

Treball final de màster

Estudi: Màster en Enginyeria Industrial

Títol: COMUNICACIÓ CAM-CNC PER CONTROL DE MÀQUINA EINA I DISSENY DE SISTEMA DE SUBJECCIÓ DE MATERIAL PER A OPERACIONS DE DEFORMACIÓ INCREMENTAL.

Document: ANNEX D. PROGRAMA ISO PER PROVES

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Departament: Eng. Mecànica i de la Construcció Industrial

Àrea: Enginyeria dels Processos de Fabricació

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1. INTRODUCCIÓ

En el present ANNEX s'inclou el programa ISO de proves de funcionament de les modificacions realitzades en el programa de control CNC del centre de mecanitzat.

No es llista la totalitat del programa de deformació de la peça de proves, degut a la extensió del mateix (més de 12000 línies de codi, que, per suposat han estat el resultat obtingut mitjançant el programa POWERMILL v9.0).

2. PROGRAMA

El programa que es llista a continuació mostra l'inici del mateix, els paràmetres corresponents a les dues primeres trajectòries així com la última i el tancament de programa.

N1		M202		"CONFIGURACIÓ MÀQUINA MODE 2: Límits 2 per operacions de Deformació Incremental"	
N10	G90				
N20	G0	Z50.			
N30	G0	X0	Y0		
N40	G0	X7.515	Y-33.069		
N50	G0	Z-1.3			
N60	G1	X4.925	Y-33.556	F1000	
N70	G1	X2.11	Y-33.86		
N80	G1	X-.704	Y-33.911		
N90	G1	X-3.518	Y-33.739		
N100	G1	X-6.332	Y-33.323		
N110	G1	X-9.146	Y-32.659		
N120	G1	X-12.184	Y-31.662		
N130	G1	X-15.328	Y-30.254		
N140	G1	X-17.837	Y-28.847		
N150	G1	X-19.943	Y-27.44		
N160	G1	X-21.81	Y-25.978		
N170	G1	X-23.32	Y-24.626		
N180	G1	X-24.737	Y-23.219		
N190	G1	X-27.088	Y-20.405		
N200	G1	X-28.998	Y-17.59		
N210	G1	X-30.253	Y-15.331		
N220	G1	X-31.75	Y-11.962		
N230	G1	X-32.658	Y-9.148		
N240	G1	X-33.322	Y-6.334		
N250	G1	X-33.738	Y-3.519		
N260	G1	X-33.911	Y-.705		
N270	G1	X-33.86	Y2.109		
N280	G1	X-33.556	Y4.923		
N290	G1	X-33.029	Y7.738		
N300	G1	X-32.234	Y10.552		
N310	G1	X-31.17	Y13.366		
N320	G1	X-29.816	Y16.18		
N330	G1	X-28.095	Y18.994		
N340	G1	X-25.979	Y21.809		
N350	G1	X-24.625	Y23.316		
N360	G1	X-23.218	Y24.725		
N370	G1	X-21.744	Y26.03		
N380	G1	X-18.996	Y28.094		
N390	G1	X-16.182	Y29.814		
N400	G1	X-13.368	Y31.171		
N410	G1	X-10.554	Y32.229		
N420	G1	X-7.739	Y33.03		
N430	G1	X-4.925	Y33.556		
N440	G1	X-2.111	Y33.86		
N450	G1	X.703	Y33.911		
N460	G1	X3.518	Y33.739		

N470	G1	X6.332	Y33.323
N480	G1	X9.146	Y32.659
N490	G1	X12.159	Y31.658
N500	G1	X14.774	Y30.527
N510	G1	X17.86	Y28.844
N520	G1	X20.403	Y27.089
N530	G1	X21.81	Y25.974
N540	G1	X23.324	Y24.623
N550	G1	X24.728	Y23.216
N560	G1	X26.031	Y21.749
N570	G1	X28.095	Y18.994
N580	G1	X28.846	Y17.863
N590	G1	X30.527	Y14.773
N600	G1	X31.745	Y11.959
N610	G1	X32.659	Y9.145
N620	G1	X33.323	Y6.33
N630	G1	X33.739	Y3.516
N640	G1	X33.98	Y.702
N650	G1	X33.983	Y-.705
N660	G1	X33.549	Y-4.926
N670	G1	X33.03	Y-7.741
N680	G1	X32.225	Y-10.555
N690	G1	X31.17	Y-13.369
N700	G1	X29.814	Y-16.183
N710	G1	X28.093	Y-18.998
N720	G1	X25.973	Y-21.812
N730	G1	X24.624	Y-23.324
N740	G1	X23.217	Y-24.739
N750	G1	X21.746	Y-26.033
N760	G1	X18.996	Y-28.094
N770	G1	X16.182	Y-29.815
N780	G1	X13.367	Y-31.171
N790	G1	X10.553	Y-32.233
N800	G1	X7.515	Y-33.069
N810	G1	X7.798	Y-34.558

