

# Prizmatix

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## User Manual

### XYZ adjustable Collimator for 3mm / 5mm Core Light Guides (P/N: LLG-C3 / LLG-C5)



Ver. 2.0

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## ***Light Guide Collimator for Epi-Fluorescence Microscopes***

The Prizmatix LLG-C is an XYZ adjustable collimator for Liquid Light Guide (LLG) with adaptor for the epi-illumination port of fluorescence microscopes. The LLG-C can be equipped with Nikon, Olympus, Zeiss or Leica adaptors.

### ***Tools Required:***

<b>Tool #</b>	<b>Tool</b>	<b>QTY</b>	<b>Used for</b>
1	Flat screwdriver	1	Tighten the LLG tip in the LLG-C.
2	3 mm Hex key	2	XY and Z adjustment (M4 setscrews)

### ***LLG-C Connection***

#### **To setup the system:**

1. Check that the LLG-C is equipped with the proper adaptor for your microscope.
2. Loosen the microscope lamp set screws (see Fig. 1). Use tools as recommended by the microscope manufacturer.
3. Install the LLG-C and tighten the set screws.

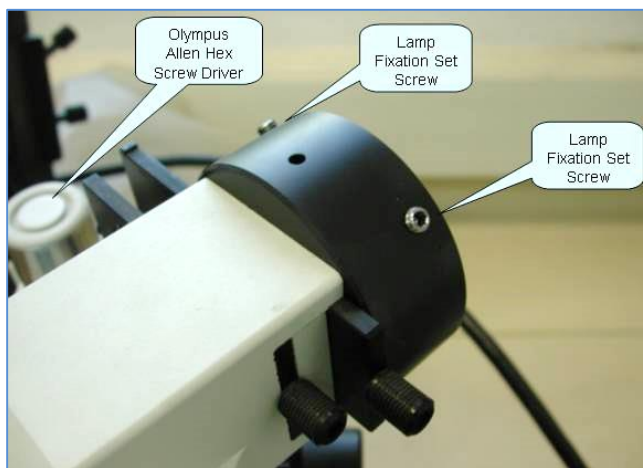


Fig. 1: Olympus BX-61 fluorescence microscope lamp connection element

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## To set-up the Light Guide with the LLG-C:

1. Insert the light guide tip into the back port of the LLG-C, and tighten the set screw with the flat screwdriver (tool #1).

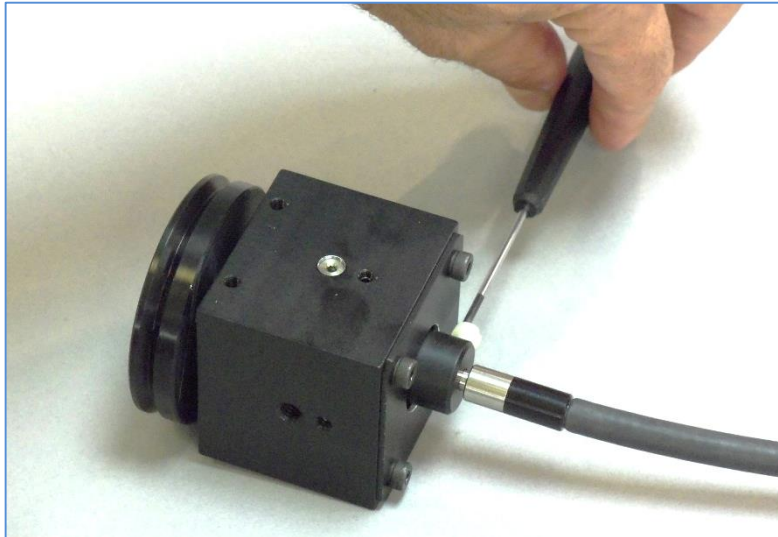


Fig. 2: Tightening the light guide in place.

## ***LLG-C - Microscope Alignment***

XY adjustment is sometimes required due to slight misalignment of the optical path of the LLG-C relative to the microscope optical path.

Z -alignment of the collector lens is required to optimize the excitation power and the illumination provided by the lightguide.

### **XY adjustment**

Align the LLG with a small movement (few mm in either direction) of the LLG relative to the internal lens.

