

PROGRAMMING TIPS

Programming is just like any other work - with good knowledge and a positive attitude, it can be done right and with first class results. Here are some tips to get the best results from any programming effort.

- Approach CNC programming in a logical and methodical way
- Always calculate unknown values - never guess
- Check the actual size of the blank material - do not count on paper dimensions
- Standardize a programming style and adhere to it
- Program dimensional values in absolute mode whenever possible
- Make a setup sheet and/or tooling sheet before programming, not after
- Program as many machining operations in a single setup as possible
- Use minimum number of tools for maximum number of jobs - standardize
- Always program for the safety of CNC machining
- Document your work and store everything relating to the program development
- Program all rapid motions with sufficient built-in clearances
- Use cutter radius compensation for contouring, if available
- Use any suitable built-in cycles the CNC system offers
- Watch for programming errors - syntax and logical - all errors are avoidable
- Use a microcomputer and a text editor to write and print the program hard copy
- Apply the use of subprograms to prevent errors caused by repetition
- Make sketches for calculations simple, clear, and always in scale
- Place comments to the CNC operator in the program printed copy
- Do not forget 'small' items - such as coolant and spindle stop
- The CNC operator can be an excellent resource of valuable information - communicate
- Avoid programming excessive clearances or dwells
- Keep the program under your control - not the operator's
- Admit an error if you made one - do not blame other people unfairly
- Always write a program for the convenience of the CNC operator - not yours
- Check, double check and triple check the program
- Write as much of the program in one sitting as possible