

INSTALLATION AND SERVICE MANUAL

CENTRY™ O.B.



**FOR PARTS OR TECHNICAL SERVICE
CALL (818) 838-3025**

CENTRY™ O.B.

Agency Approvals



Medical Electrical Equipment
With respect to electric shock, fire
And mechanical hazards only
In accordance with UL-2601-1/CAN/CSA C22.2 No.601.1
<54KK>

Classifications:

1. Protection against electrical shock (5.1,5.2). Class II equipment,
2. Protection against harmful ingress of water (5.3). Ordinary.
3. Degree of safety in the presence of flammable anesthetics or oxygen (5.5). Not suitable for use in the presence of flammable anesthetics or oxygen.
4. Mode of operation (5.6). Continuous.
5. Luminaire for Diagnosis (IEC60601-2-41).

flag terminal connectors
Electromagnetic compatibility for immunity
And emissions in accordance with
EN-60601-1-2 (1993) Group 1 Class A
Test report E137288-082001



Intended use

The Centry O.B. is an AC powered device which provides a field of illumination for general examination.

CENTRY™ O.B.

Revisions

Revision letter	ECO number	Pages Affected	Date
		Initial Release	02-04-04

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Definition of Terms

I.E.C.

International Electro technical Commission

U.L.

Underwriter's Laboratories

Medical Electrical Equipment

Electrical equipment intended to diagnose, treat the patient under medical supervision.
Electrical equipment that transfers energy to the patient.

Central Illuminance

Illuminance of light head measured at 1 meter from the light emitting area with no obstructions. Expressed in Foot-candles or Lux.

Light Field Center

Point of maximum Illuminance in lighted area. This is the reference point for light field size and light distribution measurements.

Light Field Diameter

Diameter of the circle where Illuminance reaches 10% of light field center Illuminance.

Depth of Illumination

The overall distance from 1 meter where the central Illuminance is reduced to 20%.

Shadow Dilution

Ability of the equipment to minimize the impact of shadows in the working area. Shadows can be due to partial obstruction by the operator or other medical personnel.

Correlated Color Temperature

The color temperature of the light fixture when compared to a blackbody radiator expressed in degrees Kelvin.

Total Irradiance

The total amount of energy imparted to the patient by the lighting system expressed in Watts/meter squared.

Color Rendering Index (CRI)

A method of how well a light source will render other colors when illuminating them based upon eight CIE chromaticity coordinates measured with a spectroradiometer.

Handle Sterilizable

Device when properly sterilized maintains a sterile area in order to handle it under aseptic conditions when attached to the equipment.

Definition of Terms (continued)

Light Head/Articulating Arm Assembly:

That part of the device which includes the light source, heat removal system and light head vertical positioning arm.

Neutral Conductor

In an AC circuit, the return line for current.

Protective earth ground

The conductor used to connect the non-current-carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor, the grounding electrode conductor, or both, of the circuit at the service equipment or at the source of a separately derived system.

List of Symbols



U.L. Listing Marking



C.E. Marking



Protective Earth Ground



Caution



Electric Shock Hazard

Centry O.B. Specifications

Mechanical

Parameter	Value
Weight	Approximately 30 lbs (13.61 kg).
Dimensions Height (articulations at lowest point) Height (articulations at highest point) Base Light head diameter	69" (175.30 cm) 84" (213.40 cm) 22" (55.88 cm) long by 22" (55.88 cm) wide 6.25" (15.88 cm)
Rotations Articulating arm vertical movement Articulating arm horizontal movement Articulating arm/Yoke interface Yoke/lamp head interface	+35, -45 Degrees +30, -30 Degrees Continuous 240 Degrees

Electrical

Parameter	Value
Voltages Input Voltage	100-125 VAC 50/60 Hz 220-240 VAC 50/60 Hz
Bulb Voltage	10.7 VAC 70 W
Bulb life	1,000 hours (average)

Optical

Parameter	Value
Reflector	4.7 "(120mm) diameter, Dichroic Glass
Parameter	Value
Performance Central Illuminance	4,000 foot-candles (43,000 Lux) @ 24" (60.96 cm), 1600 foot-candles (17,000 Lux) @ 39.4" (1 m)
Color Temperature	4300 deg K @ 39.4" (1 m)

Environmental

Parameter	Value
Operating/Storage temperature range	42-113 deg F (5-45 deg Celsius)
Humidity	10-90% relative humidity

Medical Illumination International, Inc.
Lighting Equipment
Limited Warranty

Medical Illumination International, Inc. Lighting Equipment is warranted against defective material and/or workmanship, excluding normal replacement parts (e.g. bulbs or glass items), for a period of three (3) years from the date of shipment. This warranty applies exclusively to the repair or replacement of parts recognized as defective by Medical Illumination International, Inc., are in normal use, and have not been modified or repaired by unauthorized personnel. This warranty supersedes all other guarantees or warranties, expressed or implied.

In the event of a failure covered under this warranty, please take the following action:

1. Call the Medical Illumination Customer Service Department at (818) 838-3025.
 - A. Be prepared to give the model number, serial number, and full description of the failure.
 - B. Customer Service will attempt to solve the problem over the phone. If it becomes necessary to send the product to the factory for repair, Customer Service will provide a Return Authorization number. No product should be returned without a Return Authorization number.
2. Carefully package the light component (light head, arm assembly, or mount assembly) and return it, freight prepaid and insured, with the Return Authorization number clearly marked on the box, to:

Medical Illumination International, Inc.
547 Library Street
San Fernando, CA 91340
RA#

Damage resulting from inadequate packing is not covered by this warranty and shipping insurance does not cover damage from inadequate packing.

We recommend that the package be insured against loss or in-transit damage. Medical Illumination can not be responsible for in-transit loss or damage.

3. **DAMAGE TO THE PRODUCT RESULTING FROM TAMPERING, ACCIDENT, ABUSE, NEGLIGENCE, OR OTHER CAUSES UNRELATED TO PROBLEMS WITH MATERIAL AND/OR WORKMANSHIP, ARE NOT COVERED BY THIS WARRANTY.**
4. Warranty may be voided if equipment is found to have been installed incorrectly, resulting in equipment failure.
5. This warranty does not cover any labor costs associated with removing, re-packaging for shipment or reinstalling this product. Such costs are the responsibility of the purchaser.
6. Medical Illumination International, Inc. will evaluate the returned product, repair as appropriate, and ship the product back to you freight paid.
7. In the event non-warranty damage or failure is discovered, you will be contacted before repairs are performed.

