F3 Simulator

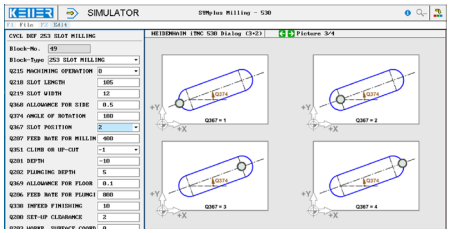
CONTROLS

Control simulator HEIDENHAIN iTNC530 (milling)

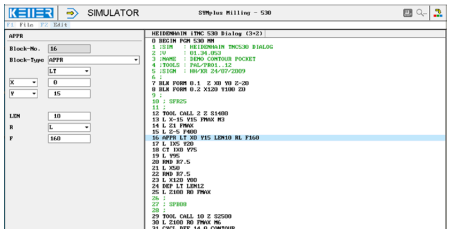
KELLER SOFTWARE

The control related simulator is an additional module for SYMplus. This simulator is used to learn the control system programming. A program generated by a postprocessor can also be edited and simulated.

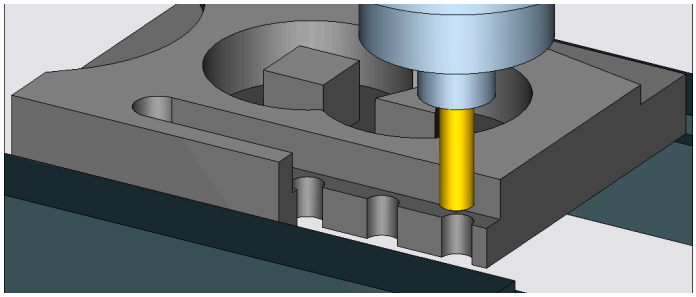
Help pictures and texts (for all input dialogues)



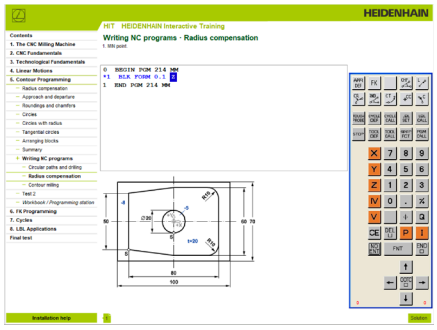
NC editor incl. input dialogue and syntax control



3D simulation, 3D view with cut for each point of simulation, measuring function in 2D



„HIT“ - Heidenhain: Interaktive training included



Also available for HEIDENHAIN DIN.

Option: Sviweling (3+2 axes) with PLANE SPATIAL, PROJECTED, EULER, VECTOR, POINTS,... (see next page)

COMMANDS/ FUNCTIONS/CYCLES

BLK FORM	Blank form definition
L	Linear movement in feed
L FMAX	...in rapid traverse
CC	Circle centre
C	Circle around centre point
CR	Circle with radius R
CT	Circle tangential
LP	Linear movement polar
CP/CTP	Circle polar/tangential polar
CHF/RND	Chamfer/Rounding
APPR/DEP	Approach/Departure of contour
TOOL DEF/CALL	Tool definition/calll
LBL SET/ LBL CALL	Lable set/call
CYCL CALL	Cycle call
CYCL CALL POS	Cycle call with positioning
CYCL CALL PAT	Cycle call with pattern
STOP	Program stop
M	Additional functions
Q	Parameter
X/Z/Z	Modal functions
COMMENT	Explanations
STRUCTURE	
CALL PGM	Sub-program call
PATTERN	Machining positions (row, pattern, frame, full and partial circle, single pos.)
CYCL DEF...	Cycle definiton

1.0 DEEP-HOLE DRILLING	203 UNIVERSAL DRILLING
2.0 TAPPING	207 RIGID TAPPING NEW
3.0 SLOT MILLING	208 BORE MILLING
4.0 POCKET MILLING	209 TAPPING, CHIP BREAKING
5.0 CIRCULAR MILLING	210 RECIPROCATING GROOVE
7.0 ZERO OFFSET	211 ROUND GROOVE
8.0 MIRROR IMAGE	212 POCKET FINISHING
9.0 DWELL TIME	213 STUD FINISHING
10.0 ROTATION	214. CIRC. POCKET FINISHING
11.0 SCALING FACTOR	215 CIRC. STUD. FINISHING
14.0 CONTOUR	220 CIRCULAR PATTERN
16.0 CONTOUR MILLING	221 LINEAR PATTERN
20.0 CONTOUR DATA	230 MULTIPASS MILLING
21.0 PILOT DRILLING	232 FACE MILLING
22.0 ROUGH-OUT	251 RECTANGULAR POCKET
23.0 FLOOR FINISHING	252 CIRCULAR POCKET
24.0 SIDE FINISHING	253 SLOT MILLING
200 DRILLING	254 CIRCULAR SLOT
201 REAMING	256 RECTANGULAR STUD
202 FINE BORING	257 CIRCULAR STUD

