

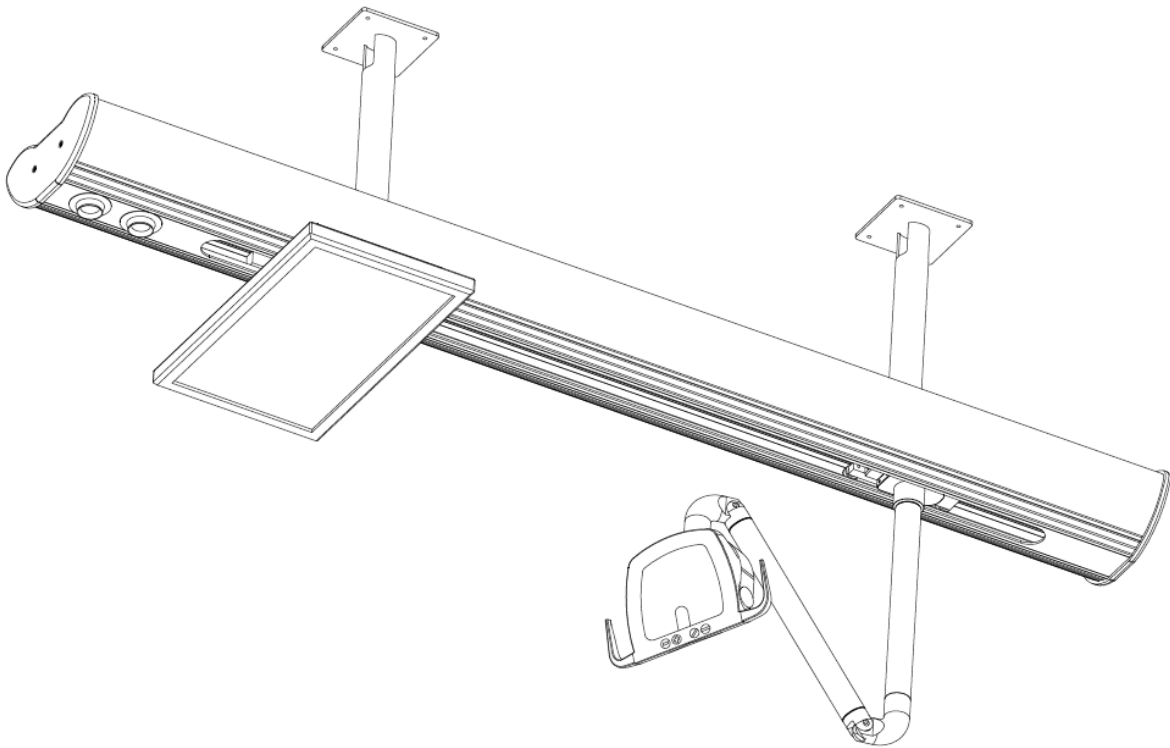


Ergonomic Products

Performance Without Compromise®

Installation and Operation Manual

L1A1 Aurora LS



Monitor Sold Separately, L1A1 shown with standard configuration.

Product ID:
950 - 059 Rev: F

L1A1

Thank you for purchasing the Ergonomic Products **L1A1 Series: Aurora LS**

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.

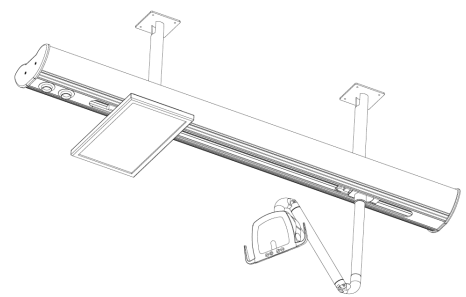
Should you have any questions regarding the product's installation or use, please don't hesitate to call our customer service specialists at **1-866-ERGO-4-US**. We may also be reached via email at **equip@ergonomic-products.com**.

We hope you enjoy the benefits and quality of your new equipment and look forward to handling your future needs as you and your practice continue to grow!

- The Ergonomic Products Team

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QUESTIONS?

**Call our Customer Service Specialists at:
1-866-ERGO-4-US**

1 – GENERAL INFORMATION

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 – GENERAL INFORMATION 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
K	Temperature Selector (4000k – 5500k)
MT	Manual Operating Mode
AT	Sensor Operating Mode
+ –	Luminance Adjustment (More +) (Less -)
	Important to follow instruction. Not a Caution.



- Equipment Disposal

Contact Ergonomic Products for proper disposal of your device to ensure compliance with your local environmental regulations.

- 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.

- Obtaining Technical Literature

The manufacturer will make available on request circuit diagrams, component parts lists, descriptions, calibration instructions or other information that will assist technical personnel to repair and replace serviceable items.

- 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

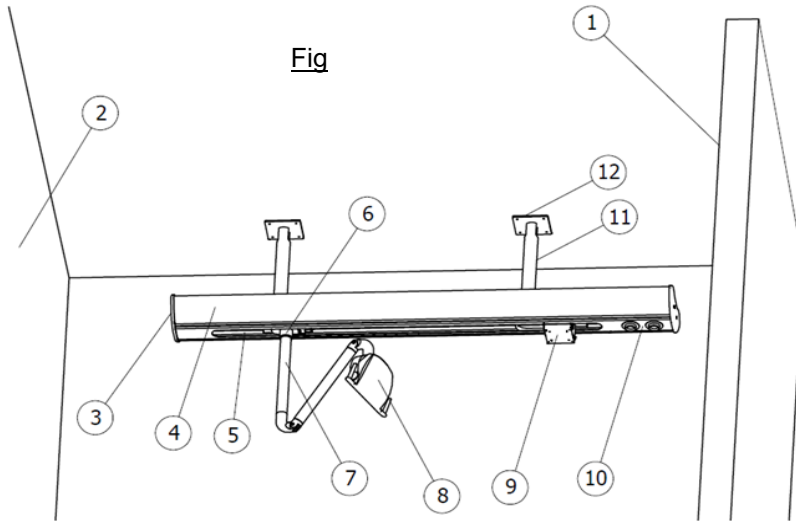
Temperature: 41°F (5°C) to 104°F (40°C)
Relative Humidity: 30% to 75%
Atmospheric Pressure: 70 to 106Kpa

**- EXPLOSION HAZARD –
DO NOT USE THIS EQUIPMENT IN THE
PRESENCE OF FLAMMABLE ANESTHETICS.**

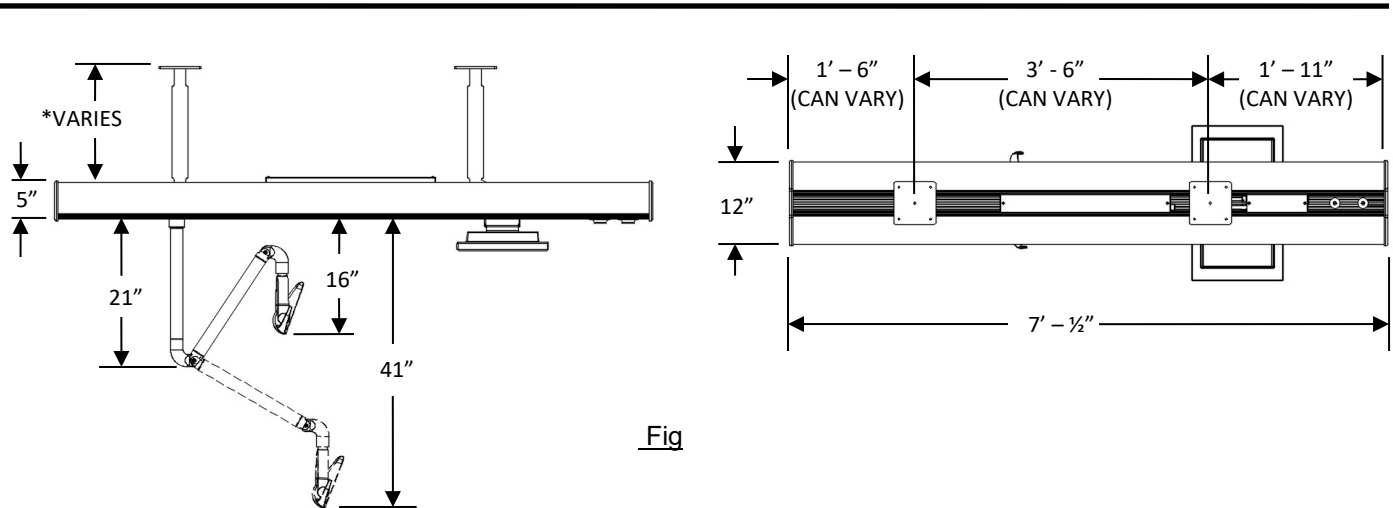
We are constantly striving to improve our products. We reserve the right to make modifications without the need for prior notification and are not obliged to modify previously manufactured items.

2 – SPECIFICATIONS

Balloon callouts in Fig 2.1 are the common parts of the Aurora LS.
Fig 2.2 gives the overall dimensions of the Aurora LS.



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



* Dimension to be provided by General Contractor / Builder.

2 – SPECIFICATIONS CONT'D

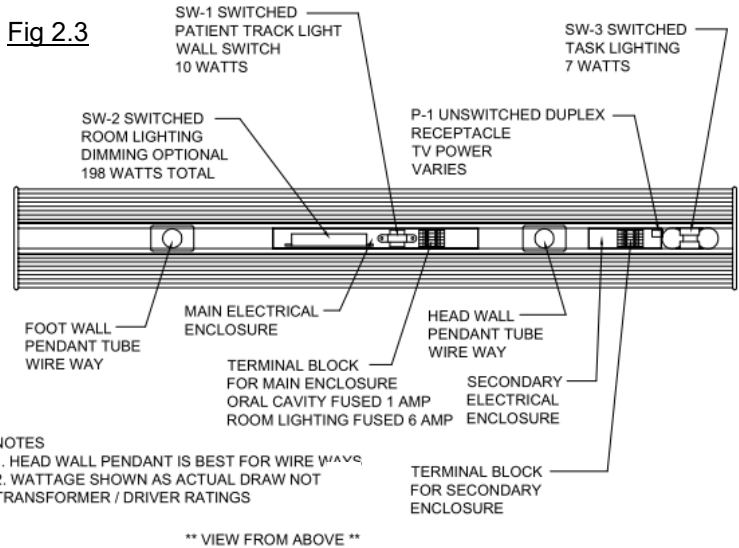


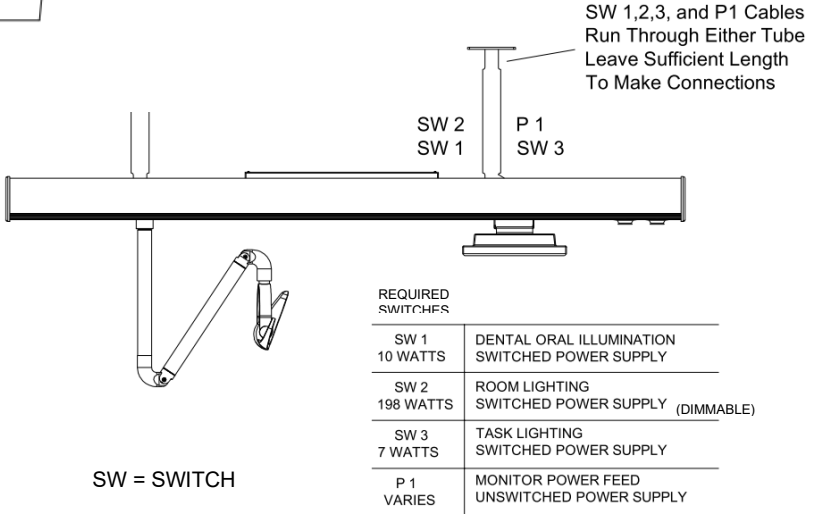
Fig 2.3 shows the over head view of the Aurora LS electrical callouts and a side view showing the switched and un-switched power supplies. Fig 2.4 is the Aurora LS technical data.

ATTENTION: All circuits used to connect ME 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

WARNING: Unit must be hardwired by a qualified electrician. Before servicing, be sure all power has been disconnected.



TECHNICAL DATA:

The Aurora LS requires an 8 amp circuit.

<u>LED Room Lighting</u> 120 Volt *Wattage: 198w Color Temp: 5000k Color Rendering Index: 80 (CRI)	<u>LED Oral Cavity Light (Headlamp)</u> 120 Volt Wattage: 10w Color Temp: 4000k, 4800k, & 5500k Color Rending Index: 90 (CRI)	<u>LED Task Lighting</u> 120 Volt Wattage: 7w Color Temp: 4000k Color Rending Index: 80 (CRI)	<u>Aux Outlet (TV)</u> 120 Volt 5 amp
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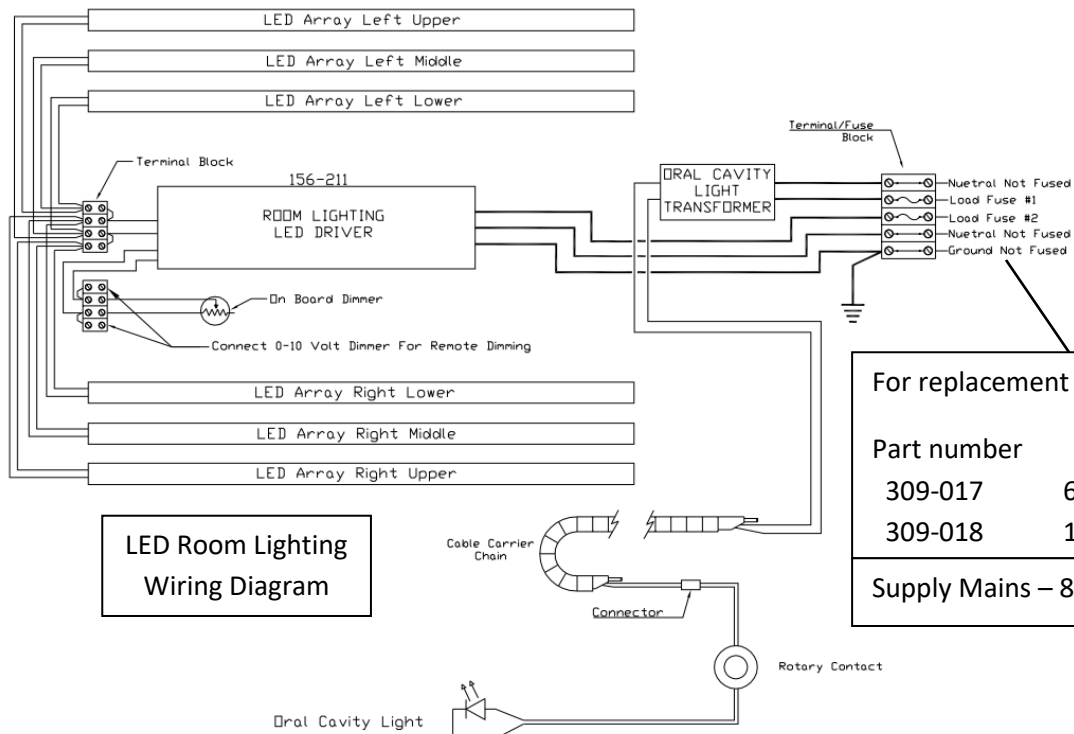
*For Title 24 applications – Output can be reduced to 120 watt.

