# SK DIGITAL HEIGHT GAUGE
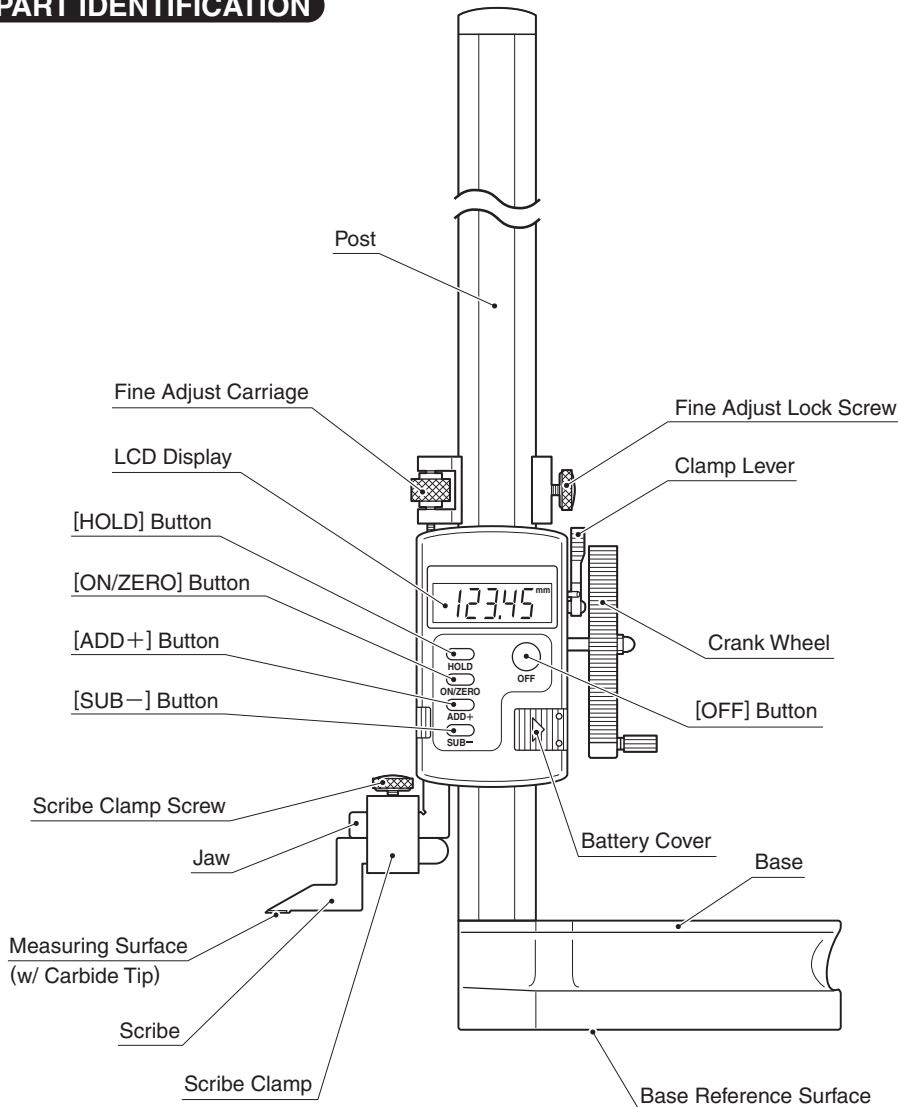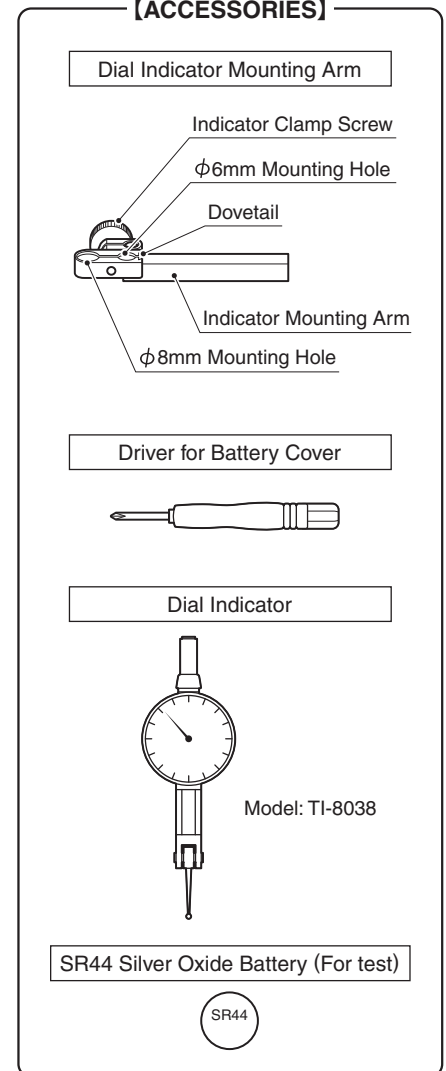
Thank you for purchasing the Digital Height Gauge.
Please read this manual thoroughly before use for proper operation.