Centry O.B. Installation

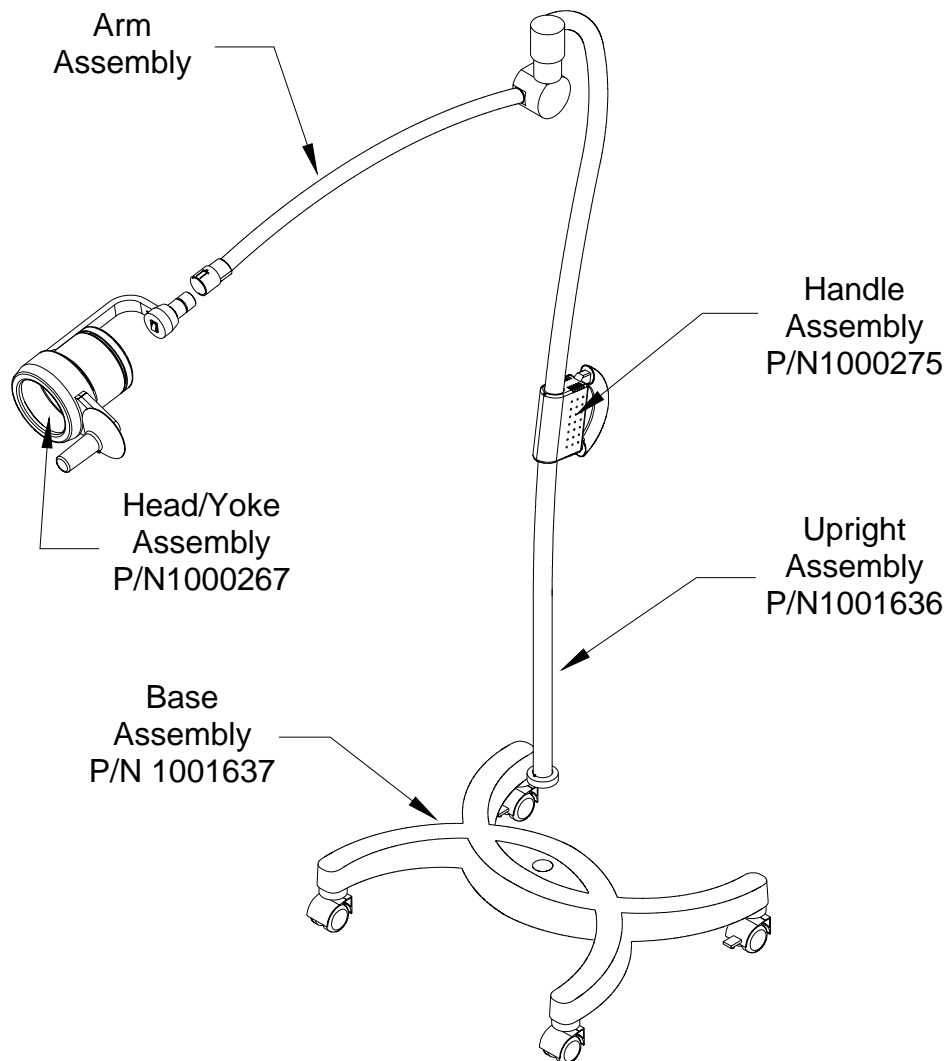


Figure 1 – Sub-assemblies for Centry O.B.

GENERAL INFORMATION

The Centry O.B. is shipped in three separate cartons. The Head assembly, installation instruction manual and hardware kit are in one carton, the floor base assembly is in one carton, the arm assembly and upright assembly is in the last carton.

Prior to installation insure that all components shown in Figure 1 are present.



WHEN REMOVING PARTS FROM THE SHIPPING CARTON, BE CAREFUL NOT TO DAMAGE THE COMPONENTS OR BREAK ANY GLASSWARE. IMPORTANT: THOROUGHLY CHECK EACH BOX FOR PARTS THAT MAY BE LOCATED IN AREAS THAT CAN BE OVERLOOKED.

Centry O.B. Installation Base and Upright

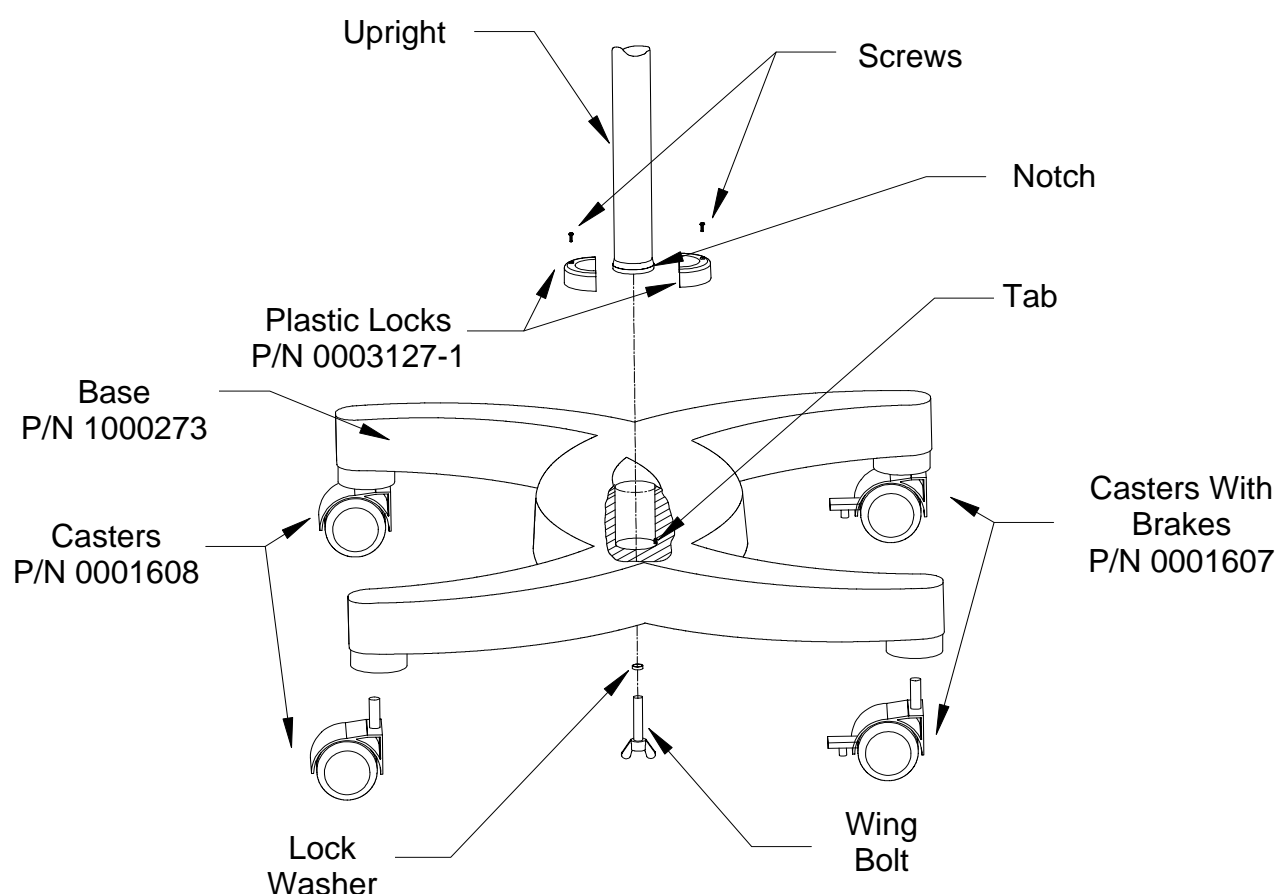


Figure 2 – Floor base/upright installation.

- Press casters into the base bottom as shown on figure 2. Install the casters with brakes to the rear of the floor base. The rear side is designated by the tab at the bottom of the floor base.



Make sure casters are pressed all the way into the floor base. Failure to install casters properly may result in the casters disengaging which will cause floor base to become unstable causing personal injury and/or property damage.

- Install the upright into the base as shown on figure 2. Make sure to align the notch on the upright with the tab in the floor base hole.
- Secure the upright with a wing bolt as shown in figure 2. Install the lock washer and the wing bolt from the bottom of the base.



Failure to install the wing bolt and lockwasher can cause the upright to become unstable causing personal injury and/or property damage.

- Install the two plastic locks on the top of the base and around the upright.
- Secure the plastic locks to the base with two screws.

