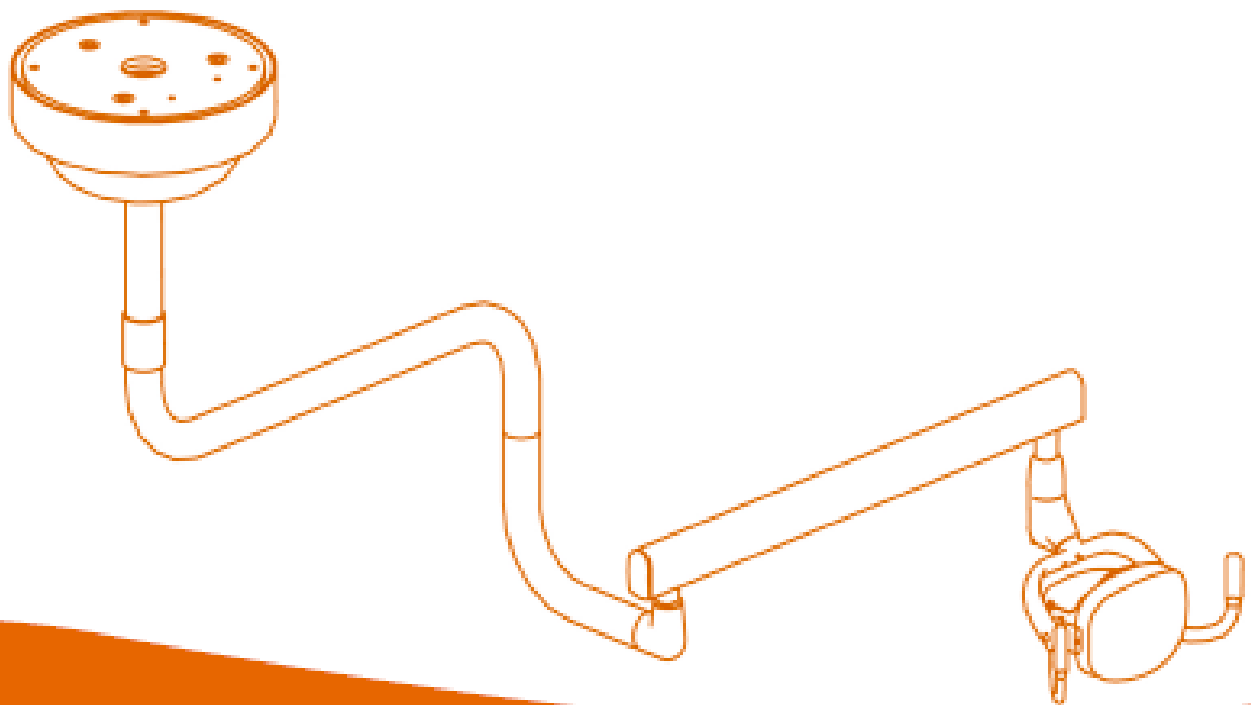


**Installation**  
**Operation**  
**Maintenance**  
**Troubleshooting**  
Version 1, Jan/07



# 1340MD

*Ceiling Mount*

Dental Light



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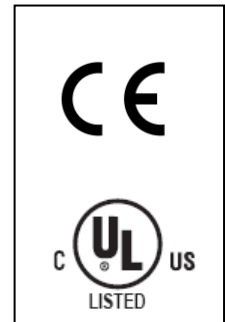
# WARRANTY

Summit Dental Systems (SDS) warrants its products against defects in materials or workmanship from the date of shipment to the Buyer as follows:

<b>Summit Dental Systems (SDS) Equipment:</b>	<b>Warranty Period:</b>
Chairs, Delivery Units, Cuspidors, Lights	5 Years
Control Block Diaphragm (part of Delivery Unit)	Lifetime
All Upholstery, Stools, all Plastic Covers, and Cabinets	1 Year

Summit Dental Systems' sole obligation under the warranty is to provide parts for repair, or at its option, to provide a replacement product (excluding all labor and shipping fees). "In any action, BUYER'S remedies are limited to the warranty described above. BUYER shall not be permitted to claim lost profits, reliance, special, incidental, or consequential damages in any proceedings." The warranty does not cover damage from improper installation or maintenance, accident or misuse. The warranty does not cover damage resulting from the use of cleaning disinfecting or sterilization chemicals and processes. Failure to follow instructions provided in Summit Dental Systems' Operation and Installation Manuals (Owner's Guides) may void the warranty. In the event Warranty service must be performed to correct any defect, only an authorized Summit Dental System dealer may perform any and all warranty repairs. Any repairs by unauthorized dealers, technicians, or repairmen may void the warranty.

