

## Příloha č. 5

NC kód pro stávající způsob výroby:

%SOUSTRUŽENÍ.nc

PROGRAMMKOPF 8:31 3.4.2017 KASPAR

#MASCHINE NEF 600

#ZEICHNUNG

#WERKSTUECK SOUSTRUŽENÍ

#FIRMA

#DATUM 3.4.2017

#KOMMENTAR

REVOLVER 1 [ OTOCNA HLAVA ]

T1 STRANOVY

T2 TU\_INTE-LL06C2M-QP12

SPANNMITTEL 1 [ UPINACI ZARIZENI ]

ROHTEIL [ POLOTOVAR ]

G20 X236. Z30.5 K0

FERTIGTEIL [ DOKONCENA SOUC. ]

BEARBEITUNG [ OBRABENI ]

N1 G14

[VNEJSI STRANOVY]

N2 T1

N3 G0 G96 S310 M4 G95 F.4

N4 X240.8 Z.9 M8

N5 G1 X117.2

N6 X121.2 Z2.9

N7 X124.028 Z4.314 G95

N8 G0 G42 X235.8 Z5.5

N9 G1 Z-16. G95

N10 G40 X240.6

N11 G96 S300 M4

N12 G0 X239.8 Z-1.6

N13 G1 X199.8

N14 X202.628 Z-.186 G95

N15 G0 X239.8

N16 Z-4.1

N17 G1 X199.8

N18 X202.628 Z-2.686

N19 G0 X239.8

N20 Z-6.6

N21 G1 X199.8

N22 X202.628 Z-5.186

N23 G0 Z-4.752

N24 X237.331

N25 G1 X235.8 Z-6.6

N26 X235.

N27 X199.8

N28 Z.9

N29 X202.628 Z2.314

N30 G96 S340 M4

N31 G0 X203.8 Z.4

N32 G1 X117.2

N33 X118.2 Z.9

N34 X121.028 Z2.314 G95

N35 G96 S420 M4

N36 G0 G42 X191.323 Z5.798 F.22

N37 G2 X191.323 Z2.404 R2.4 G95

N38 G1 X198.8 Z-1.334

N39 Z-7.1

N40 X230.331

N41 X234.8 Z-9.334

N42 Z-16.

N43 G40 X239.6

N44 G0 M9 F.11

N45 G14

[VNITRNI TU\_INTE-LL06C2M-QP12]

N46 T2

N47 G0 G96 S300 M4 G95 F.3

N48 X142.274 Z23.355 M8

N49 X120.7 Z2.4

N50 G1 Z-30.9

N51 G0 X117.2

N52 Z2.4

N53 X124.2

N54 G1 Z-30.9 G95

N55 G0 X120.7

N56 Z2.4

N57 X127.7

N58 G1 Z-5.627

N59 X126.7 Z-6.127

N60 Z-30.9

N61 Z-28.9

N62 G0 X142.274 Z23.355

N63 X123.7 Z-1.609

N64 G1 X139.2

N65 Z0 G95

N66 Z.4

N67 X134.4

N68 G0 X123.7

N69 Z-3.618

N70 G1 X139.2

N71 Z-1.609

N72 X134.4

N73 G0 X123.7

N74 Z-5.627

N75 G1 X127.7

N76 X130.754 Z-4.1

N77 X139.2

N78 Z-3.618

N79 Z-1.618

N80 G0 X135.2 Z-.6

N81 G1 X174.2

N82 Z0 G95

N83 Z.4

N84 X171.372 Z1.814

N85 G0 G41 X150. Z-.6 F.2

N86 G3 X149. Z-1.1 R.5 G95

N87 G1 X146.786

N88 X140.2 Z-3.001

N89 Z-4.5

N90 G3 X140. Z-4.6 R.1

N91 G1 X131.169

N92 X127.934 Z-6.217

N93 G40 X124.54 Z-4.52

N94 G0 M9

N95 G14

N96 M30

ENDE [ KONEC ]

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%SOUSTRUŽENÍ2STR.nc

PROGRAMMKOPF KASPAR

#MASCHINE NEF 600

#ZEICHNUNG

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#FIRMA

#DATUM 3.4.2017

#KOMMENTAR

REVOLVER 1 [ OTOCNA HLAVA ]

T1 STRANOVY

T2 TU\_INTE-LL06C2M-QP12

SPANNMITTEL 1 [ UPINACI ZARIZENI ]

ROHTEIL [ POLOTOVAR ]

G20 X236. Z28. K0

FERTIGTEIL [ DOKONCENA SOUC. ]

BEARBEITUNG [ OBRABENI ]

N1 G14

[VNEJSI STRANOVY]

N2 T1

N3 G0 G96 S310 M4 G95 F.4

N4 X240.8 Z.9 M8

N5 G1 X126.7

N6 X130.7 Z2.9

N7 X133.528 Z4.314 G95

N8 G0 X234.8 Z2.9

N9 G1 Z-12.

