



MODEL SLA100
BURTON
SURGICAL LIGHTING

CAUTION

- Inspect unit and all components for any loosening that may have occurred during shipping •

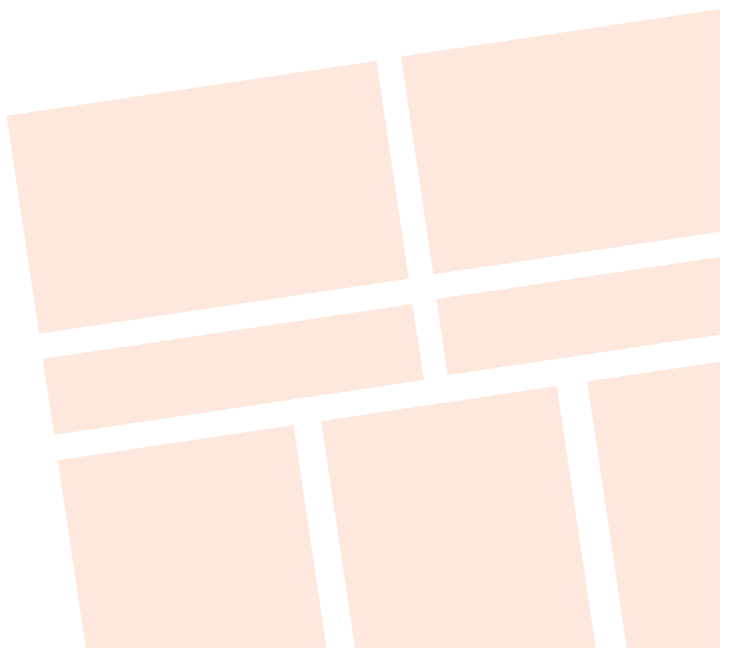
ATTENTION

Review entire manual before starting assembly

ATTENTION

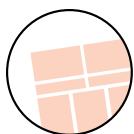
All images and Drawing in this manual may not represent your model. Refer to your particular project for exact specifications

Activate Warranty Registration on-line for details see: www.burtonmedical.com



JULY 2012

ISO Doc. #OMSLA100 (REV C)



It is important that the information provided in this manual is observed. These instructions should be read carefully and observed fully before installation and initial operation.

WARNING

It is crucial that any work performed on Mortech Mfg. Inc. manufactured items are carried out exclusively by skilled professionals who have the respective training. Improper use, maintenance, parts and service, or modification to the equipment may cause injury and/or damage. Use and maintain the equipment only for the purpose described in this manual. Use only prescribed approved parts and service. Use the equipment only as designed by Mortech mfg. Inc.

BLOODBORNE DISEASE NOTICE

To reduce the risk of exposure to bloodborne diseases such as HIV-1 and hepatitis when using the equipment, follow the disinfecting and cleaning instructions in this manual.

OPERATING SKILLS AND TRAINING SKILLS

Operators using the equipment needs

- ☐ A working knowledge of necessary procedures.
- ☐ The ability to carry out necessary service procedures.
- ☐ A complete understanding of the procedures described in this manual.

TRAINING

- ☐ Be trained on the use of the equipment.
- ☐ Read the manual
- ☐ Practice with the equipment before using it in regular service.
- ☐ Be tested on their understanding of the equipment operation.
- ☐ Record their training.

BEFORE USING THE UNIT

Personnel working with this unit needs to read this manual. Assemble of the unit following instructions, and perform any pre-service checks to confirm the units operates properly.

INSPECTING THE UNIT BEFORE USE

Please take time to inspect all shipment prior to signing delivery ticket. If concealed damage is discovered, save the carton and immediately contact carrier agent to initiate claim of damage.

BE SURE TO CHECK

- Are all components present?
- Do the moving parts operate smoothly?
- Is unit draining properly?
- Are all nuts, bolts, and pins secured in place?
If unit has an issue contact customer relations.

INSTRUCTION FOR HANDLING

Adhere to state and/or local certification and regulations for operation of forklift and/or pallet jack. Cargo is extremely heavy, be sure to have the necessary manpower as well as equipment to successfully unload shipment from truck. We recommend a forklift and/or pallet jack with the capacity to lift up to 2000 lbs. to remove cargo from truck.

The forklift can be used to unload receiving products safely by placing the load on the floor, maneuvering the forklift into position, tilting the mast forward to vertical position so the load will be level, lowering the load, and smoothly backing away without dragging. Once cargo is unloaded, positioning unit for installation will once again require a forklift. Read all manual and note on installation of the unit before installing.

The pallet jack can be used (with a loading dock and maneuverability on and off the transport vehicle) to unload receiving products safely. Maneuvering the pallet jack into position (in the appropriate position within the pallet), lifting the pallet then driving the pallet jack off the truck and safely into the place of installation.

Range of Environmental Condition

Mortech Mfg. Inc. equipment shall be placed in a controlled environment (housing or housed unit) hindering the weathering effects on the installed units. The units will have minimal corrosive and eroding factors that can break down the stability and operation of Mortech's equipment. The impact on the unit by the operator utilizing water or corrosives in the medical procedures can be controlled and responsibility for the cleaning and maintenance placed upon that person. The effects of anthropogenic (man-made) gasses on the environment, such as carbon dioxide (CO₂) that will be omitted from the unit should be minimal.

Due to continuous innovation and product development this installation guide is subject to change without notice.

Please save these instructions for later use.

The installation manual gives instructions on how to install the SLA100 Minor Surgery Light Single Ceiling Version.

Please read these installation instructions very carefully and follow the safety instructions and requirements.

If there are any peculiar problems that have not been treated in sufficient detail in these installation instructions, please contact your Mortech Mfg. Inc. for your own safety.

WARNING

Disregarding this instruction can present the risk of a serious or fatal injury.

CAUTION

Disregarding this instruction can result in medium to light injury and damage to property.

IMPORTANT

Provides usage tips and useful information.

Transportation and Storage

The following storage conditions apply:

- Temperature: 0o-70 oC (32-158oF)
- Relative humidity: 10 - 75 % (no condensation)
- Air pressure: 500 - 1060 hPa

Store only in closed or covered spaces; thereafter, the values of the operating conditions in the usage instructions apply.

Safety Precautions**WARNING**

Failure to properly follow installation and preventive maintenance instructions may result in mechanical failure.

CAUTION

Before undertaking any work, ensure that the main power is off and secured from accidentally being switched on again

NOTE

This light should only be installed by a qualified electrical contractor.

NOTE

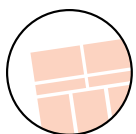
It is the responsibility of the customer to make sure the supporting wall / ceiling and the anchoring is safe, adequately strong and in compliance with all applicable building codes. (See: Static inspection on page 16 and the section Support and Anchorage below.)