- In the case of a defective warranty item, a copy of the replacement invoice, model and serial number of the product under which it was replaced, and a description of symptoms of the defect must be returned with the part within 30 days of the replacement invoice date to Summit Dental Systems, 6277 NW 28<sup>th</sup> Way, Ft. Lauderdale, FL 33309, USA, in order to receive credit. Any and all expenses for freight, labor to perform warranty service, and purchase of spare parts are the responsibility of the buyer. Any fraudulent claims made may void the warranty. Any additional warranty that may be provided by an authorized Summit Dental Systems dealer is the sole responsibility of said dealer.



- SDS reserves the right to make changes or improvements on any products without being required to modify existing equipment in a like manner.

**Please complete and retain for your records the following Information:**

In case of warranty part replacement/repair or when ordering a part, please call your authorized Summit Dental Systems dealer and have the following information available:

<b>Owners' Name:</b>	<b>Phone #:</b>
<b>Model #:</b>	<b>SDS Serial #:</b>
<b>Dealer:</b>	<b>Phone:</b>
	<b>Purchase Date:</b>

## Important Information

### Technical Specifications

Power Inlet:	115 VAC, 60 Hz or 220 VAC, 50 Hz
Fuse:	MDL 1 ½ A Bussmann
Bulb:	GY 6.35 Bi-pin – 12 V 50 W
Color Temperature:	4700 Kelvin (High)
Intensity:	22,000 lux (High) – 15,000 lux (Low)
Pattern:	2 ½" x 6 at 27" focal distance

### Unpacking the Light

Pay careful attention when unpacking the light and its accessories. **Damage caused by mishandling the equipment during unpacking or installation is not covered under warranty.**

### New Owner

Please read, sign and submit the warranty registration form that is located at page 4 of this manual. **Failure to return this form may void the warranty.**

### Serial Number

The serial number of your light is located on the transformer housing. Record this serial number in a convenient location. You will be asked for this number when requesting service or warranty information.

SUMMIT DENTAL SYSTEMS P.O. Lancaster, FL, USA		
MODEL No:	_____	
SERIAL No:	_____	
PRODUCT:	_____	
VOLTS	HERTZ	AMPS

### Warning

Turn power off before servicing. All electrical work including bulb replacement should be done with equipment unplugged from outlet.



\* Equipment intended to be used as a TREATMENT/DIAGNOSTIC DENTAL LUMINAIRE.

CAUTION – HOT SURFACE - Do not touch the light head while operating the light. Use the handles to safely work with the light head.

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.

Portable and mobile RF communications equipment can affect Medical Electrical Equipment.














The use of Accessories, transducers, and cables other than those specified by the manufacturer, may result in increased Emissions or decreased Immunity of the 1340MD Light.

The 1340MD Light should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the 1340MD Light should be observed to verify normal operation in the configuration in which it

will be used.

**Classifications**

- a. According to the type of protection against electric shock: CLASS I.
- b. According to the mode of operation: CONTINUOUS DUTY.
- c. According to the degree of protection against electric shock: NO APPLIED PARTS.
- d. According to the degree of protection against ingress of water: ORDINARY (IPX0) PROTECTION.
- e. According to the degree of safety of application in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide: - EQUIPMENT NOT SUITABLE FOR USE IN THE PRESENCE OF A FLAMABLE ANAESTHETIC MIXTURE WITH AIR OR WITH OXIGEN OR NITROUS OXIDE.


<i>Protective Earth Ground</i>	<i>Caution</i>	<i>Caution Hot Surface</i>	<i>Off – High – Low</i>	<i>Fast Acting</i>
				
<i>Light Functional Switch</i>	<i>CE-mark</i>	<i>Manufacturer and Date of manufacture</i>	<i>Serial Number</i>	<i>Type B applied part</i>
				
<i>European Authorized Representative</i>	<i>Attention.</i>		<i>Electrical and electronic equipment.</i>	
				
<i>MT Promedt Consulting GmbH Altenhofstrasse 80 D-66386 St. Ingbert, Germany Phone: +49 (0)6894-581020 Fax: +49 (0)6894-581021</i>	<i>Attention, consult accompanying operation instructions.</i>		<i>Symbol for marking of electrical and electronic equipment.</i>	

**Questions?**

Read this manual carefully. If you have any questions, please call Summit Dental Systems Technical Service at 1-800.275.3368 (USA) or (954) 730-3636 (Outside USA).

