The *WALLABY*® *II* Phototherapy System

Model MD-2000-I
Model EG-2000
Model EG-2000N

User's Manual

Fiberoptic Medical Products, Inc.
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PM10003B

Caution: To reduce the risk of electrical shock, do not remove illuminator cover. Refer servicing to qualified personnel.

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DEFINITIONS

ON

OFF

Alternating Current

Attention, consult ACCOMPANYING DOCUMENTS (User's Manual)

Protective earth (ground)

Type BF EQUIPMENT

DANGER, Explosion Risk if used with flammable anesthetics

CAUTION, To reduce the risk of electric shock, do not remove cover.
Refer servicing to qualified service personnel.

WARNING

This guide is not meant as a substitute for the services of a physician or other healthcare professionals. This system was developed to provide phototherapy in an effective, state of the art method, allowing for the treatment of jaundice in newborn babies in the safest, most comfortable way possible.

WARRANTY

LIMITED ONE (1) YEAR WARRANTY. EIGHTEEN (18) MONTHS ON LAMP BALLAST, ONE HUNDRED EIGHTY (180) DAYS ON FIBEROPTIC PANEL (EG-2000) AND ONE (1) YEAR ON THE NEONATAL PANEL (EG-2000N).

Fiberoptic Medical Products, Inc. warranties your *Wallaby II* Phototherapy System against defects in material and workmanship of the illuminator unit only for a period of one (1) year from the date of purchase, and eighteen (18) months on the lamp transformer only, one hundred eighty (180) days on the fiberoptic panel, model EG-2000 only and one (1) year on the neonatal panel, model EG-2000N only. This warranty does not cover the fiberoptic panel, the lamp, or any damage to illuminating unit or the lamp ballast caused by accident, misuse, tampering, or negligence such as failure to follow the instructions provided in this guide. In the event your phototherapy illumination unit fails to give satisfactory performance within the warranty period and conditions, Fiberoptic Medical Products, Inc. will repair or replace your illuminating unit at no charge for parts or labor. Should your illuminating unit require service, please return it prepaid to:

Fiberoptic Medical Products, Inc.
4825 Tilghman Street, Suite 700
Allentown, PA 18104
(610) 391-0347
FAX # (610) 391-0351

The *Wallaby II* Phototherapy System or any of its part should not be repaired other than in accordance with written instructions provided by Fiberoptic Medical Products, Inc. and by Fiberoptic Medical Products, Inc. trained personnel. Failure to use Fiberoptic Medical Products, Inc. replacement parts, including lamps, render any written or implied warranty on the unit null and void. The *Wallaby II* Phototherapy System should not be altered without the prior written approval of Fiberoptic Medical Products, Inc. The user of the *Wallaby II* Phototherapy System shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, improper repair, damage, or alteration by anyone other than Fiberoptic Medical Products, Inc.

CAUTIONS AND WARNINGS

IMPORTANT SAFEGUARDS

When using electrical products, especially when children are present, basic safety precautions should always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING

DANGER - To reduce risk of electrocution:

1. Always unplug the Wallaby II Illuminator immediately after using.
2. Always turn OFF and unplug the Wallaby II Illuminator when cleaning, changing the lamp, or servicing the unit.
3. Do not use while bathing.
4. Do not place or store the Wallaby II Illuminator where it can fall or be pulled into a tub or sink.
5. Do not place in or drop into water or other liquid.
6. Do not reach for the Wallaby II Illuminator that has fallen into water. Unplug immediately.

WARNING - To reduce the risk of burns, fire, electrocution, or injury to persons:

1. The Wallaby II Illuminator should never be left unattended when plugged in.
2. Close supervision is necessary when Wallaby II is used on or near children or invalids.
3. Use Wallaby II only for its intended use as described in this manual. Do not use attachments not recommended by Fiberoptic Medical Products, Inc.
4. Except when testing, do not leave the Wallaby II Illuminator ON when the Fiberoptic Panel is not around the baby.
5. Do not walk around with the baby wrapped in the Wallaby II Fiberoptic Panel (or blanket).
6. If the Wallaby II blanket is used in any other way then the wrap around method with the standard panel or the neonatal panel in the vest, care must be taken to protect the baby's eyes.
7. Never operate the Wallaby II Illuminator if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the Wallaby II Illuminator to a service center for examination or repair.
8. Keep the cord away from the heated surface.

