

✓ Machine Shop Quality Control Checklist

Based on MakingChips Ep. 476: "Sweat the Details"

Pre-Production & Quoting

- Verify you can hold the quoted tolerances
- Confirm your team has the tools, machines, and inspection capabilities to meet specs
- Review and push back on over-toleranced features (design for manufacturability)
- Quote both "as drawn" and "with optimized tolerances" options
- Collaborate with programmers and quality early in the quoting process

Planning & Setup

- Use the latest drawing/model revision
- Start quality planning as soon as the job is won
- Define which tools will cut each critical feature
- Link each finished dimension to its cutting tool and inspection method
- Determine probing vs. offline inspection strategy based on risk, speed, and tooling

In-Process Inspection

- Establish a risk-based IPC matrix (based on quantity, value, criticality)
- Inspect every part for select features; rotate through all critical dimensions
- Build IPC into standard work to balance flow (especially for lean operations)
- Assign peer checks or quality team verification where needed
- Calibrate or verify measurement tools before every use

Final Inspection & Documentation

- Validate all first articles and IPC results are complete in the system
- Perform final check for counts, packaging, and paperwork (not just dimensions)
- Confirm customer-specific requirements (certs, formats, placement, digital vs. physical)
- Take photos of critical parts and packaging—especially for high-value orders
- Review for completeness before shipment to avoid MRBs and delayed payment

Culture & Continuous Improvement

- Empower inspectors to say “no”—no form/fit/function gray areas
- Encourage deviation requests when appropriate instead of remaking good parts
- Promote ownership: quality is everyone’s responsibility
- Reinforce accountability (even with small rewards or team-based check systems)
- Align KPIs like OEE to include quality—not just speed