Main Light WT – 60.8 lbs
Pendant WT – 3.6 lbs per foot
Headlamp and suspension arm WT – 23 lbs

8 amp Total connected load

Total Watts – 215w (excludes TV outlet)

2 – SPECIFICATIONS CONT'D



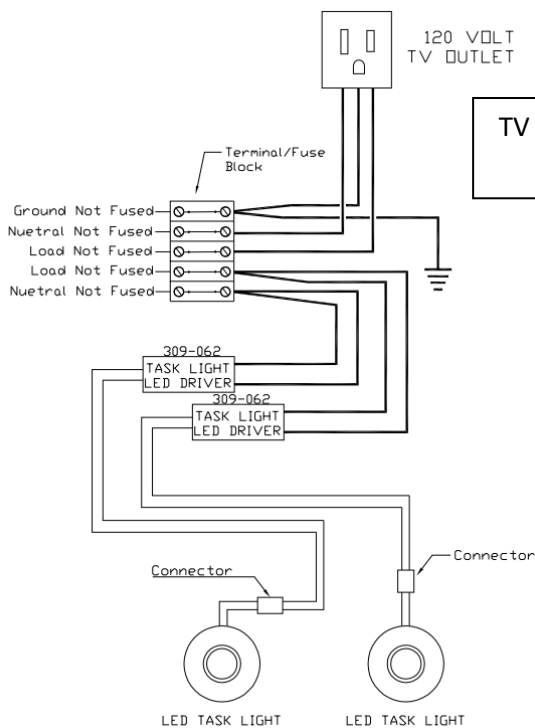
**LED Room Lighting
Wiring Diagram**

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

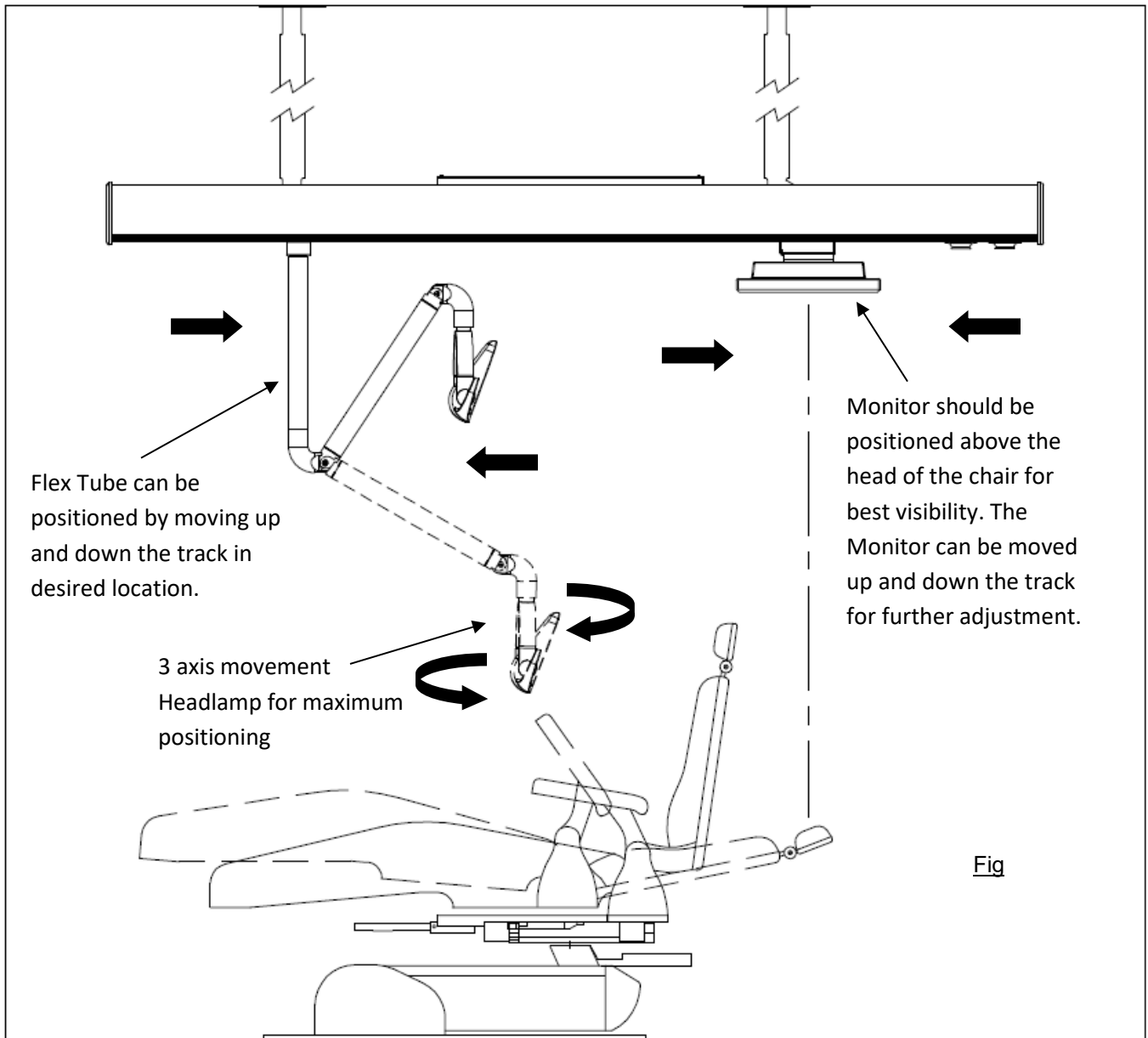


**TV Outlet and Task Lighting
Wiring Diagram**

- 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.

2 – SPECIFICATIONS CONT'D

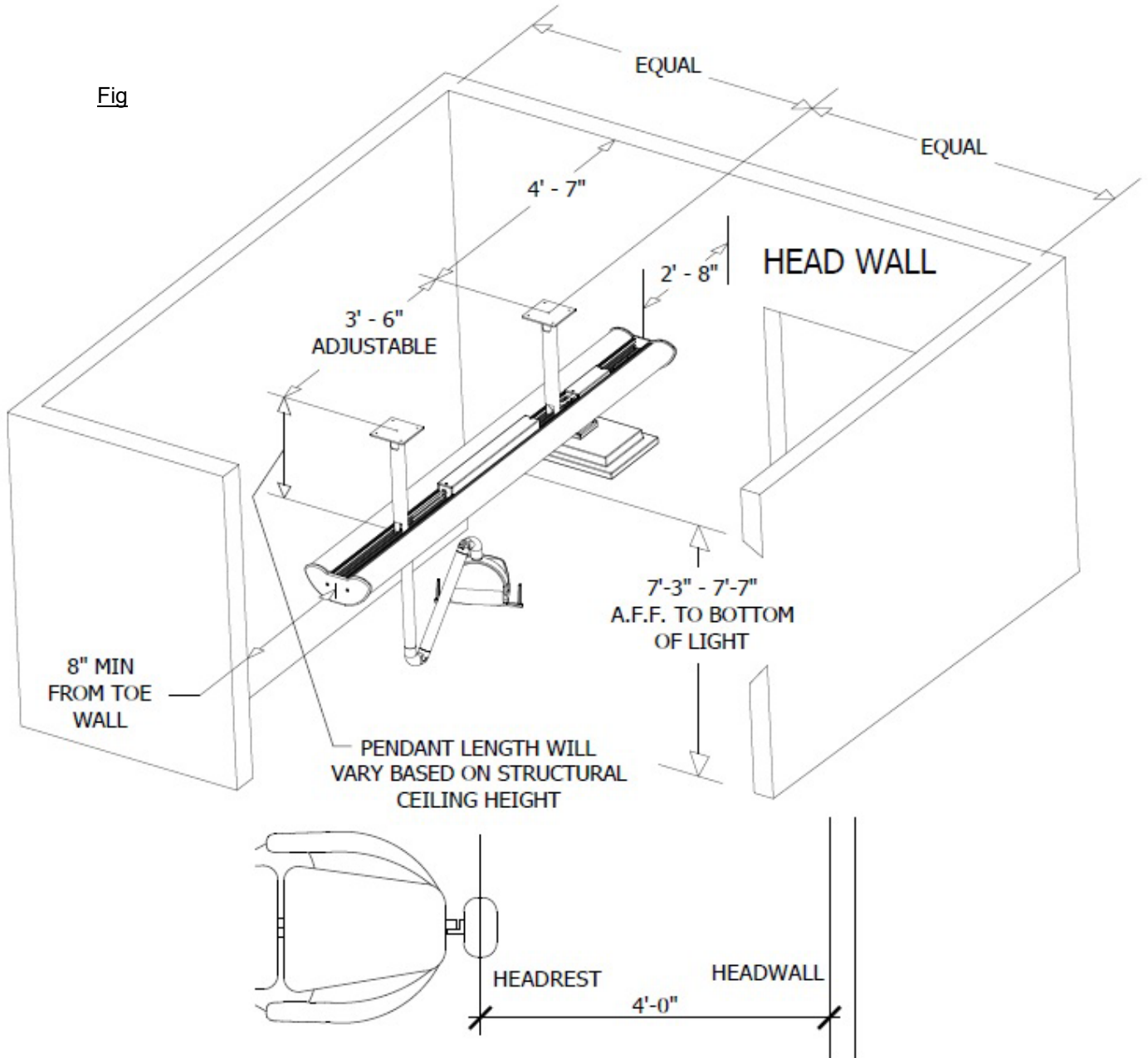
Fig 2.5 shows the range of the Suspension Arm, Headlamp and the suggested placement of the Monitor.



2 – SPECIFICATIONS CONT'D

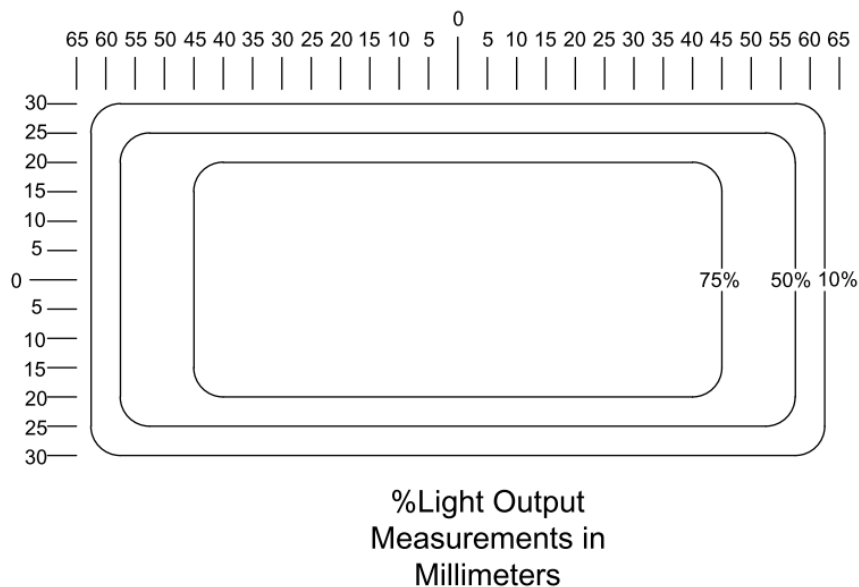
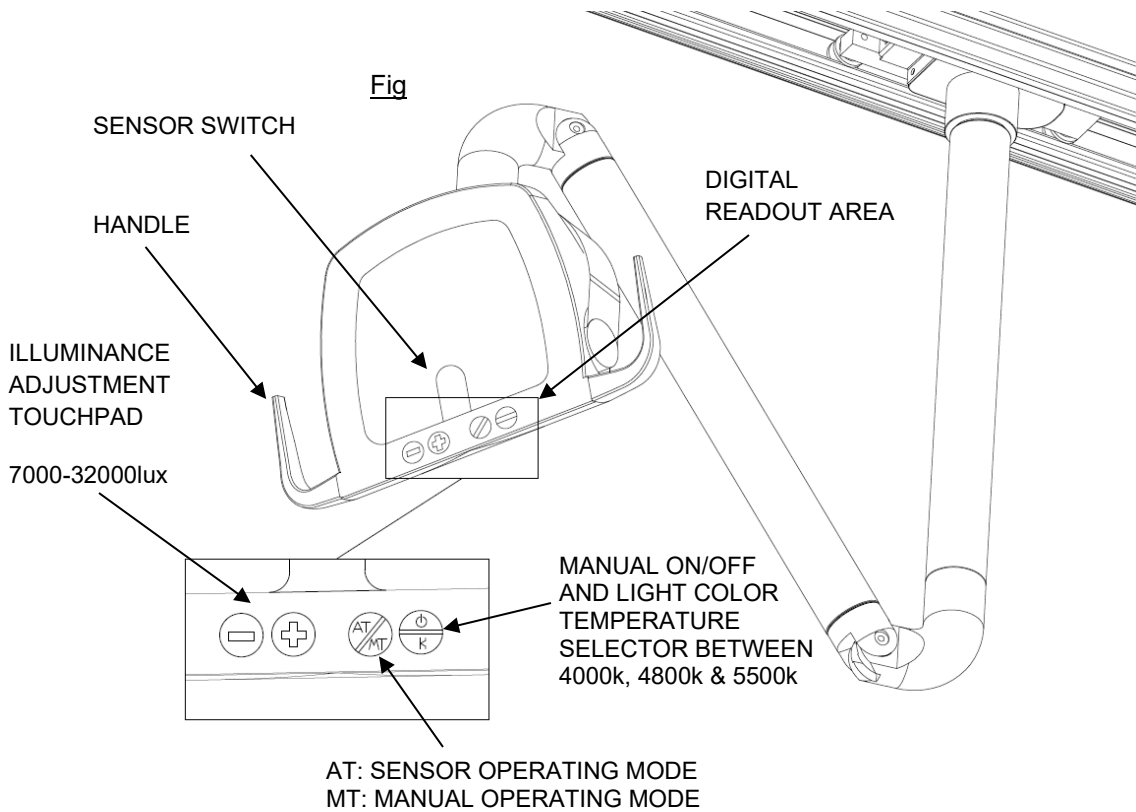
Please note all dimensions below in Fig 2.6. These dimensions must be maintained in order for optimum function of the Aurora LS.

