

STANLEY FATMAX 1-77-121

STANLEY FATMAX 1-77-121 CL2XTi Automatic Cross Line Laser Level Kit User Manual

Model: 1-77-121 | Brand: STANLEY FATMAX

1. INTRODUCTION

Welcome to the user manual for your STANLEY FATMAX 1-77-121 CL2XTi Automatic Cross Line Laser Level Kit. This professional tool is designed for precise leveling and alignment tasks, projecting clear horizontal and vertical red laser lines. It is suitable for both indoor and outdoor applications, offering versatility for various projects.

Key features include automatic self-leveling, a robust magnetic pendulum system, a flashing out-of-level indicator, and an IP54 rating for protection against dust and water splashes. The kit comes complete with essential accessories to enhance its functionality and ease of use.

2. SAFETY INFORMATION

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in serious injury.

General Safety Warnings

- **Laser Radiation:** This product is a Class 2 laser product. Do not stare directly into the laser beam. Direct eye exposure can cause eye injury.
- **Eye Protection:** Always wear appropriate eye protection when operating laser equipment.
- **Children:** Keep the device out of reach of children and unauthorized persons.
- **Modifications:** Do not attempt to modify or disassemble the laser level. Repairs should only be performed by authorized service personnel.
- **Battery Safety:** Use only the specified battery type (AA). Ensure correct polarity when inserting batteries. Do

not mix old and new batteries or different types of batteries. Remove batteries if the device will not be used for an extended period.

- **Operating Environment:** Use the device in a well-lit area. Avoid using it in explosive atmospheres or near flammable liquids or gases.

3. PACKAGE CONTENTS

The STANLEY FATMAX 1-77-121 CL2XTi kit includes the following items:

- CL2XTi Automatic Cross Line Laser Level
- Mini-tripod
- Wall mount bracket
- Tripod pole (extendable up to 3.30m)
- Detection cell (LD100)
- Carrying bag
- 3x AA Batteries





Figure 1: Overview of the Stanley FatMax CL2XTi Laser Level Kit contents, including the laser, tripod, detection cell, and carrying bag.

4. PRODUCT OVERVIEW

Laser Level Components



Figure 2: The Stanley FatMax CL2XTi Automatic Cross Line Laser Level, showing its compact yellow and black housing.





Figure 3: Top view of the laser level, highlighting the control panel with power button, mode selection, and pendulum lock indicator.

Detection Cell (LD100) Components



Figure 4: The Stanley FatMax LD100 Laser Detection Cell, used for extending the laser's working range, especially outdoors.

5. SETUP

5.1 Battery Installation

1. Locate the battery compartment cover on the device.
2. Open the cover and insert 3x AA batteries, ensuring correct polarity (+/-).
3. Close the battery compartment cover securely.

5.2 Mounting the Laser Level

The laser level can be mounted using various accessories included in the kit:

- **Mini-Tripod:** Attach the laser level to the mini-tripod using the 1/4" mounting thread for stable placement on flat surfaces.
- **Wall Mount Bracket:** Use the wall mount bracket to secure the laser level to walls or other vertical surfaces. The bracket often features a clamp or screw mechanism for attachment.
- **Tripod Pole:** For elevated or floor-to-ceiling applications, assemble the extendable tripod pole. Attach the laser level to the pole's mounting platform. The pole can extend up to 3.30m.
- **Magnetic Base:** The laser level features a magnetic base for attachment to metallic surfaces.



Figure 5: Example of a mounting bracket, which can be used to attach the laser level to various surfaces.

6. OPERATING INSTRUCTIONS

6.1 Powering On and Automatic Leveling

1. Place the laser level on a stable surface or mount it using one of the accessories.
2. Press the power button (**red circle with line**) to turn on the device.
3. The laser level will automatically self-level using its magnetic pendulum system. Ensure the device is within its self-leveling range of $\pm 4^\circ$.
4. If the device is outside its self-leveling range, the laser lines will flash, indicating that the device needs to be adjusted to a more level position.

6.2 Selecting Laser Modes

Press the mode button (**button with horizontal and vertical lines**) to cycle through the available laser projection modes:

- **Horizontal Line:** Projects a single horizontal laser line.
- **Vertical Line:** Projects a single vertical laser line.
- **Cross Line:** Projects both horizontal and vertical laser lines simultaneously, forming a cross.

6.3 Using the Detection Cell (LD100)

For outdoor applications or when working over longer distances (up to 50m), use the LD100 detection cell:

1. Turn on the laser level and select the desired laser mode.
2. Turn on the LD100 detection cell.
3. Move the detection cell along the path of the laser beam. The cell will emit an audible signal and/or display visual indicators when it detects the laser line.
4. Adjust the position of the detection cell until the indicator shows that the laser line is centered.



Figure 6: The LD100 detection cell attached to its mounting bracket, ready for use with the laser level.

6.4 Manual Mode (Locked Pendulum)

To project angled lines (e.g., for stair railings), you can lock the pendulum:

1. With the device off, slide the pendulum lock switch to the locked position.
2. Turn on the laser level. The laser lines will now be projected at any angle without self-leveling. The lines may flash to indicate that it is not self-leveling.
3. To return to automatic self-leveling, turn off the device, unlock the pendulum, and then power it on again.

7. MAINTENANCE

7.1 Cleaning

Regularly clean the laser level and its accessories. Use a soft, damp cloth to wipe down the exterior. Do not use abrasive cleaners or solvents. Keep the laser apertures clean and free of dust.

7.2 Storage

When not in use, store the laser level in its carrying bag in a dry, cool place. Ensure the pendulum lock is engaged to protect the internal mechanism during transport and storage.



Figure 7: The durable carrying bag provided with the kit, designed for safe storage and transport of the laser level and accessories.

7.3 Battery Replacement

Replace the 3x AA batteries when the laser lines become dim or the device fails to power on. Always replace all three batteries at the same time with new ones of the same type.

7.4 IP54 Protection

The device has an IP54 rating, meaning it is protected against dust ingress and splashing water from any direction. While robust, avoid submerging the device in water or exposing it to heavy rain.

8. TROUBLESHOOTING

Issue	Possible Cause	Solution
Laser not turning on	Dead or incorrectly inserted batteries	Check battery polarity, replace with new batteries.
Laser lines are flashing	Device is out of self-leveling range	Adjust the device's position to be within +/- 4° of level.
Laser lines are not level/plumb	Pendulum lock engaged (manual mode) or device not stable	Ensure pendulum lock is disengaged for automatic leveling. Place on a stable surface.
Laser not visible outdoors or over long distances	Ambient light too bright or distance too great	Use the LD100 detection cell for enhanced visibility and extended range.

9. SPECIFICATIONS

Feature	Specification
Model Number	1-77-121
Brand	STANLEY FATMAX
Laser Type	Red Cross Line
Accuracy	+/- 3mm @ 10m
Indoor Working Range	15m
Working Range with Detector	Up to 50m
Self-Leveling Range	+/- 4°
Power Source	3x AA Batteries
Battery Life	Up to 12 hours
IP Rating	IP54 (Dust and Water Splash Protected)
Mounting Thread	1/4"
Material	Rubber
Weight	5.07 Kilograms

10. WARRANTY AND SUPPORT

10.1 Warranty Information

This STANLEY FATMAX product comes with a 1-year manufacturer's warranty from the date of purchase. The warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

10.2 Customer Support

For technical assistance, spare parts, or warranty claims, please contact your local STANLEY FATMAX service center or visit the official STANLEY FATMAX website for detailed support information and contact options.