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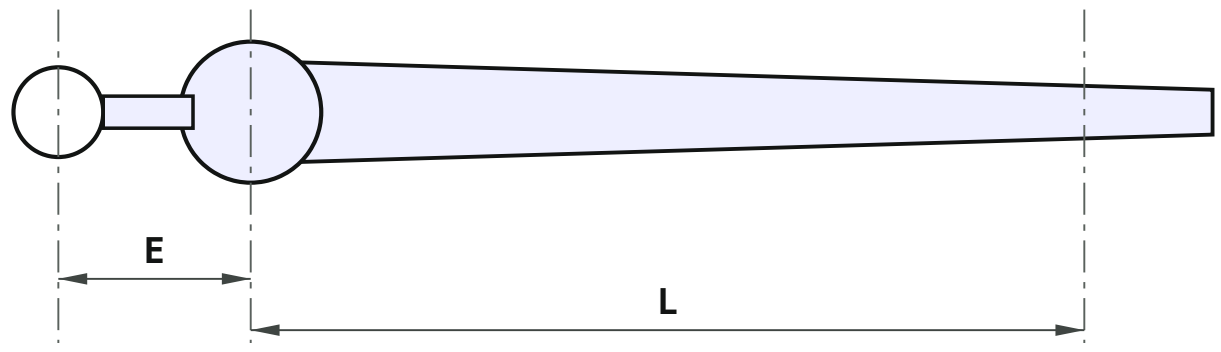
Torquing Nuts and Bolts

Friction drag · final torque · adapters

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

PLAN

ADAPTER AHEAD OF THE DRIVE



FORMULA

AC 43.13-1B FIGURE 7-2

$$Y = T \times L / (L + E)$$

ADAPTER AWAY: E PLUS

$$Y = T \times L / (L - E)$$

ADAPTER FOLDED BACK: E MINUS

T 135 · L 10 · E 1.5 IN → Y 117 LB-IN

BUILD-UP

WHAT THE WRENCH READS

FRICTION DRAG	TARGET TORQUE (MANUAL, ELSE TABLE 7-1)

FINAL TORQUE ON THE WRENCH

RULES

ITEM	RULE	SOURCE
Wrench	Calibrate at least yearly, and at once if dropped or abused	AC 43.13-1B par. 7-40a
Threads	Clean and dry unless the manufacturer says otherwise	par. 7-40b
Which end	Torque the nut, not the bolt, when possible	par. 7-40c
The pull	Smooth and even; if it chatters, back off and retorque	par. 7-40e
Castle nut	Align from minimum torque; do not exceed maximum; change washer or nut	par. 7-40f

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on AC 43.13-1B par. 7-40.

REVISIONS

REV	DESCRIPTION	DATE
A	First issue	2026-10-30

The Aviation Point.	Structural repair reference		
TITLE: Torquing			
DRAWING NO.: TAP-DWG-062	REV: A	SCALE: NTS	SHEET: 1 OF 1
APPLIES TO: Nuts and bolts			
DO NOT SCALE DRAWING			

After AC 43.13-1B par. 7-40 and Fig. 7-2. Typical only: the maintenance manual gives the torque when it has one.

Key points

- **Final = target + friction drag.**
- **Y = T × L / (L ± E).**

Step by step

1. Find the torque.
2. Wrench, threads.
3. Friction drag.
4. Smooth pull.

SOURCES · FAA AC 43.13-1B CHG 1, Acceptable Methods, Techniques and Practices

SCAN · OPEN THIS GUIDE
theaviationpoint.com/standard-practices/torquing/

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