Assembly preparations

Tools and Accessories Required:

- Drill
- Hacksaw
- Level
- 9/16" (14,3 mm) open-end wrench (or adjustable wrench)
- Wire cutter/stripper
- Allen key (3/32 in / 2,4 mm)
- Screwdriver , small flat-blade
- Wire nuts and wiring for supply connections





Installation

Burton SLA100 Surgical Lighting

Support and Anchorage

To prevent sway and provide proper support of the light, the ceiling mount must be attached to a structurally-sound ceiling. Most ceilings will require adequate reinforcing to hold the light. The installing contractor is responsible for providing this reinforcement to suit the individual requirements of each installation. A typical reinforcement consists of a 1/4" steel plate, the bottom surface of which is flush with the inside surface of the finished ceiling (e.g., acoustical tile) and connected firmly to the structural ceiling. Sway braces (e.g., made of angle iron) are recommended when there is more than 12" between the structural and finished ceilings. Make certain the installed plate is level or the arm(s) may "drift". Equipment anchorage diagrams are supplied with these instructions to help with the installation (see page 16) The diagrams were prepared by a California-licensed Structural

Engineer. If the lights are installed accordingly, the systems will meet requirements of the State Seismic Codes.

Mounting height

The proper height of the light should be set by the end user. This depends on the ceiling height, the height of the examination tables, types of procedures and the user's preferences. (See Figure-1) Due to the large vertical range of the light head (41 in / 1040 mm), the standard 20 in down tube will fit most normal ceiling heights. The following table gives some recommendations and shows the range of the light with the different length down tubes.

Figure-1

Ceiling height	Down tube	Pivot point ¹	Lower limit Light head	Higher limit Light head
7.0 ft 2135 mm	Short 8" ²	66 in 1676 mm	42 in 1067 mm	83 in 2108 mm
7.5 ft 2285 mm	Standard 20"	60 in 1524 mm	36 in 914 mm	77 in 1956 mm
	Short 8" ³	72 in 1829 mm	48 in 1220 mm	89 in 2260 mm
8.0 ft 2440 mm	Standard 20"	66 in 1676 mm	42 in 1067 mm	83 in 2108 mm
9.0 ft 2745 mm	Standard 20"	78 in 1980 mm	54 in 1370 mm	95 in 2410 mm
10.0 ft 3050 mm	Standard 20"	90 in 2286 mm	66 in 1676 mm	107 in 2718 mm
	Long 42" ⁴	66 in 1676 mm	42 in 1067 mm	83 in 2108 mm
11.0 ft 3350 mm	Long 42"	78 in 1980 mm	54 in 1370 mm	95 in 2410 mm
12.0 ft 3660 mm	Long 42"	90 in 2286 mm	66 in 1676 mm	107 in 2718 mm

1 Distance from the floor to the pivot point of the spring arm.

2 Cut the standard down tube (from the top) and drill two new holes.

3 Cut the standard down tube (from the top) and drill two new holes.

4 Contact Burton to obtain a Long Down Tube

Ranges of Motion

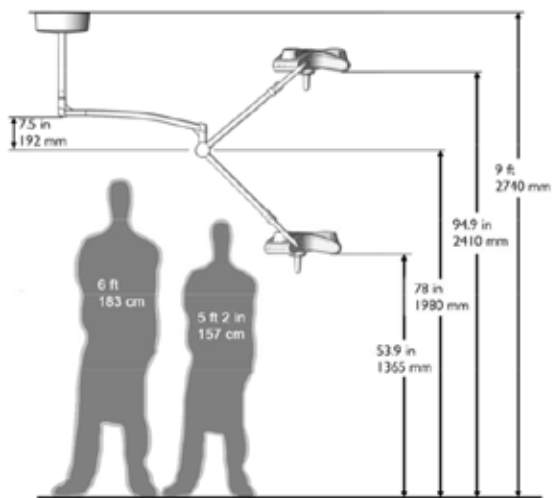


Figure 1: Vertical range of motion. Shown for 9 ft ceiling height.

Unpacking and Inspection

Carefully unpack the cartons and match the parts received with the parts list enclosed.

Before Reporting Shortages:

1. Be sure you have received the correct number of boxes, cartons, etc., as shown on the bill of lading.
2. Check the entire shipment against the enclosed packing slip.
3. Items indicated in the column headed "Back Order" are not included in the shipment and will follow later.
4. Be sure that nothing has been removed from the cartons before they are checked by the individual in charge.
5. Empty all boxes completely, open all inside containers, and examine all packing material to ensure small articles are not overlooked.

If a Shortage or Damage Occurs:

1. You, the receiver, not Burton, are responsible for filing any claim(s) with the delivering carrier within five (5) days after receipt of the shipment.
2. If damage or shortage occurs in transit, the delivering carrier is required by law to make notation of a shortage or damage. This notation is to be made on the bill of lading.
3. If, in your opinion, there may be concealed damage, an agent from the delivering carrier is obligated to make an inspection after the goods are unpacked.
4. Do not destroy packing material until after the agent has made out his report.
5. All claims must be made to the carrier, not Burton.
6. Written authorization must be obtained from Burton before merchandise can be returned.

Single Ceiling Version installation

Ceiling Support Structure

The engineer of record for the building shall provide a support structure designed to support weights and forces shown on the Equipment Anchorage Diagrams in this manual. When the support structure is in place the static inspection sheet at the end of this manual should be filled out.

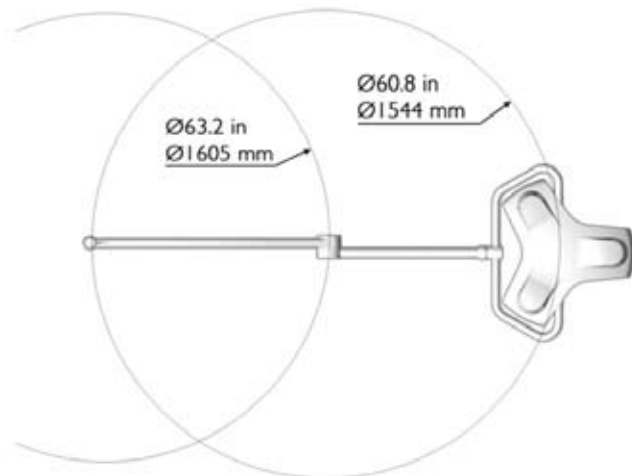


Figure 2: Horizontal range of motion

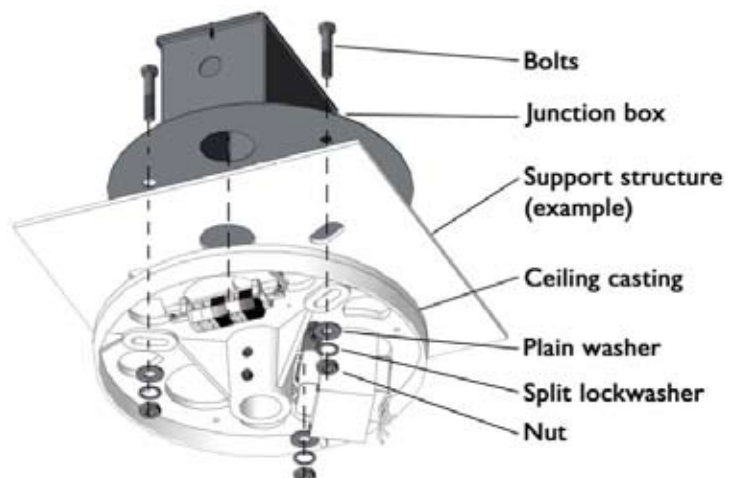
Installing the Junction Box

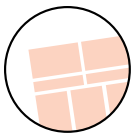
The junction box should normally be placed on top of the support structure. Make sure the screw holes on the junction box plate correspond to the holes in the ceiling casting. When the ceiling plate is installed, the bolts will also hold the junction box.

