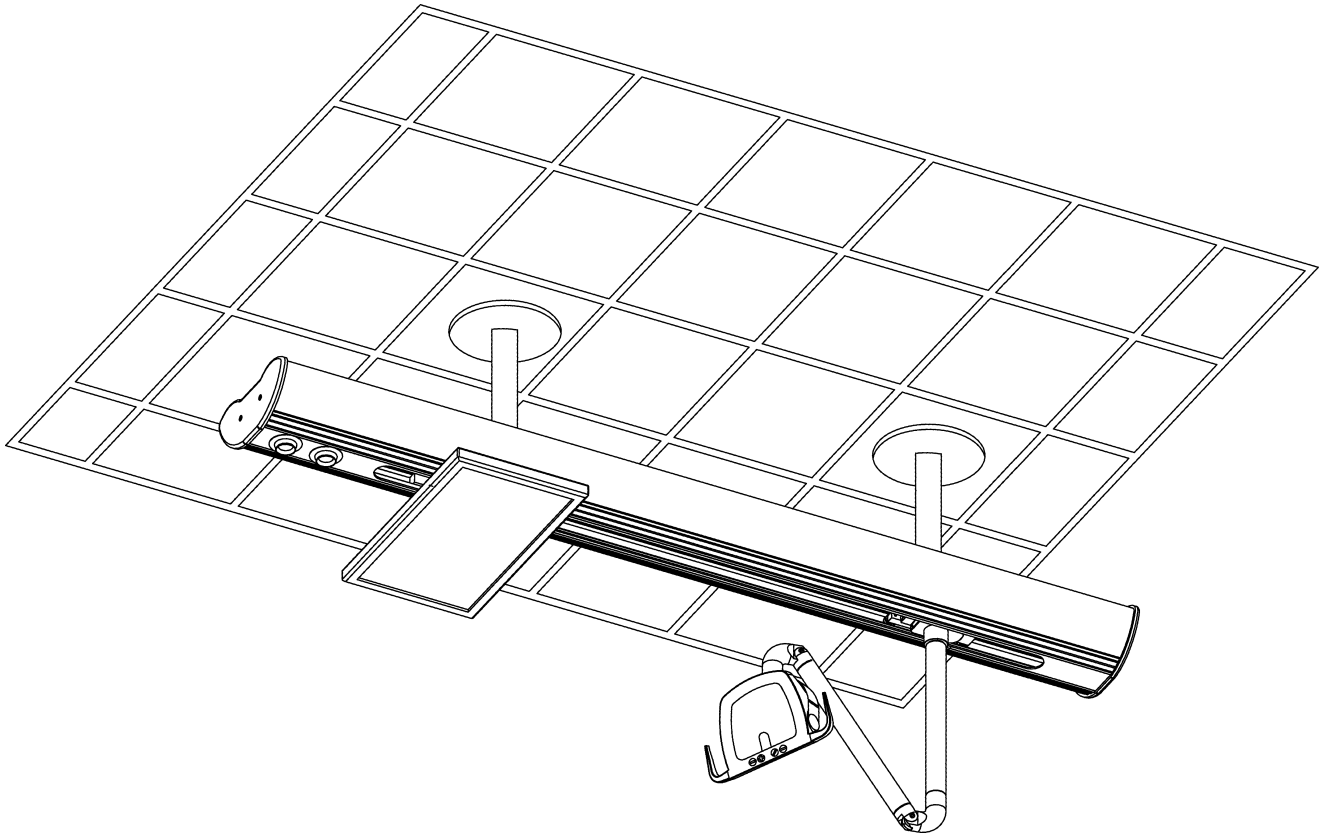
ergonomic products

Performance Without Compromise™

Installation and Operations Manual

L1A1 Aurora Light System



Monitor Sold Separately, L1A1 shown with standard

Product ID: L1A1

Manual version: G

Thank you for purchasing the Ergonomic Products L1A1 Aurora Light System.

Years of research by dentists, engineers, and designers have made this a uniquely effective product in the industry. We stand behind our equipment, and genuinely believe it to be the best available on the market.

Should you have any questions regarding the product's installation or use, please don't hesitate to call our customer service specialists at **1-866-ERGO-4-US.** We may also be reached via email at **equip@ergonomic-products.com.**

We hope that you enjoy the benefits and quality of your new equipment and we look forward to assisting you with your future needs as your practice continues to grow!

—The Ergonomic Products Team

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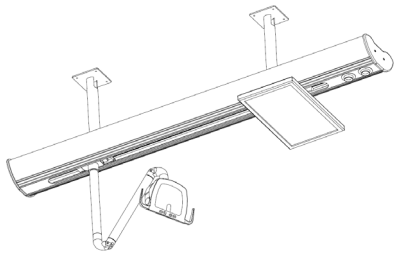


QUESTIONS?

Call our Customer Service Specialists at:

1-866-ERGO-4-US.

1 – INTRODUCTION

INTENDED USE

The Ergonomic Products Aurora LS Light Track is Class I dental operative unit, which is an AC-powered device that supplies oral cavity illumination, general operatory lighting, work surface task lighting and TV mounting for patient entertainment. The device is to be operated and used by dentists and other legally qualified professionals.

CONTRAINDICATIONS

There are no known contraindications for the use of this device.

WARNINGS

Warnings alert the user to the possibility of injury or damage to the equipment if not operated properly.

Only properly trained and authorized personnel are to use this equipment.

Do not modify this equipment without authorization from Ergonomic Products, Inc.

Read and understand all warnings, precautions, and operating instructions before use.

To avoid risk of electric shock, this equipment is only to be connected by a qualified electrician, and wired with a protective earth ground. Do not bypass the grounding circuitry.

This light should have its own circuit(s) and avoid sharing circuits with other devices that can create strong EMI signals such as x-rays and electro surgery units.

The device might cause interference with other electronic devices while in use. Ensure that other medical devices used in the treatment office do not receive interference from this device.

A dental unit might include magnets which might affect the function or programming of some implantable pacemakers or defibrillators. People who have devices programmed to respond to a magnet must avoid dental units with magnets.

1 – INTRODUCTION cont'd

DEFINITIONS OF SYMBOLS:
The following symbols may be used throughout the product manual.

WARNING:
Failure to carefully follow the described procedure may result in damage to the equipment.

Risk of electrical shock present. Make sure power is disconnected before attempting this procedure

IEC SYMBOLS:
The following symbols conform to IEC labeling standards and may be located throughout the product.

	AC (Alternating Current)
	Protective earth (Ground)
	Protected against splashing water
	See operating instructions
	Type B equipment (Protected against electrical shock).
	Dangerous Voltage
	Manufacturing Date
	Waste Electrical and Electronic Equipment
	Warning, strong magnetic field
	On / Off
	Temperature Selector 3500k - 5500k
	Important to follow instruction. Not a Caution.
	Brightness Selector

- Incompatible Equipment
To guarantee the operational safety and function of this device, the use of unapproved units or accessories is not advised. Doing so could result in potential hazard.

- Transport & Storage
Packaging should be handled with care and not be allowed to get wet. Storage temperatures should range from -68°F(-22°C) to 122°F(50°C) with a humidity range from 10% to 90%.

- Environmental Conditions
The dental light is intended to operate in a dry, indoor, thermally controlled environment. The temperature range should be kept between 50°F (10°C) and 110°F (43°C).

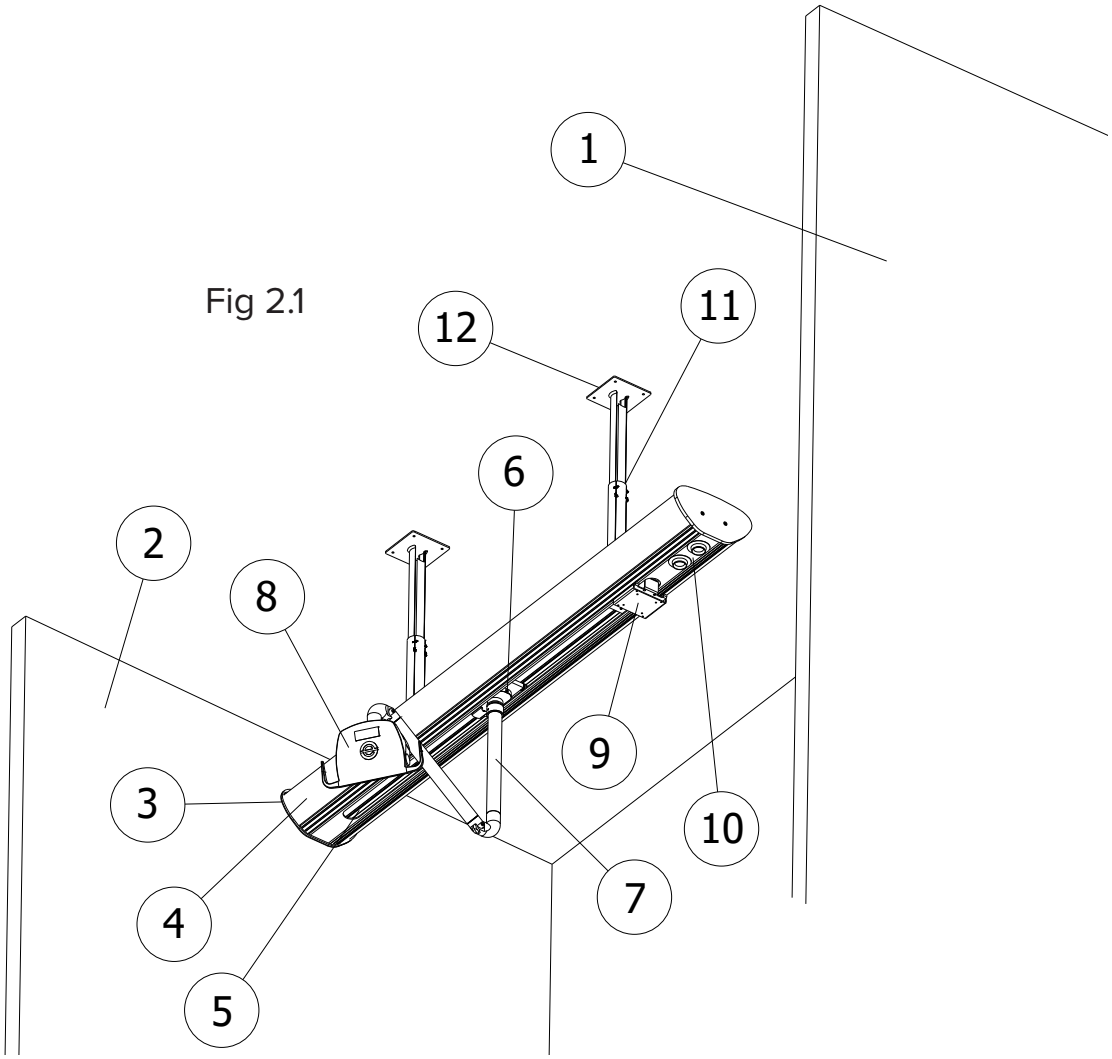
- Working Conditions
Temperature: 41°F (5°C) to 104°F (40°C)
Relative Humidity: 30% to 75%
Atmospheric Pressure: 70 to 106Kpa

We are constantly striving to improve our products. We reserve the right to make modifications without the need for prior notification and are not obliged to modify previously manufactured items.

2 – BASIC ANATOMY OF YOUR LIGHT SYSTEM

Balloon callouts in Fig 2.1 are the common parts of the Aurora LS.

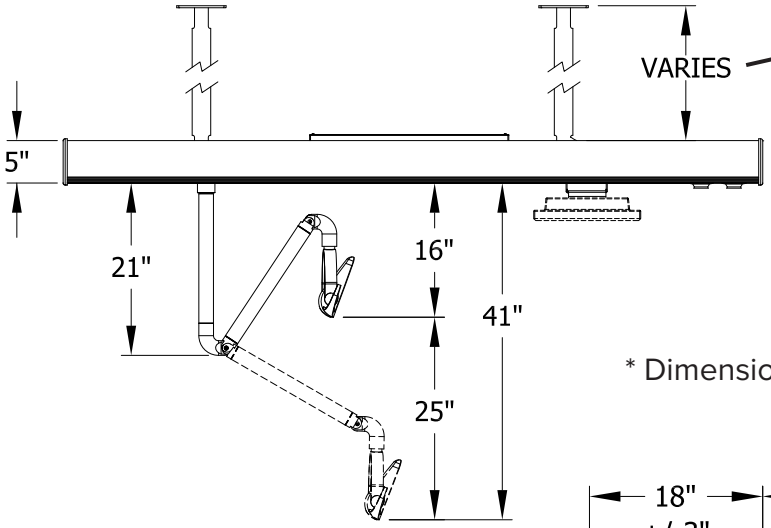
Fig 2.1



(1) – Headwall
(2) – Toe Wall
(3) – Light End Caps
(4) – Light Shield
(5) – Track
(6) – Track Light Trolly
(7) – Flex Tube
(8) – Headlamp
(9) – Monitor Bracket
(10) – Adjustable Task Lights
(11) – Pendant
(12) – Pendant Plate

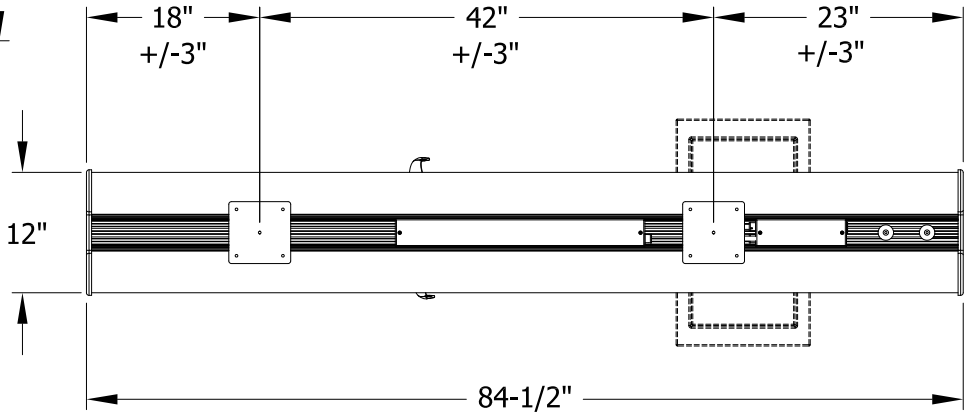
3 – SPECIFICATIONS

OVERALL DIMENSIONS



Please review the Pendant Mount form for dimensions

* Dimension to be provided by General Contractor / Builder.



TECHNICAL DATA:

The Aurora LS requires an 8 amp circuit.

LED Room Lighting
120 Volt
*Wattage: 198w
Color Temp: 5000k
Color Rendering Index: 80 (CRI)

LED Oral Cavity Light (Headlamp)
120 Volt
Wattage: 10w
Color Temp: 4000k, 4800k, & 5500k
Color Rending Index: 90 (CRI)

Aux Outlet (TV)
120 Volt
5 amp

*For Title 24 applications – Output can be reduced to 120 watt.
Main Light WT – 60.8 lbs
Pendant WT – 3.6 lbs per foot
Headlamp and suspension arm WT – 23 lbs
Uses 0-10V dimmer switch.

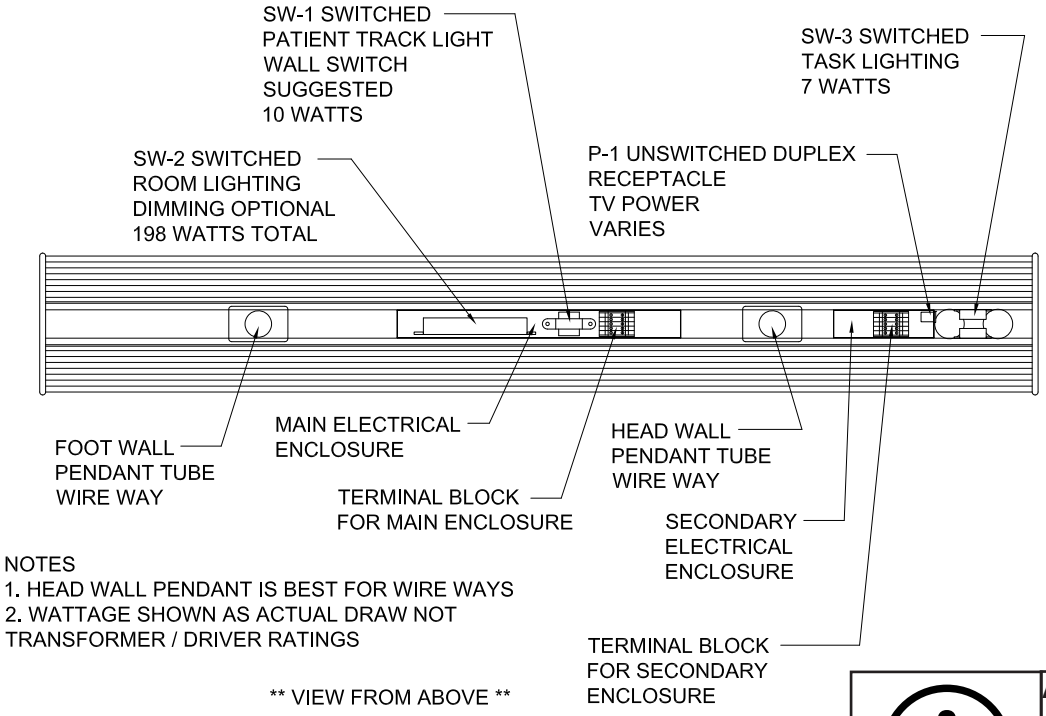
LED Task Lighting
120 Volt
Wattage: 7w
Color Temp: 3500k - 5500k
Color Rending Index: 80 (CRI)

8 amp Total connected load

Total Watts – 215w (excludes TV outlet)

3 – SPECIFICATIONS cont'd

The below image shows the overhead view of the Aurora LS electrical callouts, and a side view showing the switched and un-switched power supplies.