N10 X236.8 Z-11.

N11 X239.628 Z-9.586 G95

N12 G96 S300 M4

N13 G0 X238.8 Z-1.767

N14 G1 X181.8

N15 Z.9 G95

N16 G0 X238.8

N17 Z-4.433

N18 G1 X181.8

N19 Z-1.767

N20 G0 X238.8

N21 Z-7.1

N22 G1 X181.8

N23 Z-4.433

N24 X184.628 Z-3.019

N25 G96 S350 M4

N26 G0 G41 X190.8 Z2.8

N27 G3 X186. Z.4 R2.4 G95

N28 G1 X128.5

N29 G40 Z2.8

N30 G96 S420 M4

N31 G0 X176.172 Z1.98 F.22

N32 G1 G42 X179.566 Z.283

N33 X180.8 Z-.334 G95

N34 Z-7.6

N35 X234.

N36 G40 Z-5.2

N37 G0 M9 F.1

N38 G14

[VNITRNI TU\_INTE-LL06C2M-QP12]

N39 T2

N40 G0 G96 S330 M4 G95 F.3

N41 X122.7 Z-3.1 M8

N42 G1 X164.2

N43 Z0 G95

N44 Z.4

N45 X163.2 Z.9

N46 G0 X122.7

N47 Z-7.1

N48 G1 X164.2

N49 Z-3.1

N50 X161.372 Z-1.686

N51 G96 S400 M4

N52 G0 X122.9

N53 G42 Z-23.9

N54 G2 X127.7 Z-21.5 R2.4 G95

N55 G1 Z-8.

N56 G40 X122.9

N57 G0 M9 F.11

N58 G14

N59 M30

ENDE [ KONEC ]

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0 BEGIN PGM VRTANI1STR MM

1 BLK FORM 0.1 Z X-117 Y-117 Z-28

2 BLK FORM 0.2 X117 Y117 Z0

3 \* - POLOZKA: Viko

4 \* - NAZEV : Bakalarska prace

5 \* - TYP:

6 \* - OPERAC: OPERACE

7 \* - PROGRAMOVAL : KASPAR8:25 3.4.2017

8 \* - DNE: 03-04-2017 - 08:11

9 \* - ODLADIL:

10 \* - DNE:

11 \* - POLOHA :

12 \* - POCATKY : X+0

13 \* - POCATKY : Y+0

14 \* - POCATKY : Z+0

15 \* - KOMENTAR :

16 ;-----

17 STOP M0 ;odladit

18 ;-----

19 \* - FO\_HELI-013090S-SA50

20 TOOL CALL 1 Z S2081 ;FO\_HELI-013090S-SA50

21 CALL LBL 100

22 \* - GLOB LN HO KS @379

23 CYCL DEF 200 VRTANI ~



Q200=30 ;BEZPEC.VZDALENOST ~  
Q201=-23.749 ;HLOUBKA ~  
Q206=1082.254 ;POSUV NA HLOUBKU ~  
Q202=23.749 ;HLOUBKA PRISUVU ~  
Q210=0 ;CAS.PRODLEVA NAHORE ~  
Q203=-1.004 ;SOURADNICE POVRCHU ~  
Q204=30.001 ;2. BEZPEC.VZDALENOST ~  
Q211=0 ;CAS.PRODLEVA DOLE

24 Q2=8

25 CALL LBL 1

26 R0 FMAX M9 M5

27 ;-----

28 \* - 10.2

29 TOOL CALL 3 Z S2965 ;10.2

30 CALL LBL 100

31 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-16.444 ;HLOUBKA ~

Q206=1304.45 ;POSUV NA HLOUBKU ~

Q202=16.444 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=-7.5 ;SOURADNICE POVRCHU ~

Q204=9.5 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

32 Q2=8

33 CALL LBL 2

34 R0 FMAX M9 M5

35 ;-----

36 \* - FO\_HELI-005050F-MACH

37 TOOL CALL 2 Z S5730 ;FO\_HELI-005050F-MACH

38 CALL LBL 100

39 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-16 ;HLOUBKA ~

Q206=1489.69 ;POSUV NA HLOUBKU ~

Q202=16 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=50 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

