

Technical Users' Manual

SL7000 OUTPATIENT® II

Installation and Operating Instructions

SL7000 OUTPATIENT® II FEATURES:

- 8000 footcandles (86,000 Lux) at 24 inches (61 cm)
- 3300° K color temperature
- Focuses with central removable, autoclavable SteriHandle™
- Friction knob allows user to position self-balancing a without a tool for drift-free positioning
- Cool operation assured with heat filters and dichroic coatings
- Shadow-free operation provided by 3 "optically impr 50-watt halogen bulbs, each with 2000 hr. average bulb life
- Bulbs are wired in parallel to assure continuous operation
- Design allows removal or replacement of SteriHandle™ with one hand (for assuring sterile procedures)
- Floorstand units include footswitch, locking casters and cord wrap
- Mounting systems meet California Seismic Codes
- 120V model standard; 230V models also available
- UL 60601-1/IEC 60601-2-41 certified
- 5-year warranty



SL7000 OUTPATIENT II DUAL ARM LIGHTING W/CAMERA ARM

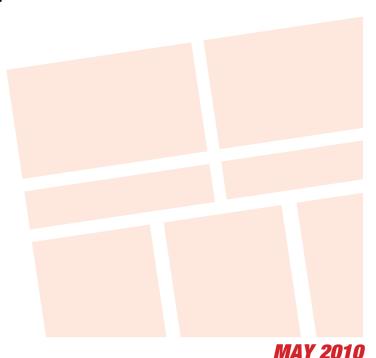
CAUTION

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

ATTENTION

Review entire manual before starting assembly

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



Mortech™ Manufacturing Inc.

ISO Doc. #OMSL7000 (REV A)



A.0 Assembly Instructions

A.1.0 Pre-Assembly

A.1.1 Note: Burton recommends that this light be installed by a qualified electrical contractor. It is also recommended that installation be done by two people working together.

A.1.2 Warning: Failure to properly follow installation and preventive maintenance instructions and recommendations can result in mechanical failure.

A.1.3 Note: The Burton FlexiMountTM ceiling mount systems have been designed to be used with the Burton Flexible ArmTM lights. These lights are provided as head-and- arm assemblies which are authorized for use only with Burton FlexiMountTM Ceiling Mount, Wall Mount, Fastrac, or Floorstand. Any other use will void the warranty and may cause a safety hazard.

A.1.4 Tools Required: Drill, hacksaw, level, 9/16" open-end wrench, wire cutter/stripper, Allen wrench, small flat-blade screwdriver.

Also Required: 3 mounting bolts and wire nuts for supply connections.

A.1.5 Special Note: To prevent sway and provide proper support to the light, the ceiling mount must be attached to a structurally sound ceiling, which is able to support 400 lbs. 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. Sway braces (e.g., made of angle iron) are recommended when there are more than 12" between the structural and finished ceilings

The proper height of the light should be set by the end user. Typically the arms are installed 6-ft 1-in (~73") above the floor. This allows the light heads to be adjusted within a vertical range of ~29". (See Diagram A.)

A.1.6 Carefully unpack the cartons and match the parts received with the parts list enclosed.

A.1.7 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,

Dual Arm Lighting w/Camera Arm

and examine all packing material so as not to overlook small articles.

A.1.8 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 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.

A.2.0 Assembly, Single Ceiling Mount

A.2.1 Refer to Diagrams B and C: (See A.1.0, Pre-Assembly, for additional important mounting information.)

Mount the ceiling casting to the ceiling/junction box assembly. Use three (3) 3/8" bolts, split lockwashers, and nuts in a triangular pattern. See diagrams for support details.

A.2.2 Refer to Diagrams A, D, and E:

Notes: The down tube is pre-cut and pre-drilled at the factory for the average user having an exam room with a 9-ft ceiling. The proper height of the light should be determined by the end user. Typically the arms are installed 6-ft 1- in (~73") above the floor. When installed in this "typical" room, there will be approximately 1" of down tube showing above the ceiling plate.

A longer down tube (for higher ceilings) is available on special order. If a shorter down tube is needed, cut the top of the down tube and re-drill the holes, keeping hole size and spacing from the top of the tube the same. The top end of the down tube has three holes, two on one side and one on the other.

Feed the wires from the transformer through the down tube.

Slide the down tube up the center hole in the ceiling casting until the top protrudes approximately one inch. The top hole in the down tube will show just above the ceiling casting. Insert the cotter (or Clevis) pin into this hole.

Fasten the tube securely by inserting two (2) setscrews into the holes in the ceiling casting. Install a dog-point screw in

SL7000 Outpatient II

Dual Arm Lighting w/Camera Arm

the top hole and a cup-point screw in the bottom hole.

A.2.3 Refer to Diagram F (panel a.):

Slide the bell housing up the down tube and over the ceiling casting. Assemble the collar (locking ring) over the down tube to hold the housing up. Hold the collar in place with a setscrew.