Fig



3 – STRUCTURE OF THE LIGHT

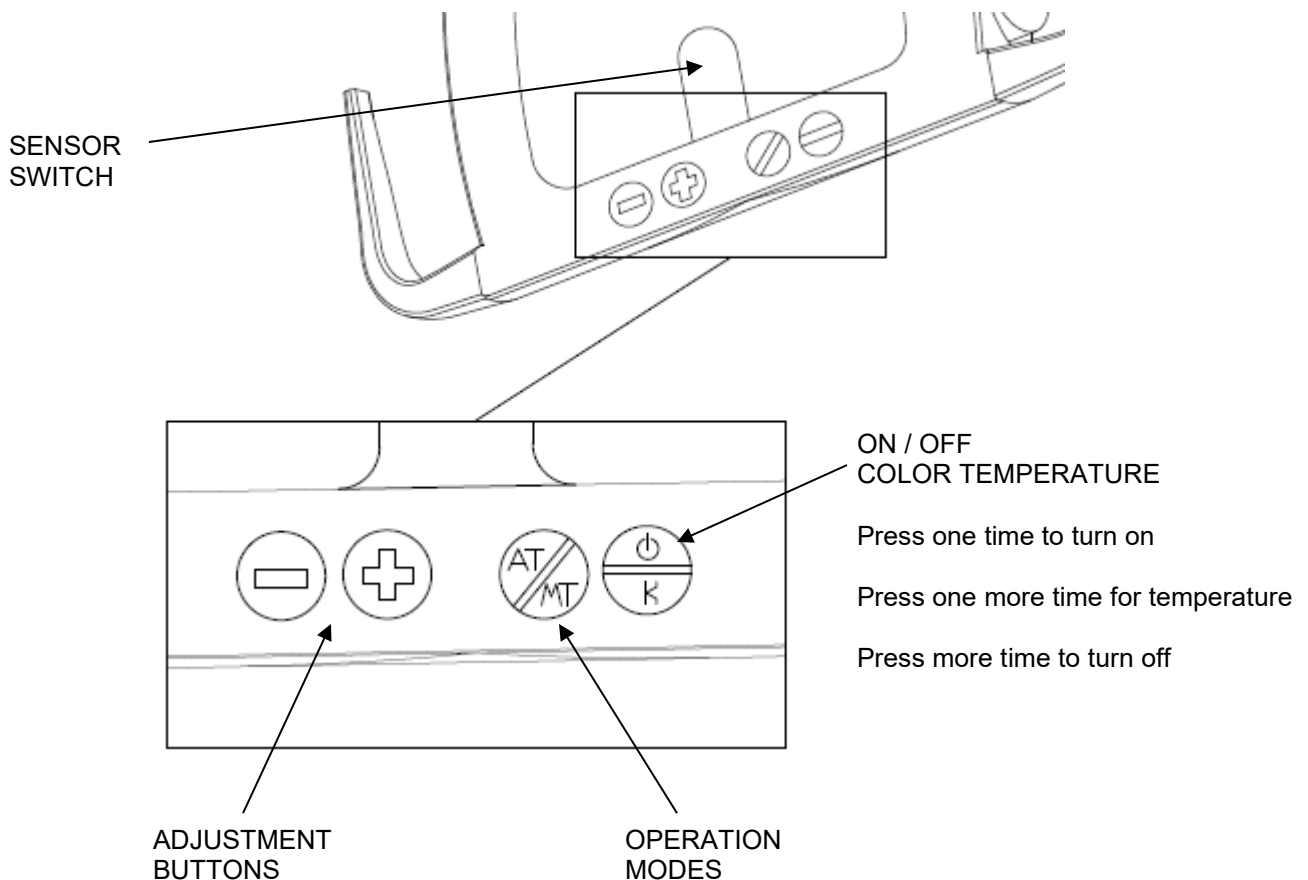
Fig 3.1 shows the HEADLAMP on board functions and descriptions. Fig 3.1A is an luminance output measurement Chart for reference (not to scale).



4 – OPERATING INSTRUCTION

1. When you touch “AT” / “MT” you can change the operation mode from SENSOR OPERATION MODE and the MANUAL OPERATION MODE.
2. When the light is under “AT” MODE, the light can be operated by the SENSOR SWITCH. Skim hand over the SENSOR SWITCH within 100MM, and the light will turn on or off. When the light is on, keep the hand in front of the SENSOR SWITCH within 100MM, and the illumination of the light will be adjusted. Touch the “K” button to shift between the low color temperature of 4000k, the mid color temperature 4800k, and to the high color temperature of 5500k.
3. When the light is under “MT” MODE, touch the “ON/OFF” and “K” button to shift among low color temperature, high color temperature, and off.
4. No matter if the light is under “AT” OR “MT” MODE, when the light is on, you can adjust the illumination by pressing the adjustment button. Touch once and the illumination will be increased or decreased by 1000LUX. Press the “+” or “-” button and the illumination will be adjusted. The illumination setting will be automatically memorized.
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.





5 – 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.

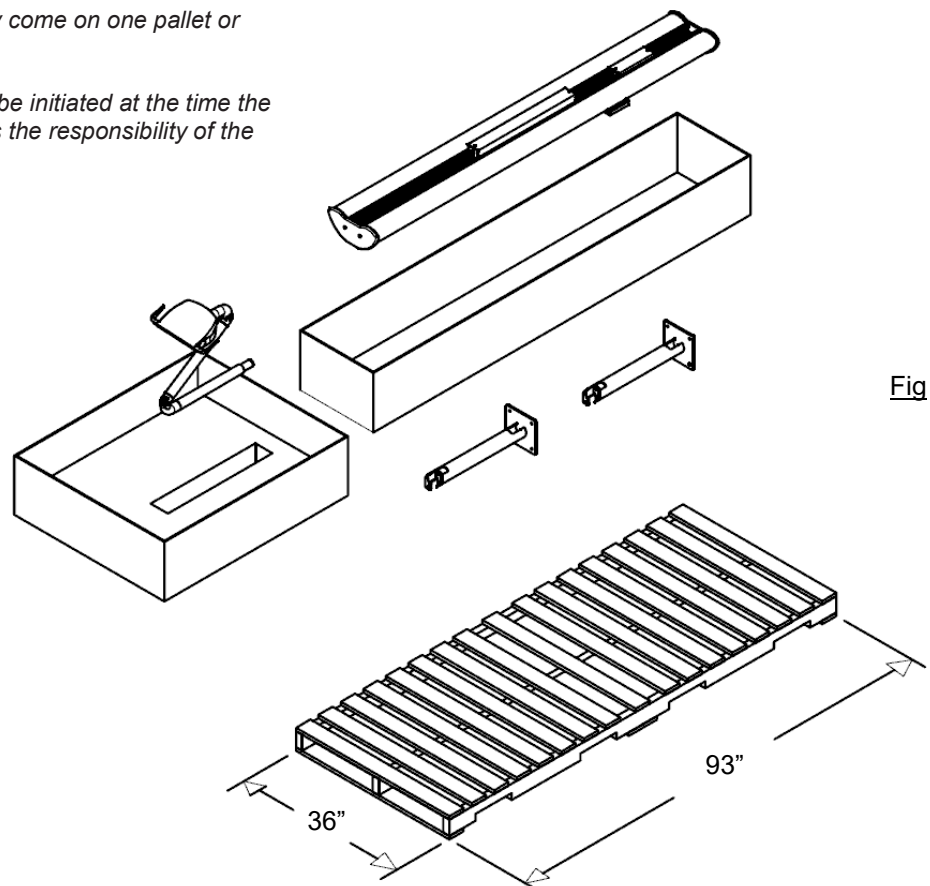
NOTE: Lights come in three boxes, Main Body, Flex Arm, Light Head, and Pendants. Pendant parts come in different sizes and may be shipped in a **separate box** or **separate pallet**.

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

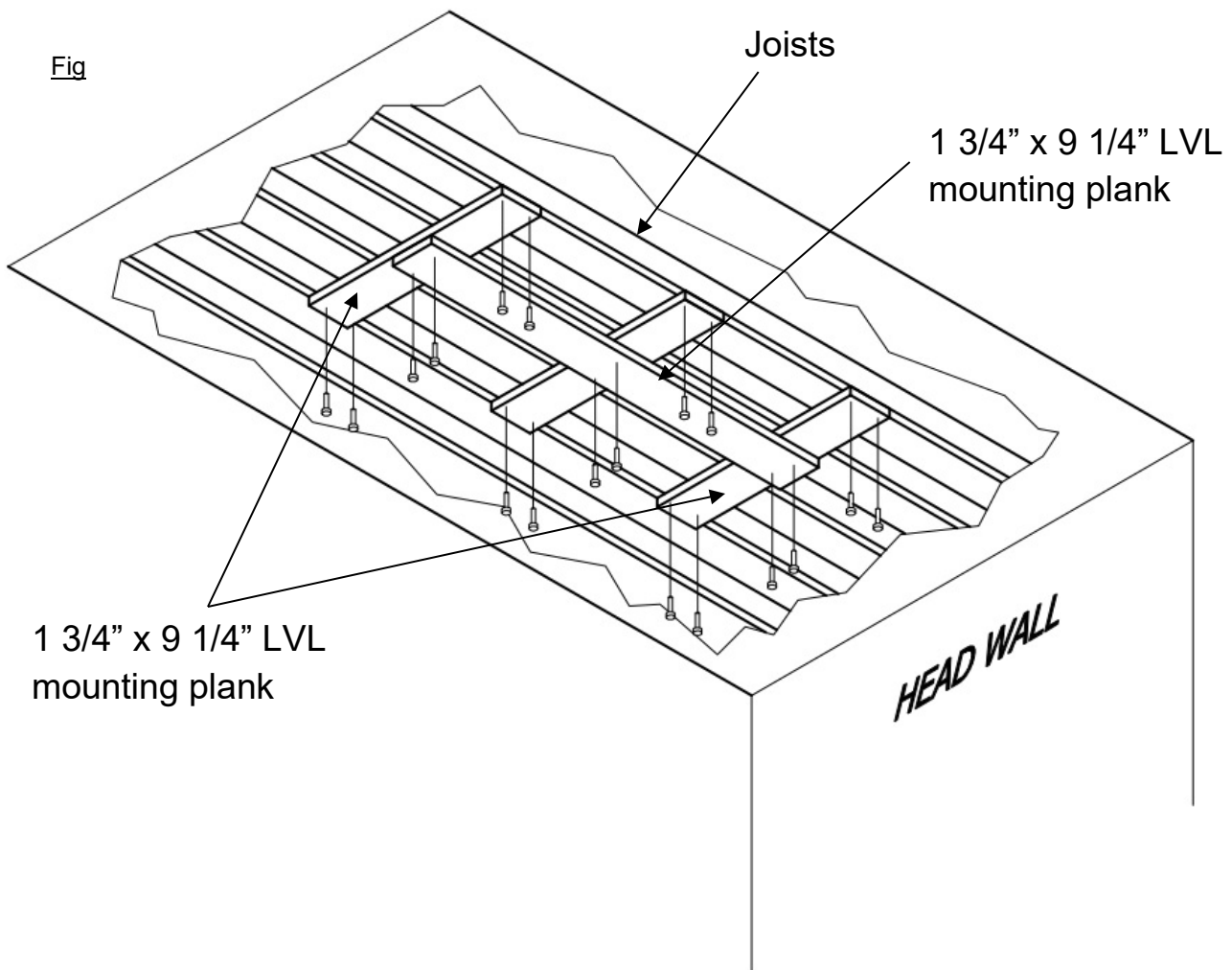
Utility Knife
Electric drill and Assorted Bits
Construction Level
7/16" Wrench (7/16" Ratchet Preferred)
Lifting Device
Torx Wrench – Drive size T30
Phillips head screw driver
Allen Wrench – 1/8"



6 – 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 (See Fig 6.1).



