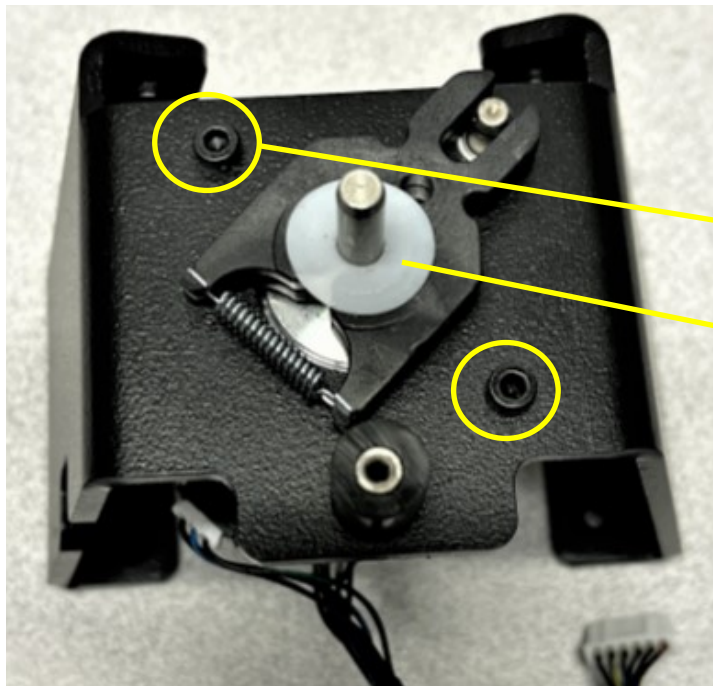Note: When reinstalling hub, tighten the 3mm screw before tightening the set screw
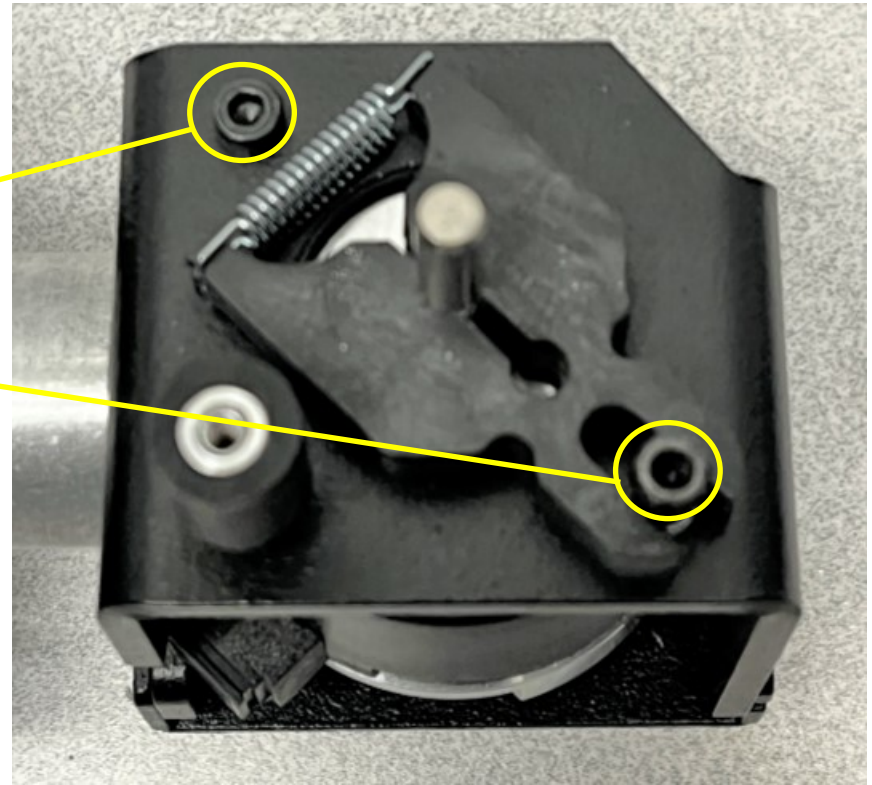
Cyberlight LED

Replace Pan/Tilt Motors

Remove motor mount screw using 2.5mm hex tool

Remove motor brake screw using 2.55mm hex tool,

be aware of the 2 spacers

Tilt motor is now free and can be removed.

Pan Motor:

Remove 2 motor mount screws using 2.5mm hex tool

Remove Teflon washer and motor brakes

Pan motor is now free and can be removed.

Cyberlight LED

Installing New Pan/Tilt Motors

After a new pan or tilt motor has been installed do not tighten the set screws until after powering on the unit.

If the set screws are tightened before powering on then the mirror will continuously run into its stops. This is because the absolute encoder needs to find zero before calibrating

The large screw on the tilt hub needs to be accessible when installed

After tightening the set screws the calibration procedure must be done:

Go into Settings, arrow up to Calibration, hit enter, change the passcode to 050, hit enter,

Arrow down to Set Pan/Tilt Home, hit enter , move mirror against the homing stops as shown here

Hit enter, the display will read STORING!!, Wait 30 seconds and cycle power
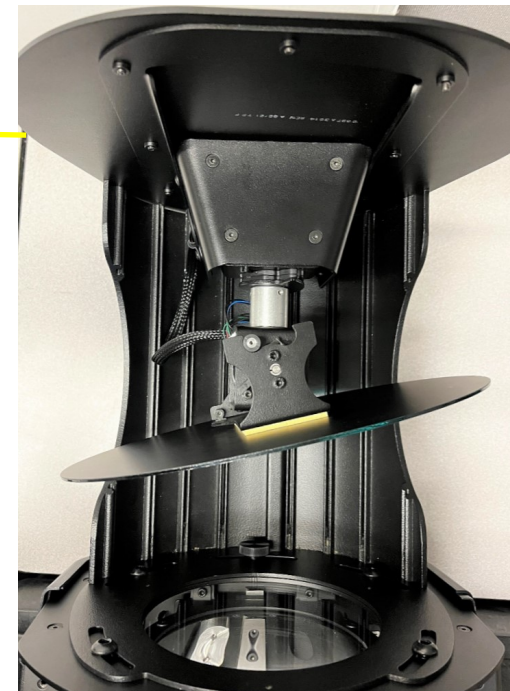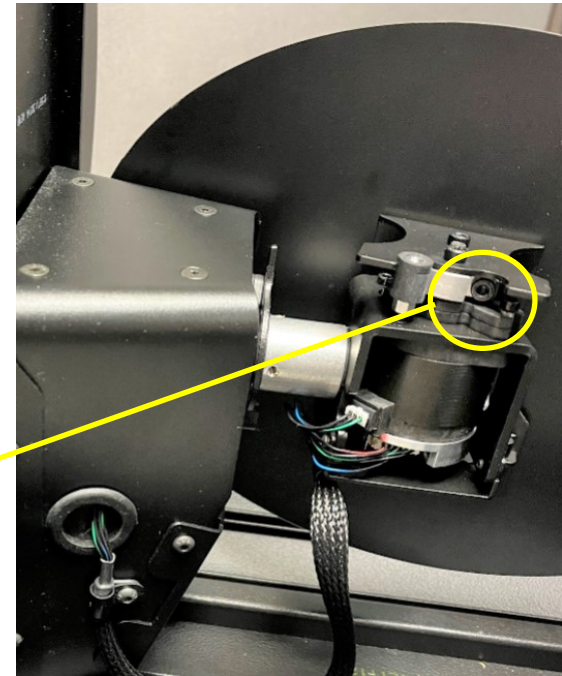
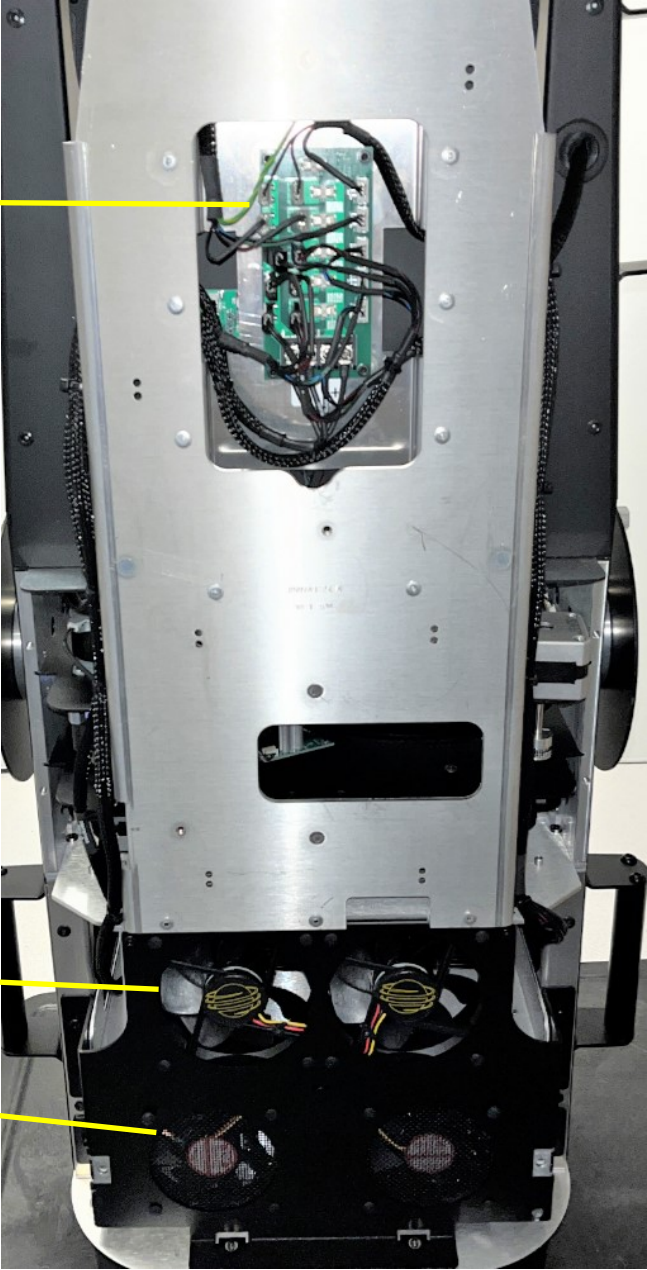# Cyberlight LED