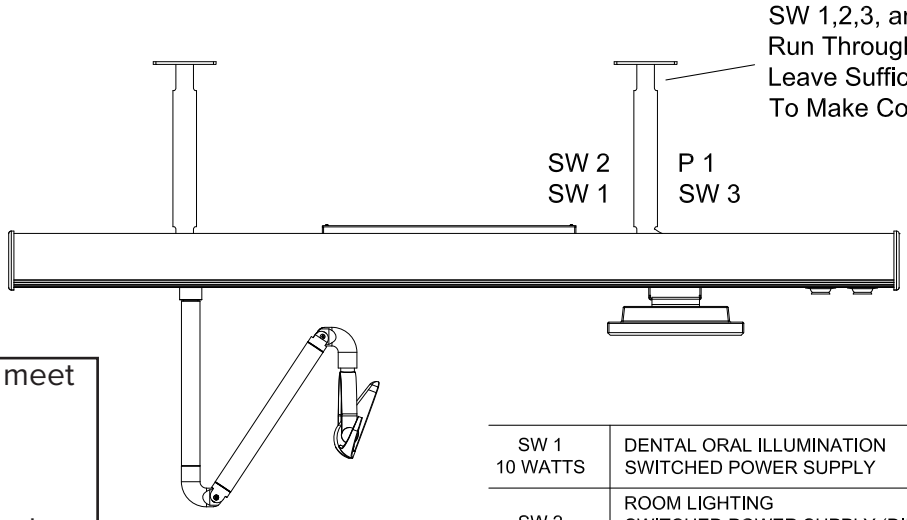


NOTES
1. HEAD WALL PENDANT IS BEST FOR WIRE WAYS
2. WATTAGE SHOWN AS ACTUAL DRAW NOT TRANSFORMER / DRIVER RATINGS

ATTENTION: All circuits used to connect equipment must comply to national and local electrical codes

Unit must be switched to meet IEC 60601-1 guidelines

Supply Mains - Over current protected circuit

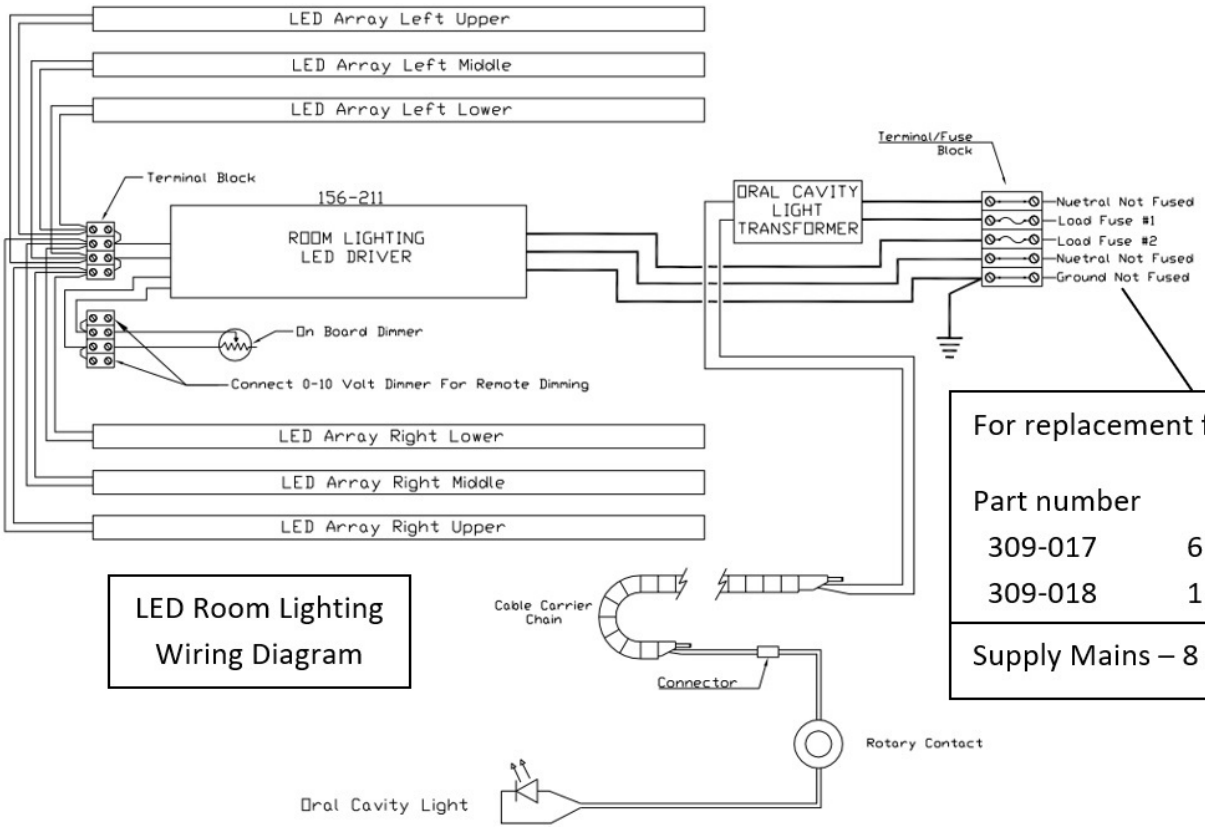


Unit must be switched to meet IEC 60601-1 guidelines

Supply Mains - Over current protected circuit

SW 1 10 WATTS	DENTAL ORAL ILLUMINATION SWITCHED POWER SUPPLY
SW 2 198 WATTS	ROOM LIGHTING SWITCHED POWER SUPPLY (DIMMABLE) REQUIRES 0-10V DIMMER SWITCH
SW 3 7 WATTS	TASK LIGHTING SWITCHED POWER SUPPLY
P 1 VARIES	MONITOR POWER FEED UNSWITCHED POWER SUPPLY

3 – SPECIFICATIONS cont'd



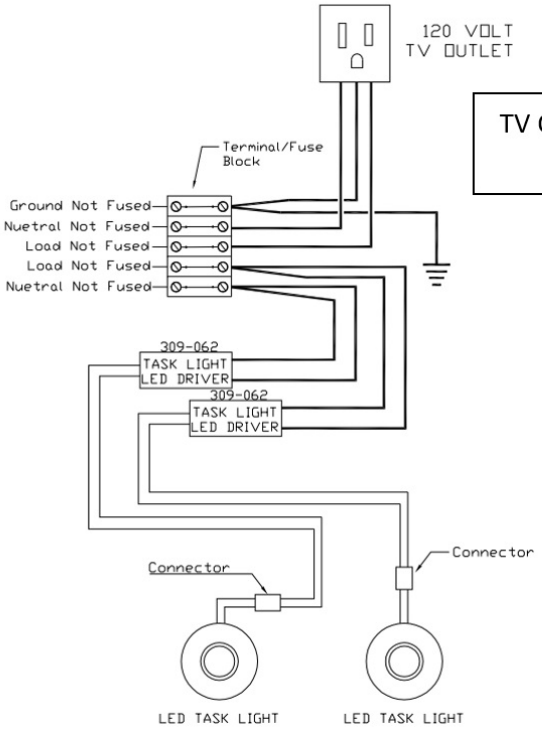
LED Room Lighting
Wiring Diagram

For replacement fuses use:

Part number	Amps
309-017	6.0 amp fuse (1)
309-018	1.0 amp fuse (1)

Supply Mains – 8 amp Circuit

Supply Mains – 8 amp Circuit

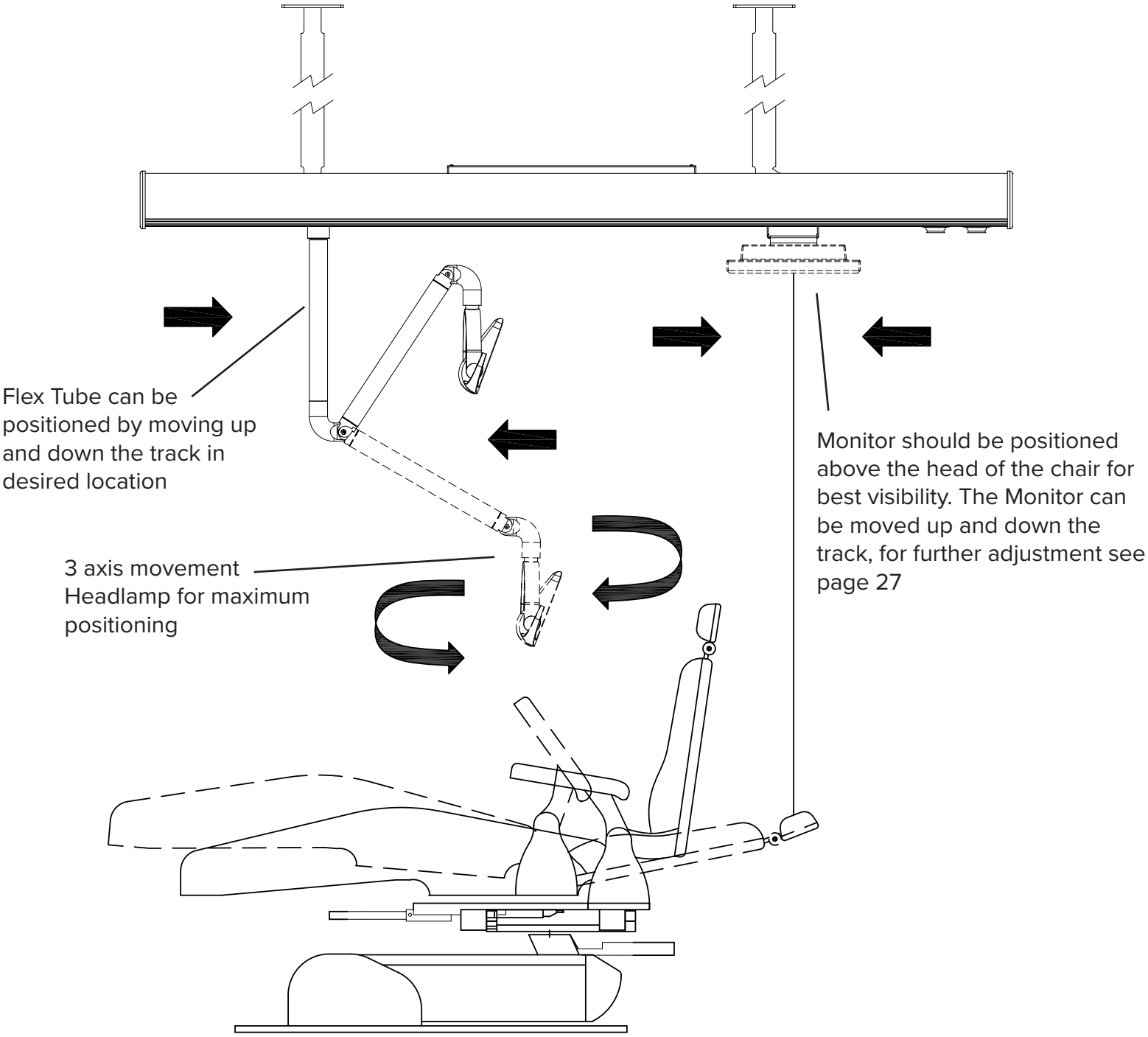


TV Outlet and Task Lighting
Wiring Diagram

⚠ ⚠	**WARNING:** Before making any connections, be sure all power has been disconnected. Making these connections while unit is connected to power source may result in equipment damage or injury.
⚠	**WARNING:** Make sure main power is OFF when connecting to terminal strip.
⚠	**WARNING:** Connections to be performed only by a qualified electrician.

3 – SPECIFICATIONS cont'd

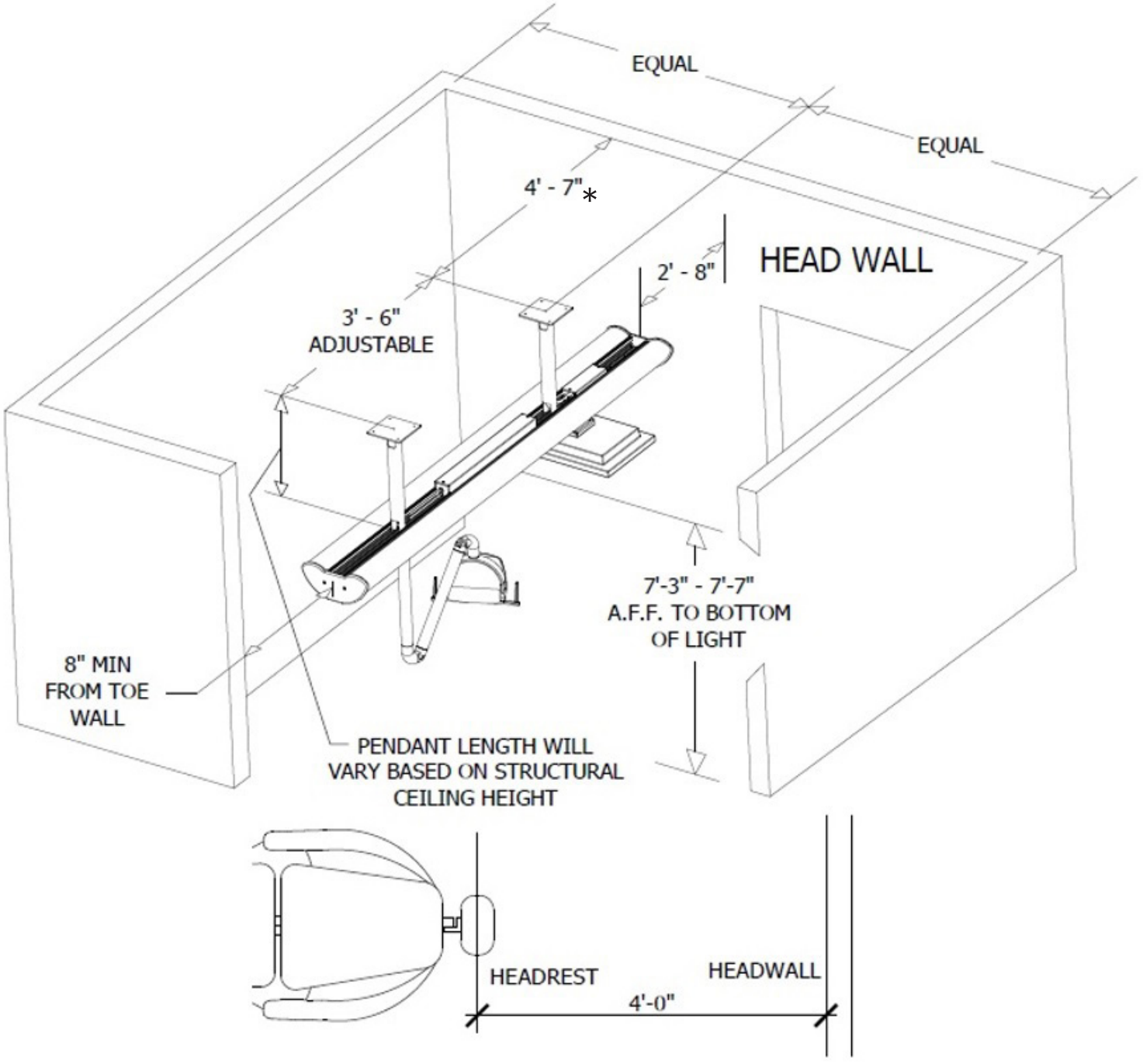
The below image shows the range of the Suspension Arm, Headlamp and the suggested placement of the Monitor.