9. Never block the air openings of the product or place it on a soft surface such as a bed, crib, carpeted floor, or couch where the air openings may be blocked. Place the Wallaby II Illuminator on a flat hard surface only. Keep the air openings free of lint, hair, and the like.

10. Do not stand the Wallaby II Illuminator unit on end or prop up in a bassinet drawer.

11. Never drop or insert fingers or any foreign objects into the the Wallaby II Illuminator port or any opening whether the lamp is ON or OFF.

12. Do not use the the Wallaby II Illuminator outdoors or where aerosol (spray) products are being used or where oxygen is being administered.

13. Connect the Wallaby II Illuminator to a properly grounded outlet only. See Grounding Instructions.

14. Replace the fuse only with a fuse recommended in this manual.

15. Do not dry the Fiberoptic Panel or Illuminator with artificial heat. Air dry only.

CAUTION - For proper operation and light intensity:

1. Check line voltage periodically to ensure that the the Wallaby II Illuminator is operating within the design parameters.

   NOTE: Operating the unit with a line voltage other than that specified, will result in proportional increases or decreases in light output. Lamp life will also be affected.

2. Replace the lamp with the lamp suggested in this manual. These lamps are available from FMP. Use of any other lamps will affect the performance of the system and may damage the Fiberoptic Panel and render warranty null and void.

3. Do not scratch, damage, or soil the light input end of the panel. Also, do not push sharp or heavy items on the panel. This can damage the panel and affect its light output.

4. Do not use disposable covers on more than one baby.

SAVE THESE INSTRUCTIONS

1.
1.8 Amps
200 watts
UL Approved

DESCRIPTION

The *Wallaby II* Phototherapy System consists of an Illuminator which is 12.13 inches wide, 9.57 inches deep, 4.5 inches tall and weighs approximately 15 pounds (including panel). The Illuminator operates at 100/120/220/240 V ~ mains power source at 50/60 Hz and generates the therapeutic wavelength of 425 - 550 nanometers which is then launched into the fiber insert of the panel. The Wallaby II Phototherapy System has been tested and certified by **TUV Product Service Inc.** in accordance with IEC 601-1: 1988, amendment 1 to IEC 601-1: 1990, and Med GV.

This light is transmitted through the 5 foot umbilical cord to the panel itself, where the fibers are arranged in a specific pattern allowing for the most efficient delivery of light over the entire 3 x 14 inch area in the standard panel (EG-2000), and over a 4 x 6 inch area when the neonatal panel is used.

The panel is inserted into a disposable cover composed of hypo-allergenic material or soft cotton. This wrap is soft and comfortable allowing the therapeutic light to be emitted toward the baby. It is placed around the infant's torso, just below the armpits. It is supplied with a foam bumper guard to protect against possible chafing.

It is important to place the panel properly around the infant, adjusting the adhesive tabs or velcro strips so that the panel fits snugly, but not too tightly around the torso. When properly used, the wrap prevents the infant from seeing any light.

The Illuminator consists of two lamps because when the first lamp burns out, the phototherapy can be continued with the second lamp by pushing 'Lamp Selector Switch'. Also, it consists of an **'Irradiance Level Selector'** for providing phototherapy at two different irradiance levels: **Level I and Level II. Also, the unit is provided with an automatic reset thermal limiter** which opens up when the temperature inside the Illuminator box rises above 85 °C (±5 °C) and thereby turns OFF the unit. The unit will automatically turn ON when the temperature inside the box returns to normal.

PROTOCOL OF CARE

1. The *Wallaby II* Phototherapy should be initiated when the Newborn's serum bilirubin concentration exceeds the acceptable limits of 2.5 mg/dl% to 3 mg/dl%.

