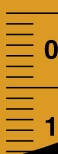


**COOPER** Hand Tools



# Lufkin®

**Cross Line Laser  
LS603**





Thank you for purchasing the  
Lufkin CROSS LINE LASER LS603.  
Please read this manual carefully  
before operation.

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## Warranty

### Statement of Limited Warranty

The Cross Line Laser is warranted to be free from defects in performance and workmanship for a period of twelve months from date of purchase. The warranty covers all cost of repair or replacement of parts. The seller is not responsible for the cost of transportation for returning instrument for repair.

### Limits And Exclusions:

The warranty will not apply to any damage resulting from negligence, accident, damage, misuse, repair or storage, or in case of abnormal use.

The warranty is considered void if any attempt is made to repair, modify or recalibrate the unit whatsoever. In these circumstances we reserve the right to charge for costs incurred in repair or replacement of the unit.

We are not liable for:

1. Loss of income or inconvenience relating to defect in performance of the unit.
2. Leasing charges of alternative equipment during repair of a defective unit.

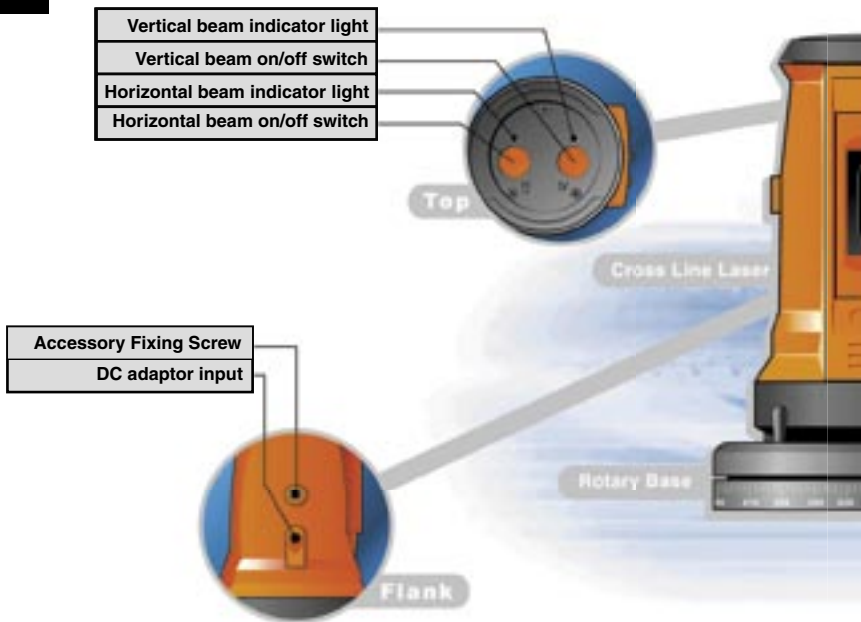
We require that the customer make reasonable attempts to inform us of problems with the product prior to returning the unit for repairs.

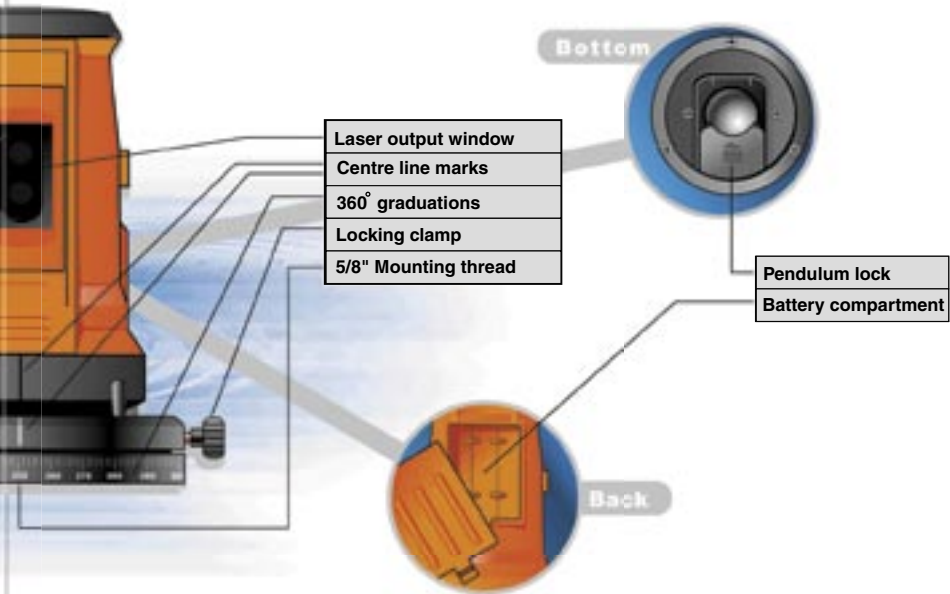
# Lufkin®

Cross Line Laser  
LS603



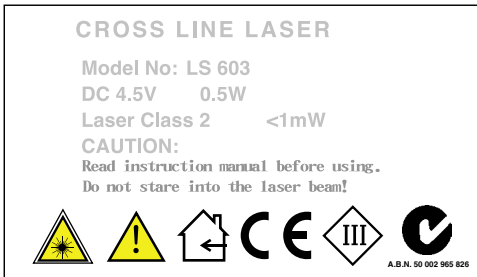
## Features





# Laser Safety

Operate the Cross line laser only according to these instructions. Never look or stare into the laser beam. Do not disassemble the instrument or attempt to perform any internal servicing. Repair and service of this laser is to be performed only by the supplier or authorised service centre.



