

INSTRUCTION MANUAL

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**DEWALT**®

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**DW083-XE**

SELF-LEVELING 3 BEAM LASER POINTER



### Definitions: Safety Guidelines

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

**⚠DANGER:** Indicates an imminently hazardous situation which, if not avoided, **will** result in **death or serious injury**.

**⚠WARNING:** Indicates a potentially hazardous situation which, if not avoided, **could** result in **death or serious injury**.

**⚠CAUTION:** Indicates a potentially hazardous situation which, if not avoided, **may** result in **minor or moderate injury**.

**NOTICE:** Indicates a practice **not related to personal injury** which, if not avoided, **may** result in **property damage**.

IF YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT THIS OR ANY DEWALT TOOL, CALL US AT: **1800 444 224** (Aust) or **0800 339 258** (NZ).

### Technical Data

		DW083-XE
Voltage	V	6
Battery size		4 x LR6 (AA)
Laser power	mW	< 1
Laser class		2
Wavelength	nm	630–680
Protection class		IP54
Self-leveling range	°	+/- 4
Operating temperature	°C	-10–50
Receptacle thread		1/4" x 20 TPI
Weight	kg	0.59



**WARNING:** To reduce the risk of injury, user must read the instruction manual.

### SAFETY WARNINGS FOR LASERS




**WARNING!** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

### SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

**⚠WARNING: Laser Radiation Exposure.** Do not disassemble or modify the laser level. There are no user serviceable parts inside. Serious eye injury could result.

**⚠WARNING: Hazardous Radiation.** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

- **Do not operate the laser in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Use the laser only with the specifically designated batteries.** Use of any other batteries may create a risk of fire.
- **Store idle laser out of reach of children and other untrained persons.** Lasers are dangerous in the hands of untrained users.
- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one laser, may create a risk of injury when used on another laser.
- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel may result in injury. To locate your nearest DeWALT service center call 1-800-4-DEWALT (1-800-433-9258) or go to [www.dewalt.com](http://www.dewalt.com) on the Internet.
- **Do not use optical tools such as a telescope or transit to view the laser beam.** Serious eye injury could result.
- **Do not place the laser in a position which may cause anyone to intentionally or unintentionally stare into the laser beam.** Serious eye injury could result.
- **Turn the laser off when it is not in use.** Leaving the laser on increases the risk of staring into the laser beam.
- **Do not disassemble the laser tool.** There are no user serviceable parts inside.

- **Do not modify the laser in any way.** Modifying the tool may result in Hazardous Laser Radiation Exposure.
- **Do not operate the laser around children or allow children to operate the laser.** Serious eye injury may result.
- **Do not remove or deface warning labels.** Removing labels increases the risk of exposure to radiation.
- **Position the laser securely on a level surface.** Damage to the laser or serious injury could result if the laser falls.
- The label on your tool may include the following symbols.
  - V ..... volts
  - mW ..... milliwatts
  -  ..... laser warning symbol
  - nm..... wavelength in nanometers
  - 2..... Class 2 Laser
  - 3a..... Class 3a Laser


### Laser Information

The DW083-XE laser level is a class 2 laser product and complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice No. 50, dated July 26, 2001.

### INTRODUCTION

The DW083-XE laser level is a self-leveling laser tool that can be used inside and outside for horizontal (level) and vertical (plumb). This tool comes fully assembled. This tool has been designed with features that allow for quick and easy set-up. Please read and understand all instructions within this instruction manual prior to use.

### General Safety Rules For Battery Operated Tools

 **WARNING!** Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

#### 1) WORK AREA SAFETY

- Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- Do not operate tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.

- Keep children and bystanders away while operating a tool.** Distractions can cause you to lose control.

#### 2) ELECTRICAL SAFETY

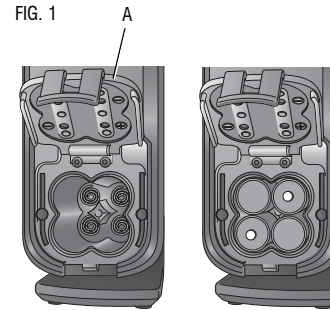
- Use battery operated tool only with the specifically designed batteries.** Use of any other batteries may create a risk of fire.

#### BATTERY

This tool is powered by four LR6 (AA-size) batteries.

#### To install batteries:

- Lift up the battery compartment cover (A) as shown in Figure 1.
- Insert four fresh AA batteries in the compartment, placing the batteries according to (+), (-) markings on battery door.



