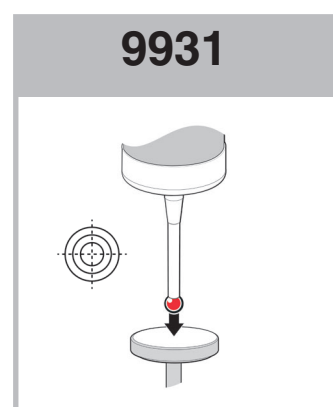
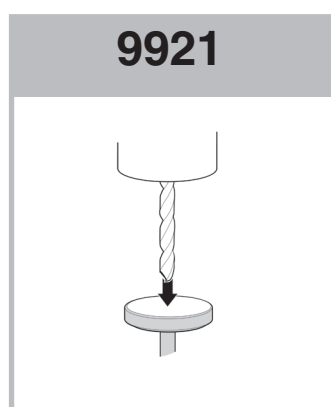
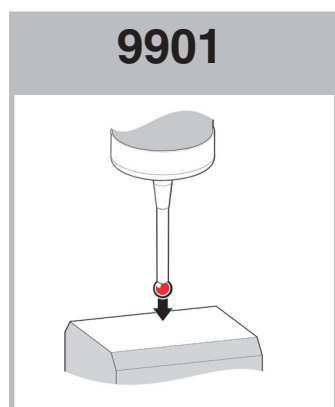


Using Renishaw GoProbe cycles with imperial units



For use with Siemens controllers

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Introduction

GoProbe training materials and the GoProbe app use metric values throughout. This document has been created for those users who use imperial values in their manufacturing environment. This document should be used in conjunction with the GoProbe training kit and the GoProbe app.

The aim of this document is to provide examples of GoProbe cycles using imperial values so that those customers using imperial values can also benefit from using GoProbe. Some of the examples in this document include both metric and imperial values for comparison purposes.

The principles used in these examples can then be applied to all other GoProbe cycles.

This document refers to Siemens controls only.

