Information leaflet
H-5990-8104-01-A

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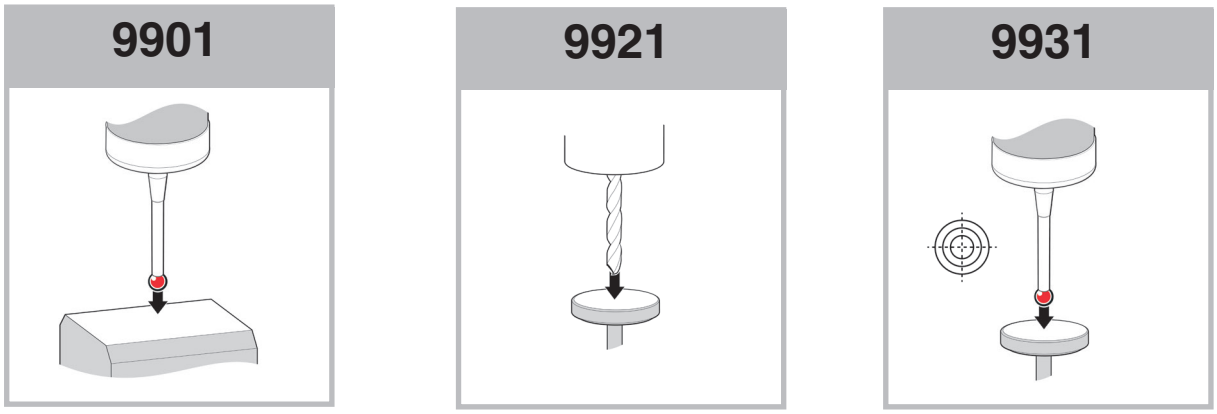
Using Renishaw GoProbe cycles with imperial units



For use with Siemens controllers

Disclaimer

THIS DOCUMENT IS SUPPLIED AS AN AID FOR USING GOPROBE CYCLES WITH A RENISHAW MACHINE TOOL PROBE. IT IS PROVIDED FREE OF CHARGE OR AT A NOMINAL COST. YOU MUST ENSURE THAT YOUR PROBE IS SET UP CORRECTLY IN ACCORDANCE WITH RENISHAW INSTRUCTIONS AND THAT DATA IS ENTERED ACCURATELY INTO THE MACHINE TOOL CONTROL. RENISHAW PLC MAKES NO WARRANTIES OR REPRESENTATIONS, AND EXCLUDES LIABILITY HOWSOEVER ARISING, REGARDING THE USE OF THIS DOCUMENT.

