

LP20, LP40 Laser Pointer User Guide

Introduction

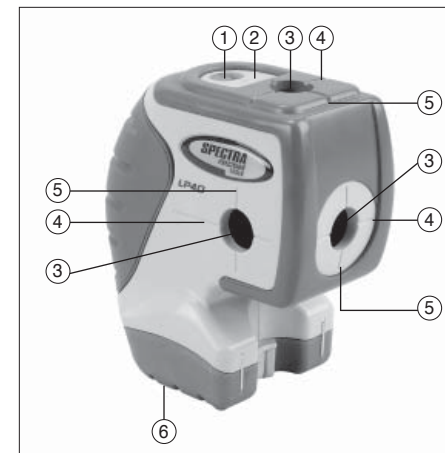
Thank you for choosing the LP20 or LP40 Spectra Precision® Laser from the Trimble® family of precision hand-held lasers. This simple-to-use tool allows you to transfer points between the floor and ceiling and to establish 90° points for laying out wall lines and putting up wall partitions. You can also use the laser for other applications where true plumb, square, and level setups are required.

Before using the laser, be sure to read this operator's manual carefully. Included in it is information about setting up, using, and maintaining the laser. Also included in this manual are **CAUTIONS** and **Notes**. Each of these words represents a level or danger or concern. A **CAUTION** indicates a hazard or unsafe practice that could result in *minor* injury or property damage. A **Note** indicates important information unrelated to safety.

Your comments and suggestions are welcome; please contact us at:

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Dayton, Ohio 45424-1099 U.S.A.
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(800) 538-7800
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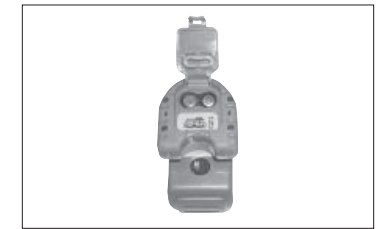
Features



1. Power Button
2. Power-Status LED
3. Lens
4. Level Offset Mark
5. Plumb Offset Mark
6. Battery Housing

Installing/Removing the Batteries

CAUTION: The batteries should be removed when storing the laser more than 30 days.



1. Release the battery door using your fingers. Open the door.
2. Install/remove the 4 AA batteries.
3. Close the battery door and latch it shut.

Note: When installing the batteries, be sure to note the positive (+) and negative (-) diagrams molded on the battery housing.

Setting Up the Laser and Transferring a Point

Setups attempted through glass or other material will affect the accuracy of the laser.



1. Press the power button. The green power-status LED lights to show that the laser is on.

CAUTION: Never look directly into the laser beam.