<b>Guidance and manufacturer's declaration – electromagnetic emissions</b>		
The 1340MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1340MD Light should assure that it is used in such an environment.		
<b>EMISSION TEST</b>	<b>COMPLIANCE</b>	<b>ELECTROMAGNETIC ENVIRONMENT GUIDANCE</b>
RF Emissions CISPR 11	Group 1	The 1340MD Light uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class B	
Harmonic Emissions IEC 61000-3-2	Class A	The 1340MD Light is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Voltage Fluctuations/ flicker emissions IEC 61000-3-3	Complies	

<b>Guidance and manufacturer's declaration – electromagnetic immunity</b>			
The 1340MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1340MD Light should assure that it is used in such an environment.			
<b>IMMUNITY TEST</b>	<b>IEC 60601 TEST LEVEL</b>	<b>COMPLIANCE LEVEL</b>	<b>ELECTROMAGNETIC ENVIRONMENT GUIDANCE</b>
Electrostatic Discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% $U_T$ (> 95% dip in $U_T$ ) for 0,5 cycle 40% $U_T$ (60% dip in $U_T$ ) for 5 cycles 70% $U_T$ (30% dip in $U_T$ ) for 25 cycles < 5% $U_T$ (> 95% dip in $U_T$ ) for 5 sec	< 5% $U_T$ (> 95% dip in $U_T$ ) for 0,5 cycle 40% $U_T$ (60% dip in $U_T$ ) for 5 cycles 70% $U_T$ (30% dip in $U_T$ ) for 25 cycles < 5% $U_T$ (> 95% dip in $U_T$ ) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the 1340MD Light requires continued operation during power mains interruptions, it is recommended that the 1340MD Light be powered from an uninterrupted power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: $U_T$ is the a.c. mains voltage prior to application of that test level.			

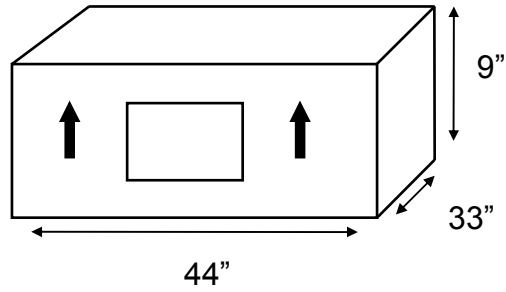
<b>Guidance and manufacturer's declaration – electromagnetic immunity</b>			
The 1340MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1340MD Light should assure that it is used in such an environment.			
<b>IMMUNITY TEST</b>	<b>IEC 60601 TEST LEVEL</b>	<b>COMPLIANCE LEVEL</b>	<b>ELECTROMAGNETIC ENVIRONMENT GUIDANCE</b>
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the 1340MD Light, including cables, than the recommended separation distance calculated from equation applicable to the frequency if the transmitter.  Recommended separation distance $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	$d = 2.3 \sqrt{P}$ 800 MHz to 2,5 GHz  where $P$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and $d$ is the recommended separation distance in meters (m).  Field strengths from fixed RF transmitters as determined by an electromagnetic site survey <sup>a</sup> should be less than the compliance level in each frequency range <sup>b</sup> .  Interference may occur in the vicinity of equipment marked with the following symbol  
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and peoples.			
<sup>a</sup> Fields strengths from mixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateurs radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To access the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the 1340MD Light is used exceeds the applicable RF compliance level above, the 1340MD Light should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the 1340MD Light. <sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

<b>Recommended separation distance between portable and mobile RF communications equipment and the 1340MD Light</b>			
The 1340MD Light is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 1340MD Light can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the 1340MD Light as recommended below, according to the maximum output power of the communications equipment.			
<b>SEPARATION DISTANCE ACCORDING TO FREQUENCY OF TRANSMITTER</b>			
	<b>m</b>		
<b>RATED MAXIMUM OUTPUT POWER OF TRANSMITTER W</b>	<b>150 kHz to 80 MHz <math>d = 1.2 \sqrt{P}</math></b>	<b>80 MHz to 800 MHz <math>d = 1.2 \sqrt{P}</math></b>	<b>800 MHz to 2,5 GHz <math>d = 2.3 \sqrt{P}</math></b>
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance $d$ in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where $P$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