Trade marks

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Contents

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

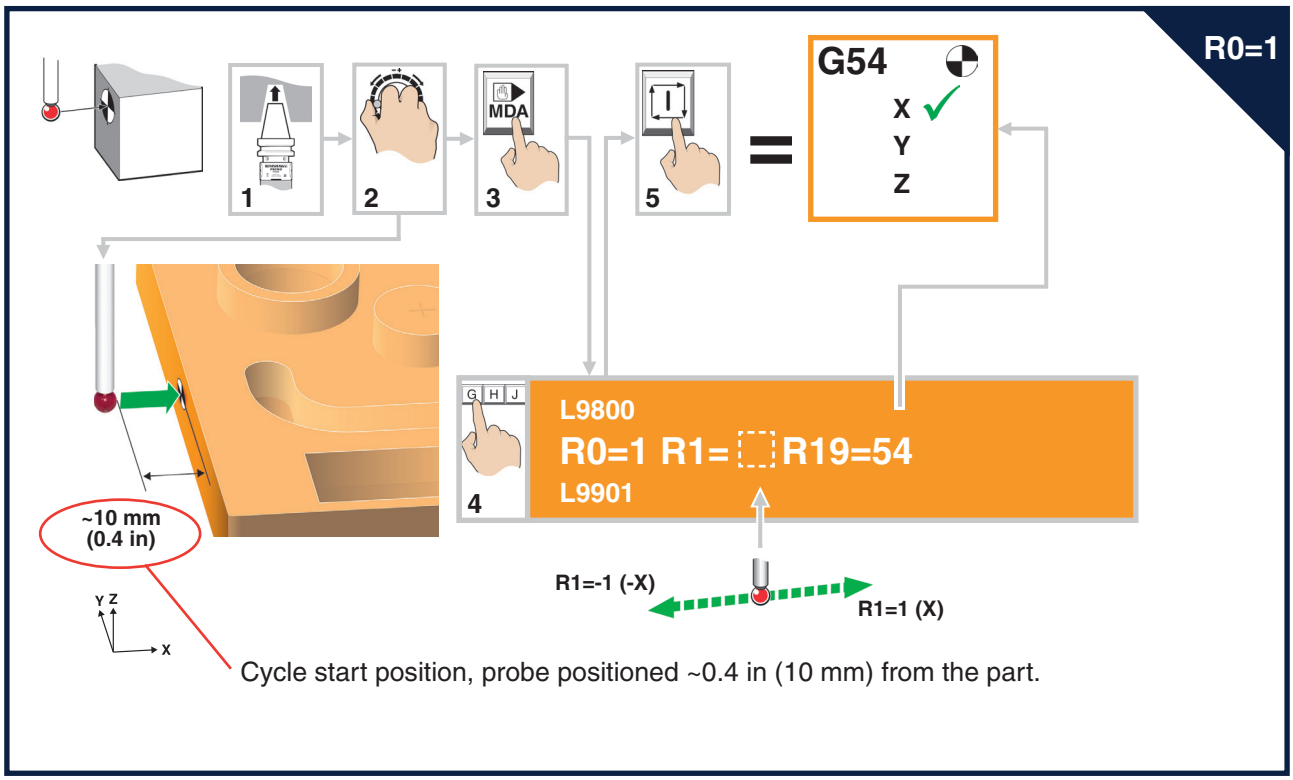
25 mm is approximately equal to 1 in
10 mm is approximately equal to 0.4 in
3 mm is approximately equal to 0.12 in
1 mm is approximately equal to 0.04 in

User settings macros

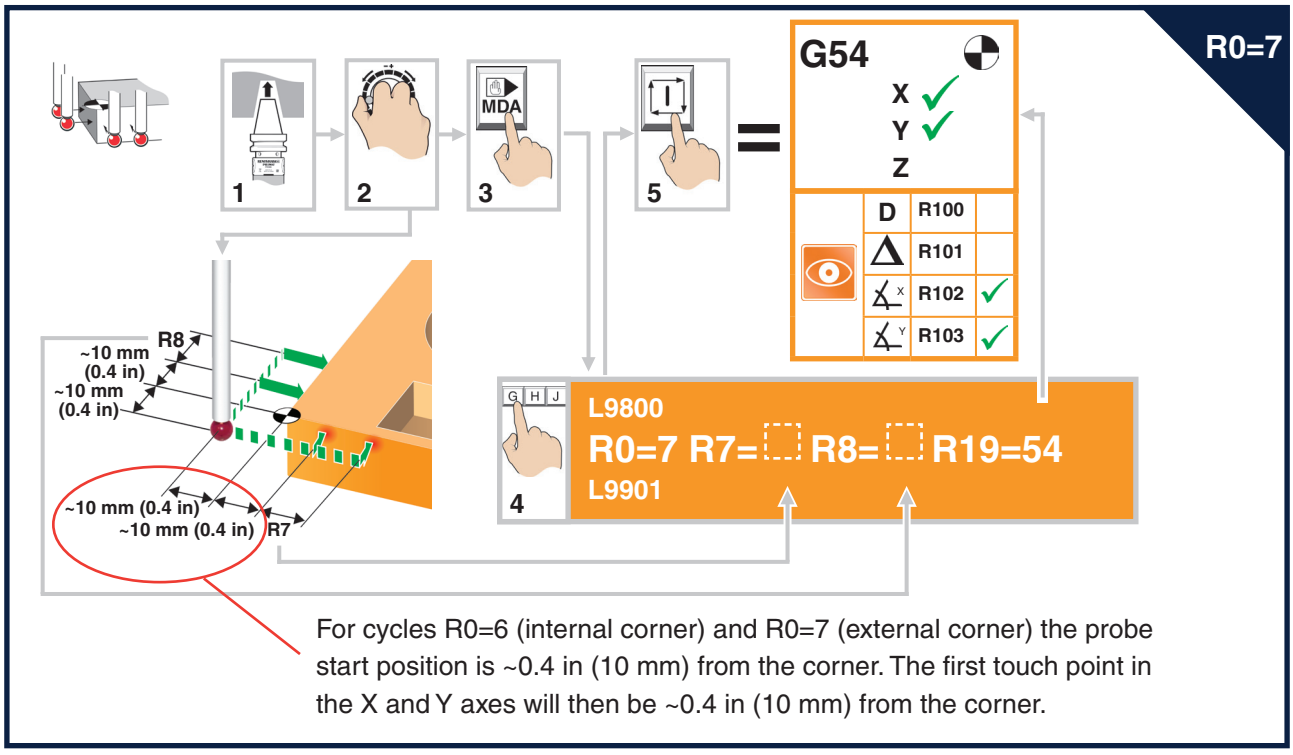
These are always listed and set using metric values.

