



TOOL PROBE

INFORMATIONS OF PROBE (TOOL PROBE)

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TOOL PROBE

Tool probe program and usage

1. O8000 (Probe calibration)

- 1) Calling the basic tool
 - 2) Changing EDIT MODE and calling O8000
 - 3) If necessary, changing setting variables
 - 4) Changing AUTO MODE and cycle start
 - 5) Stopping at 'M00'
 - 6) Changing JOG & HANDLE MODE and moving tool 10~15mm over stylus
 - 7) Changing AUTO MODE and cycle start
- * Running once a week *

2. M600 (Measuring tool length)

- 1) Changing MDI MODE and calling tool to be measured
- 2) Running M600

3. M700 (Measuring tool broken)

- 1) Changing MDI MODE and calling tool to be measured
- 2) Running M700

4. M800 (Measuring in semi-auto)

- 1) Changing MDI MODE and calling tool to be measured
- 2) Running M800
- 3) Stopping at "M00"
- 4) Changing JOG & HANDLE MODE and moving tool 10~15mm over stylus
- 5) Changing MDI MODE and cycle start



TOOL PROBE

– Contents –

1. O8000 (Probe calibration – basic tool)
2. M600 (Measuring tool length)
3. M700 (Measuring tool broken)
4. M800 (Measuring in MDI MODE)
5. Additional application
6. Alarm message



TOOL PROBE

Tool probe calibration

%

O8000 (Probe calibration)

G91 G28 Z0

G80 G40 G0

G90

(* TOOL CHANGE *)

G00 G53 X#923 Y#924 (MEASURING POINT OF STYLUS)

G00 G53 Z-20.

M19

M00

(* MOVING TOOL 10 ~ 15MM OVER STYLUS *)

N1 (LENGTH CALIBRATION)

G65 P9851 K*(TOOL LENGTH) Q15.

G91 G28 Z0.

M30

Macro variables

#906 = 0.3(Retract distance)

#907 = 1. (2 Touch X moving)

#925 = 400 (Z rapid pos) ←

#926 = 400 (Measuring pos under Ø10) ←

#927 = 400 (Measuring pos over Ø10) ←

#928 = 60. (Max measuring dia)

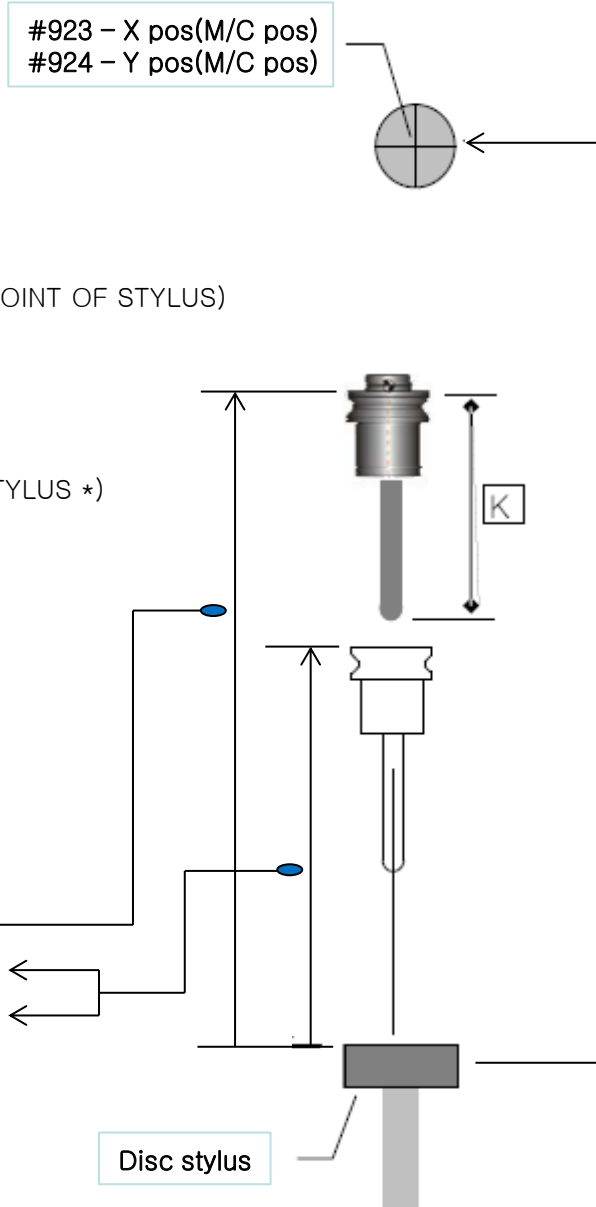
#929 = 3. (offset type 1(A), 2(B), 3(C))

#930 = 2.

