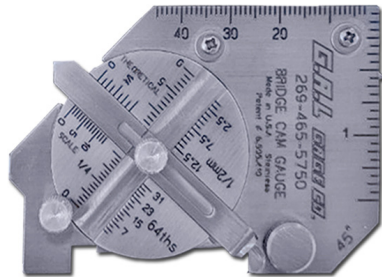


Position One: The Theoretical Throat

Position One: The Theoretical Throat: Rotate the disc to Position 1 (See Figure 1).

Both scales measure the Theoretical Throat but the scale on the right of the pointer measures in 16ths and the scale on the left of the pointer measures in millimeters. Both Inch and Metric Measurements can be taken from this position.

**Figure 1:
The Theoretical Throat**

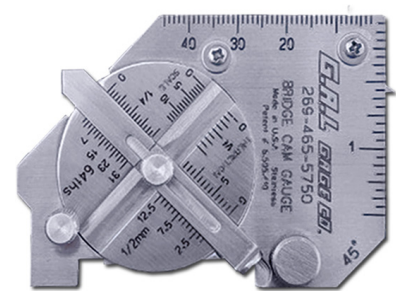


Position Two: The Actual Throat

Position Two: The Actual Throat: Rotate the disc to Position 2 (See Figure 2).

Both scales measure the Actual Throat but the scale on the right of the pointer measures in 32nds and the scale on the left of the pointer measures in 64ths, which allows for smaller increments and more precise measurements.

**Figure 2:
The Actual Throat**

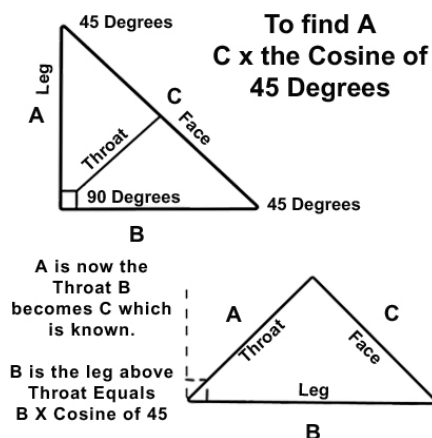


Theoretical and Actual Throat

The Theoretical and the Actual Throat are used to measure the throat of a weld. Each scale is fundamentally different. The Actual Throat is a linear scale and can measure the throat of a weld. The Theoretical Throat uses leg length to calculate the throat.

The equation to the right explains the math. Using the measurements of the cosine of 45 degrees, or .707, and the leg length the throat can be calculated.

The Theoretical Side of the pointer does the math for you and acts like a go/no-go gauge. Set the pointer to the desired leg length and if the weld's face does not touch the pointer it is undersized if the face touches the pointer it is acceptable.

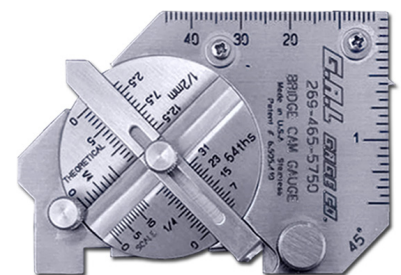


Position Three: The Metric Throat

Position Three: The Metric Throat: Rotate the disc to Position 3 (See Figure 3).

Both scales allow for millimeter measurement of the Throat but the scale on the left of the pointer measures in millimeters while the scale on the right of the pointer measures in increments of .5mm which allows for smaller increments and more precise measurements.