Part setting cycles

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



Cycle start position, probe positioned ~0.4 in (10 mm) from the part.

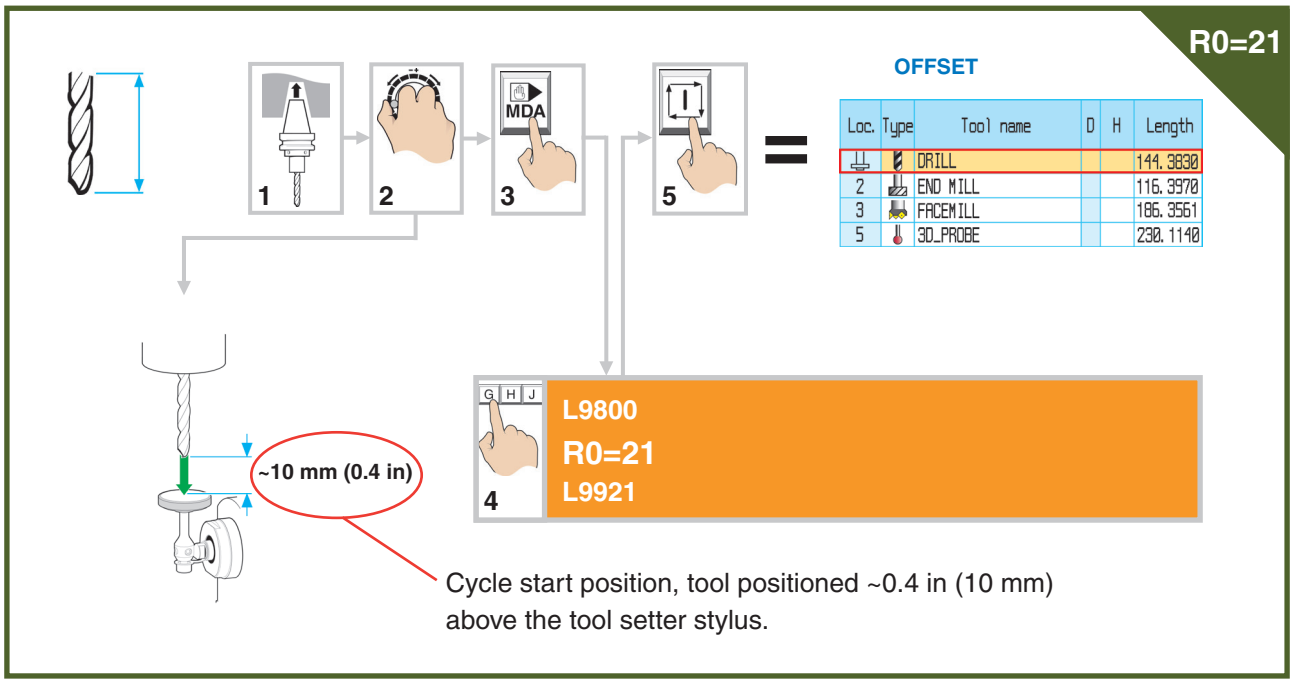


For cycles R0=6 (internal corner) and R0=7 (external corner) the probe start position is ~0.4 in (10 mm) from the corner. The first touch point in the X and Y axes will then be ~0.4 in (10 mm) from the corner.