If there isn't space for the junction box on top of the support structure, another suitable location in the ceiling can be used. It is also possible to use another junction box if that is more convenient.

Connecting wiring (contractor-supplied) must be AWG 16 (1,5mm²) or AWG 14 (2,5mm²) from the transformer to the fixture. (If larger gage wires are used, the terminal block connections will not be secure.) Wiring to the transformer must be minimum AWG 18. (0,75mm²) Wiring and conduit must meet local and national fire protection codes.

1. Mount the ceiling casting to the support structure. Make sure the hole in the ceiling casting below the terminal block aligns with the hole in the junction box. Use three (3) 3/8" bolts, plain washers, split lockwashers, and nuts in a triangular pattern. See Equipment Anchorage Diagrams in this manual for details.





Installation

Burton SLA100 Surgical Lighting

Installing the Down Tube

R

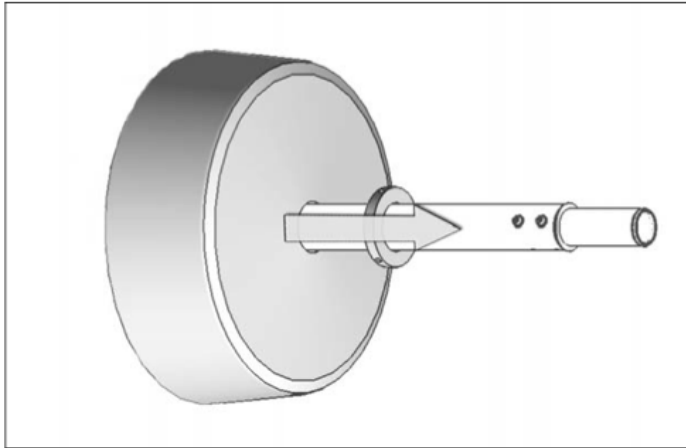
NO TE

The down tube is pre-cut and pre-drilled at the factory and will suit most exam rooms with a ceiling height of 7.5-9 ft. See the section "Mounting height" on page 6 for further advice.

R

NO TE

Be certain to assemble the bell housing to the down tube before attaching the down tube to the ceiling casting.



2. Slip the locking ring and the bell housing onto the down tube.

3. (Figure-2) Assemble the down tube by sliding it up the center hole in the ceiling casting. Position the tube so that the lower hole (A) in the down tube is matching to the upper hole (B) in the ceiling casting. First fasten the upper set-screw, which is a dog-point screw. (Make sure it fully engages the matching hole in the down tube.) Then fasten the lower setscrew. Use Loctite® Threadlocker or similar on the screws to prevent them from becoming loose.

4. (Figure-3) Approximately 1 inch of the down tube should be showing above the ceiling plate. A hole through the down tube will be accessible. Put the clevis pin (B) into the hole. Secure the clevis pin with the hairpin (A).

5. Feed the wires coming up out of the down tube down through the hole in the ceiling casting (C). The supply lines (from the wall switch) should also go through this hole.

Figure-3

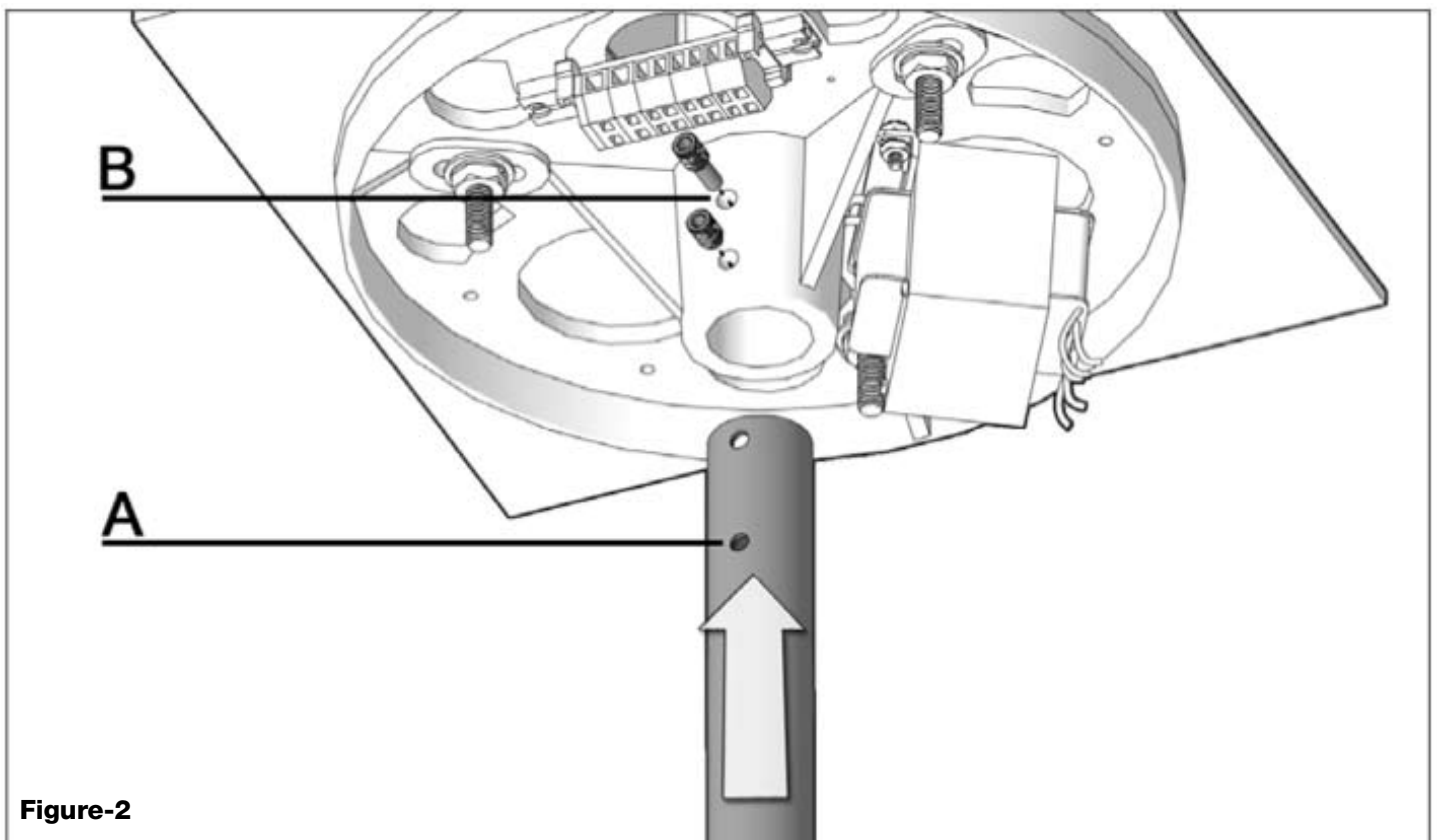
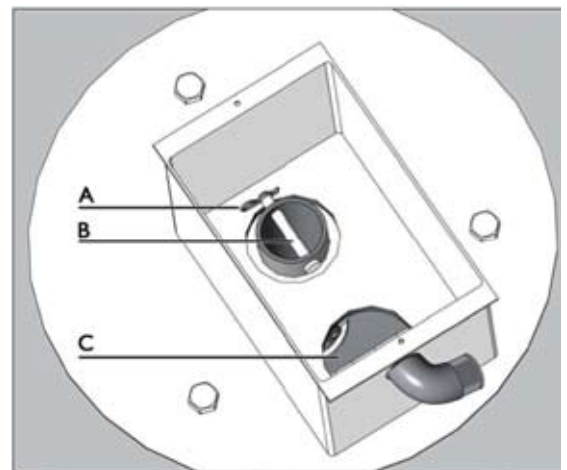