The LS603 is a Class 2 Laser and is manufactured to comply with the international rules of safety IEC 2385. The following labels are attached to every unit. They should not be removed or defaced.



Laser Safety

Laser Safety

# Operation

Note: Release the pendulum lock before operation, and lock after use to protect pendulum.



1 Remove the laser from the carry bag, Install the three "AA" batteries into the battery compartment according to the battery installing indication on the battery compartment, or connect to external power (4.5v).

2

Release the pendulum lock.



3 Set the laser on a flat surface which should be level within  $\pm 5^\circ$ . If the laser is positioned within its self-levelling range, the unit will operate correctly with the horizontal line and vertical line. If the unit is more than  $5^\circ$  out of level then the laser will flash.

3

4

Switch on the laser by pressing either one or both buttons on the top of the unit. The red indicator lights show that each beam is "on". The "H" button refers to the horizontal line, and the "IV" refers to the vertical line.



5

As a safety feature there is a delay of 1 second before the laser beam is emitted after the first beam is switched on.



The laser flashing on and off indicates that the base is outside the  $\pm 5^\circ$  levelling range and that the beams are not level/vertical.

6



## Operation

7

When the instrument has been set up and switched on, both horizontal and vertical laser lines require about 4-6 seconds to stabilise. Once laser lines have stabilised, they can be used as horizontal and vertical references. During operation the laser lines may swing slightly due to vibration.



8

### How to use the rotary base:

Loosen the clamp and place the instrument on the base. Adjust the centre line under the laser output window to be in line with the centre line of the base. Then tighten the clamp

**9 How to use the instrument with the tripod or the elevator pole:**

Fix the rotary base to the tripod or elevator pole, and place the instrument on the base. There is a 5/8" mounting thread in the center of the base for fixing the base to the tripod/elevator pole.

**10**

**After completion of work, store the LS603 according to the following procedure:**

- Switch off both laser lines
- Lock pendulum lock
- Place LS603 on rotary base and lock tightly
- Place LS603 and rotary base into the pouch



Note : The pendulum lock should be engaged before the instrument is moved.

Caution : If the unit is subjected to any excessive movement or shock with the pendulum lock in the unlocked position, damage to the mechanism may result.



# Applications

Interior Decorating, Machinery Installation, Floor and Wall Levelling and Alignment, Tiling, Drop-ceiling Installation, Wall Framing,



1.Cabinet installation



2.Wainscoting and wallpapering



3.Bathroom tiling



4.Floor tiling



5.Wall tiling



6.Drilling and sawing alignment



7.Hanging pictures



8.Aligning shelves



9.Hanging pendant lamps



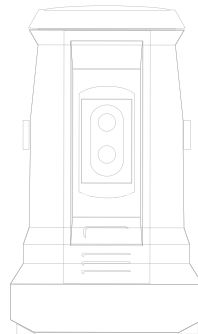
10.Drop-ceiling Installation



11.Digging a pit with  
internal angles



12.Window framing



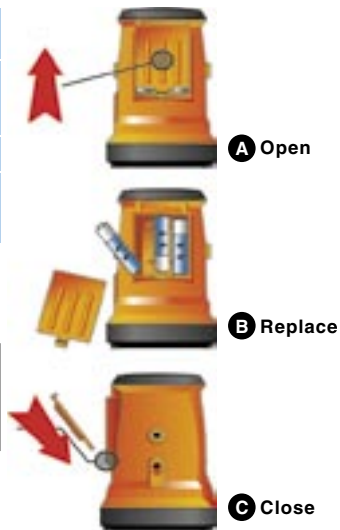
## Power

The instrument will provide approximately 24 hours of continuous use with three "AA" Alkaline batteries. If the laser lines become dim then the batteries should be replaced.

1. Slide the battery cover upward to remove.
2. Remove the old batteries and replace with three new "AA" Alkaline batteries.
3. Insert the cover-lip into the slot.
4. Slide the cover downward to close the battery compartment.

**Note:** Do not mix old and new batteries. Replace all batteries at the same time. Remove batteries before storage of the instrument.

The unit may also be operated using a 4.5 Volt regulated adaptor fitted with a 2.5mm phone plug, tip negative.