## PART IDENTIFICATION

Post

Fine Adjust Carriage

LCD Display

[HOLD] Button

[ON/ZERO] Button

[ADD＋] Button

[SUB－] Button

Scribe Clamp Screw

Jaw

Measuring Surface
(w/ Carbide Tip)

Scribe

Scribe Clamp

Fine Adjust Lock Screw

Clamp Lever

Crank Wheel

[OFF] Button

Battery Cover

Base

Base Reference Surface

### 【ACCESSORIES】

Dial Indicator Mounting Arm

Indicator Clamp Screw

φ6mm Mounting Hole

Dovetail

Indicator Mounting Arm

φ8mm Mounting Hole

Driver for Battery Cover

Dial Indicator

Model: TI-8038

SR44 Silver Oxide Battery (For test)

SR44

## APPLICATIONS and FEATURES

● Smooth operation of slide carriage using crank wheel.
● Ideal for measuring and marking work for molds, jigs, and tooling.
● Accessory arm for mounting φ8mm or φ6mm dial indicator.
● Easy to ready digital display.
● Origin can be set at any position.
● Preset function.
● HOLD function.

## NOTES

・ Before using for the first time, please wipe off the corrosion
  protectant with an oiled cloth.
・ This is a precision instrument, handle with care. Do not drop or
  subject to excessive forces.
・ Please avoid damage to post. Do not scratch instrument, for
  example by writing ID number.
・ Keep away from direct sunlight. Do not store instrument in
  extreme temperatures.
・ When measuring using a dial indicator in place of scribe,
  values for instrument error will vary from listed specifications.

## How to Use Each Button

### 1 [ON/ZERO] Button

● When power is OFF, press once to turn ON.
● When power is ON, press once to set display to "0.00mm".

### 2 [OFF] Button

Press to turn OFF power.

### 3 [ADD＋] , [SUB－] Buttons

Allows operator to change display reading to any value.
Press [ADD＋] to increase value by 0.01mm, or [SUB－] to
decrease by 0.01mm. Press and hold to quickly increase or
decrease value.
Any number can be preset into instrument for a position using
these buttons.

### 4 [HOLD] Button

Press to freeze (hold) the reading, and the LCD will display the
"HOLD" icon.

## SPECIFICATIONS

### ■Digital Height Gauge

- Max Measuring Height : VHS-30D···300mm
  VHS-60D···600mm
- Resolution : 0.01mm
- Instrument Error : VHS-30D···±0.04mm
  VHS-60D···±0.05mm
  ※Instrument error will vary when used with dial indicator;
  Please refer to section: **"Instrument Error When Using Accessory Dial Indicator (TI-8038)"**
- Fine Adjustment Range : 10mm
- Display : 5 Digit LCD
- Approx. Weight : VHS-30D···6.4kg
  VHS-60D···7.5kg
- Power Supply : SR44 Silver Oxide Battery
- Included Accessories : Dial Indicator (TI-8038)
  Dial Indicator Mounting Arm
  SR44 Silver Oxide Battery (For test)
  Driver for Battery Cover

### ■Dial Indicator TI-8038 (Accessory)

- Measurement Range : 0－0.8mm
- Graduation : 0.01mm
- Scale Type : 0－40－0
- Wide Range Error : 0.013mm
- Retrace Error : 0.003mm
- Repeatability : 0.003mm
- Adjacent Error : 0.005mm
- Measurement Force : Less than 0.5N

### ⚠PLEASE NOTE

- When using the Dial Indicator, make sure measuring element (Stylus) is perpendicular to the direction of measurement. If held at an angle, measurement will not be accurate.