Accessing the Electronics
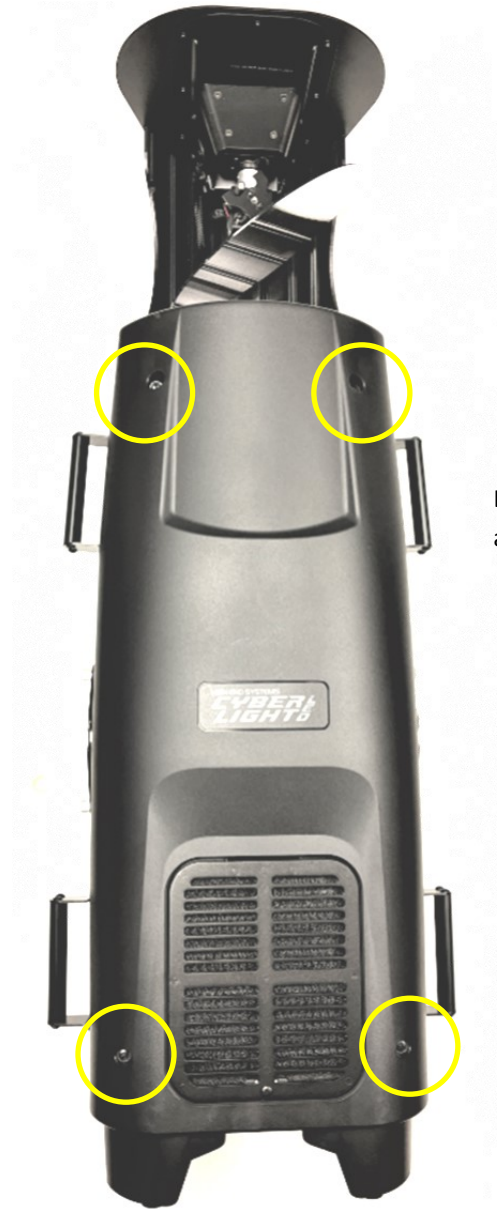
Loosen 4X Philips head screws to remove both top and bottom covers.

Cyberlight LED

Accessing the Electronics

Fuse, Data, and Power Distribution PCB

LED Exhaust Fans

PSU Exhaust Fans

Cyberlight LED

Accessing the Electronics

Remove the 8 screws from the rear panel with a 3mm hex tool
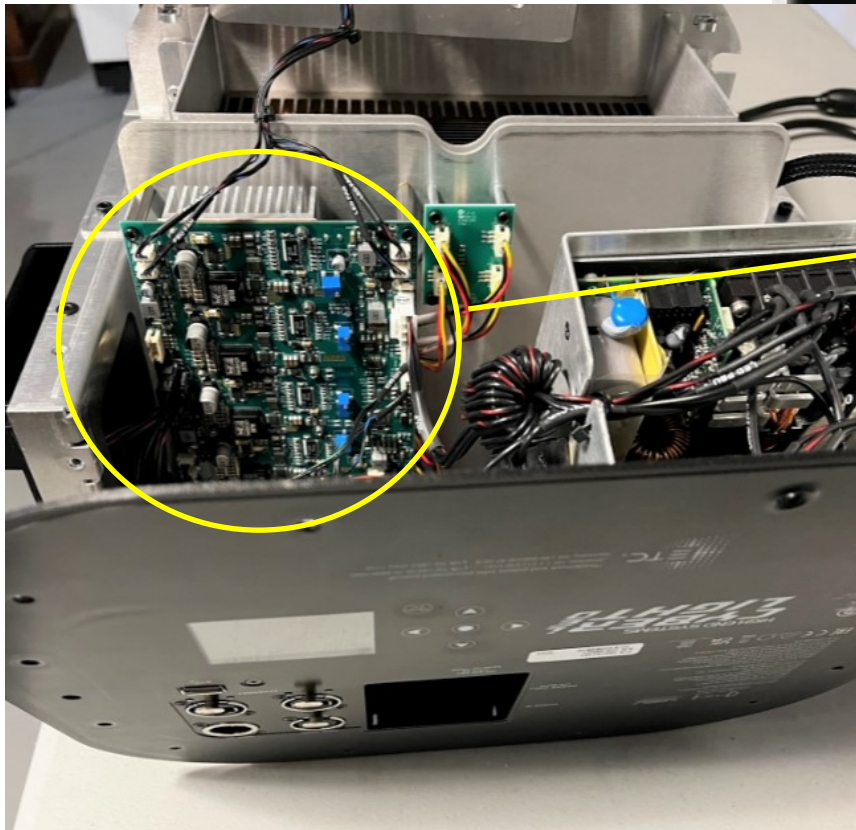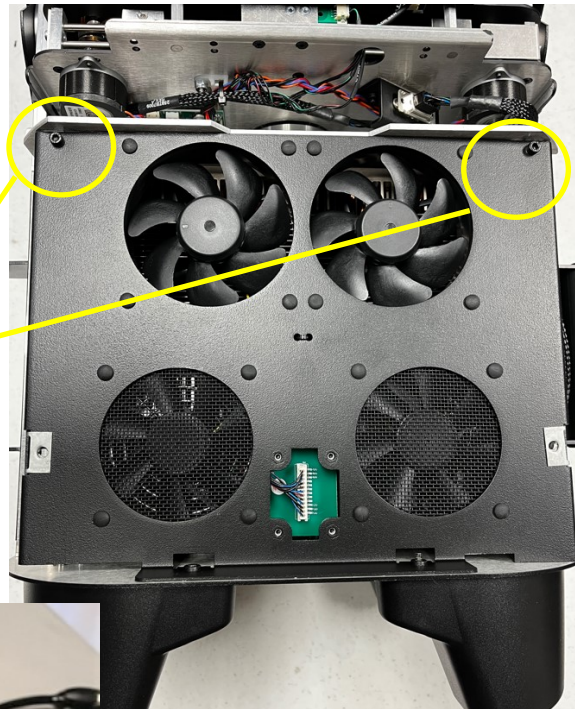
The rear panel is now loose and can be slightly tilted back.