Centry O.B. Installation Arm/Upright

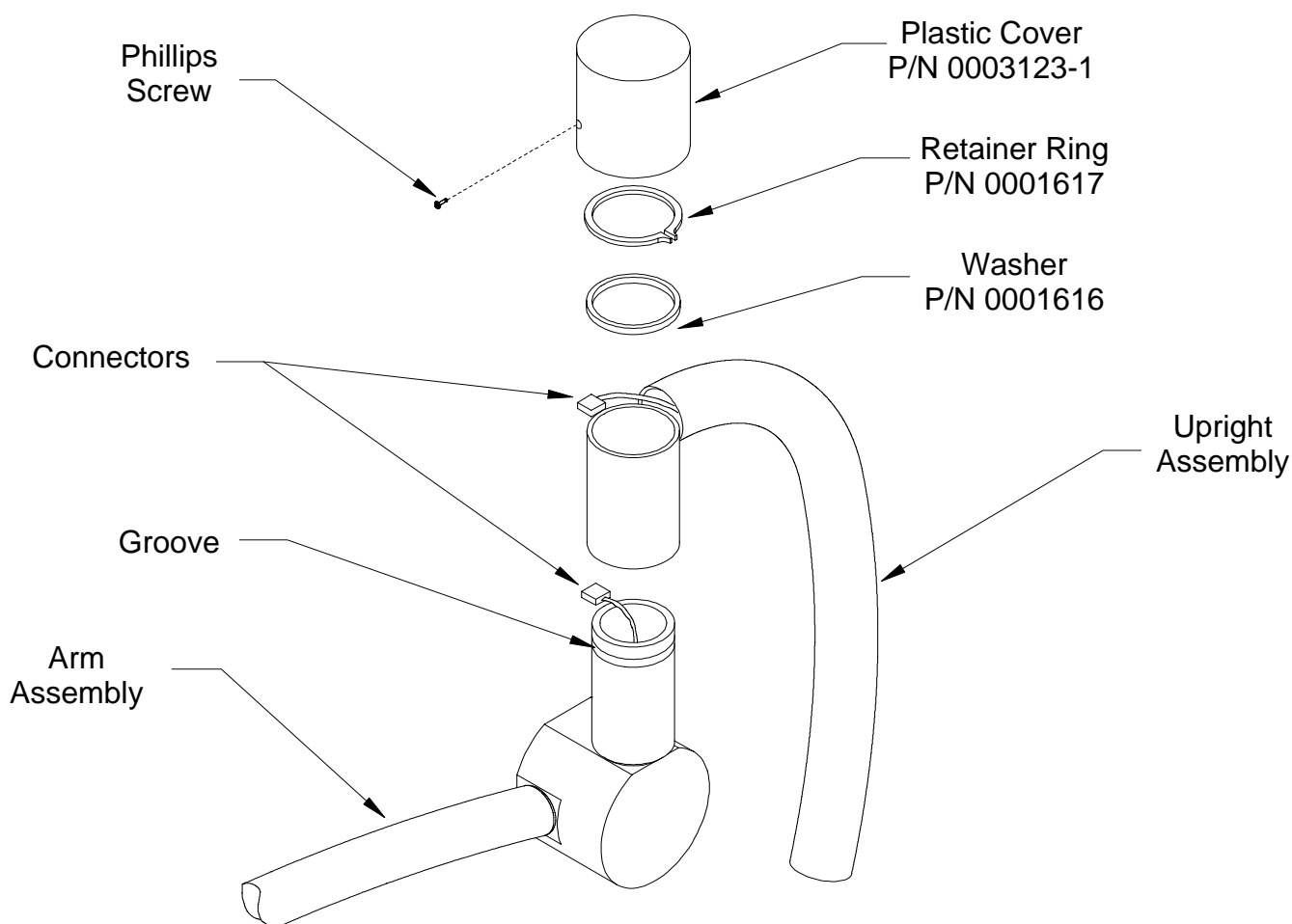


Figure 3 – Arm/upright installation

- Remove the Phillips screw that holds the plastic cover to the upright assembly.
- Pull off the plastic cover.
- Install the arm assembly into the upright assembly by pushing the arm shaft through the upright assembly.
- Place the flat washer over the arm shaft and secure with the retaining ring using the enclosed retaining ring tool. Make sure the ring is properly seated in the arm shaft groove.



Failure to install the retaining ring correctly can result in the arm and head falling from the upright, causing personal and/or property damage.

- Plug in the connectors exiting the upright assembly and arm assembly together, ensuring the connectors are fully engaged.
- Push the connectors inside the vertical tube.
- Install the plastic cover on the upright assembly and secure with the Phillips screw.

Centry O.B. Installation Head/Arm

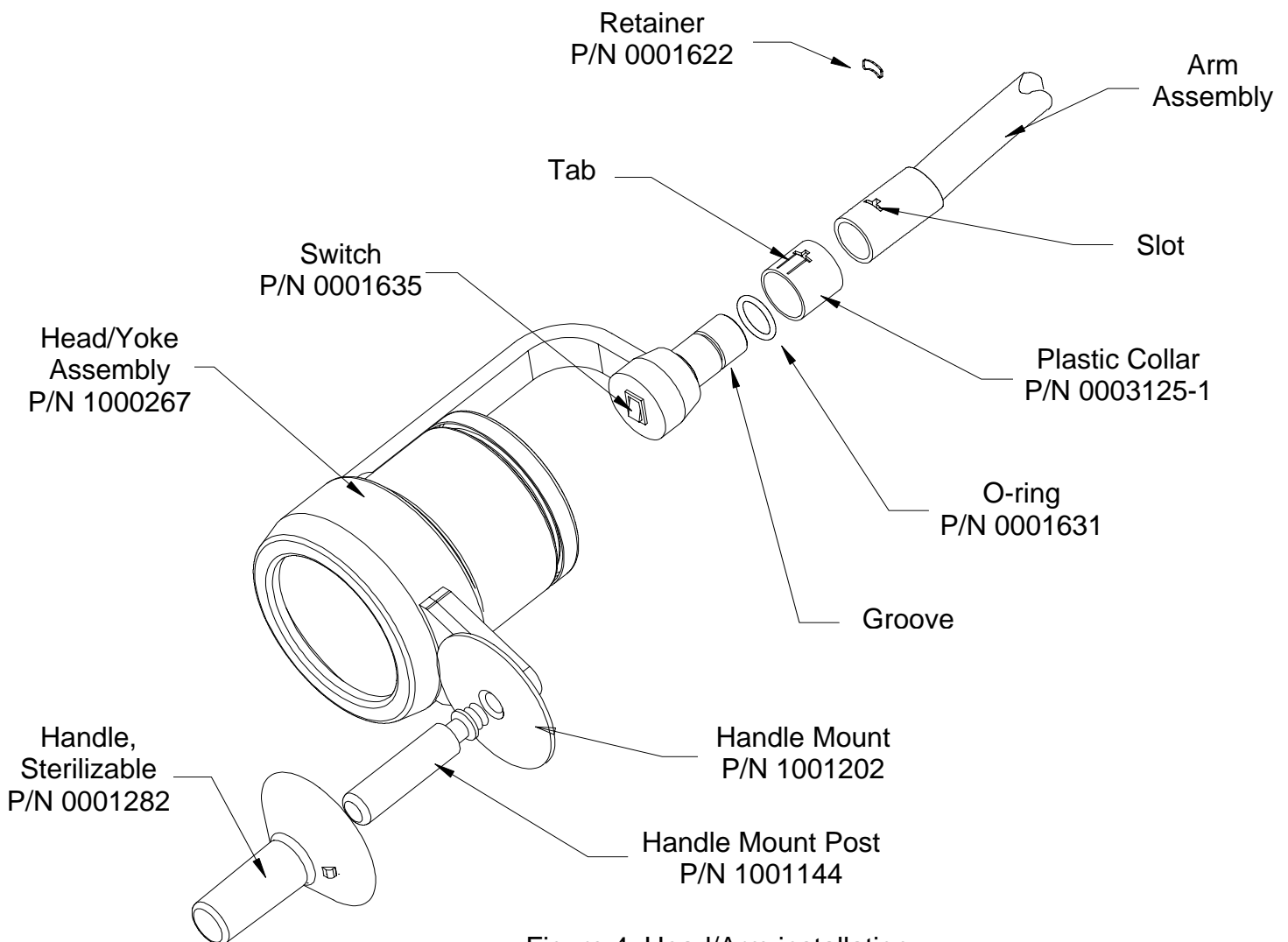


Figure 4: Head/Arm installation

- While lifting the tab on the plastic collar, rotate the plastic collar until the slot is visible (approximately 180 degrees). Slide off the plastic collar. (see figure 4)
- Install the plastic collar on the Head/Yoke assembly. Make sure the O-ring inside the collar front-end is properly seated.



