

Vernier Height Gage

MANUAL No. 2064 ③
SERIES Nos. 506, 514

Bilingual J-GB

1. Nomenclature

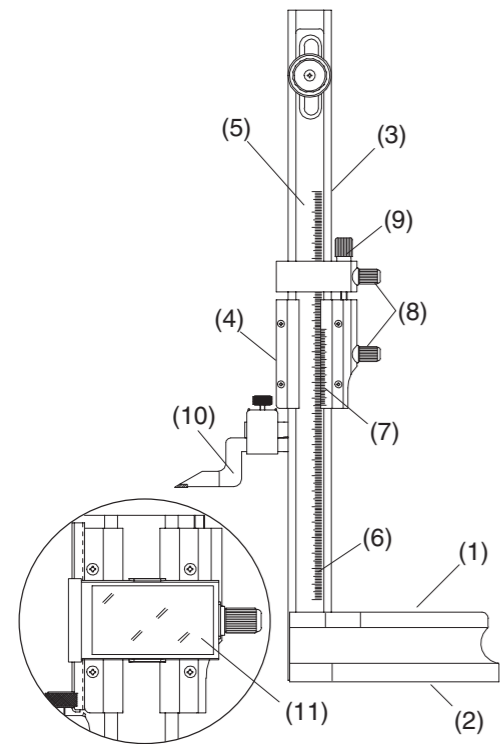


Fig. 1

- (1) Base
- (2) Reference surface of base
- (3) Column
- (4) Slider
- (5) Main beam
- (6) Main scale
- (7) Vernier scale
- (8) Clamp screw
- (9) Fine feed screw
- (10) Scriber
- (11) Magnifying galss (only for 514 series)

• Reading measurement

Vernier 0.02mm

| How to read | |
|-------------|-------------------------------------------------------------------------------|
| | <p>Main scale: 19 mm</p> <p>Vernier: 0.68mm</p> <hr/> <p>Reading: 19.68mm</p> |

Vernier 0.05mm

| How to read | |
|-------------|-----------------------------------------------------------------------------|
| | <p>Main scale: 7 mm</p> <p>Vernier: 0.65mm</p> <hr/> <p>Reading: 7.65mm</p> |

Vernier .001"

| How to read | |
|-------------|--------------------------------------------------------------------------------------------------|
| | <p>Main scale (1/40"): 2.10"</p> <p>Vernier (.001" × 15): .015"</p> <hr/> <p>Reading: 2.115"</p> |

2. Attaching the scriber

Thoroughly clean the scriber and the height gage, particularly the bottom surface of base and the scriber mount, by wiping.

After inserting the scriber, rotate the scriber clamp in the direction indicated by the arrow to clamp the scriber with the height gage.

- Take special care when handling the scriber as it has a knife-edge.
- Before tightening the scriber clamp, make sure that the clamp is inserted deep into the jaw of the slider.



- To minimize measurement error, the scriber arm should not be extended longer than necessary. It should be attached as close to the main beam as possible. If it has to be used in an extended position, care must be taken to apply an appropriate and constant measuring force.

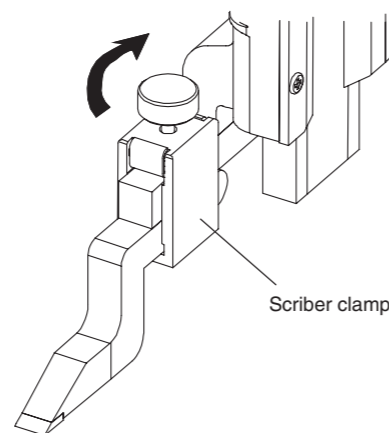


Fig. 2

3. Precautions for measurement

- **Cleaning:** Thoroughly clean the height gage, surface plate, and workpiece to be measured. Apply quality oil to the slide way of the main beam.
- **Zero point checking:** Make sure that the height gage reads zero when the scriber measuring face touches the surface plate while under the normal light measuring force.
- Before using the height gage, wipe off the anti-corrosive oil from the bottom surface of the base and the scriber mount.

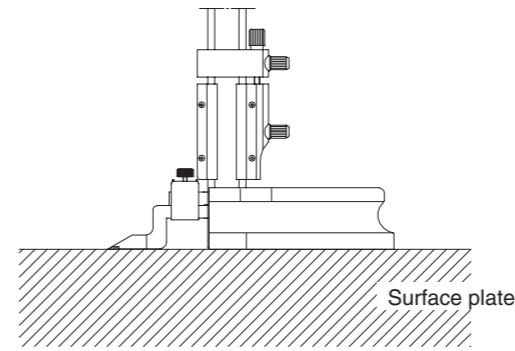


Fig. 3

- **Measuring force:** When taking measurements, be careful not to exert excessive force on the workpiece with the scriber. Special care is needed when fine feeding the scriber using the fine feed screw. The base may be jacked up as shown unless the base is held down by a hand.