Cyberlight LED

Accessing the Electronics

Remove 2 screws on the top fan plate assembly using a 3mm hex tool
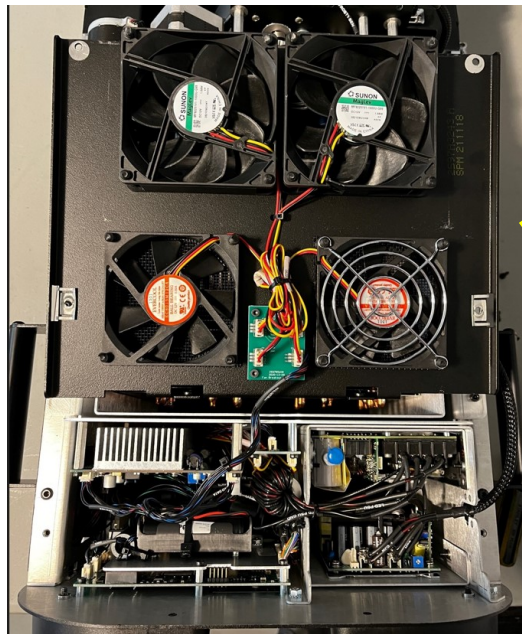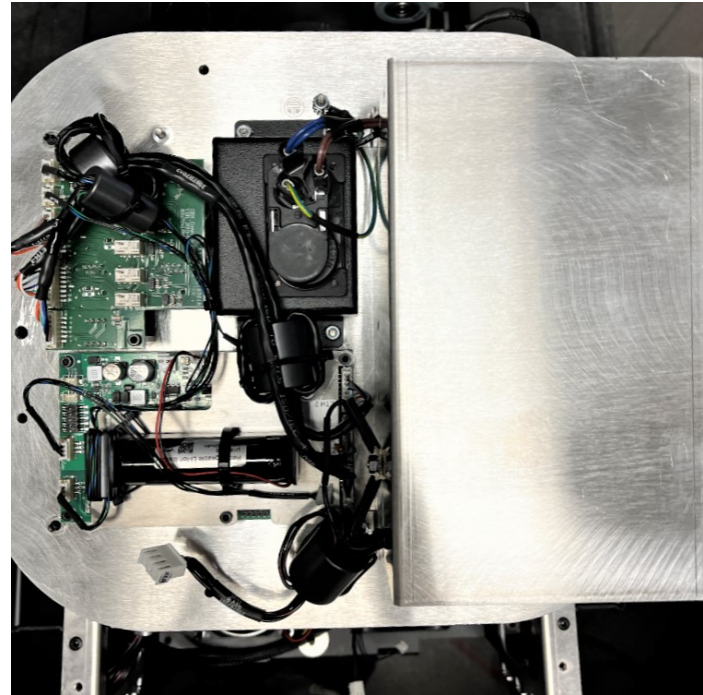

With the rear panel slightly tilted, unplug the connections on the LED driver PCB. Set fan plate assembly aside

The harnesses are labeled. See detailed slides below for the connector names and locations when installing new PCB

Cyberlight LED

Accessing the Electronics

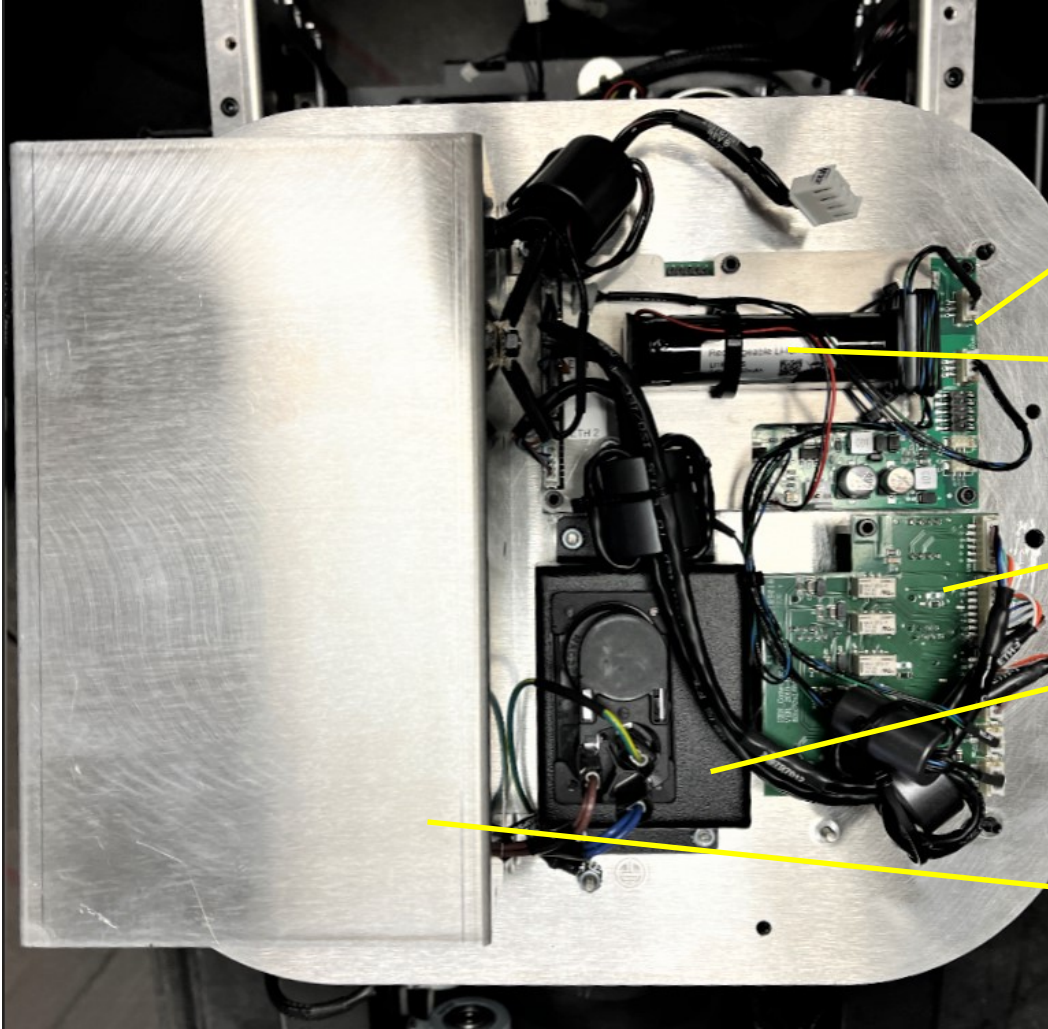Carefully pull off rear panel and place on top of unit

