

# Common Bolt Sizes, Uses, and Hardware

<b>Bolt Size</b> <b>FIRST NUMBER:</b> Diameter of the bolt <b>SECOND NUMBER:</b> Thread pitch  To help organize your team's tools, choose a color for each bolt size. Write the color here and mark its coordinating tools with that color.	<b>Common Uses</b>  These are ways <i>FIRST</i> Robotics Competitions teams commonly use this bolt size.	<b>Allen Wrench Size</b>  An Allen wrench is used to screw in the bolt. It's also known as a hex key or tool.  <hr/> <b>SOCKET HEAD</b> <b>BUTTON HEAD</b> (SHCS)                      (BHCS)		<b>Wrench/Socket Size</b>  A wrench or socket holds a nut in place while tightening the bolt.	<b>Clearance Hole Size</b>  This is the size of the hole that would need to be drilled in order for the bolt to fit in it. Sizes are rounded to the nearest common bit size for a close fit.	<b>Tapped Hole Size</b>  Tapped holes have threads. Tap and die sets come with special drill bits to create the correctly sized hole. The nearest fractional drill bit size is indicated in ().
#8-32	<ul style="list-style-type: none"> <li>For lightweight/low-strength uses</li> <li>In some gearboxes</li> <li>As set screws</li> </ul>	9/64"	3/32"	11/32"	11/64"	29 (9/64")
#10-32	<ul style="list-style-type: none"> <li>Used in a good balance of strength and lightweight applications</li> <li>Most common bolt on robots</li> </ul>	5/32"	1/8"	3/8"	3/16"	21 (5/32")
#1/4-20	<ul style="list-style-type: none"> <li>For heavy-duty applications</li> <li>Used in drive trains, climber attachments, etc.</li> </ul>	3/16"	5/32"	7/16"	1/4"	7 (13/64")