

INSTRUCTIONS FOR THE DIAL PROTRACTOR

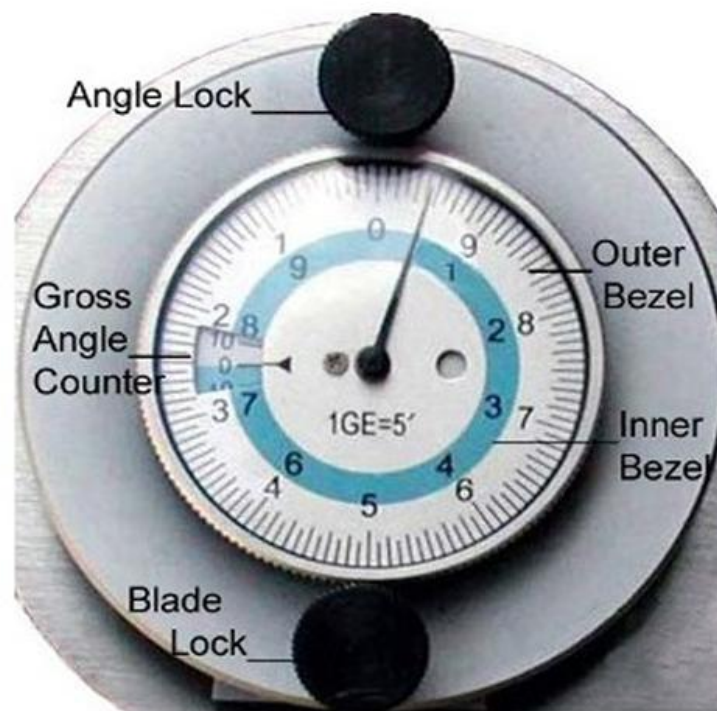


Terms

Acute Angle = Angle Less than 90 degrees

Obtuse Angle = Angle Greater than 90 degrees

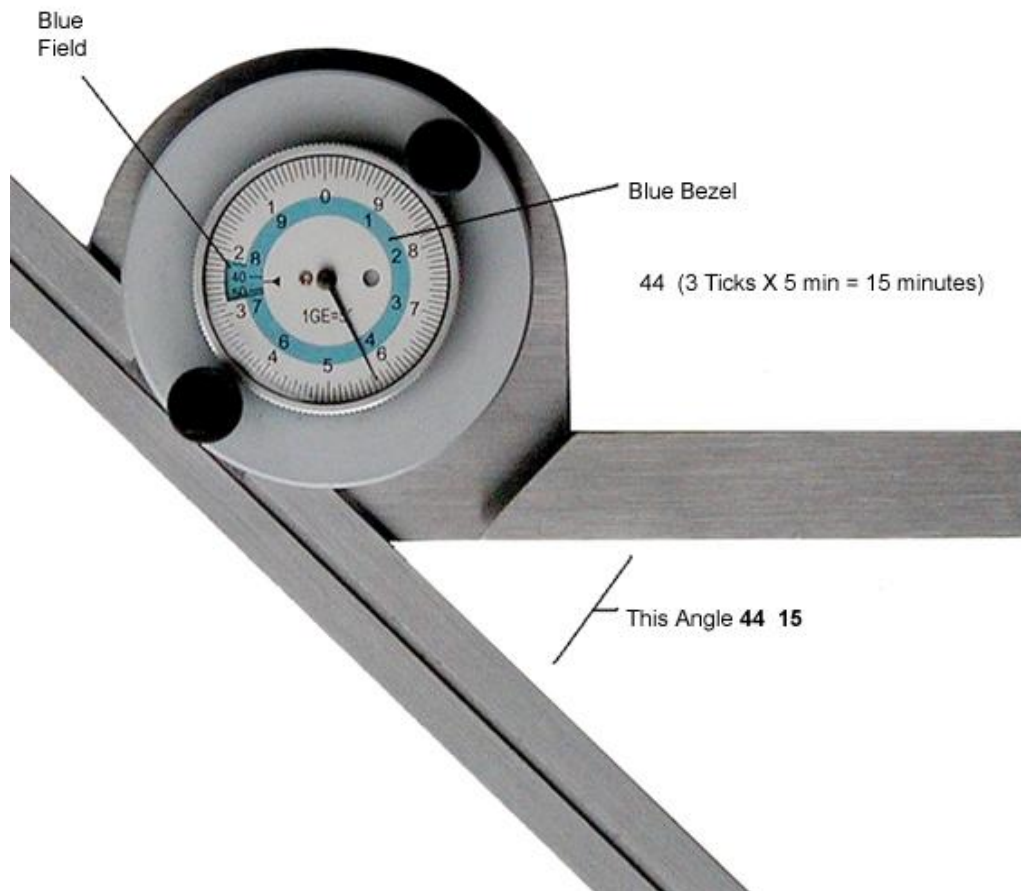
Reading The Dial – Illustration 1.



Start by looking at the Gross Angle Counter. The Gross Angle Counter gets you within 10° (degrees). If the numbers in the Gross Angle Counter have a blue background, use the inner blue bezel to get the nearest whole degree. If the numbers in the Gross Angle Counter have a silver background, use the outer silver bezel to determine the angle. To get familiar with the dial, spin the blade until you see 40° in the Gross Angle Counter with the silver background. Line 40° up with the index pointer. Continue to rotate the blade until the needle is directly over the zero. This is 40°. Move the needle over the 5 and you have 45°. If you want dead on 90° - spin the Protractor until 90° appears in the Gross Angle Counter. Line up 90° with the index pointer and the needle over the zero. Notice that 90° is half way between the blue and the silver field in the Gross Angle Counter.