Failure to properly seat the o-ring can result in irregular head rotation force or drifting of head.

- Slide the collar over the yoke shaft until the groove on the yoke is visible through the opening on the collar.
- Install the yoke shaft into the arm assembly. Rotate the collar so that the slot in the plastic collar is aligned with the slot in the arm. Secure the assembly by installing the retainer (sent in a plastic bag) through the opening on the collar.

Section 3

- Make sure the retainer is properly seated on the Yoke groove. Rotate the collar until it snaps into place in the slot on the bottom of the arm assembly.



Failure to properly install the retainer may result in the head falling from the arm causing personal injury and/or property damage.

- Install the handle post and sterilizable handle onto the handle base as shown in figure 4.
- To install the bulb and lamp holder pull off the rear cover from the light head as shown in Section 6, figure 5.
- Grasp the bulb by its base and carefully install it on the lamp holder assembly.



Do not touch the lamp directly. Body oils may significantly lower the life expectancy of the lamp and cause equipment damage.

- Carefully insert lamp holder assembly into the light head. Care should be taken not to bump the lamp against any internal components.
- Replace rear cover.

Installation is now complete. Please refer to Section 4 for detailed operating instructions.

Centry O.B. Operating Instructions

- To position the light head and arm, firmly grasp the sterilizable handle and move the light head or arm to the desired location. (See Figure 5 for arm and head movements).
- On/off: To turn the light On or Off, depress the On/Off switch located at the bottom of the yoke fitting (Refer to Figure 5 for switch location).

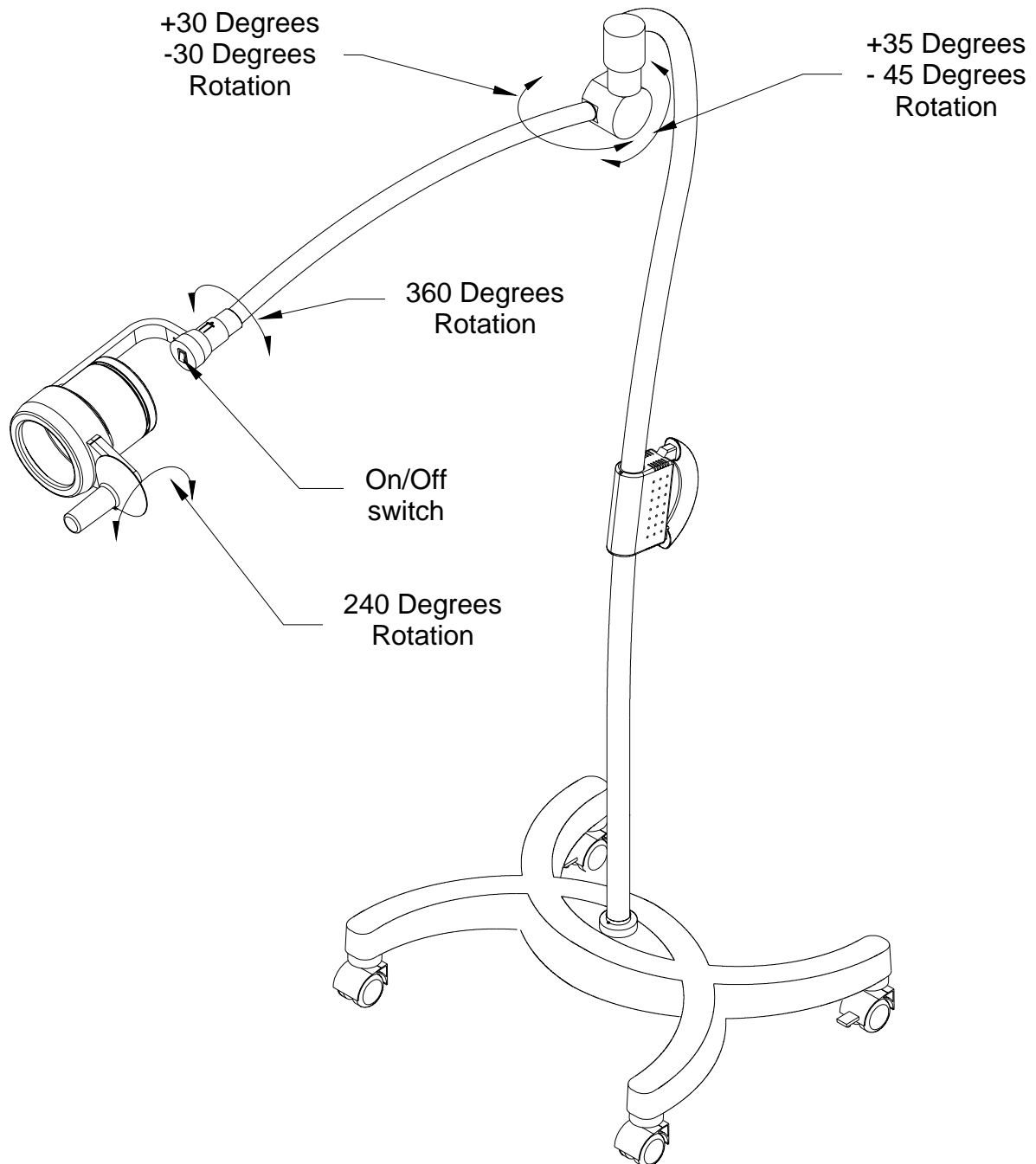




Figure 5: Centry O.B. Head and Arm Movements


Centry O.B. Safety Tips


 Only facility authorized maintenance personnel should troubleshoot the Centry O.B. Troubleshooting by unauthorized personnel could result in personal injury and/or property damage.


 Only facility authorized personnel should repair the Centry O.B. Repair by unauthorized personnel could result in personal injury and/or property damage and could void warranty.


 After completing a repair of the Centry O.B. Insure the unit is in proper working order. Failure to do so could result in personal injury and/or property damage

 Use only Medical Illumination approved replacement lamps P/N- 0001717. Failure to do so will affect the operating specifications. Use of a higher wattage lamp may cause a fire hazard, resulting in personal injury and/or property damage.


 Do not touch the lamp or inner glass lens directly. Body oils may significantly lower the life expectancy of these parts and cause equipment damage.


 Follow the product manufacturer's instructions. Failure to do so could result in personal injury and/or property damage.


 If the unit fails any part of the preventive maintenance functional checks, repair the unit before use on any patient. Failure to do so could result in personal injury and/or property damage.


 Do not use harsh cleaners, solvents, or detergents. Failure to do so could result in equipment damage.

 Do not use silicone-based lubricants. Equipment damage could occur.

 Unplug the power cord before any repairs are started. Failure to do so could result in personal injury and/or property damage.

 Do not pinch any wires during installation. Pinched wires can cause an electrical shock hazard, resulting in personal injury and/or property damage.

 Use only Medical Illumination fuses p/n-0001720 (2 Amps, 120 Volts) or p/n-0001474 (1 Amp, 230 Volts) if replacement is necessary. Failure to do so could result in personal injury and/or property damage.

 Do not expose the unit to excessive moisture. Failure to do so could result in personal injury and/or property damage.

Section 5



Do not rest articles or liquids on top of the Centry O.B. Spilled liquids will damage the light head and arm assemblies causing an electric shock hazard.

Centry O.B. Maintenance Lamp Replacement



Unplug the power cord before lamps are replaced. Failure to do so could result in personal injury and/or property damage.



The Centry O.B. operates at high temperatures. Allow the unit to cool at least 30 minutes before performing any maintenance. Failure to do so could result in personal injury.

- Pull off the rear cover from the light head as shown in figure 6.
- Remove the lamp holder assembly from the light head by pulling it by the knob.
- Grasp the bulb by its base and carefully remove it from the lamp holder assembly.
- Replace the bulb with Medical Illumination International, Inc. P/N-0001717 (10.7 V, 70W.) Use the bulb's wrapping (plastic bubble sheet) to handle bulb and avoid skin contact.