3 – SPECIFICATIONS cont'd

Please note all dimensions. These dimensions must be maintained in order for optimum function of the Aurora LS.

*Note: If the Slimline Headwall is present the measurement from the headwall to the center of the post should be 49" or 4'-1"



4 – STRUCTURE OF THE LIGHT

Below shows the HEADLAMP onboard functions and descriptions.

Hand Sensor
(also On / Off)

Temperature Selector
yellow/orange “warm” light, or
white “neutral” or “cool” light

On / Off

Illumination Selector

5 - OPERATING INSTRUCTION

1. Pressing the On / Off button turns the HEADLAMP “on or “off”

2. Pressing the Temperature Selector changes the light color from yellow/orange “warm” light, to white “neutral” or “cool” light.

3. Pressing the Illumination Selector increases the brightness of the light.

4. There is a Hand Sensor on the bottom of the HEADLAMP that also tuns the lamp on and off.

5. Adjust the angle of the light using the handles to adjust to any position you prefer. The light head is three axis, providing unlimited positioning.

Note: When using light-activated restoring materials, lights should be turned off.

Temperature Selector
yellow/orange “warm” light, or
white “neutral” or “cool” light

On / Off

Illumination Selector

Hand Sensor
(also On / Off)

6 - UNPACKING AND INSPECTING

1. Inspect all shipping containers for visible damage upon arrival. If transit damage is found photograph, damage and contact Ergonomic Products immediately. (This will expedite the corrective process).

2. Use safe lifting procedures to free the product from the container, and remove all packing material and any accessory boxes from shipping container.

3. Lay individual components on clean surface to avoid scratching, and inspect contents. If damage is found, contact Ergonomic Products immediately.

4. Do not discard accessory boxes without thoroughly confirming they are empty first.

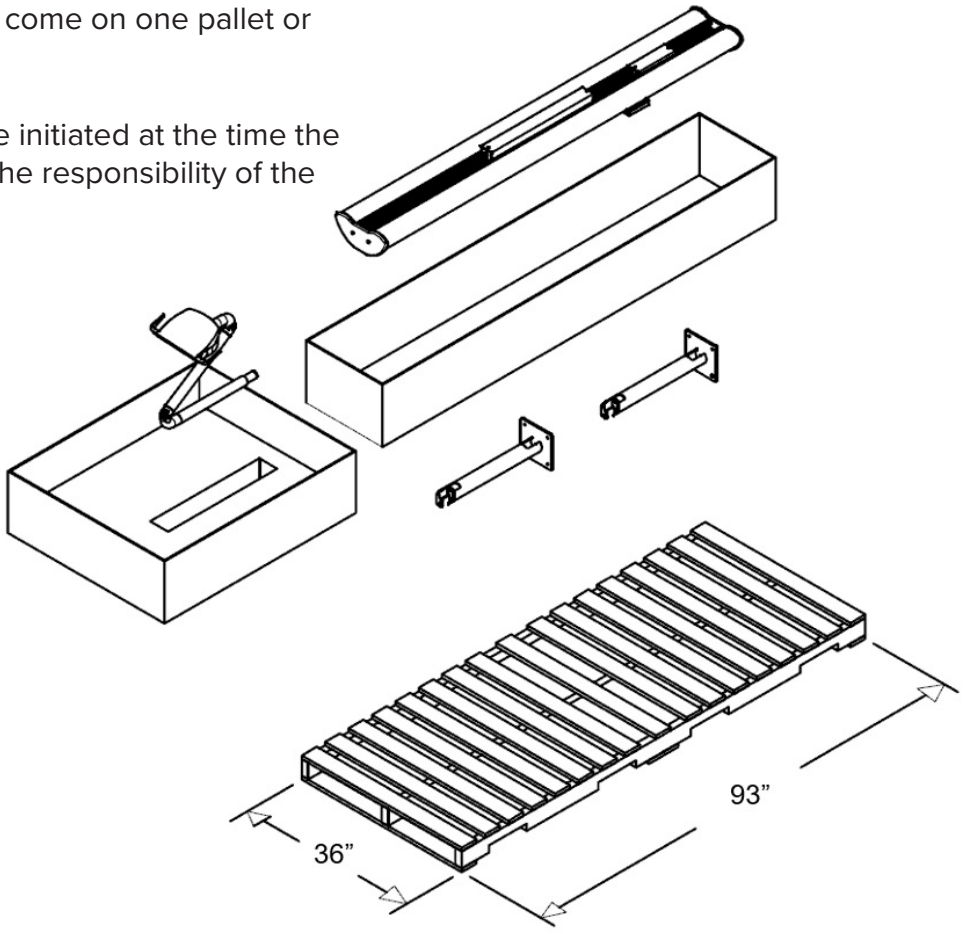
NOTE: Lights come in three boxes, Main Body, Flex Arm, Light Head, and Pendants. Pendant parts come in different sizes and may be shipped in a separate box or separate pallet.

Depending on quantity of lights, order may come on one pallet or multiple.

All claims against the freight carrier must be initiated at the time the damaged items are received. The claim is the responsibility of the customer.

REQUIRED TOOLS

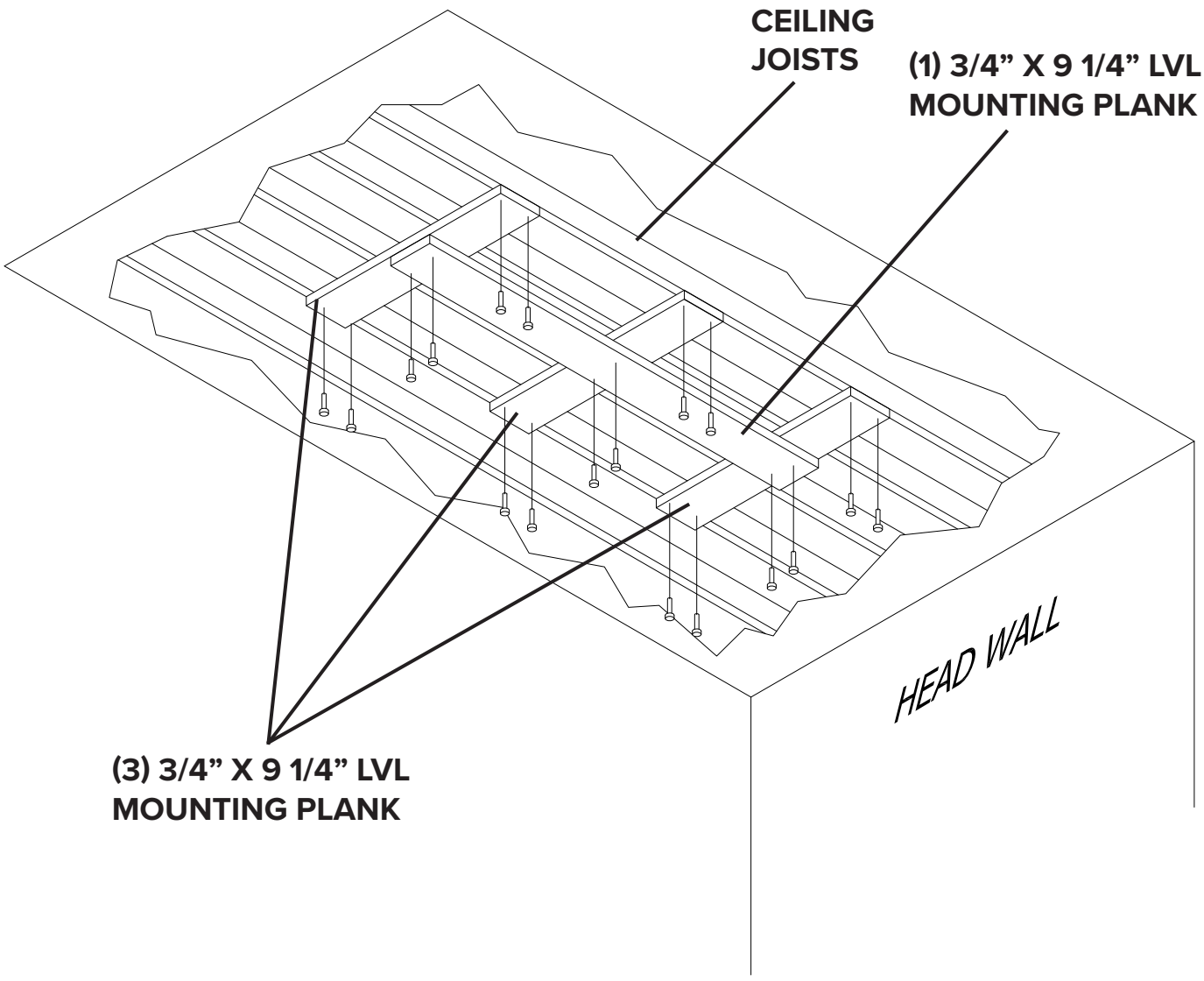
Utility Knife
Electric drill and Assorted Bits
Construction Level
7/16” Wrench (7/16” Ratchet Preferred)
Lifting Device
Torx Wrench – Drive size T30
Phillips head screw driver
Allen Wrench – 1/8”



7 - SUGGESTED MOUNTING METHODS

JOISTS PERPENDICULAR WITH HEADWALL

Use LVL mounting planks when securing to the structural frame of the ceiling (LVL planks are more stable and will twist less than solid wood). If the joists run perpendicular to the head wall, use a length that spans no less than 4 joists, fasten to achieve full member strength.

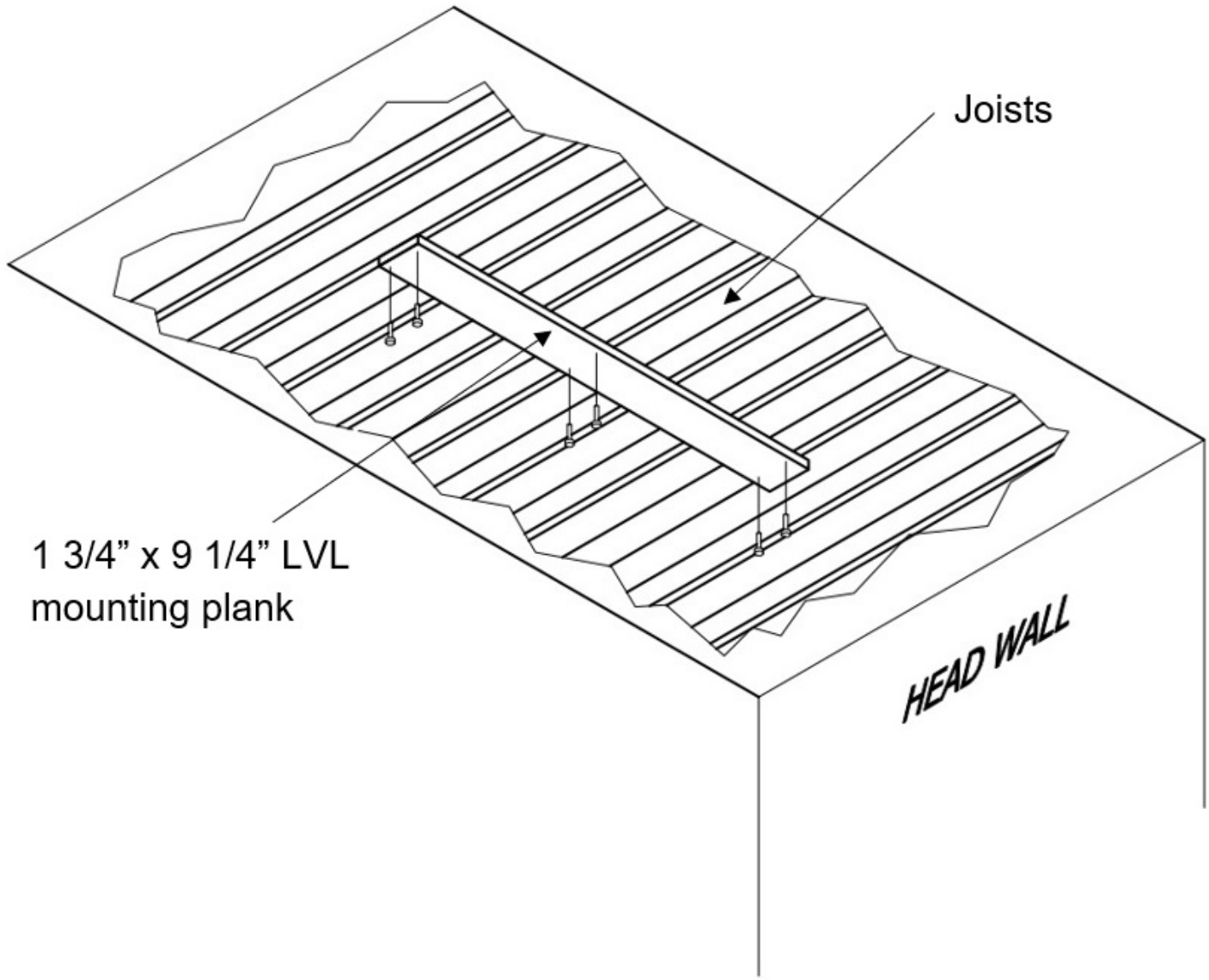


WARNING: It is the responsibility of the contractor to provide suitable support framing prior to installation.

7 - SUGGESTED MOUNTING METHODS cont'd

JOISTS PARALLEL WITH HEADWALL

Use LVL mounting planks when securing to the structural frame of the ceiling (LVL planks are more stable and will twist less than solid wood). If the joists run parallel to the head wall, use a length of no less than 96" and fasten to achieve max strength.

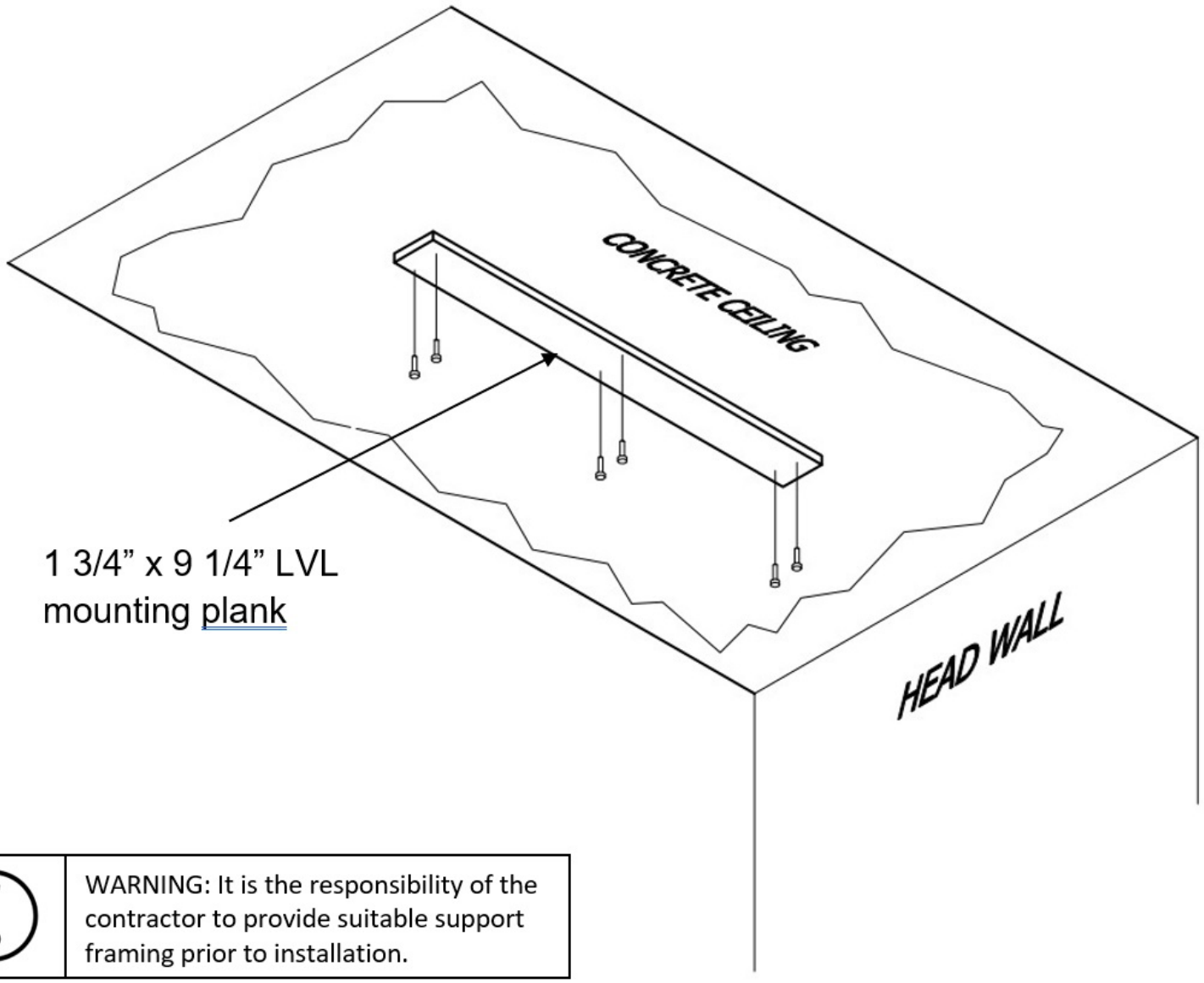


WARNING: It is the responsibility of the contractor to provide suitable support framing prior to installation.