A.2.4 Refer to Diagram F (panel b):

Before installing the extension arm/pivot support onto the down tube, use the quick connects to attach the wires coming from the down tube to those of the wire harness coming from the extension arm. Make certain that color coding is maintained.

A.2.5 Refer to Diagrams F and G:

Slide the pivot support up over the down tube.

The extension arm/pivot support assembly is pre-assembled at the factory. It has five setscrews on it, three in one vertical row and two in another:

- The lowest setscrew on the 3-screw side is nylon tipped and serves as a friction screw. Do not remove this screw.
- The 2 top setscrews on the 3-hole side are dog-point screws. Remove them. You will reinstall them shortly.
- The 2 setscrews on the 2-hole side are cup-point screws. Leave them in place. You will tighten them shortly.

Make sure the two dog-point setscrews engage the mating holes in the down tube. Then secure the extension arm assembly to the down tube by tightening all four setscrews (2 dog-point and 2 cup-point).

Although the friction screw is preset at the factory, its setting can be changed in the field to suit the needs of the user. Minor adjustments of the friction screw will control rotational friction of the extension arm about the down tube. (If the setscrew is loosened too far, the pivot stop will not engage.)

A.2.6 Refer to Diagrams H and L:

If the wall switch has not already been installed, do so now. Be sure to use a UL- listed DPST switch (Hubble CS1222 or equivalent).

Connect the 115V 60Hz supply lines from the wall switch (hot/black, neutral/white, ground/green) to the terminal blocks that are pre-mounted on the ceiling casting. It is recommended that the supply lines be 14 gage solid copper conductors with 70°C insulation.

Do not use wire nuts anywhere between the wall switch and the fixture. Use only listed or recognized terminal blocks suitable for field installations.

A.2.7 Refer to Diagram I:

Lightly grease the outside of the hollow shaft that protrudes from the outer end of the extension arm. (Use the small green tube of grease in the hardware pack.) Note that this is the only time lubricant is applied during the life of the fixture.

Run three (3) conductors from the lighthead/articulating arm through the hollow shaft on the extension arm. Mate the connectors according to color code. There will be one unused wire, which can be pushed back into the extension arm.

Push the lighthead/articulating arm down onto the lightly greased shaft that is on the end of the extension arm.

Retain the articulating arm on the shaft by inserting the provided brass friction plug, spring, and threaded plug in the order shown in the diagram.

Note that the brass friction plug must be oriented properly to "capture" the shaft by riding down in the shaft groove.

Screw in the threaded plug until it is flush with the mating surface. It does not require full tightening to hold the pivot support assembly in place. It can be tightened for increased friction, if desired, after the overall assembly is complete.

A.2.8 Refer to Diagram J:

Push the wires back into the extension arm and, using a plastic mallet, gently tap the provided end caps into place. Also, align the provided hole plug in the hole on the top of the articulating arm. Use a mallet to drive the hole plug flush.

Fasten the cover plate to the extension arm using the 4-40 screws provided.

A.2.9 Refer to Diagram K:

Assemble the external friction parts and elbow cover provided in the hardware kit to the articulating arm as shown. Keep the parts in the order shown in the diagram. Note that the elbow cover fits between the Belleville washer and the fiber washer.

A.2.10 Energize the light assembly by turning the switch On to check proper operation.





The extension arm should swing freely horizontally, but have a slight restraining force due to the friction control in the central pivot support. The extension arm should swing back and forth about 360°. It will not swing past 360° because of an internal stop which prevents the internal wiring from becoming tangled.

The articulating arm should move freely up and down approximately ±40°, and horizontally back and forth through 340°. Built-in friction for both vertical and horizontal movement prevents drift of the head/arm. Note that the articulating arm will not swing through the center down tube.

A.2.11 Leave the following items for the end user:

• These manuals:

IFU - Outpatient® II Head and Arm

IFU - Outpatient® II Ceiling Mount Assembly

- The Owner Registration/Warranty Card
- Any small wrenches that were included in the installation package

A.3.0 Assembly, Double Ceiling Mount

A.3.1 Refer to Diagrams B and C:

(See A.1.0, Pre-Assembly, for additional important mounting information.)

Mount the ceiling casting to the ceiling/junction box assembly. Use three (3) 3/8" bolts, split lockwashers, and nuts in a triangular pattern. See diagrams for support details.

A.3.2 Refer to Diagrams O, P, and Q:

Notes: The down tube is pre-cut and pre-drilled at the factory for the average user having an exam room with a 9-ft ceiling. The proper height of the light should be determined by the end user. Typically the arms are installed 6-ft 1-in (\sim 73") above the floor. When installed in this "typical" room, there will be approximately 1" of down tube showing above the ceiling plate.

A longer down tube (for higher ceilings) is available on special order. If a shorter down tube is needed, cut the top of the down tube and re-drill the holes, keeping hole size and spacing from the top of the tube the same. The top end of the down tube has three holes, two on one side and one on the other.

Feed the wires from the ceiling casting down through the down tube.