Metric to imperial conversions

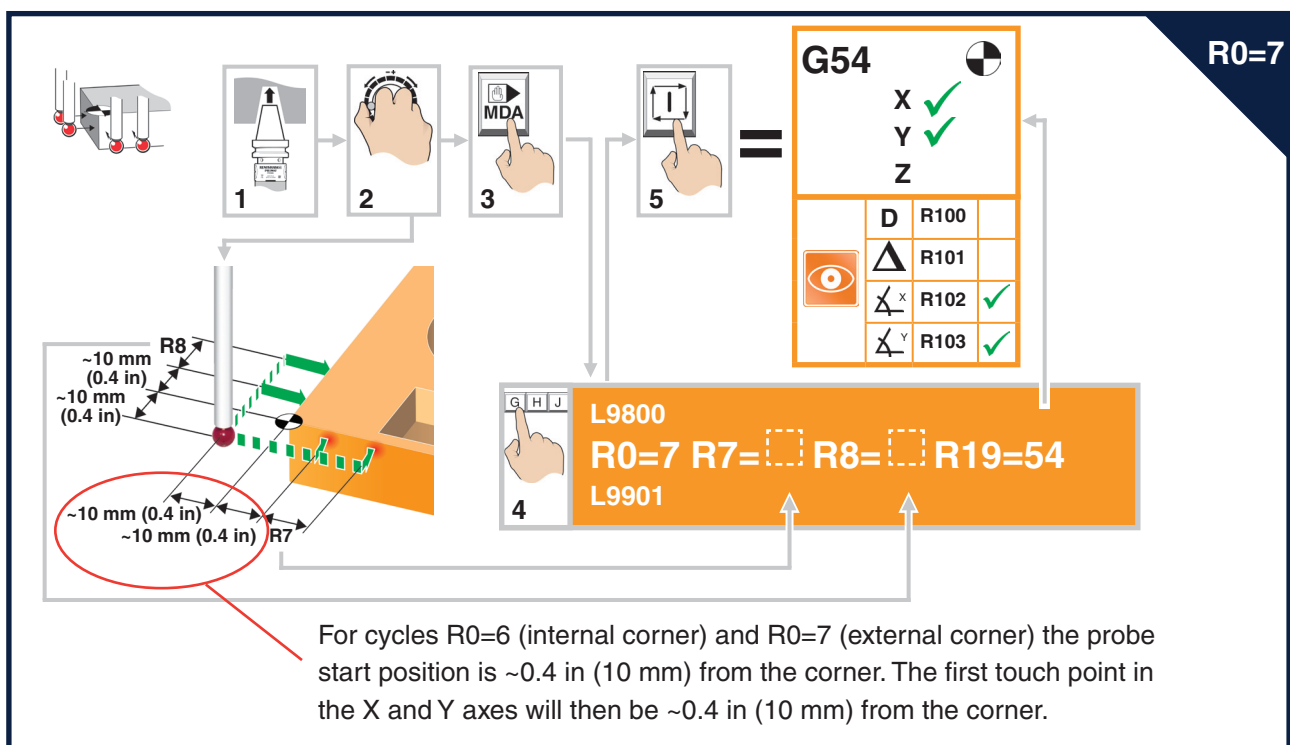
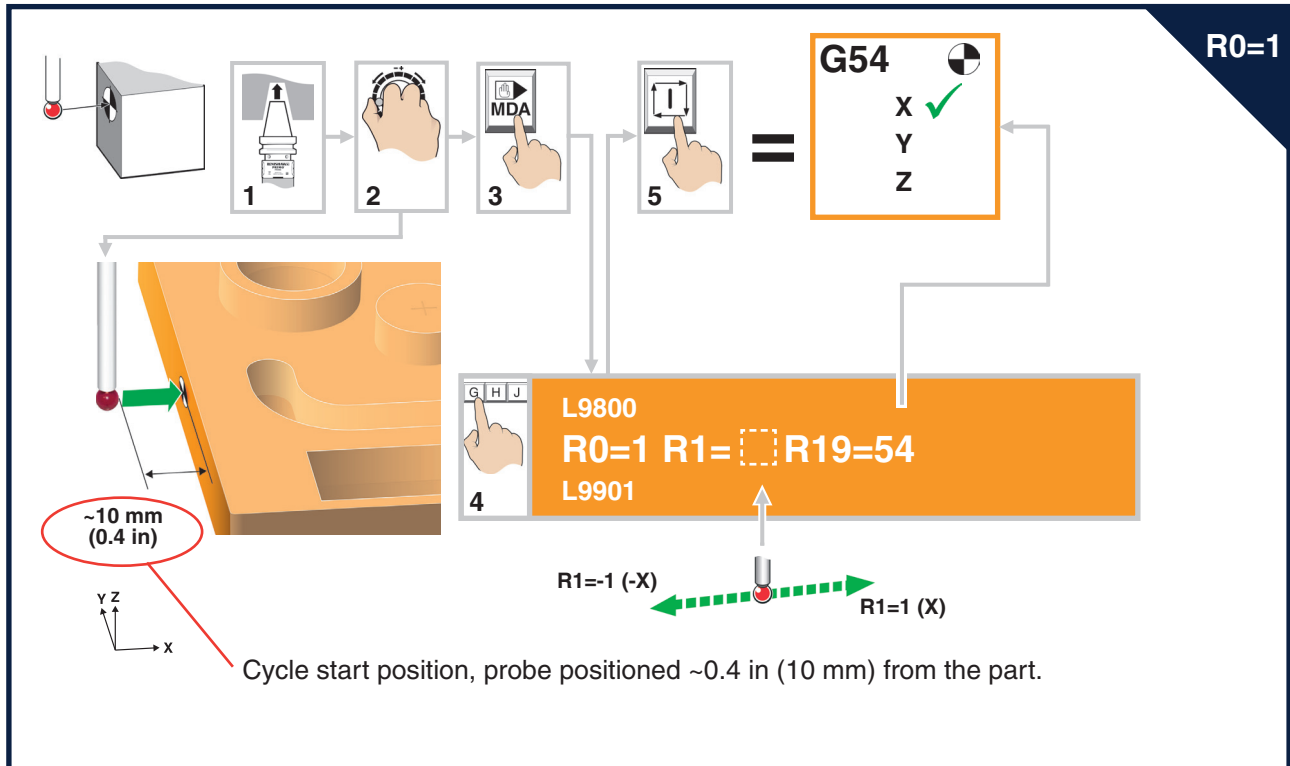
25 mm is approximately equal to 1 in
10 mm is approximately equal to 0.4 in
3 mm is approximately equal to 0.12 in
1 mm is approximately equal to 0.04 in