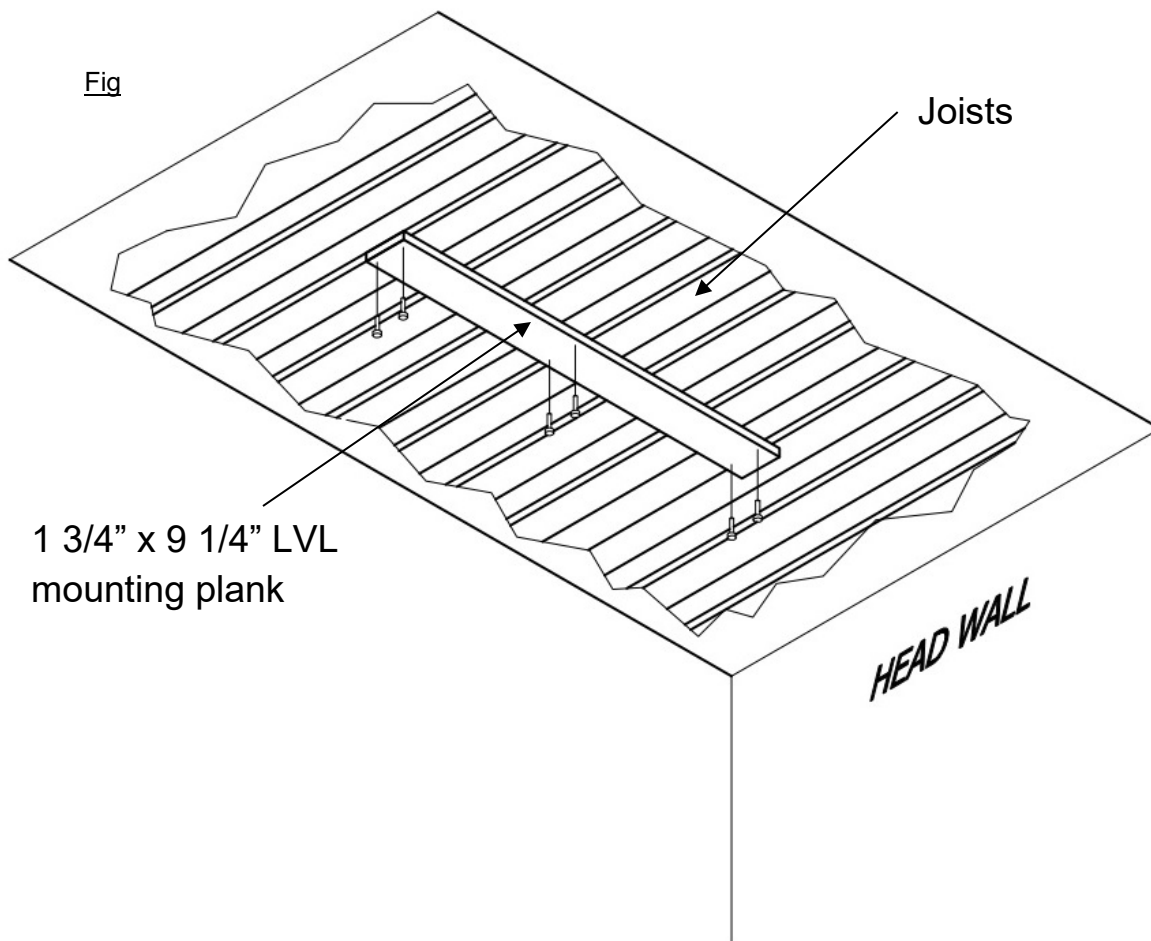
Fig


	<p>WARNING: It is the responsibility of the contractor to provide suitable support framing prior to installation.</p>
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6 – 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 (See Fig 6.2).



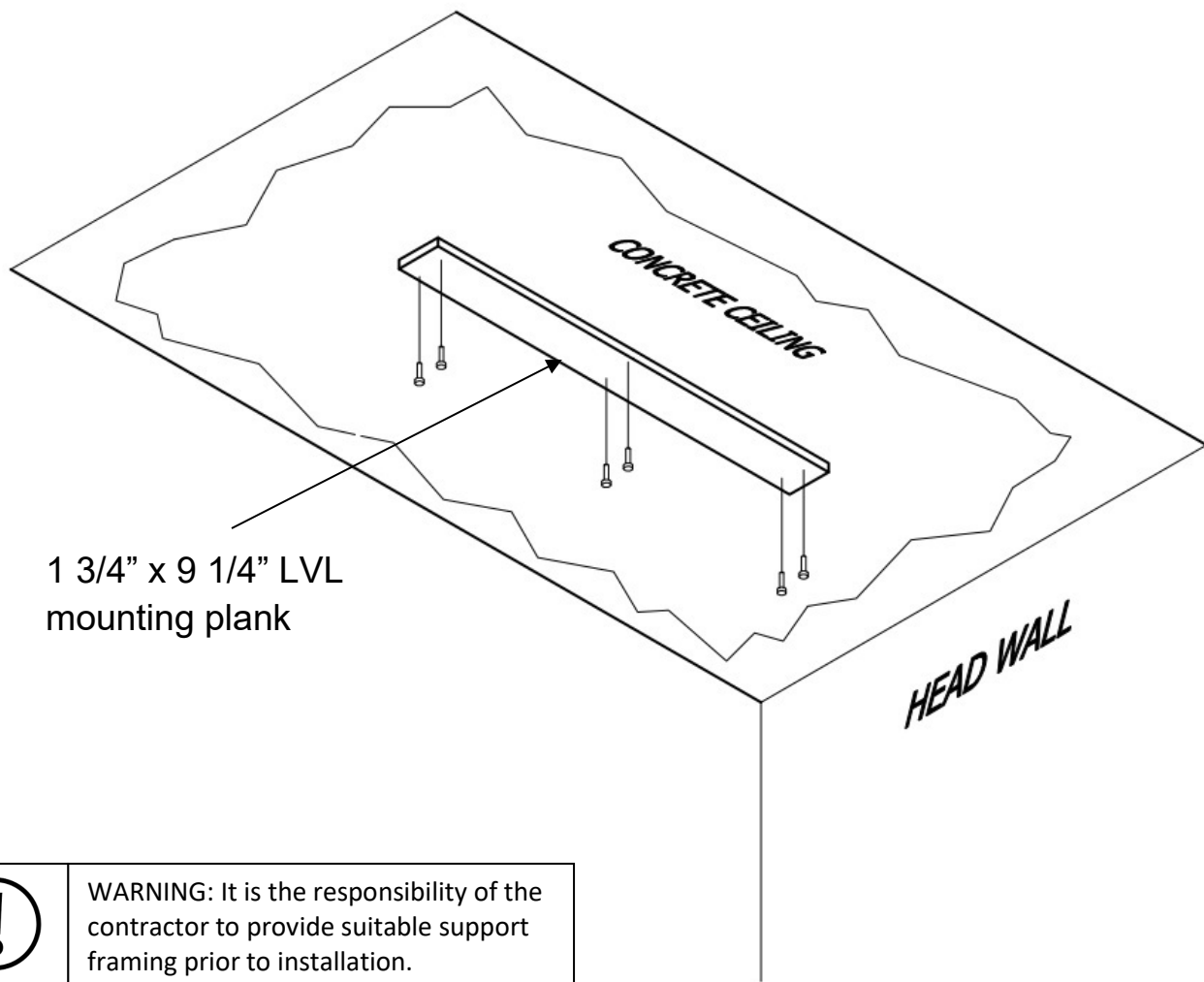
 **WARNING:** It is the responsibility of the contractor to provide suitable support framing prior to installation.


6 – 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 (see Fig. 6.3).

Fig



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

7 – PENDANT INSTALLATION

Inspect Pendants for defects before installing into the pendant track.

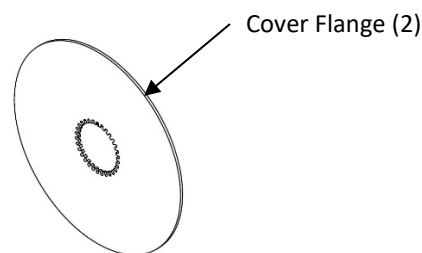
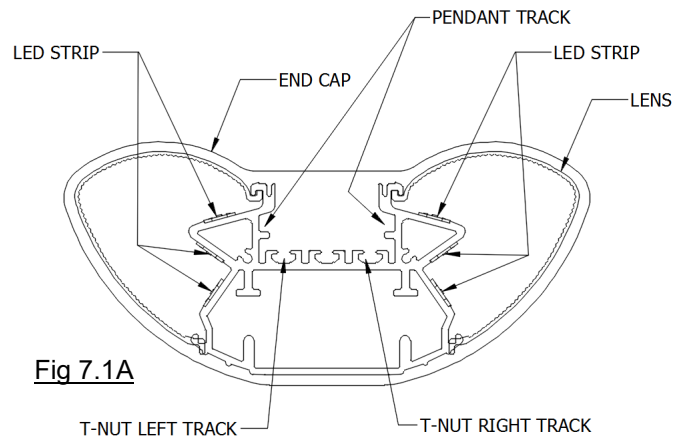
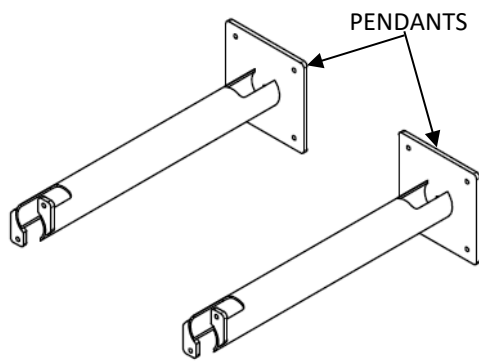
Inspect the Light Track for any damage. This includes the lens, end caps and task lights.

Figure 7.1A 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.

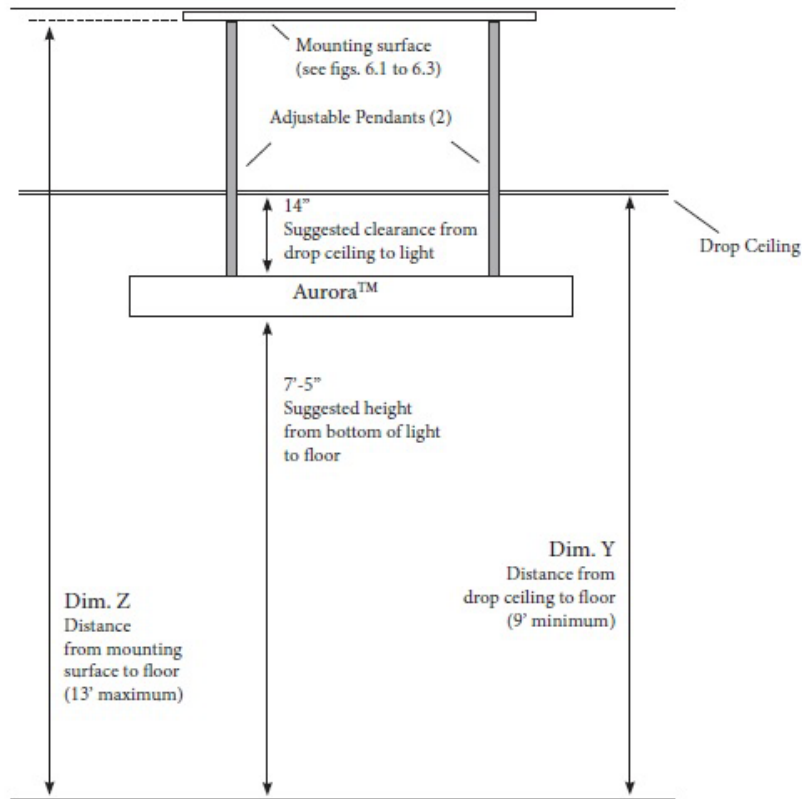
Cover Flange – Cover flange used to cover the cutout in the ceiling tile.



7 – 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.

Installation Dimensions and Pendant Requirements



For best use, the light should be positioned 7'-5" (+/- 2") above the floor, with a clearance of 14" (+/- 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.

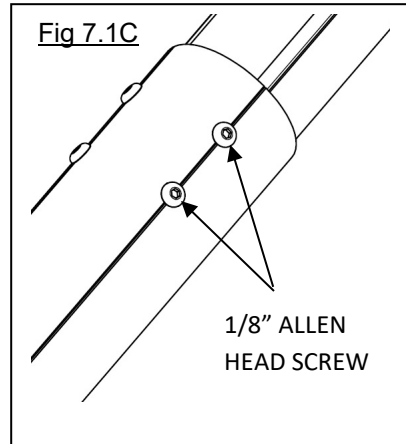
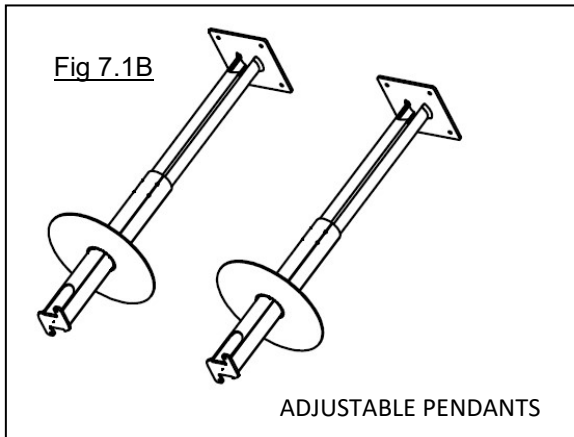
If Dim. Z is between...	Use Pendant...	Please contact Ergonomic Products if drop ceiling height (Dim. Y) is greater than...
9'-1" (109") and 9'-9 1/2" (117.5")	P1	8'-7 1/2" (103.5")
9'-9" (117") and 11'-1 1/2" (132.5")	P2	9'-5" (113")
10'-10" (130") and 13'-1 1/2" (157.5")	P3	10'-5" (125")

See the next page for instructions on adjusting the pendant length prior to installation.

7 – PENDANT INSTALLATION CONT'D

If Adjustable pendants are used (Fig 7.1B), 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 91". This number will be the pendant adjusted length. For an example, the bottom of LVL mounting is 132-3/4", you subtract 91" and your pendant length would equal 41-3/4".