2. The frequency as well as the duration for the therapy should be set by a physician.

3. Daily, or more frequent (if needed), jaundice level blood tests (bilirubin blood tests) should be obtained.

4. At all times this treatment should be carefully regulated by a physician.

MD-[illegible]
MD-2000

SPECIFICATIONS

Illuminator:

Model: MD-2000-I
Size: 12.13" W X 9.57" D X 4.5" H
Weight: 14.8 pounds

Fiberoptic Panels:

Model:	EG-2000 (Standard Panel)
Overall Pad Size - Standard:	4" X 15" (excluding the boot)
Illuminated Area - Standard:	3" X 14"
Model:	EG-2000N (Neonatal Panel)
Overall Pad Size - Neonatal:	5" X 7" (excluding the boot)
Illuminated Area - Neonatal:	4" X 6"

Fiberoptic Cable: For both the panels
Length: 5 ft. from tip to boot

Optical Filter:

Light Bandwidth: 425 to 550 nanometers
Infrared (590 - 1100 nm) and Ultraviolet (200 - 370 nm) is reduced to less than 1 % with the help of Dichroic Reflector and Filter.

Irradiance Level:

Standard Panel - Level I Setting:	10 $\mu W/cm^2/nm^*$
Standard Panel - Level II Setting:	15 $\mu W/cm^2/nm^*$
Neonatal Panel - Level I Setting:	25 $\mu W/cm^2/nm^*$
Neonatal Panel - Level II Setting:	35 $\mu W/cm^2/nm^*$

*Minimum Average Irradiance level of the illuminated area when the illuminator is operated at 100/120/220/240 V~.

Illuminator Lamp:

Lamp Type: 150W, 21V Quartz Halogen, Fiberoptic Medical Products Part No. FS-110
Lamp Life: 400 hours depending on the Irradiance Level Selector.**

**This is an average lamp life theoretically calculated as per the ANSI standards when the illuminator is operated at 100/120/220/240 V~.

Electrical Specification:

Rated Voltage/Frequency:	100/120/220/240 V~, 50/60 Hz
Rated Input:	200 Watts
Chassis Leakage Current:	Less than 50 µA (Meets IEC requirements)
Ground Impedance:	Less than 0.1 Ohm
Mode of Operation:	Continuous
Fuse Ratings:	For 100/120 V~ Applications: Use T 2.5A, 250 V fuse For 220/240 V~ Applications: Use T 1.25A, 250 V fuse

Classification:

Protection Class:	Class I
Protection Type:	Type BF

Environmental Conditions:

Transport & Storage:

1 Ambient Temperature Range:	-40 °C to +70 °C
2 Relative Humidity Range, including Condensation:	10% to 100%
3 Atmospheric Pressure Range:	500 hPa to 1060 hPa

Operation:

1 Ambient Temperature Range:	+15 °C to +30 °C
2 Relative Humidity Range:	0 to 88 ± 2% at 32 ± 2 °C

Protection Against Ingress of Water: Ordinary (IPXO)

Safety Standards:

Product is tested and certified by TUV Product Service Inc. in accordance to:

IEC 601-1: 1988
Amendment 1 to IEC 601-1: 1990
Med GV

Standard Features:

Dual Lamp Carousel
Dual Irradiance Level Selector Switch
Light Emission Shutter
Thermal Cut-off Switch
Line Interrupt Switch
Primary and Secondary Fused.
Panel Locking Device

SETTING UP THE WALLABY II PHOTOTHERAPY SYSTEM

SELECTING THE VOLTAGE

STEP 1

Unplug illuminator.

STEP 2

Disconnect power cord from illuminator.

STEP 3

Locate black plastic face plate of power entry module. Pop off face plate with flat head screwdriver.

STEP 4

Remove white plastic voltage selector board.

STEP 5

Four voltages are available: 100, 120, 220 and 240. Determine which voltage you desire. Position the board so the desired voltage is on the bottom edge and the corresponding arrow points down.

STEP 6

Move white clip so that it rests on the opposite side (top) of the board and restsin the notch.