Note: The fan plate can be placed on top of the unit without disconnecting harnesses to replace fans

Cyberlight LED

Rear Panel Components

Set rear panel on top of unit

Display Assembly

Display Battery

I/O PC

Tru1 Connectors

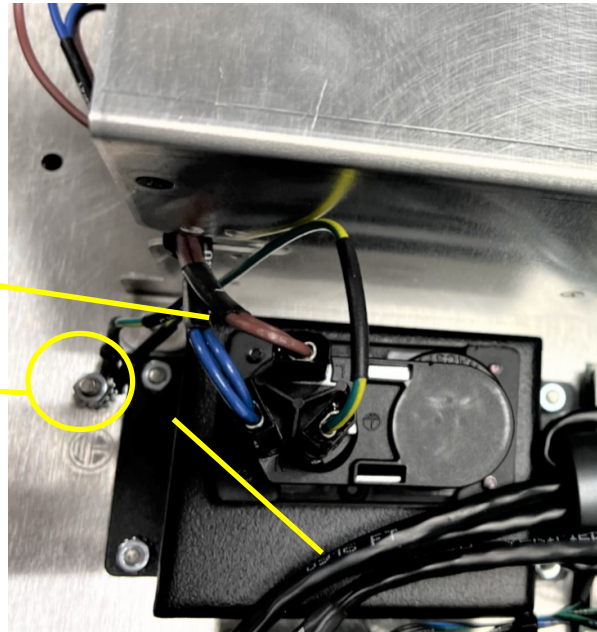Power Supply Assembly

Cyberlight LED

Remove Power Supplies
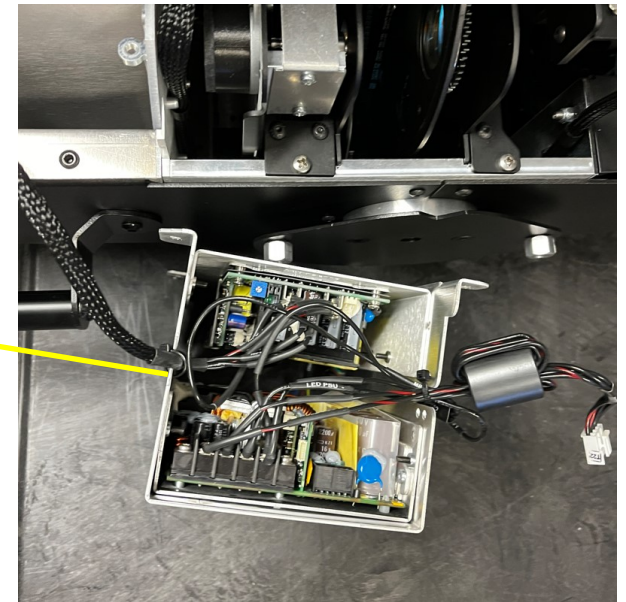
Remove hot and neutral connections

Remove top ground nut using 7mm nut driver

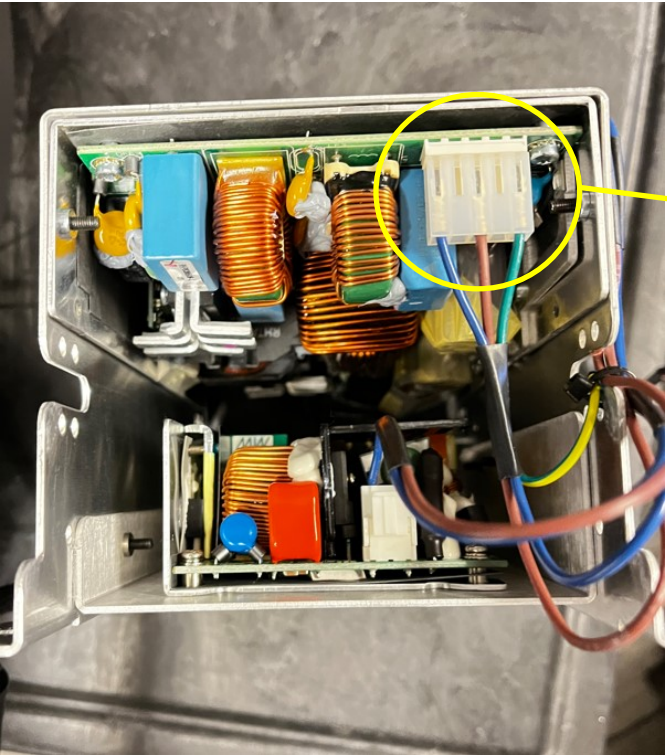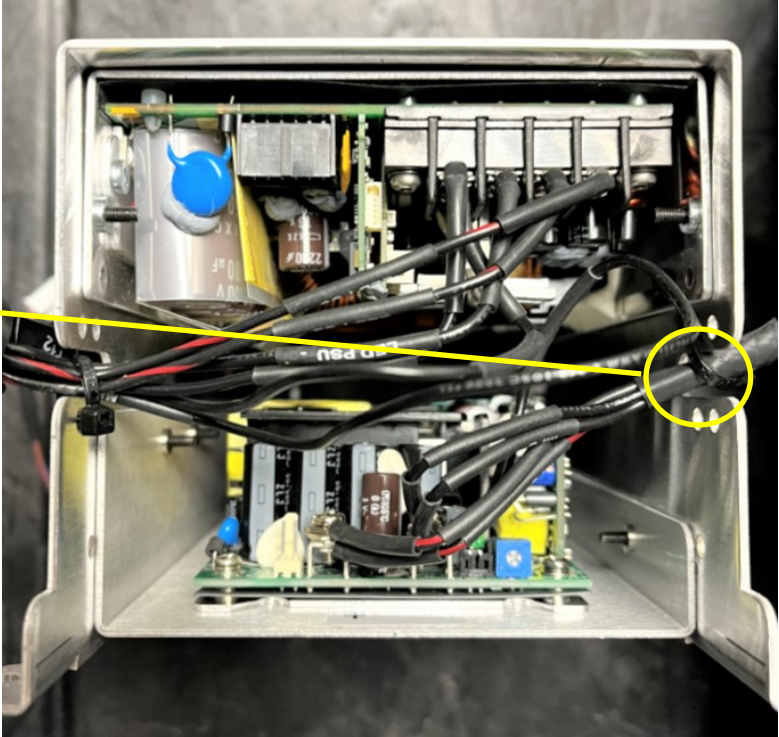Remove 4 lock nuts in the corners of PSU assembly

Using a 7mm nut driver

PSU assembly can now be removed
from the rear panel and set next to unit
as shown

Cyberlight LED

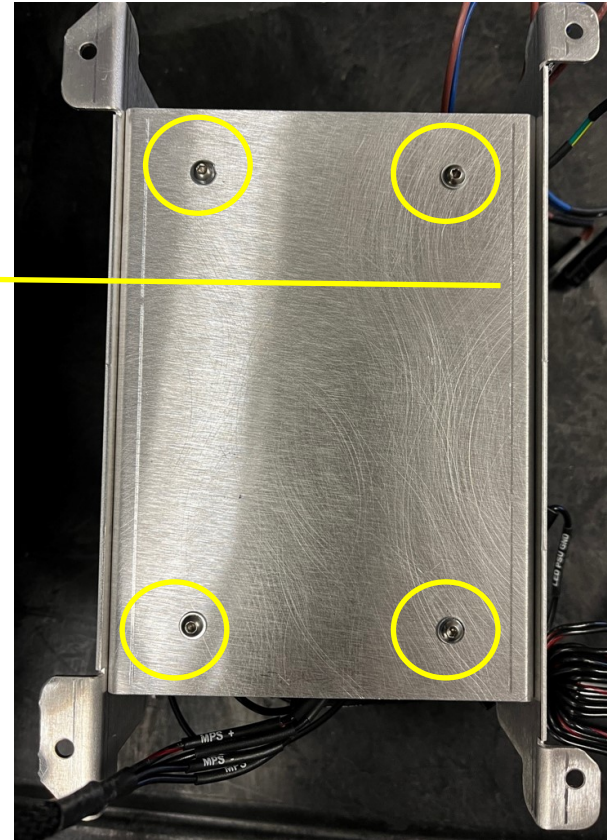Remove Motor Power Supply

Carefully cut this wire tie

Disconnect power connector

Cyberlight LED

Remove Motor Power Supply

Remove 4 screws and washers using a 2mm hex tool. Washers are not attached to the screws.