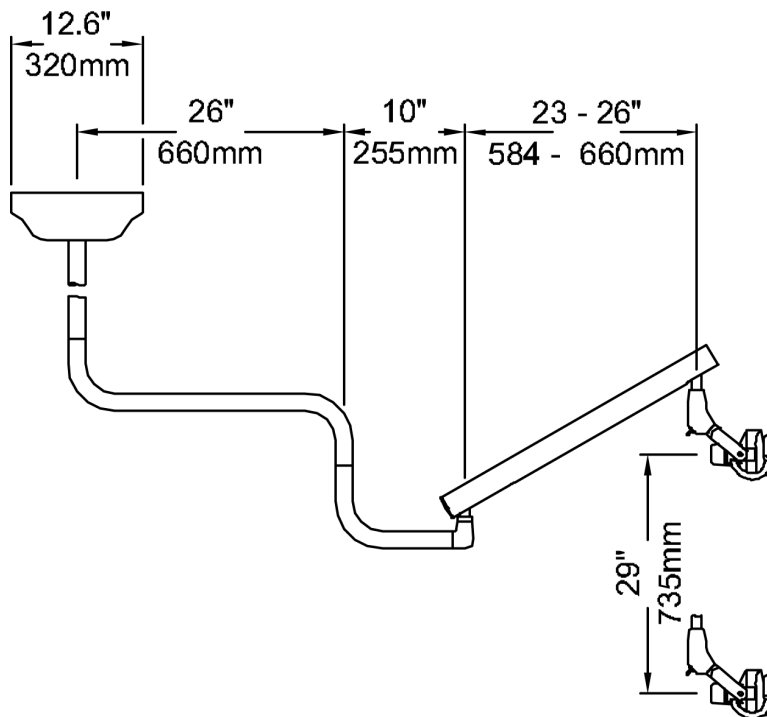
# Dimensions

## Shipping Information

Shipping Weight: 53 lbs (24 kgs)



## General Dimensions



## Maintenance Instructions

### ***Reflective Lens & Plastic Shield Cleaning***

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The 1340MD Dental Light, like everything in a dental office needs to be cleaned. The very nature of the materials in a reflective lens and plastic shield is contrary to the application of harsh chemicals. Therefore a common sense approach to use and care is suggested.

### ***Barrier Technique***

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The first choice in the protection of dental equipment should be the use of disposable barrier products. The repeat use of disinfectant on equipment surfaces without the constant removal of the solution residue will eventually cause some damage to equipment surfaces.

A soft cloth moistened with a solution of mild non-abrasive soap and lukewarm water is recommended for the cleaning of the reflective lens and plastic shield.

It is also recommended that a soft lint free cloth be used to dry these surfaces. The average cloth or paper towel is too abrasive and often leaves scratches on the surfaces and finishes.

### ***Chemical Disinfecting***

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Because there are hundreds of cleaners, conditioners and disinfectants available, it is impossible for manufacturers to test them all. The manufacturer of the cleaner or disinfectant to be used should be contacted to state whether or not the disinfectant will damage equipment surfaces.

### ***Unacceptable Disinfectants***

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The following chemicals may damage equipment surfaces and finish:

- Alcohol based solutions
- Acetone
- Bleach
- Phenol
- Foam spray products

### ***NOTE***

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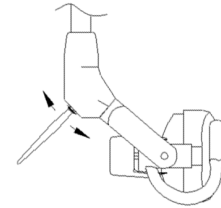
The SDS warranty does not cover damage to equipment caused by cleaning and disinfectant solutions.

# Operator's Instructions

## Light Switch

The 1340MD Dental Light illuminates at two intensities, 22,000 Lux (High) and 15,000 Lux (Low).

Positioning the toggle switch (1) will activate these intensities. The middle position is "Off", the upper position is "Hi", and the lower position is "Low".



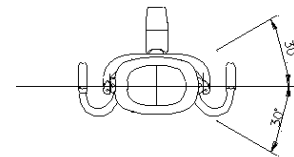
In order to disconnect the equipment from the supply mains, disconnect the plug from the supply receptacle.

## Positioning the Head

The head can be moved through the open handles (1), which are totally ergonomic and designed for absolute insulation.

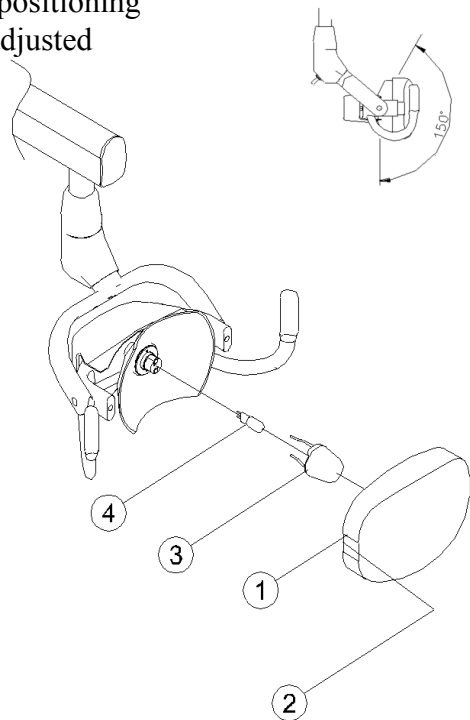
## Third Axis

The third axis provides smooth positioning of the head, which can be rotated approximately  $\nabla 30^\circ$ .



## Elevation

The Vertical Articulation provides smooth positioning of the elevation of the head, which can be adjusted approximately  $\nabla 75^\circ$ .



## Bulb Replacement

1. Unplug the light from the power cord.
2. Carefully remove plastic shield.
3. Pull the deflector to access bulb.
4. Pull the bulb to remove.
5. Replace bulb.