Do not touch the lamp directly. Body oils may significantly lower the life expectancy of the lamp and cause equipment damage.

- Carefully insert lamp holder assembly back into the light head. Care should be taken not to bump the lamp against any internal components.

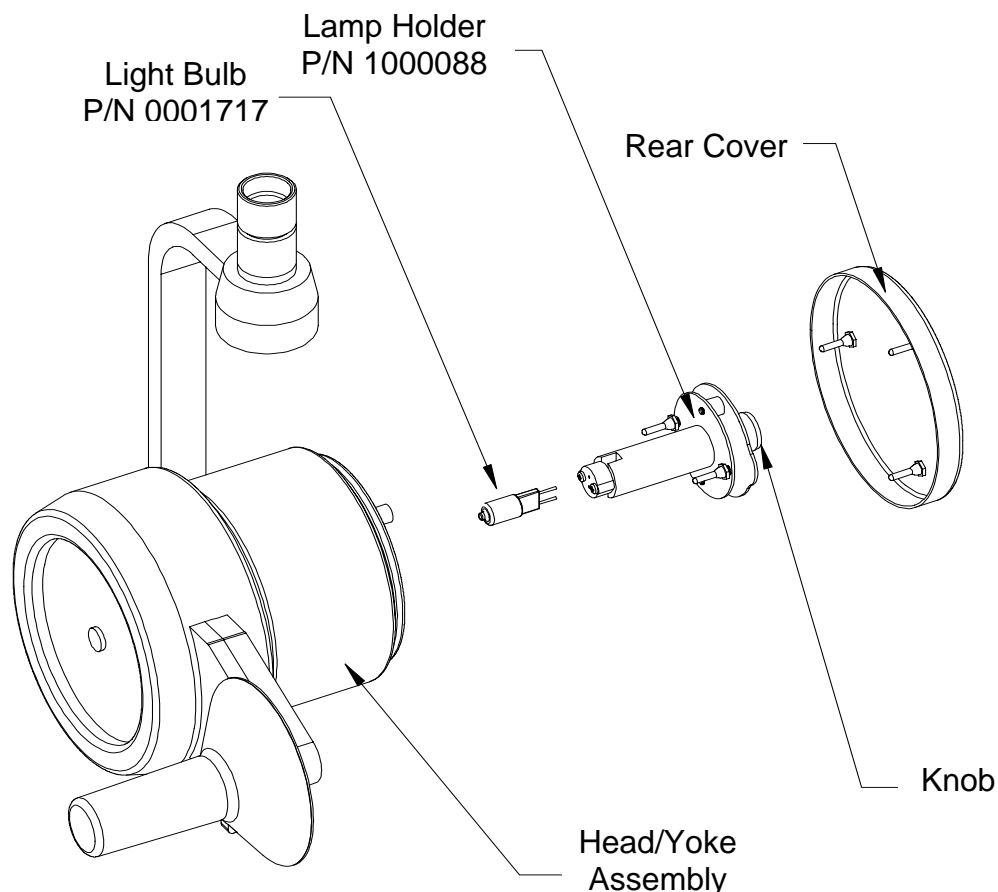


Figure 6: Lamp Replacement

Centry O.B. Fuse Replacement



Unplug the power cord before fuses are replaced. Failure to do so could result in personal injury and/or property damage.

- Remove the handle top cover by unfastening the two attachment screws as shown in picture 7.
- Locate the fuse holders. They will be on the handle cover next to the unit transformer.
- Replace the blown/broken fuses with Medical Illumination approved replacement fuses. For 120 VAC applications use only a 2.0 amp fuse P/N-0001720. For 230 VAC applications use only a 1.0 amp fuse P/N-0001474.



Use only Medical Illumination fuses p/n's-0001720 and 0001474 if replacement is necessary. Failure to do so could result in personal injury and/or property damage.

- Replace handle cover, retighten screws, and restore main power to the unit.

Note: Do not use light should it continue to blow fuses. Contact the factory immediately.

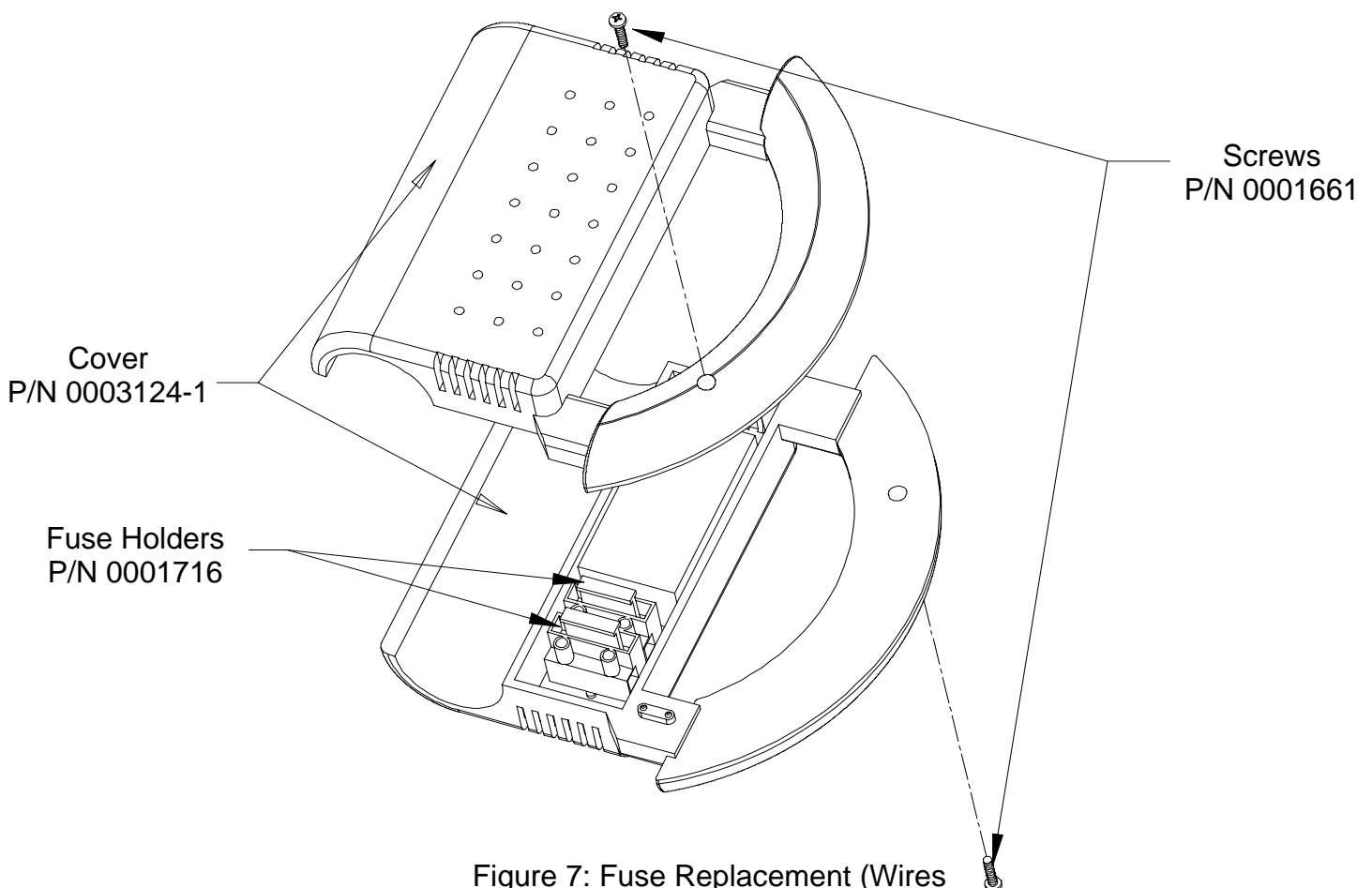


Figure 7: Fuse Replacement (Wires Omitted From Figure For Clarity)

Centry O.B. Arm Adjustment

- Lower the arm and light head until the adjustment screw in the arm plastic cover is accessible as shown in figure 8.
- Turn the adjustment screw counter clock-wise to increase the spring tension in the arm. Do this if the arm assembly drifts downward.
- Turn the adjustment screw clock-wise to decrease the spring tension in the arm. Do this if the arm assembly drifts upward.

