

Installation
Operation
Maintenance
Troubleshooting
Version Dec/17



Table of Contents

Important Information	3
Dimensions	8
Maintenance Instructions	9
Operator's Instructions	10
Installation Instructions.....	13
Trouble Shooting Guide	14
WARRANTY	20

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 FL, Lauderdale, 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 1335MD Light.

The 1335MD Light should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the 1335MD 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.

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

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 (Worldwide).

Guidance and manufacturer’s declaration - –electromagnetic emissions

The 1335MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1335MD Light should assure that it is used in such an environment.		
EMISSION TEST	COMPLIANCE	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
RF Emissions CISPR 11	Group 1	The 1335MD 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	The 1335MD 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.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer’s declaration–electromagnetic immunity

The 1335MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1335MD Light should assure that it is used in such an environment.			
IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
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	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% UT (> 95% dip in UT) for 0,5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles < 5% UT (> 95% dip in UT) for 5 sec	< 5% UT (> 95% dip in UT) for 0,5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles < 5% UT (> 95% dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the 1335MD Light requires continued operation during power mains interruptions, it is recommended that the 1335MD 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: UT is the a.c. mains voltage prior to application of that test level.

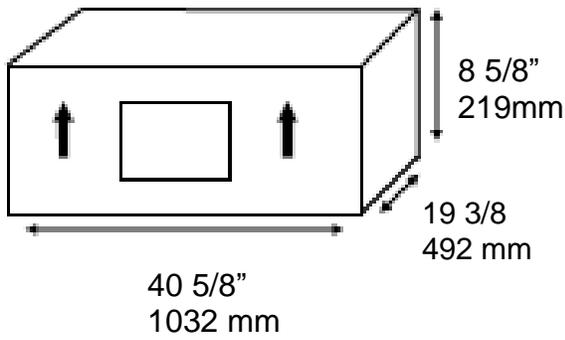
Guidance and manufacturer's declaration - electromagnetic immunity			
The 1335MD Light is intended for use in the electromagnetic environment specified below. The customer or the user of the 1335MD Light should assure that it is used in such an environment.			
IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the 1335MD Light, including cables, than the recommended separation distance calculated from equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P} \text{ 80 MHz to 800 MHz}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	$d = 2.3 \sqrt{P} \text{ 800 MHz to 2,5 GHz}$ <p>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).</p> <p>Field strengths from fixed RF transmitters as determined by an electromagnetic site survey^a should be less than the compliance level in each frequency range^b.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol</p> 
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.			
<p>^a Fields strengths from fixed 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 1335MD Light is used exceeds the applicable RF compliance level above, the 1335MD 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 1335MD Light.</p> <p>^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

Recommended separation distance between portable and mobile RF communications equipment and the 1335MD Light			
The 1335MD Light is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 1335MD Light can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the 1335MD Light as recommended below, according to the maximum output power of the communications equipment.			
	SEPARATION DISTANCE ACCORDING TO FREQUENCY OF TRANSMITTER m		
RATED MAXIMUM OUTPUT POWER OF TRANSMITTER W	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2.3 \sqrt{P}$
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.			