*Do not handle new bulb with bare hands!*

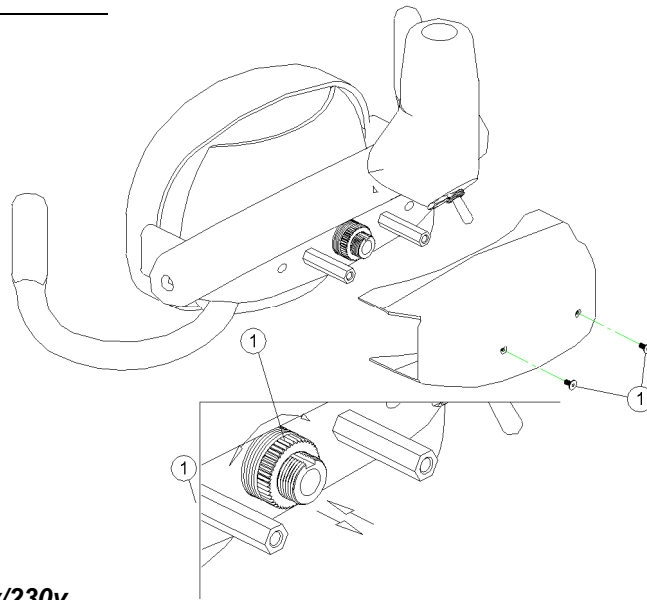
### **ATTENTION!!**

Only attempt to replace the light bulb after the light has been turned off and the metal

deflector and bulb have completely cooled to avoid injury from heat.

### ***Focus Adjustment***

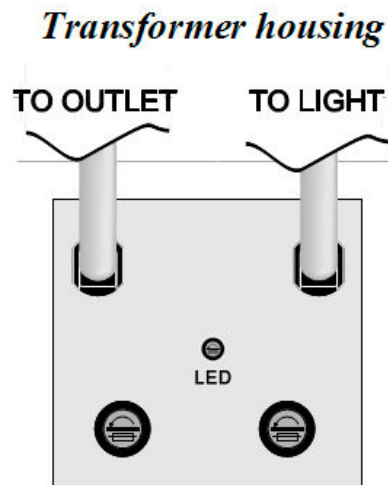
Remove the two allen screws (1) on the cover at the back of the light head. Remove the cover. With the light turned on rotate the focus adjustment nut (2) clockwise or counterclockwise until the desired pattern is reached, at a focal distance of 27"



### ***Replacing the Fuses – 115v and 220v/230v***

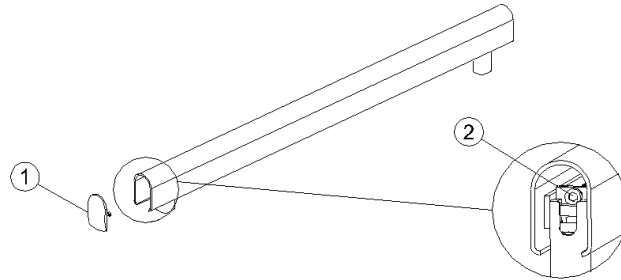
Unplug the power cord. Locate the fuse holder. With a 1/4" screw driver, push and rotate fuse cap counterclockwise.

Pull the fuse cap and remove the fuse. Install a new MDL 1 1/4 amp fuse and tighten the fuse cap.



***Arm Adjustment***

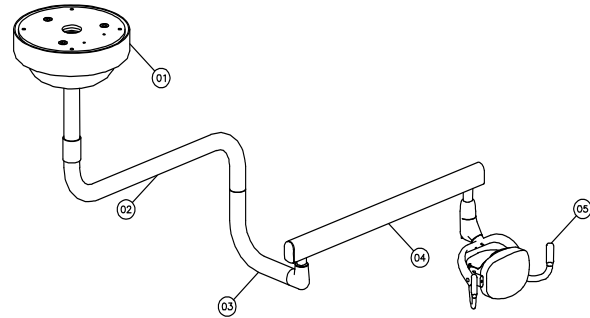
Remove the back end cap (1). With a 3/16" allen wrench, turn the bolt (2) clockwise to increase, or counterclockwise to decrease the spring tension.