⚠ Do not over tight the screw. Doing so could result in equipment damage.

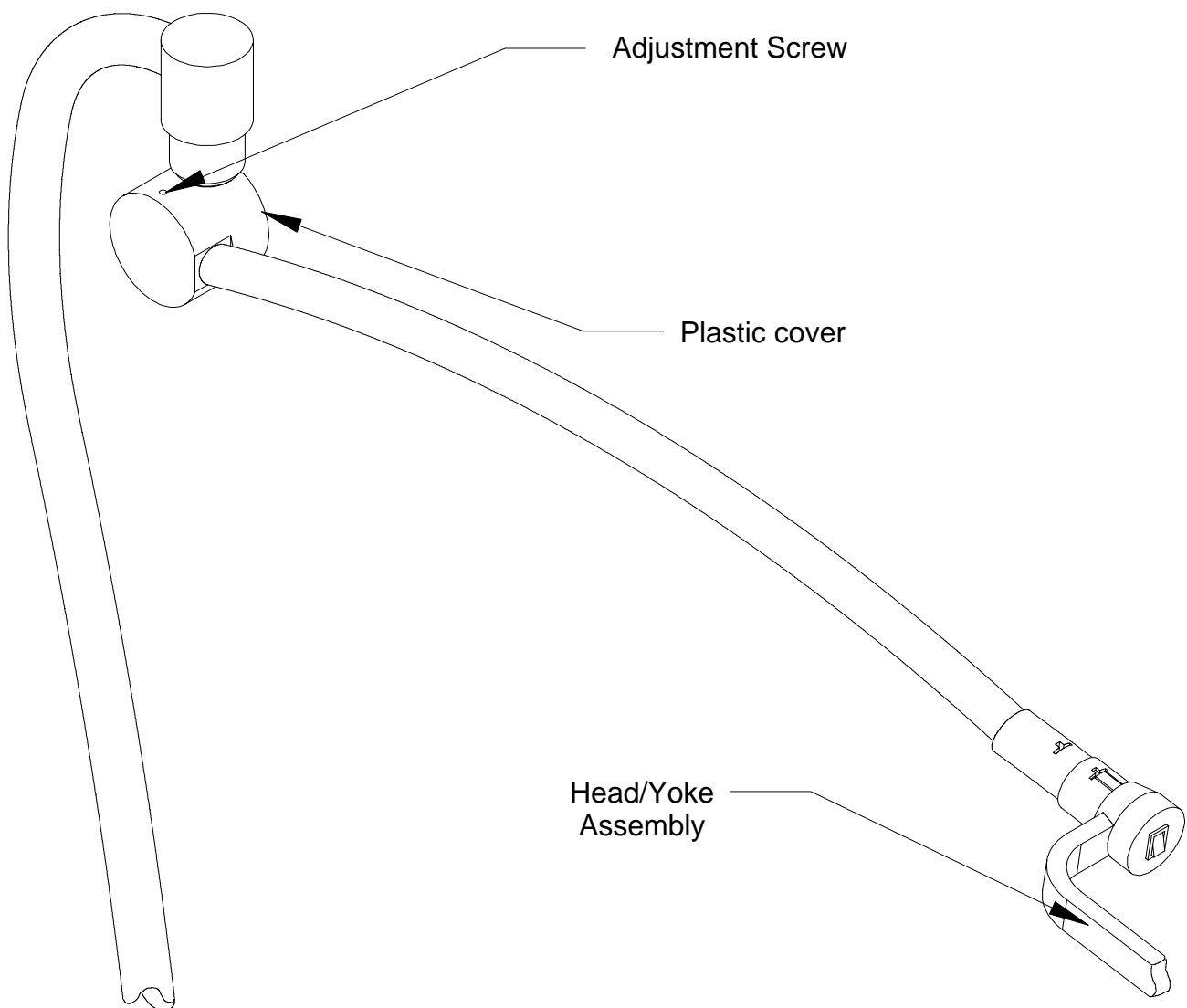


Figure 8: Arm Adjustment

Centry O.B. Handle Sterilization

- Remove sterilizable handle by pressing the button near the base of the handle and pulling the handle off the handle post (See Figure 9).
- Sterilize the handle utilizing steam sterilization of minimum 250° Fahrenheit for a minimum of 30 minutes in compliance with AAMI-SSSa-1988 Good Hospital Practices, Steam Sterilization and Sterility Assurance, or equivalent method.

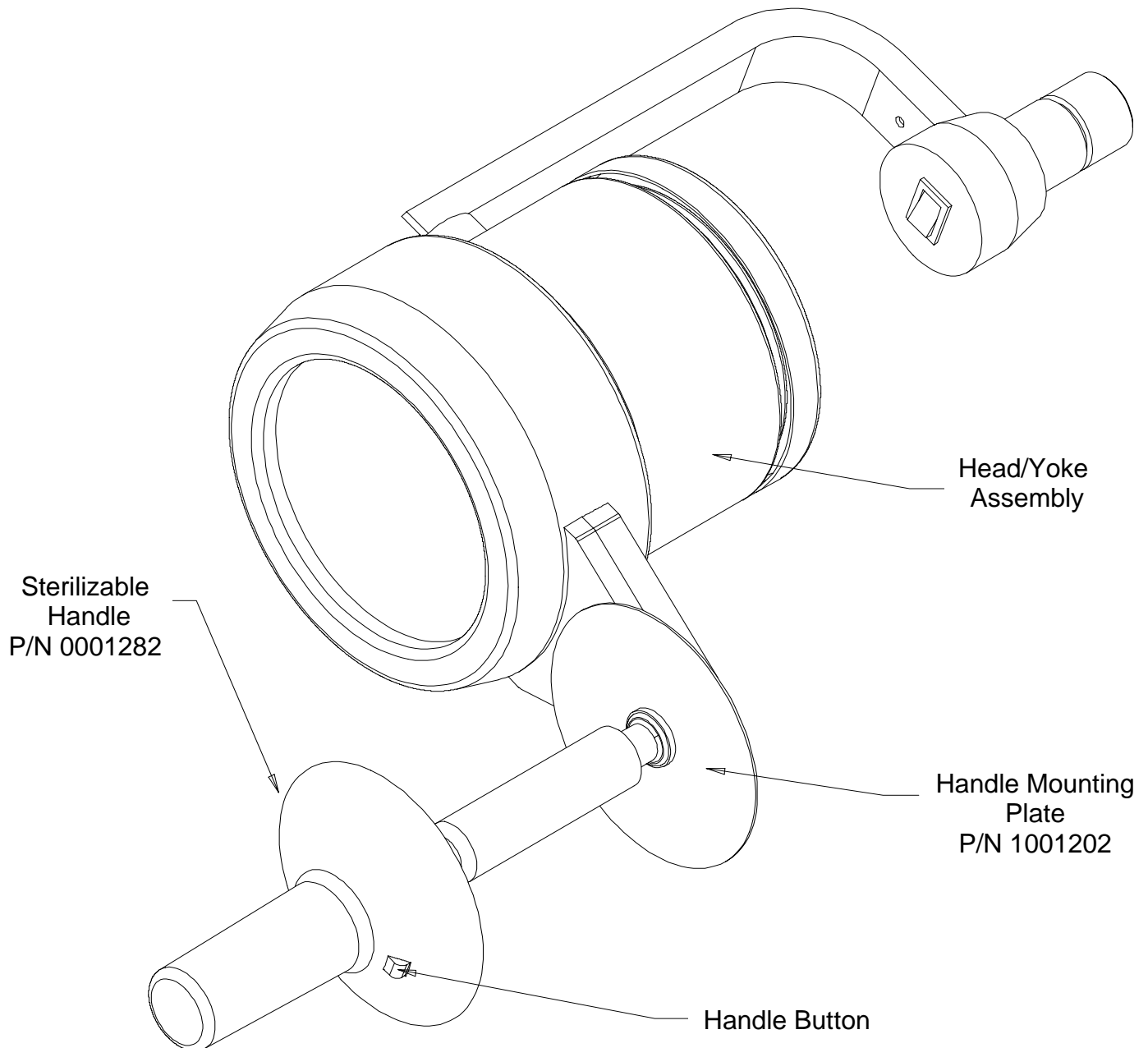


Figure 9: Handle Sterilization

Centry O.B. Cleaning Instructions



The Centry O.B. operates at high temperatures. Allow the unit to cool at least 30 minutes before performing any maintenance. Failure to do so could result in personal injury.