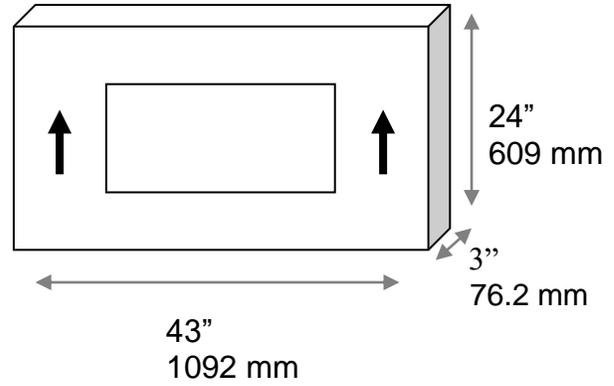
Dimensions

Shipping Information

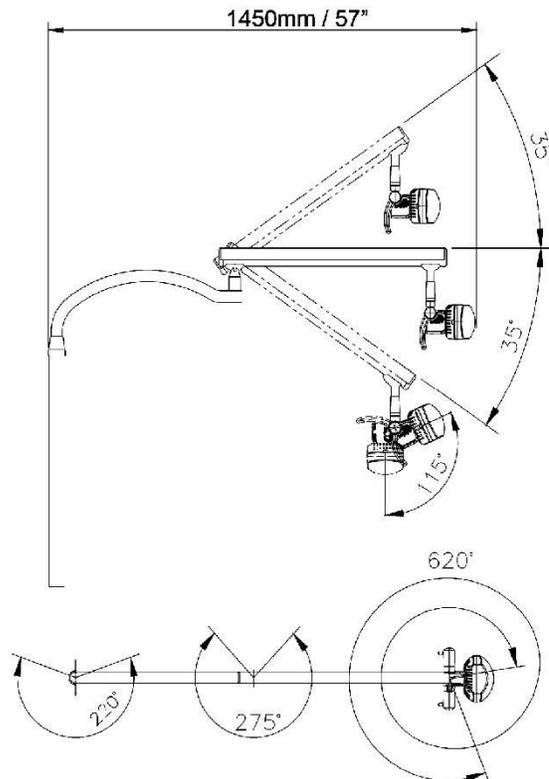
Shipping Weight:
 22 lbs (9.98 kgs)



16 lbs (7.26 Kgs)



General Dimensions



Maintenance Instructions

Reflective Lens & Plastic Shield Cleaning

The 1335MD 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

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

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

The following chemicals may damage equipment surfaces and finish:

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

NOTE

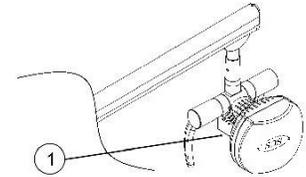
The SDS warranty does not cover damage to equipment caused by cleaning and disinfectant solutions.

Operator's Instructions

Light Switch

The 1335MD Dental Light illuminates at two intensities, 22,000 Lux (High) and 15,000 Lux (Low).

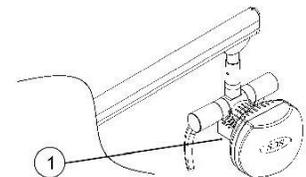
Positioning the toggle switch (1) will activate these intensities. The middle position is "Off", upper position is "Hi", and the lower position is "Low".



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

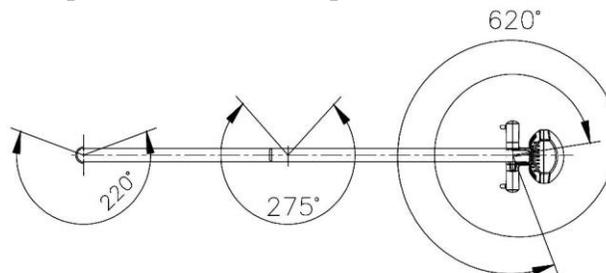
Positioning the Head

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



Light Arm Assembly

1. Rigid Arm - the rigid arm controls the horizontal positioning of the light. There is a rotation stop of 220° degrees. Do not rotate the rigid arm over 220° degrees in either direction. This could cause damage to its internal wiring. Care should be taken when adjusting the horizontal position of the light to avoid striking walls or cabinetry.
2. Flex Arm - the flex arm's position is maintained by a counterbalance mechanism. The vertical travel is 70° degrees. Please Note: The Flex Arm has a rotational stop of 275° degrees. Do not rotate the Flex Arm over 275° degrees. This will cause damage to the flex arm and its internal wiring.
3. Flex Arm Drop – The flex arm drop is mounted to the flex arm.