#931 = 0.

#923 - X pos(M/C pos)
#924 - Y pos(M/C pos)

Disc stylus





TOOL PROBE

M600 T_ S_ Q_ ; Measuring tool length

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M600 T10 – Under DIA 10

M600 T10 S12 – OVER DIA 11

T : Offset number

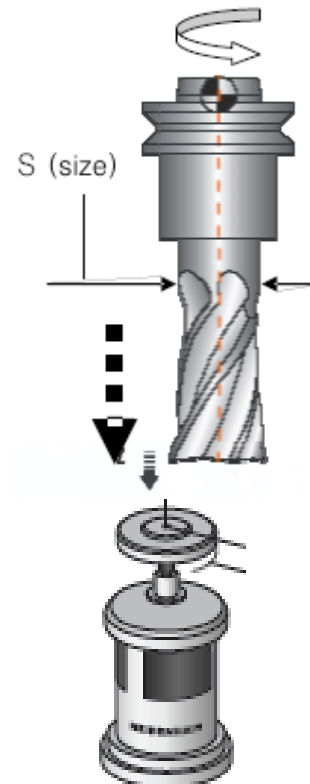
S : Tool diameter over $\text{Ø}11$

Q : Z axis – moving more than settings in O8000
(If no using, it's basic 50mm)

Under DIA 10



Over DIA 10





TOOL PROBE

M700 T_ S_ Q_ ; Measuring tool broken

%

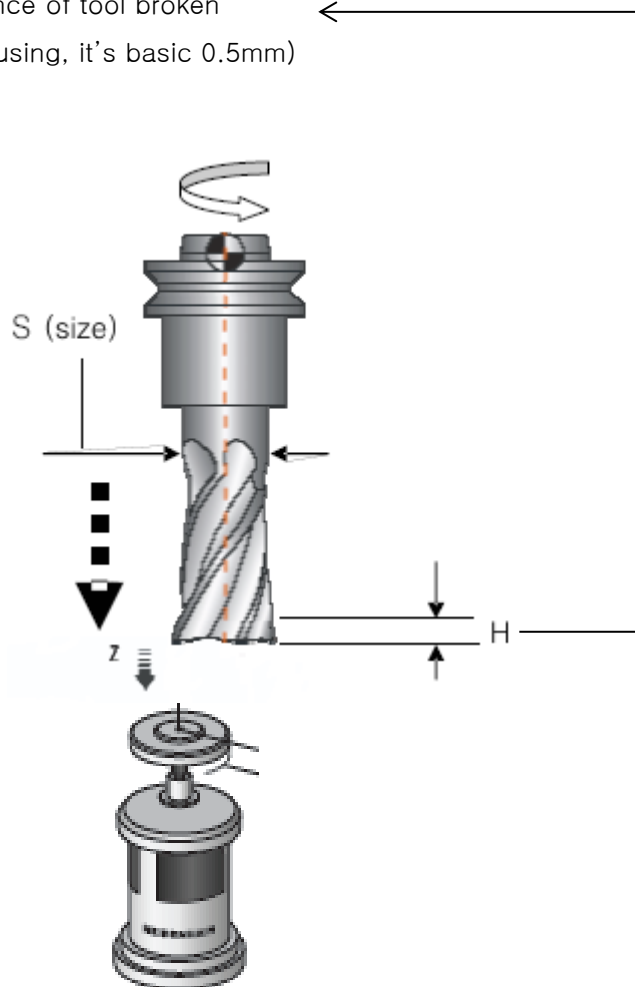
M700 T10 - Under DIA 10

M700 T10 S12 - OVER DIA 11

T : Offset number

S : Tool diameter over $\varnothing 11$

H : Allowance of tool broken
(If no using, it's basic 0.5mm)





