

11.2 Motion Modes

Slides cannot instantaneously move, there is a delay to respond and accelerate, resulting in a lag between the command and actual position, following error or servo lag are alternative terms. The lag increases with the Feed, the value can be calculated with readings taken from the control, a guide is 0.0005mm per mm/min. Either G or M codes take care of this effect. In addition, controls can have default motions built into their canned cycles.

11.2.1 G09 In-Position Mode

JG	F ^{anuc}	S ^{iemens}			Operation
G09	G09	G09			In-Position Mode (NM)

In addition, referred to as exact stop, this non-modal command activates In-position mode before the next move. The OEM determines the in position zone on commissioning.

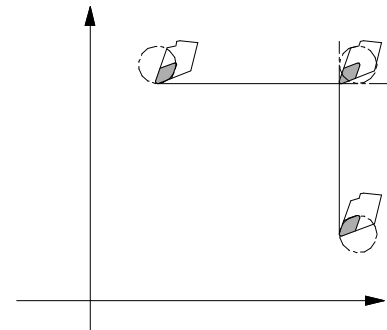
11.2.2 G61 (M86) In-Position Mode

JG	F ^{anuc}	S ^{iemens}			Operation
G61	G61	G60			In-Position Mode (M)
M86					In-Position Mode (M)

Also referred to as exact stop, activates In-Position Mode for the programme. The slide must be in an “in position zone” prior to the next command. The OEM determines the in position zone on commissioning.

11.2.3 G64 (M87) Profiling Mode

JG	F ^{anuc}	S ^{iemens}			Operation
G64	G64	G64			Profiling Mode (M)
M87					Profiling Mode (M)

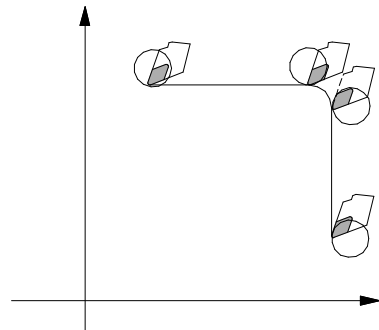


11-4 In-Position GO9/G61 & M86

Profiling (or Contouring) cancels In-position, there is no adjustment made for the following error effect, rather a corner rounding results. The control issues the next command as soon as the tool theoretically reaches position.

The diagrams show both a turning tool and a milling cutter programmed with two moves at right angles to each other.

In the ‘Profiling’ mode, the tool creates the corner rounding effect.



11-3 Profiling G64 & M87

11.2.4 M84 Threading Cycle - 90° Pullout

JG					Operation
M84					Threading Cycle - 90° Pullout

For controls that have a built in tapered pullout for the thread cutting cycle (i.e. GE Fanuc 45°), this mode forces a 90° pullout; use for threading up to a face to maintain maximum full form thread.

11.2.5 M85 Threading Cycle - Restore Standard Cycle

JG					Operation
M85					Threading Cycle - Restore Standard Cycle

This code cancels M84 and returns the cycle to the standard mode.