

Miscellaneous Functions #1

➡ Answers to questions:

1. Miscellaneous functions cover two general areas - **machine** and **program**. Certain machine related operations, such as tool changing, coolant, spindle, tailstock, etc., are controlled by M-functions. They are also used to control program flow, for example, program stop, optional stop, program end, etc.
2. M00, M01, M02, M05, M09, M30, M60 - see descriptions in the handbook
3. M06, M60, M23, M24 - see descriptions in the handbook
4. M02 specifies the end of program without return to the top, whereby M30 is the end of program with return to the top. Return to the top of the program is often called '**rewind**', from the early days of punched paper tape.
5. M05, M00, M01, M02, M30 - see descriptions in the handbook
6. Any situation where a program stop is required for every part of a given lot. Typical applications include part reversal, special lubricant application, manual interference, chip removal, etc.
7. M01 is used in the program for infrequent program interruptions. For example, measuring size, trial cut, visual part inspection, etc. Typically, M01 is used at the end of each tool, with the possible exception of the last tool.
8. Coolant is normally canceled by the M09 function. However, miscellaneous functions M00, M01, M02, M30 also cancel the coolant flow.
9. M01 is the **Optional Program Stop** function
10. M03, M04, M06, M07, M08 are typical functions activated at the start of block (simultaneously with the axis motion)
11. All are coolant related functions - M07 is mist ON, M08 is flood ON, and M09 is coolant OFF (mist or flood)
12. M41 (LOW range) - M42 (MEDIUM range) - M43 (HIGH range)