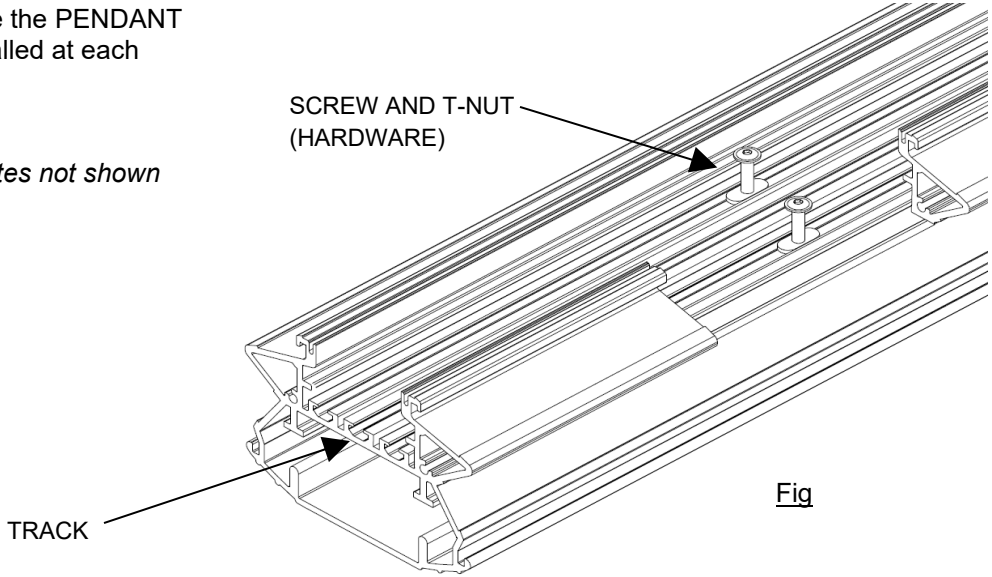
After adjusting to proper length **TIGHTEN ALL FOUR 1/8" ALLEN HEAD SCREW SECURLY (Fig 7.1C)**



7 – PENDANT INSTALLATION CONT'D

1. The hardware needed to secure the PENDANT to the TRACK are already preinstalled at each end of the Light Track (Fig 7.2).

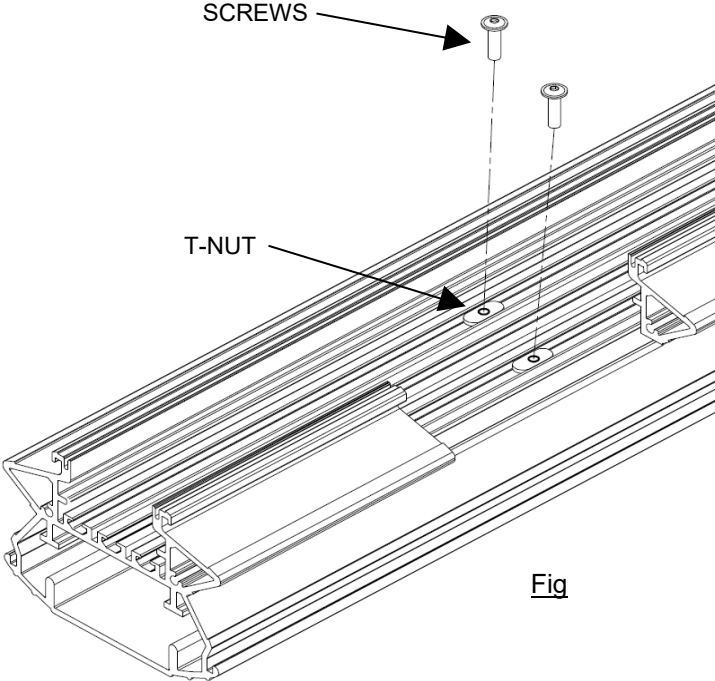
Electrical components and endplates not shown for clarity.



Fig

2. Remove the SCREWS using a Phillips head screw driver and leave the T-NUTS in place (Fig 7.3).

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

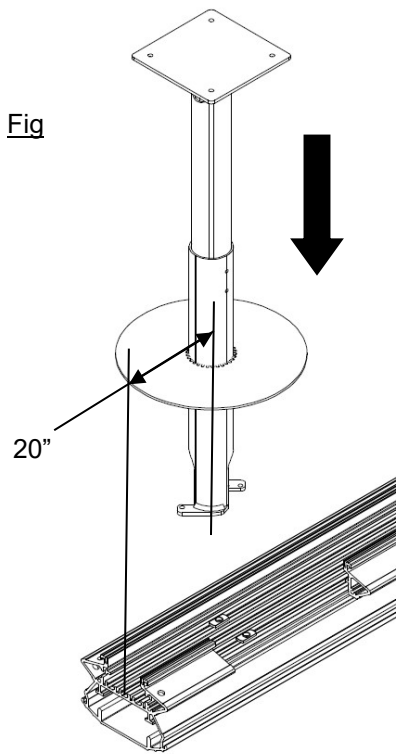


Fig

7 – PENDANT INSTALLATION CONT'D

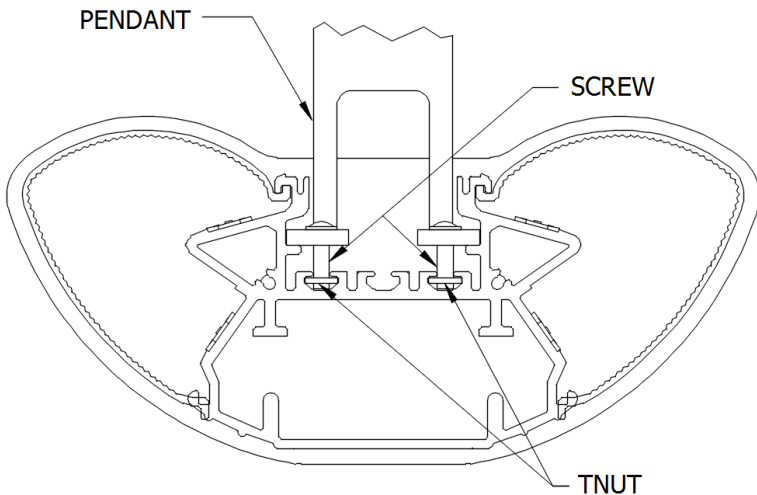
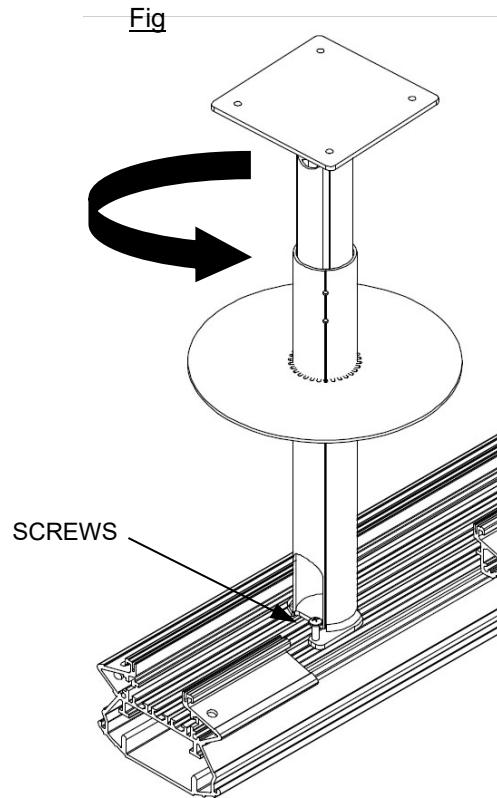
3. If PENDANT installation is standard spacing install 20" from each end of the TRACK (Fig 7.4). If not standard because of obstructions etc., place PENDANT to achieve the correct light to headwall dimension see Fig 2.6 on page 9.

4. Orient the PENDANT as shown in Fig 7.4 and place into the PENDANT TRACK.



5. When the PENDANT is in desired location, twist to lock into place (Fig 7.5).

6. Secure the PENDANT by lining up the SCREWS and the T-NUTS then tighten in place (Fig 7.5)



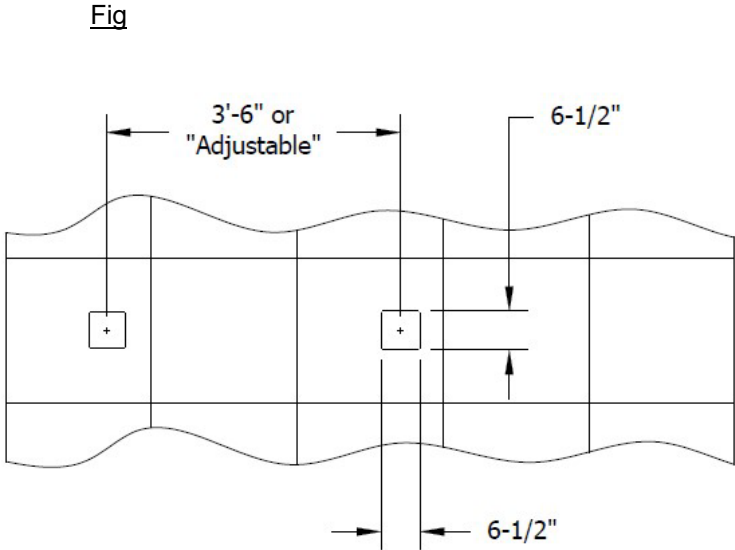
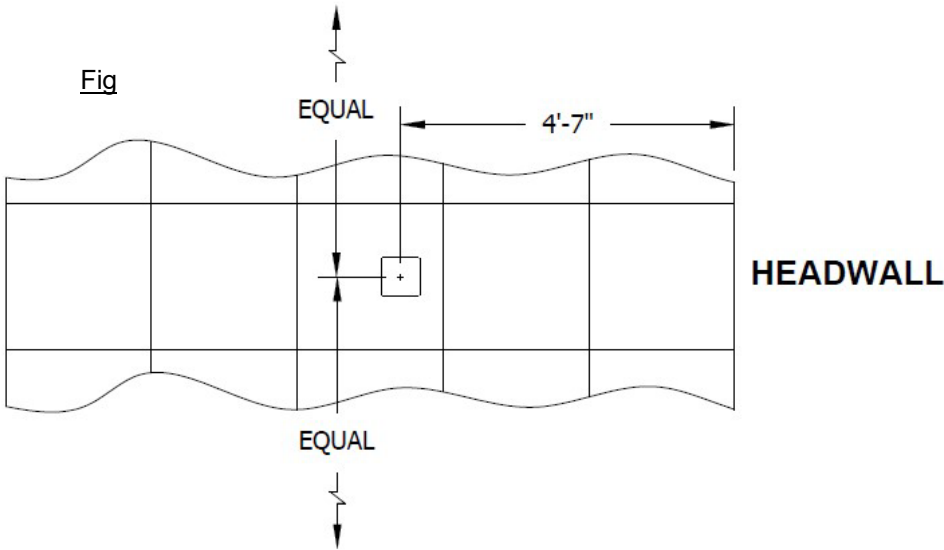
Fig

In Figure 7.6 the track cross section view shows the PENDANT installed in place with SCREWS and T-NUTS provided.

8 – MOUNTING THE AURORA LS

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 in figure 8.1. Cut a square cut out that is 6.5" x 6.5" as shown in figure 8.2. 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.

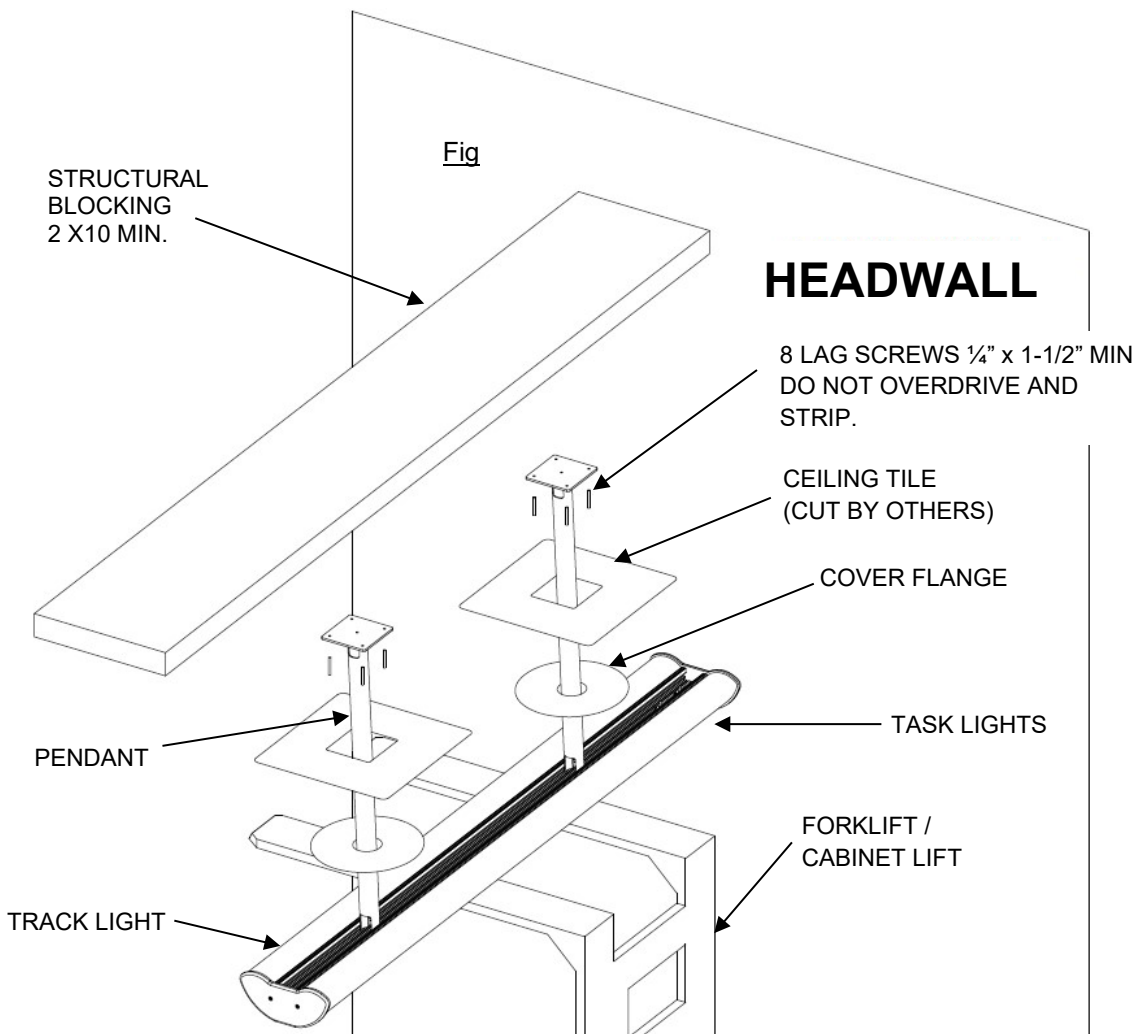


8 – MOUNTING THE LIGHT TRACK CONT'D

2. Lift the unit with the PENDANTS attached to the track and secure the PENDANTS with lag screws into the structural blocking shown in the figure below (Fig 8.3). 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 (Fig 8.3).