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

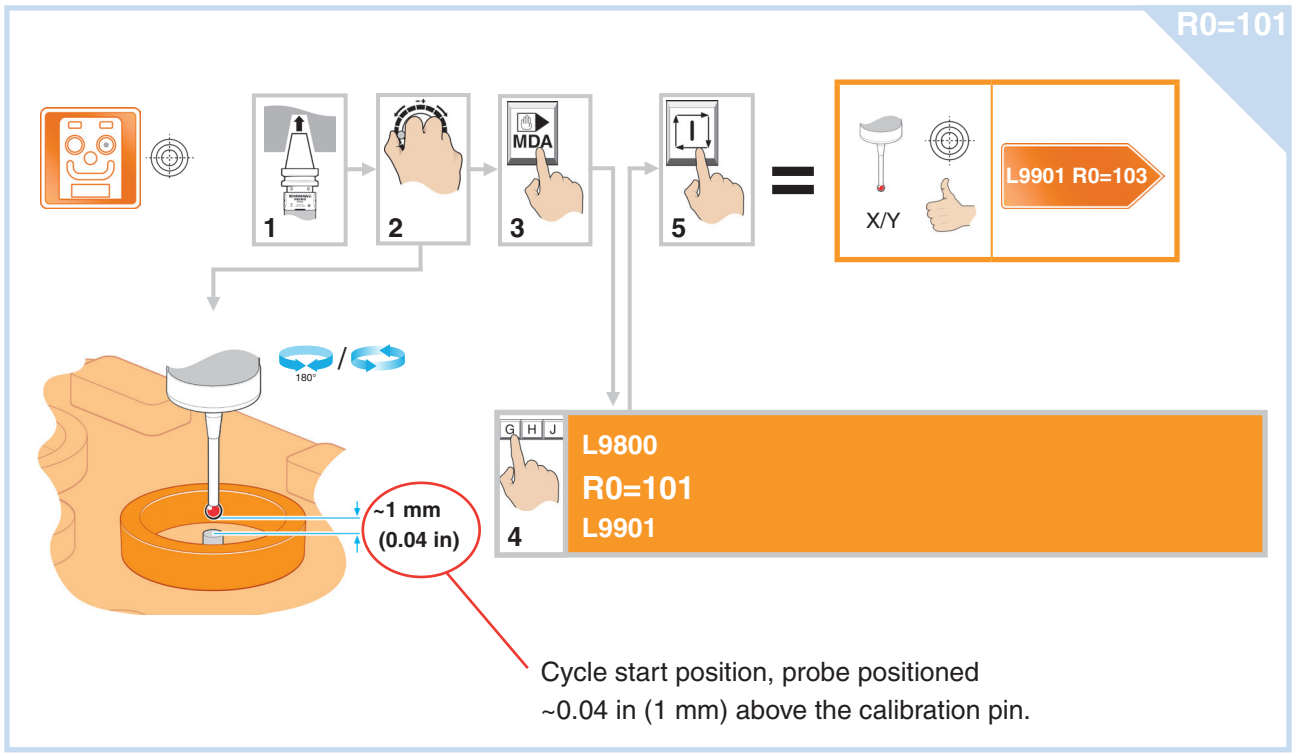
Tool setting cycles