2. Place the laser on a flat surface. The laser must be within ±4° of being level for it to self-level.

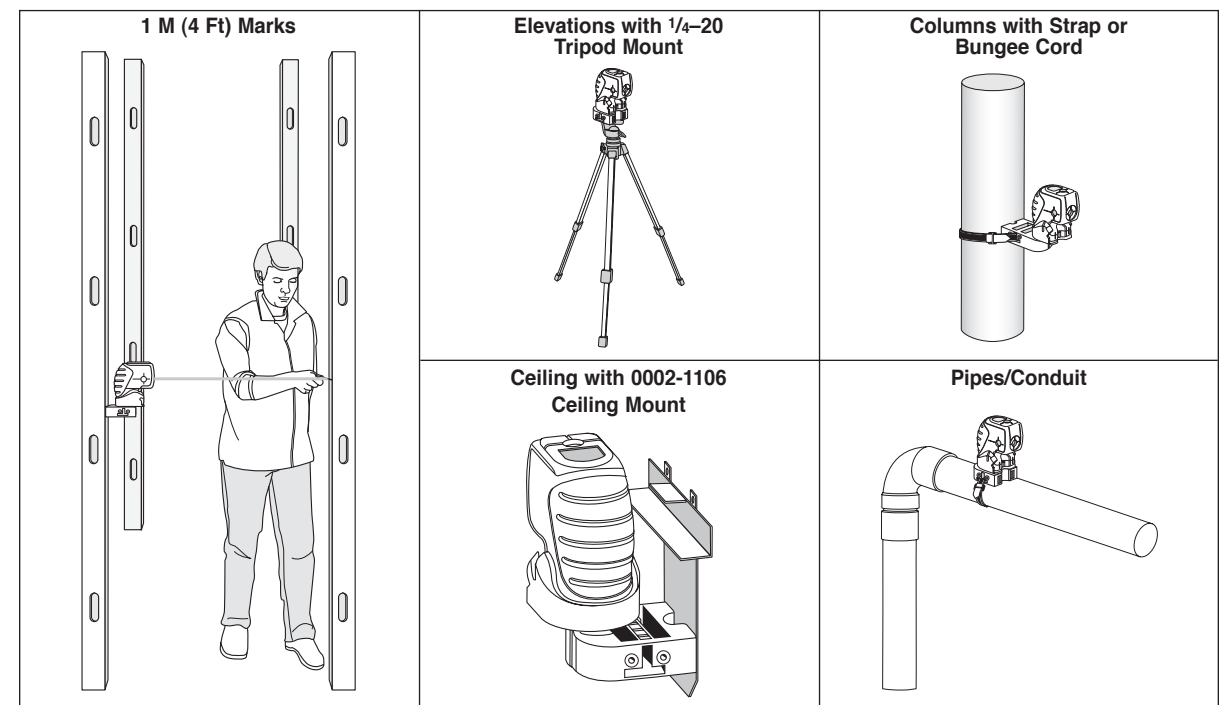
3. Adjust the position of the laser so that the down beam is on the control point.



4. Locate the position of the up beam and level beam. Make a mark on the ceiling and wall respectively.



0002-8210 Universal Accessory



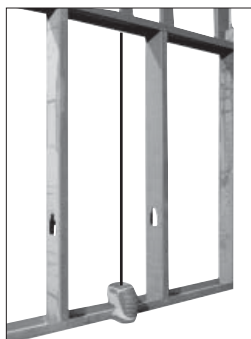
Plumbing a Wall

1. Place the laser so that the bottom feet are on the front edge of the bottom track.



2. Press the power button.

3. Adjust the top of the partition until the up beam is on the front edge of the top track.



Specifications

Up Beam Accuracy*	+/- 6 mm @ 21 m (+/- 1/4 in. @ 70 ft)
Down Beam Accuracy*	+/- 1 mm @ 0.5 m (+/- 1/16 in. @ 2.5 ft)
Level Beam Accuracy*-LP40	+/- 6 mm @ 30 m (+/- 1/4 in. @ 100 ft)
Square Beam Accuracy*-LP40	+/- 6 mm @ 30 m (+/- 1/4 in. @ 100 ft)
Self-Leveling Range	±4° from level
Out-of-Level Indicator	Beam flashes
Working Range*	20-30 m (65-100 ft)
Laser Class	2
Laser Type	LP40-635 nm; LP20-650 nm
Beam Shape	Round
Battery Type	4 AA alkaline
Battery Life	40 hours (alkaline)
Low Battery Indicator	LED Blinking
Auto-Shutoff (Holding the power button down for 3 seconds enables auto-shutoff.)	1 hour (on/off selectable)
Operating Temperature Range	-10 °C to 45 °C (14 °F to 113 °F)
Size	12.0 x 11.0 x 6.5 cm (4.7 x 4.4 x 2.6 in.)
Weight	0.4 kg (0.9 lb)
*When operated within specified temperature range	

Maintenance and Care

You will get years of service from your laser by following the maintenance and care recommendations in this manual. However well the product is designed, mishaps do occur and the most common problems associated with these are covered in the following areas. Any damage to the laser caused by improper maintenance and care voids the warranty.