Bulb Replacement

- 1 Turn off power to the light from the power source.
- 2 Carefully release the clips from the glass reflector and remove plastic shield.

Please Note:

Pulling the plastic tabs with too much pressure may result in damage to the plastic shield.

3. Turn the deflector collar ring counter-clockwise to remove.
4. Pull the bulb until the terminal can be seen.

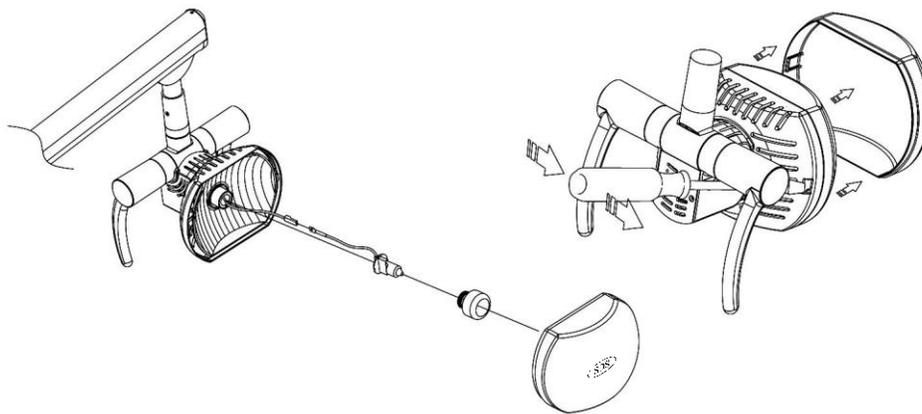
Please Note:

Never touch the bulb with bare hands!! Oil from skin will leave a residue on the bulb that may cause the bulb to over heat and burn out prematurely. Use a glove or handkerchief when replacing the light bulb.

5. Disconnect the terminal and replace the bulb by following steps 1-5 in reverse order.

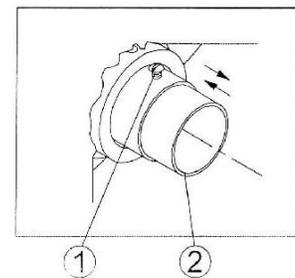
CAUTION

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

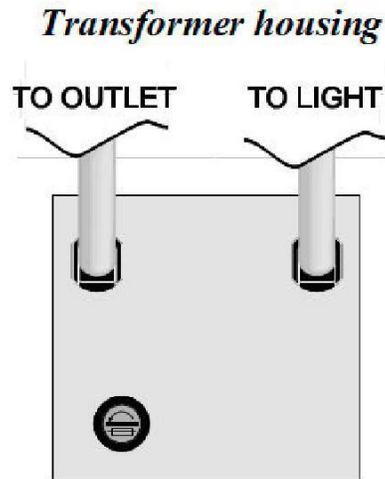
Open the lid in the back of the dental light's head and loosen the lock screw (1), that locks the bulb support bushing (2), by turning it counter-clockwise. With the light turned on, move the bulb support bushing closer or further from the glass reflector until the desired adjustment is reached. Retighten the lock screw (1) that locks the bulb support bushing in place (2). Please Note: The focal distance is 27"