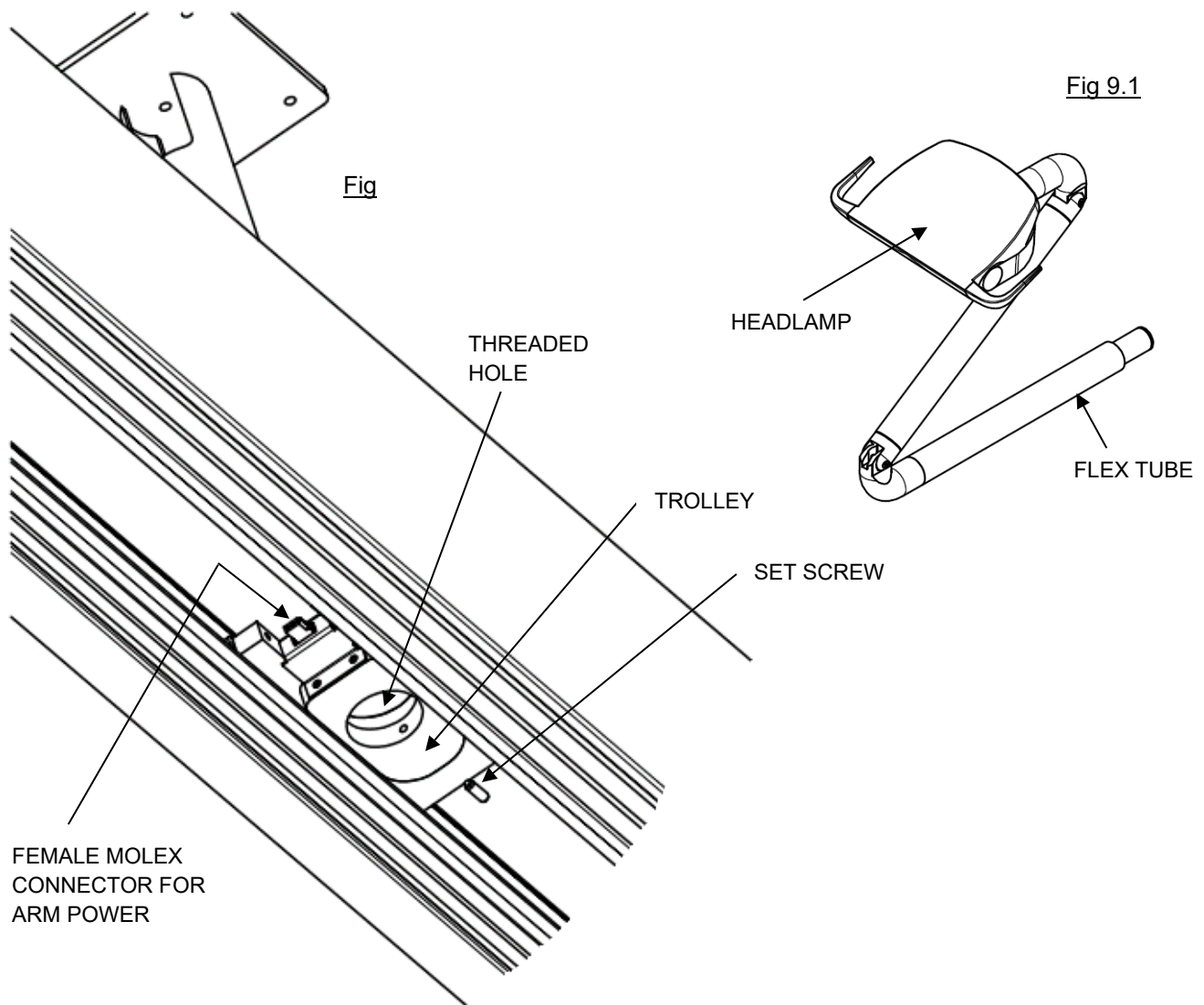


WARNING: Use safe lifting procedures when mounting to the ceiling.

9 – 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 (Fig 9.1).

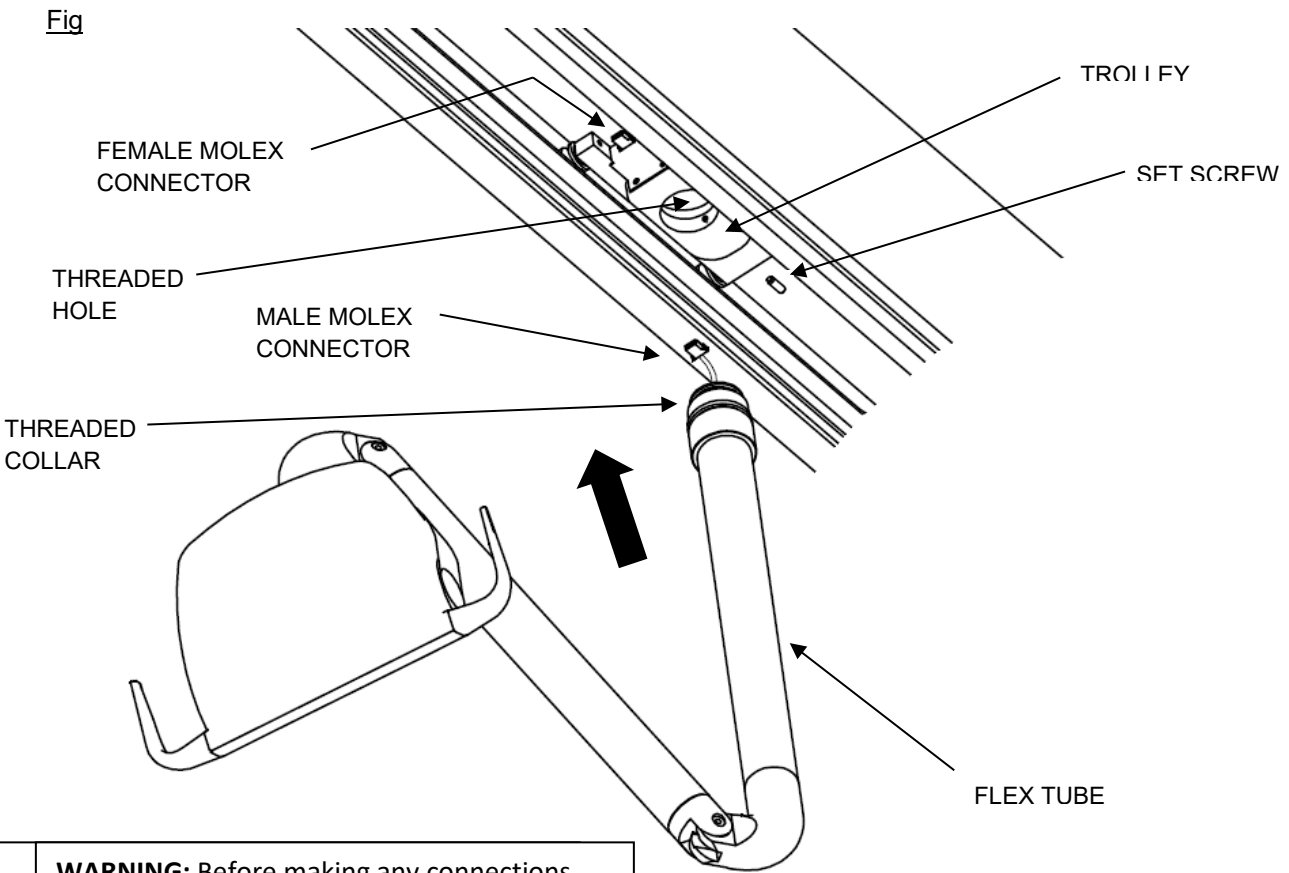
The TROLLEY is pre-installed into the track and has a threaded hole for the FLEX TUBE to screw into, a SET SCREW to prevent un-threading during operation and a plug to energize the FLEX TUBE to power the HEADLAMP (Fig 9.2).





9 – 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 (Fig 9.3).
2. Insert and screw the THREADED COLLAR into the THREADED HOLE in the TROLLEY and tighten to secure (Fig 9.3).
3. Tighten the SET SCREW until it presses against the THREADED COLLAR. Do not over tighten.

	<p>WARNING: If set screw is not tightened, collar may unthread causing light to fall leading to possible patient injury and light damage.</p>
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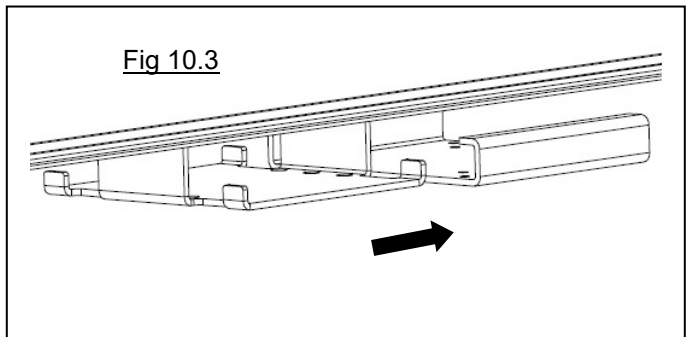
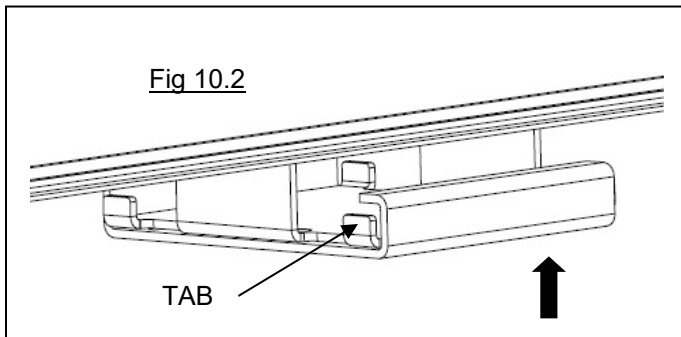
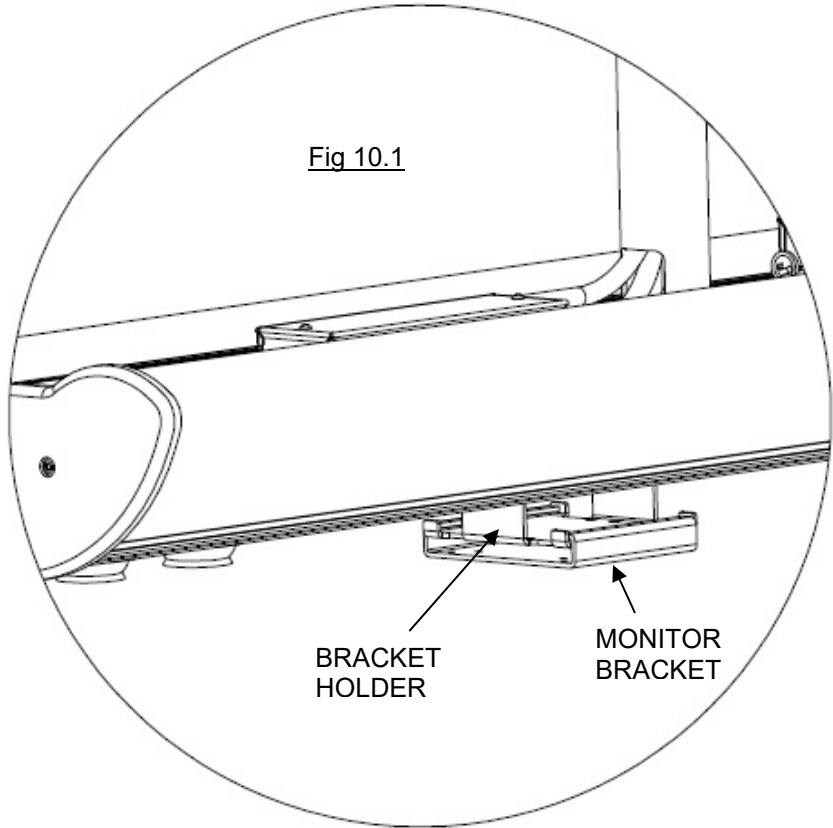


	<p>WARNING: Before making any connections, be sure all power has been disconnected.</p>
	<p>Making these connections while unit is connected to power source may result in equipment damage or injury.</p>

10 – MONITOR INSTALLATION

The MONITOR BRACKET comes installed on the BRACKET HOLDER (Fig 10.1). 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 (Fig 10.2) to clear the TABS and slide either forward or back to remove the MONITOR BRACKET (Fig 10.3).