- Clean the lens using glass/plastic cleaner or mild soap and water mix. It is very important to use a clean, soft cloth to avoid any scratching of the front lens. Never spray the cleaning fluid directly onto the lens surface, but instead spray into clean cloth and then wipe the lens.
- Clean the light housing and arm using mild soap and water mixture. Apply this mixture to a clean cloth and wipe down the light head and arm. Never spray the cleaning fluid directly onto the light head or arm, but instead spray onto clean cloth and then wipe the light head and arm.



Do not use harsh cleaners, solvents, or detergents. Failure to do so could result in equipment damage.



Do not expose the unit to excessive moisture. Failure to do so could result in personal injury and/or property damage.

Centry O.B. Maintenance Schedule

Table 1: Preventative Maintenance Schedule

Function	Procedure
Light bulb/Lamp Holder	Ensure that light bulb is seated properly in socket. Examine socket and wiring for signs of heat degradation. Inspect wiring for signs of chafing. Replace any damaged parts.
Glass lens/Reflector	Check Glass Lens and Reflector to assure there are no chips, cracks, or other damaged. Do not use equipment if glass parts are damaged. Replace damaged parts immediately.
Screws and nuts	Check to see that all mounting and attachment screws, washers, etc. are in place and securely tightened. Replace any missing screws and re-tighten as required.
Casters	Ensure that casters are seated properly on the base assembly. Examine the base for any damages.
Moving joints/Adjustments	Check to make sure all moving joints function properly along the mounting system and head and arm system. If the articulating arm does not position properly (drifts from original position) refer to arm adjustment on Page 16. If this does not solve the problem contact customer service as the unit may require factory repair
Overall appearance	Check the general aesthetics of the Centry O.B. The unit should be kept clean and dust free. Clean and dust as necessary.

Note: Maintenance schedules vary for each light depending on usage and operating instructions. An annual inspection of the equipment is recommended.

Note: Medical Illumination International Inc. recommends that the maintenance records for this equipment be kept on file at the health care facility.

Centry O.B. Troubleshooting

Problem	Cause	Remedy
Light will not turn on	<ul style="list-style-type: none"> • Unit not plugged in • Fuse is blown • Bulb has failed • Incorrect bulb installed 	<ul style="list-style-type: none"> • Plug in unit • Replace fuse/fuses • Replace bulb • Install correct bulb
Bulb burns out quickly**	<ul style="list-style-type: none"> • Incorrect bulb installed in light head • Supply voltage does not correspond to ratings label • Transformer failure 	<ul style="list-style-type: none"> • Install correct bulb • Check supply circuit to which light was installed to verify correct voltage • Replace faulty transformer
Light does not maintain its position vertically	<ul style="list-style-type: none"> • Spring tension is incorrect • Additional equipment was added to unit 	<ul style="list-style-type: none"> • Adjust spring (see arm adjustment Page 16) • Remove additional equipment from arm
Light head will not rotate at yoke interface	<ul style="list-style-type: none"> • Light head is against internal stop 	<ul style="list-style-type: none"> • Rotate head in opposite direction
Arm cannot be moved any lower	<ul style="list-style-type: none"> • Arm is against internal stop 	<ul style="list-style-type: none"> • Rotate arm in opposite direction
Arm cannot be raised any higher	<ul style="list-style-type: none"> • Arm is against internal stop 	<ul style="list-style-type: none"> • Rotate arm in opposite direction
Arm stopped moving horizontally	<ul style="list-style-type: none"> • Arm is against internal stop 	<ul style="list-style-type: none"> • Rotate arm in opposite direction
Unit does not roll when pushed	<ul style="list-style-type: none"> • Rear casters brakes are set on 	<ul style="list-style-type: none"> • Set brake/brakes off
Unit tilts to one side or is unstable	<ul style="list-style-type: none"> • Caster/casters disengaged from base. 	<ul style="list-style-type: none"> • Reinstall casters (see caster installation Page 7)
Caster/casters cannot be reinstalled	<ul style="list-style-type: none"> • Floor base has been damaged 	<ul style="list-style-type: none"> • Contact Customer Service or Field Representative

**Note: Rated bulb life is the average published by bulb manufacturers. Actual bulb life varies dependant upon bulb manufacturer and/or operating conditions.

