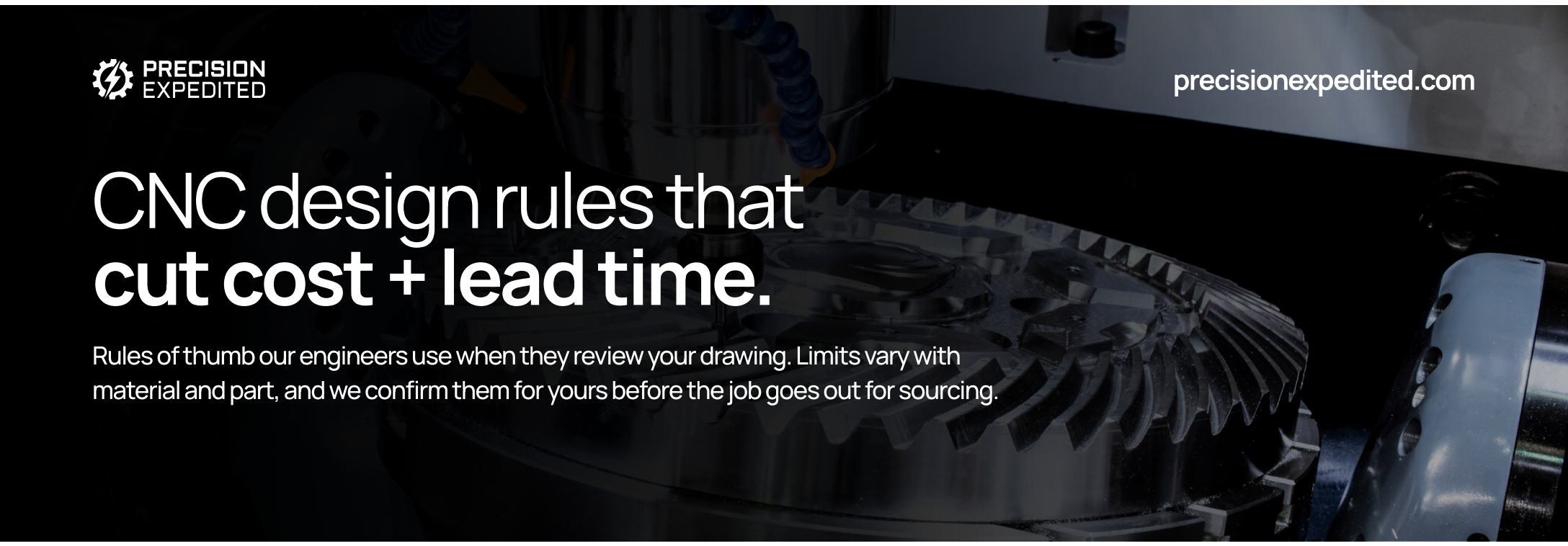
CNC DESIGN GUIDE



PRECISION EXPEDITED

precisionexpedited.com

CNC design rules that **cut cost + lead time.**

Rules of thumb our engineers use when they review your drawing. Limits vary with material and part, and we confirm them for yours before the job goes out for sourcing.

Design Breaks a Rule?

Send it anyway. Some parts have to break rules, and the jobs other suppliers turn down are often the ones we do best. Our engineers review every drawing, flag what drives cost, and tell you what a change would add.

Features + Tolerances

Where most of the cost hides.

- **Tolerance** · ±0.005" standard. Tighten only fit + function
- **Finish** · Finer only where a surface seals or slides
- **Inside corners** · Radius larger than the tool
- **Corner radius** · Near 1/3 of pocket depth or more
- **Pockets** · No deeper than about 4x their width
- **Walls** · 0.030" metal, 0.060" plastic minimum
- **Ribs + fins** · Height near 3x thickness or less

Holes + Setups

- **Drill sizes:** Standard sizes wherever you can
- **Hole depth:** About 4x diameter, 10x at most
- **Threads:** Engagement about 1.5x diameter
- **Setups:** Features on as few faces as possible
- **Multi-axis:** 4- or 5-axis where it saves setups
- **Edges:** Break 0.005" to 0.015". Chamfers beat fillets

Why It Matters

Every tighter callout adds machine time, inspection and scrap risk. A round cutter can't make a sharp inside corner. Thin walls vibrate and warp as material comes off. Every extra setup adds fixturing, handling and a chance for misalignment.

Quality + Compliance

ISO 9001:2015 · AS9100D Compliant · ITAR Registered

NIST 800-171 Compliant · Tolerances to ±0.001"

Inspection before shipment · ISO 13485 Compliant

Built Fast. Built Right.

Send us your files.

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