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EXAMPLE HAAS 5-AXIS POST PROCESSOR PROGRAM

```
%
O0100 ( ESEMPIO_HAAS5ASSI )
G0 G17 G40 G49 G80 G90
M11
M13
G255 (ORIGINE DINAMICA OFF)
G00 G53 Z15.
G00 G53 X-300. Y-1.
G0 G90 B0. C0.
G91 G28 C0.
T4 M6 ( PIATTA D.10   )
G54
S3500 M3
M11
M13
G255 (ORIGINE DINAMICA OFF)
G0 G90 B45. C0.
G254 (ORIGINE DINAMICA ON)
M10
M12
G0 G90 X-34.962 Y20.5
G43 H4 Z92.175 M8 T25
Z77.175
G1 Z67.175 F3.6
X-40.462 F560.
G3 X-45.962 Y15. R5.5
G1 Y-5.
G3 X-40.462 Y-10.5 R5.5
G1 X-34.962
G0 Z92.175
( PIANO FRONTE INCLINATO )
M11
M13
G255 (ORIGINE DINAMICA OFF)
G00 G53 Z15.
G00 G53 X-300. Y-1.
G0 G90 B45. C270.
G254 (ORIGINE DINAMICA ON)
M10
M12
X-42.033 Y20.5
Z85.104
Z65.104
G1 Z54.104 F3.6
X-47.533 F560.
G3 X-53.033 Y15. R5.5
G1 Y-15.
G3 X-47.533 Y-20.5 R5.5
G1 X-42.033
G0 Z85.104
M9
M5
T25 M6 ( PUNTA D.6   )
G54
S1850 M3
M11
M13
G255 (ORIGINE DINAMICA OFF)
G0 G90 B45. C180.
G254 (ORIGINE DINAMICA ON)
M10
M12
G0 G90 X-45.962 Y-15.
G43 H25 Z92.175 M7 T4
G81 Z57.175 R25. F800.
Y5.
G80
M5
M9
G90
M11
M13
G255 (ORIGINE DINAMICA OFF)
G00 G53 Z15.
G00 G53 X-300. Y-1.
G0 G90 B0. C0.
G91 G28 C0.
M30
%
```

EXAMPLE SIEMENS 5-AXIS POST PROCESSOR PROGRAM

```
N1 MSG("ESEMPIO_SIEMENS5ASSI")
N2 WORKPIECE(,"",,"BOX",112,0,0,-80,0,0,0)
N3 G17 G40 G71 G90
N4 CYCLE800()
N5 G0 G53 Z15 D0
N6 G0 G53 X-600 Y-1 D0
N7 D1
N8
CYCLE800(1,"TABLE_B_C",100000,192,0,0,0,0,0,0,
0,0,0,-1,,0)
N9 G64
N10 CYCLE800()
N11 MSG("PIATTA D.10")
N12 T4
N13 M6
N14 S3500 M3 D1 F560
N15 T25
N16
CYCLE800(1,"TABLE_B_C",100000,192,25,15,70,4
5,0,0,0,0,0,-1,,0)
N17 ;POSIZIONE TAVOLA B45 C0
N18 ;POSIXIONE ORIGINE X25 Y15 Z70
N19 G54
N20 M8
N21 G0 X-3.142 Y5.5
N22 Z25
N23 Z10
N24 G1 Z0 F3.6
N25 X-8.642 F560
N26 G3 X-14.142 Y0 I0 J-5.5
N27 G1 Y-20
N28 G3 X-8.642 Y-25.5 I5.5 J0
N29 G1 X-3.142
N30 G0 Z25
; PIANO FRONTE INCLINATO
N31 M9
N32 CYCLE800()
N33 G0 G53 Z15 D0
N34 G0 G53 X-600 Y-1 D0
N35 CYCLE800(1,"TABLE_B_C",100000,192,0,-
10,75,45,270,0,0,0,0,-1,,0)
N36 ;POSIZIONE TAVOLA B45 C270
N37 ;POSIXIONE ORIGINE X0 Y-10 Z75
N38 M8
N39 G0 X3.929 Y20.5
N40 Z25
N41 Z5
N42 G1 Z-6 F3.6
N43 X-1.571 F560
N44 G3 X-7.071 Y15 I0 J-5.5
N45 G1 Y-15
N46 G3 X-1.571 Y-20.5 I5.5 J0
N47 G1 X3.929
N48 G0 Z25
N49 M9
N50 CYCLE800()
N51 MSG("PUNTA D.6")
N52 T25
N53 M6
N54 S1850 M3 D1 F800
N55 T4
N56 CYCLE800(1,"TABLE_B_C",100000,192,-20,-
.09,75,45,180,0,0,0,0,-1,,0)
N57 ;POSIZIONE TAVOLA B45 C180
N58 ;POSIXIONE ORIGINE X-20 Y-.09 Z75
N59 M7
N60 G0 X-7.071 Y-15.09
N61 Z25
N62 MCALL CYCLE81 (25 ,0 ,25 ,-10 )
N63 X-7.071 Y-15.09
N64 Y4.91
N65 MCALL
N66 M9
N67 CYCLE800()
N68 G0 G53 Z15 D0
N69 G0 G53 X-600 Y-1 D0
N70 D1
N71
CYCLE800(1,"TABLE_B_C",100000,192,0,0,0,0,0,0,
0,0,0,-1,,0)
N72 CYCLE800()
N73 M30
```