Handling Precautions

When transferring the laser from a very low temperature to a warmer environment or visa versa, always allow time for the laser to reach the new temperature before using. Allowing this time is especially important when transferring the laser from an extremely heated/cold vehicle to the job site.

System Cleaning

For maximum performance and accuracy always keep the lenses clean. When cleaning, apply very light pressure and use only a good quality glass cleaner on a soft cloth to clean the exterior of the laser and its lenses.

CAUTION: A dry cloth or abrasive organic cleaner could scratch or damage these surfaces.

CAUTION: Do not submerge the laser.

Storage

When you're not using the laser, store it in its pouch/carrying case.

CAUTION: Do not store the laser in a wet pouch/carrying case. If the pouch/carrying case gets wet, let it dry before storing the laser in it.

CAUTION: The batteries should be removed when storing the laser more than 30 days.

Battery Disposal

Some states and local areas have regulations regarding the disposal of batteries. Be sure to dispose of discharged batteries properly.

Calibration

Before each use, be sure to check the pocket laser for signs of damage. If the laser has been dropped or subjected to other rough treatment, it should be checked for accuracy.

Checking Accuracy—Plumb

1. Press the power button.
2. Place the laser so that its down beam is over a reference mark on the floor.
3. Locate the position of the up beam on the ceiling and make a mark.

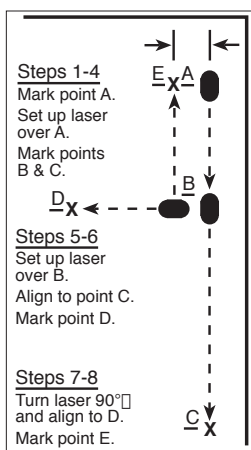


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Checking Level to Square Beam 90° Calibration (LP40 only)

Refer to the graphic for the location of the LP40 at each step and for the location of the marks made at each step. All marks can be made on the floor by placing a target in front of the level or square beam and transferring the location to the floor.

1. Find a room at least 10 m (35 ft) long. Mark a point (A) on the floor at one end of the room.
2. Set up the laser so that its down beam is over point A. Make sure the level beam points toward the far end of the room.
3. Mark a point (B) on the floor at the center of the room using a target to transfer the level beam location to the floor.
4. Mark a point (C) on the far wall or transfer the level beam location to the floor.



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Laser Safety

The pocket laser uses a Class 2 laser, which complies with the requirements based on the IEC825-1/EN60825 standards (Class 2 based on 21CFR 1041). This laser may be operated without the need for any additional protective measures. Nevertheless, as with the sun, care should be taken to avoid looking directly into the light source.

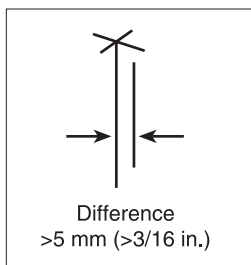
CAUTION: Never look directly into the laser beam.

Please keep the pocket laser out of the reach of children.



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4. Rotate the laser 180° and realign the down beam over the reference mark on the floor.
5. Locate the position of the up beam on the ceiling, which will be twice the actual error, and make a mark.
6. Measure the difference between the two marks on the ceiling, which will be twice the actual error. If the difference is more than 5 mm in 7.5 m (3/16 in. in 25 ft), the laser must be serviced at an authorized service center.



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5. Move the LP40 to point B and align the level beam to point C again.
 6. Mark the location of the square beam (D) on the floor.
- Note:** To ensure accuracy, the distances from A to B, B to C, and B to D should be equal.
 7. Turn the LP40 90° so that the level beam aligns with point D.
 8. Mark the location of the square beam (E) on the floor as close as possible to point A.
 9. Measure the distance between points A and E. If the measurement is greater than the values shown below, the laser must be serviced at an authorized service center.