Slide the down tube up the center hole in the ceiling casting until the top protrudes approximately one inch. The top hole in the down tube will show just above the ceiling casting. Insert the cotter (or Clevis) pin into this top hole (as in Diagram D).

Fasten the tube securely by inserting the two (2) setscrews into the holes in the ceiling casting. Install a dog-point screw in the top hole and a cup-point screw into the bottom hole.

A.3.3 Refer to Diagram R:

Slide the bell housing up the down tube and over the ceiling casting. Assemble the collar (locking ring) over the down tube to hold the housing up. Hold the collar in place with a setscrew.

A.3.4 Refer to Diagrams S and T:

Before installing the extension arms/pivot support onto the down tube, feed the wires from the down tube straight down through the center of the pivot support and out the bottom of it.

Slide the pivot support onto the tube. Make certain the six (6) holes in the pivot support match the holes in the bottom end of the down-tube. Fasten the two together with the 8-32 screws provided.

Use the quick connects to attach the two sets of wires coming from the down tube to the wire harnesses that were already protruding from the bottom of the pivot support.

A large, rectangular hole is located in the bottom of the pivot support. Excess wire, along with the connectors, can be placed in this hole.

Install the cover (a metal plate) over this hole using two (2) 4-40 machined screws. You will need to turn the arms sideways to install the cover.

A.3.5 Refer to Diagrams U and V:

Note to Electrical Contractor: All electrical components must be approved for use in accordance with the NEC (United States) or National Canadian Electrical Code (Canada). The installer/technician must be appropriately licensed.

If the wall switches have not already been installed, do so now. Be sure to use UL- listed DPST switches (Hubble CS1222 or equivalent).

Connect the 115V 60Hz supply lines from the wall switches (hot/black, neutral/white, ground/green) to the terminal blocks that are pre-mounted on the ceiling casting. It is recommended that the supply lines be 14 gage solid copper

SL7000 Outpatient II

Dual Arm Lighting w/Camera Arm

conductors with 70°C insulation.

Do not use wire nuts anywhere between the wall switches and the fixture. Use only listed or recognized terminal blocks suitable for field installations.

A.3.6 Refer to Diagram I:

Lightly grease the outside of the hollow shaft protruding upward from the end of the extension arm. (Use the small green tube of grease in the hardware pack.) Note that this is the only time that lubricant is applied during the life of the fixture.

To mate the connectors, run the conductors from each lighthead through the hollow shaft on the extension arm. Mate the connectors according to color code. Depending on the lighthead being installed, there may be one unused wire, which can be pushed back into the extension arm.

Slide the lighthead/articulating arm down onto the lightly greased shaft that is on the end of the extension arm.

Retain the articulating arm on the shaft by using the provided brass friction plug, spring, and threaded plug. Note that the brass friction plug must be oriented properly to "capture" the shaft by riding into the shaft groove.

Screw the threaded plug in until it is flush with the mating surface. It does not require full tightening to hold the pivot support assembly in place. It can be tightened for increased friction, if desired, after the overall assembly is complete.

A.3.7 Refer to Diagram J:

Push the wires back into each extension arm, and using a plastic mallet, gently tap the provided end caps into place. Also, align the provided hole plug in the hole on the top of each articulating arm. Use a mallet to drive the hole plugs flush.

Fasten the cover plate to each extension arm using the 4-40 screws provided.

A.3.8 Refer to Diagram K:

Assemble the external friction parts and elbow covers provided in the hardware kit to the articulating arms. Keep parts in the order shown in the diagram. Note that the elbow cover fits between the Belleville washer and the fiber washer.

A.3.9 Energize the light assembly by turning the switch On and verify proper electrical operation. Each extension arm should swing freely horizontally, but have a slight restraining

force due to the friction on the shafts in the central pivot support. Each extension arm should swing back and forth about 320°.

The articulating arms should move freely up and down approximately ±40°, and horizontally back and forth through 320°. Built-in friction for both vertical and horizontal movement prevents drift of the head/arm. Note that the articulating arm will not swing past the center down tube.

A.3.10 Leave the following items for the end user:

• These manuals:

IFU - Outpatient® II Head and Arm

IFU - Outpatient® II Ceiling Mount Assembly

- The Owner Registration/Warranty Card
- Any small wrenches that were included in the installation package

B.0 Maintenance

B.1.0 Fuse Replacement

Disconnect power to the lamp circuit at the main breaker before replacing fuses. Fuses are under the ceiling cover. Access is gained by lowering the ceiling cover.

B.2.0 Cleaning (weekly, or as needed – unplug or turn off the fixture first)

B.2.1 External surfaces of the Outpatient® II and CoolSpot™ II fixtures are polycarbonate, vinyl, or powder-painted aluminum or steel. Suggested cleaning technique is to use a soft cloth and mild detergent in water. Do not let any water solution run into the arm or lighthead. After cleansing, dry all surfaces promptly with a soft cloth or towel.