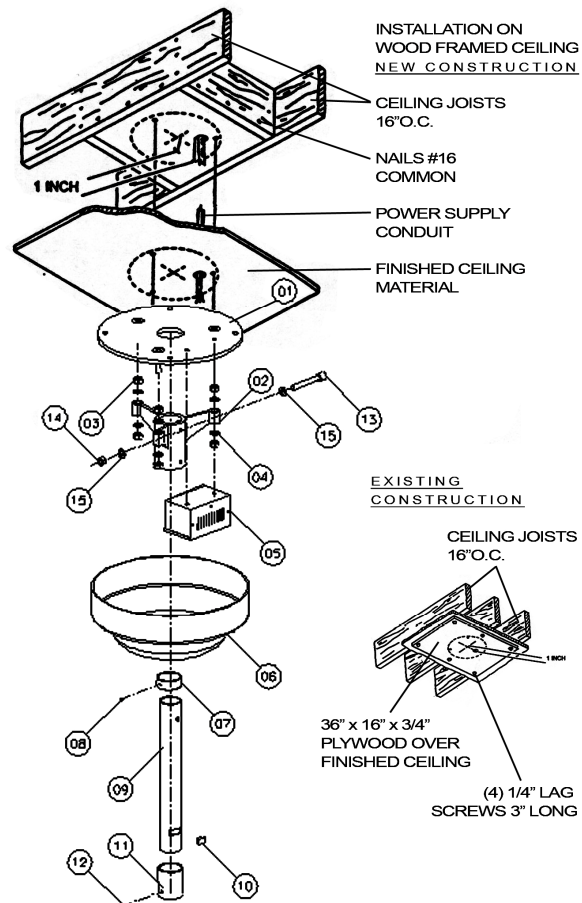
# Installation Instructions

1. Remove Flex Arm and Light Head assembly from box and assemble to pivot arm. (see figure A, items 3 & 4)
2. Install anchor bolts in ceiling support; aligning with corresponding holes in mount plate.
3. Install mount plate (Figure B, item 1) with transformer and pole mount onto anchor bolts. Drop line out from transformer down through center of mount.
4. Connect source power to main power in to transformer (verify that voltage specification of light matches line voltage).
5. Drop line out down through suspension tube (item 9) while sliding suspension tube up into mount (item 2). Align hole in suspension tube with hole in mount and insert large bolt (item 13) through mount and tube. Tighten nut to secure in place. Tighten allen screws to complete this step.
6. With a level, check and correct plumb of suspension tube by adjusting the three mount nuts until plumb.
7. Install plastic mount cover (item 6) flush to ceiling – hold in place with small collar (item 7) – tighten set screw in collar to secure (3/32" allen).
8. Slide large collar (item 11) onto suspension tube. Connect wires from suspension tube to wiring harness in s-shaped rigid arm (item 2, Figure A) at wider end of rigid arm – slide rigid arm up into suspension tube. While holding rigid arm in place, insert large, solid crescent stop (item 10, figure B) in slot in suspension tube. Position large collar to cover slot and a joint between rigid arm and suspension tube. Tighten set screw (should be fixed to suspension tube, not rigid arm).
9. Place small, threaded crescent in slot in rigid arm.
10. Join wiring harness from rigid arm to wiring from pivot arm/flex arm assembly.
11. Slide assembly onto rigid arm; centering hole in pivot arm to hole in threaded crescent. Fix in place with small allen screw.

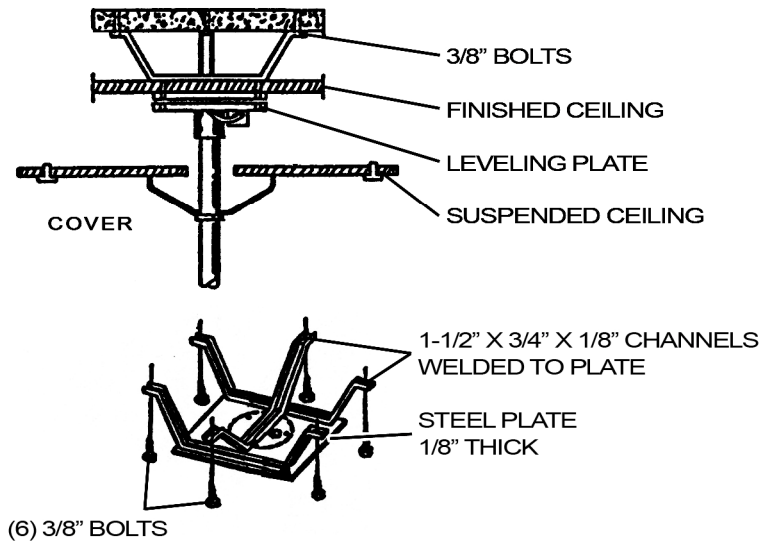
**Figure A**



**Figure B**



INSTALLATION ON METAL  
STRUCTURE  
FOR SUSPENDED CEILING



**Material Requirements**

Use metal masonry anchor when required.  
Each bolt must support at least 75 lbs.