Replacing the Fuse – 115v and 220v/230v

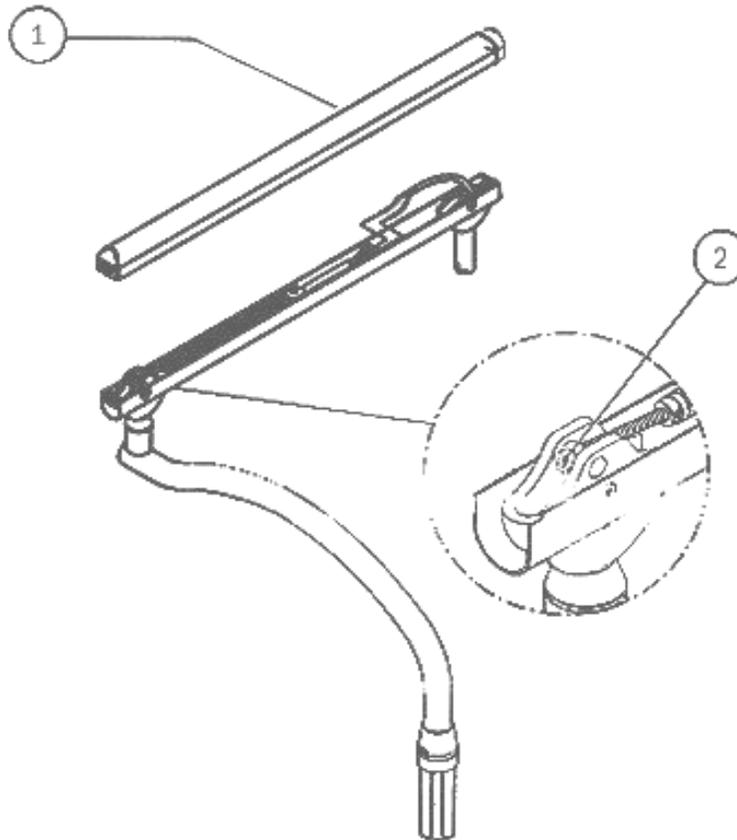
Unplug the power cord. Locate the fuse holder. With a 1/4" screw driver, push and rotate fuse cap counterclockwise.

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 arm cover (1). With a 3/16" allen wrench, turn the bolt (2) clockwise to increase, or counterclockwise to decrease the spring pressure.



Installation Instructions

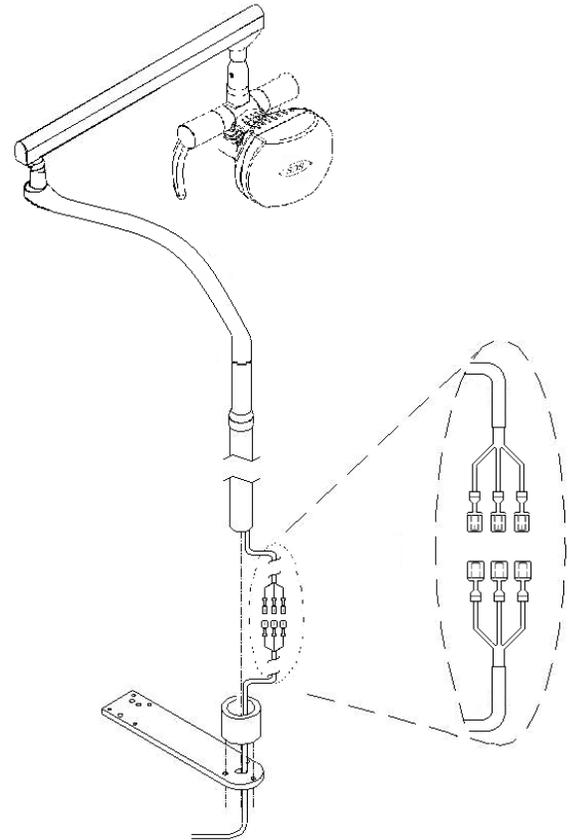
1. Attach the Bushing to the post.
2. Run power cord from the remote transformer upward through the post so it may be connected to the light heads wire harness assembly in step (4).

Level the Post.

3. Connect the wires power cord from the transformer to the corresponding wires of the head wire harness assembly with the connector provided.
4. Feed the wire harness assembly down the post and insert the rigid arm into the bushing.

Please Note: The Bushing, Rigid Arm and Post are designed with a rotational stop. Be sure to position the stop knuckle inside the post so that it is towards the right side of the toe of the chair. Also, be sure the bushing and the ridged arm are positioned properly with the stop of the post to ensure the correct rotation of the light.