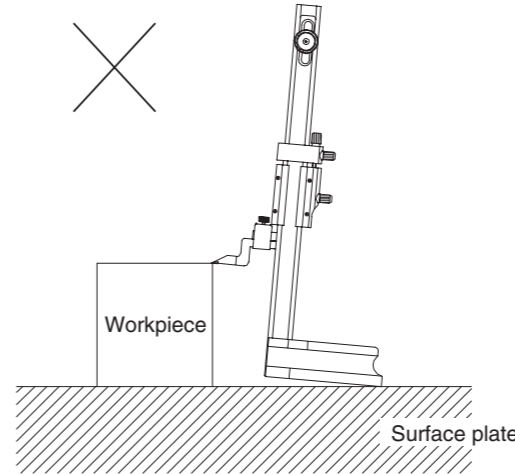


Fig. 4

- **Parallax error:** When reading measurements avoid parallax errors by viewing scales straight on. If the viewing direction is shifted, as shown, a parallax error Δx will be involved in measurements.

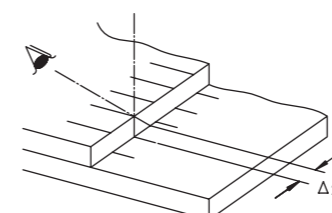


Fig. 5

- **Scribing:** When scribing lines, clamp the slider firmly and slide the scriber in one direction. Do not retrace the scribed line.

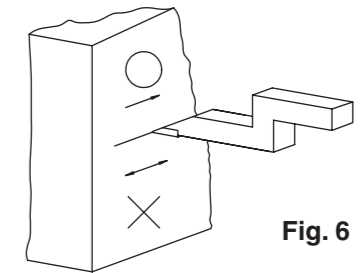


Fig. 6

4. Sliding the main scale plate (for zero point setting)

(1) For height gages with a range of less than 1000mm (40") (for Series 514)

Loosen the clamp screw by turning it counterclockwise. Move the plate up or down so that the zero point is adjusted by turning the fine-feed wheel.

(Turning the wheel clockwise moves the plate up.)

Tighten the clamp screw by turning it clockwise to secure the plate at this position.

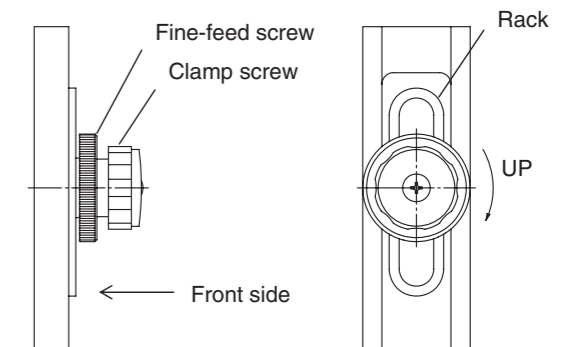


Fig. 7

(2) For height gages with a range of 1000mm (40") or greater

Loosen the two clamp screws for coarse sliding of the plate. Tighten only the clamp screw (coarse) and use the fine sliding screw for fine feeding the plate.

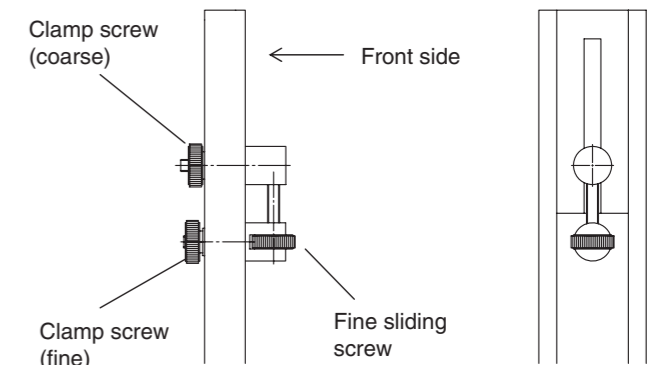


Fig. 8

Care after use

Thoroughly clean the height gage by wiping and apply anti-corrosive oil to the slide way, scriber, and reference surface of the base.