TOOL PROBE

M800 T_ S_ Q_ ; Measuring tool length in MDI MODE

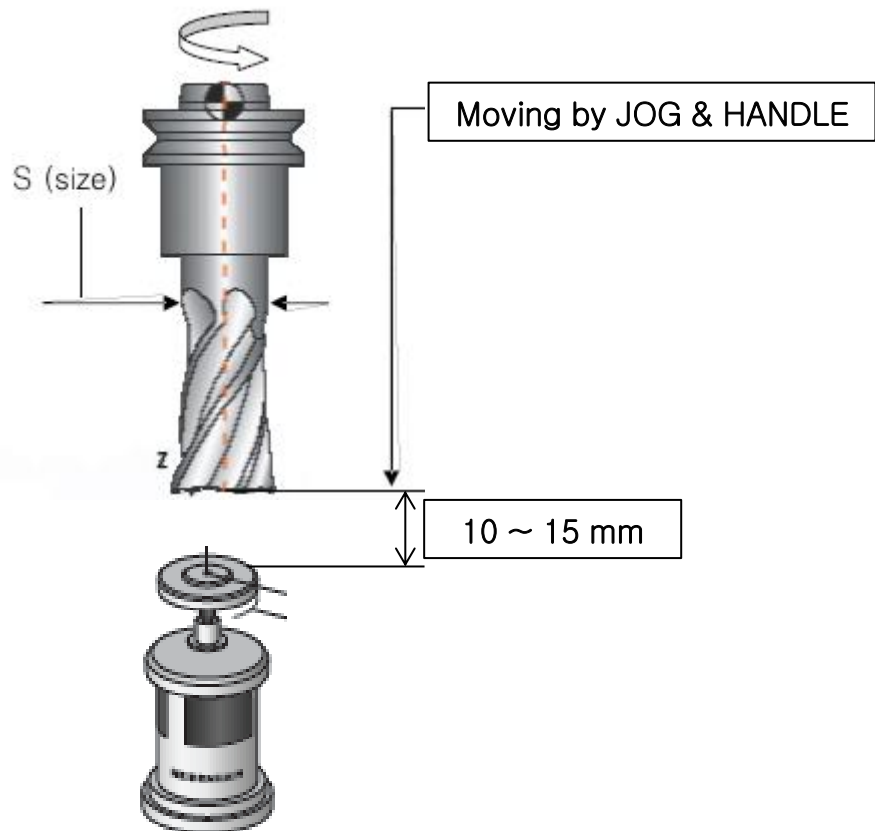
Ex)

M800 T10 – Under DIA 10

M800 T10 S12 – OVER DIA 11

T : Offset number

S : Tool diameter over $\varnothing 11$
(CCW rotating moving S/2 to the center of he)





TOOL PROBE

Additional application

1) Measuring tool length all tools at once

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O1234

M6 T1

M600 T1 -> H1 : 95

M6 T2

M600 T2 -> H2 : 20

M6 T3

M600 T3 -> H2 : -10

:

M6 T24

M600 T2 4 -> H2 4: 51

M02

%

2) Measuring in running program : enable after working and enable to compensate temperature

%

O2000

G91 G28 Z0.

G40 G80

M6 T1

M600 T1 -> Measuring tool 1

G90 G54 G0 X* Y*

G43 H1 Z50.

:

:

M700 T1 -> Measuring broken tool 1

G91 G28 Z0.

G49

M02

%



TOOL PROBE

Alarm message

1) Message 3091 (FORMAT ERROR)

Reason : Wrong character not designated letter or wrong input

Remedy : Checking and changing it

2) Message 3092 (PROBE OPEN)

Reason 1 : If measuring tool is longer than the size of #926 variable

Remedy 1 : Adjusting #926 variable

Reason 2 : Dust or subtle materials on stylus

Remedy 2 : Removing all dusts on stylus

3) Message 3093 (PROBE FAIL)

Reason : Measuring tool is not touching the measuring point

Remedy : Using Q values or changing it

4) Message 3099 (BROKEN TOOL)

Reason : Tool is broken

Remedy : Checking whether tool is broken or not and changing tool