



Technical Knowledge

Q: Can you explain the difference between a manual mill/lathe and a CNC machine?

A: A manual machine requires the operator to move the tool or part by hand, while a CNC machine is computer-controlled. With CNC, the machine follows programmed instructions, which allows for more precision, repeatability, and complex shapes.

Q: What is G-code, and can you give me an example of a command you know?

A: G-code is the programming language CNC machines use. For example, G01 means a linear feed move. If I write G01 X1.0 Y1.0 F10, the machine moves in a straight line to that point at a feed rate of 10.

Q: How do you check that a program is safe before running it?

A: I would run the program in graphics or simulation mode, then use single block and feed hold on the machine to check each line step-by-step. I'd also verify tool offsets and work offsets before running at full speed.

Q: What are some common machining tolerances you've worked with?

A: Typically $\pm 0.005"$ in training projects, but I've also checked parts to tighter tolerances like $\pm 0.001"$ using micrometers and bore gauges.

Q: How do you decide what cutting tool and speed/feed to use?

A: I look at the material type, tool material, and diameter. For example, aluminum usually runs faster than steel. I also use machinist charts or CAM software recommendations, then adjust if needed based on machine performance and tool life.



Blueprint & Measurement Skills

Q: Can you explain how to read a basic blueprint?

A: Yes. I look for the title block for dimensions, tolerances, and material. Then I read the views — top, front, and side. I also check the datums, hole callouts, and finish requirements.

Q: What does this GD&T symbol mean (\varnothing)?

A: That symbol means diameter. If it's before a number, it tells me the dimension is for a circular feature, like a hole.

Q: If a print calls for $\pm 0.001"$, how would you check that?

A: I'd use a micrometer, since calipers aren't accurate enough for that tight of a tolerance.

Q: What measuring tools are you most comfortable using?

A: I'm confident with calipers, micrometers, height gauges, and dial indicators. I also know how to use gauge blocks and pins for checking holes.



Problem-Solving & Troubleshooting

Q: If the part is coming out oversized, what would you check first?

A: I'd first check my tool offsets and make sure the tool is properly touched off. I'd also confirm the program dimensions match the print. If it's still oversized, I'd adjust the wear offset slightly.

Q: What would you do if you saw chatter marks on the surface?

A: I'd check the tool condition, then adjust the spindle speed or feed rate. Sometimes reducing stick-out or tightening workholding also helps reduce vibration.

Q: How do you handle a program alarm or tool breakage?

A: I stop the machine immediately, read the alarm code, and troubleshoot step by step. For tool breakage, I replace the tool, update the offset if needed, and restart from a safe point in the program.



Safety & Shop Practice

Q: What safety precautions do you take before running a CNC machine?

A: I always wear safety glasses, make sure the doors are closed, and double-check that tools are tightened and the part is secure. I never reach inside when the spindle is running.

Q: Can you explain lockout/tagout in your own words?

A: Lockout/tagout is shutting off power and putting a lock and tag on the machine so no one can turn it back on while it's being serviced.

Q: How do you ensure chips and coolant don't become hazards?

A: I keep the work area clean, use chip brushes instead of my hands, and wear gloves when handling sharp chips. I also make sure coolant nozzles are aimed correctly.



Work Habits & Attitude

Q: Tell me about a time you learned a new skill quickly.

A: When I first learned to indicate a vise, I struggled at first. I practiced after class, asked questions, and by the end of the week I could do it on my own with confidence.

Q: CNC jobs require long hours of focus. How do you stay focused?

A: I stay organized, follow a checklist, and keep my work area clean. That helps me avoid mistakes and stay on task even during repetitive jobs.

Q: Do you prefer working independently or in a team environment?

A: I can do both. I like working independently when I'm running a machine, but I also value teamwork when setting up jobs or solving problems together.

Q: What do you want to achieve in your first CNC role?

A: I want to build a strong foundation in setup and operation, learn more advanced programming skills, and grow into a role where I can take on more responsibility.



Bonus “Proposing” Questions

Q: What do you know about this company and why do you want to work here?

A: I know you work in [aerospace/automotive/tooling/etc.]. I'm drawn to your reputation for quality and innovation, and I'd like to grow my skills in a place that values precision and continuous improvement.

Q: What skills do you hope to learn in the first year?

A: I'd like to get stronger in setups, tooling selection, and advanced G-code editing. I also want to get more comfortable with inspection methods to ensure every part is correct the first time.

Q: If given the opportunity, how would you contribute to continuous improvement?

A: I'd share suggestions to improve efficiency, like optimizing tool paths or improving setup repeatability. I'd also stay proactive about safety and quality checks.