Room length or distance between points A and C	The 90° angle between the level beam and square beam is out of calibration if the distance between points A and E is:
10 m (35 ft)	>9.0 mm (3/8 in.)
20 m (70 ft)	>18.0 mm (3/4 in.)

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Warranty

Trimble warrants the Spectra Precision® Laser LP20 and LP40 to be free of defects in material and workmanship for one year. This warranty period is in effect from the date the system is delivered by Trimble or its authorized Dealer to the purchaser, or is put into service by a Dealer as a demonstrator or rental component.

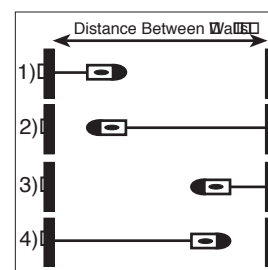
Additionally, items covered by the standard Trimble one-year warranty are the accessories. All other components not manufactured Trimble but sold as a part of the system, such as tripods and grade rods, will carry a 90 days warranty or the manufacturer's warranty, whichever is greater.

Trimble or its Authorized Service Center will repair or replace, at its option, any defective part or components of which notice has been given during the warranty period. A Warranty Registration Card must be filled out properly and on file with Trimble Service Department before warranty repair or replacement can be approved. Travel and per diem expenses, if required, to and from the place where repairs are made will be charged to the purchaser at the prevailing rates.

Customers should send products to the nearest Authorized Factory Service Center for warranty repairs, freight prepaid. In countries with Trimble Service Subsidiary Centers, the repaired products will be returned to the customer, freight prepaid.

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Checking Accuracy—Level



1. In an area with at least 6 m (20 ft) between two parallel walls, place the laser 50–75 mm (2–3 in.) from one wall, facing the wall.
2. Press the power button.
3. Locate the position of the level beam on the wall and make a mark.
4. Rotate the laser 180° so that the laser faces the other wall.
5. Locate the position of the level beam on the wall and make a mark.
6. Move the laser to the far wall, facing the wall.

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Request for Service

Our goal is to provide prompt and efficient service through competent service dealers. To locate your local dealer or authorized Trimble Service Center, contact our world centers listed below.

North America
Trimble Construction Division
5475 Kellenburger Road
Dayton, Ohio 45424-1099
U.S.A.
(800) 538-7800 (Toll Free)
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Any evidence of negligent, abnormal use, accident, or any attempt to repair equipment by other than factory-authorized personnel Trimble certified or recommended parts, automatically voids the warranty.

Special precautions have been taken to ensure the calibration of the laser; however, calibration is not covered by this warranty. Maintenance of the calibration is the responsibility of the user.

The foregoing states the entire liability of Trimble regarding the purchase and use of its equipment. Trimble will not be held responsible for any consequential loss or damage of any kind.

This warranty is in lieu of all other warranties, except as set forth above, including an implied warranty merchantability of fitness for a particular purpose, is hereby disclaimed. This warranty is in lieu of all other warranties, expressed or implied.

7. Adjust the laser's height until the beam is superimposed over the mark made in step 5.
8. Without changing the height of the laser, rotate it 180° to place the beam near the mark on the first wall (step 3).
9. Measure the vertical distance between the beam and the mark made in step 3. If the measurement is greater than the values shown below, the laser must be serviced at an authorized service center.

6 m (20 ft)	3.0 mm (1/8 in.)
12 m (40 ft)	6.0 mm (1/4 in.)
18 m (60 ft)	8.0 mm (3/16 in.)
24 m (80 ft)	11.0 mm (7/16 in.)

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Notice to Our European Union Customers

For product recycling instructions and more information, please go to: www.trimble.com/environment/summary.html

Recycling in Europe

To recycle Trimble WEEE, call: +31 497 53 2430, and ask for the "WEEE associate," or

mail a request for recycling instructions to:
Trimble Europe BV
c/o Menlo Worldwide Logistics
Meerheide 45
5521 DZ Eersel, NL



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