To calculate minutes remember that every tick mark on the dial represents 5' (minutes) of a degree. Every degree has 60' (minutes), therefore you can measure to within 1/12th of a degree.

Hint: Remember when operating in the blue field of the Gross Angle Counter, you use the blue inner bezel to get the nearest whole number. To calculate minutes you count the tick marks in the silver bezel and multiply by 5 to get minutes. See Illustration 2.



Obtuse Angles

At this point you may have noticed the degrees in the Gross Angle Counter only go up to 90°. To measure an obtuse angle, just take the reading from the Protractor as describe above and subtract the finding from 180°.

Example: Obtuse angle measure reading is 32° 20', 32 degrees and 20 minutes

$$\begin{array}{r} 179^{\circ} 60' \\ \underline{32^{\circ} 20'} \end{array}$$

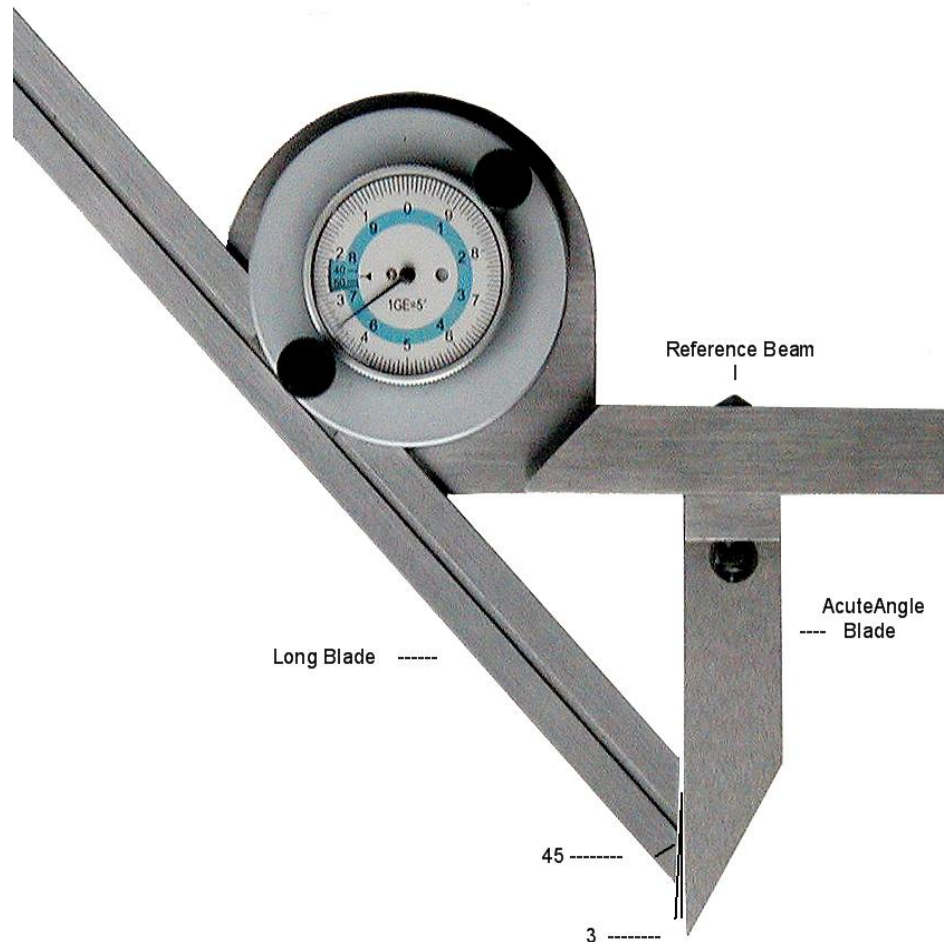
147° 40' equals actual angle

Measuring Angles Less Than 15°

Using The Acute Angle Blade

Step 1

Install the acute angle blade to the reference beam using the mounting hardware provided. Make sure the bevel faces right and down as shown in Illustration 3.



Step 2

Slide the long blade onto the blade lock so that the 45° end of the blade will meet flatly against the acute angle blade.

Step 3

Adjust the long blade and the acute angle blade until the gross angle counter reads between 40° - 50° in the blue field and the needle is on or close to 5°. It is more important that the 45° bevel of the long blade registers flat against the acute angle blade than for the needle to be dead on 5°.

Step 4

Tighten the blade lock.

Step 5

Record the exact reading

Example: 44° 40' (44 degrees 40 minutes [8 tick marks])

Step 6

Measure the item between the 45° bevel on the long blade and the acute angle blade as shown in the illustration.

Step 7

Record the reading.

Example: 51° 10'

Step 8

Subtract the reading in Step 5 from the reading in Step 7.

$$\begin{array}{r} 51^{\circ} 10' \\ \underline{44^{\circ} 40'} \\ 50^{\circ} 70' \\ \underline{44^{\circ} 40'} \\ \text{Answer: } 6^{\circ} 30' \end{array}$$