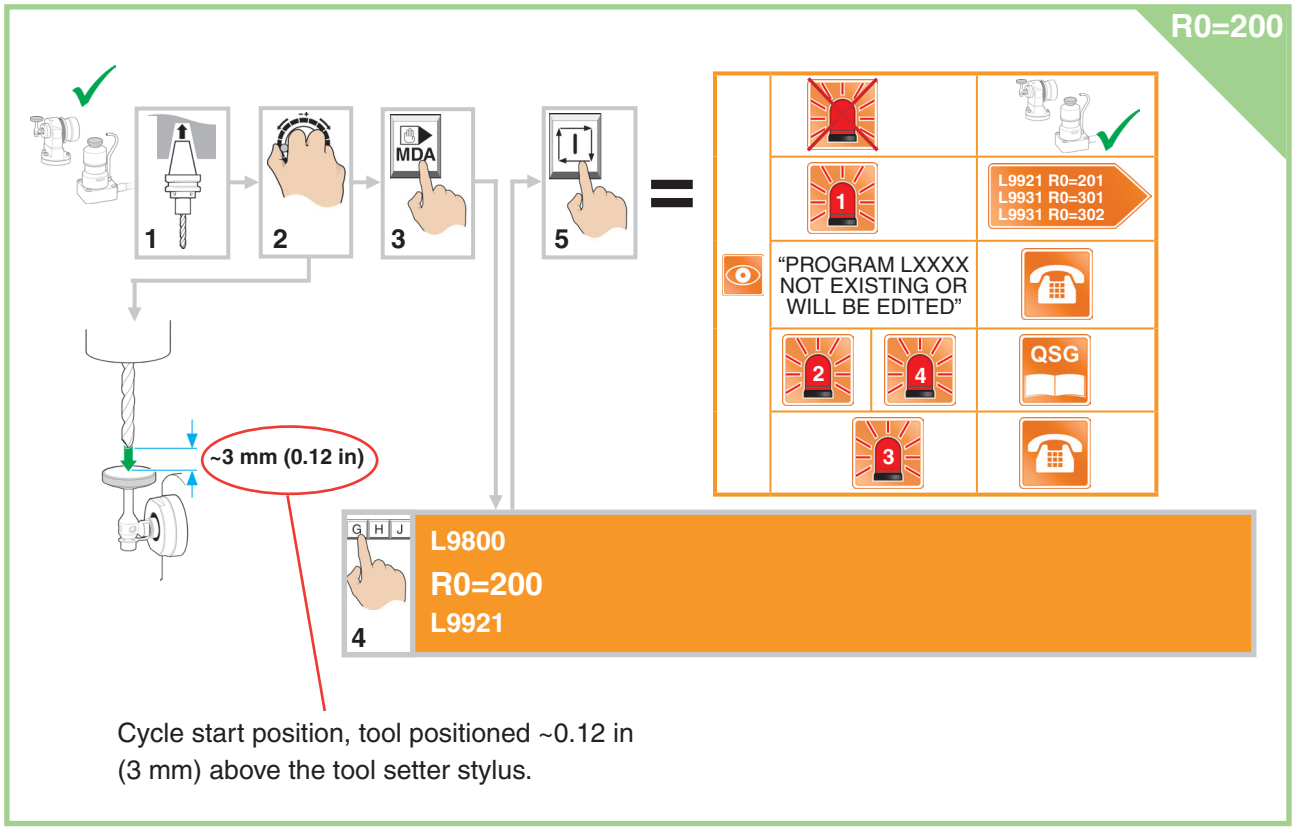
The tool is typically positioned ~0.4 in (10 mm) above the tool setter for a tool setting cycle.



