## Tools and Fasteners



## Across

[2] A mechanical measuring caliper with a rotary display scale.
[6] A light-duty pneumatic wrench usually with a ?-inch (9.5 mm ) drive used for repetitive high-speed operations.
[9] A metal blade precisely finished to a defined thickness; used for measuring clearance and tolerance dimensions. usually found in sets in which thickness graduates by 0.001 -inch ( 0.025 mm ) increments. also known as thickness gauges.
[10] Heavier wall, softer steel sockets designed for use with impact wrenches.
[11] A commonly used production line fastener used in place of a nut and bolt that ensures more accurate clamping pressure.
[13] A hex or double hex wrench designed to completely enclose a bolt or nut and evenly apply torque to it.

## Down

[1] A male thread cutting tool that cuts, finishes, or cleans up female threads in bores.
[3] Better known as vise-grips ${ }^{\text {™ }}$.
[4] A precise measuring instrument typically consisting of a thimble, barrel, and anvil; used to make id, od, and thickness measurements.
[5] Impact tool hardened steel bar dressed with a cutting edge and driven by a hammer.
[7] A wrench with one fixed and one movable jaw, enabling it to span a wide range of dimensions. the position of the movable jaw is determined by rotating a helical adjusting worm.
[8] A rotary abrasive grinder used to dress tools and clean up torch cuts on steel.
[12] A wrench with an open end on one side and box end on the other, both of the same nominal dimension.

## Solution