User settings macros

These are always listed and set using metric values.

Part setting cycles

The probe is typically positioned ~0.4 in (10 mm) away from the part before running a GoProbe part setting cycle.



The example below shows the completed single-line command for cycle R0=7 using imperial values.



Tool setting cycles

The tool is typically positioned ~0.4 in (10 mm) above the tool setter for a tool setting cycle.

R0=21

OFFSET

Loc.	Type	Tool name	D	H	Length
1	DRILL				144.3830
2	END MILL				116.3970
3	FACE MILL				186.3561
5	3D_PROBE				230.1140

Cycle start position, tool positioned ~0.4 in (10 mm) above the tool setter stylus.

Set-up and calibration cycles

The probe or tool start position varies for the set-up and calibration cycles. The following examples indicate some of the probe and tool starting positions.

R0=101

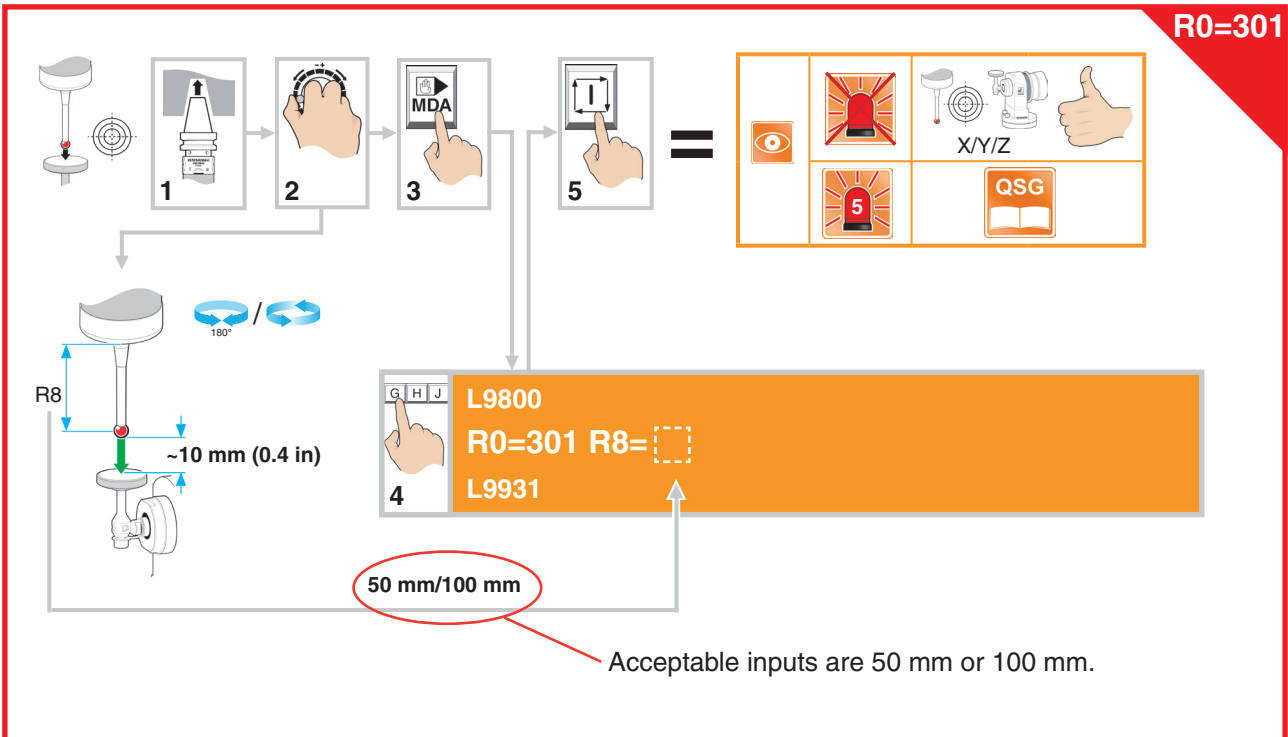
Cycle start position, probe positioned
~0.04 in (1 mm) above the calibration pin.