B.2.2 For especially stubborn external stains, rubbing or denatured alcohol can be used. Never use organic solvents such as paint thinners, MEK, or acetone.

B.2.3 Every 100 hours of typical use, open the lighthead and blow out the loose dust. Use a damp cloth or swab to clean out remaining dirt, especially in the grill areas. Clean the lenses and exterior of the light with a mild detergent or alcohol solution.

B.2.4 Handle Sterilization:

Outpatient® II: The central, single-post handle may be removed for cleaning and sterilization (ETO or steam). Push in the locking rod to release the handle. To reinstall the sterilized handle, locate the machined flat surface facing the locking rod and push it in until it bottoms out. Twist the handle until it snaps (~ 1/4 turn).





Disposable handle covers are an available option for the SL7000: order using Burton part number 0008100PK (25 pack).

Sterilization Protocol:

- 1. Place the handle in the autoclave.
- 2. Set the autoclave cycle for 270°F (132°C) pre-vacuum cycle.
- 3. Set the cycle time for 3 minutes, turn the sterilizer on, and wait for the process to be completed.
- 4. Remove the handle and place it in use, or transport and store it in a sterile environment pending use.

B.3.0 Ceiling Mount Preventive Maintenance		
Check	Corrective Action	
Weekly Check overall operation of the fixture: ☐ Do the lamps swing easily through their arcs (but are prevented from swinging through 360° by built-in stops or other arms)? ☐ Do the switches, and the bulbs and fans, in the light heads operate properly? ☐ Are the horizontal extension arms level (not sagging)? ☐ Do the lamp heads stay in position when the arms are moved up and down (not drift)? ☐ Do all components appear secure?	t heads)?	
Monthly ☐ Check tightness of setscrews holding the down-tube to the ceiling casting. ☐ Check tightness of screws holding the transition/pivot assembly to the down-tube. (If loose, arm/light could drop.	Remove the outer cover by loosening the lock ring (collar), slide the cover down the tube to give access to ceiling casting. Tighten loose setscrews with Allen wrench. Tighten with Allen wrench.	
Annually		
Perform weekly and monthly maintenance, and:	See corrective actions above.	
☐ Check wear on the brass retainer plug at the joint between the horizontal extension arm and the light arm. (If worn, arm could lift out of support.)	Remove retaining threaded screw, compression spring and brass retainer plug (use nose pliers). If plug is worn on upper corner of shaft, replace it with a new one.	
☐ Check to see that brass retainer plug is seated in mating groove of shaft. (If loose, arm could lift out of support.)	Remove retaining threaded screw, compression spring and brass retainer plug (use nose pliers). If plug is not seated properly, re-seat it.	
☐ Check wire connectors for evidence of overheating (charring, discoloration), and chafed insulation.	Replace as necessary.	
☐ Verify the down tube is secure. There must be two "dog-point" setscrews holding it to the ceiling casting, and in recent issues there will be a safety cotter pin through the tube above the casting.	Correct as necessary.	

Diagram A – Outline Drawing, Single Ceiling Mount

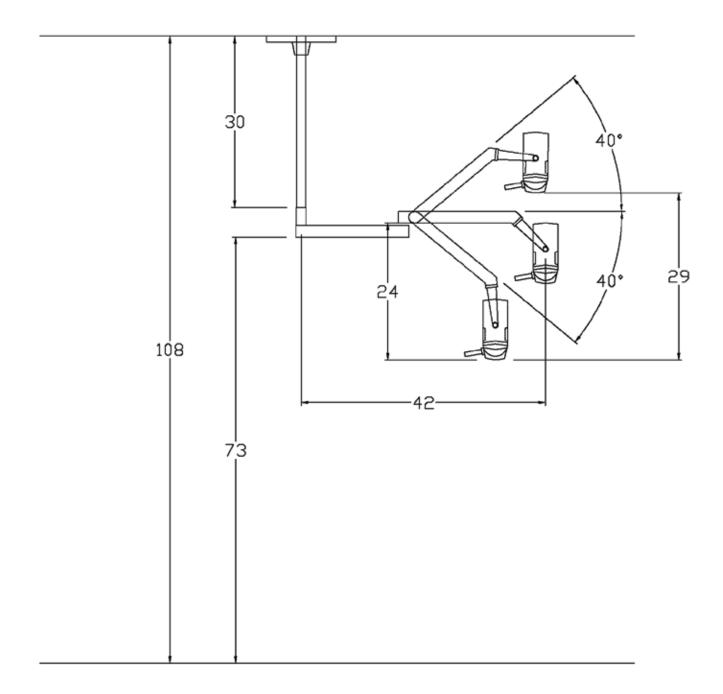
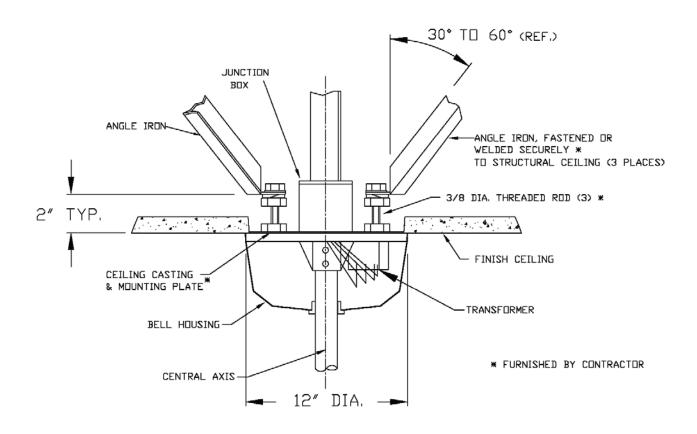