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EXAMPLE HEIDENAIN 5-AXIS POST PROCESSOR PROGRAM – CYCLE SPATIAL

```
0 BEGIN PGM
ESEMPIO_HEIDENAIN5ASSI MM
1 CYCL DEF 247 IMPOSTAZIONE
ORIGINE ~
  Q339=1 ; ORIGINE PEZZO
2 CALL LBL 100 ; svincola e azzera
posizione tavola
* -  PIATTA D.10
3 TOOL CALL 4 Z S3500 ; PIATTA D.10
4 L M8
5 CALL LBL 300 ; svincola dopo
cambio utensile prima di rotazione
tavola
6 CYCL DEF 7.0 PUNTO ZERO
7 CYCL DEF 7.1 X0,000
8 CYCL DEF 7.2 Y0,000
9 CYCL DEF 7.3 Z0,000
10 PLANE RESET STAY
11 CYCL DEF 7.0 PUNTO ZERO
12 CYCL DEF 7.1 X25,000
13 CYCL DEF 7.2 Y15,000
14 CYCL DEF 7.3 Z70,000
15 PLANE SPATIAL SPA+0 SPB+45
SPC+0 TURN MB MAX FMAX SEQ-
TABLE ROT
16 L X-3,142 Y5,500 R0 FMAX M3
17 L Z25,000 R0 FMAX
18 L Z10,000 R0 FMAX
19 L Z0,000 F3.6
20 L X-8,642 F560
21 CC X-8,642 Y0,000
22 C X-14,142 Y0,000 DR+
23 L Y-20,000
24 CC X-8,642 Y-20,000
25 C X-8,642 Y-25,500 DR+
26 L X-3,142
27 L Z25,000 R0 FMAX
28 ; PIANO FRONTE INCLINATO
29 CALL LBL 200 ; svincola per
rotazione tavola
30 CYCL DEF 7.0 PUNTO ZERO
31 CYCL DEF 7.1 X0,000
32 CYCL DEF 7.2 Y0,000
33 CYCL DEF 7.3 Z0,000
34 PLANE RESET STAY
35 CYCL DEF 7.0 PUNTO ZERO
36 CYCL DEF 7.1 X0,000
37 CYCL DEF 7.2 Y-10,000
38 CYCL DEF 7.3 Z75,000
39 PLANE SPATIAL SPA+0 SPB+45
SPC+270 TURN MB MAX FMAX SEQ-
TABLE ROT
40 L X3,929 Y20,500 R0 FMAX
41 L Z25,000 R0 FMAX
42 L X3,929 Y20,500 R0 FMAX
43 L Z5,000 R0 FMAX
44 L Z-6,000 F3.6
45 L X-1,571 F560
46 CC X-1,571 Y15,000
47 C X-7,071 Y15,000 DR+
48 L Y-15,000
49 CC X-1,571 Y-15,000
50 C X-1,571 Y-20,500 DR+
51 L X3,929
52 L Z25,000 R0 FMAX
53 CALL LBL 100 ; svincola e azzera
posizione tavola
* -  PUNTA D.6
54 TOOL CALL 25 Z S1850 ; PUNTA
D.6
55 L M7
56 CALL LBL 300 ; svincola dopo
cambio utensile prima di rotazione
tavola
57 CYCL DEF 7.0 PUNTO ZERO
58 CYCL DEF 7.1 X0,000
59 CYCL DEF 7.2 Y0,000
60 CYCL DEF 7.3 Z0,000
61 PLANE RESET STAY
62 CYCL DEF 7.0 PUNTO ZERO
63 CYCL DEF 7.1 X-20,000
64 CYCL DEF 7.2 Y-0,090
65 CYCL DEF 7.3 Z75,000
66 PLANE SPATIAL SPA+0 SPB+45
SPC+180 TURN MB MAX FMAX SEQ-
TABLE ROT
67 L X-7,071 Y-15,090 R0 FMAX M3
68 L Z25,000 R0 FMAX
69 CYCL DEF 200 FORATURA ~
 Q200=25 ;DISTANZA DI SICUREZZA ~
 Q201=-10 ;PROFONDITA' ~
 Q206=800 ;AVANZAMENTO IN
PROF. ~
 Q202=10 ;PROF. INCREMENTO ~

 Q210=0 ;TEMPO ATTESA ~
 Q203=+0 ;COORDINATE SUPERFICIE
~
 Q204=25 ;SVINCOLO
70 L X-7,071 Y-15,090 R0 FMAX M99
71 L X-7,071 Y4,910 R0 FMAX M99
72 L M9
73 CALL LBL 100 ; svincola e azzera
posizione tavola
74 M9
75 M5
76 M30
77 ; ----------------------------------
78 LBL 100 ; svincola e azzera
posizione tavola
79 L Z600,000 R0 FMAX M91
80 L X-1,000 R0 FMAX M91
81 L Y-1,000 R0 FMAX M91
82 PLANE RESET TURN MB MAX
FMAX
83 L X-370 R0 F MAX M91
84 LBL 0
85 ; ----------------------------------
86 LBL 200 ; svincola per rotazione
tavola
87 L Z600,000 FMAX M91
88 L X-1,000 R0 FMAX M91
89 L Y-1,000 R0 FMAX M91
90 LBL 0
91 ; ----------------------------------
92 LBL 300 ; svincola dopo cambio
utensile prima di rotazione tavola
93 L Z600,000 FMAX M91
94 L X-1,000 R0 FMAX M91
95 L Y-1,000 R0 FMAX M91
96 LBL 0
97 ; ----------------------------------
98 END PGM
ESEMPIO_HEIDENAIN5ASSI MM
```

