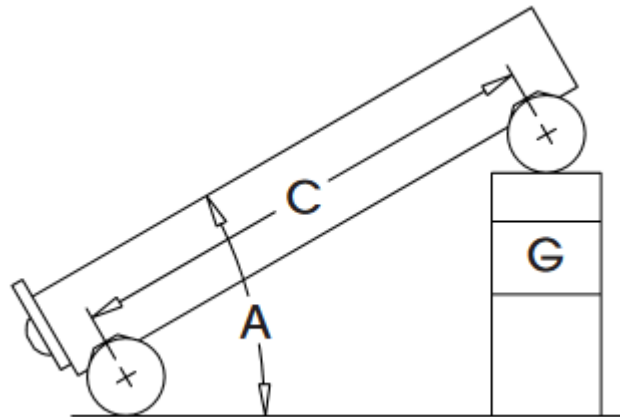


HOW TO USE A SINE BAR / PLATE



1. To set an angle on any sine device, whether it is a sine bar, sine plate, compound sine plate, or other sine tool, you must first determine the center distance of the device (C) and the angle you wish to set (A).

2. Next, you must look up the 'setting constant' in the appropriate table. The sine tables provided in this booklet are the basic sizes needed to set an angle on most sine products. For center distances other than those sizes listed, use the appropriate multiple of the constant determined from the basic chart. For example: to obtain the constant needed to set a 15-degree, 12-minute angle on a 10" sine plate, look up the constant in the 5" chart and find 1.310946". Multiply this by 2 and the result is 2.621892"

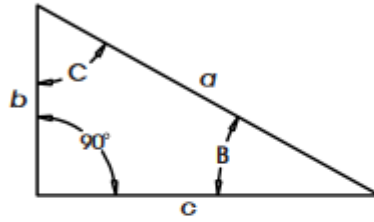
3. After determining the appropriate constant, assemble a stack of gage blocks (G) equal in size to that constant.

4. Place these gage blocks under the gage block roll of the sine device, and the desired angle is set.

5. Tighten the locking mechanism on those devices that have one, and you're ready to go.

SOLUTION OF RIGHT-ANGLED TRIANGLES

Sin = Sine
 Cos = Cosine
 Tan = Tangent
 Ctn = Cotangent
 Sec = Secant
 Csc = Cosecant



To Find Angle	FORMULAS	To Find Side	FORMULAS	
B	$B = 90^\circ - C$	a	$\sqrt{b^2 + c^2}$	
B	$\sin B = \frac{b}{a}$	a	$b \times \text{Csc } B$	$\frac{b}{\sin B}$
B	$\cos B = \frac{c}{a}$	a	$b \times \text{Sec } C$	$\frac{b}{\cos C}$
B	$\tan B = \frac{b}{c}$	a	$c \times \text{Csc } C$	$\frac{c}{\sin C}$
B	$\text{Ctn } B = \frac{c}{b}$	a	$c \times \text{Sec } B$	$\frac{c}{\cos B}$
B	$\text{Sec } B = \frac{a}{c}$	b	$\sqrt{a^2 - c^2}$	
B	$\text{Csc } B = \frac{a}{b}$	b	$a \times \cos C$	$\frac{a}{\text{Sec } C}$
C	$C = 90^\circ - B$	b	$a \times \sin B$	$\frac{a}{\text{Csc } B}$
C	$\sin C = \frac{c}{a}$	b	$c \times \text{Ctn } C$	$\frac{c}{\tan C}$
C	$\cos C = \frac{b}{a}$	b	$c \times \tan B$	$\frac{c}{\text{Ctn } B}$
C	$\tan C = \frac{c}{b}$	c	$\sqrt{a^2 - b^2}$	
C	$\text{Ctn } C = \frac{b}{c}$	c	$a \times \sin C$	$\frac{a}{\text{Csc } C}$
C	$\text{Sec } C = \frac{a}{b}$	c	$a \times \cos B$	$\frac{a}{\text{Sec } B}$
C	$\text{Csc } C = \frac{a}{c}$	c	$b \times \tan C$	$\frac{b}{\text{Ctn } C}$
		c	$b \times \text{Ctn } B$	$\frac{b}{\tan B}$