

Zero Return

A CNC machine remembers everything:

- Tool length and radius
- Datum positions
- Parameters
- Programs
- Other information

When it is switched off it does not remember where it is.

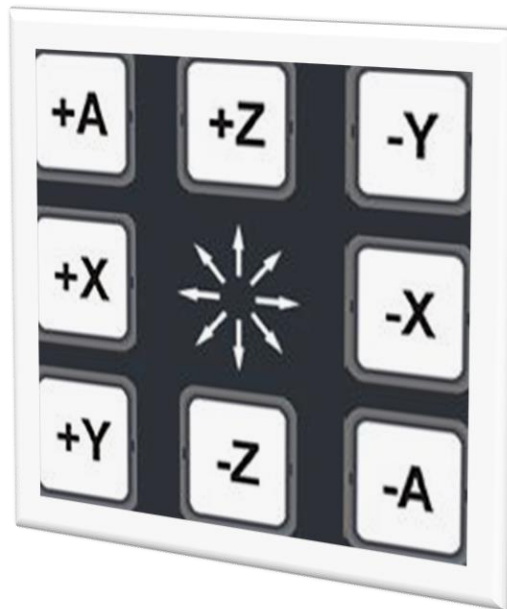
Therefore, when first turned on we have to Zero Return the machine.
Sometimes known as referencing the machine.

We pass each axis over a reference point and the machine establishes its position.



To zero return a machine you select zero return and pass each axis over its zero point.

Normally there will be axis buttons like this to move it.



The one above has a rotary (A) axis which would also have to be referenced.

It is best to reference the up and down axis (Z) first to avoid any collision.

Absolute Encoder

Some modern machines have absolute encoders. This means that the machine does not need to be referenced because it remembers its last position.

These encoders have a complex pattern that tells them where they are at any time.