Centry O.B. Exploded View and Part list Electric Schematic

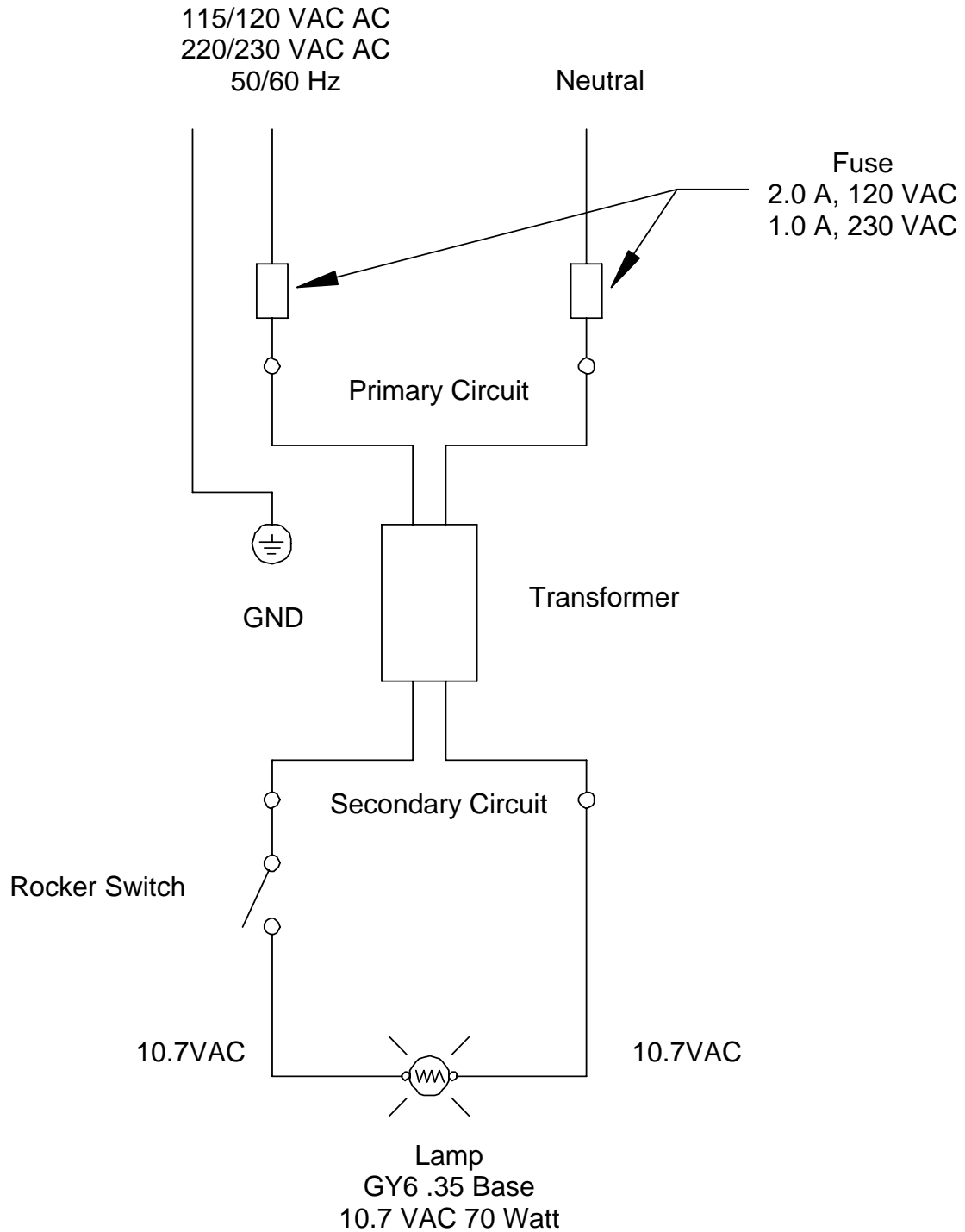


Figure 10: Electric Schematic for 120V and 230 V Models

Centry O.B. Exploded View and Part list Light Head Assembly

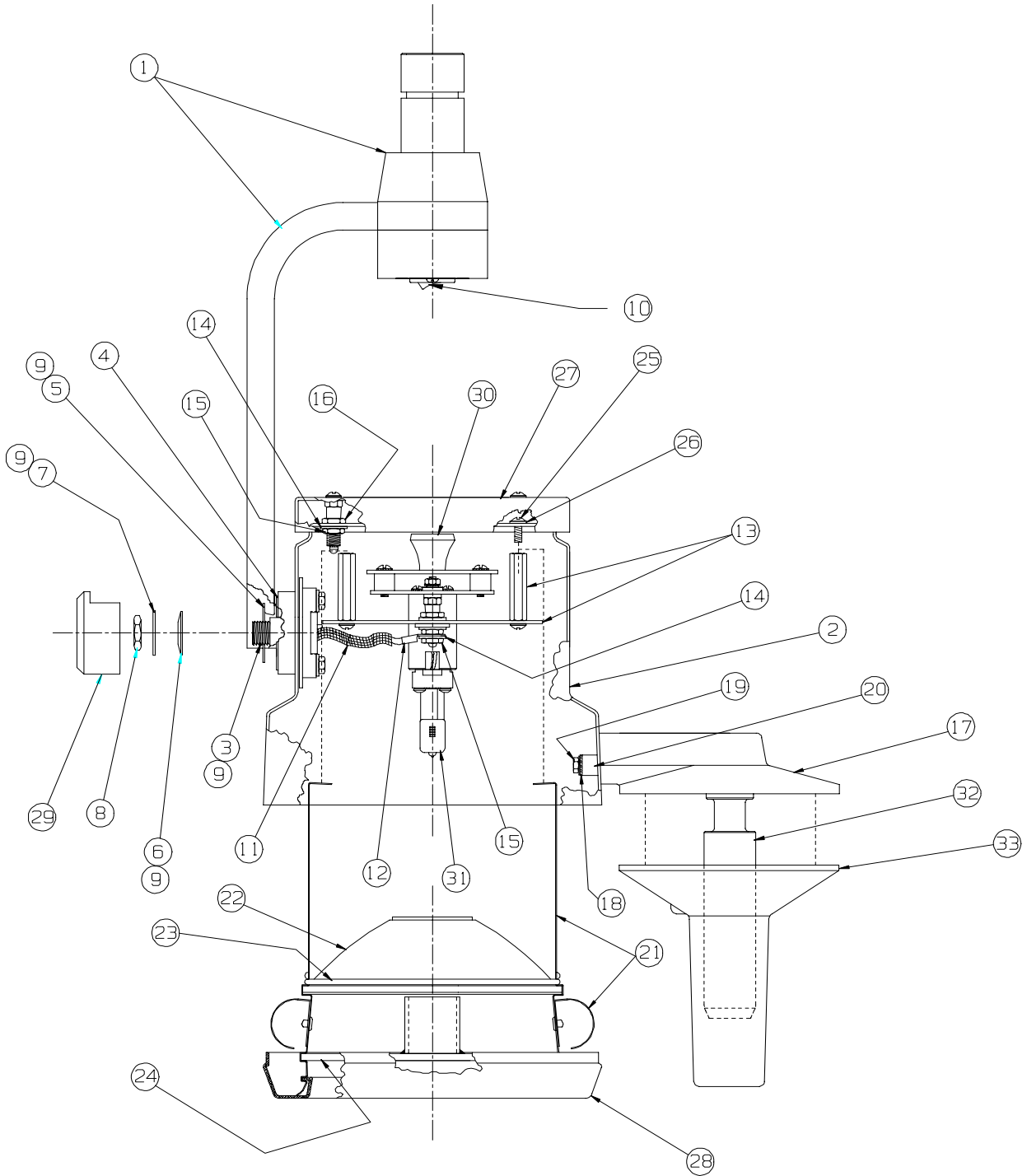


Figure 11: Light Head Assembly for Centry O.B.

Centry O.B. Exploded View and Part list Light Head Assembly – P/N 1000267

1	0001282	HANDLE, STERILIZABLE, WHITE PLASTIC	33
1	1001144	HANDLE MOUNT POST	32
1	0001717	BULB, QUARTZ HALOGEN, 10.7 V 70 W BI-PIN	31
1	1000088	LAMP HOLDER SUB-ASSEMBLY	30
1	1001149	CAP, YOKE, SMALL	29
1	1001151	BEZEL, CENTRY LIGHT	28
1	1000124	REAR COVER SUBASSEMBLY	27
3	0001057	LOCKWASHER, #6 EXTERNAL TOOTH, ZINC PLATE	26
3	0001010	SCREW, #6-32 x 3/8" SLT. PAN HEAD	25
1	1000216	LENS SUB-ASSEMBLY W/COOL BLUE GLASS	24
1	1001210	CLAMPING RING, (MI-5)	23
1	0001120	REFLECTOR, DICHROIC GLASS, 120mm DIA.	22
3	1000232	CLIP SUB-ASSEMBLY, CENTRY	21
2	1001250	SPACER, CENTRY HANDLE, CLEAR ANODIZED	20
2	0001492	SCREW, K40x20 HEX WASHER HEAD Z/P	19
2	0001271	LOCKWASHER, #8 EXTERNAL TOOTH, ZINC PLATE	18
1	1001202	HANDLE MOUNT, STERILIZABLE	17
3	0001253	BANANA JACK, CONCORD #01-2540-1-02	16
3	0001310	NUT, 1/4-32 HEX, 3/32" THICK	15
5	0001122	LOCKWASHER, 1/4" EXTERNAL TOOTH	14
1	1000093	MAIN SUPPORT PLATE SUB-ASSY.	13
2	0001181	CONNECTOR, CRIMP, 1/4" CLOSED LOOP	12
2	0001012	INSULATION, #8 FIBERGLASS SLEEVE, 4" LONG	11
1	0001635	SWITCH ROCKER	10
A/R	0001226	LUBRICANT, TEFLON GREASE	9
1	0001269	NUT, HEX, 7/16-20, 5/8" ACROSS FLATS	8
1	0001268	WASHER, .815" OD x .440" ID x .032	7
1	0001264	WASHER, BELLEVILLE, SPRING	6
1	1001171	WASHER, CAP RETENTION, SMALL	5
1	0001270	WASHER, 1.34" OD x .578" ID x .032	4
1	1001156	PIVOT, LOWER YOKE, SMALL	3
1	1000116	HOUSING SUBASSEMBLY, CENTRY	2
1	1000255	YOKE/CONNECTOR SUB-ASSY. CENTRY OB LIGHT	1
QTY.	PART NO.	DESCRIPTION	ITEM

BILL OF MATERIALS