# **Lufkin<sup>®</sup> Cross Line Laser LS603**

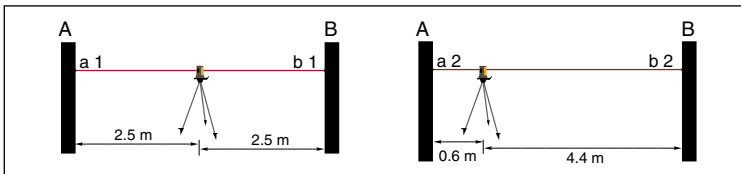


## Calibration

Note: The Cross line laser is used as a datum instrument. It is necessary to check calibration of the instrument periodically.

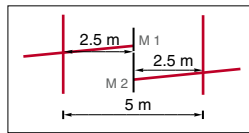
### Level Beam Accuracy (Instrument to Target)

1. Set up the instrument on the tripod and base, centered between two walls approximately 5m apart. Ensure the rotary base is approximately level.
2. Press both the horizontal and vertical buttons to project a laser cross on wall A. Mark point  $a_1$  at the intersection of the beams. Turn the cross line laser  $180^\circ$  and repeat on wall B, marking point  $b_1$  at the intersection of the beams.
3. Move the instrument to the point 0.6m from wall A and repeat step 2, marking the intersections as  $a_2$  and  $b_2$ .
4. Measuring the distance between  $a_1$  and  $a_2$  as  $|a_1 - a_2|$ , and  $b_1$  and  $b_2$  as  $|b_1 - b_2|$ .
5. If  $||a_1 - a_2| - |b_1 - b_2|| \leq 1\text{mm}$ , the accuracy is within tolerance. If not, return the instrument to manufacturer.



### Horizontal Beam Level (End to End)

1. Set up the instrument on the tripod and base approximately 5m from the wall. Ensure the rotary base is approximately level.
2. Press both the horizontal and vertical buttons to project a laser cross on the wall, mark point  $M_1$  2.5m from the intersection of the beams on the horizontal beam.
3. Turn the instrument until the vertical beam has moved 5m to the right side, and mark  $M_2$  2.5m from the intersection of the beams on the horizontal line.
4. Measure the distance between  $M_1$  and  $M_2$ .
5. If the distance is less or equal to 2mm, the accuracy is within tolerance. If not, return the instrument to manufacturer.



### Vertical Beam Level (End to End)

1. Set up the instrument with tripod and base approximately 5m from the wall. (The wall should be over 5m high.) Please ensure the rotary base is approximately level.
2. Press both the horizontal and vertical buttons to project a laser cross on the wall, mark point A 2.5m from the intersection of the beams on the vertical beam.
3. Regarding A as a starting point, nail one end of a thread with plumb bob on A. The length of the thread should be over 5m long.
4. Mark  $M_1$  2.5m from point A on the thread.
5. Mark  $M_2$  2.5m from the intersection of the beams on the vertical line.
6. Measure the distance between  $M_1$  and  $M_2$ .
7. If the distance is less than or equal to 3mm, the accuracy is within tolerance. If not, return the instrument to manufacturer.

## Care of Instrument

### Always clean the instrument after use

Use a soft, dry cloth to remove any dirt or moisture from the instrument.

Do not use thinners or other solvents to clean the instrument.

Keep the laser output window clean by wiping gently with a lens tissue or lens cloth.

Do not use the instrument in the rain.

Store the cross line laser in the carry bag after use.



## Specifications

Accuracy	Level beam $\pm 2\text{mm}$ at 10m Horizontal beam $\pm 2\text{mm}$ at 5m length Vertical beam $\pm 3\text{mm}$ at 5m length
Line length	Approximately 14m at 10m
Fan angle	Approximately $70^\circ$
Recommended working range	Up to 20m, depending on the illumination of the working area
Laser source	Two separate 635nm laser diodes
Self-levelling range	$\pm 5^\circ$
Self-levelling speed	<6 seconds
Weight	Cross line laser 0.69 kg Complete set 1.3 kg
Power	Three "AA" Alkaline batteries or DC adapter (4.5v)
Battery life	24 hours, continuous use approximately
Dimensions	90x90x150mm
Out of level alarm	Built-in
Pendulum lock	Built-in

Note: All specifications are subject to change without notice.

**Standard Accessories**

Carry Bag



3 x AA Batteries



Manual



Rotary Base

# Lufkin®

**Supplies a Complete Range of Quality  
Measuring, Marking & Levelling Equipment**



See your local distributor for further details.

**Lufkin®**

Cross Line Laser  
LS603

A close-up photograph of the Lufkin LS603 Cross Line Laser. The device is primarily orange with a black section at the top. The top black section contains two circular buttons, each with a horizontal line through the center. Below this section, the orange body features a black rectangular label with the Lufkin logo in yellow. The background is a solid yellow color.

**Lufkin®**

## Warranty Registration Card

Please complete this card and return by Mail or Fax so that we may serve you better.

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Purchased from: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact: \_\_\_\_\_

**AFFIX  
STAMP  
HERE**

**Cooper Tools Pty. Limited.**

**PO Box 366  
Albury NSW 2640  
Australia**

**Notes:**



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