Set-up and calibration cycles

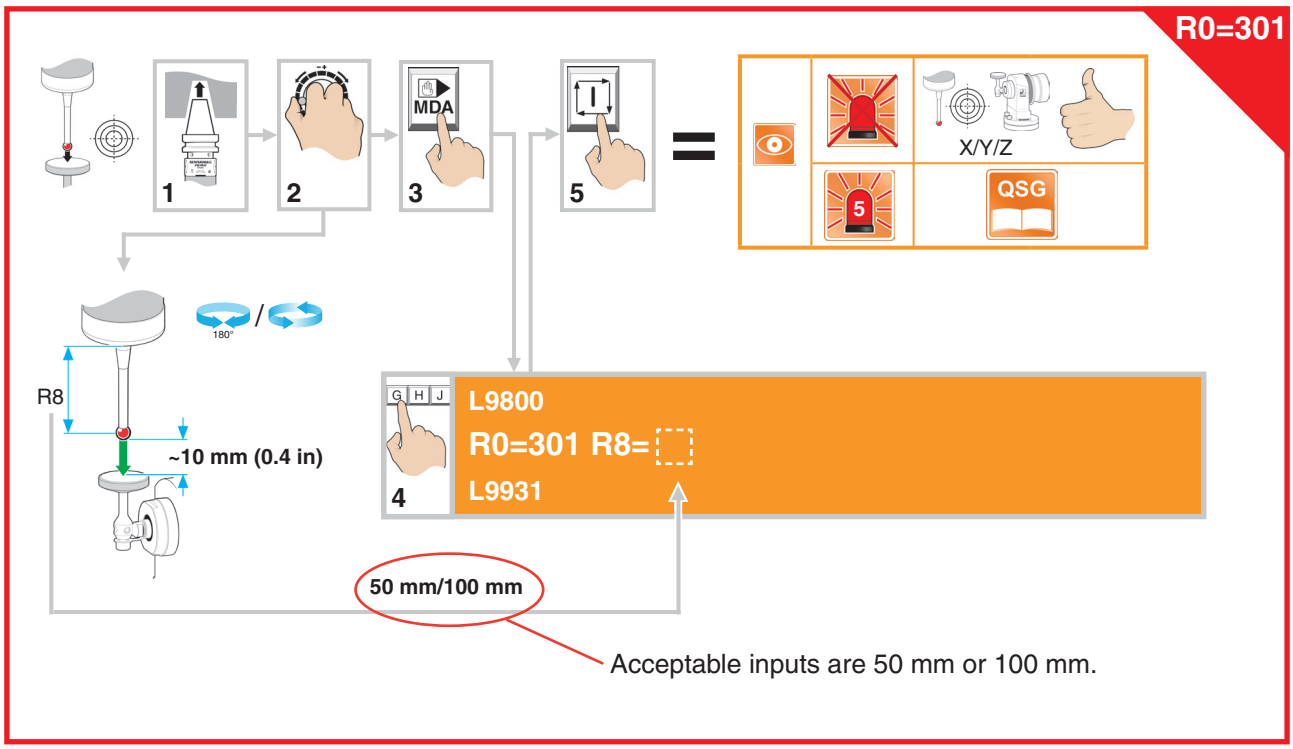
The probe or tool start position varies for the set-up and calibration cycles. The following examples indicate some of the probe and tool starting positions.





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.