N805 M210

"FUNCIO senyal sortida a sistema de control plataforma i espera entrada per continuar"

N820	G1	Z-1.6	F500
N830	G1	X4.925	Y-35.104 F1000
N840	G1	X2.11	Y-35.399
N850	G1	X-2.111	
N860	G1	X-6.332	Y-34.884
N870	G1	X-9.146	Y-34.248
N880	G1	X-11.961	Y-33.365
N890	G1	X-14.775	Y-32.22
N900	G1	X-17.589	Y-30.771
N910	G1	X-18.996	Y-29.935
N920	G1	X-21.81	Y-27.937
N930	G1	X-24.625	Y-25.499
N940	G1	X-26.032	Y-24.059
N950	G1	X-27.936	Y-21.812
N960	G1	X-29.934	Y-18.998
N970	G1	X-31.66	Y-15.943
N980	G1	X-32.829	Y-13.369
N990	G1	X-33.852	Y-10.555
N1000	G1	X-34.596	Y-7.741
N1010	G1	X-35.104	Y-4.926
N1020	G1	X-35.398	Y-2.112
N1030	G1	X-35.399	Y2.109
N1040	G1	X-34.885	Y6.33
N1050	G1	X-34.248	Y9.145
N1060	G1	X-33.366	Y11.959
N1070	G1	X-32.228	Y14.773
N1080	G1	X-30.253	Y18.477
N1090	G1	X-28.846	Y20.619
N1100	G1	X-27.439	Y22.459
N1110	G1	X-26.032	Y24.068
N1120	G1	X-24.062	Y26.03
N1130	G1	X-21.81	Y27.943
N1140	G1	X-18.996	Y29.935
N1150	G1	X-16.182	Y31.542
N1160	G1	X-13.368	Y32.829
N1170	G1	X-10.554	Y33.843
N1180	G1	X-7.739	Y34.596
N1190	G1	X-4.925	Y35.106
N1200	G1	X-2.111	Y35.399
N1210	G1	X2.11	
N1220	G1	X6.332	Y34.885
N1230	G1	X9.146	Y34.248

N1240	G1	X12.793	Y33.066
N1250	G1	X15.946	Y31.658
N1260	G1	X18.996	Y29.936
N1270	G1	X21.81	Y27.943
N1280	G1	X24.624	Y25.503
N1290	G1	X26.031	Y24.072
N1300	G1	X27.438	Y22.463
N1310	G1	X28.846	Y20.626
N1320	G1	X30.775	Y17.587
N1330	G1	X32.235	Y14.773
N1340	G1	X33.368	Y11.959
N1350	G1	X34.247	Y9.145
N1360	G1	X34.886	Y6.33
N1370	G1	X35.4	Y2.109
N1380	G1	X35.557	Y.702
N1390	G1	X35.543	Y-.705
N1400	G1	X35.102	Y-4.926
N1410	G1	X34.596	Y-7.741
N1420	G1	X33.842	Y-10.555
N1430	G1	X32.828	Y-13.369
N1440	G1	X31.66	Y-15.943
N1450	G1	X29.934	Y-18.998
N1460	G1	X27.942	Y-21.812
N1470	G1	X25.494	Y-24.626
N1480	G1	X24.067	Y-26.033
N1490	G1	X22.458	Y-27.44
N1500	G1	X20.618	Y-28.847
N1510	G1	X17.589	Y-30.771
N1520	G1	X14.774	Y-32.22
N1530	G1	X11.96	Y-33.372
N1540	G1	X9.146	Y-34.248
N1550	G1	X8.232	Y-34.476
N1560	G1	X7.798	Y-34.558
N1570	G1	X8.124	Y-36.058

N1575 M210 "FUNCIÓ senyal sortida a sistema de control plataforma i espera entrada per continuar"continuar"
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N120195 M202 "FUNCIÓ senyal sortida a sistema de control plataforma i espera entrada per continuar"continuar"