STEP 7

Position voltage selector board so that the arrow and the desired voltage points into the illuminator and the face of the voltage selector board faces the fuse compartment. Slide the voltage selector board smoothly into the slot.

STEP 8

Replace black plastic face plate of power entry module. Knob of white clip on voltage selector board should protrude through hole which indicates appropriate voltage selected.

UTILIZING THE WRAP AROUND PANEL

STEP 1

The illuminator should only be placed on a hard, flat surface, no more than four feet from where the baby will be lying or held. To insure proper air flow, do not block any of the air vents that surround the illuminator. Place the illuminator on a stand or table next to the baby's bed or near

where you will be sitting to nurse your baby. Do not place the illuminator next to or on a radiator or heater. Insert the metal collar of the fiberoptic panel completely into the opening on the front of the illuminator. The end of the metal collar of the fiberoptic panel is designed to be even with the opening in the front of the illuminator. Turn the metal collar of the fiberoptic panel clockwise about a quarter of a turn. This movement will lock it in place. Plug the illuminator into an electrical outlet. You will need a three pronged (grounded) plug close by for the electrical cord. A heavy duty extension cord such as those used for power tools can be used.

STEP 2

Insert the fiberoptic panel into a disposable or single-patient use cotton cover, insuring that the bright light faces the white side of the cover.

If a disposable cover becomes soiled, discard it and replace it with a new one. If a single-patient use cotton cover becomes soiled, replace it with a clean one, and launder the dirty one.

Then repeat steps #3 and #4

STEP 3

A Baby Bumper Guard should be affixed to the top edge of every disposable cover prior to its use. Peel away the backing from the cushioned Baby Bumper Guard so that one half inch still remains exposed. Then fold over the Baby Bumper Guard so that both sides of the top edge of the disposable cover are protected. IF THE DISPOSABLE COVERS FURNISHED TO YOU HAVE SOFT COTTON BUMPER GUARDS ATTACHED TO THE EDGES, INSERT THE FIBEROPTIC PANEL INTO THE COVER INSURING THAT THE BRIGHT LIGHT FACES THE WHITE SIDE OF THE COVER. THEN YOU MAY IGNORE STEP 4 BELOW.

NOTE: The fiberoptic panel is narrower than the cover, insure that the top panel edge is snug against the top edge of the cover, and the excess material is at the bottom.

STEP 4

Place the top edge of the covered fiberoptic panel lengthwise across the center of the pressure sensitive adhesive of the Baby Bumper Guard so that one half inch still remains exposed. Then fold over the Baby Bumper Guard so that both sides of the top edge of the disposable cover are protected.

NOTE: The fiberoptic panel is narrower than the cover, insure that the top panel edge is snug against the top edge of the cover, and the excess material is at the bottom.

STEP 5

NOTE: Proper placement of the fiberoptic panel will prevent possible skin irritation under the baby's arms. Follow the directions very carefully to insure proper placement.

Put a T-shirt on the baby and roll it up from the bottom until it fits comfortably under the baby's arms. This provides a cushion of fabric between the edge of the panel and the baby's armpits. In a larger and more active baby, you may want to tape down the panel to the baby's diaper.

STEP 6

Place the covered panel around the baby, positioning it so the cushioned bumper guard is under the baby's armpits. Insure that the fabric or sheer side of the cover is touching the skin.

1. If you are using the disposable cover, affix two of the tape tabs provided to the cover at the open end, peel off the protective backing and fasten the panel into place.

2. If you are using the cotton cover, follow all of the above steps and fasten the panel into place with the two velcro tabs.

STEP 7

Do not wrap the baby too tightly. A good rule of thumb is to place one finger between the panel and the baby's body to insure proper ventilation. Remember, in a larger more active baby, you may want to tape the fiberoptic panel to the baby's diaper which will prohibit it from riding up under the baby's armpits.

STEP 8

You may swaddle your baby in a blanket or put a sleeper on your baby.

STEP 9

Insure that the irradiance level selector switch is in the proper position (you will be instructed by your physician or phototherapist as to the proper position) then turn on the illuminator and begin phototherapy treatment.

