



# ISOLUX

LUXTEL: A BRILLIANT CHOICE

## *OPERATION MANUAL*

### **SURGICAL FIBER OPTIC HEADLIGHT**



OM 2 RevB

## **TABLE OF CONTENTS:**

	<b>Page</b>
<b>Section 1.0 SPECIFICATIONS</b>	<b>3</b>
<b>Section 2.0 HEADLIGHT DESCRIPTION</b>	<b>3</b>
<b>Section 3.0 ASSEMBLY AND OPERATION</b>	
<b>3.1 Headlight Assembly</b>	<b>4</b>
<b>3.2 Headgear Adjustment</b>	<b>4</b>
<b>3.3 Headlight Operation</b>	<b>4-5</b>
<b>3.4 Headlight Adjustment</b>	<b>5</b>
<b>Section 4.0 CLEANING AND MAINTENANCE</b>	
<b>4.1 Headlight, Headgear and Fiber Optic Cable</b>	<b>5-6</b>
<b>4.2 Joystick</b>	<b>6</b>
<b>Section 5.0 WARNINGS AND CAUTIONS</b>	
<b>5.1 Warnings</b>	<b>6</b>
<b>5.2 Cautions</b>	<b>6</b>
<b>Section 6.0 WARRANTY AND SERVICE</b>	
<b>6.1 Headlight</b>	<b>7</b>
<b>6.2 Fiber Optic Cable</b>	<b>7</b>
<b>Section 7.0 ORDERING PARTS AND COMPONENTS</b>	<b>7</b>

## 1.0 SPECIFICATIONS

Light Spot Diameter, at 400-450mm working distance

Minimum diameter, Nominal	10mm
Maximum diameter, Nominal	100mm

Fiber Optic Cable

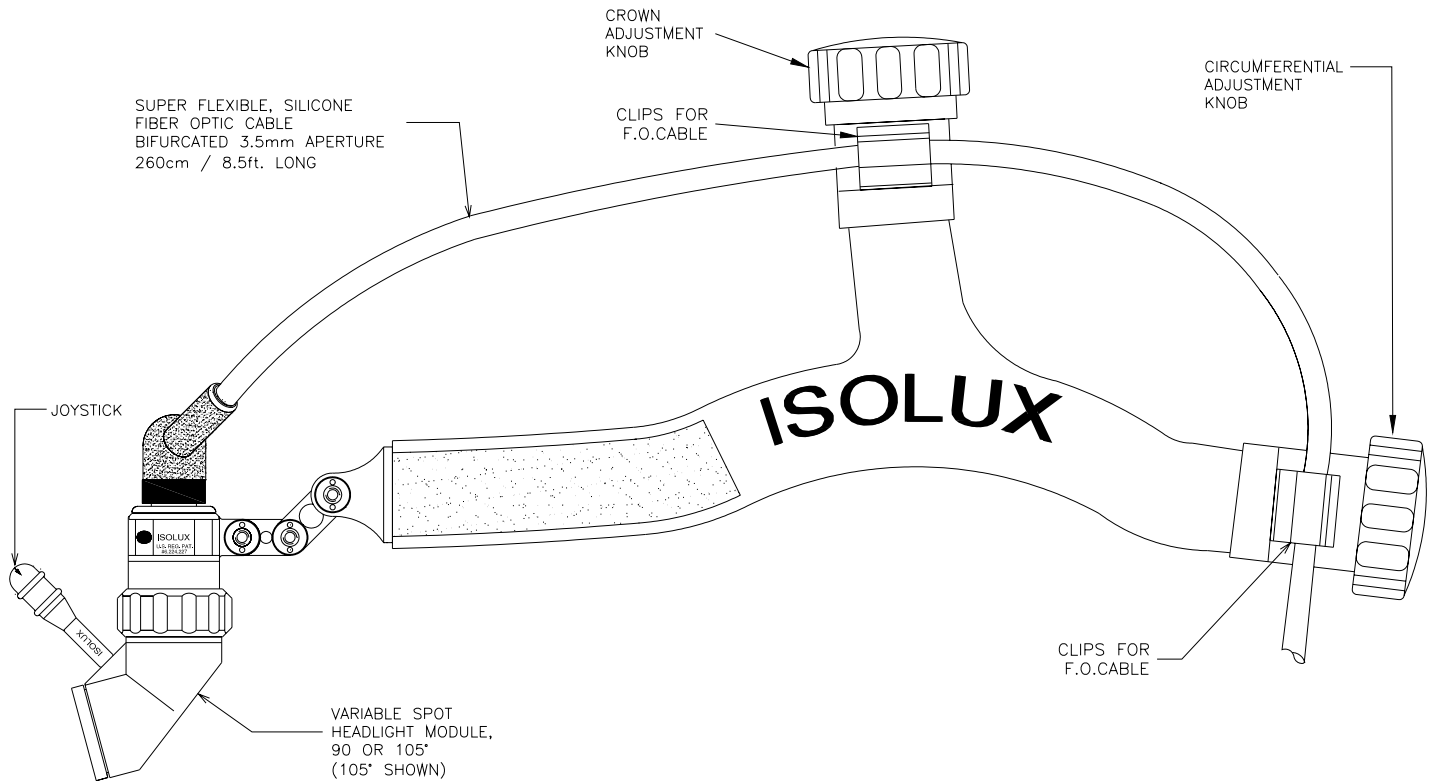
Factory Specifications Prior to Shipment, Maximum Allowable Fiber Breakage:	10 fibers, .13%,
Replace Cable when Fiber Breakage Exceeds:	1500 fibers or 20%