Figure-2

Connecting Power

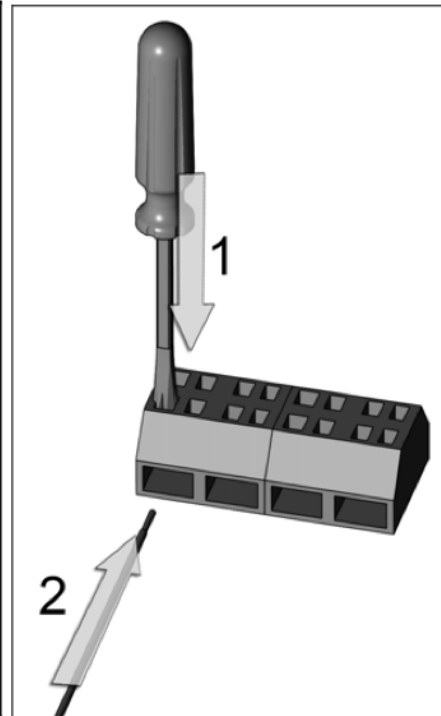
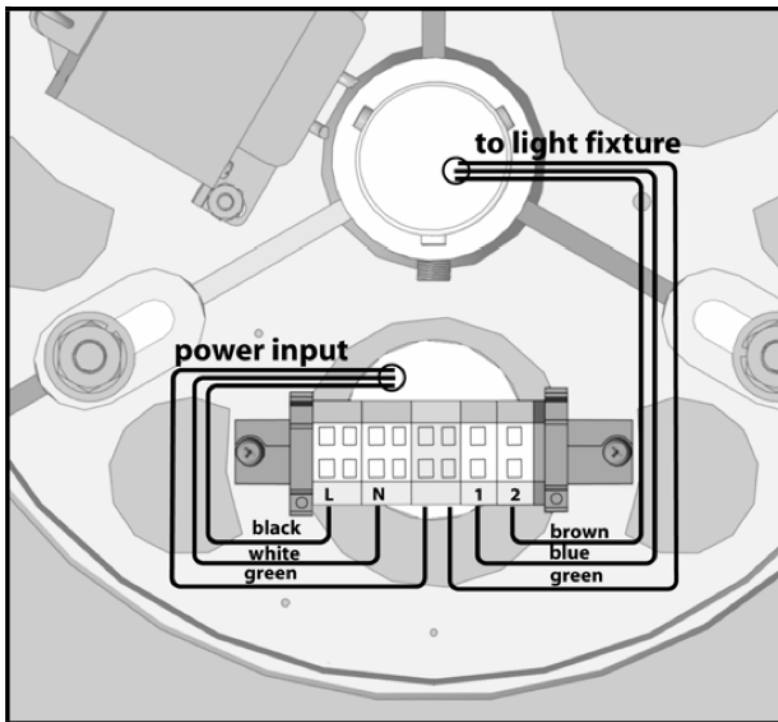
1. The input power and the wires out of the down tube should now be connected to the terminal block, which is premounted on the ceiling casting. To connect to the terminal block use the technique shown on the illustration to the right.

2. Connect the wires as shown on the illustration to the left. (Only the connections the installer needs to do are shown. For a complete wiring diagram, please refer to the Operation & Maintenance manual.)

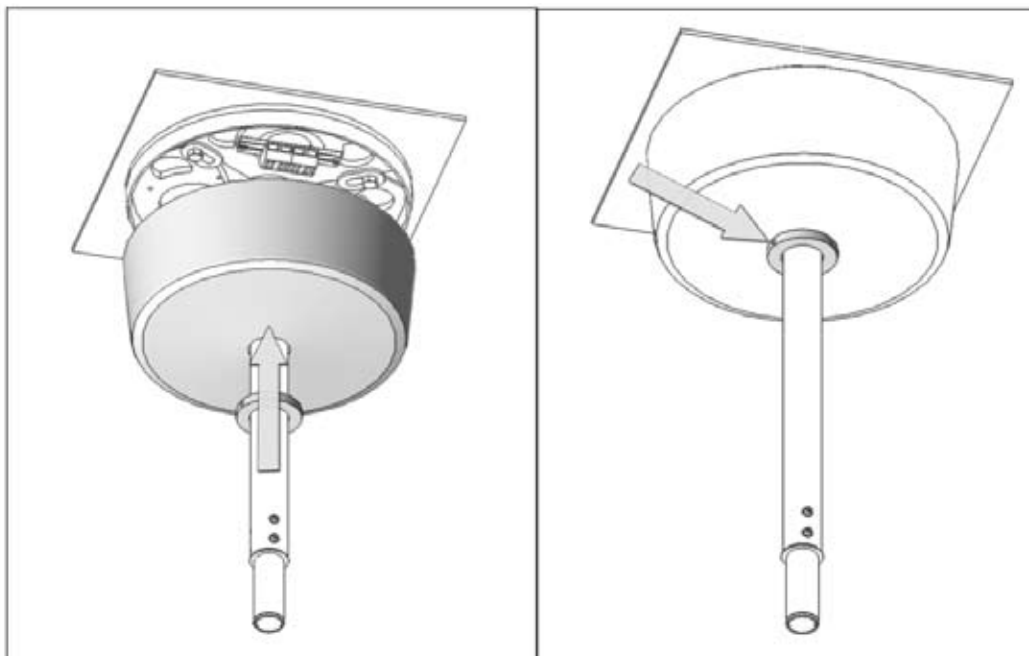
The terminal block is marked with letters and numbers as follows:

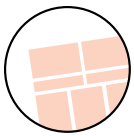
a. Lines up out of the down tube (to light fixture): Connect the green ground wire to the green terminal block. Connect the other two wires to terminals marked "1" and "2". (It does not matter which goes to which)

b. Input Power: Connect the green/yellow ground wire to the green terminal block. Connect the neutral wire (normally white) to the terminal block marked "N" Connect the live wire (normally black) to the terminal block marked "L"



6. Push the bell housing and the lock ring up until it covers the ceiling plate. Tighten the two set-screws on the lock ring using an Allen key (3/32 in / 2,4 mm).