EXAMPLE HEIDENAIN 5-AXIS POST PROCESSOR PROGRAM – CYCLE 19

```
0 BEGIN PGM
ESEMPIO_HEIDENAIN5ASSI_CYCL19
MM
1 CALL LBL 100 ; svincola e azzera
posizione tavola
2 TOOL CALL 4 Z S3500 ; PIATTA D.10
3 L M8
4 CALL LBL 300 ; svincola dopo
cambio utensile prima di rotazione
tavola
5 CYCL DEF 7.0 PUNTO ZERO
6 CYCL DEF 7.1 X0,000
7 CYCL DEF 7.2 Y0,000
8 CYCL DEF 7.3 Z0,000
9 CYCL DEF 7.0 PUNTO ZERO
10 CYCL DEF 7.1 X25,000
11 CYCL DEF 7.2 Y15,000
12 CYCL DEF 7.3 Z70,000
13 L A+45 C+0 R0 F MAX
14 M127
15 CYCL DEF 19.0 PIANO LAVORO
16 CYCL DEF 19.1 A+45 C+0 F5000
DIST.0
17 L X-3,142 Y5,500 R0 FMAX M3
18 L Z25,000 R0 FMAX
19 L Z10,000 R0 FMAX
20 L Z0,000 F3.6
21 L X-8,642 F560
22 CC X-8,642 Y0,000
23 C X-14,142 Y0,000 DR+
24 L Y-20,000
25 CC X-8,642 Y-20,000
26 C X-8,642 Y-25,500 DR+
27 L X-3,142
28 L Z25,000 R0 FMAX
29 ; PIANO FRONTE INCLINATO
30 CALL LBL 200 ; svincola per
rotazione tavola
31 CYCL DEF 7.0 PUNTO ZERO
32 CYCL DEF 7.1 X0,000
33 CYCL DEF 7.2 Y0,000
34 CYCL DEF 7.3 Z0,000
35 CYCL DEF 7.0 PUNTO ZERO
36 CYCL DEF 7.1 X0,000
37 CYCL DEF 7.2 Y-10,000
38 CYCL DEF 7.3 Z75,000
39 L A+45 C+270 R0 F MAX
40 M127
41 CYCL DEF 19.0 PIANO LAVORO
42 CYCL DEF 19.1 A+45 C+270 F5000
DIST.0
43 L X3,929 Y20,500 R0 FMAX
44 L Z25,000 R0 FMAX
45 L X3,929 Y20,500 R0 FMAX
46 L Z5,000 R0 FMAX
47 L Z-6,000 F3.6
48 L X-1,571 F560
49 CC X-1,571 Y15,000
50 C X-7,071 Y15,000 DR+
51 L Y-15,000
52 CC X-1,571 Y-15,000
53 C X-1,571 Y-20,500 DR+
54 L X3,929
55 L Z25,000 R0 FMAX
56 CALL LBL 100 ; svincola e azzera
posizione tavola
57 TOOL CALL 25 Z S1850 ; PUNTA
D.6
58 L M7
59 CALL LBL 300 ; svincola dopo
cambio utensile prima di rotazione
tavola
60 CYCL DEF 7.0 PUNTO ZERO
