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How to Use a Torque Wrench Correctly

A torque wrench measures how hard you turn a nut or bolt.

The three types

Type (Chapter 11 name)	Also called (Chapter 7)	How it works
Deflecting beam	Flexible beam	Read the torque on a dial or scale on the handle
Dial indicating	Rigid frame	Read the torque on a dial or scale on the handle
Micrometer setting (click)	Ratchet type	Preset the torque; at that value the handle breaks away with a click and free travel

Typical mistakes

Mistake	What happens	Fix
Jerky pull	Wrong torque	Smooth, steady pull
Using an extension without the formula	Wrong torque at the bolt	Use Tw = Te x A / B
Torque on the bolt head, not the nut	More friction, more bolt wear	Turn the nut when you can
Forcing a castle nut to align	Overtorque	Do not exceed the maximum; change washer or nut
Wrench dropped or abused	Reading may be off	Test it before use
Wrench size confused with bolt size	Wrong value	Torque is for the bolt shank size, not the wrench size (AC 43.13-1B)

Key points

- **Not approved data.** The maintenance manual's torque value and method always govern.
- **Calibration interval.** Three different intervals appear in the FAA documents; none is chosen here.
- **Torque values.** No torque values are quoted on this page; use the manual or the torque chart.

SOURCES · FAA-H-8083-30B, AMT Handbook: General · FAA AC 43.13-1B CHG 1, Acceptable Methods, Techniques and Practices

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Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.