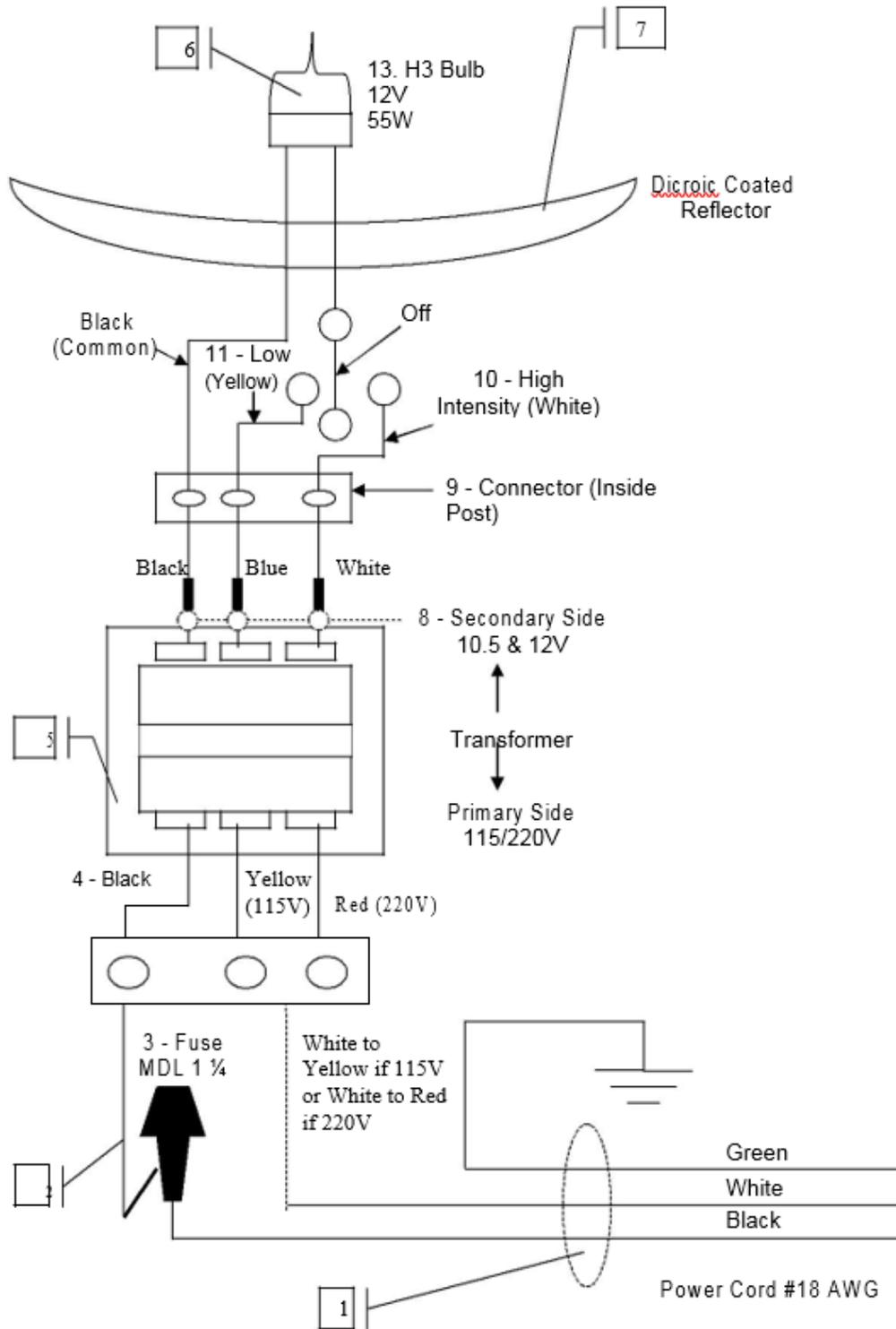
5. A hanger is provided on the outside of the remote transformer so that it may be mounted inside or outside a standard floor mounted utility center.



