

Engineering Graphics

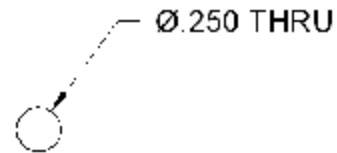
Unit Four

Hole Callouts

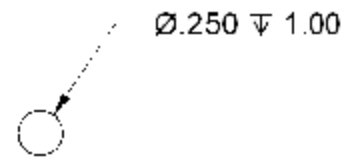
Hole Callouts for Engineering Drawings

Ignore pages 184 & 185 in your textbook as they do not conform to ANSI standards for drawings. Below you will find proper hole callouts for all drawings at KCC. Even if the hole callout on a given drawing problem is not to standard, you should use the standard when dimensioning your drawings down the road.

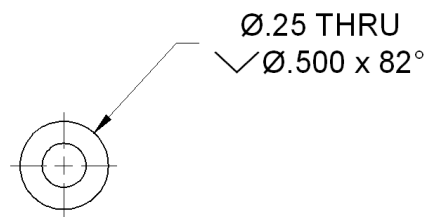
A plain drilled or reamed hole that passes completely through the part.



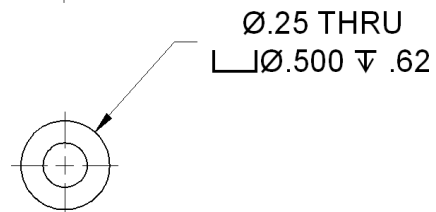
A plain drilled or reamed hole that is blind. Note: we never specify an operation such as drill or ream. The given depth is to the end of the full diameter, the conic point goes beyond the stated depth.



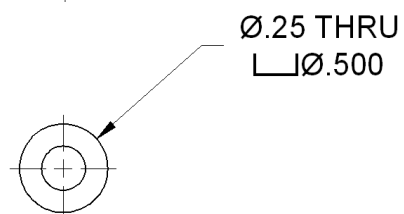
A countersunk (or C'sink) hole to fit a flat head fastener. The heads of inch fasteners are typically at 82°, metric at 90°. The drilled hole typically always a thru hole.



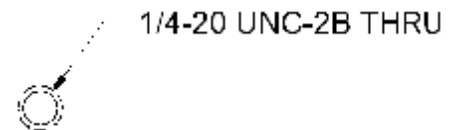
A counterbored (or C'bore) hole to fit a socket head or hex head fastener. The depth following the counterbore symbol is the counterbore depth, not the hole, which is typically always thru.



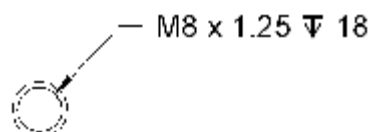
A spotface (or S'face) used to clean up the rough surface of a casting where a fastener will sit. Just like a counterbore, but no depth is specified. The rule of thumb for spotfaces is 80% clean-up of the face.



A tapped (thread) hole, thru. For inch threads, we give the thread diameter, threads per inch, the standard (usually UNC or UNF), the class of fit (1, 2, 3 or 4), and an A for external or B for internal. It is standard now to **not** include the tap drill size for the hole that is drilled prior to tapping.



A blind tapped hole with a metric thread callout.



If you have multiple holes of the same kind, precede the note with the quantity and a lower case x.