STEP 10

You may pick up your baby at any time during the phototherapy treatment. You may cuddle or feed your baby without any disruption in treatment. Do not walk around with your baby while treatment is underway. Stay close enough to the illuminator so it is not pulled off its stand or table.

UTILIZING THE NEONATAL PANEL AND DISPOSABLE VEST

STEP 1

The illuminator should only be placed on a hard, flat surface, no more than four feet from where the baby will be lying or held. To insure proper airflow, do not block any of the air vents that surround the illuminator. Place the illuminator on a stand or table next to the baby's bed or near where you will be sitting to nurse your baby. Do not place the illuminator next to or on a radiator or heater. Insert the metal collar of the fiberoptic panel completely into the opening on the front of the illuminator. The end of the metal collar of the fiberoptic panel is designed to be even the the opening in the front of the illuminator. Turn the metal collar of the fiberoptic panel clockwise about a quarter of a turn. This movement will lock it in place. Plug the illuminator into an electrical outlet. You will need a three pronged (grounded) plug close by for the electrical cord. A heavy duty extension cord such as those used for power tools can be used.

STEP 2

Insert the panel into the end of the disposable vest and secure the vest around the cable with the tape tabs provided.

STEP 3

Lay the vest-covered panel flat on a mattress or other flat surface. Insuring that the light emitting side is facing up. Place the infant's back or chest directly on the panel. The fiberoptic panel cord should be at the infant's feet.

STEP 4

Secure the vest to the infant by first wrapping the side <u>without</u> the tape tab around the mid-section of the infant. Then, wrap the side <u>with</u> the tape tab over the infant. Peel off the protective cover on the tab and secure it. Insure that the vest is snug.

STEP 5

You may now swaddle your baby in a blanket or put a sleeper on your baby.

STEP 6

Insure that the irradiance level selector switch is in the proper position (you will be instructed by your physician or phototherapist as to the proper position) the turn on the illuminator and begin phototherapy treatment.

STEP 7

You may pick up your baby at any time during the phototherapy treatment. You may cuddle or feed your baby without any disruption in treatment. Do not walk around with your baby while treatment is underway. Stay close enough to the illuminator so it is not pulled off its stand or table.

DOUBLE-SIDED PHOTOTHERAPY

In some instances, clinicians may decide to do double-sided phototherapy. The *WALLABY II* phototherapy system is capable of providing double-sided phototherapy. For this application, the *WALLABY II* Neonatal Panel should be inserted into the disposable cover and laid flat on the bed, such that the light from the panel will emit upward toward the baby. The baby should then be placed on top of the fiberoptic panel.

Conventional phototherapy lights should then be used over the baby. The protocol for conventional phototherapy should be followed. When using the Neonatal Panel for double-sided phototherapy, the baby's eyes **must** be protected and special precautions should be taken to keep the baby warm. Placing the baby directly on the Neonatal Panel allows the therapeutic light to reach the surface areas not covered by the conventional phototherapy lights.

CHECKING THE LIGHT INTENSITY

Before each set up, the light intensity of the fiberoptic panel should be checked with a dosimeter. The dosimeter is a precision instrument which measures the irradiance of the therapeutic light in the 425-550 nanometer wavelength. The sensor head is placed directly on the panel with the sensing surface facing the emitted light. When using a standard dosimeter approximately ten readings should be taken over the entire surface of the panel, if you are using the Joey Dosimeter manufactured by Fiberoptic Medical Products, only 3 readings need to be taken. The following light average intensities must be obtained for ea ch panel:

For 3" X 14" Standard Panel (Model EG-2000):

Level I Minimum Average of 10 $\mu W/cm^2/nm$

Level II Minimum Average of 15 $\mu W/cm^2/nm$

For 4" X 6" Neonatal Panel (Model EG-2000N):

Level I Minimum Average of 25 $\mu W/cm^2/nm$

Level II Minimum Average of 35 $\mu W/cm^2/nm$

The variations in the line voltage and within the lamps can affect the lamp life and light output. The vibrations and mechanical shocks can also affect the lamp life. **Non-recommended lamps should not be used, at any time, because these lamps may not only affect the light output but may also affect the entire phototherapy system.**

MAINTENANCE

CAUTION: BE SURE THE ILLUMINATOR IS OFF and UNPLUGGED before cleaning.