Diagram B – Reference Diagram, Ceiling Mount



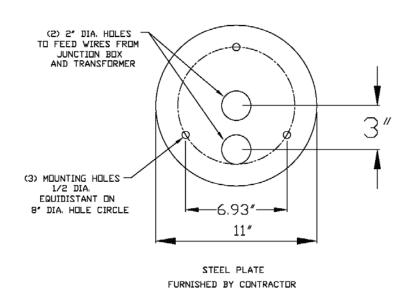


Diagram C – Mounting the Ceiling Casting

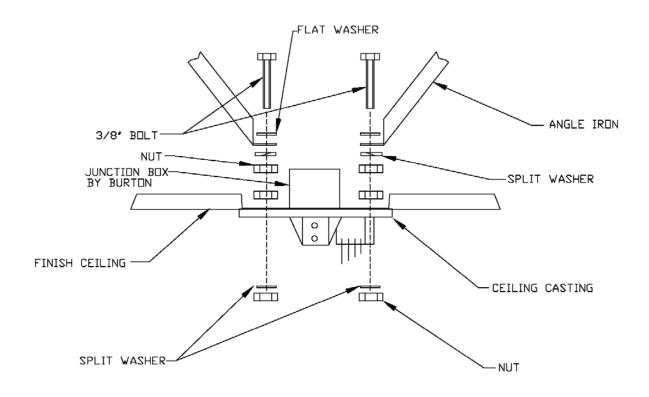


Diagram D – Assembling the Down tube

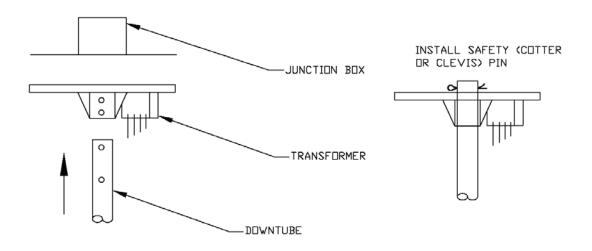




Diagram E – Feeding the Wire Harness

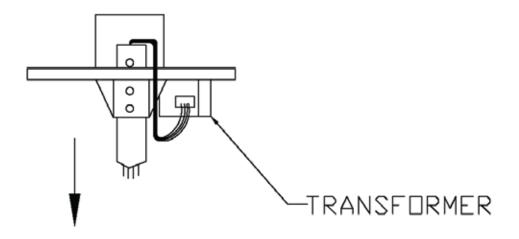


Diagram F – Installing the Bell Housing and Pivot Support

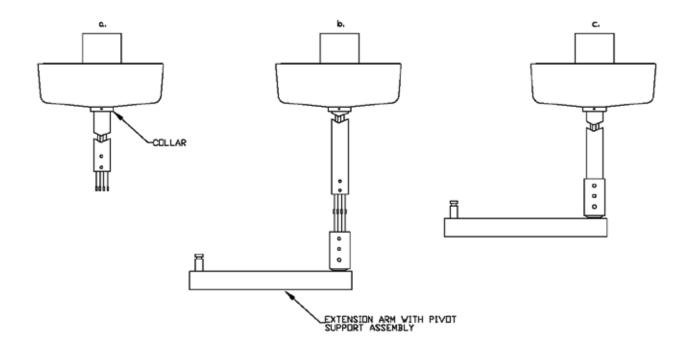


Diagram G – Reference Diagram, Pivot Support Assembly

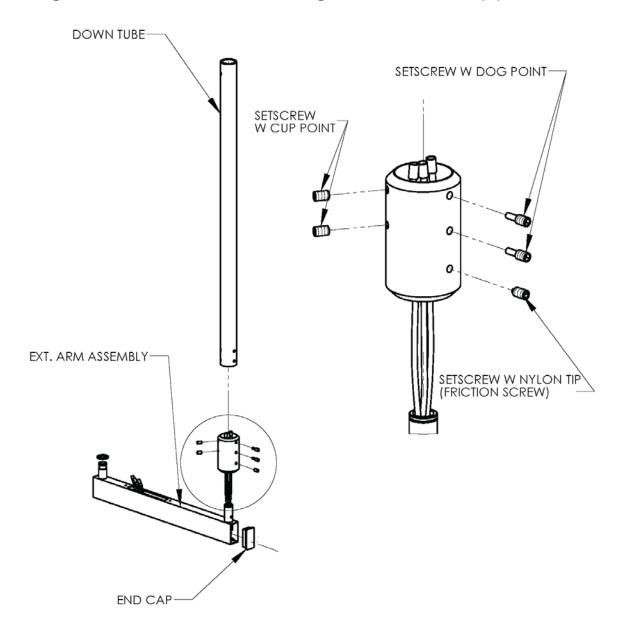


Diagram H – Connecting the Supply Lines