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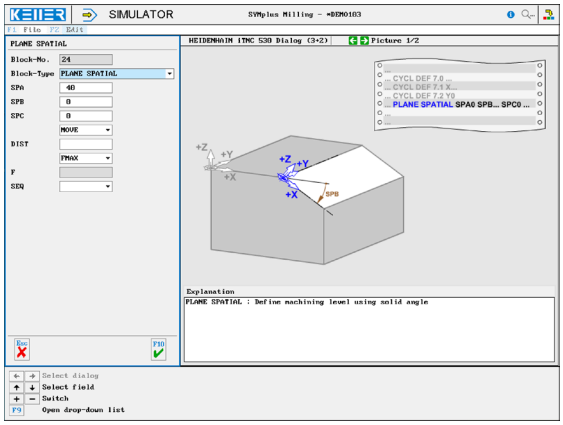
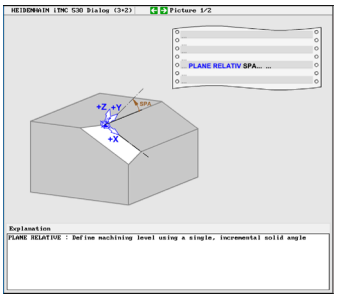
CONTROLS

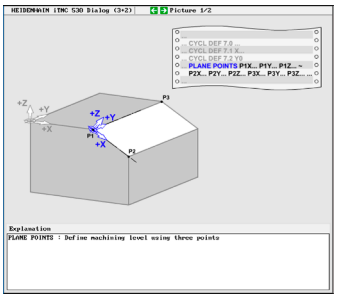
Control simulator HEIDENHAIN iTNC530 (milling)

As an add-on module to the HEIDENHAIN iTNC530 simulator we offer the PLANE functions to program a tilting of the working plane (multi-sides machining).

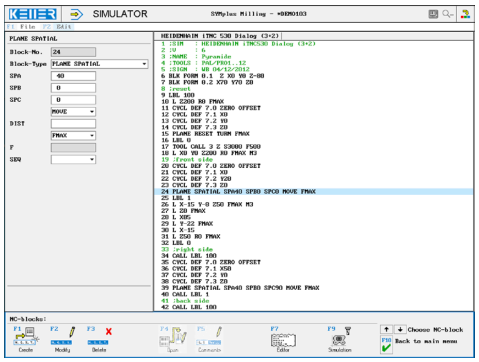
Help pictures and texts (for all parameters)



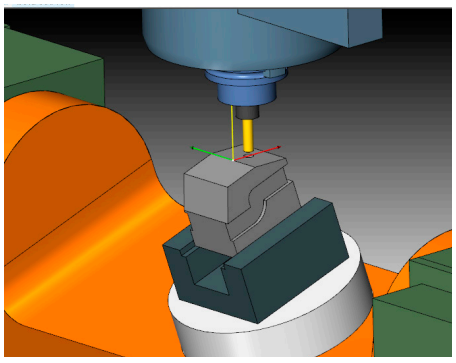


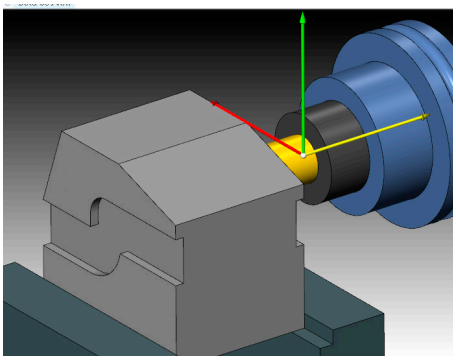


Program listing



Simulation in 3D, where you can choose between different machine kinematics





```
0 BEGIN PGM  MM
1 BLK FORM 0.1  Z X0 Y0 Z-60
2 BLK FORM 0.2 X70 Y50 Z0
3 ; MILLING D16
4 TOOL CALL 4 Z S2000 F250
5 L Z100 R0 FMAX M13
6 ; PLANE POINTS
7 CYCL DEF 7.0 ZERO POINT
8 CYCL DEF 7.1 X40
9 CYCL DEF 7.2 Y0
10 CYCL DEF 7.3 Z0
11  PLANE  POINTS P1X40  P1Y0  P1Z0  P2X70
P2Y0 P2Z-10 P3X40 P3Y50 P3Z0 MOVE
12 L X0 Y-10 FMAX
13 L Z0 FMAX
14 L Y60
15 L IX10 FMAX
16 L Y-10
17 L IX10 FMAX
18 L Y60
19 L IX10 FMAX
20 L Y-10
21 L Z100 FMAX
22 PLANE RESET MOVE ABST100 FMAX
23 ; PLANE SPACIAL
24 CYCL DEF 7.0 ZERO POINT
25 CYCL DEF 7.1 X10
26 CYCL DEF 7.2 Y0
27 CYCL DEF 7.3 Z0
28 PLANE SPATIAL SPA0 SPB-70 SPC0 MOVE
29 L X0 Y-10 Z100 FMAX
30 L Z0 FMAX
31 L Y60
32 L IX-10 FMAX
33 L Y-10
34 L IX-10 FMAX
35 L Y60
36 L IX-10 FMAX
37 L Y-10
38 L Z50 FMAX
39 PLANE RESET MOVE
40 CYCL DEF 7.0 ZERO POINT
41 CYCL DEF 7.1 X0
42 CYCL DEF 7.2 Y0
43 CYCL DEF 7.3 Z0
44 ; PLANE VECTOR
45 PLANE VECTOR BX1 BY0 BZ0 NX0 NY-1 00
```

```
PLANE SPATIAL
PLANE PROJECTED
PLANE EULER
PLANE VECTOR
PLANE POINTS
PLANE RELATIV
PLANE RESET
```

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