Trouble Shooting Guide

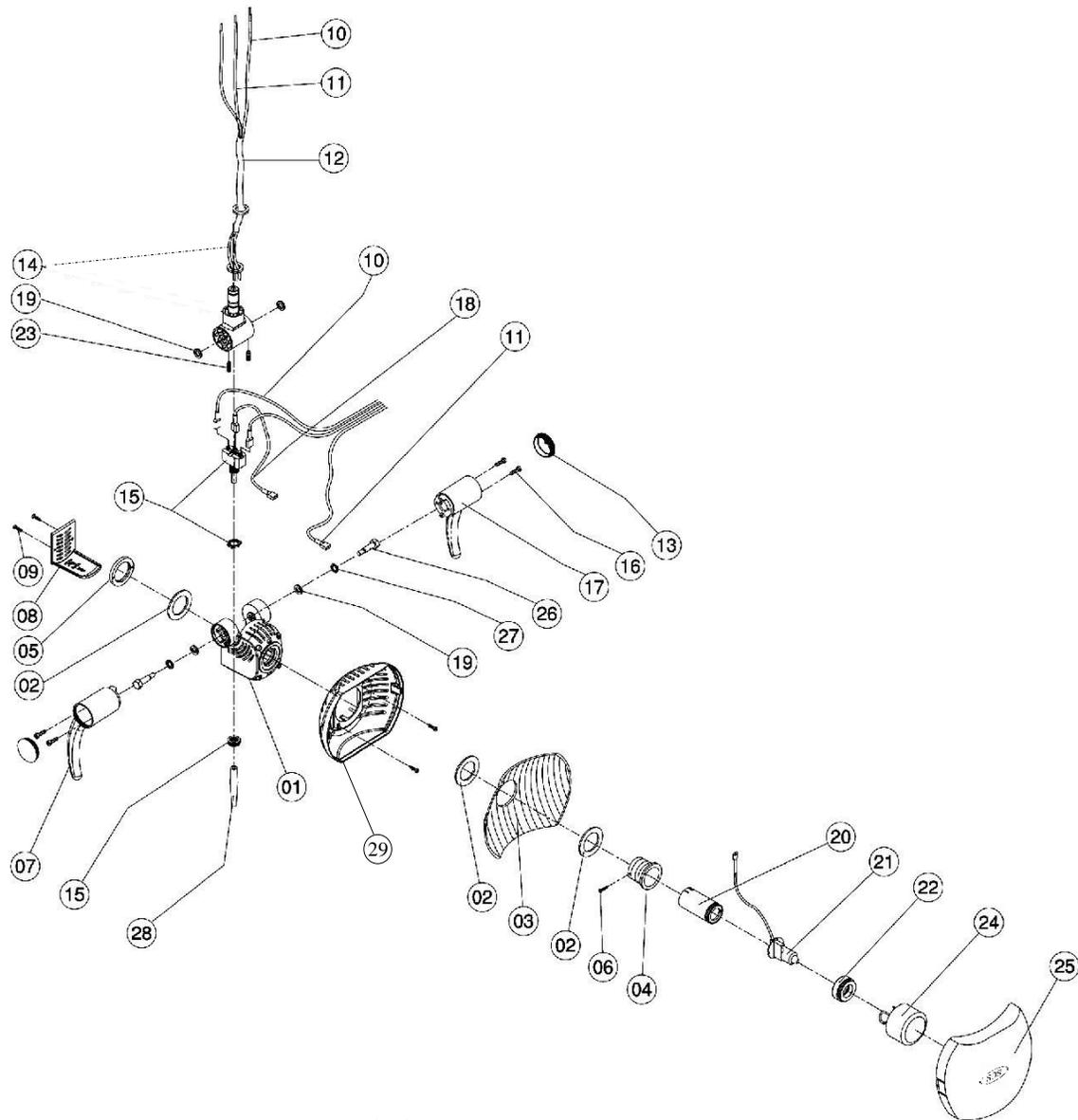
<u>Symptom</u>	No illumination
<i>POSSIBLE CAUSE</i>	<i>CORRECTIVE ACTION</i>
No power from source	Reset circuit breaker.
Blown fuse in light	Replace if blown - Part#: 7-040-0054.
Blown light bulb	Replace if necessary - Part#: 7-040-0019.
Loose or disconnected wire in one of the connectors	With power 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#: 7-040-0062