N120200	G1	Z-33.7	F500
N120210	G1	X9.146	Y-74.624 F1000
N120220	G1	X4.925	Y-75.031
N120230	G1	X-.704	Y-75.176
N120240	G1	X-4.925	Y-75.031
N120250	G1	X-10.554	Y-74.447
N120260	G1	X-14.775	Y-73.725
N120270	G1	X-20.058	Y-72.468
N120280	G1	X-24.625	Y-71.038
N120290	G1	X-28.313	Y-69.654
N120300	G1	X-31.66	Y-68.195
N120310	G1	X-35.882	Y-66.071
N120320	G1	X-40.103	Y-63.603
N120330	G1	X-44.324	Y-60.734
N120340	G1	X-49.051	Y-56.99
N120350	G1	X-52.135	Y-54.175
N120360	G1	X-54.905	Y-51.361
N120370	G1	X-57.415	Y-48.547
N120380	G1	X-60.732	Y-44.326
N120390	G1	X-64.024	Y-39.429
N120400	G1	X-66.838	Y-34.42
N120410	G1	X-68.835	Y-30.254
N120420	G1	X-70.525	Y-26.033
N120430	G1	X-71.951	Y-21.812
N120440	G1	X-73.103	Y-17.59
N120450	G1	X-73.874	Y-14.017
N120460	G1	X-74.623	Y-9.148
N120470	G1	X-75.031	Y-4.926
N120480	G1	X-75.176	Y.702
N120490	G1	X-75.031	Y4.923
N120500	G1	X-74.447	Y10.552
N120510	G1	X-73.724	Y14.773
N120520	G1	X-72.466	Y20.063
N120530	G1	X-71.039	Y24.623
N120540	G1	X-69.652	Y28.315
N120550	G1	X-67.516	Y33.066

N120560 G1 X-66.073 Y35.88
N120570 G1 X-63.605 Y40.101
N120580 G1 X-60.735 Y44.322
N120590 G1 X-57.417 Y48.544
N120600 G1 X-54.174 Y52.137
N120610 G1 X-51.36 Y54.906
N120620 G1 X-48.546 Y57.414
N120630 G1 X-44.324 Y60.733
N120640 G1 X-40.103 Y63.603
N120650 G1 X-35.882 Y66.073
N120660 G1 X-31.557 Y68.243
N120670 G1 X-28.32 Y69.65
N120680 G1 X-24.568 Y71.058
N120690 G1 X-20.068 Y72.465
N120700 G1 X-14.775 Y73.726
N120710 G1 X-9.146 Y74.623
N120720 G1 X-4.925 Y75.029
N120730 G1 X.703 Y75.175
N120740 G1 X4.925 Y75.031
N120750 G1 X10.553 Y74.447
N120760 G1 X14.774 Y73.726
N120770 G1 X17.589 Y73.103
N120780 G1 X21.81 Y71.949
N120790 G1 X26.031 Y70.524
N120800 G1 X30.253 Y68.837
N120810 G1 X34.474 Y66.81
N120820 G1 X38.695 Y64.463
N120830 G1 X42.917 Y61.729
N120840 G1 X45.731 Y59.684
N120850 G1 X49.055 Y56.986
N120860 G1 X52.766 Y53.561
N120870 G1 X54.908 Y51.358
N120880 G1 X57.416 Y48.544
N120890 G1 X60.735 Y44.322
N120900 G1 X63.604 Y40.101
N120910 G1 X66.074 Y35.88
N120920 G1 X68.245 Y31.552
N120930 G1 X69.652 Y28.315
N120940 G1 X71.059 Y24.564
N120950 G1 X72.466 Y20.064
N120960 G1 X73.726 Y14.773
N120970 G1 X74.624 Y9.145
N120980 G1 X75.03 Y4.923
N120990 G1 X75.178 Y-.705
N121000 G1 X75.031 Y-4.926
N121010 G1 X74.447 Y-10.555
N121020 G1 X73.723 Y-14.776
N121030 G1 X72.466 Y-20.063
N121040 G1 X71.038 Y-24.626
N121050 G1 X69.652 Y-28.317
N121060 G1 X68.196 Y-31.662
N121070 G1 X66.07 Y-35.883
N121080 G1 X63.602 Y-40.104
N121090 G1 X60.732 Y-44.326
N121100 G1 X57.414 Y-48.547
N121110 G1 X54.174 Y-52.139
N121120 G1 X51.359 Y-54.906
N121130 G1 X48.545 Y-57.417
N121140 G1 X44.324 Y-60.733
N121150 G1 X39.426 Y-64.025
N121160 G1 X34.416 Y-66.839
N121170 G1 X30.253 Y-68.831
N121180 G1 X26.031 Y-70.524
N121190 G1 X21.81 Y-71.95
N121200 G1 X17.589 Y-73.102
N121210 G1 X14.009 Y-73.875
N121220 G1 X11.526 Y-74.257
N121230 G0 Z50.

N121240 M2

Final programa

L'Enginyer autor del projecte

Albert Segade Peleteiro

JUNY 2015