61 CYCL DEF 7.1 X0,000
62 CYCL DEF 7.2 Y0,000
63 CYCL DEF 7.3 Z0,000
64 CYCL DEF 7.0 PUNTO ZERO
65 CYCL DEF 7.1 X-20,000
66 CYCL DEF 7.2 Y-0,090
67 CYCL DEF 7.3 Z75,000
68 L A+45 C+180 R0 F MAX
69 M127
70 CYCL DEF 19.0 PIANO LAVORO
71 CYCL DEF 19.1 A+45 C+180 F5000
DIST.0
72 L X-7,071 Y-15,090 R0 FMAX M3
73 L Z25,000 R0 FMAX
74 CYCL DEF 200 FORATURA ~
 Q200=25 ;DISTANZA DI SICUREZZA ~
 Q201=-10 ;PROFONDITA' ~
 Q206=800 ;AVANZAMENTO IN
PROF. ~
      Q202=10 ;PROF. INCREMENTO ~
```



```
 Q210=0 ;TEMPO ATTESA ~
 Q203=+0 ;COORDINATE SUPERFICIE
~
 Q204=25 ;SVINCOLO
75 L X-7,071 Y-15,090 R0 FMAX M99
76 L X-7,071 Y4,910 R0 FMAX M99
77 L M9
78 CALL LBL 100 ; svincola e azzera
posizione tavola
79 M30
80 ; ----------------------------------
81 LBL 100 ; svincola e azzera
posizione tavola
82 M9
83 M5
84 M129
85 CYCL DEF 19.0 ANNULLA PIANO
86 CYCL DEF 19.1
87 L Z600,000 FMAX M91
88 L X-1,000 R0 FMAX M91
89 L Y-1,000 R0 FMAX M91
90 L C0 A0 R0 F MAX M126
91 M127
92 CYCL DEF 19.0
93 CYCL DEF 19.1 A+0 C+0 F5000
DIST.0
94 CYCL DEF 19.0
95 CYCL DEF 19.1
96 M129
97 CYCL DEF 7.0 PUNTO ZERO
98 CYCL DEF 7.1 X+0
99 CYCL DEF 7.2 Y+0
100 CYCL DEF 7.3 Z+0
101 LBL 0
102 ; ----------------------------------
103 LBL 200 ; svincola per rotazione
tavola
104 CYCL DEF 19.0 ANNULLA PIANO
105 CYCL DEF 19.1
106 L Z600,000 FMAX M91
107 L X-1,000 R0 FMAX M91
108 L Y-1,000 R0 FMAX M91
109 LBL 0
110 ; ----------------------------------
111 LBL 300 ; svincola dopo cambio
utensile prima di rotazione tavola
112 L Z600,000 FMAX M91
113 L X-1,000 R0 FMAX M91
114 L Y-1,000 R0 FMAX M91
115 LBL 0
116 ; ----------------------------------
117 END PGM
ESEMPIO_HEIDENAIN5ASSI_CYCL19
MM
```