 **WARNING: Batteries can explode, or leak, and can cause injury or fire.** To reduce this risk:

- Carefully follow all instructions and warnings on the battery label and package.
- Always insert batteries correctly with regard to polarity (+ and -), marked on the battery and the equipment.
- Do not short battery terminals.
- Do not charge batteries.
- Do not mix old and new batteries. Replace all of them at the same time with new batteries of the same brand and type.
- Remove dead batteries immediately and dispose of per local codes.
- Do not dispose of batteries in fire.
- Keep batteries out of reach of children.
- Remove batteries if the device will not be used for several months.

#### 3) PERSONAL SAFETY

- Stay alert, watch what you are doing and use common sense when operating a tool. Do not use a power tool while you are tired or under the**

**influence of drugs, alcohol or medication.** A moment of inattention while operating tools may result in serious personal injury.

- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the tool in unexpected situations.
- d) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.

#### 4) TOOL USE AND CARE

- a) **Do not use the tool if the switch does not turn it on and off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- b) **Store idle tools out of the reach of children and do not allow persons unfamiliar with the tool or these instructions to operate the tool.** Tools are dangerous in the hands of untrained users.
- c) **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

#### 5) SERVICE

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

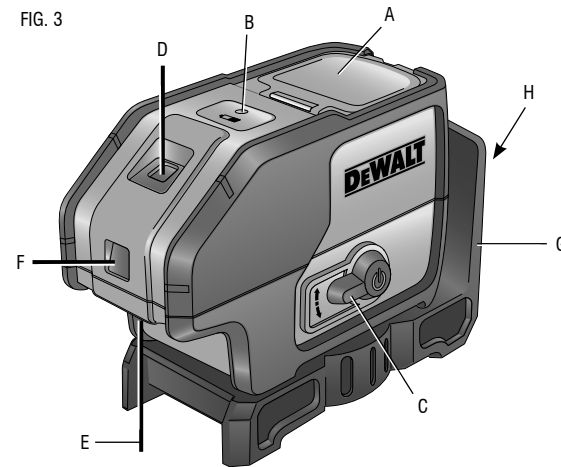
### **SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE**

#### COMPONENTS (FIG. 2)

**⚠ WARNING:** Never modify the power tool or any part of it. Damage or personal injury could result.

- |                              |                     |
|------------------------------|---------------------|
| A. Battery compartment cover | E. Down beam        |
| B. Low battery indicator     | F. Horizontal beam  |
| C. On/off lever              | G. Pivoting bracket |
| D. Up beam                   | H. Magnets          |

FIG. 3



#### INTENDED USE

This DW083-XE self-leveling 3 beam laser pointer is designed for professional leveling applications.

**DO NOT** use under wet conditions or in presence of flammable liquids or gases.

This DW083-XE self-leveling 3 beam laser pointer is a professional power tool.

**DO NOT** let children come into contact with the tool. Supervision is required when inexperienced operators use this tool.

#### Operating Tips

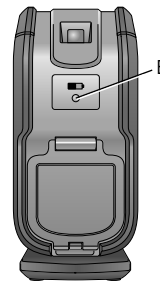
- Use only new, high-quality, name brand batteries for best results.
- Ensure batteries are in good working condition. If the low battery indicator light is flashing, the batteries need replacement.
- To extend battery life, turn laser off when not working with or marking the beam.
- To ensure the accuracy of your work, check to make sure your laser is calibrated often. See **Field Calibration Check**.

- Before attempting to use the laser, make sure it is positioned securely, on a smooth, flat surface.
- Always mark the center of the dot or pattern created by the laser.
- Extreme temperature changes may cause movement of internal parts that can affect accuracy. Check your accuracy often while working. See **Field Calibration Check**.
- If the laser has been dropped, check to make sure your laser is calibrated. See **Field Calibration Check**.

#### LOW BATTERY INDICATOR (FIG. 3)

The DW083-XE is equipped with a low battery indicator (B), as shown in Figure 3. The red indicator light is located on top of the tool. When the light flashes, the batteries are low and need to be replaced. The laser may continue to operate for a short time while the batteries continue to drain. After fresh batteries are installed and the laser is turned on again, the red indicator light will stay off. (A flashing laser beam is not caused by low batteries; see **Out of Tilt Range Indicator**.)

FIG. 3



### OPERATION

#### Turning the Laser On and Off (Fig. 2)

- With the laser off, place it on a stable, flat surface. Turn the laser on by rotating the on/off lever (C) so it points up. It will then project three beams; one up (D), one down (E), and one horizontal (F).
- To turn the laser off, rotate the on/off lever (C) down to its horizontal position. Beams will no longer be projected.

#### Locking Pendulum

The DW083-XE is equipped with a locking pendulum mechanism. This feature is only activated when the laser is switched off. When the power on knob is rotated to the ON position, the pendulum will be released from the locked position and self level.