7 - SUGGESTED MOUNTING METHODS cont'd

CONCRETE CEILING

Use LVL mounting planks when securing to the structural frame of the ceiling (LVL planks are more stable and will twist less than solid wood). If the structural frame of the ceiling is made from reinforced concrete slab, position the mounting surface perpendicular to head wall use a length of no less than 96" and fasten to achieve max strength.



!	WARNING: It is the responsibility of the contractor to provide suitable support framing prior to installation.

8 - PENDANT INSTALLATION

Inspect Pendants for defects before installing into the pendant track.

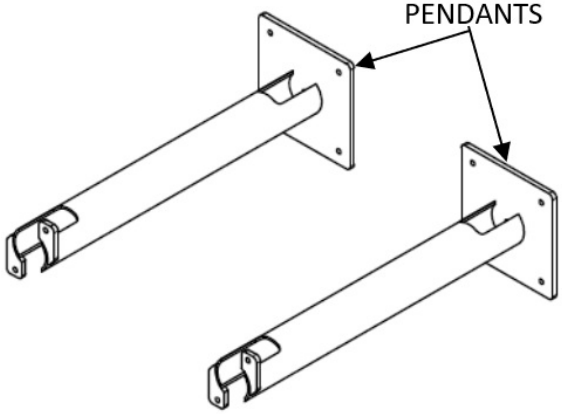
Inspect the Light Track for any damage. This includes the lens, end caps and task lights.

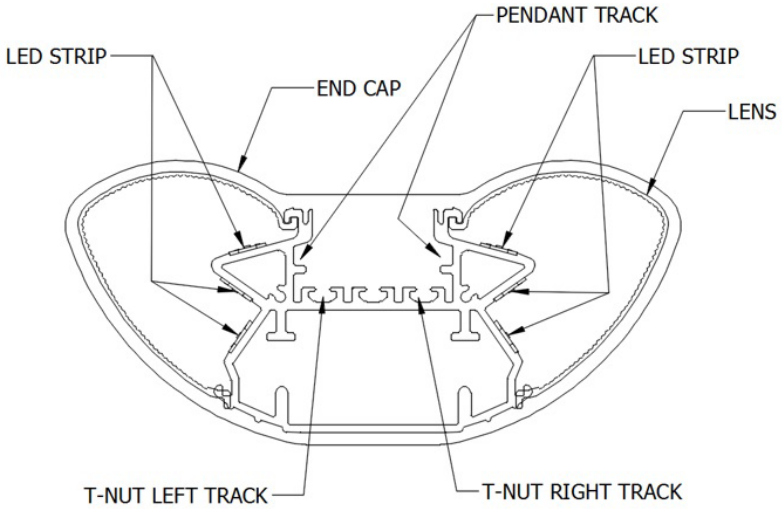
The image below shows the Pendants and a section view that calls out the track locations for each component.

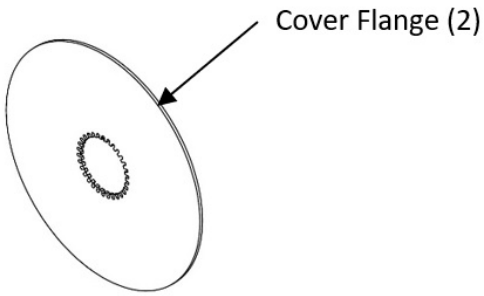
Pendant Track – This location is where the pendant will land once turned and fastened into place with the screws and t-nuts provided.

T-Nut Track – The screws and t-nuts needed to secure the pendant in place come preinstalled on each end.

Cover Flange – Cover flange used to cover the cutout in the ceiling tile.

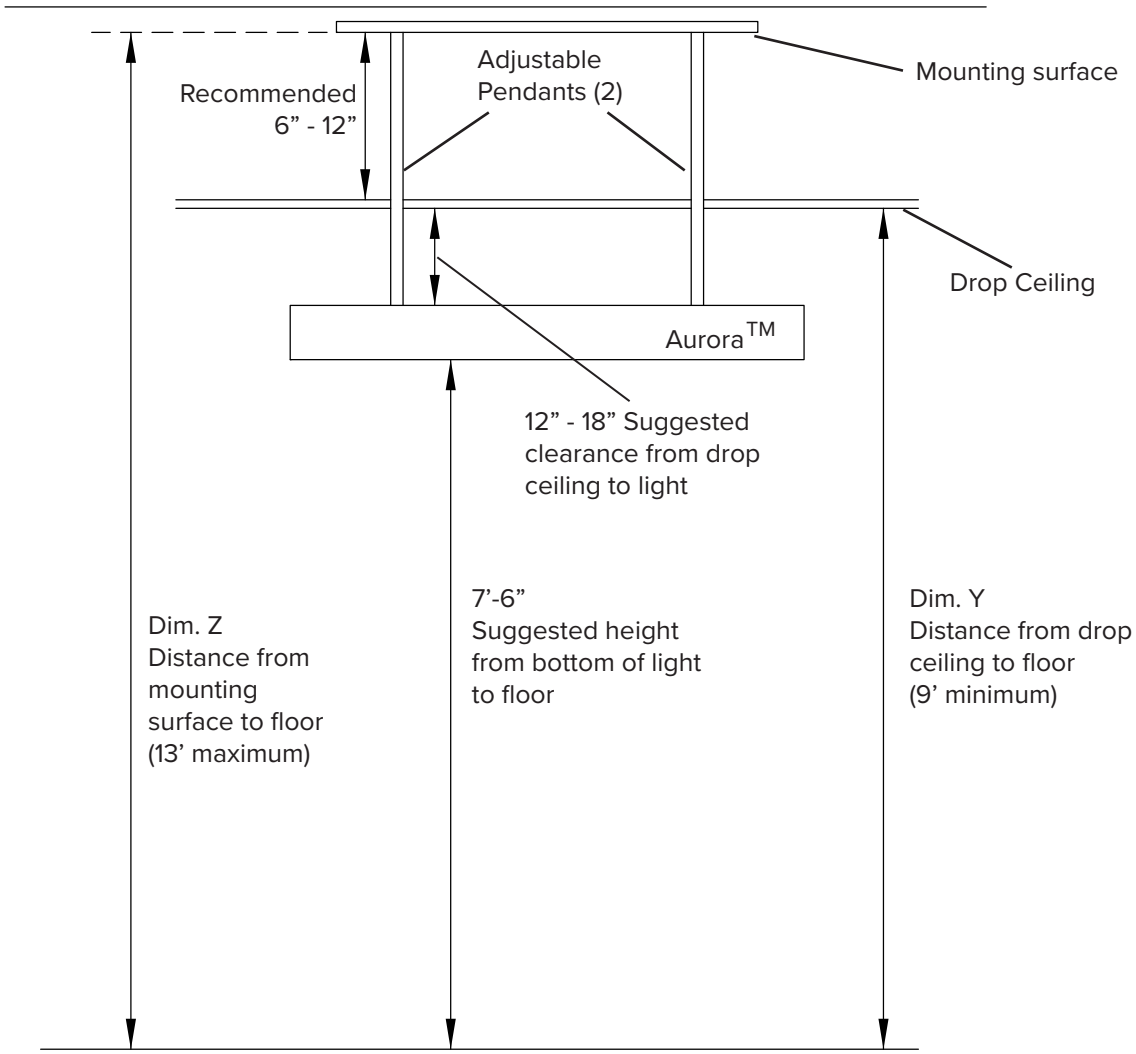






8 - PENDANT INSTALLATION cont'd

To determine which size range the Adjustable Pendants fall under, see the chart below when ordering the Adjustable Pendants from your Ergonomic Products Representative.



- For best use, the light should be positioned 7'-6" (+/- 2") above the floor, with a clearance of 12" - 18" (+/- 6") to the drop ceiling. Installing outside these ranges may result in reduced illumination quality and/or clinical function.

- Light pendants are available in 3 base lengths (and are adjustable prior to installation).

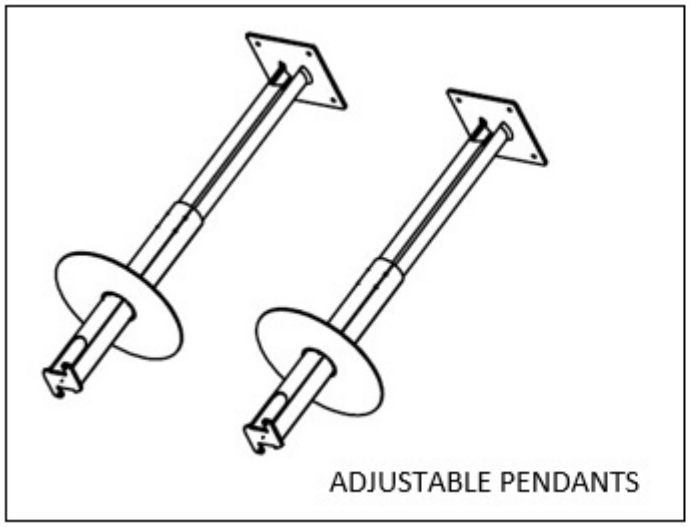
- The height of the mounting surface above the floor (Dim Z) will establish which Pendant size to order.

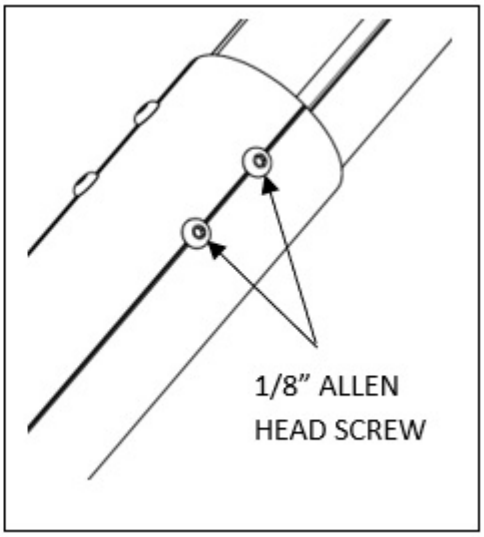
If Dim Z is between...	Use Pendant...	Please contact Ergonomic Products if drop ceiling height (Dim Y) is greater then...
9'-1" (109") and 9'-9 1/2" (117.5")	P1	8'-7 1/2" (103.5")
9'-9" (117") and 11'-1/2" (132.5")	P2	9'-5" (113")
10'-10" (130") and 13'-1 1/2" (157.5")	P3	10'-5" (125")

8 - PENDANT INSTALLATION cont'd

If Adjustable pendants are used, adjust to length now before installing on the light. To calculate Pendant Length, measure total height from floor to bottom of LVL mounting plank and subtract 92". This number will be the pendant adjusted length. For an example, the bottom of LVL mounting is 132-3/4", you subtract 92" and your pendant length would equal 41-3/4".

After adjusting to proper length, **TIGHTEN ALL FOUR 1/8" ALLEN HEAD SCREW SECURLY.**

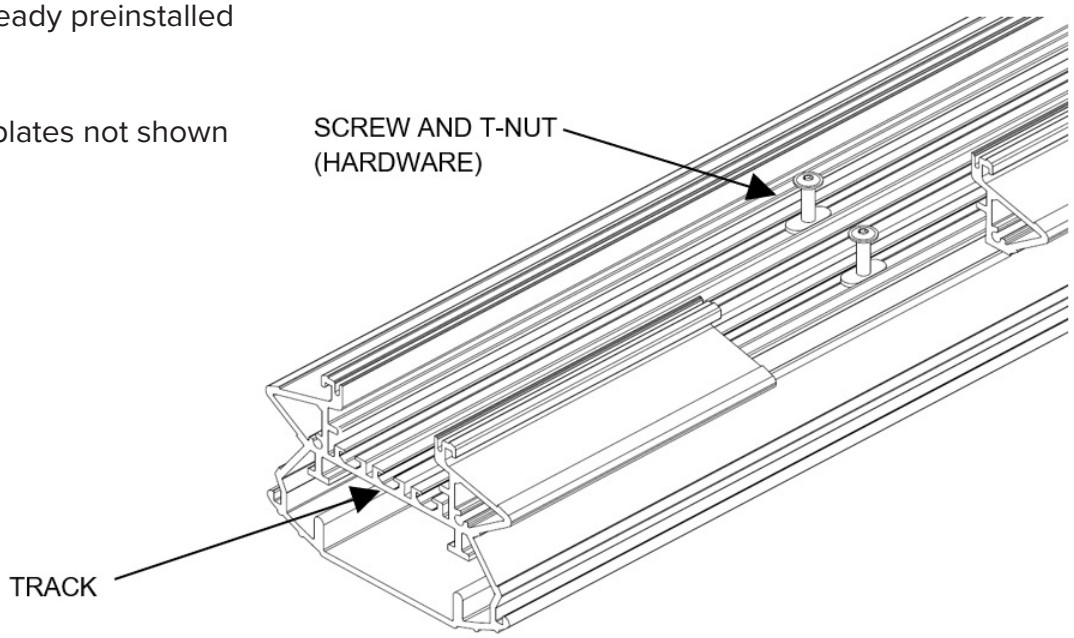




8 - PENDANT INSTALLATION cont'd

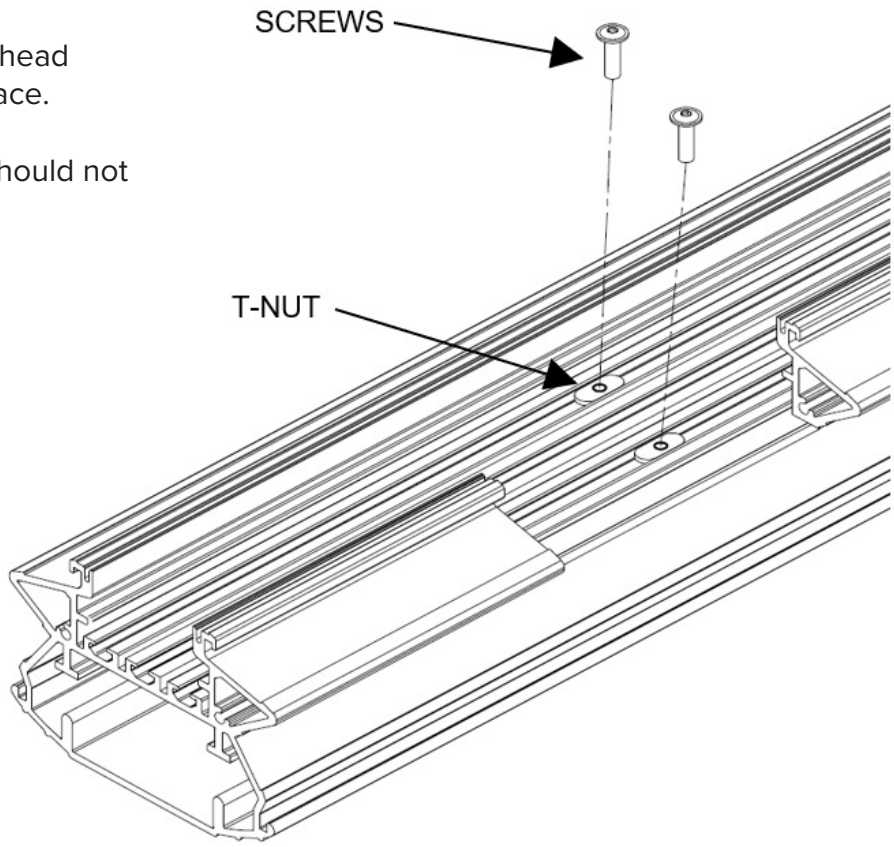
1. The screws and T-nuts needed to secure the PENDANT to the TRACK are already preinstalled at each end of the Light Track.

Electrical components and endplates not shown for clarity.



