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How to Use Snips, Shears and Nibblers on Sheet Metal

Choose the cutter by the shape of the cut and the thickness of the sheet.

Which cutter

Tool	Cuts	Limit in the Handbook
Straight snips	Straight lines and large curves; blades sharpened to 85 degrees; sizes 6 to 14 in	Aluminum up to 1/16 in (H-31 p. 4-12)
Aviation snips	Holes, curves, round patches, doublers. Yellow handles cut straight, green curve right, red curve left	Light gauge sheet (p. 4-13)
Throatless shear	Straight, curved and irregular cuts; sheet of any length; metal turns freely round the blade	Aluminum up to 0.063 in (p. 4-9)
Scroll shears	Irregular lines inside a sheet without cutting through to the edge	p. 4-10
Squaring shear (foot)	Cut to a line, square, or cut several to one size with the backstop	0.063 in aluminum; powered shears for thicker (p. 4-9)
Nibbler (air-powered)	Bites out pieces about 1/16 in wide	Sheets up to 1/16 in thick (p. 4-8)

Typical mistakes

Mistake	What happens	Fix
Straight snips on a tight curve	Distorted edge	Aviation snips are better for circles and arcs (p. 4-12)
Foot shear on thick stock	Blade damage, bad cut	Powered shear above 0.063 in aluminum
Loose grip on a power saw	Saw grabs the metal	Keep a firm grip on the handle at all times (p. 4-7)
Leaving burrs and slivers	Cracks start at rough edges	File or smooth every cut edge

Key points

- **Not approved data.** Cutting a structural part to a new shape is a repair: it needs the SRM or approved data.
- **Aviation snips.** The Handbook gives colour coding but no thickness limit for them; follow the maker.

SOURCES · FAA-H-8083-31B, AMT Handbook: Airframe, Chapter 4

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

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

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