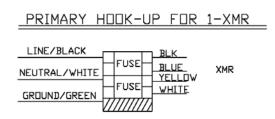
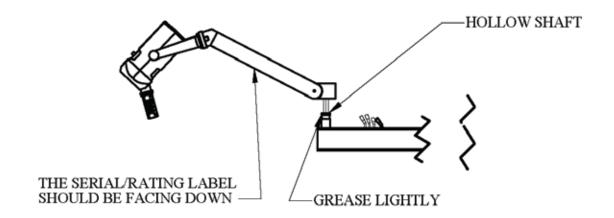




Diagram I – Attaching Head/Arm Assembly to Extension Arm



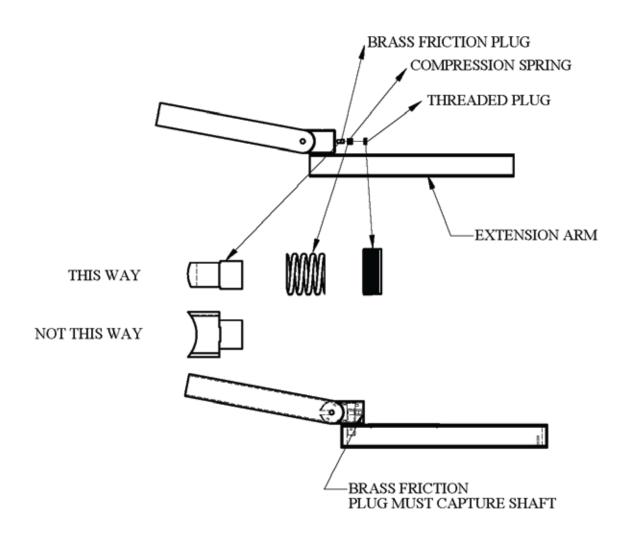


Diagram J – Attaching End Caps, Cover Plate

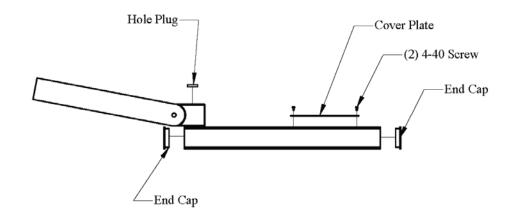
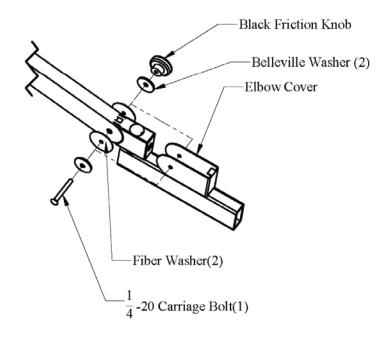


Diagram K – Installing Friction Knob and Cover



NOTE:

FIBER WASHER GOES BETWEEN ELBOW COVER AND ARM



Diagram L – Wiring Diagram, CoolSpot [™] II and Outpatient [®] II Single Ceiling Mount

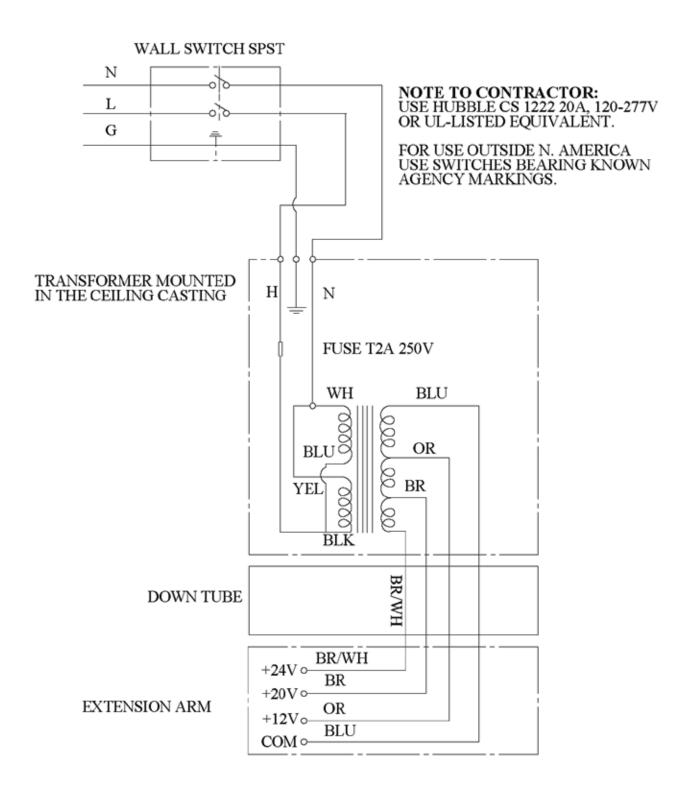
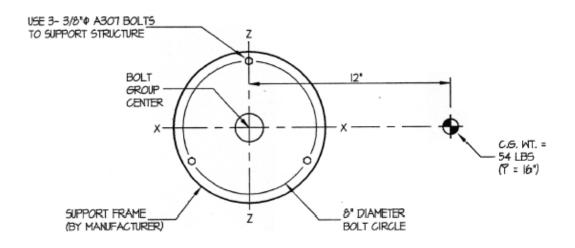