2. Remove the SCREWS using a Phillips head screw driver and leave the T-NUTS in place.

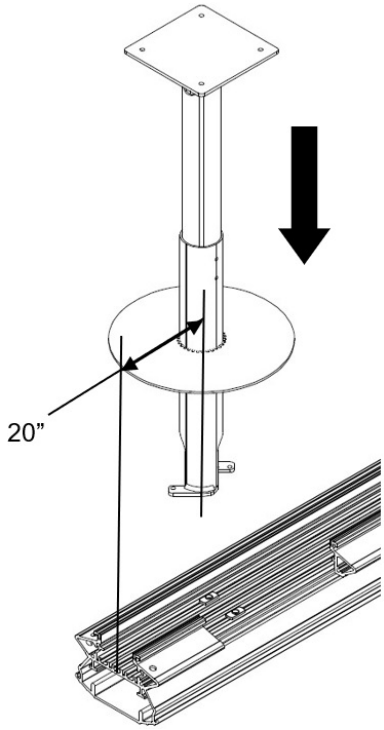
The SCREWS will be needed later and should not be discarded.



8 - PENDANT INSTALLATION cont'd

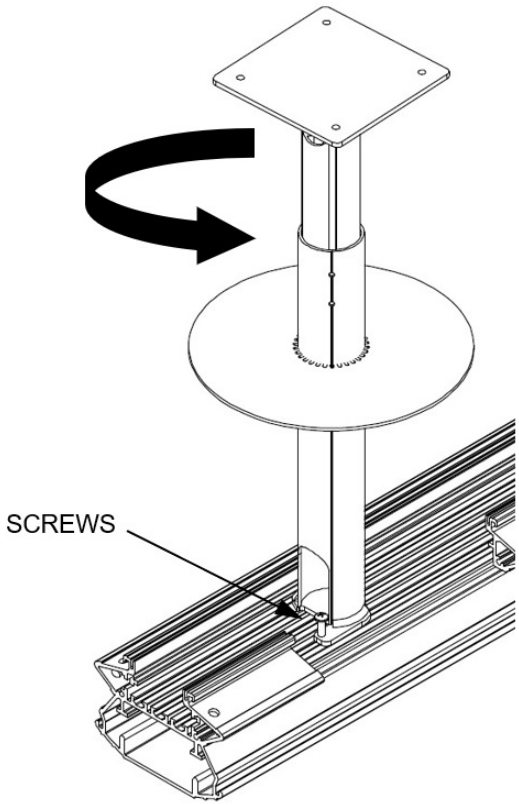
3. If PENDANT installation is standard spacing install 20" from each end of the TRACK.
If not standard because of obstructions etc., place PENDANT to achieve the correct
"light to headwall" dimension on page 10.

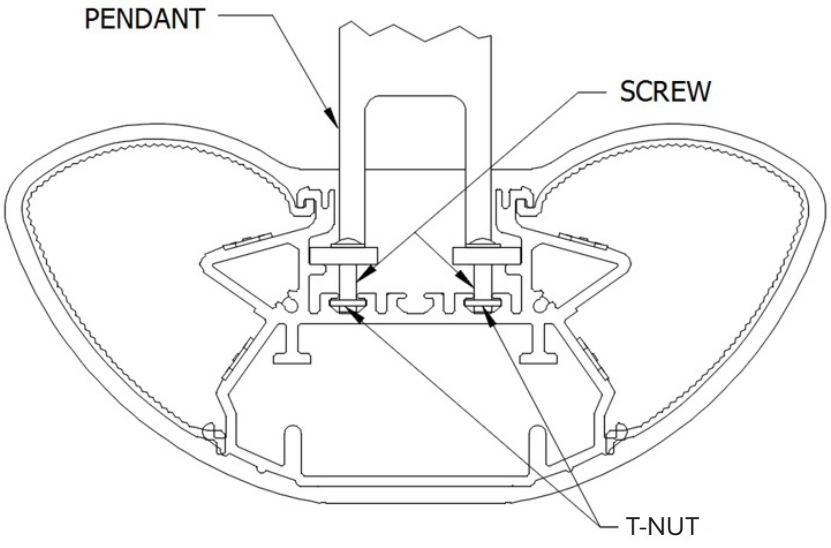
4. Orient the PENDANT as shown below and place into the PENDANT TRACK.



5. When the PENDANT is in desired location, twist to lock into place.

6. Secure the PENDANT by lining up the SCREWS and the T-NUTS then tighten in place.





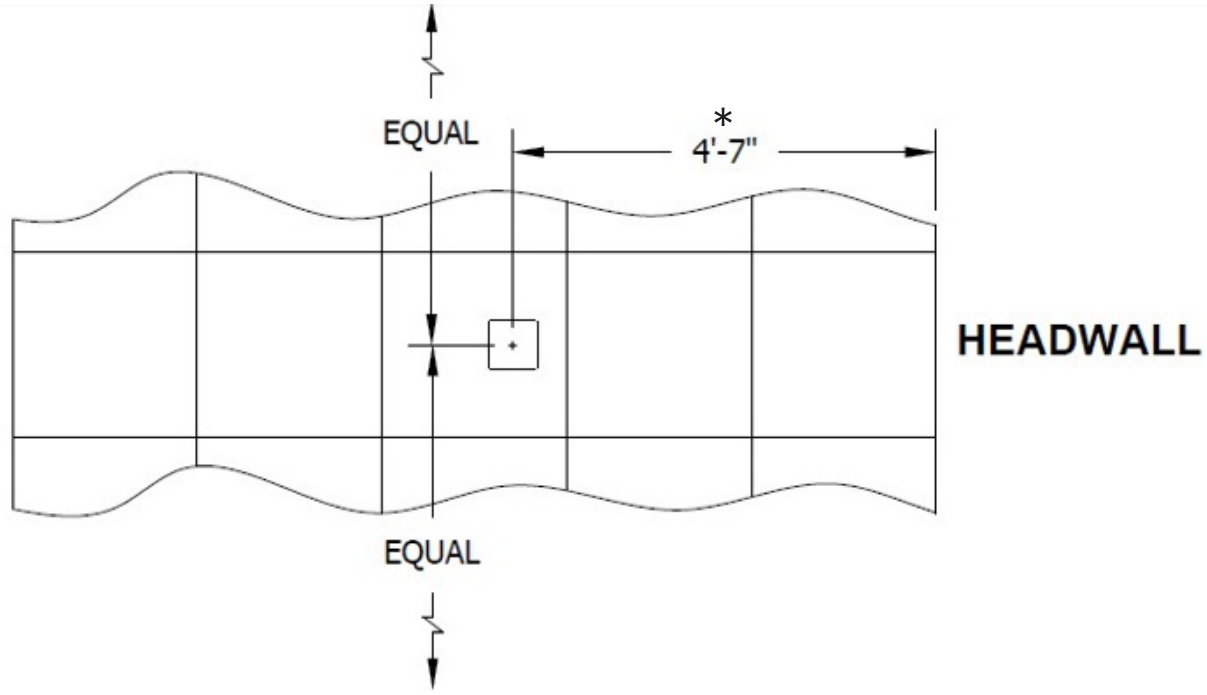
The track cross section view shows the PENDANT installed in place with SCREWS and T-NUTS provided.

9 - MOUNTING THE AURORA

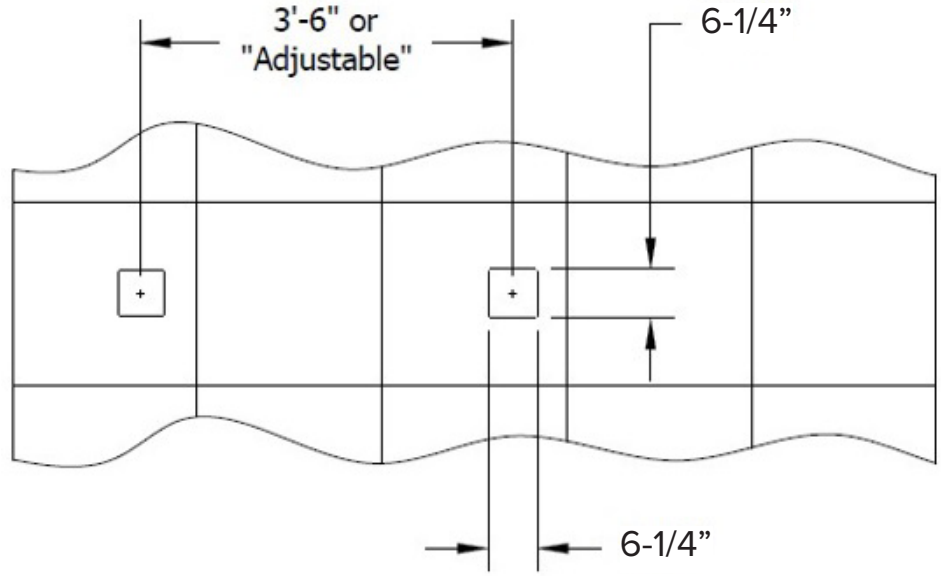
Once the PENDANTS are in place and secure, the unit is ready for ceiling mounting.

1. Ceiling Tile Prep – To find the cutout location of the pendants, measure 4’-7” from the headwall, and find the equal distance measurement as shown below.

* Note: If the Slimline Headwall is present the measurement from the headwall to the center of the post should be 49” or 4’-1”



2. Cut a square cut out that is 6.25” x 6.25” as shown below. Locate the next cutout by measuring 3’-6” from the center of the pendant cutout to the other. Please note that this dimensions is adjustable.

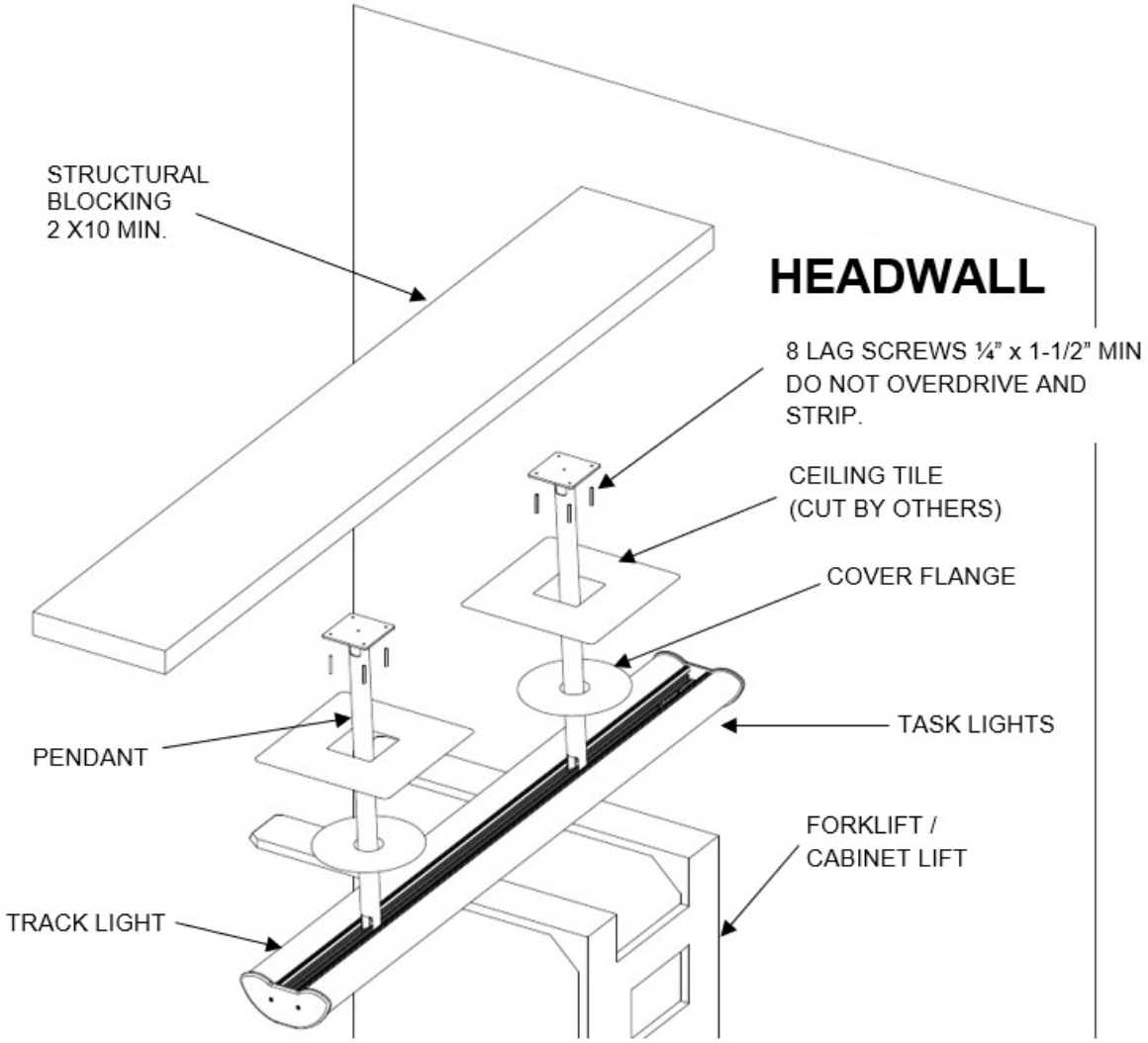


9 - MOUNTING THE AURORA cont'd

3. Lift the unit with the PENDANTS attached to the track and secure the PENDANTS with lag screws into the structural blocking shown in the image below. The recommended lag screws are 1/4 x 1-3/4" hex cap.
If needed drill 1/4" x 1" deep max pilot holes.

CAUTION: Please use a fork lift or cabinet lifting device to raise the lighting unit to the ceiling and mount as described.

Please note that the orientation of the task lights should be toward the HEADWALL of the room.



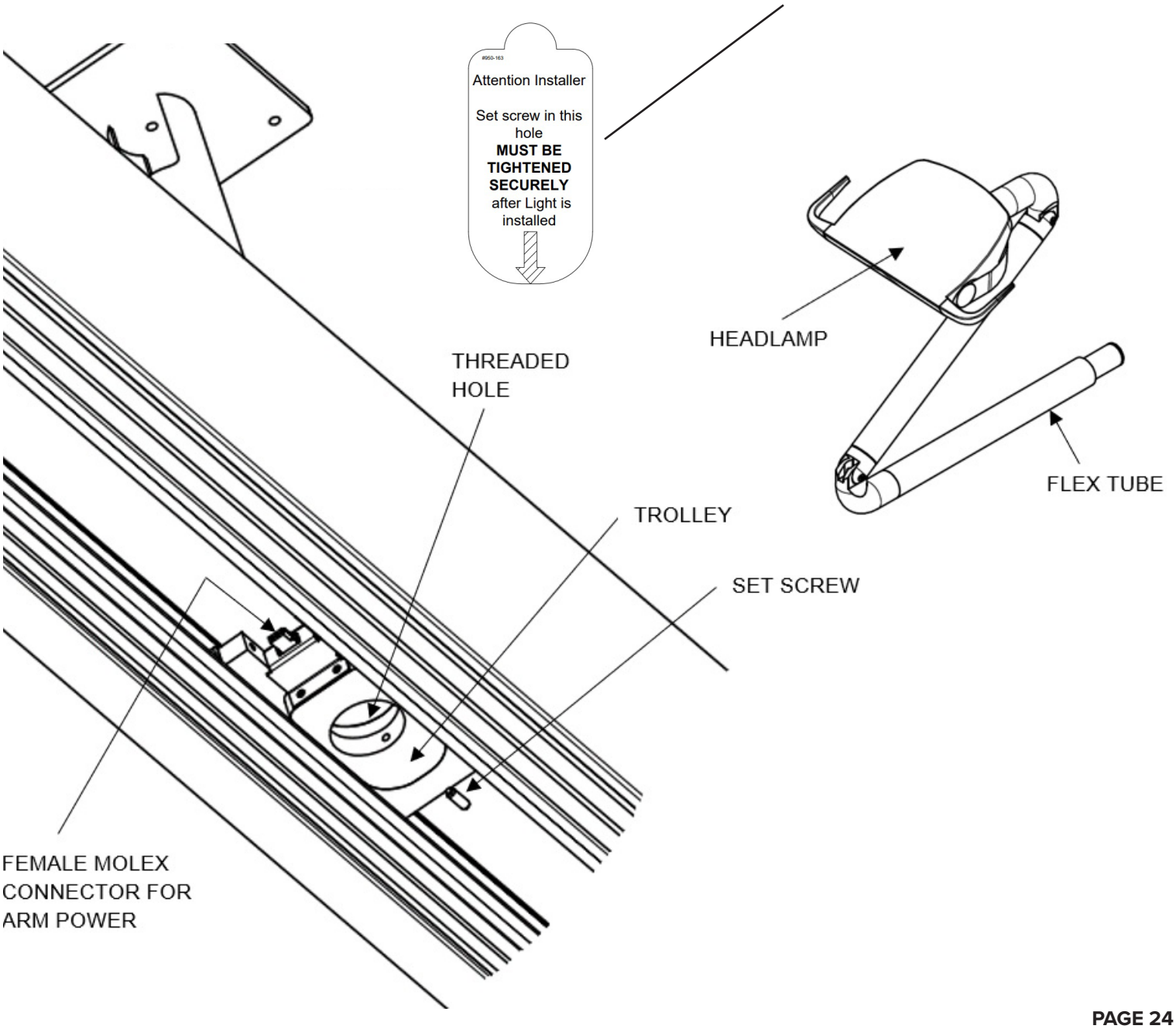
!	WARNING: Use safe lifting procedures when mounting to the ceiling.