PSU is now free

Loosen terminal strip screws to remove wiring

Output is 36VDC

Red is + (right side)

Black is—(left side)

Cyberlight LED

Remove LED Power Supply

Unplug input harness

Loosen terminal strip screws to remove output wiring

Output is 48VDC

Red is + (left 2 terminals)   Black is— (right 2 terminals)

Cyberlight LED

Remove LED Power Supply

Remove 4 mounting screws (2 on each side)
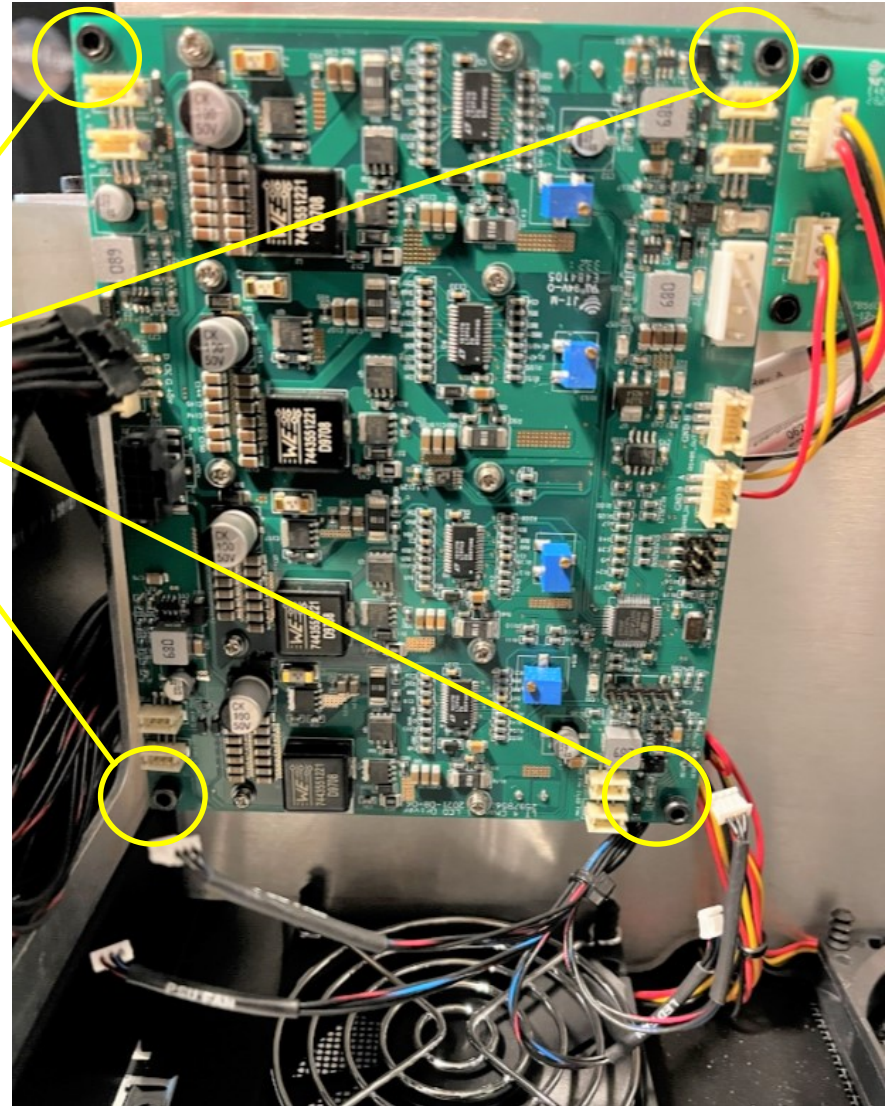
LED PSU is now free and can be replaced

Cyberlight LED

Remove LED Driver PCB

Remove the 4 mounting screws using a 2.5mm hex tool

The LED driver PCB is free and the replacement can now be

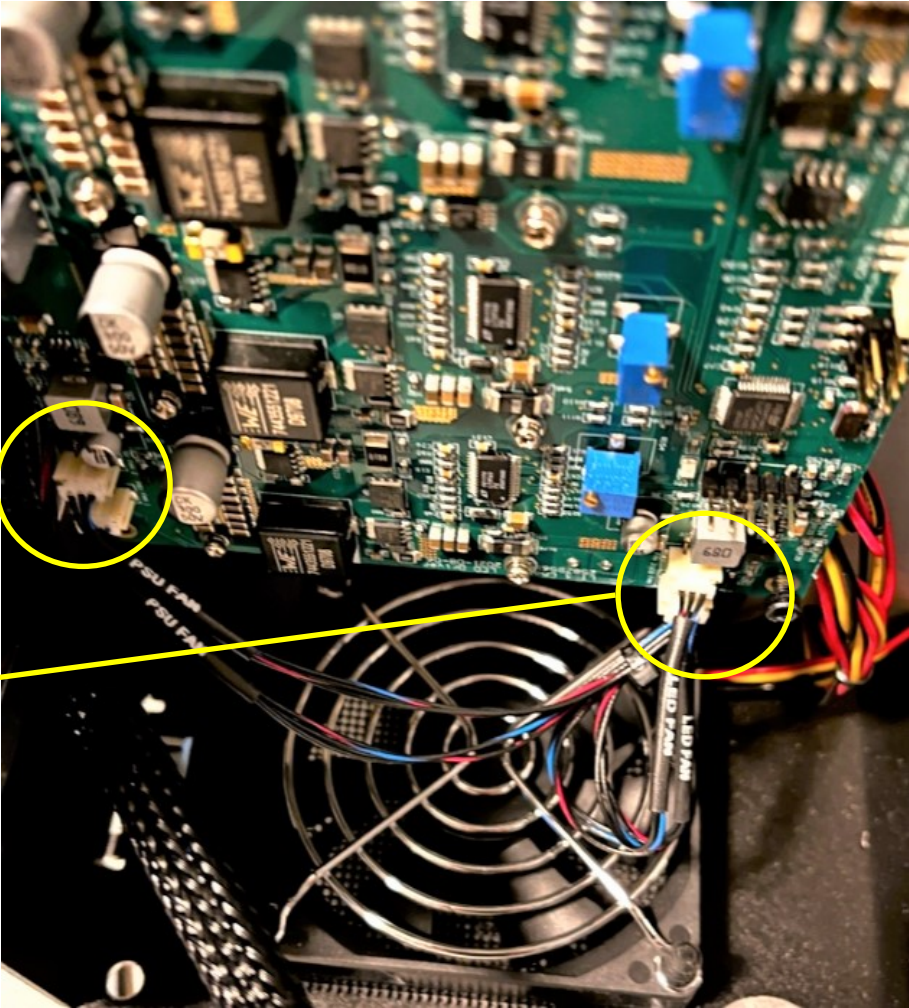 installed using the 4 previously remove screws