Electrical Diagram



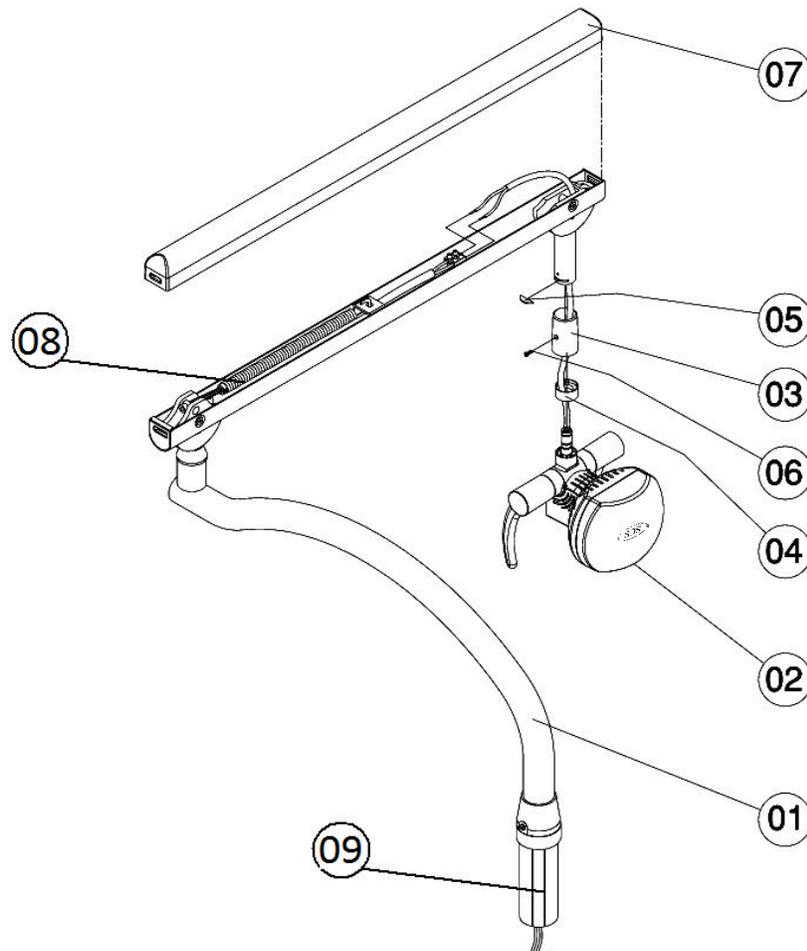
Item	Part #	Description
1	7-010-1005	Power Cord Assembly Awg 18/3 cond., Gray Jacket
2	7-010-0050	Fuse Holder, Slotted, Rear Hex Nut
3	7-040-0054	Fuse Time Delayed Bussmann Mdl -1 ¼, 60 Hz
4	7-040-0022	Transformer To Fuse Holder Cable
5	7-040-0062	Transformer 12V 55W 115v (1340,1335)1330XL
6	2-040-0134	Light Beam Metal Deflector (lights 1335/ E.L)
7	2-040-0124	Optic glass reflector, 1335 /E.L. lights
8	3-040-3001	Secondary Cable, Awg 18, 41/34 Str, 3 Cond., Blue, Black, White
9	7-010-0138	Male connector
	7-010-0146	Female connector
10	7-040-0023	Wire Harness 11', Awg 18, 41/34 Str, 3 Cond. Blue, Black, White
11	7-040-0052	Light Toggle Switch, 10 A, 125 Vac
13	7-040-0019	Bulb #3, 12V, 55W
***	7-040-1003	Transformer Assembly

