

CNC Machining Q+A

➡ Answers to questions:

1. There are quite a few - consult **Chapter 51**
2. Minimize tool changes, avoid excessive dwelling, move more axes at the same time, do not return to machine zero after each tool is completed, apply fewer passes to a cut (for depths, threads, etc.), shorten rapid motions, use M01 instead of M00 whenever possible, eliminate cutting air, on lathes, program bidirectional tool change (if it does not happen automatically) and rearrange tool order for faster tool changes.
In addition, improve your knowledge and skills.
3. **Emergency Switch** should be used as the last resort in true emergencies only, for example, when there is a danger to a person or collision in the machining area.
4. Machine warm-up program is a small program used in certain cold conditions, to achieve the machine operating temperature before actual machining. Such a program usually contains changing spindle speeds and some motions in all axes. Usually not needed, but may be useful for some situations.
5. Generally, a few checks will establish the setup integrity: check cutting tools, check part mounting, check control settings, and check the machine itself. To establish the program integrity, check for consistency, scan program for obvious errors, use a graphic test if possible, run in a safe mode (single block, dry run, Z-axis neglect, etc.).
6. Program **upgrading** means to make an existing program better by being more efficient and economical
Program **updating** means modifying an existing program because of engineering changes
7. Power-ON: Main power ON - Machine power ON - Control Power ON, then Servo ON
Power OFF: Control/Servo OFF - Machine power OFF - Main power OFF
8. The best position to 'park' machine slides is **away from machine zero**, always in a different position, so there is no accumulation of dirt in a single place.
Do not shut machine off when machine slides (axes) are at machine zero.