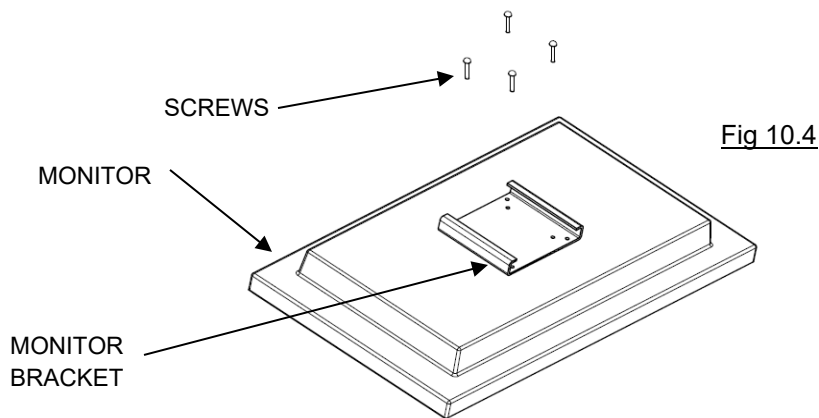
10 – MONITOR INSTALLATION CONT'D


2. Screw the MONITOR BRACKET on the back of your MONITOR (Fig 10.4). 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.

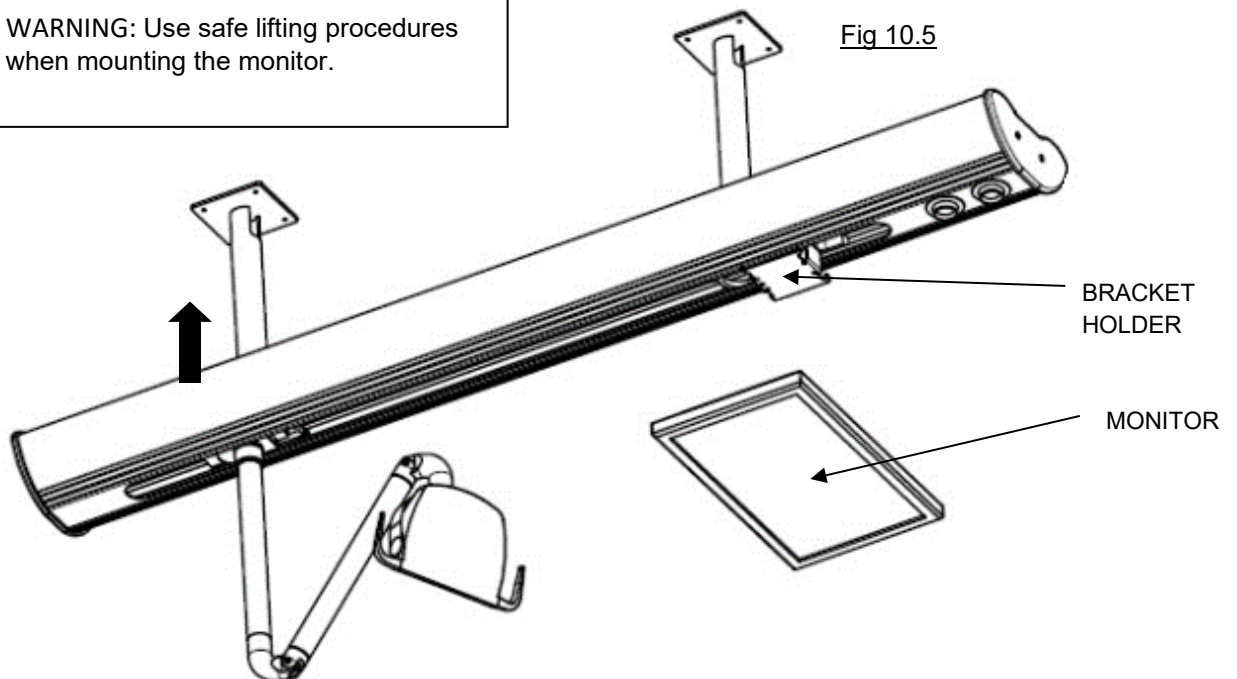
3. Hang the MONITOR with the MONITOR BRACKET attached, back on to the BRACKET HOLDER (Fig 10.5).

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



	<p>WARNING: Use safe lifting procedures when mounting the monitor.</p>
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10 – 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.

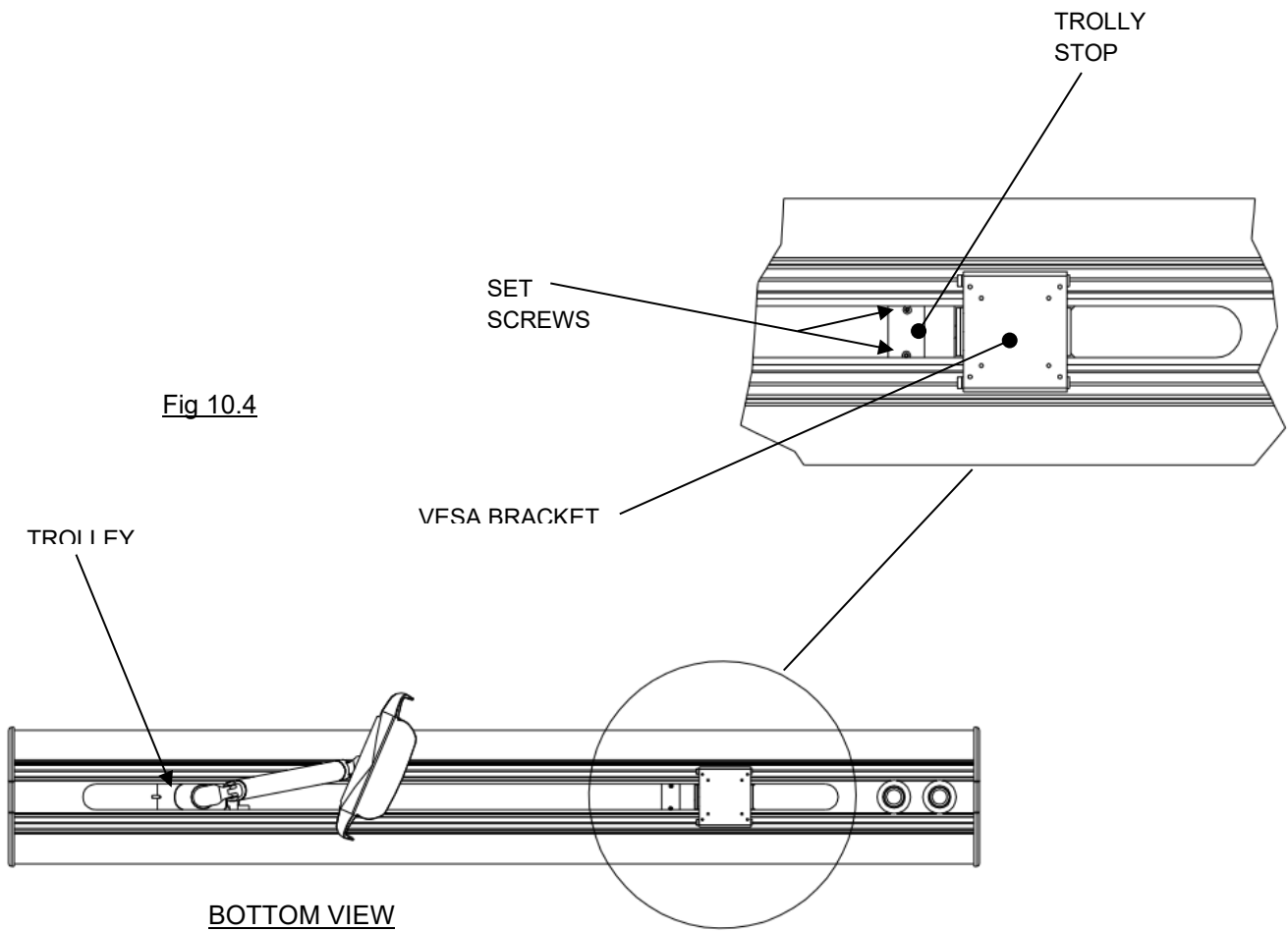




Fig 10.4



10 – MONITOR INSTALLATION CONT'D

5. Wiring for the MONITOR is fed from the incoming power line through the top PENDANT OPENING. Run wiring through the bottom PENDANT OPENING and then through LAMP HOLE (Fig 10.6).
6. Continue running the wiring through the TV TRACK OPENING and make the final connections to the back of the MONITOR (Fig 10.7).

	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.
	

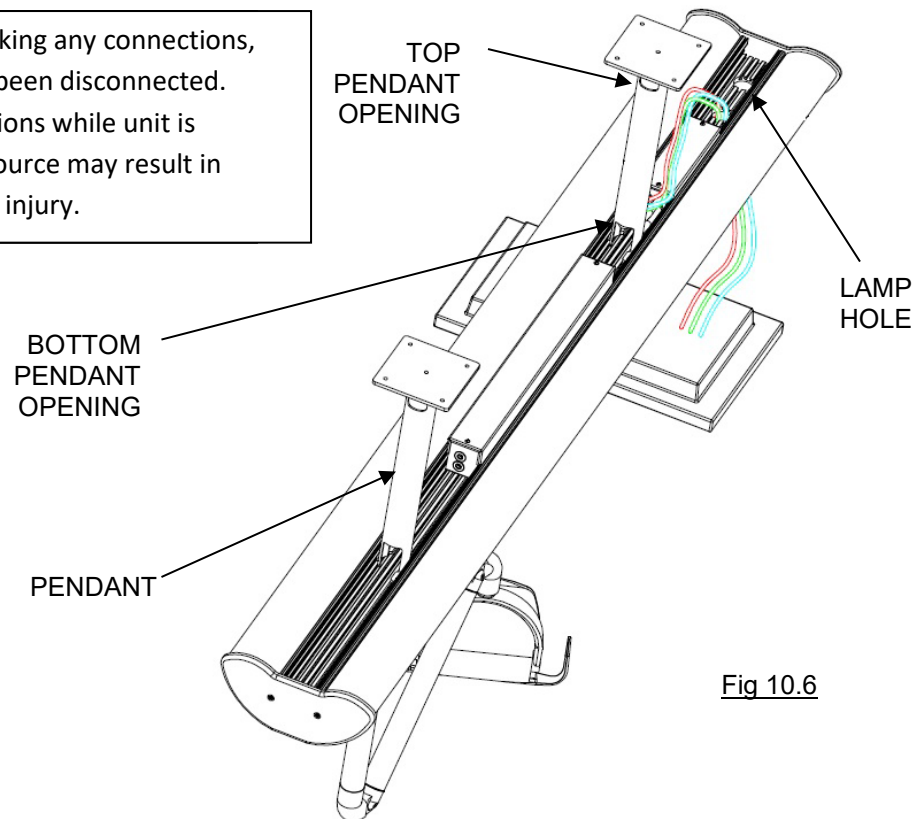


Fig 10.6

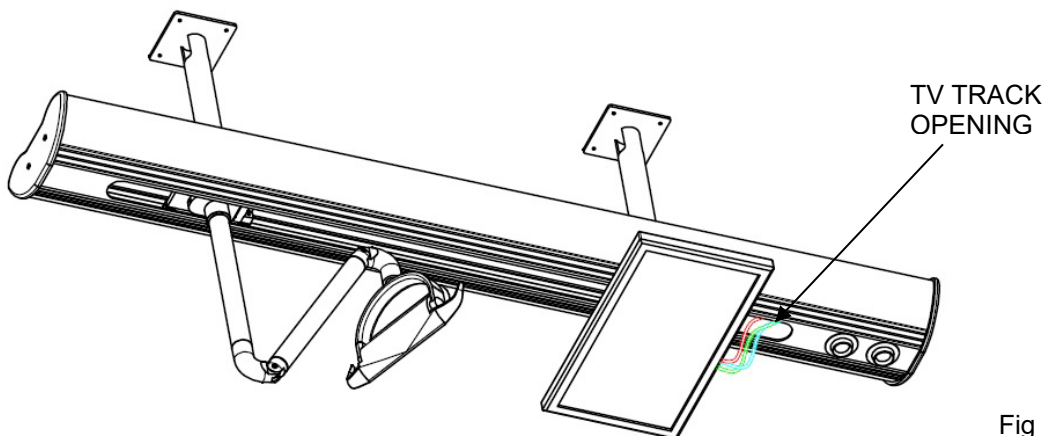
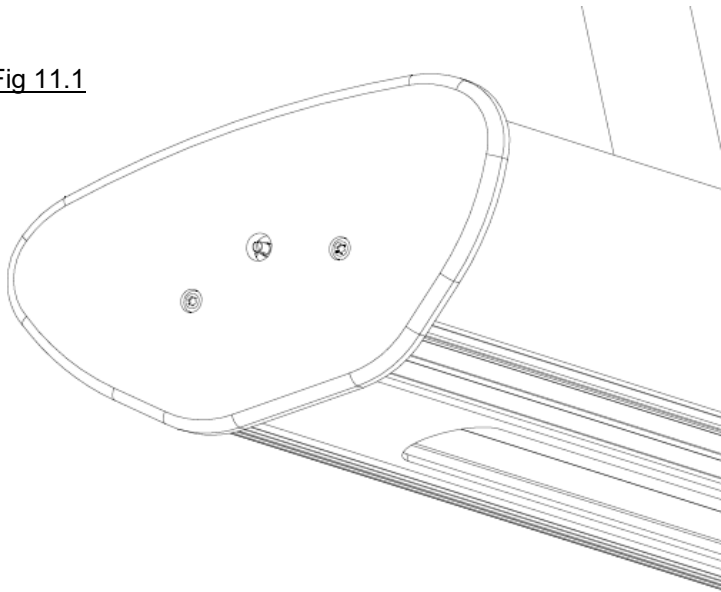


Fig 10.7

11 – DIMMER OPERATION

1. The ON-BOARD DIMMER is located on the “foot wall end” of the Aurora LS (Fig 11.1). In (Fig 11.2) below the dimmer is adjusted by turning the slotted knob clockwise or counter-clockwise to adjust the illuminance of the room lighting.