- When measuring using a Dial Indicator in place of the Scribe, specified values for instrument error (※) may not be achieved.
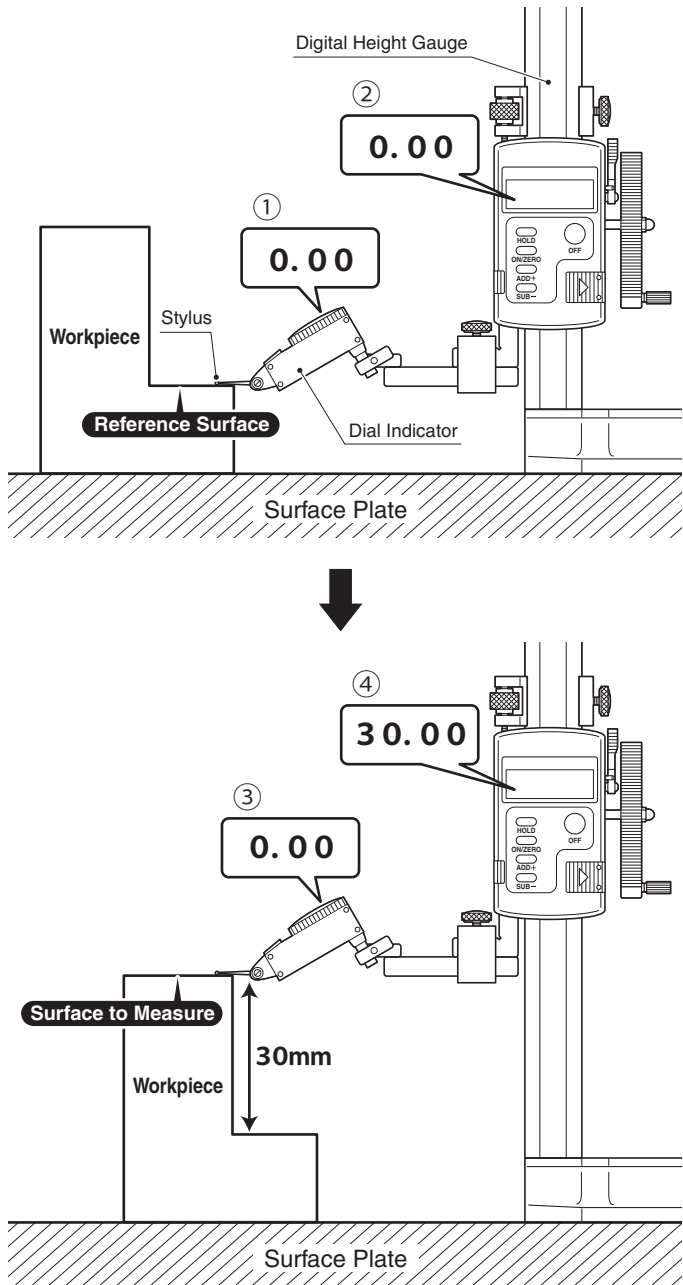
  ※VHS-30D : ±0.04mm、VHS-60D : ±0.05m



Direction of Measurement 90°
Direction of Measurement 90°
Direction of Measurement
Direction of Measurement

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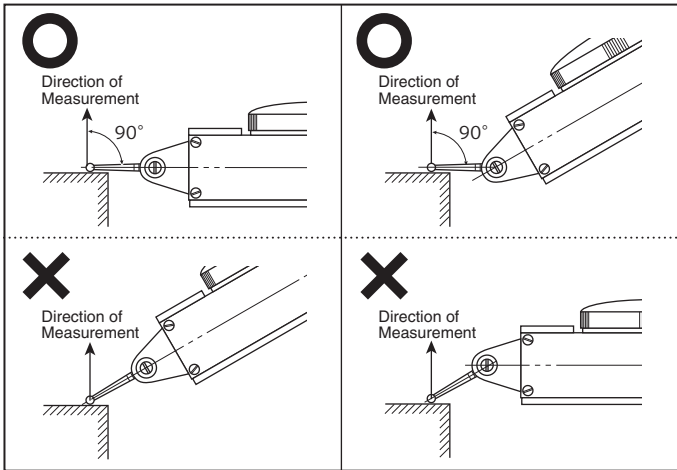
## INSTRUMENT ERROR WHEN USING ACCESSORY DIAL INDICATOR (TI-8038)

### 1 Example using dial indicator with measurement read off the Height Gauge LCD display.

To measure the height from reference surface:

①Place the Indicator Stylus on the reference surface, and set the Indicator to 0.00mm.