Cyberlight LED

Install LED Driver PCB Connectors

Connections from bottom fan plate:
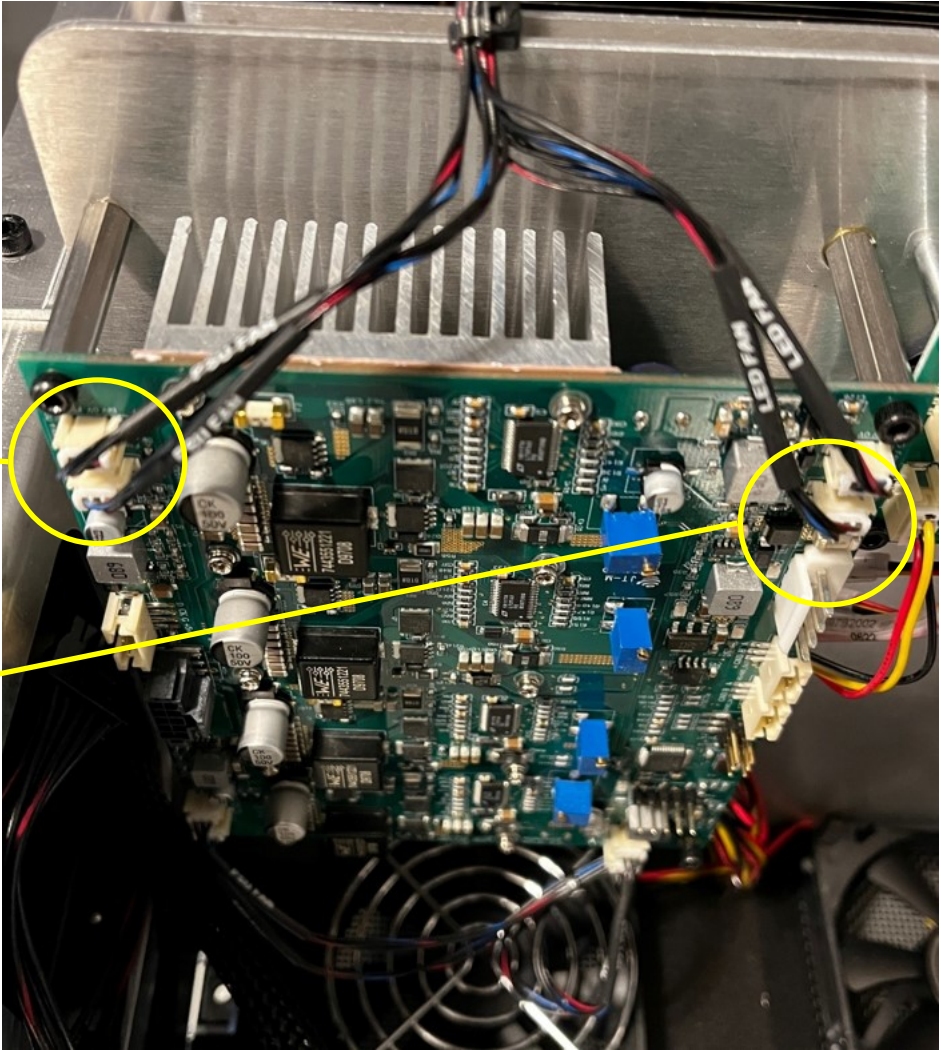
PSU FANS

LED FANS

Cyberlight LED

Remove LED Driver PCB Connectors

Connections from top fan plate:
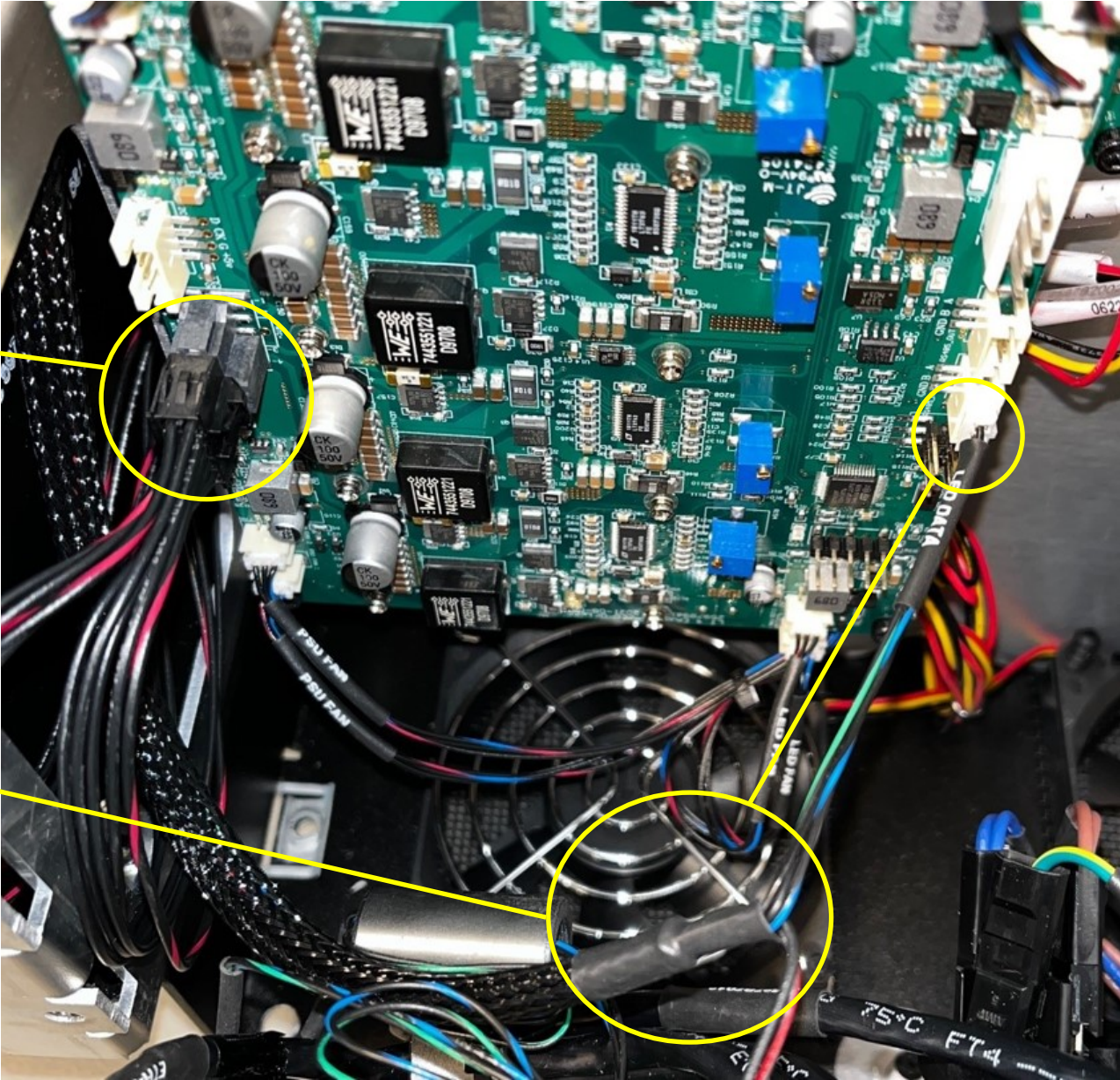
PSU FANS