10 - ARM AND HEADLAMP INSTALLATION

Once the Aurora is secured in place, it is ready for the FLEX TUBE to be installed into the TROLLEY and the HEADLAMP into the FLEX TUBE.

The TROLLEY is pre-installed into the track and has a threaded hole for the FLEX TUBE to screw into, a SET SCREW to prevent un-threading during operation and a plug to energize the FLEX TUBE to power the HEADLAMP.

Note: An "Attention Installer" sticker is placed on the trolley covering the threaded hole opening for the flex tube. This warning label should be removed and discarded after following the instructions on the label.



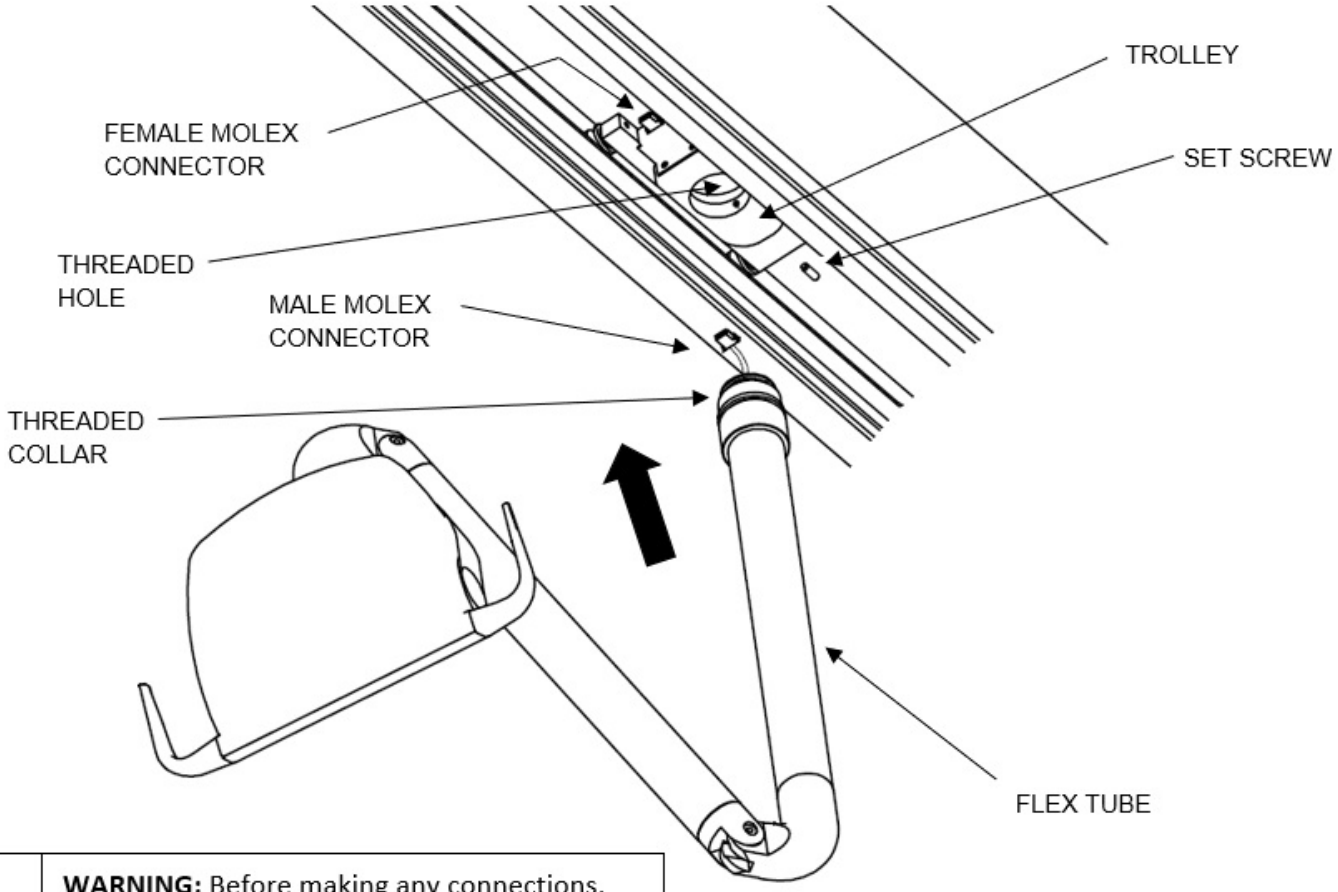
10 - ARM AND HEADLAMP INSTALLATION cont'd

1. The FLEX TUBE has a THREADED COLLAR and a MALE MOLEX connector. Feed the MALE MOLEX connector through the THREADED HOLE.

2. Insert and screw the THREADED COLLAR into the THREADED HOLE in the TROLLEY and tighten to secure.

3. Tighten the SET SCREW until it presses against the THREADED COLLAR. Do not over-tighten.

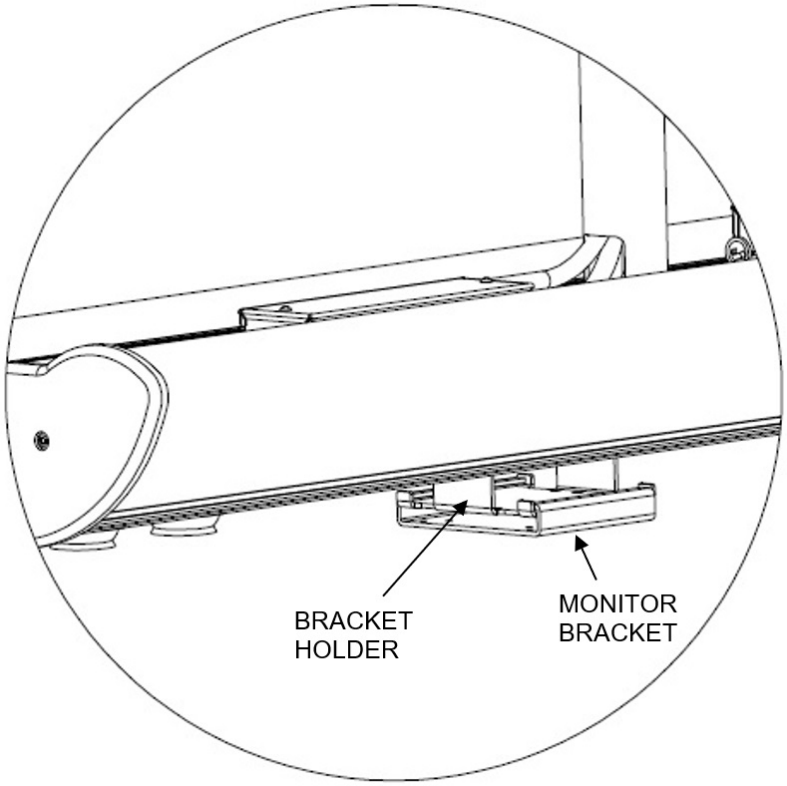
WARNING: If set screw is not tightend, collar may unthread, causing light to fall and leading to possible patient injury and light damage



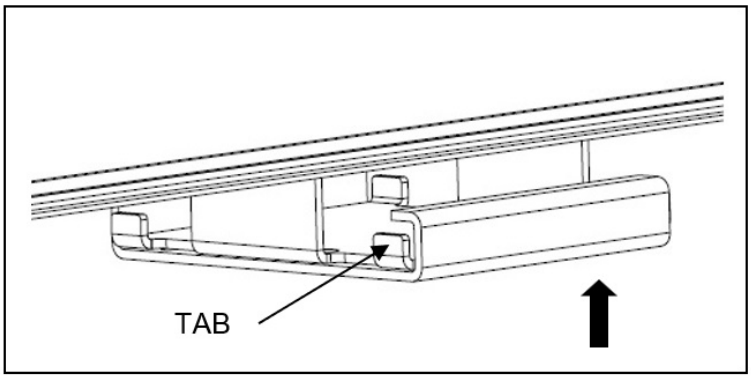
WARNING: Before making any connections, be sure all power has been disconnected. Making these connections while unit is connected to power source may result in equipment damage or injury.

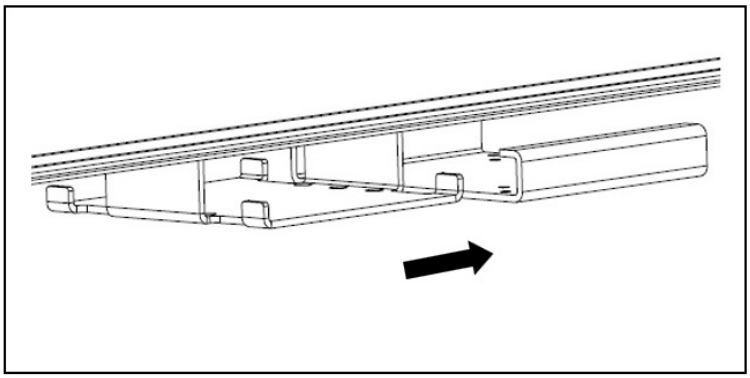
11 - MONITOR INSTALLATION

The MONITOR BRACKET comes installed on the BRACKET HOLDER. The MONITOR BRACKET sits in the BRACKET HOLDER and does not need hardware to secure in place.



1. To remove the MONITOR BRACKET push upward as shown below, to clear the TABS and slide either forward or back to remove the MONITOR BRACKET.



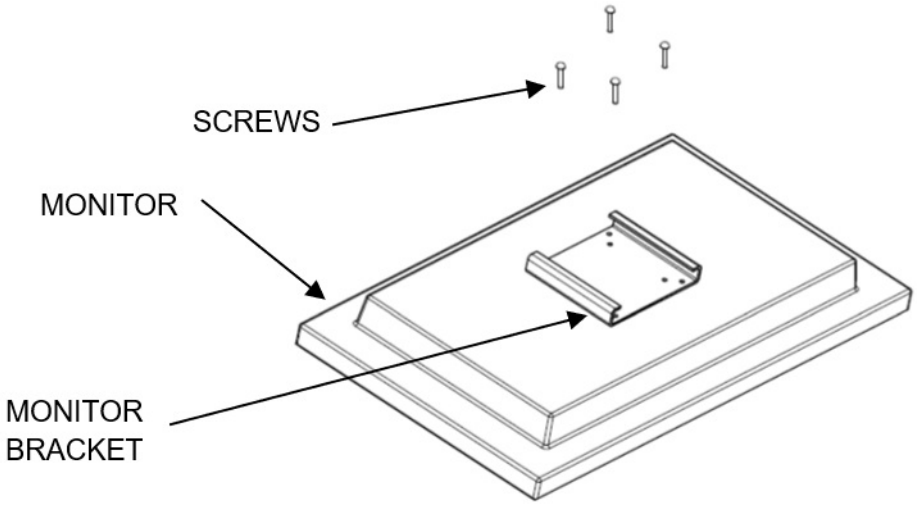


11 - MONITOR INSTALLATION cont'd

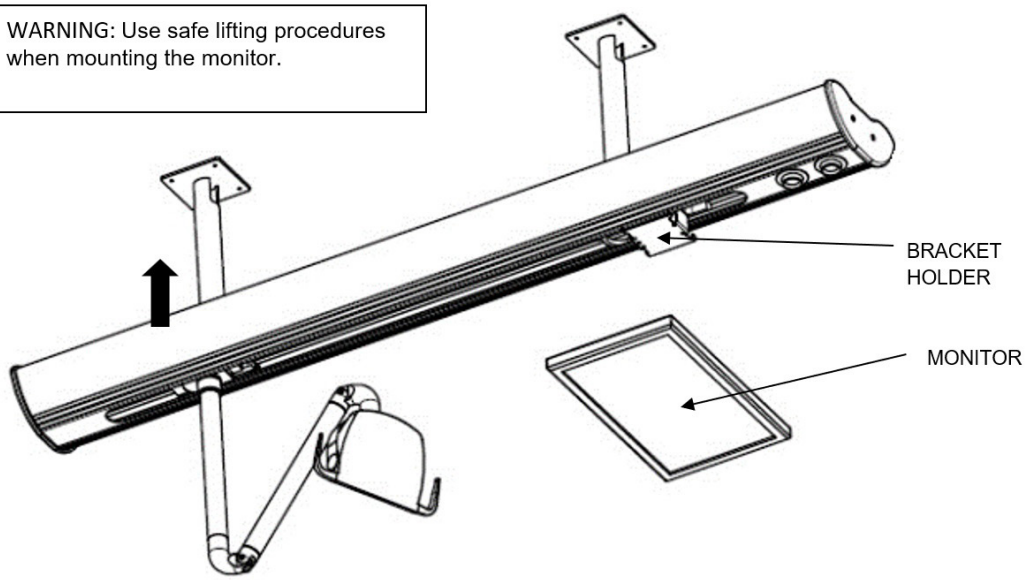
2. Screw the MONITOR BRACKET on the back of your MONITOR as shown in the image below. Please note the hole pattern on the MONITOR BRACKET uses the 100mm x 100mm VESA pattern. Please review your monitor documentation before installing the bracket in place.

3. Hang the MONITOR with the MONITOR BRACKET attached, back on to the BRACKET HOLDER.
NOTE: When clearing the TABS upon return of the MONITOR BRACKET the MONITOR should "drop" into place.

CAUTION: Max TV size = 100 x 100 Vesa

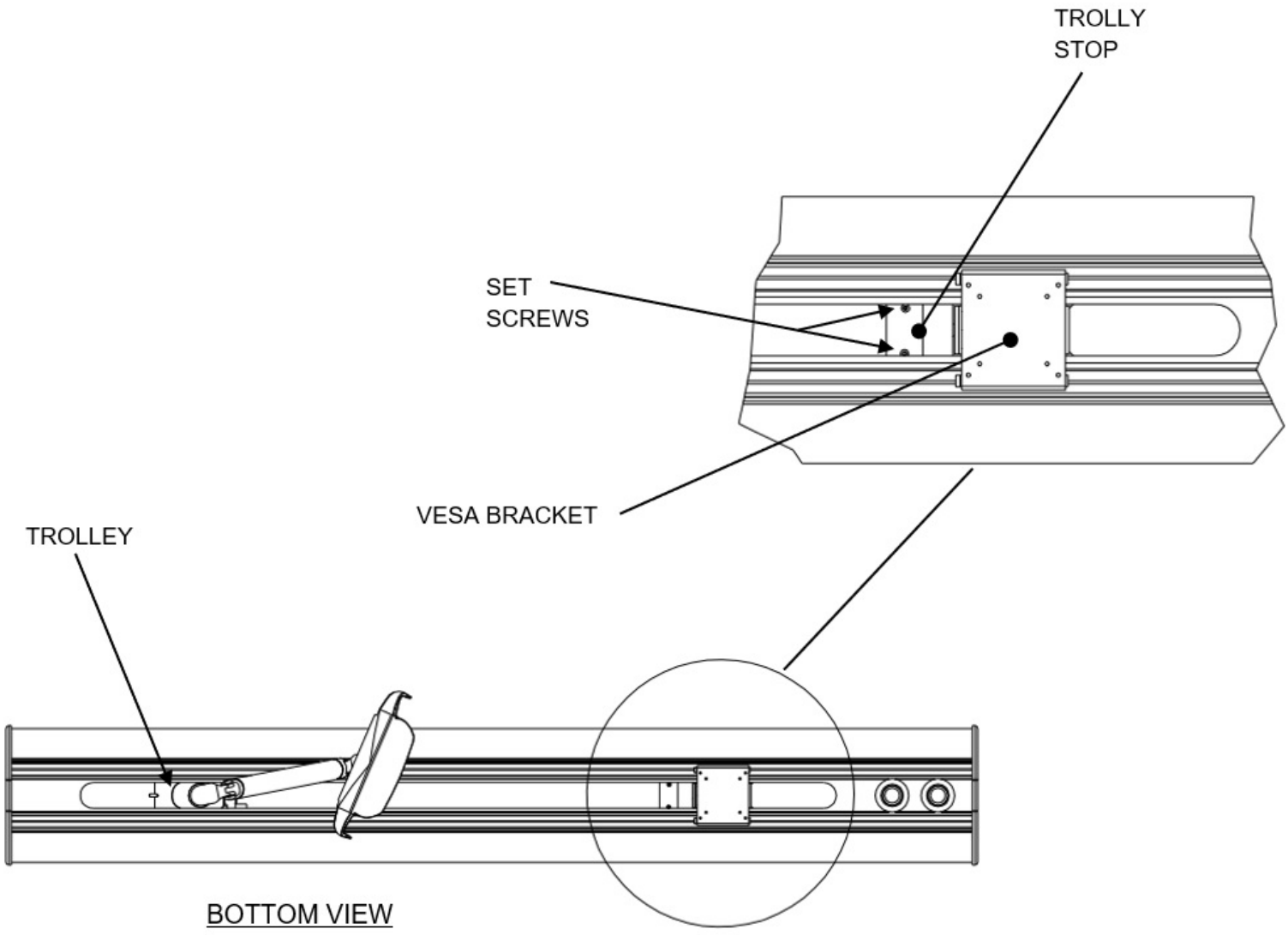


WARNING: Use safe lifting procedures when mounting the monitor.



