

35 Practice Interview Questions for Precision Machinists

(Adapted from <http://blog.cnccookbook.com/2014/07/29/50-interview-question-ideas-cnc-jobs/>.)

1. Describe how you go about calculating feeds and speeds and how you determine cut depths and cut widths for a particular operation. (Machining)

The employer's goal is to see how compatible the applicant's approach is with what the employer's shop needs. The employer may ask about subjects like *high speed machining* or *chip thinning* if it looks like a productive way to explore the applicant's deeper skills set.

2. Do you know manual machining? Walk me through an example of a part or operation you recently had to do on a manual machine. (Machining)

The employer's goal is to determine whether the applicant knows how to use a manual machine. The employer may grab a piece of bar stock and a micrometer and head out to the shop to have the applicant turn the stock to a particular OD on the lathe.

3. How would you machine a square block from round stock? (Machining)

The employer is testing the applicant's basic skills.

4. Describe the types of routine maintenance you've regularly performed on CNC machines. (Machining)

Every shop has routine maintenance that has to get done, e.g., lubrication, coolant maintenance, and other tasks. The employer wants to know if the applicant will help get that work done.

5. Share an experience where you identified a problem with a machine. (Machining)

If the machines stop, the work often stops until the machines are running again. The employer wants to know whether the applicant can diagnose and fix a problem without having to wait for the techs every time.

6. Describe the most interesting fixture you've made and what made it great. (Machining)

Fixtures are a huge productivity opportunity. The employer wants to understand whether the applicant has skills in this area and understands the productivity issues.

7. Walk me through a problem you recently solved using trigonometry or other shop math. (Machining)

A decent grasp of *shop math* is pretty important for many CNC positions. It may be difficult for an employer to teach this math if the applicant doesn't have a decent grasp of it.

8. Can you use a calipers and read a micrometer? (Metrology)

Measurement is a constant issue around the shop.

9. Hand the applicant some artifacts, a calipers, and a micrometer and ask him/her to measure various features on the artifacts. (Metrology)

The employer may give the applicant some of the parts that their shop is making and inspecting and ask the applicant to measure features that they've already measured.

10. Share an experience in which you measured finished work pieces to ensure conformance to specifications. (Metrology)

The employer wants the applicant to share his/her inspection experience.

11. Have you ever worked with a CMM (Coordinate Measuring Machine)? Tell us about your experiences with one. (Metrology)

This is not a skill everyone will have, but CMMs are turning up on shop floors more and more. The employer wants to know whether the applicant can handle one even if that isn't in the cards for the initial job.

12. Can you communicate? (Personality & Problem Solving)

The question is short and somewhat nebulous for a reason—a good communicator can overcome the communication shortcomings of whomever they're talking to.

13. Describe an experience on the job that made you very happy. (Personality & Problem Solving)

The employer wants to know what workplace settings and experiences will make the applicant most content in the job.

14. Describe an experience where you analyzed data in order to suggest new approaches that made a difference. (Personality & Problem Solving)

The employer is determining whether the applicant can analyze data in order to formulate a solution.

15. Describe an experience where you anticipated a problem with a new process and helped prevent the problem from occurring in advance. (Personality & Problem Solving)

Process is a huge part of manufacturing. This question measures how comfortable the applicant is in thinking about process.

16. Describe an experience where you went to a colleague or peer to get help that made a substantial improvement in your work. (Personality & Problem Solving)

An employee can solve a problem or challenge sooner just by asking for help sooner. The employer wants to know whether the applicant will ask for assistance to quickly solve problems that he/she cannot solve.

17. Describe how you organize, plan, and prioritize your work. (Personality & Problem Solving)

Process also extends to how an individual manages his/her own work.

18. Describe the best manager you ever worked for. What made him/her special? (Personality & Problem Solving)

19. Describe your most successful experience helping, teaching, or mentoring another individual in your shop. (Personality & Problem Solving)

The applicant's answer will provide evidence that the applicant is a real team player.

20. Share an experience where an inspection enabled you to identify a problem and the cause of that problem. (Personality & Problem Solving)

An employer wants to know: (a) whether the applicant has measured parts and scrapped those parts that were not within tolerance, and (b) whether the applicant has the ability to prevent or reduce scrappage.

21. Tell us about the worst mistake you ever made on a job. (Personality & Problem Solving)

We all make mistakes. There are really only two interesting things to discuss when an employer asks this question: (a) how to avoid making the same mistake again, and (b) how to recover once a mistake is made.

22. What are the top 3 key abilities and skills for this position? (Personality & Problem Solving)

The employer is testing whether the applicant understands the job the same way the employer does. Read the job description and the key skills for the job.

23. What one personal trait has helped you the most in your career? (Personality & Problem Solving)

Does the employer value what the applicant has to offer? It's tough on an employee when an employer cannot use what the employee sees as his/her best abilities.

24. Would you rather write a report or deliver it verbally? (Personality & Problem Solving)

Communication of both kinds is valuable. Most of the time an employer would love to have both. Another question the employer might ask is if the applicant prefers phone, instant messages, or email.

25. What was the worst shop accident you've seen, and how could it have been avoided? (Personality & Problem Solving)

Shop safety is critically important. This question allows the employer to find out how aware the applicant is about shop safety, how skilled the applicant is, and whether the applicant prioritizes shop safety.

26. Describe the most difficult skill to learn that you have mastered. (Personality & Problem Solving)

This question lets the employer know whether the applicant will work hard to obtain new skills and whether the applicant can learn even the most difficult skills.

27. Which personal trait has been the most challenging for you in your career? (Personality & Problem Solving)

The employer wants to know if the applicant is self-aware. What are the applicant's challenges and how is the applicant working on them?

28. Can you CAM program? If so, which programs and versions? (Programming)

Not everyone can CAM, but those that can are valuable.

29. Can you hand program g-code? (Very important for finding CAM problems.) (Programming)

Even if an applicant doesn't CAM, the employer wants to know if the applicant can deal with problems down on the shop floor without sending the g-code back through the CAM cycle again.

30. Can you read prints? (Programming)

The employer wants the applicant to explain his/her answer and not provide simply a "yes" response.

31. Explain the difference between Cartesian and Polar coordinate systems and provide examples of what each is good for. (Programming)

This question is half shop math and half programming. Polar coordinates are super handy for a lot of problems.

32. Do you understand geometric dimensioning and tolerancing? (Programming)

This is a fairly complex subject that's crucial for a lot of jobs. The applicant should explain his/her answer and not provide simply a "yes" response.

33. Give the applicant a blueprint and ask him/her to describe how to make the part. (Programming)

This question will evidence the applicant's ability to synthesize so many critical skills for machinists.

34. Have you taken any courses in Statistical Process Control? (Programming)

SPC is another valuable tool employers see more and more often in manufacturing.

35. Share an experience where you modified a g-code program based on problems encountered during operation. (Programming)

An employer may take a simple g-code program, introduce some errors, and ask the applicant to help fix the errors.