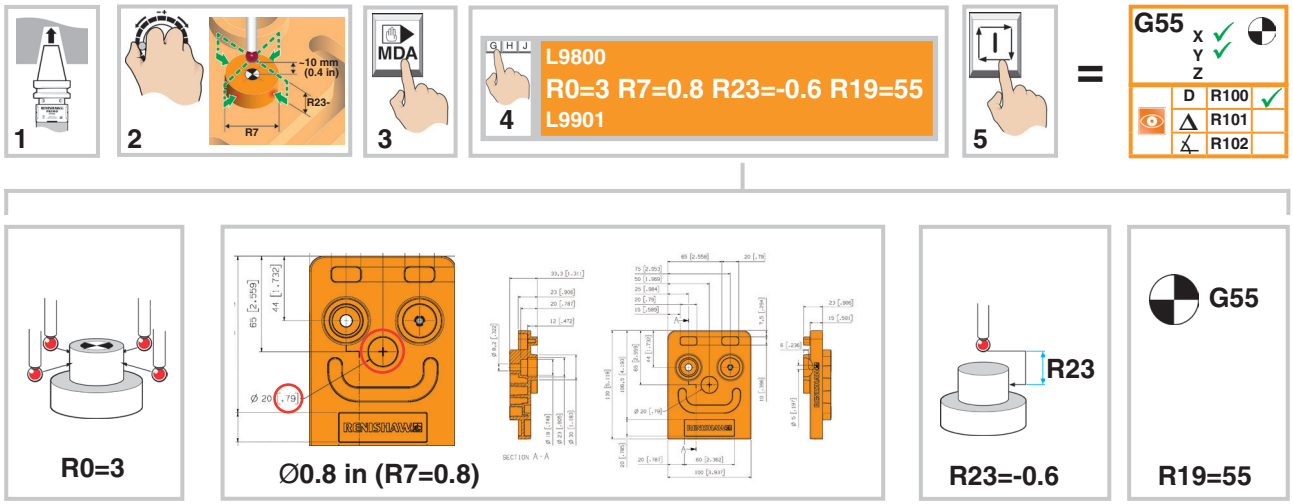


The example below shows the completed single-line command for cycle R0=301 using a 50 mm stylus.

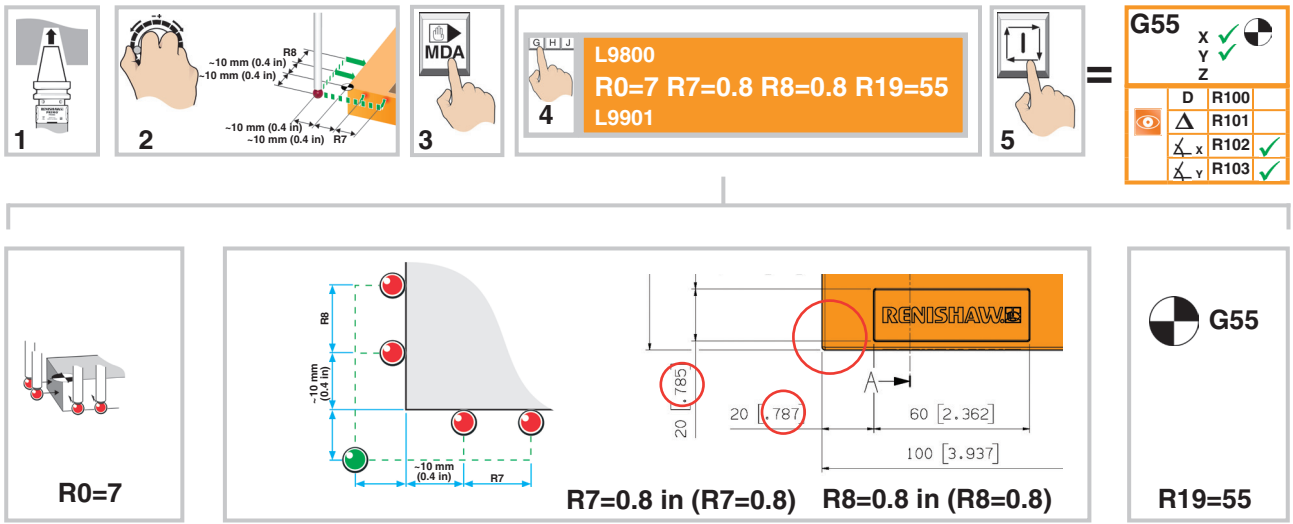
Practical exercises

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



R0=7: Corner (external)



Alarms

ALARM 4 DISC STYLUS NOT LEVEL

Disc stylus not level (> 15 µm [0.0006 in])

ALARM 5 STYLUS RUNOUT EXCESSIVE

Stylus run-out excessive (> 0.2 mm [0.0079 in])

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