

Objectives

Block skip function is not an everyday function used in CNC programming. This special programming function is available for just about all CNC machining centers and CNC lathes. Its main purpose is to allow a bypass of selected blocks, during program execution at the CNC machine. On some controls, the term *Block Skip* is identified as *Block Delete*. Both terms share the same purpose and are identical in purpose. Keep in mind that there will be *no program blocks deleted* when the *Block Skip* or *Block Delete* button/switch is turned ON.

The main objective of the exercises in this section is to look at the most common applications of the *Block Skip* function and emphasize their importance. Many programmers do not use this function, even in cases when it would enhance the CNC program.

Applications

If the main purpose of the block skip function is to ‘*skip blocks*’, why would there be any benefits in it? Yet, there are many applications where this function can be very useful. The common application of the *Block Skip* function is to bypass certain operations (blocks) in the program that *may* or *may not* be required during the run time.

For example, a lot of 500 blank parts have to be faced to a certain size. If the amount for facing is equal for the whole lot of 500, the program will include one or more of facing cuts that will be the same for each part in the lot. In many real situations, the parts in a lot will have a *different* size (length or height). If there are only 200 parts in the lot of 500 that require *two* facing cuts, the program has to address this requirement. Writing two programs cannot be justified just because of a few tool motions, but the *Block Skip* function can be used to resolve the problem.

In a case like this, *TWO* cuts will be programmed, but the *FIRST* cut will be optional. This can be achieved by applying the *Block Skip* function to all blocks relating to the *FIRST* cuts.

Other examples of *Block Skip* function include *optional* bypassing of certain part locations, making a trial cut before actual machining, testing applications, optional machine zero return, etc.


Overview

The *Block Skip* function is programmed with a slash symbol preceding the block that *may* or *may not* be skipped during program processing. The following metric example illustrates the concept:

```
N.. G21
N24 ...
N25 G99 G83 X120.0 Y80.0 R2.0 Z-13.5 Q5.0 F120.0
N26 X150.0
/ N27 Y130.0
N28 X120.0
N29 ...
```

In the programming example above, the hole at the *X150.0 Y130.0* location will be bypassed, if the *Block Skip* switch on the *Operator Panel* is turned ON. Normally, the slash symbol is always written at the start of a block, but some controls allow programming the slash in the middle of a block. Check the control manual first.

References

-  *CNC Programming Handbook - Chapter 5 Operation Panel*
Chapter 23 Block Skip Function
Chapter 39 Subprograms