LED FANS

Cyberlight LED

<u>Install LED Driver PCB Connectors</u>
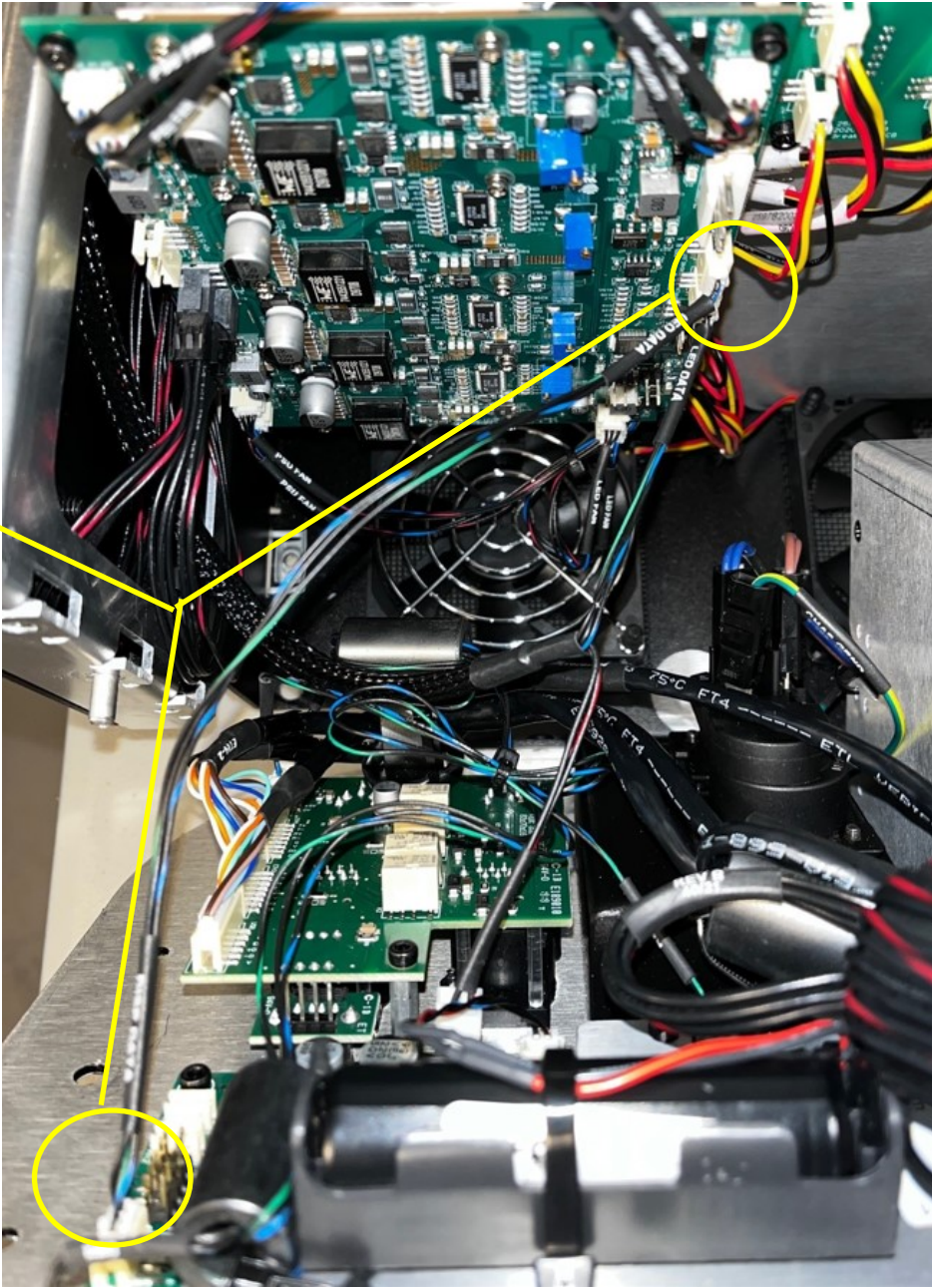
<u>Black Power Connector</u>