②Set the Height Gauge reading to 0.00mm. This is the reference position.

③Measuring Height.
Reposition the Dial Indicator Stylus to the surface to be measured, and adjust the Height Gauge so that the Dial Indicator reading is 0.00mm.

④The LCD display of the Height Gauge now shows the height relative to the reference surface.

**For this method, the total error is the sum of the Height Gauge Instrument Error (VHS-30D : ±0.04mm, VHS-60D : ±0.05mm) ＋ Dial Indicator repeatability (0.003mm)**



Digital Height Gauge
② 0.00
① 0.00
Workpiece  Stylus
Reference Surface  Dial Indicator
Surface Plate

④ 30.00
③ 0.00
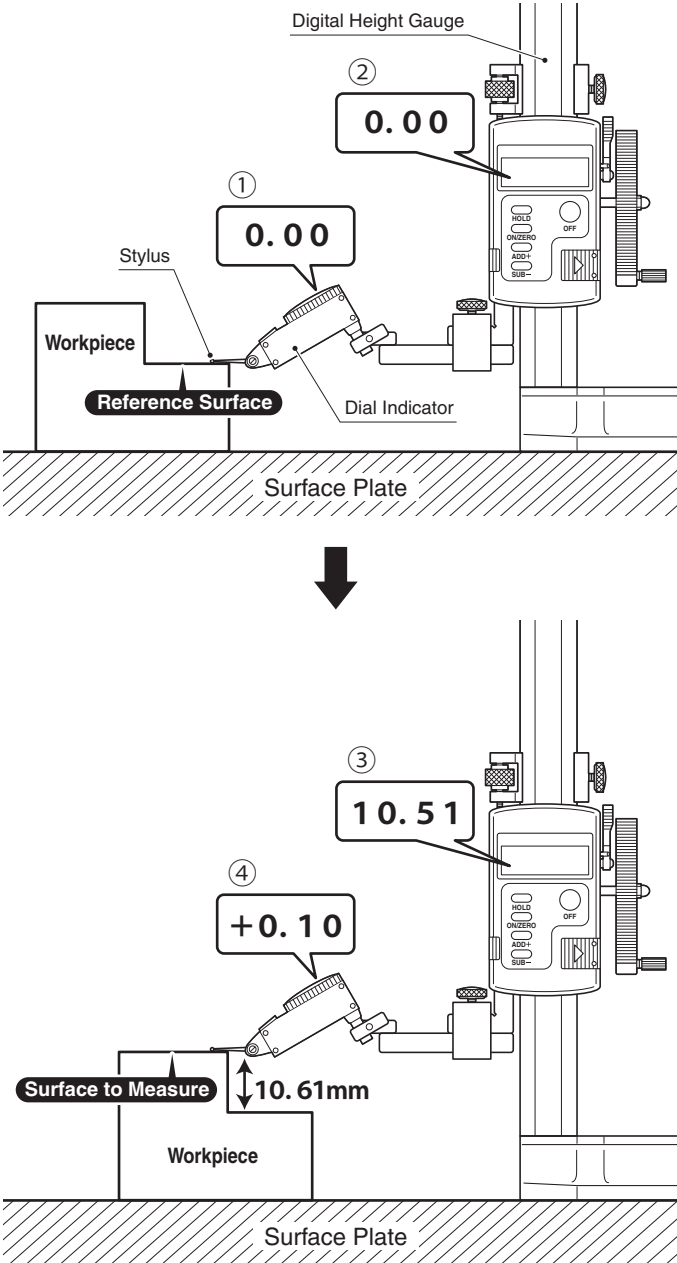Surface to Measure
30mm
Workpiece
Surface Plate

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### 2 Example with measurement read off the Dial Indicator and LCD display of the Height Gauge.

To measure the height from reference surface:

①Place the Indicator Stylus on the reference surface, and set the Indicator to 0.00mm.

②Set the Height Gauge reading to 0.00mm. This is the reference position.

③Measuring Height.
Reposition the Dial Indicator Stylus to the surface to be measured, and read the LCD display of the Height Gauge. This value is 10.51mm

④Read the scale of the Dial Indicator. This value is ＋0.01mm

⑤The height relative to the reference surface is the sum, 10.51 ＋0.10＝10.61mm

⚠NOTE : Make sure the sign (＋, －) of the measurement from the Dial Indicator is same as sign for the Height Gauge.