Diagram N – Seismic Anchorage, Page 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
BURTON MEDICAL PRODUCTS	DES R. LA BRIE	SHEET
COOLSPOT/OUTPATIENT MINOR SURGERY/ DIAGNOSTIC LIGHTS	DATE 9/2/04	

SEISMIC ANCHORAGE CEILING MOUNTED



PLAN AT CEILING

LOADS:

WEIGHT = 54 LBS

HORIZONTAL FORCE (VH) = 51 LBS

VERTICAL FORCE (W) = 17 LBS

BOLT GROUP PROPERTIES:

 $1_{X-X} = 24 \text{ in.}4$

1z - z = 24 in.4

|Y - Y| = 48 in.4

MOMENTS:

MXX = 5|#(16") + (54# + 17#)12" = 1,668"#

MZZ = 5|#(16") + (54# + |7#)|2" = |668"# MYY = 5|#(12") = 648"#

BOLT FORCES:

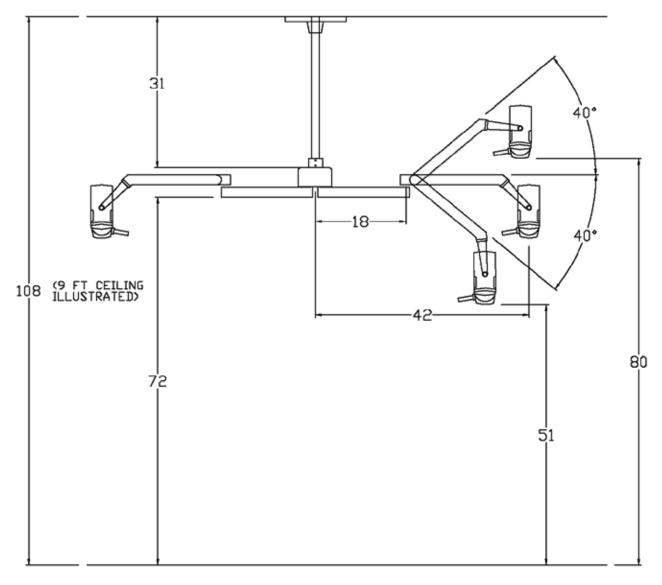
TENSION (T)

$$T = \frac{1668"\#(4")}{24} + \frac{54# + 17#}{3} = 302 LBS/BOLT (MAX)$$

SHEAR (V)

$$Y = \frac{5|\#}{3} + \frac{648^{\#}(4^{\#})}{48} = 71 LBS/BOLT (MAX)$$

Diagram O – Outline Drawing, Double Ceiling Mount



ILLUSTRATED LIGHTHEAD IS COOLSPOT II, THE OUTPATIENT II CAN BE SUBSTITUTED.