Environment

Operating: 60°F (15°C) to 85°F (30°C)
Storage: -13°F (-25°C) to 140°F (60°C)

## 2.0 HEADLIGHT DESCRIPTION

Variable Spot Headlight - Coaxial, 90° or Coaxial Down 105°



## 3.0 ASSEMBLY AND OPERATION

### 3.1 Headlight Assembly



**Fig.1**

Remember that the cable is composed of glass optical fibers. When adjusting the cable, do not try to curl it up or bend it more than 60 degrees. Cable must be put in place with gentle curves, so that the glass fibers will not break.

### 3.2 Headgear Adjustment

The crown adjustment is very important; therefore it should be done first to gain maximum comfort. The crown adjustment allows the headband to sit as low as possible on the head. Use knob at top to adjust headgear.

The circumferential adjustment is done by turning the back knob until the right head size is found.

### 3.3 Headlight Operation

1. Turn light source intensity down to a minimum. Insert fiber optic cable's proximal end into the appropriate Xenon Illuminator port.

**Caution:** To plug or unplug the fiber optic cable to or from the light source, use the strain relief.

2. Put Xenon Illuminator power switch in the ON position. Adjust light intensity as desired using the variable intensity knob.

1. Insert distal end of the bifurcated fiber optic cable into the headlight module.

2. Place cable over top of headband. Place the bifurcated cable into the two crown and two back clips. Allow enough slack in the fiber optic cable to position module in line of vision.

3. Adjust headlight module position using the joystick (autoclavable) (see Headlamp Adjustment, page 7).

4. Secure fiber optic cable to the user's surgical gown using the gown clip(s) provided. The upper clip is attached to the surgical gown just below the shoulder line, aligned with the neckline. Allow enough slack in the cable between the clip and the headband so that if the surgeon must bend his head there will be no binding or pulling on the headband. The lower clip is used when the surgeon enters or moves away from the operating area. The cable can be detached from the illuminator and clipped to the surgeon's gown, eliminating the risk of dropping or tripping over the cable.

Adjust size of illumination spot by turning grooved dial on headlight (applicable on the Variable Spot Headlight only). Spot size ranges from .37in to 4in (10mm to 100mm) in diameter at a 16in (40cm) working distance.



**WARNING:** Do not use may headlight at distances closer than 10in (25cm) for extended periods. Erythma result.

**Note:** Refer to IsoLux Xenon Illuminator Operation Manual for instructions on operating the light source.



**WARNING:** Do not look directly into light source, cable or headlight when illuminated. Eye injury may result.

### 3.4 Headlight Adjustment

The joystick is used to adjust the positioning of the light beam and it should be pushed or pulled gently. The linkage/headlight assembly on the headband allows XYZ adjustment, as follows:

- In and Out
- Up and Down
- Left to Right
- Rotational, clock and counter clockwise movements for exact focusing of the light spot.