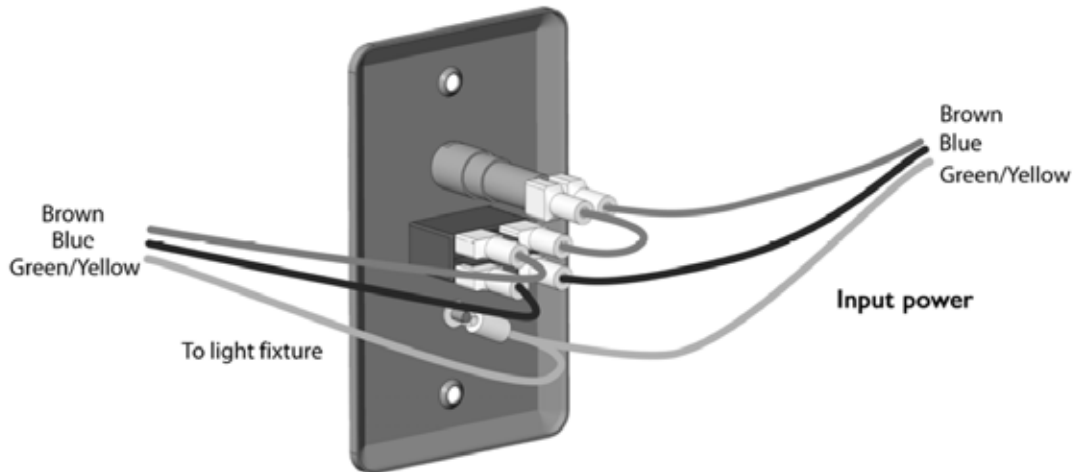
Installation

Burton SLA100 Surgical Lighting

Installing the Wall Switch

120 V version: Install wall switch furnished with the product to a standard junction box per local codes. The wires that go to the light fixture are labeled “to light fixture”.

100V / 240V versions: Install wall switch per local codes. Wall switch is not furnished with the product.



Installing the Extender Arm With Spring Arm

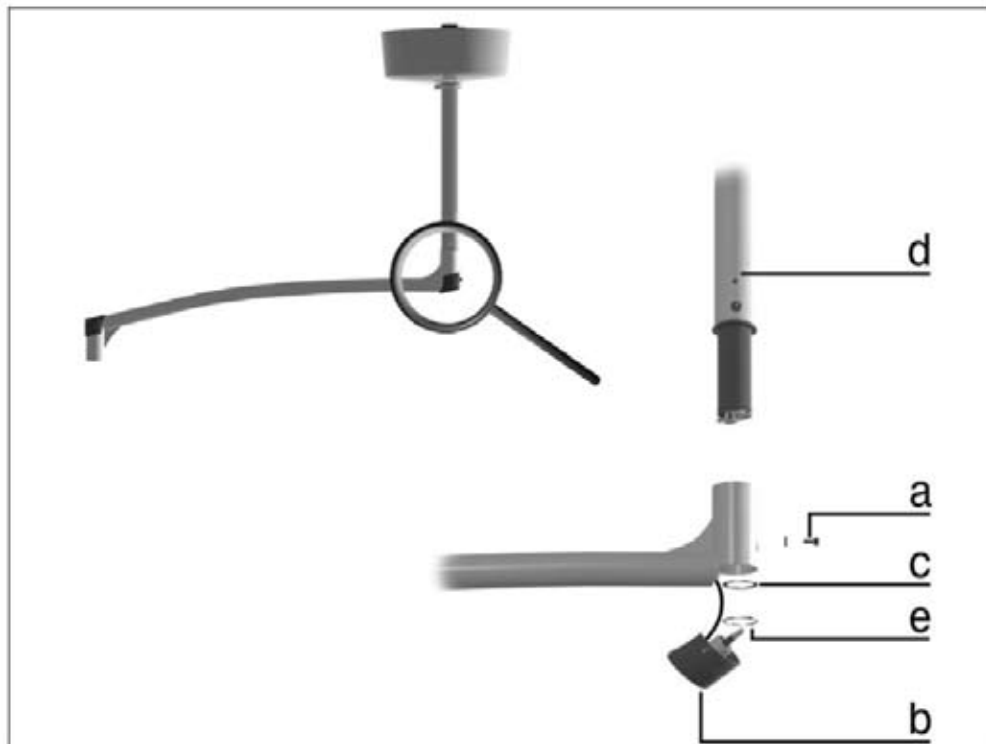
WARNING - Danger of injury

If the washer is not installed, the retaining ring can get loosened. The equipment can then fall from its fixtures and cause serious injuries. Always install the washer

WARNING - Electrical shock

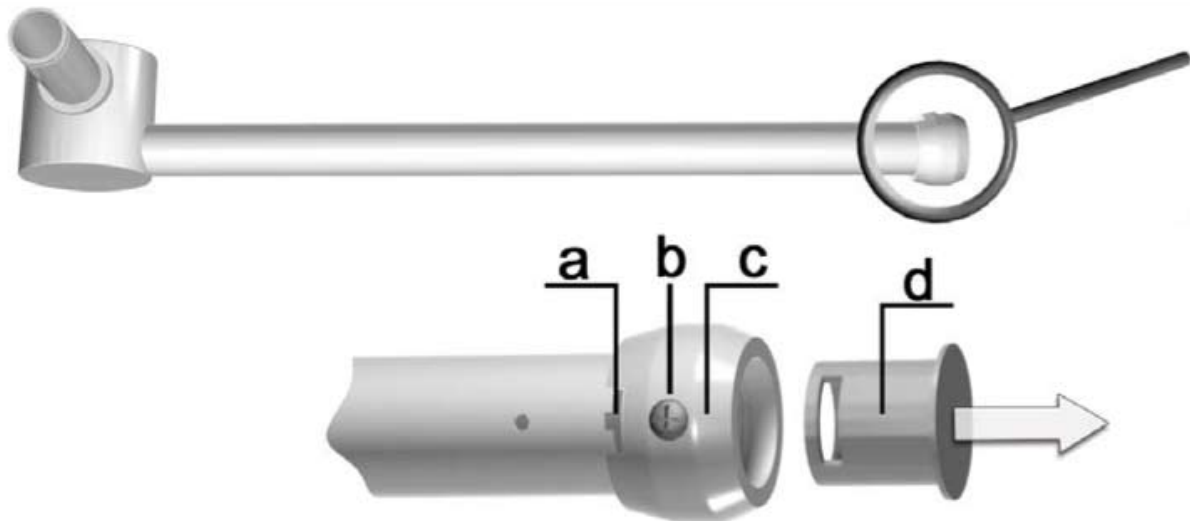
The support system can become live if the power cables are damaged at the plug. The voltage can pose a danger to life. Install the plug carefully.

1. Unscrew the cross-slotted screw (a).
2. Remove the plug cap (b).
3. Lift the arm onto the shaft of the down tube (d).
4. Insert the washer (c) on the shaft and install the retaining ring (e).
5. Check whether the extender arm with spring arm is seated firmly.
6. Insert the plug cap (b) into the shaft until it locks into position.
7. Fasten the cross slotted screw (a) to secure the plug cap.

