

# All-Angle Cog Wrenches

Handy hot line tools for hand-tightening only.

**NOT** for final torquing strain-related fasteners!

**T**he proper tool to apply specified torque to line hardware is NOT an All-Angle Cog Wrench. It is an extremely handy insulated tool for “landing” a socket-wrench on energized hardware in unhandy locations, but it is not designed to tighten fasteners more than “hand tight.”

This makes it ideal for running nuts down on long bolts and uses that don’t require higher torque such as mounting hardware for lightning arresters and static-ground assemblies not under strain conditions. It’s rated for 15 ft.-lb. maximum torque.

### Adjusts by hand on the spot

The wrench head’s angle relative to the handle is adjustable in a 140° range. Wing nuts on both



sides of the head tighten by hand to hold the head in a friction-locked position during use. This lets a line worker efficiently attain the angle needed to reach a fastener.

To start tightening, the hand grip steadies the tool and holds the cog head in place. Rotating the pole turns the cog gears to engage the wrench on the nut or bolt.

### Sizes suited to various applications

All sizes of the All-Angle Cog Wrench feature a square shank to fit ½”-drive socket wrenches, an insulated handle of 1½”-diameter foam-core fiberglass and a parallel control rod of ⅜”-diameter solid fiberglass. The hand grip is aluminum alloy, the cog housing is bronze alloy and the cog gears are hardened steel.

To provide live-line approach distances required for many system voltages, the All-Angle Cog Wrench is available in lengths of 6-, 8- and 10-feet. These easy-to-use tools weigh only 7, 7½ and 8 lb. (3.2, 3.4, 3.6 kg).

### Final torque-rated hot line tools

For a fastener started with an All-Angle Cog Wrench, use a higher torque-rated hot-line tool for final tightening.

Flexible Insulated Wrenches offer eight choices, including two lengths (6 and 8 feet) in two torque ratings (40 and 75 ft.-lb.). Each has a 1½” fiberglass insulated shaft with a ½”-drive square shank on one end solidly joined to a universal joint. A coil spring over the fittings provides the right amount of flex control for a socket wrench on the end.

• **First, run the nut down the threads with an All-Angle Cog Wrench. Its adjustable tool head can easily get to hard-to reach fasteners.**



• **Second, finish the tightening with a Flexible Insulated Wrench (as at left) or a Ratchet (at right). For strain-carrying fasteners, these tools can develop the needed torque requirements.**



Three different fittings are offered for the other end of the shaft. One is a square socket for a ½”-drive ratchet and is used as an insulated extension to transmit torque to a socket wrench. It is available in both shaft lengths and torque ratings.

Two other styles come in only the 40 ft.-lb. rating. One has a universal head with a hole through its ferrule and shaft for a ⅝”-diameter turning rod. The rod (not furnished) is used as a handle to torque a socket wrench on the other end. This tool also doubles as a handle for the advantages of many universal tools.

The third style comes with a dedicated ratchet wrench solidly mounted in the shaft end, effectively giving the ratchet handle a long lever arm. The ratchet’s reversible square shank fits ½”-drive socket wrenches.

From this wide selection of insulated tools, both speedy assembly and properly applying torque can be accomplished on energized lines. This includes tightening such strain-application hardware as dead ends, in-line dead ends, bolted hardware on deadends, down guys and span guy bolts. ■