## 4.0 CLEANING AND MAINTENANCE

### 4.1 Headlight, Headgear and Fiber optic Cable:

**CAUTION:** Turn off Xenon Illuminator before disconnecting fiber optic cable from Xenon Illuminator.  
**DO NOT AUTOCLAVE !**

Exterior surfaces of headlight, headgear and fiber optic cable can be wiped clean with any of these solutions:

- Banicide
- Cidex, Cidex Plus, Cidex 7
- Metracide
- 10% Wescodyne
- 10% bleach
- 70% isopropyl alcohol
- Wavecide-01
- Mild soap

Headbands and headlight modules can not be immersed into disinfecting liquids or sterilizers.

Keep ends of bifurcated cable clean by wiping with a damp cloth. Allow to dry before use.

Clean the optics only with lens tissue available at any camera store. Follow the instructions on the package.

Avoid scratching or striking ends of fiber optic cable. Reduction in light transmission may occur.

To inspect bifurcated cable for reduction in light output, remove from light source and headlight assembly. Hold one end of fiber optic cable up to room lighting. Examine other end. Replace fiber optic cable if 20% or more of end area is dark.

To insure long life for the headgear, cable and modules, store them in the case provided or in the storage module, which is an optional accessory to the Xenon Illuminator.

Avoid excessive fiber breakage within the bifurcated cable by coiling loosely when storing.

## 4.2 Joystick

Joystick can be sterilized after unscrewing from headlight.

**DO NOT AUTOCLAVE ANY OTHER PARTS OF THE HEADLIGHT SYSTEM !**

# 5.0 WARNINGS AND CAUTIONS

## 5.1 Warnings

Users of this headlight should be trained in the appropriate surgical procedures. They should read and understand the owner's manuals for this Headlight and all equipment used in conjunction with it.

## 5.2 Cautions



Do not look directly into illumination source, end of cables or headlight when illuminated. Eye injury may result.



Do not use at distances closer than 10in. (25cm) for extended periods. Erythema may result.



Do not remove the fiber optic bundle from the headlight while light source is on. The light guide's distal end may transfer extreme heat.



Proximal end of fiber optic bundle may be hot after use. Do not touch.



Always put fiber optic cable into Xenon Illuminator before turning on the power. Do not remove the fiber optic cable from the illuminator while illuminator is on.



Use headlight only with IsoLux Bifurcated Fiber Optic Cable and IsoLux Xenon Illuminator.



Service must be performed only by IsoLux llc authorized repair personnel.

## 6.0 WARRANTY AND SERVICE

### 6.1 Headlight

The IsoLux Ilc Surgical Fiber Optic Headlight System is guaranteed against all defects in materials and workmanship. All surgical Headlight Optical Modules and Connecting XYZ Mechanisms are warranted for the lifetime of the purchaser.

This warranty covers the replacement of the parts only and does not include any on-site labor costs. This warranty is void if service is performed by persons other than authorized IsoLux Ilc distributors or representatives or if equipment is interconnected with components not manufactured by IsoLux Ilc and/or have been approved by IsoLux Ilc for compatibility.

### 6.2 Fiber optic Cable

IsoLux Ilc reserves the right to determine the cause of breakage or failure of Bifurcated Fiber optic Cables which are covered by a full two (2) year warranty, by normal use only during surgical or sterilization procedures as recommended. Details are available upon request.

## 7.0 ORDERING PARTS AND COMPONENTS

The IsoLux Ilc Fiber optic Headlight is designed for use with the IsoLux Ilc Bifurcated Fiber optic Cable and the IsoLux Ilc Xenon Illumination System. For best results, use only the appropriate IsoLux Ilc equipment, as follows:

	<u>Order#</u>
<b>90°Variable Spot Module</b>	<b>04-090V</b>
<b>105°Variable Spot Module</b>	<b>04-105V</b>
<b>Bifurcated Fiber Optic Headlight Cable, Fixed H/L, ACMI Proximal:</b>	<b>05-09AC</b>
<b>Bifurcated Fiber Optic Headlight Cable, Variable Spot H/L:</b>	<b>05-09WD</b>
<b>Replacement Sweatbands (pack of four sets):</b>	<b>07-HGFS</b>
<b>Replacement Joysticks (pack of 2):</b>	<b>07-HGJS</b>
<b>Replacement Gown Clips (pack of 2):</b>	<b>07-HGGC</b>

\*See IsoLux Ilc Parts List for additional replacement parts.