#### Using the Laser

The beams are level or plumb as long as the calibration has been checked (see **Field Calibration Check**) and the laser beam is not flashing (see **Out of Tilt Range Indicator**).

The tool can be used to transfer points using any combination of the three beams.

#### INTEGRATED MAGNETIC PIVOTING BRACKET (FIG. 2)

The DW083-XE has a magnetic pivoting bracket (G) permanently attached to the unit. This bracket allows the unit to be mounted to any upright surface made of steel or iron using the magnets (H) located on the back of the pivoting bracket. Common examples of suitable surfaces include steel framing studs, steel door frames and structural steel beams. Position the laser on a stable surface.

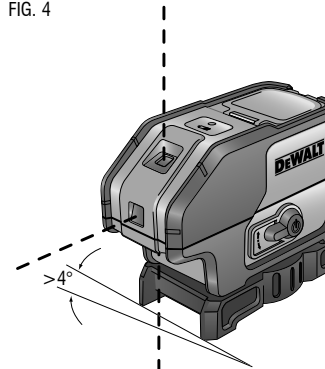
**CAUTION: Do not stand underneath the laser when it is mounted with the magnetic pivoting bracket.** Serious personal injury or damage to the laser may result if the laser falls.

The pivoting bracket also provides floor clearance of approximately 44.5 mm (1 3/4") which aids in the installation of steel framing track.

#### OUT OF TILT RANGE INDICATOR

The DW083-XE laser is designed to self-level. If the laser has been tilted so much that it cannot level itself (> 4° tilt), it will flash the laser beam (Fig. 4). The flashing beam indicates the tilt range has been exceeded and IS NOT LEVEL (OR PLUMB) AND SHOULD NOT BE USED FOR DETERMINING OR MARKING LEVEL (OR PLUMB). Try repositioning the laser on a more level surface.

FIG. 4



### USING THE LASER WITH ACCESSORIES

The laser is equipped with a 1/4" x 20 female thread on the bottom of the unit. This thread is to accommodate current or future DeWALT accessories. Only use DeWALT accessories specified for use with this product. Follow the directions included with the accessory.

**⚠ CAUTION:** The use of any other accessory not recommended for use with this tool could be hazardous.

If you need any assistance in locating any accessory, please contact DeWALT Industrial Tool Co., Stanley Black & Decker, 82 Taryn Drive, Epping, VIC 3076 Australia, call 1800 444 224 or (NZ). 0800 339 258 or visit our website: www.dewalt.com.au or www.dewalt.co.nz.

### LEVELING THE LASER

As long as the tool is properly calibrated, this tool is self-leveling. It is calibrated at the factory to find plumb as long as it is positioned on a flat surface within 4° of level. No manual adjustments must be made.

### MAINTENANCE

To maintain the accuracy of your work, have the laser checked often to make sure it is properly calibrated. See **Field Calibration Check**.

Calibration checks and other maintenance repairs may be performed by DeWALT service centers.

When not in use, store the laser in the kit box provided. Do not store your laser at temperatures below -20 °C (-5 °F) or above 60 °C (140 °F).

Do not store your laser in the kit box if the laser is wet. The laser should be dried first with a soft dry cloth.

### Cleaning

**⚠ WARNING:** Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the plastic materials used in these parts. Use a cloth dampened only with water and mild soap. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

### Field Calibration Check

#### CHECKING ACCURACY – PLUMB

Checking the plumb calibration of the laser can be most accurately done when there is a substantial amount of vertical height available, ideally 8 m (25'), with one person on the floor positioning the laser and another person near a ceiling to mark the dot created by the beam on the ceiling (Fig. 5). It is important to conduct a calibration check using a distance no shorter than the distance of the applications for which the tool will be used.

1. Start by marking a point on the floor.
2. Place the laser so that the down beam is centered on the point marked on the floor.
3. Allow time for the laser to settle to plumb and mark the center of the beam created by the up beam.
4. Turn the laser 180° as shown (Fig. 6), making sure that the down beam is still centered on the point previously marked on the floor.

FIG. 5

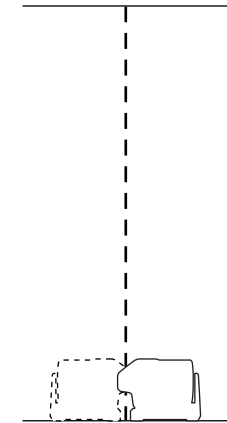
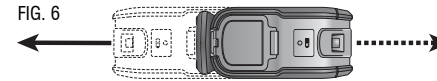


FIG. 6



5. Allow time for the laser to settle to plumb and mark the center of the dot created by the up beam.

If the measurement between the two marks is greater than shown below, the laser is no longer in calibration.