Fig 11.1



SLOTTED KNOB

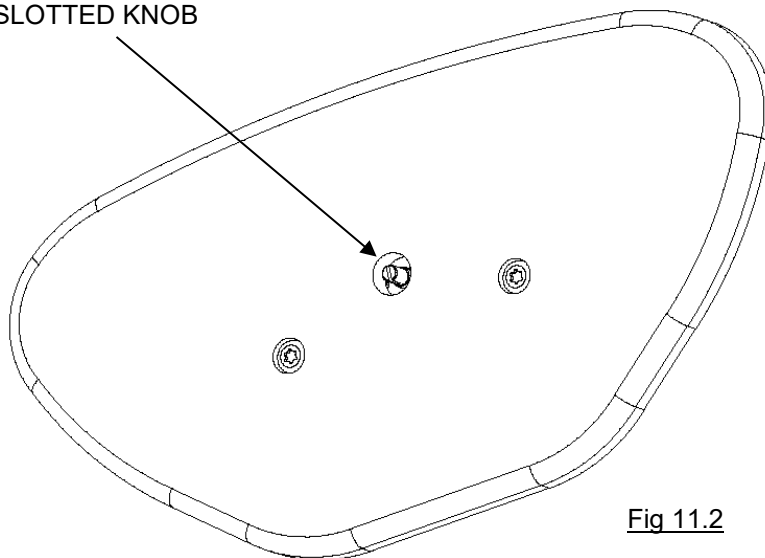
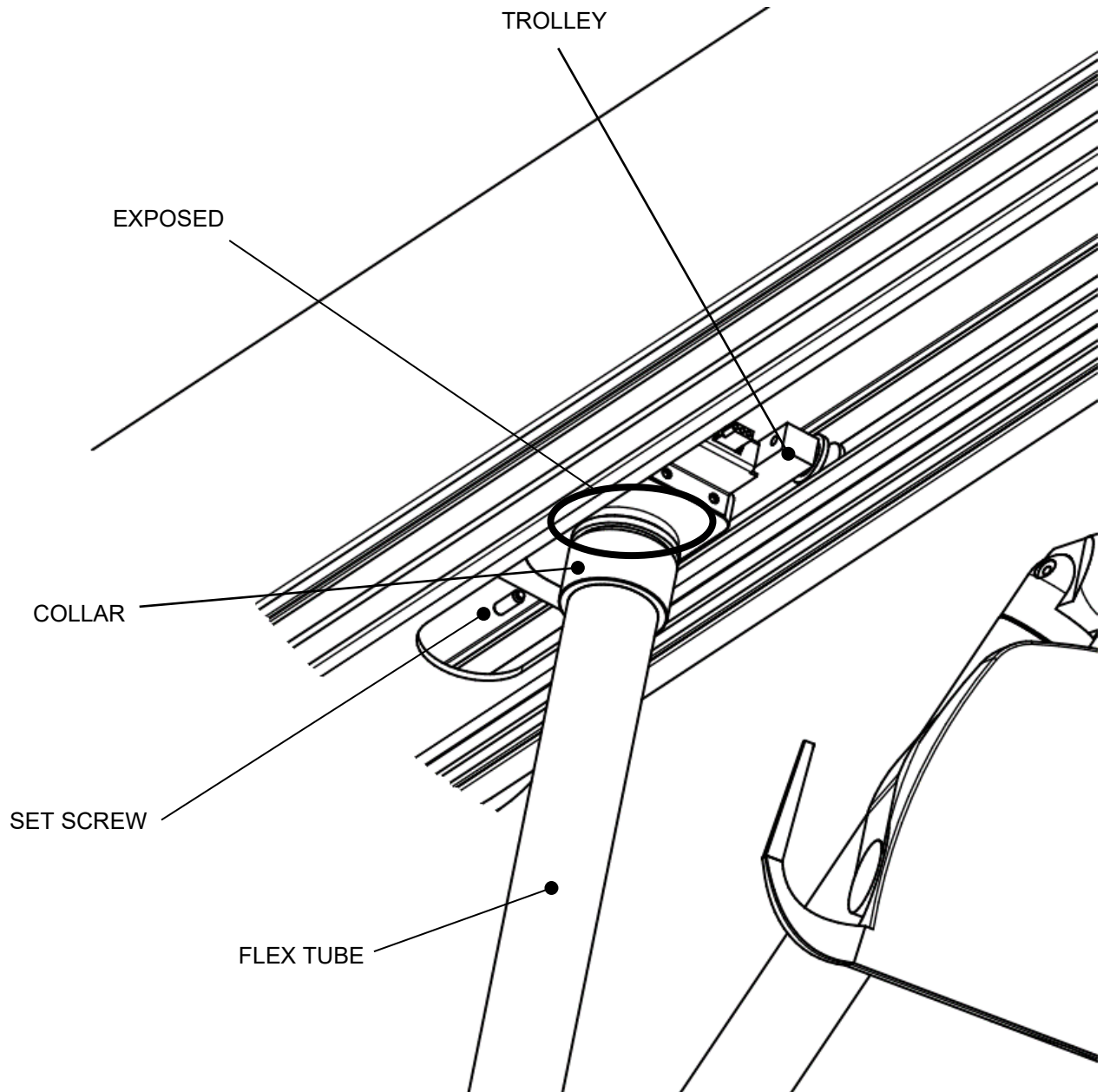


Fig 11.2

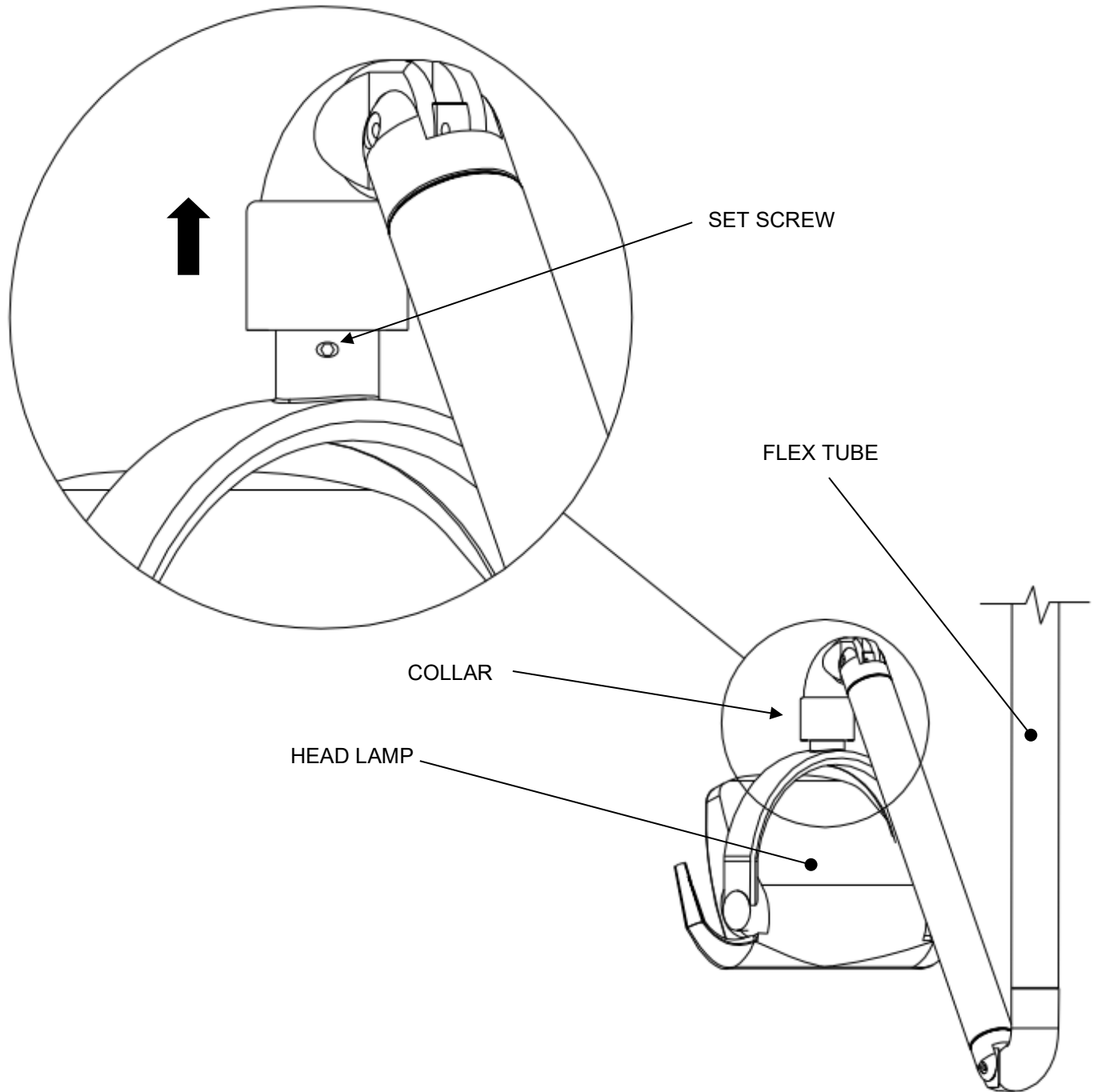
12 – SERVICING AND MAINTAINENCE

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.



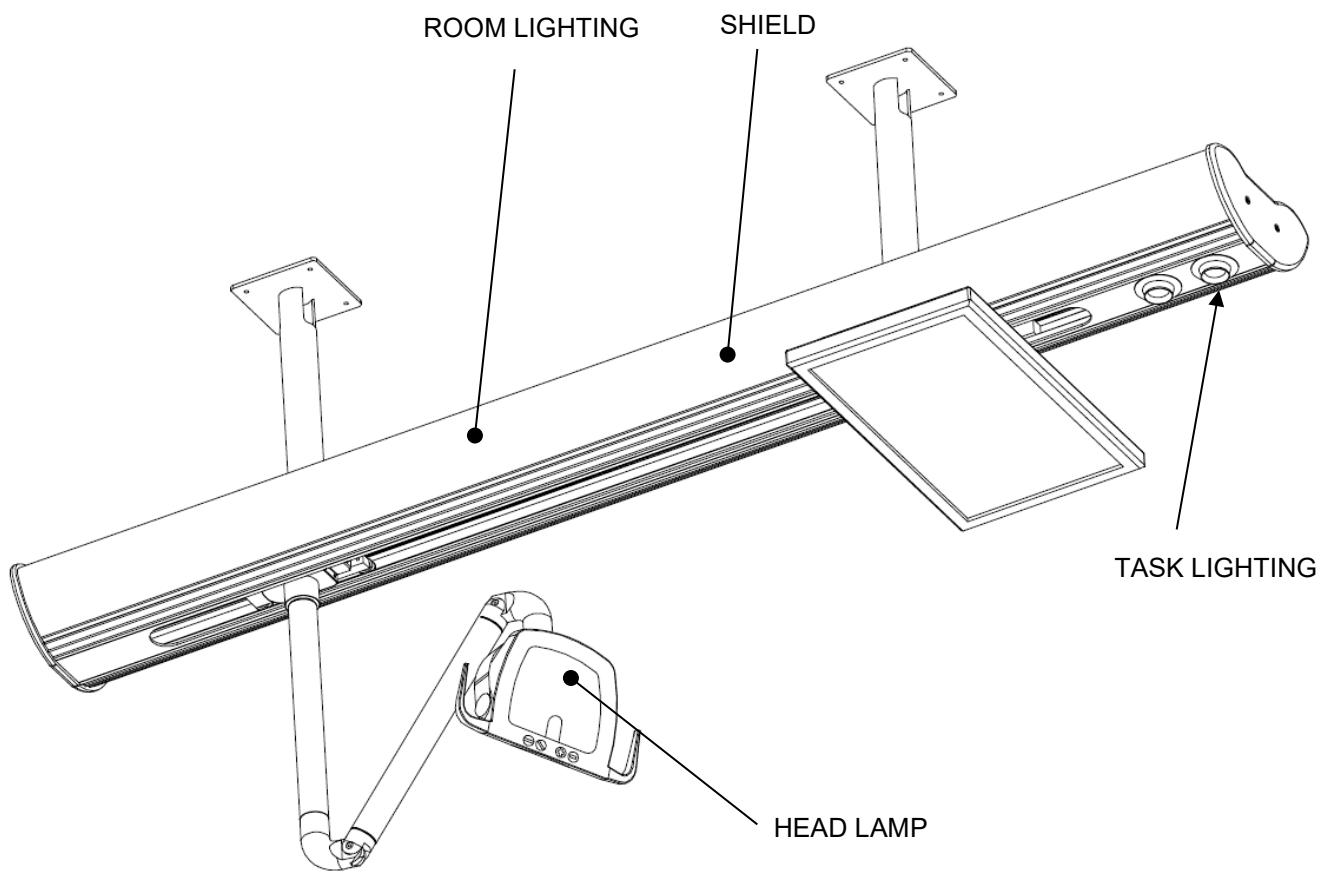
12 – SERVICING AND MAINTAINENCE CONT'D

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



12 – SERVICING AND MAINTAINENCE CONT'D

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





13 – 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.

Note: CDC Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008; Centers for Disease Control and Prevention. Guidelines for Infection Control in Dental Health-Care Settings— 2003. MMWR 2003;52 (No. RR-17):[inclusive page numbers]. FDA Processing/Reprocessing Medical Devices in Health Care Settings: Validation Methods and Labeling *DRAFT GUIDANCE* May 2, 2011.

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

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. 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 bloodborne pathogens, must receive intermediate level disinfection with a product having an EPA-registered claim for activity against hepatitis B after cleaning.

Lens

This LED light is sealed to prevent dust from entering light reflector. Please **DO NOT** attempt to remove light shield. Doing so will **VOID** the warranty. Cleaning: Use only mild soap and water on the light shield. Do not use abrasive materials.