CLEANING THE FIBEROPTIC PANEL AND ILLUMINATOR

NOTE: Use only quaternary ammonium germicidal cleaner/disinfectant or a synergistic formula such as Madacide.

DO NOT use:
1. Phenolic based germicide cleaner/disinfectant
2. Gluteraldehyde disinfectant/sterilants
3. Regular cleaners or laundry detergents.

All of the above could leave residues on the surfaces, be abrasive, or be detrimental to the health of the infant.

Use a quaternary ammonium germicidal cleaner/disinfectant such as HI-TOR PLUS or TOR aerosol foam or a synergistic formula such as MADACIDE. Mix the liquid according to the manufacturers label directions, or use the ready to use aerosol foam. Use a soft sponge or cloth to apply the cleaner disinfectant. Apply the product to the sponge or cloth and wipe down the fiberoptic panel and the illuminator. Allow both to air dry. The system is now ready to use.

NOTE: DO NOT DRY WITH ANY MEANS OF ARTIFICIAL HEAT.

HI-TOR PLUS and TOR aerosol can be obtained from:

Huntington Laboratories (219) 356-8100
970 E. Tipton Street (800) 537-5724
Huntington, IN 46750

MADACIDE can be obtained from:

MADA (201) 460-0454
60 Commerce Road
Carlstadt, NJ 07072

CLEANING THE REFLECTING MIRROR

Every two to three months, or with each lamp replacement, the heat reflecting mirror should be cleaned. This is best done by using a standard cotton swab and isopropyl alcohol. Using a fresh swab, wet with alcohol and swab from one side of the surface to the other. After one pass across the face of the mirror throw the swab away. DO NOT scrub from side to side. Use a fresh swab to continue until both sides of the mirror are clear of debris. At the same time, the inside of the illuminator should be cleaned of all dirt, dust, and debris. First loosen the material from the fan and other areas with a soft brush. Then, vacuum the material up or blow it out with a can of compressed air.

HALOGEN LAMP INFORMATION

PROPER REPLACEMENT LAMPS

1. The halogen lamps (Model # FS-110-HO) provided for the **WALLABY** Phototherapy System Illuminator are manufactured to the exact specifications required for proper system operation.
2. Use of lamps provided by manufacturers other than Fiberoptic Medical Products can cause damage to the illuminator or fiberoptic panel. Such use could also result in reduced clinical efficacy.

NOTE: FAILURE TO USE FIBEROPTIC MEDICAL PRODUCTS MANUFACTURED LAMPS WILL RENDER THE WARRANTY ON THE WALLABY PHOTOTHERAPY SYSTEM NULL AND VOID

GENERAL LAMP INFORMATION

1. Switch off the illuminator before replacing lamps or pushing the lamp change carousel on the **WALLABY II.**
2. Handle lamps by the outside rim only. Do not touch the quartz bulb or the mirror reflector of the lamp with bare hands. Oil and dirt from your fingers may reduce the useful life of the lamp and the lamp output.
3. If the reflector or bulb is touched with bare hands, before or after installation, clean the lamp with a standard cotton swab moistened with alcohol. Allow the lamp to air dry before turning the illuminator on.
4. Always insure that the plastic lamp covers on new lamps are removed from the lamps prior to their installation in the illuminator.

IMPACT AND COOLING

1. During transportation and installation, handle lamps carefully. Avoid physical shock and vibration. Axial impact, especially, may cause irreparable damage to the lamp.
2. Any impact to the illuminator while the lamp is hot will result in shortened lamp life.
3. Lamps installed in illuminators should be allowed to cool for 20 minutes prior to moving the illuminator. Failure to do so will result in shortened lamp life.