Ceiling Height	Measurement Between Marks
7.5 m (25')	3 mm (1/8")
3.5 m (12')	1.5 mm (1/16")

### CHECKING ACCURACY - LEVEL

Checking the level calibration of the laser unit requires two parallel walls at least 6 m (20') apart. It is important to conduct a calibration check using a distance no shorter than the distance of the applications for which the tool will be used.

1. Place unit 5–8 cm (2"–3") from first wall, facing the wall (Fig. 7).
2. Mark the beam position on the first wall.
3. Turn the unit 180°, and mark the beam position on the second wall (Fig. 8).
4. Place the unit 5–8 cm (2"–3") from the second wall, facing the wall.
5. Adjust the height of the unit until the beam hits the mark from step 3 (Fig. 9).
6. Turn the unit 180°, and aim the beam near the mark on the first wall from step 2 (Fig. 10).
7. Measure the vertical distance between the beam and the mark.
8. If the measurement is greater than the values shown below, the laser must be serviced at an authorized service center.

FIG. 7

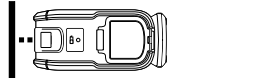


FIG. 8

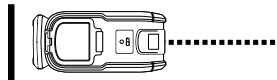


FIG. 9

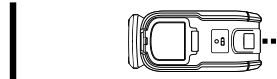
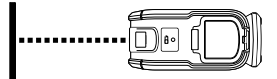


FIG. 10



Distance Between Walls	Measurement Between Marks
7.5 m (25')	3 mm (1/8")
15 m (50')	6 mm (1/4")
23 m (75')	9 mm (3/8")

### Troubleshooting

#### THE LASER DOES NOT TURN ON

- Make sure batteries are installed according to (+), (-) markings on battery door.
- Make sure the batteries are in proper working condition. If in doubt, try installing new batteries.
- Make sure that the battery contacts are clean and free of rust or corrosion. Be sure to keep the laser level dry and use only new, high-quality batteries to reduce the chance of battery leakage.
- If the laser has been stored in extremely hot temperatures, allow it to cool.

#### THE LASER BEAMS FLASH

The DW083-XE laser level has been designed to self-level up to 4° in all directions when positioned as shown in Figure 4. If the laser is tilted so much that internal mechanism cannot plumb itself, it will flash the laser—the tilt range has been exceeded. THE FLASHING BEAMS CREATED BY THE LASER ARE NOT LEVEL OR PLUMB AND SHOULD NOT BE USED FOR DETERMINING OR MARKING LEVEL OR PLUMB. Try repositioning the laser on a more level surface.

#### THE LASER BEAMS WILL NOT STOP MOVING

The DW083-XE is a precision instrument. Therefore, if it is not positioned on a stable (and motionless) surface, the tool will continue to try to find plumb. If the beam will not stop moving, try placing the tool on a more stable surface. Also, try to make sure that the surface is relatively flat, so that the laser is stable.

### Service and Repairs

**Note:** Disassembling the laser level will void all warranties on the product. To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment should be performed by authorized service centers. Service or maintenance performed by unqualified personnel may result in a risk of injury. To locate your nearest DeWALT service center call 1800 444 224 or (NZ) 0800 339 258 or go to [www.dewalt.com.au](http://www.dewalt.com.au) or [www.dewalt.co.nz](http://www.dewalt.co.nz) on the Internet.



SPECIFICATIONS	
Light Source	Semiconductor laser diode
Laser Wavelength	630–680 nm Visible
Laser Power	<1mw (each beam) CLASS 2 LASER PRODUCT
Working Range	30 m (±100')
Accuracy* (Up)	±6 mm @ 30 m (± 1/4" @ 100')
Accuracy* (Level)	±6 mm @ 30 m (± 1/4" @ 100')
Indicators	Flashing Indicator: battery low Flashing Laser: tilt range exceeded
Power Source	4 AA Size Batteries (6.0V DC)
Operating Temperature	-10 °C to 50 °C (20 °F to 120 °F)
Storage Temperature	-20 °C to 60 °C (-5 °F to 140 °F)
Environmental	Water Resistant

\*Accuracy spec assumes laser is positioned on a surface within 4° of level.

### **Accessories**

**⚠ WARNING:** Since accessories, other than those offered by DeWALT, have not been tested with this product, use of such accessories with this tool could be hazardous. To reduce the risk of injury, only DeWALT recommended accessories should be used with this product.

Recommended accessories for use with your tool are available at extra cost from your local service center. If you need any assistance in locating any accessory, please contact Stanley Black & Decker, 82 Taryn Drive, Epping, VIC 3076 Australia or call 1800 444 224 or (NZ) 0800 339 258.





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