11 - MONITOR INSTALLATION cont'd

4. To adjust the TROLLEY STOP loosen the set screws until the TROLLEY STOP can freely move. Slide the TROLLEY STOP to the desired position and tighten the SET SCREWS. The TROLLEY STOP will keep the TROLLEY from hitting the TV during operation.

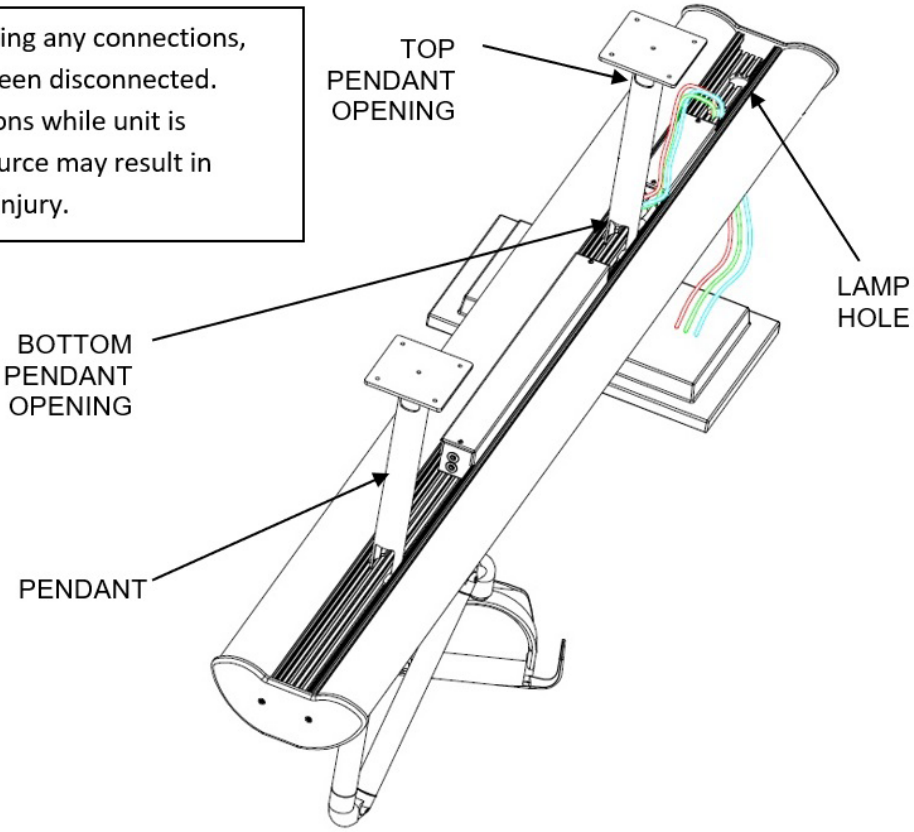


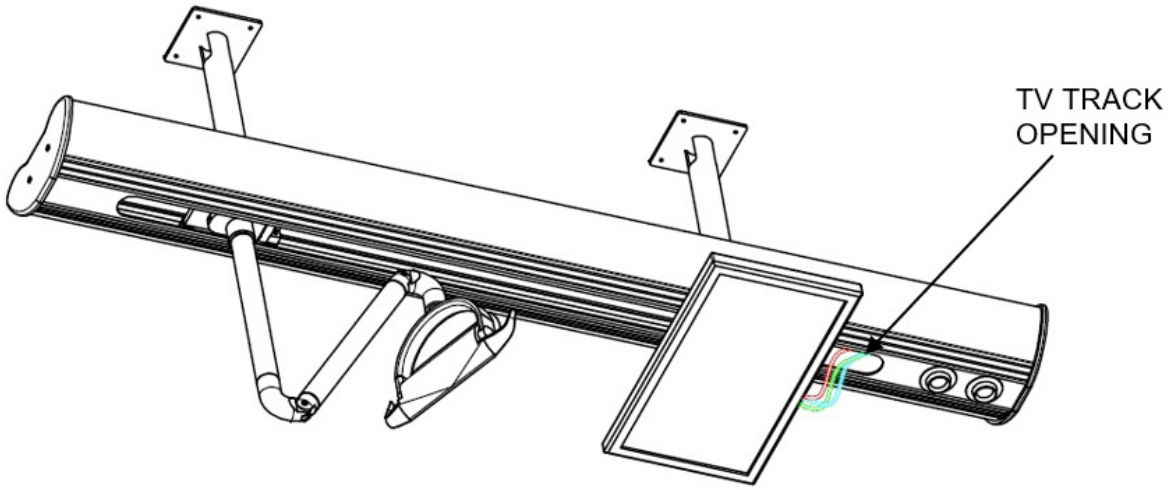
11 - MONITOR INSTALLATION cont'd

5. Wiring for the MONITOR is fed from the incoming power line though the top PENDANT OPENING. Run wiring through the bottom PENDANT OPENING and then through LAMP HOLE.

6. Continue running the wiring through the TV TRACK OPENING and make the final connections to the back of the MONITOR.

WARNING: Before making any connections, be sure all power has been disconnected. Making these connections while unit is connected to power source may result in equipment damage or injury.

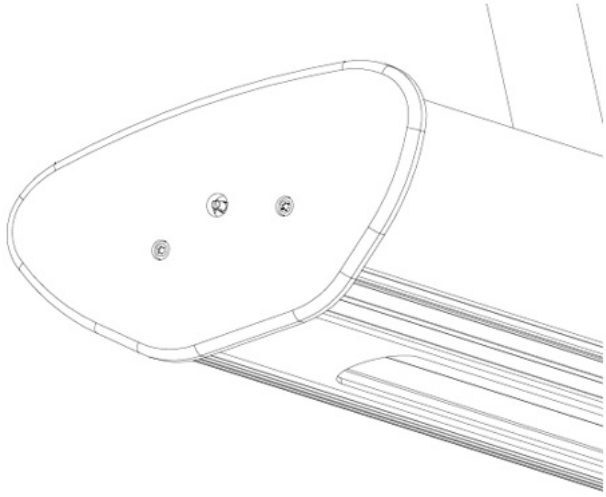


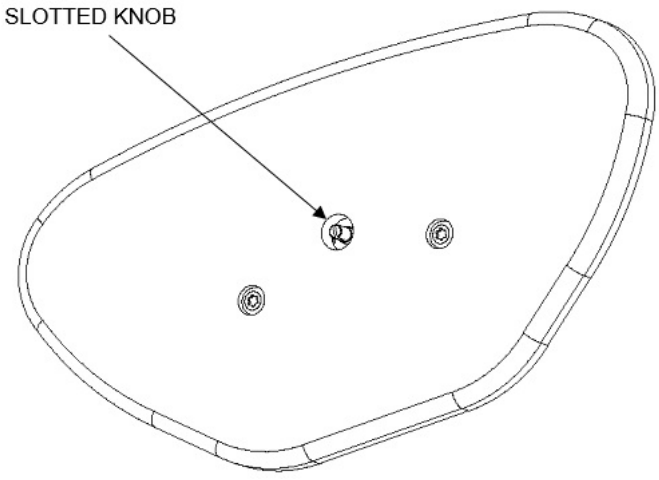


12 - DIMMER OPERATION

1. The ON-BOARD DIMMER is located on the “foot wall end” of the Aurora LS . The dimmer is adjusted by turning the slotted knob clockwise or counter-clockwise to adjust the illuminance of the room lighting.

2. For a wall dimmer switch, use a 0-10V dimmer switch.

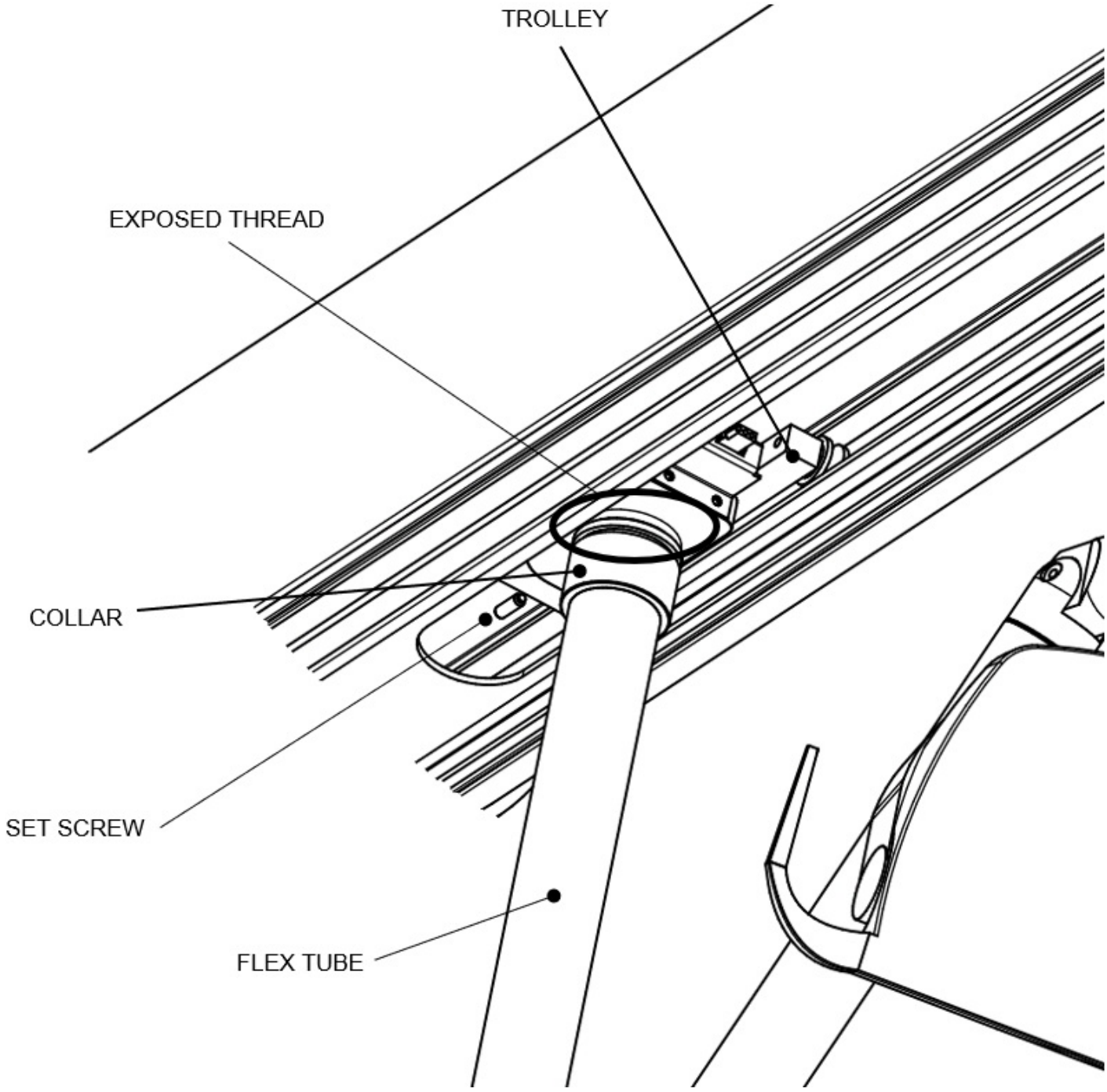




NOTE: If you use a wall dimmer switch, the low voltage wires of the 0-10V dimmer switch must replace the wires of the on-board dimmer. Do not keep both dimmers connected to the block.
DO NOT SWITCH POLARITY!

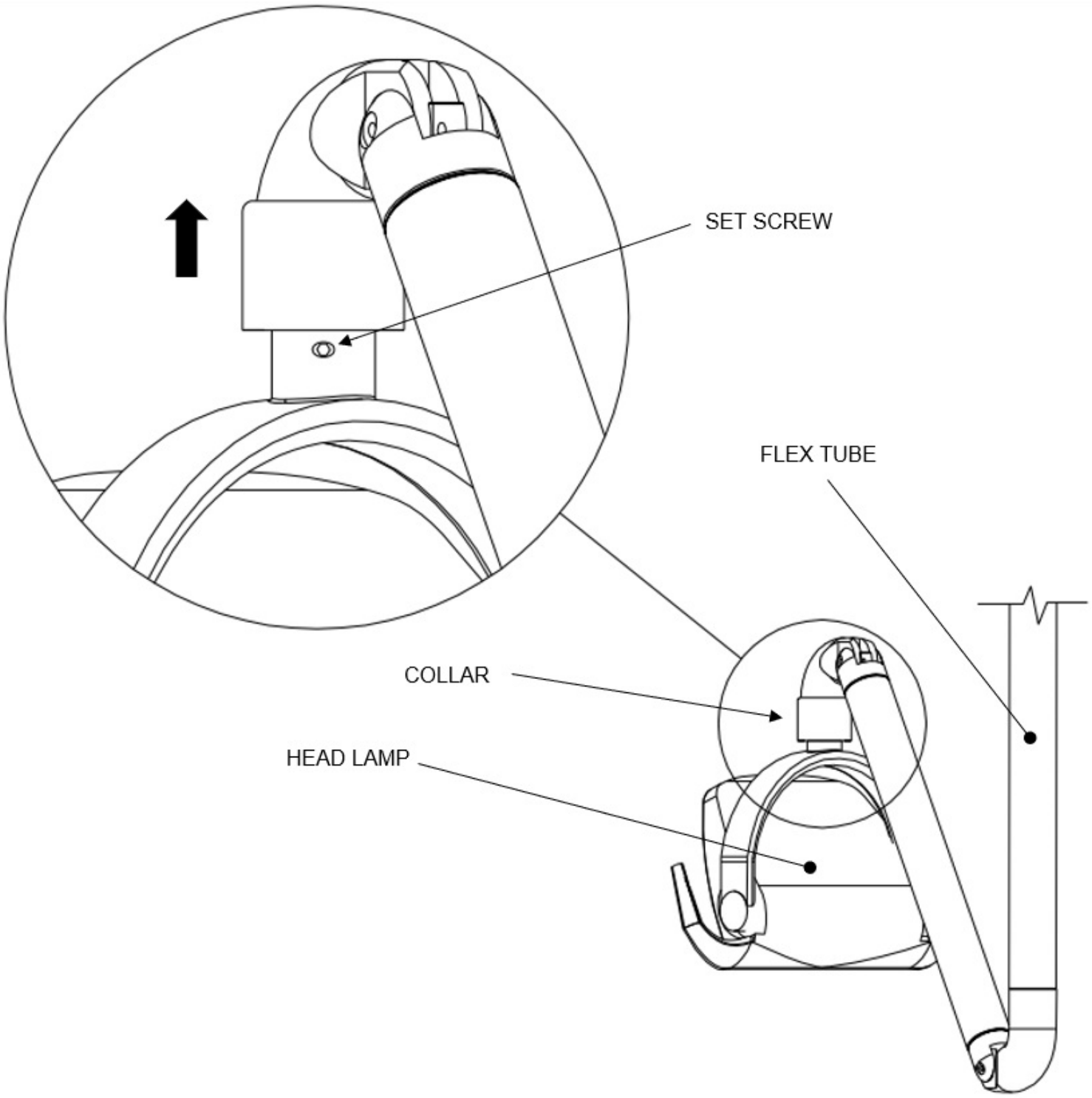
13 - SERVICING

Check TROLLEY to FLEX TUBE threaded connection monthly. If any space is noted back off SET SCREW, thread COLLAR tight and re-tighten SET SCREW.