**Figure 3:
The Metric Throat**



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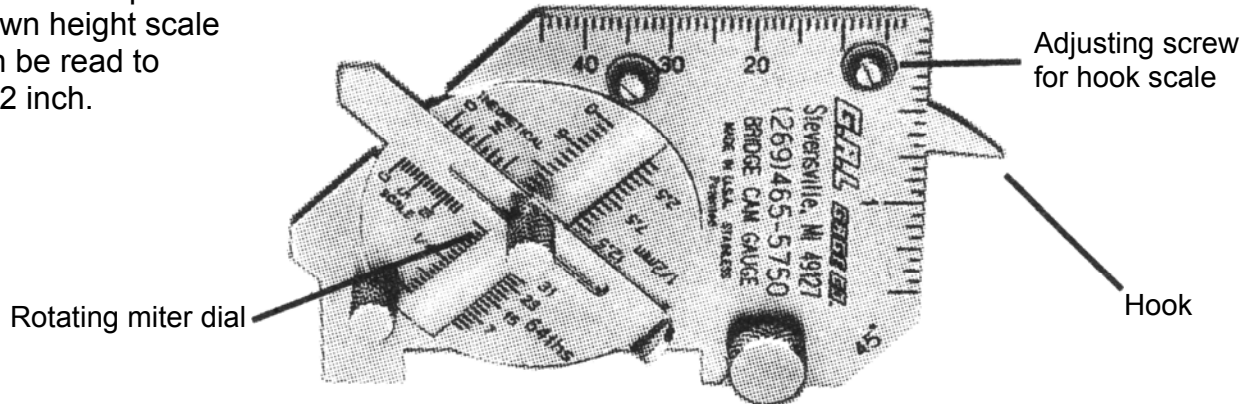
NEW FEATURE

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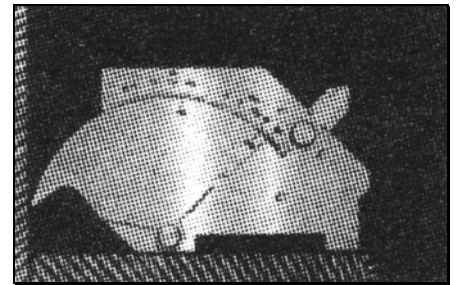
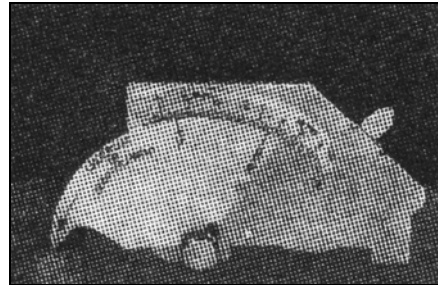
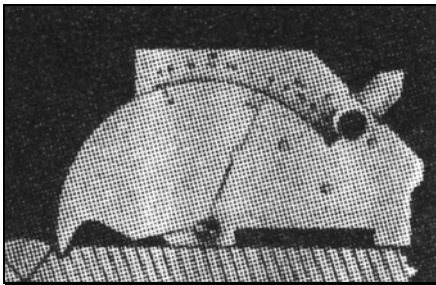
Undercut depth or crown height scale can be read to 1/32 inch.



Undercut

Excess Weld Metal

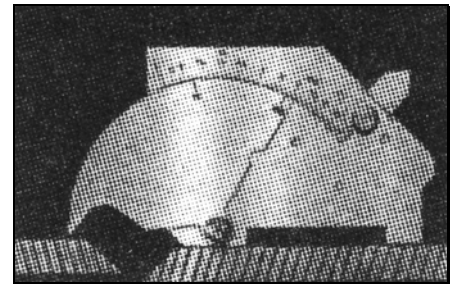
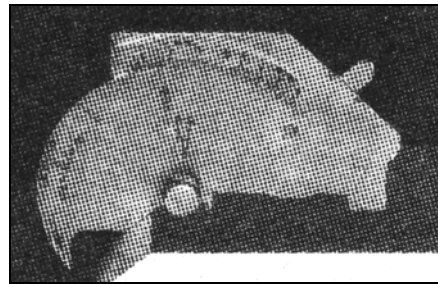
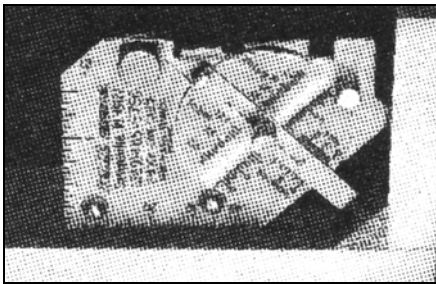
Fillet Leg Length



Fillet Weld Throat

Angle of Preparation

Misalignment



Angle of preparation, 0 to 60°
Excess weld metal
(capping Size)

Depth of Undercut
Depth of pitting
Fillet weld throat size

Fillet weld Length
Misalignment (high-low)

General linear measurements up to 45mm or 1-1/2 inches



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