The procedure should be performed when the LLG-C is connected to the microscope body.

Adjust the X and Y placement of the LLG-C assembly by slightly turning the respective XY adjustment screws (M4 Allen screws see Fig. 3) as follows:

- (a) Turn ON the LLG light source at less than maximum power.

Engage appropriate filter set and one of the objectives, then observe the light coming out of the objective by placing a piece of carton paper at the place of the sample slide.

- (b) Slightly release all 4 screws by about  $\frac{1}{4}$  turn. Use 3 mm Hex screw driver (tool #2).

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- (c) Use two 3 mm Hex screw drivers on opposite sides of the LLG-C block (tool #2). The screwdrivers should be turned in opposite directions (on one side turn inwards, while at other side unscrew the setscrews) in order to move the internal assembly relative to the lens.
- (d) Observe the spot of light on the carton paper while turning the setscrews until optimal position is obtained.
- (e) After reaching optimal position in both X and Y directions tighten all screws.

**Remark: Do not apply excessive force on the screws.**

## Z Adjustment

Adjust the Z placement of the collimating lens relatively to the lightguide tip by slightly turning the Z-Adjust screw on one of the faces of the LLG-C.

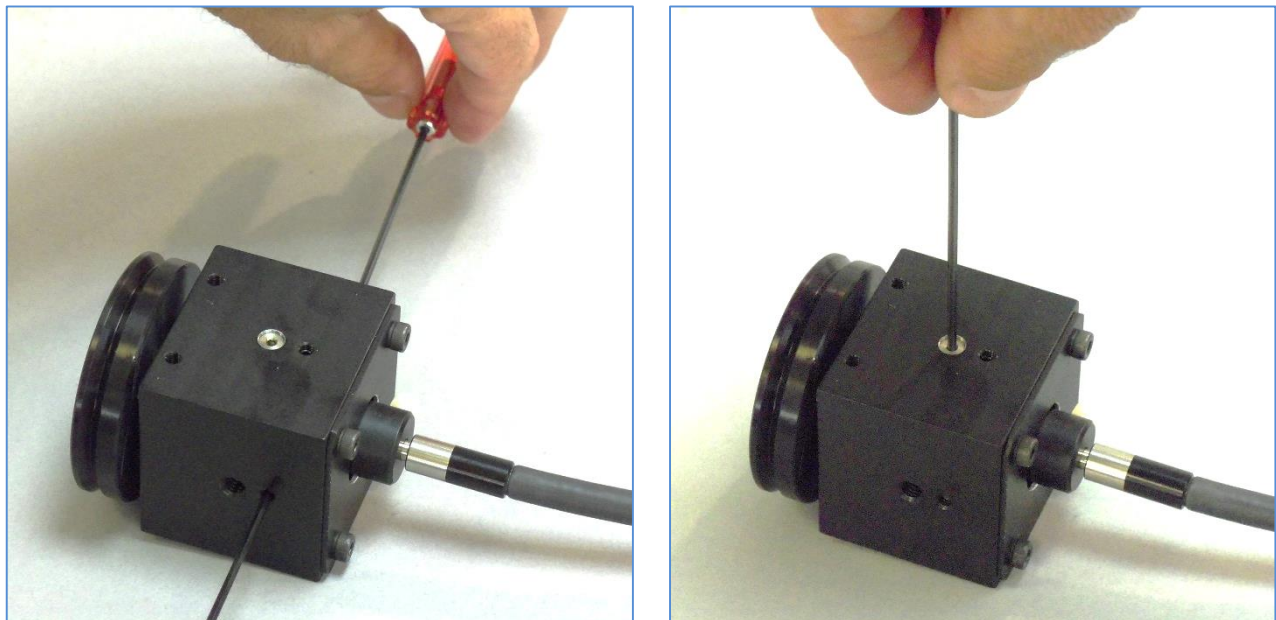


Fig. 3: LLG-C XY adjustment set screws (left pane) and Z adjustment fine screw (right pane).

## ***Disconnection of Microscope-LED from the system***

1. Loosen the two fixation set screws.
2. Pull out the LLG-C disengage it from the Microscope system.

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