R0=200

Cycle start position, tool positioned ~0.12 in
(3 mm) above the tool setter stylus.

Probe-on-probe calibration (R0=301)

The probe-on-probe calibration cycle R0=301 uses a metric-only input for the “R8” input, even if the controller is configured for imperial. Acceptable “R8” inputs are R8=50 for a 50 mm stylus length and R8=100 for a 100 mm stylus length.



The example below shows the completed single-line command for cycle R0=301 using a 50 mm stylus.



Practical exercises

The GoProbe e-learning practical exercises use metric values throughout. The examples below show some of the practical exercises with imperial values.

R0=3: Boss

1

2

3

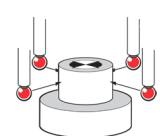
4

5

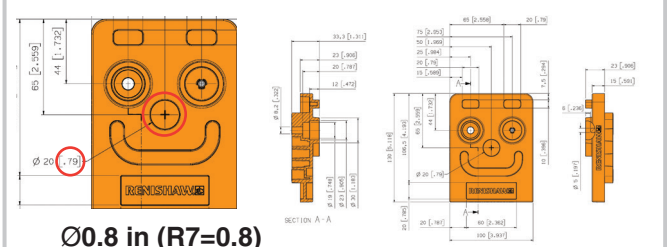
=

G55

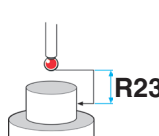
X	✓	
Y	✓	
Z		
D	R100	✓
	R101	
	R102	
	R103	




R0=3



Ø0.8 in (R7=0.8)



R23=-0.6

 **G55**

R19=55

R0=7: Corner (external)

1

2

3


4

5

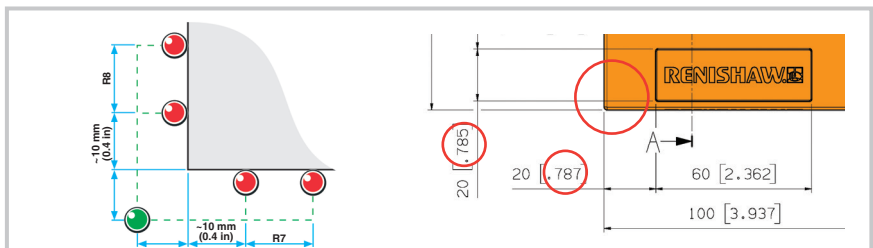
=

G55


X	✓	
Y	✓	
Z		
D	R100	
	R101	
	R102	✓
	R103	✓



R0=7



R7=0.8 in (R7=0.8) R8=0.8 in (R8=0.8)

 **G55**

R19=55

Alarms



ALARM 4 DISC STYLUS NOT LEVEL

Disc stylus not level ($> 15 \mu\text{m}$ [0.0006 in])



ALARM 5 STYLUS RUNOUT EXCESSIVE

Stylus run-out excessive ($> 0.2 \text{ mm}$ [0.0079 in])



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