Diagram P – Feeding the Wire Harnesses

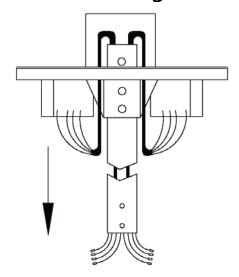


Diagram Q – Assembling the Down tube

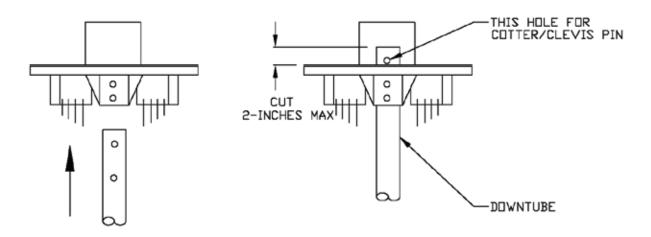


Diagram R – Installing Bell Housing

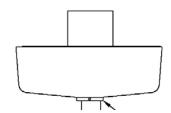


Diagram S – Attaching Extension Arms/Pivot Support

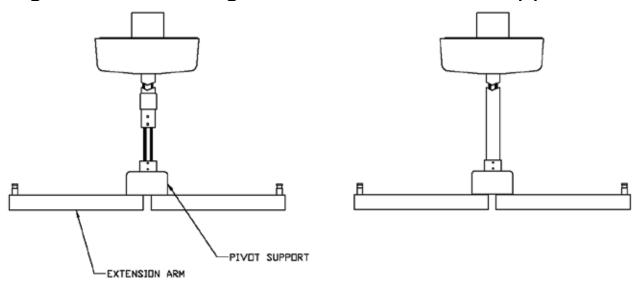


Diagram T – Pivot Support Detail

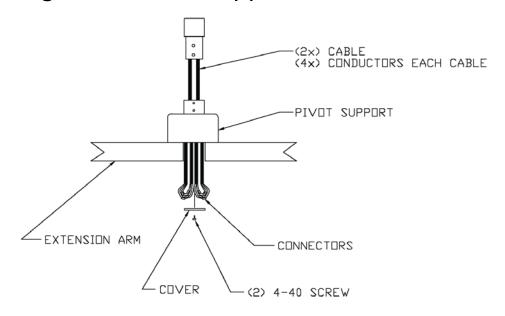
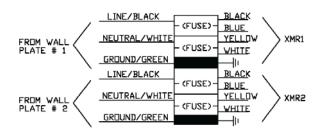


Diagram U – Connecting the Supplies



VIDEO CAMERA ARM ADJUSTING

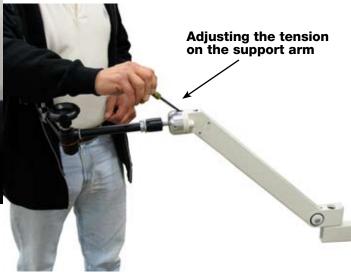
1. To adjust the video camera arm you need to take the video camera arm locking knob and turn counter clockwise to allow the arm to adjust freely in any position.



2. To secure the video camera arm you need to take the video camera arm locking knob and turn clockwise to lock into desired position.

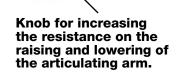
ADJUSTING THE TENSION ON THE SUPPORT ARMS

To adjust the tension on the articulating support arm you need to take 3/16" allen tool and turn counter clockwise to reduce the tension, and clockwise to increase the tension. This will allow the arm to withstand the weight of the camera. A maximum support weight for articulating support arm is 15 lbs.

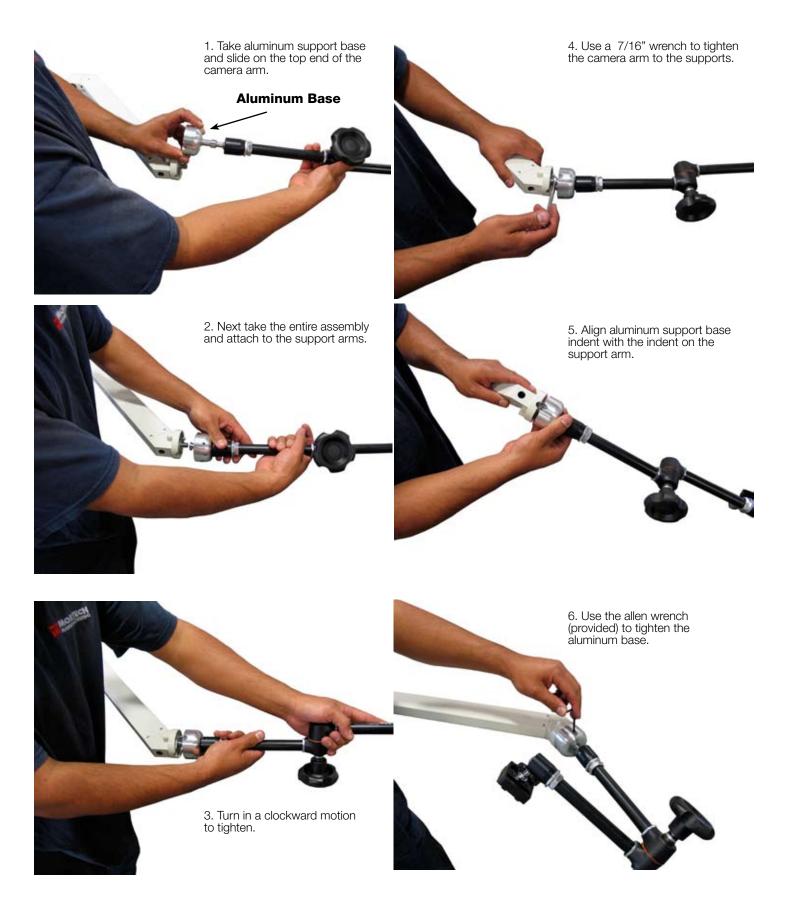


To increase resistance to the articulating support arm turn the knob as pictured below. This will allow more drag on the arm to lower and raise.











WARRANTY

Mortech Manufacturing 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 Manufacturing will receive the manufacturer's warranty.

PARTS AND SERVICE

Customer relations and product support are important aspects of Mortech Manufacturing.

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

Mortech Manufacturing Company 411 North Aerojet Avenue Azusa, CA 91702 TEL (626) 334-1471 FAX (626) 334-1704

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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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IMPORTANT

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