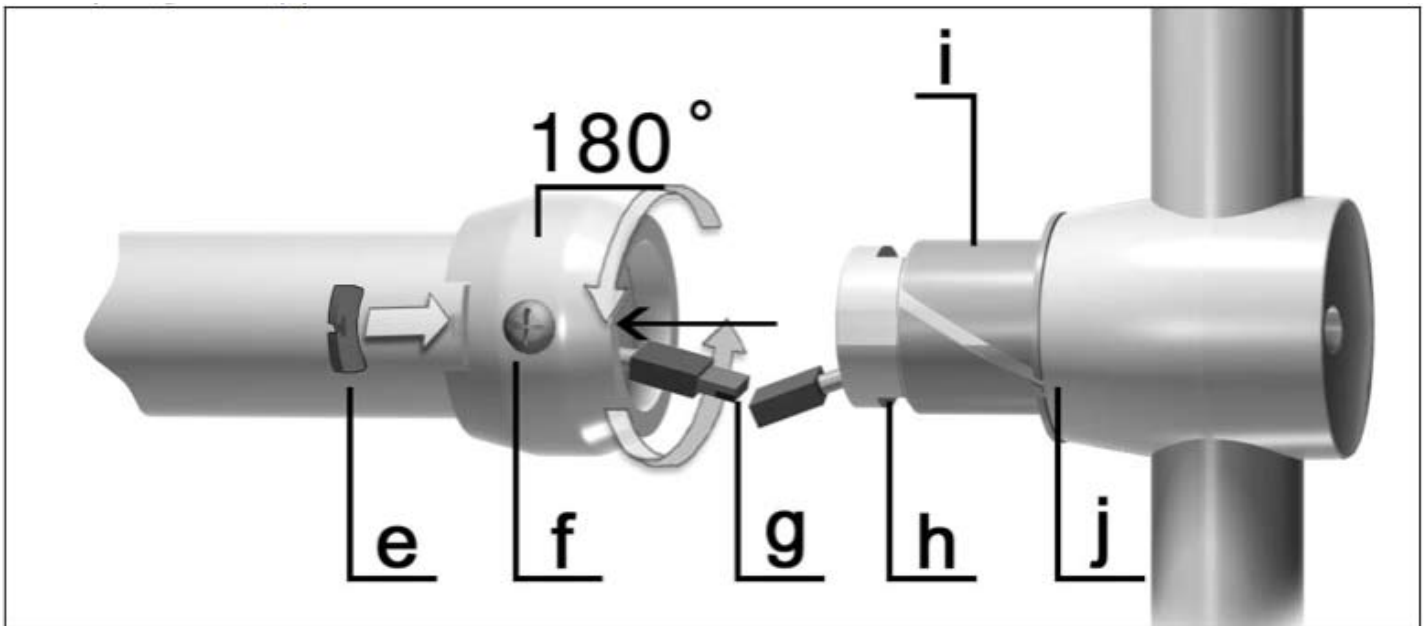


Mounting the Light Head**WARNING Danger of injury**

The spring arm, when pressed downwards, can jump backwards and result in injuries. During the installation of the light head, no one should be present within swiveling range of the spring arm.



1. Loosen the brake screw (b) and remove the protective cover (d).
2. Make sure the collar (c) is rotated so that the slot in the collar aligns with the slot in the spring arm (a).

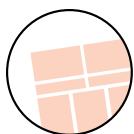


3. Unite the connectors (g).
4. Make sure the plastic bearing (i) is sitting on the yoke (j).
5. Push the yoke into the spring arm.
6. Put the key (e) completely into the slot (a), so that the key is engaging in the yoke groove (h).
7. Rotate the collar (c) 180 degrees.
8. Tighten the brake screw (b) until the yoke has the desired friction.
9. Check the secure seating of the yoke by pulling and turning it.

Final Testing

Energize the light assembly by turning the wall switch on to check proper operation. The arm system should swing easily within the range of motion as illustrated on page 7.





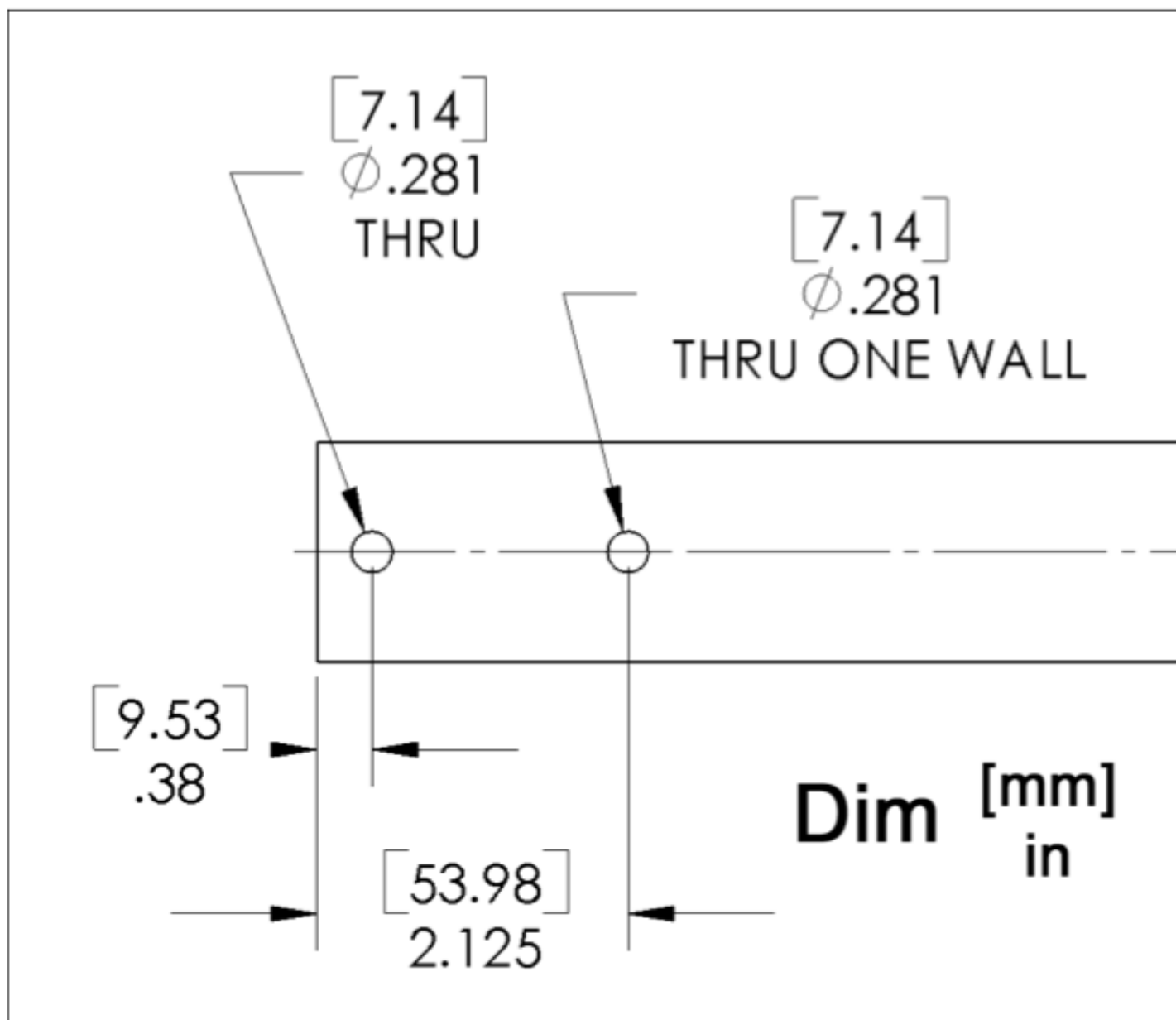
Adjusting Arm Tension

The spring inside the arm is pre-adjusted from the factory. If, however, the light-head drifts up or down, please refer to the Operation & Maintenance manual for guidance on how to adjust this.