POSTPROCESSOR CUSTOMIZATION LIST

POSSIBLE CUSTOMIZATIONS TO BE MADE FOR THE USER BY EDITTING THE **HAAS5_GENERIC.PST** FILE
- ACTIVATE OR DEACTIVATE THE NEXT TOOL PREPARATION
- DEFINE IGNITION NAME N.3 TYPES OF REFRIGERANTS
- DEFINE EXTINGUISHING NAME N.3 TYPES OF REFRIGERANTS
- DEFINITION OF SAFETY RELEASE FOR TABLE MOVEMENT WITH RELATIVE Z, XY COORDINATES
- DEFINE TOGGLE ROTATION SIDE FOR WORK AREA AT X+ OR X-

POSSIBLE CUSTOMIZATIONS TO BE MADE FOR THE USER BY EDITTING THE **SIEMENS5_GENERIC.PST** FILE
- ACTIVATE OR DEACTIVATE THE NEXT TOOL PREPARATION
- DEFINE IGNITION NAME N.3 TYPES OF REFRIGERANTS
- DEFINE EXTINGUISHING NAME N.3 TYPES OF REFRIGERANTS
- TOOL RECALL DEFINITION WITH NUMBER OR NAME
- DEFINITION OF SAFETY RELEASE FOR TABLE MOVEMENT WITH RELATIVE Z, XY COORDINATES
- DEFINE SIDE OF ROTATION OF THE TOGGLE FOR WORK AREA A X+, A X-, A Y+, A Y-
- DEFINE THE PHYSICAL POSITION OF THE TOOL MAGAZINE ON THE RIGHT, LEFT OR IN THE CENTER
- DEFINE THE MAXIMUM LIMIT OF THE ROTATION ANGLE OF THE TOGGLE

POSSIBLE CUSTOMIZATIONS TO BE MADE FOR THE USER BY EDITTING THE **HEIDENAIN5_GENERIC.PST** FILE
- ACTIVATE OR DEACTIVATE THE NEXT TOOL PREPARATION
- DEFINE IGNITION NAME N.3 TYPES OF REFRIGERANTS
- DEFINE EXTINGUISHING NAME N.3 TYPES OF REFRIGERANTS
- TOOL RECALL DEFINITION WITH NUMBER OR NAME
- DEFINITION OF SAFETY RELEASE FOR TABLE MOVEMENT WITH RELATIVE Z, XY COORDINATES
- DEFINE SIDE OF ROTATION OF THE TOGGLE FOR WORK AREA A X+, A X-, A Y+, A Y-
- DEFINE THE PHYSICAL POSITION OF THE TOOL MAGAZINE ON THE RIGHT, LEFT OR IN THE CENTER
- DEFINE THE MAXIMUM LIMIT OF THE ROTATION ANGLE OF THE TOGGLE

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EXAMPLE OF POST-PROCESSOR USER PERSONALIZATION

1st Phase: edit the postprocessor **.PST** file using the NOTEPAD editor
2nd Phase: enter the value 0 or 1 or2 r3 or4 in the LIGHT BLUE fields
3rd Phase: enter the name of the refrigerant codes inside the quotation marks in the RED fields
4th Phase: enter the release coordinate values in the GREEN fields

```
#preselezione utensile / pre-stage tools - 0=OFF 1=ON
bldnxtool$ = 0

#refrigeranti on
sref1on      : "M8" #Refrigerante esterno / Coolant Flood - ON
sref2on      : "M8" #Refrigerante aria / Coolant Mist - ON
sref3on      : "M7" #Refrigerante interno / Coolant Tool - ON

#refrigeranti off
sref1off     : "M9" #Refrigerante esterno / Coolant Flood - OFF
sref2off     : "M9" #Refrigerante aria / Coolant Mist - OFF
sref3off     : "M9" #Refrigerante interno / Coolant Tool - OFF

#definizione richiamo utensile / tool recall definition - 0=NUMERO/NUMBER    1=NOME/FIRST NAME
tipo_cu = 0

#limite massimo angolo bascula-tavola / maximum rocker-table angle limit
lim_ang_a = -110

#definizione lato posizione magazzino utensile nella macchina / definition of the tool magazine position side of the machine
lato_cut = 2  #1=DESTRO/RIGHT    2=SINISTRO/LEFT    3=CENTRALE/CENTRAL

#definizione lato rotazione bascula-tavola / definition of the seesaw-table rotation side
lato_tav =2  #1=DESTRO X+/RIGHT X+    2=SINISTRO X-/LEFT X-    3=FRONTE Y-/FOREHEAD Y-    4=RETRO Y+/BACK Y+

#cordinate svincolo di sicurezza per movimento tavola G53 / safety release coordinates for table movement G53
xtav = -1     #svincolo di sicurezza X / safety release X - 0= valore non ammesso / illegal value
ytav = -1     #svincolo di sicurezza Y / safety release Y - 0= valore non ammesso / illegal value
ztav = 600     #svincolo di sicurezza Z / safety release Z - 0= valore non ammesso / illegal value

#definizione tipo ciclo 5 assi / 5 axis cycle type definition
tipo_ciclo = 2  #1=SPATIAL    2=CYCLE 19
```


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