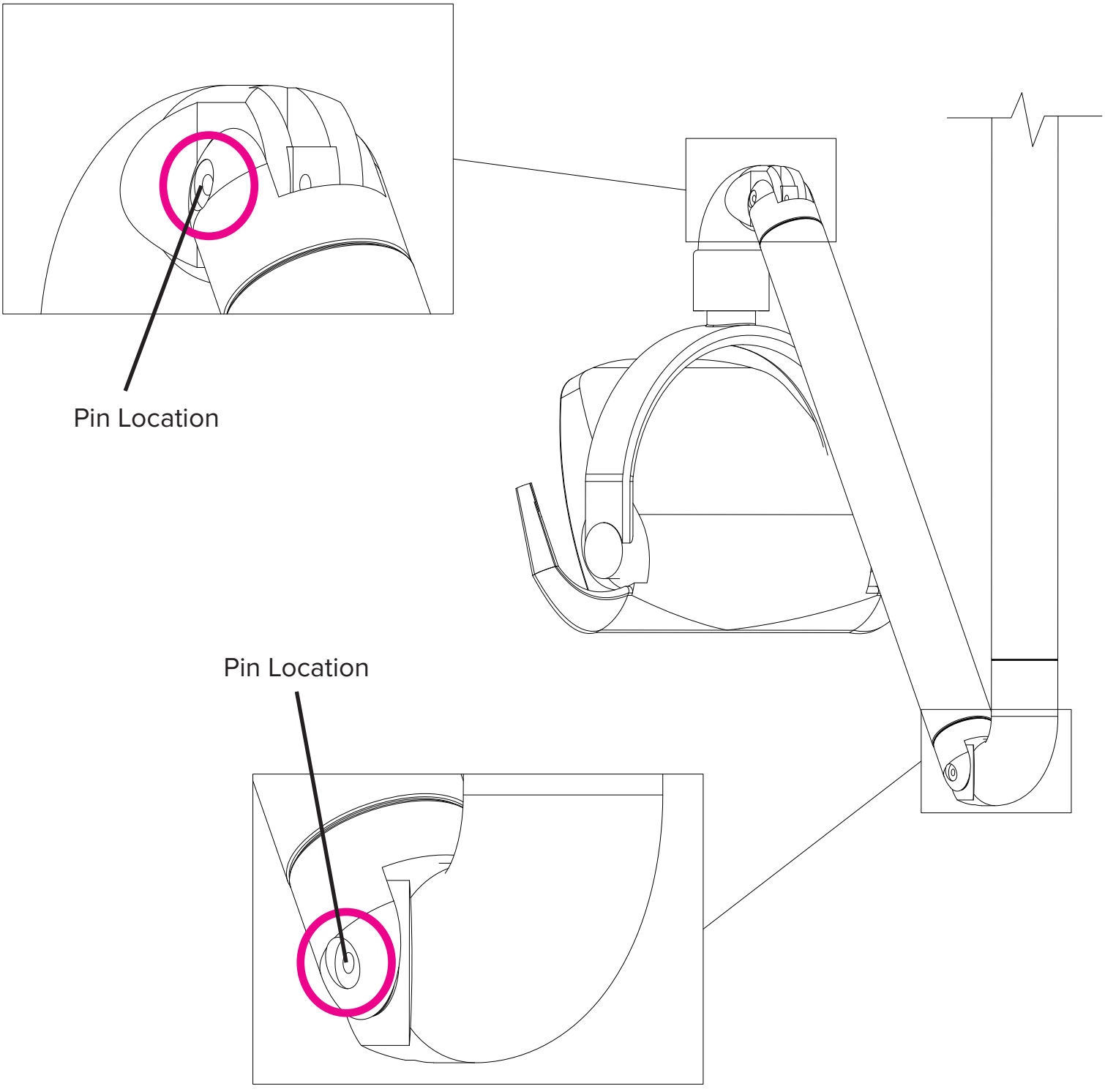
13 - SERVICING cont'd

Check the HEAD LAMP to FLEX TUBE connection. If loose or notchy feeling, raise the COLLAR and check SET SCREW for tightness.



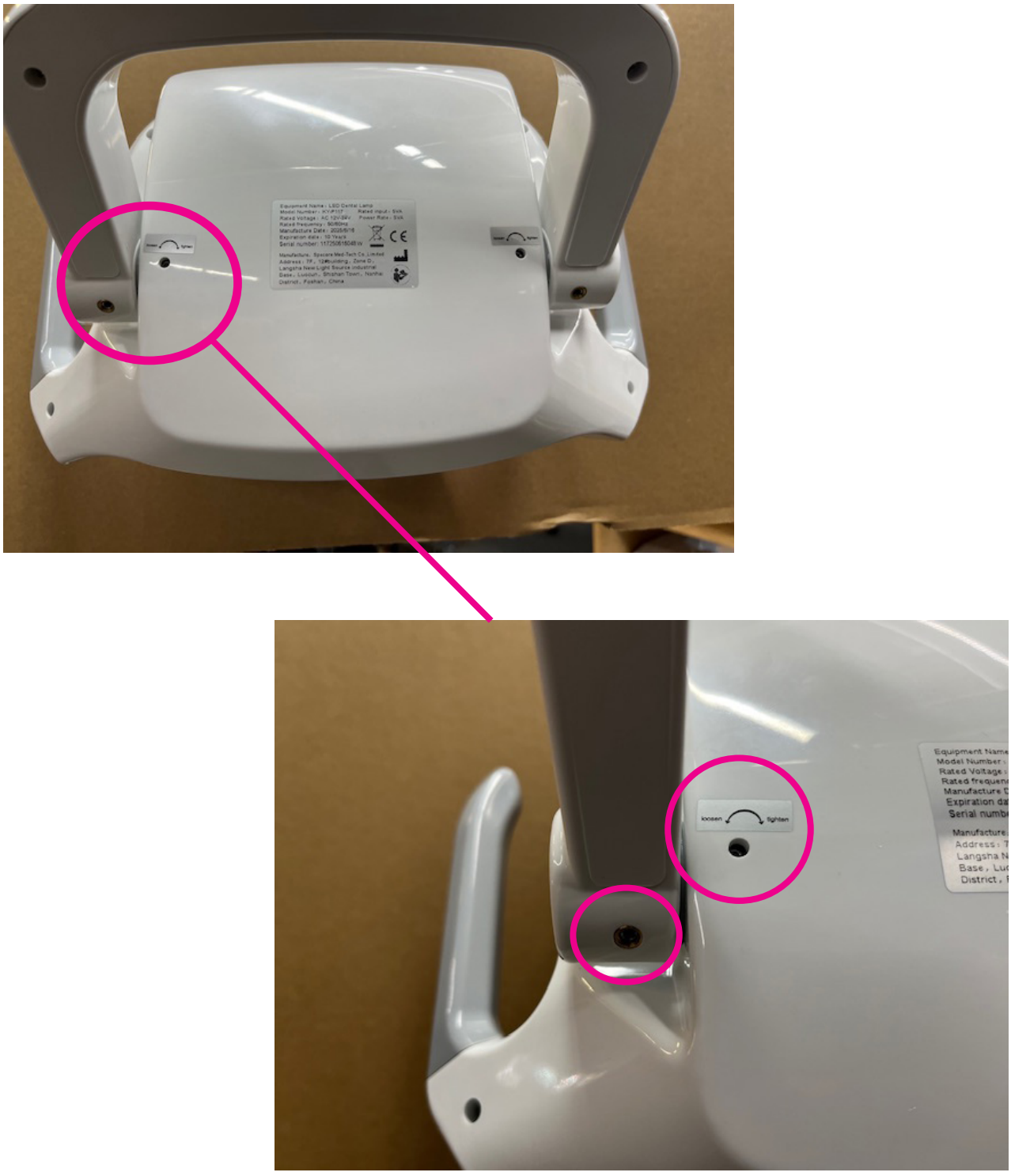
13 - SERVICING cont'd

Check the elbow PIN, if the PIN is backing out from the elbow joint contact ergonomic products customer support.



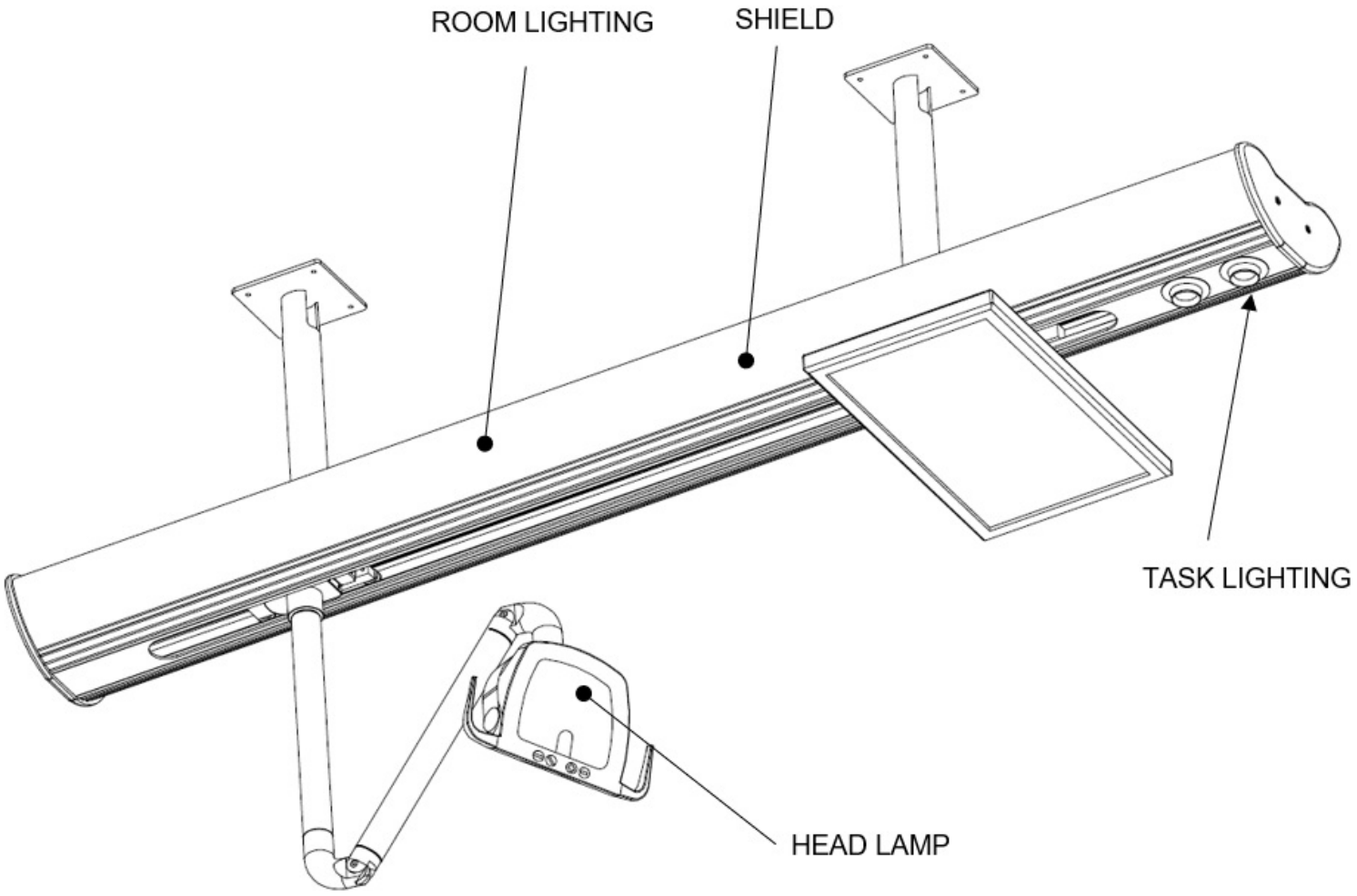
13 - SERVICING cont'd

At the rear of the headlamp there are two set screws that control the tightness of the tilt angle on the headlamp. If the headlamp "drifts" the set screws need to be maintained and tightened as show below. Use the Allen key to tighten or loosen the set screws.



13 - SERVICING cont'd

Please contact Ergonomic Products for any issues with any of the LED lighting (HEAD LAMP, ROOM, or TASK LIGHTING). There is no calibration required for this equipment. Do not remove the SHEILD when cleaning and disinfecting.



14 - CLEANING AND DISINFECTING

GENERAL GUIDELINES

To prevent cross contamination disinfect all touch points on the light between each patient. Barriers are recommended for handles.

After treatment of each patient and at the completion of daily work activities, countertops and dental unit surfaces that might have been contaminated with patient material or when the surface is contaminated with biological material must be cleaned with disposable toweling (for example PDI Super Sani Cloth) and water as necessary. Then disinfect surfaces with a suitable chemical germicide (for example DisCide Ultra Disinfectant Spray).

The CDC recommends using a chemical germicide registered with the EPA as a “hospital disinfectant” and labeled for “tuberculocidal” (i.e., mycobactericidal) activity to disinfect surfaces that have been soiled with patient material. These intermediate-level disinfectants include phenolics, iodophors, and chlorine-containing compounds. Because mycobacteria are among the most resistant groups of microorganisms, germicides effective against mycobacteria should be effective against many other bacterial and viral pathogens.

Low-level disinfectants—EPA-registered “hospital disinfectants” that are not labeled for “tuberculocidal” activity (e.g., quaternary ammonium compounds)—are appropriate for general housekeeping purposes such as cleaning floors, walls, and other housekeeping surfaces. The CDC does not recommend using intermediate- and low-level disinfectants to reprocess critical or semicritical dental instruments.

DISINFECTING:

INSTRUMENTS AND WORKSTATION:

Infection control in the dental environment is always a high priority for both the user and the patient. It is the responsibility of the practitioner to be familiar with best practices and protocols for disinfecting of instruments and surfaces as recommended by CDC, ADA and OSHA.

In addition to the General Guidelines, the CDC recommends general cleaning and disinfecting of clinical contact surfaces, dental unit surfaces, and countertops at the end of daily work activities. Cleaning and disinfection are required if surfaces have become contaminated since their last cleaning. To facilitate daily cleaning, keep treatment areas free of unnecessary equipment and supplies.

To disinfect Corian surfaces, use a suitable chemical germicide (for example DisCide Ultra Disinfectant Spray). Dental devices that are connected to the dental water system and that enter the patient’s mouth (for example; handpieces, ultrasonic scalers, or air/water syringes) must be operated to discharge water and air for a minimum of 20–30 seconds after each patient.

Most of the surfaces are compatible with commonly used disinfectants, however if discoloration is noticed (especially hoses) it would be advisable to change cleaning products. If using a spray, use sparingly around electrical devices and components.

14 – CLEANING AND DISINFECTING cont'd

CLEANING:

METAL COMPONENTS:

Use mild detergent and water or any of the commercially available sprays, such as 409, Fantastic, or others, with a soft cloth or sponge. DO NOT USE ABRASIVES as these will permanently scratch the finish.

PLASTIC, RUBBER, AND PAINTED SURFACES:

Use mild detergent and water or any of the commercially available sprays, such as 409, Fantastic, or others, with a soft cloth or sponge. DO NOT USE ABRASIVES as these will permanently scratch the finish.

CORIAN® SURFACES:

Your Corian surfaces are delivered with a matte/satin finish and any of the above cleaners are acceptable. Minor surface blemishes can be brought back to a like-new finish with the use of a mild abrasive cleaner such as Comet on their own or in conjunction with a green or white Scotch-Brite Pad.

Clean with warm, soapy water or any non-abrasive ammonia based cleaner or disinfectant. Dry thoroughly after cleaning. For tougher stains, use Clean EnCounters® from DuPont.
Do NOT use window-cleaning solutions (they will leave a waxy build-up), ScotchBrite or other abrasive pads.
Do NOT use a any cleaning products that contain HYDROGEN PEROXIDE.

For more information on cleaning CORIAN surfaces, go to:
http://www.dupont.com/products-and-services/construction-materials/surface-design-materials/brands/corian-sol¬id-surfaces/articles/how-to-clean-corian.html

Dried composites can be scraped off using a single-edged razor blade or equivalent, being cautious not to dig into the surface.

If the surface becomes too scarred to be renewed with the above procedures, a resurfacing can be done. Please contact us or any Corian-certified installer for the correct procedure.

*The FDA recommends that items contaminated with blood or body fluids, which might contain blood-borne pathogens, must receive intermediate level disinfection with a product having an EPA-registered claim for