Cutting the Down Tube

If shortening the down tube is required, the following procedure applies:

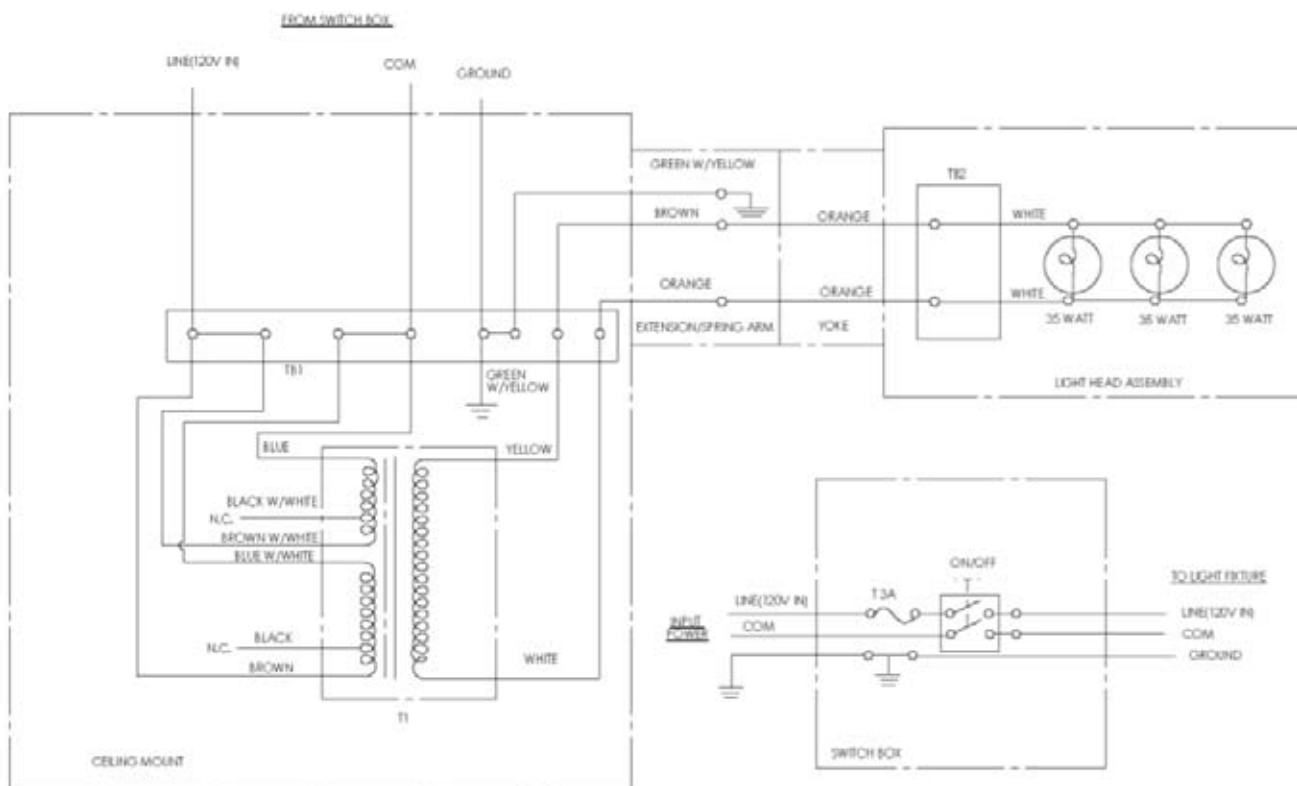
1. Cut the down tube from the top to the appropriate length (the top of the down tube has 2 holes, the bottom has 6 holes).
2. Drill new holes on the top of the down tube according to the drawing below.

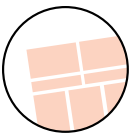


Cutting the Down Tube

Electrical Wiring Diagrams -120 V versions

Single Ceiling 120 V Version

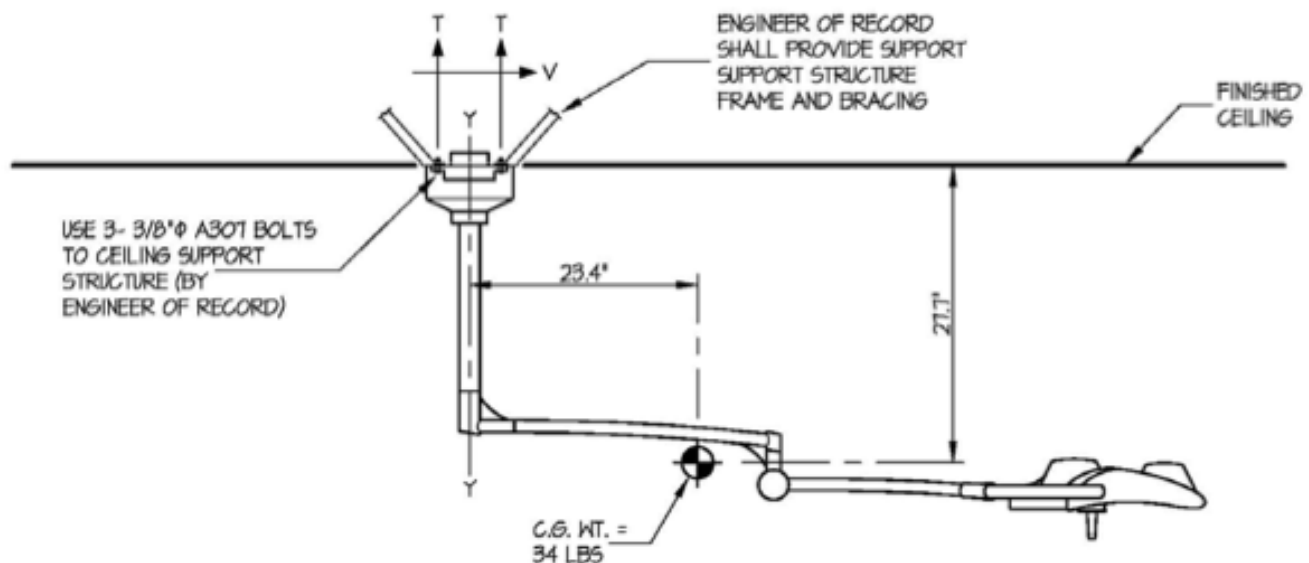




Equipment Anchorage Diagrams

Single Ceiling Version - overview

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		
BURTON MEDICAL AIM-100 SINGLE ARM LIGHT	DES. R. LA BRIE	SHEET 1 OF 2 SHEETS
	JOB NO. 11-0477	
	DATE 11/9/04	
<u>SEISMIC ANCHORAGE</u>	<u>CEILING SUSPENDED</u>	



$T_{MAX} = 338 \text{ LBS/BOLT}$
 $V_{MAX} = 73 \text{ LBS/BOLT}$

ELEVATION

NOTES:

- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
HORIZONTAL FORCE (V_H) = $0.94W - (C_a = .66, a_p = 1.0, I_p = 1.5, R_p = 3.0)$
VERTICAL FORCE (V_V) = $0.33(V_H)$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN.