LINE VOLTAGE

1. Increased line voltage to the illuminator will result in shortened lamp life. Although difficult to control, especially in the home setting, proper line voltage for the **WALLABY** Illuminator is 115-120 volts.
2. With the new **WALLABY II** System, turning the power on when the irradiance level selector switch is on Level II which may result in shortened lamp life. Always insure that the **WALLABY II** irradiance level selector switch is on Level I prior to turning on the illuminator.

SUMMARY - ***The following factors can shorten lamp life:***

1. **Oil, dirt, or grease on the bulb and/or reflector**
2. **Impact, shock, or vibration during lamp handling**
3. **Impact, shock, or vibration while lamp is hot**
4. **Increased line voltage to the lamp**
5. **Failure to wait cool lamp 20 minutes prior to moving**
6. **Turning WALLABY II on at irradiance level II**

PARTS REPLACEMENT

NOTE: 1. Failure to use Fiberoptic Medical Products replacement parts render any written or implied warranty on the unit null and void.
2. If there are any problems with Transformer, Thermal Cut-Off Switch, or Power Entry Module then please contact Fiberoptic Medical Products, Inc. for further information.
3. Except for replacing lamps all other parts should be replaced by an authorized service personnel.

REPLACING THE LAMP (P/N: FS-110)

CAUTION: Allow lamp to cool to touch before removing it.

NOTE: Use only those lamps which are recommended or provided by Fiberoptic Medical Products (P/N: FS-110).

The *WALLABY II* Phototherapy System is equipped with an alarm circuit, which sounds whenever the lamp fails to operate. Do not be alarmed by this, all that is required is to turn off the unit and either select the second lamp or replace both the lamps. Whenever 'Lamp Selector' button is seen pushed in, the lamps must be checked for their function. If Lamp 1 is burned and Lamp 2 is okay, then we recommend that Lamp 1 should be replaced with Lamp 2 and in the vacant position of Lamp 2 a new FS-110 Lamp should be installed. Lamp replacement should be done as follows:

NOTE: Lamp 1 is the one which is facing the glass filter and is in line with the fan when the 'Lamp Selector' button is outside (that is, in its normal position). The other lamp is Lamp 2.

Step 1 Turn the unit OFF and UNPLUG.

Step 2 Allow the unit to cool.

Step 3 Remove the screws connecting the top to the base.

Step 4 Remove the housing cover by gently lifting it straight up.

Step 5 The lamp should be cool to touch before removal.

NOTE: It may be difficult to replace Lamp 1 in its normal operating position, so we recommend that it should be rotated by 90° prior to lamp replacement.

Step 6 Gently remove the lamp by pushing the lever of the lamp holder down making sure the pins on the back of the lamp are horizontal.

Step 7 Gently remove a new lamp from its box.

CAUTION: Handle the lamp by outside rim only. DO NOT touch the inside glass bulb. Oil and dirt from your finger may reduce the useful life of the lamp and the light output. If dirt or stains are noted on the lamp, before or after the installation, then clean the lamp with a fresh standard cotton swab moist with alcohol. Allow the lamp to air dry before turning the unit on.

Step 8 Pull the lamp holder lever up to its normal position.

Step 9 Gently insert new lamp into the holder and rotate carousel to lamp position 1.

Step 10 Replace housing cover and tighten screws.

REPLACING THE FUSE (P/N: A8933)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Unplug illuminator.

Step 2 Disconnect power cord from illuminator.

Step 3 Locate black plastic face plate of power entry module. Pop off face plate with flat head screwdriver.

Step 4 Remove fuse and replace with appropriate fuse.
For 100 V and 120 V~, use T 2.5 A, 250 V fuse (P/N: A8806).
For 220 V and 240 V~, use T 1.25 A, 250 V fuse (P/N: A8816).

Step 5 Replace black plastic face plate of power entry module. Knob of white clip on voltage selector board should protrude through hole which indicates voltage selected.

REPLACING THE ON/OFF SWITCH (P/N: A8089)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Remove housing cover.

Step 2 Remove spade lugs from back of switch.