**Electrical Requirements**

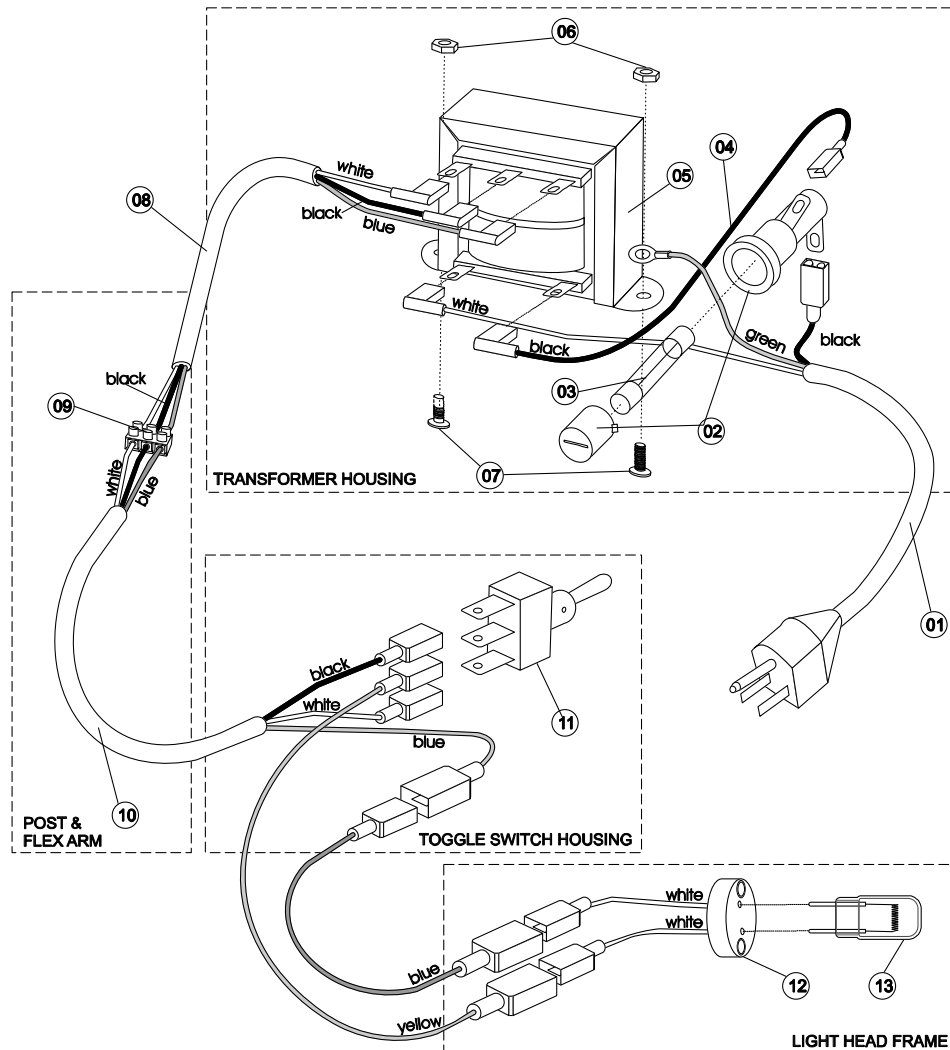
120 Volts, 50-60Hz., 1.5 Amps (135 Watts) service line consisting of two #14 or larger wires and a ground conductor. Ground can be via separate wire or metal conduit in accordance with local electrical codes.

We recommend that a wall switch be installed in the power supply to facilitate servicing and protect the light transformer in the event of power surges while the light is not in use (I.E. electrical storms).

## Trouble Shooting Guide

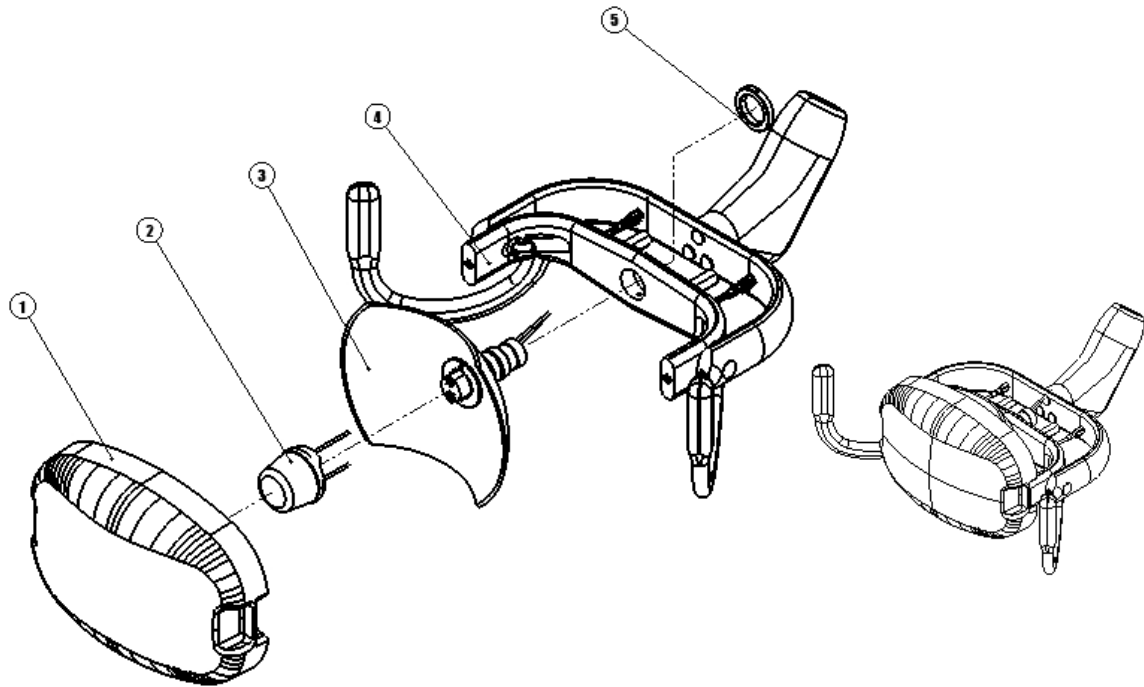
<i>Symptom</i>	No illumination
<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
No power from source	Reset circuit breaker.
Blown fuse in light	Replace if blown - Part#: 7-040-0054.
Blown light bulb	Replace if necessary - Part#: 7-040-0020.
Loose or disconnected wire in one of the connectors	With power cord “unplugged” check all connections for bulb, power cord; transformer and fuse for good metal contact, if loose tighten or reconnect.
Faulty transformer	Make sure the voltage is present in the Primary leads (115V or 220v/230v), measure the voltage in the Secondary leads (13V - High) (11.5V- Low). If there is no voltage in secondary, replace the transformer Part#: 7-040-0001 (115v).