Light Head Assembly Parts List



Item	Part #	Description
1	2-040-0081	Head Frame, 1335
2	4-040-0005	Washer, Silicone, Optic Glass Support
3	2-040-0124	Glass, Optic, 1335 Dental Light
4	2-040-0070	Bushing, Optic Glass Support
5	2-040-0087	Locking Ring Support Bushing
6	4-040-0041	Screw, Phillips, 1/8" X 3/16"
7	2-040-0107	Left Handle, Light Head 1335
8	2-040-0086	Cover, Rear Light Head
9	4-040-0034	Screw 3/16" X 3/16"
10	7-040-0033	Low Intensity Wire
11	7-040-0030	High Intensity Wire
12	7-040-0034	Wire Insulated Jacket

13	2-040-0080	Handle Cap – 1335 Biscayne light
14	7-040-0018	Wire Harness 10', 1330/1340/1335 SDS Lights
15	7-040-0052	Toggle Switch, 3 Position
16	4-040-0006	Screw, #5 Phillips Head Self Taping
17	2-040-0079	Right Handle, Light Head 1335/ E.L.
18	7-040-0035	Bulb Voltage Intensity Wire
19	4-040-0063	Washer, Nylon 5/16 lights
20	2-040-0054	Light Bulb Mounting Cylinder
21	7-040-0019	Bulb, H3/12V/55W
22	2-040-0066	Support Bushing Bulb
23	5-020-0154	10-32 x ¼ Cup Point 18-8 S/S Socket set screw
24	2-040-0134	Light Beam Reflector Metal Shield
25	2-040-0121	Shield, Plastic,1335
26	2-040-0147	Bolt, 1335 / EL light head articulation (lights)
27	4-070-0026	Washer, Metal 5/16
28	2-040-0142	Toggle Switch Extension
29	2-040-0131	Rear plastic shield 1335



Item	Part #	Description
1	2-040-0078	Rigid Arm
2	2-040-1005	Head Assembly
3	2-040-0167	Locking Key Cover
4	2-040-0168	Stop Ring
5	2-040-0164	Locking Key (half moon)
6	4-040-0040	Screw, Phillips M3 x 6mm
7	2-040-0037	Flex Arm Plastic Cover
8	2-040-0083	Flex Arm Assembly
9	2-040-0170	Post Bushing
***	2-040-0079	Post 40" Biscayne

WARRANTY

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

Summit Dental Systems (SDS) Equipment:

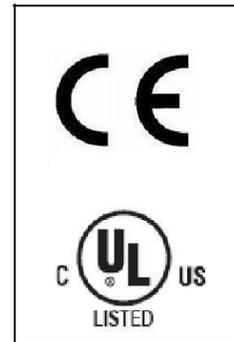
Chairs, Delivery Units, Cuspidors, Lights
 Control Block Diaphragm (part of Delivery Unit)
 All Upholstery, Stools, all Plastic Covers, and Cabinets

Warranty Period:

5 Years
 Lifetime
 1 Year

Summit Dental Systems' sole obligation under the warranty is to provide parts for repair, or at its option a replacement product (excluding all labor and shipping fees). "In any action, BUYER'S remedies are limited to 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, 1280 SW 27th Ave Pompano Beach, FL 33069, 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:

Owners'Name:	Phone #:
Model #:	SDS Serial #:
Dealer:	Phone:
	Purchase Date:



Summit Dental Systems

1280 SW 27th Ave - Pompano Beach - FL 33069

Toll Free: (800) 275-3368

www.summitdental.com