Step 3 Remove switch by simultaneously depressing tabs and pulling switch out, away from the face of the unit.

Step 4 Replace ON/OFF switch with Fiberoptic Medical Products P/N: A8089.

Step 5 Reconnect the spade lugs to back of switch. (Refer to Wiring Diagram of model MD-2000 for detailed information.)

Step 6 Replace housing cover.

REPLACING THE FAN (P/N: A8316)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Unplug illuminator.

Step 2 Remove housing cover.

Step 3 Remove 3 screws from finger guard on exterior of illuminator covering the fan. (Make sure to not lose the nuts in the interior of the illuminator.)

Step 4 Locate transformer. Remove 3 mounting screws on base. Shift transformer to make room for using screwdriver.

Step 5 Unscrew PC board between line interrupt switch and power entry module (2 screws).

Step 6 Disconnect black and red fan leads from 3rd and 4th terminals by desoldering.

Step 7 Remove fan and wires.

Step 8 Replace with new fan. Arrow on fan should face the outside of the illuminator and wire leads should exit from the bottom of the fan. Pass wires through hole at base of metal divider so they can connect to PC board.

Step 9 Solder red wire to 3rd terminal and black wire to 4th terminal on PC board.

Step 10 Remount PC board with screws.

Step 11 Shift transformer into place and secure with 3 screws at base of transformer.

Step 12 Remount finger guard and fan with the reserved screws and nuts.

Step 13 Replace housing cover.

REPLACING THE LINE INTERRUPT SWITCH (P/N: A8151)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Turn the unit OFF and Unplug.

Step 2 Remove the screws connecting the top to the base.

Step 3 Remove the housing cover by gently lifting it straight up.

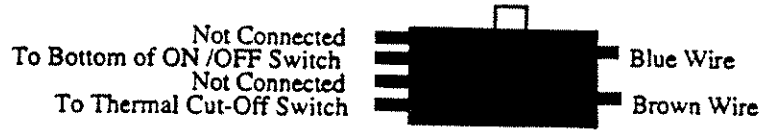
Step 4 The line interrupt switch is mounted on the rear wall of the bottom enclosure, behind the transformer, with the help of two pan head Phillip screws.

Step 5 Disconnect the spade lugs from the line interrupt switch and remove the line interrupt switch.

Step 6 Mount a new line interrupt switch (P/N: A8151) in such a way that the side with

four connectors is towards fan and a small cylindrical switch is towards the hole.

Step 7 Reconnect the spade lugs to the line interrupt switch as shown below:



Step 8 Gently replace the housing cover and tighten the screws.

REPLACING THE THERMAL CUTOFF SWITCH (P/N: A8219)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Turn the unit OFF and UNPLUG.

Step 2 Remove the screws connecting the top to the base.

Step 3 Remove the housing cover by gently lifting it straight up.

Step 4 Locate the thermal cutoff switch, which is mounted next to a toggle switch located just above the lamp. This switch is covered in a translucent sleeve.

Step 5 Release the wires by cutting the tie wrap.

Step 6 Carefully cut the sleeve with a scissor or a blade and desolder the thermal cutoff switch from the wires.

Step 7 Slide a new piece of the translucent sleeve (provided with the new thermal cutoff switch) over a wire and then solder the switch to the wires.

Step 8 Slide the sleeve over the thermal cutoff switch and shrink the sleeve with help of a heat gun used for shrinking the heat shrink tubes.

Step 9 Mount the switch in its original position with the help of a tie wrap.

Step 10 Replace the housing cover and tighten the screws.

REPLACING THE TRANSFORMER FUSE (P/N: A8917)

CAUTION: Unplug Unit Before Replacing Or Servicing Any Parts.

Step 1 Turn the unit OFF and UNPLUG.

Step 2 Remove the screws connecting the top to the base.

Step 3 Remove the housing cover by gently lifting it straight up.

Step 4 Locate the fuse mounted on the transformer.

Step 5 Carefully remove the blown off fuse with the help of a soldering iron

Step 6 Solder a new fuse into the position.

Step 7 Replace the housing cover and tighten the screws.