# Electrical Diagram



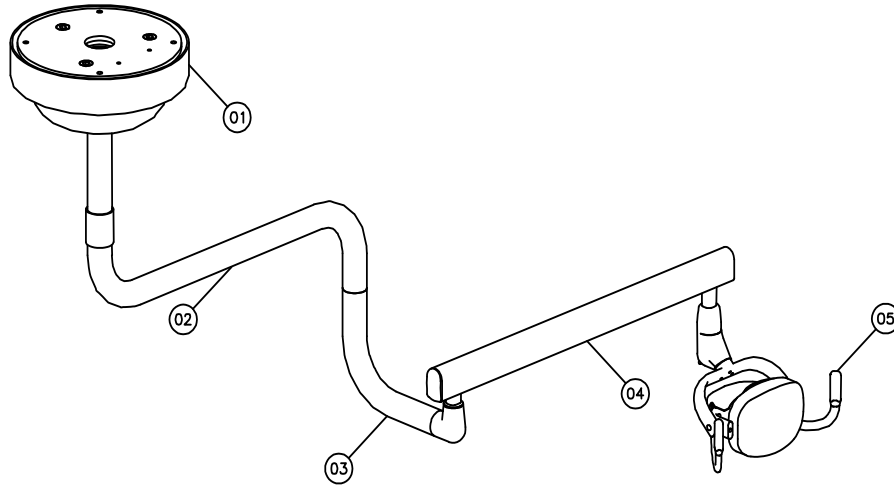
Item	Part #	Description
01	7-010-1010	Power Cord Assembly 115v
	7-010-1007	Power Cord Assembly 220v
02	7-010-0050	Fuse Holder, Slotted, Rear Hex Nut
03	7-040-0054	Fuse Time Delayed Bussmann Mdl-1 ¼, 60 Hz
04	7-040-0022	Transformer To Fuse Holder Cable
05	7-040-0001	Transformer 115v
	7-040-0002	Transformer 220v
06	4-010-0008	8-32 Stainless Steel Nuts (X2)
07	5-040-0019	8-32 X 3/8 Stainless Steel Screw (X2)
08	7-040-0080	Secondary Cable, Awg 18, 41/34 Str, 3 Cond., Blue, Black, White
09	7-040-0053	Terminal Strip Connector
10	7-040-0023	Wire Harness 11', Awg 18, 41/34 Str, 3 Cond., Blue, Black, White
11	7-040-0082	Light Toggle Switch, 10 A, 125 Vac
12	7-040-0024	Lamp Holder
13	7-040-0020	Quartz Halogen GY 12V/50W

## Light Head Assembly Parts List

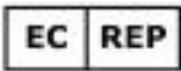


Item	Part #	Description
1	2-040-0123	Plastic Shield
2	2-040-1034	Light Beam Deflector Metal Shield
3	2-040-0124	Dichroic-Coated Lens
4	2-040-0005	Light Head, Outer Frame and Articulation
5	2-040-0198	Locking Ring Optic Glass Support

## Ceiling Mount Parts List



<b>Item</b>	<b>Part #</b>	<b>Description</b>
1	1-040-0033	Mounting Plate
2	2-040-0002	Rigid Arm
3	2-040-0050	Pivot Tubing
4	2-040-0166	Flex Arm
5	2-040-0140	Light Head Assembly



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