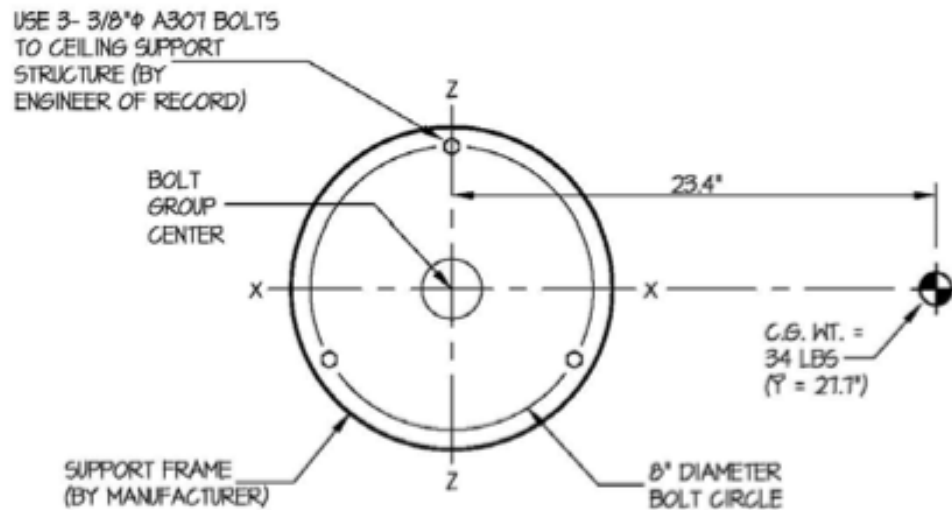


Single Ceiling Version – plan ceiling

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		
BURTON MEDICAL	DES. R. LA BRIE	SHEET 2
	JOB NO. 11-0477	
	DATE 11/9/04	
AIM-100 SINGLE ARM LIGHT		OF 2 SHEETS

SEISMIC ANCHORAGE

CEILING SUSPENDED



PLAN AT CEILING

LOADS:

WEIGHT = 34 LBS

HORIZONTAL FORCE (V_H) = 32 LBS

VERTICAL FORCE (V_V) = 11 LBS

BOLT GROUP PROPERTIES:

$$I_{X-X} = 24 \text{ in.}^4$$

$$I_{Z-Z} = 24 \text{ in.}^4$$

$$I_{Y-Y} = 48 \text{ in.}^4$$

MOMENTS:

$$M_{XX} = 32\#(21.7") + (34\# + 11\#)23.4" = 1,939\#$$

$$M_{ZZ} = 32\#(21.7") + (34\# + 11\#)23.4" = 1,939\#$$

$$M_{YY} = 32\#(23.4") = 749\#$$

BOLT FORCES:

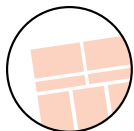
TENSION (T)

$$T = \frac{1939\#(4")}{24} + \frac{34\# + 11\#}{3} = 338 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

$$V = \frac{32\#}{3} + \frac{749\#(4")}{48} = 73 \text{ LBS/BOLT (MAX)}$$





Warranty

Burton SLA100 Surgical Lighting

Static Inspection

R NOTE: The static (structural) inspection must be carried out before the installation of the wall or ceiling fastening.

- The strength of the construction must be designed, checked and certified by a structural engineer.
- The respective regional construction regulations that apply must be followed.
- If an erroneous hole is drilled by mistake (e.g. drilling of a reinforcement rod) the structural engineer who is responsible must be contacted, since adequate static load distribution in the ceiling may have been jeopardized.

Declaration of acceptance:

It is hereby certified that the supporting wall/ceiling and the anchoring of the AIM-100TM suspension system is safe and adequately strong.

Project:

Anchoring (please check the one that is applicable): -

- ☐ with counter-plate
☐ - other

Location:

Signature/Stamp (Structural Engineer / Construction Authority)

BURTON WARRANTY POLICY

Mechanical components of Burton products are warranted to provide the original owner 5 (five) years of free service from defects in material and workmanship. The warranty does not cover the following items: light sources, transformers, ballasts, handles, fuses and consumables.

CONDITIONS

1. This condition will be granted only when the original invoice or sales receipt is presented together with the product. Burton reserve the right to refuse free of charge warranty service if the above documentation cannot be presented or if the information contained is incomplete or illegible.
2. This warranty will not apply if the serial or lot number on the product has been altered, removed or made illegible.
3. This warranty does not cover alterations, adaptations or adjustments made to the product to conform to the national or local technical/safety standards in force in any country other than the ones in which the product was originally designed and manufactured.
4. Lights for service under warranty must be either returned to the location instructed by your Burton sales company or made available to the authorized Burton field personnel,

where they will be replaced or repaired free of charge.

5. This warranty does not cover the following:

Periodical maintenance and repair or replacement of parts due to normal wear and tear.

Any adaptation or change to upgrade the product from its normal purpose without the written consensus of Burton.

Abuse or misuse of the product.

Repair done by non-authorized service stations, dealers or the customer himself.

Accidents, lightning, water fire improper ventilation or any cause beyond the control of Burton.

Defects of the system into which the product is incorporated including installation and modification.

6. This warranty does not affect the customer's statutory rights under applicable national laws in force, or the customer's right against the dealer arising from their sales/purchasing contract.

WARRANTY

Mortech Mfg. Inc. warrants all fabrications to be free of defects due to its own workmanship and materials.

Repair and/or replacement of materials furnished that may develop such defects, will be warranted for a period of one year from the date of shipment.

Items not manufactured by Mortech Mfg. Inc. will receive the manufacturer's warranty.

PARTS AND SERVICE

Customer relations and product support are important aspects of Mortech Mfg. Inc.

For assistance with this or any of our fine products please contact us below:

Mortech Mfg. Inc.
411 North Aerojet Avenue
Azusa, CA 91702
TEL (626) 334-1471
FAX (626) 334-1704
www.mortechmfg.com
info@mortechmfg.com

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IMPORTANT

BEFORE INSTALLATION AND OPERATION OF THE UNIT, CHECK ANY ENCLOSURE PANELS AND PLUMBING FIXTURES THAT MIGHT HAVE LOOSENED DURING SHIPPING.

ATTENTION

All images and Drawing in this manual may not represent your model. Refer to your particular project for exact specifications

DISCLAIMER

This manual contains general instructions for the use, operation, and care of this product. The instructions are not all inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this product be provided before using this product in and actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Customer Relations.

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