<u>LED DATA connector from the split harness</u>

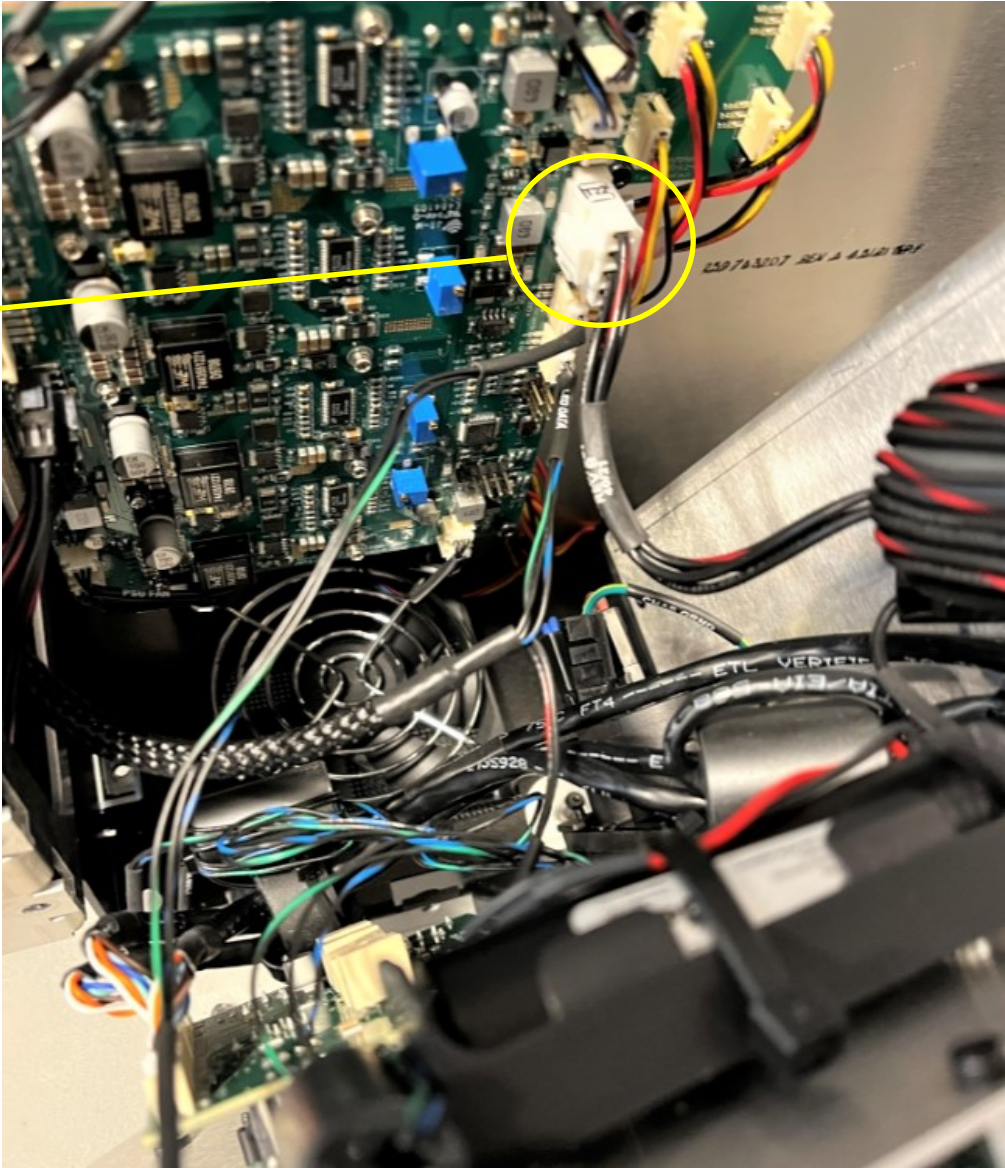# Cyberlight LED

Install LED Driver PCB Connectors

LED DATA connector from the rear panel

Cyberlight LED

Install LED Driver PCB Connectors
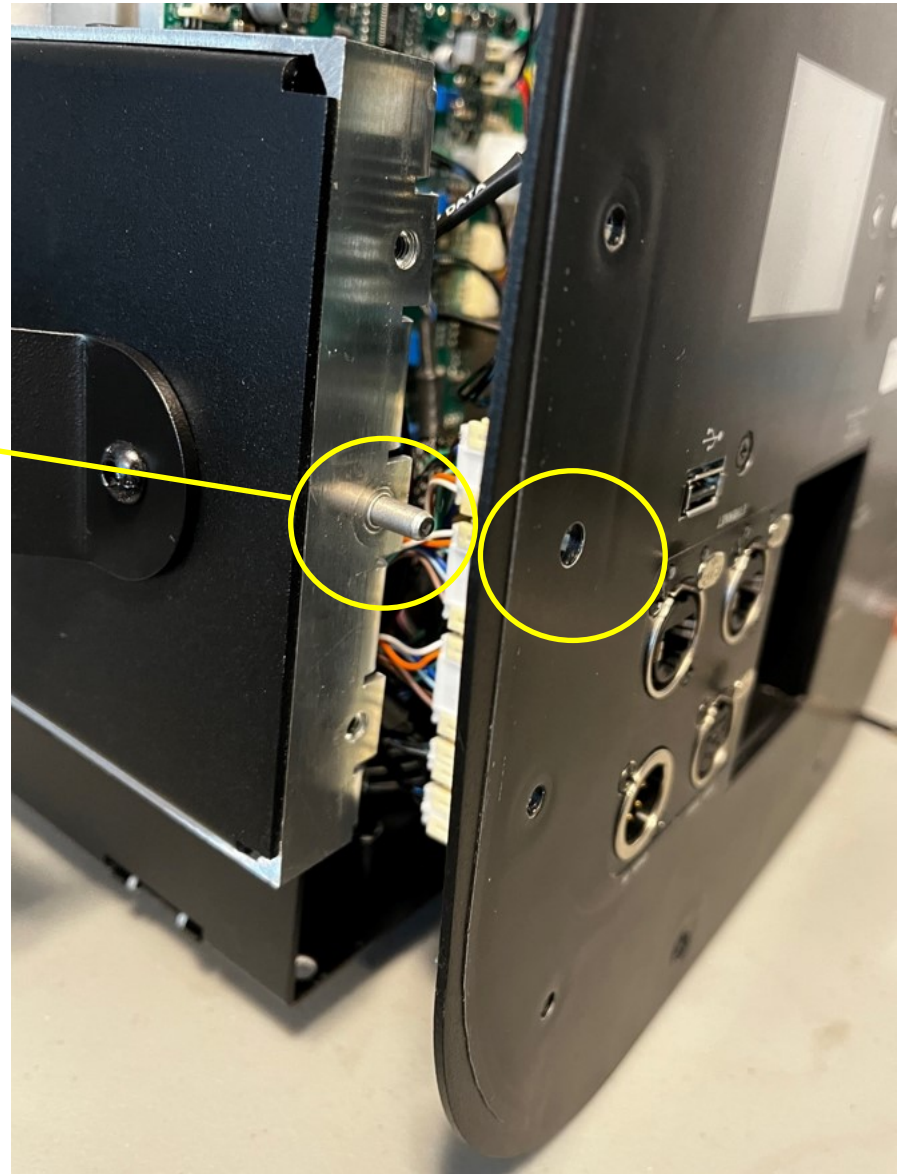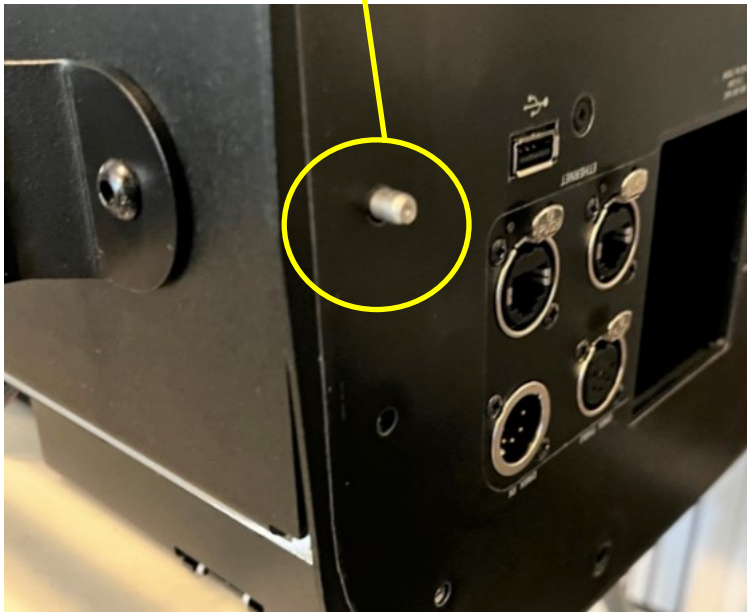
White power connector

Cyberlight LED

Install Rear Panel

Line up the pin on each side of the unit to the hole on each side of the rear panel.

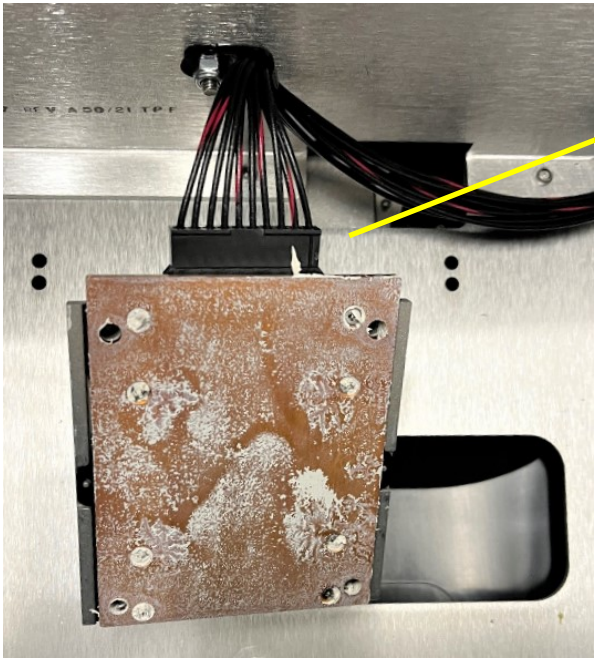Ensure that no wires are pinched before install the previously removed rear panel screws
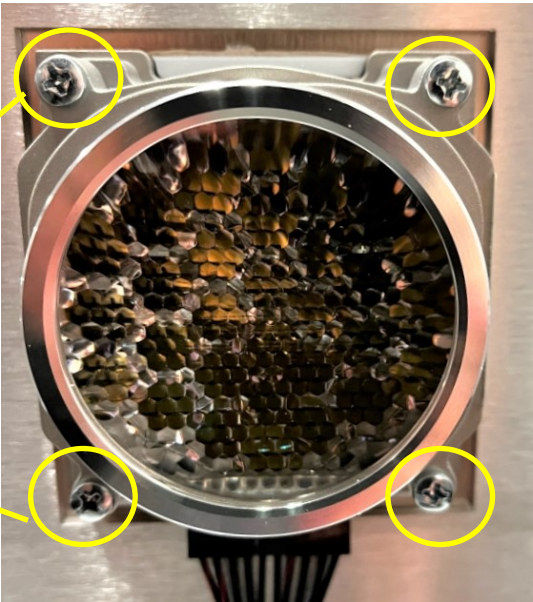
Cyberlight LED

Remove LED

Remove color and gobo modules

Remove 4 Phillips head screws

Unplug the LED harness

Apply a thin layer of Type 44 Heat Sink
Compound to new LED before installing