**For this method, the total error is the sum of the Height Gauge Instrument Error (VHS-30D: ±0.04mm, VHS-60D: ±0.05mm) ＋Dial Indicator Wide Range Error (0.013mm)**



Digital Height Gauge
② 0.00
① 0.00
Stylus
Workpiece
Reference Surface  Dial Indicator
Surface Plate

③ 10.51
④ ＋0.10
Surface to Measure  10.61mm
Workpiece
Surface Plate

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## PREPARATION BEFORE USE

### 1 Inserting the Battery

1. Using the provided driver, remove the Battery Cover Screws.
2. Open the cover by sliding in the direction of the arrow (▷).
3. Insert the Battery with (＋) side facing outward.
4. Return the Battery Cover to it's original position.
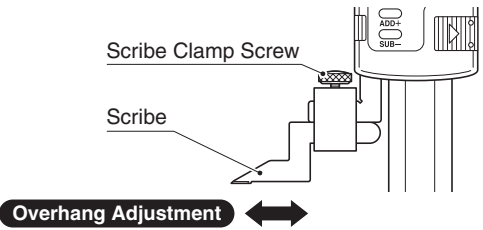5. Replace the Battery Cover Screws to secure the cover.

⚠**NOTE :** Only use SR44 Silver Oxide Battery.

### 2 Installing the Scribe

1. Loosen the Scribe Clamp Screw and insert onto Jaw.



Scribe Clamp Screw  Jaw
Scribe Clamp
Scribe
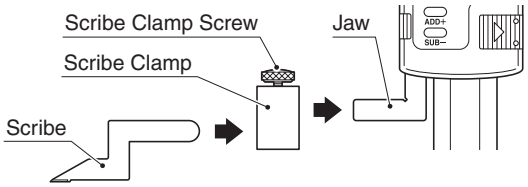
2. Insert the Scribe to desired overhang and secure by tightening the Scribe Clamp Screw.



Scribe Clamp Screw
Scribe
Overhang Adjustment ◀▶

### 3 Dial Indicator Mounting

The Indicator Mounting Arm is used to mount the accessory dial indicator in place of the Scribe.
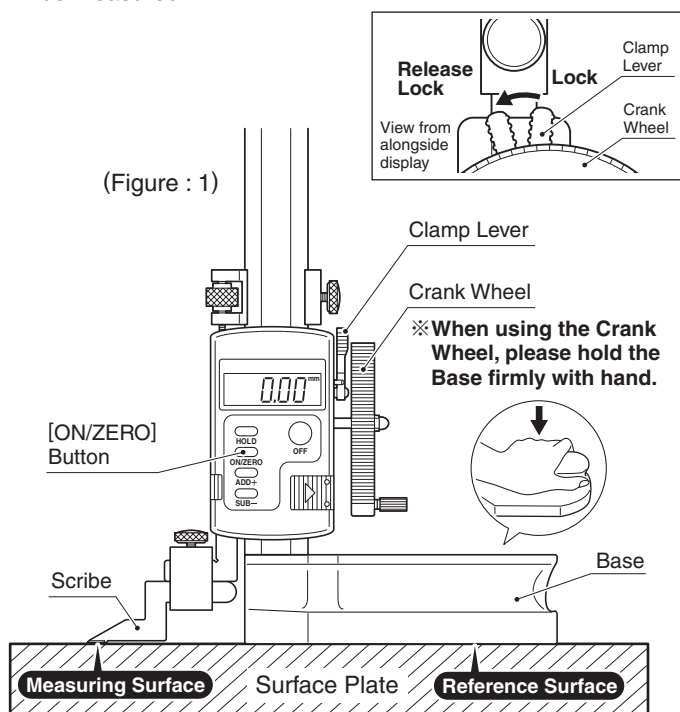
1. Loosen the Indicator Clamp Screw, insert the indicator shaft, and secure by tightening the clamp screw.
2. Loosen the Scribe Clamp Screw and place the Clamp onto the Jaw.
3. Insert the Indicator Mounting Arm into the Clamp, and tighten Clamp Screw at the desired amount of overhang.



Dial Indicator
Indicator Clamp Screw  Scribe Clamp Screw
Jaw
Scribe Clamp
Indicator Mounting Arm
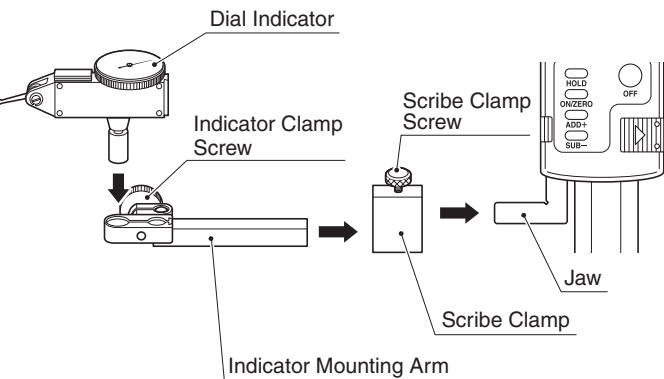
## TAKING MEASUREMENTS

### 1  Absolute Measurement

1. Press the [ON/ZERO] Button to turn on power.
2. Release the Carriage by moving the Clamp Lever forward, located next to the Crank Wheel. (Figure : 1)
3. Move the Scribe Measuring Surface to make good contact with the Surface Plate using the Crank Wheel and the Fine Adjust Feed Screw. (refer to "Fine Adjust Feed Operation")
4. Press the [ON/ZERO] Button to set the LCD reading to "0.00mm".
5. Take a measurement by moving the Scribe to the surface to be measured.



**Release Lock**  **Lock**  
Clamp Lever  
View from alongside display  
Crank Wheel

(Figure : 1)

Clamp Lever

Crank Wheel

※**When using the Crank Wheel, please hold the Base firmly with hand.**

[ON/ZERO] Button

`0.00` mm

HOLD  
ON/ZERO  
ADD+  
SUB−  
OFF

Scribe

Base

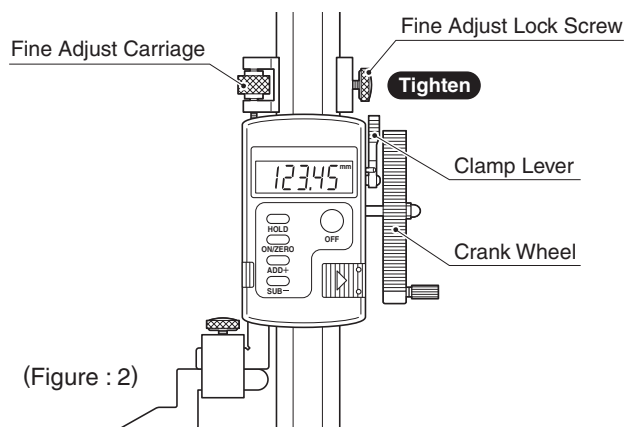**Measuring Surface**  Surface Plate  **Reference Surface**

### 2  Relative Measurement

1. Press the [ON/ZERO] Button to turn on power.
2. Release the Carriage by moving the Clamp Lever forward.
3. Move the Scribe to the Reference Surface and press the [ON/ZERO] Button to set the LCD reading to "0.00mm".
4. Moving the Scribe to the surface to be measured, and the height relative to the reference surface will be displayed.

### ■  Fine Adjust Feed Operation

1. Release the Carriage by moving the Clamp Lever forward.
2. Tighten the Fine Adjust Lock Screw. (Figure : 2)
3. Turn the Fine Adjust Feed Screw for fine control of position.



Fine Adjust Carriage

Fine Adjust Lock Screw  
**Tighten**

`123.45` mm

HOLD  
ON/ZERO  
ADD+  
SUB−  
OFF

Clamp Lever

Crank Wheel

(Figure : 2)

## TROUBLESHOOTING

**Q.  Nothing is displayed, or the numbers are flashing.**
  A.  The battery may be low. Please replace with new SR44 battery.

**Q.  With power on, the number on the LCD does not change as the carriage is moved.**
  A.  Please reset by removing battery for about 30sec., and then replacing.

**Q.  Nothing happens when buttons are pressed.**
  A.  Battery may not have good contact with terminals. Please reset battery and confirm orientation with (＋) side outward.

## SERVICE

● If height gauge is not working properly, or if you have any questions, please contact distributor or place of purchase.
● Please note, manufacturer is unable to respond to inquires or provide service directly. Please contact distributor or place of purchase.