40 Q2=8

41 CALL LBL 3

42 R0 FMAX M9 M5

43 ;-----

44 \* - NAVRTAVAK 16 SECO

45 TOOL CALL 4 Z S1989 ;NAVRTAVAK 16 SECO

46 CALL LBL 100

47 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-14.4 ;HLOUBKA ~

Q206=1790.493 ;POSUV NA HLOUBKU ~

Q202=14.4 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=50 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

48 Q2=8

49 CALL LBL 1

50 TOOL CALL Z S3000

51 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-6.3 ;HLOUBKA ~

Q206=420 ;POSUV NA HLOUBKU ~

Q202=6.3 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=-7.5 ;SOURADNICE POVRCHU ~

Q204=57.5 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

52 Q2=8

53 CALL LBL 2

54 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-3.3 ;HLOUBKA ~

Q206=420 ;POSUV NA HLOUBKU ~

Q202=3.3 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=50 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

55 Q2=8

56 CALL LBL 4

57 R0 FMAX M9 M5

58 ;-----

59 \* - TR\_TAPP-006010R-BT40

60 TOOL CALL 5 Z S1326 ;TR\_TAPP-006010R-BT40

61 CALL LBL 100

62 CYCL DEF 207 REZ. ZAVITU GS NEW ~

Q200=2 ;BEZPEC.VZDALENOST ~  
Q201=-14.2 ;HLOUBKA ZAVITU ~  
Q239=1 ;STOUPANI ZAVITU ~  
Q203=-0.3 ;SOURADNICE POVRCHU ~  
Q204=50.3 ;2. BEZPEC.VZDALENOST

63 Q2=8

64 CALL LBL 3

65 R0 FMAX M9 M5

66 ;-----

67 \* - TR\_TAPP-012020F-MACH

68 TOOL CALL 6 Z S663 ;TR\_TAPP-012020F-MACH

69 CALL LBL 100

70 CYCL DEF 207 REZ. ZAVITU GS NEW ~

Q200=3.5 ;BEZPEC.VZDALENOST ~

Q201=-17.45 ;HLOUBKA ZAVITU ~

Q239=1.75 ;STOUPANI ZAVITU ~

Q203=-7.8 ;SOURADNICE POVRCHU ~

Q204=57.8 ;2. BEZPEC.VZDALENOST

71 Q2=8

72 CALL LBL 2

73 R0 FMAX M9 M5

74 ;-----

75 \* - FREZA ZAHLUB 20 SANDVIK

76 TOOL CALL 7 Z S1751 ;FREZA ZAHLUB 20 SANDVIK

77 CALL LBL 100

78 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-8.1 ;HLOUBKA ~

Q206=87.535 ;POSUV NA HLOUBKU ~

Q202=8.1 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=50 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

79 Q2=8

80 CALL LBL 1

81 R0 FMAX M9 M5

82 L Z+0 R0 FMAX M91

83 L Y+0 R0 FMAX M91

84 L M82 M2

0 LBL 1

1 L M3 MQ2

2 L X-84.95 Y61.72 FMAX M99

3 L X-16.43 Y103.71 FMAX M99

4 L X61.72 Y84.95 FMAX M99

5 L X103.71 Y16.43 FMAX M99

6 L X84.95 Y-61.72 FMAX M99

7 L X16.43 Y-103.71 FMAX M99

8 L X-61.72 Y-84.95 FMAX M99

9 L X-103.71 Y-16.43 FMAX M99

10 LBL 0

11 STOP M0

0 LBL 2

1 L M3 MQ2

2 L X-104.53 Y25.1 FMAX M99

3 L X104.53 Y-25.1 FMAX M99

4 LBL 0

5 STOP M0

0 LBL 3

1 L M3 MQ2

2 L X-48.85 Y79.72 FMAX M99

3 L X21.83 Y90.92 FMAX M99

4 L X79.72 Y48.85 FMAX M99

5 L X90.92 Y-21.83 FMAX M99

6 L X48.85 Y-79.72 FMAX M99

7 L X-21.83 Y-90.92 FMAX M99

8 L X-79.72 Y-48.85 FMAX M99

9 L X-90.92 Y21.83 FMAX M99

10 LBL 0

11 STOP M0

0 LBL 4

1 L M3 MQ2

2 L X90.92 Y-21.83 FMAX M99

3 L X79.72 Y48.85 FMAX M99

4 L X21.83 Y90.92 FMAX M99

5 L X-48.85 Y79.72 FMAX M99

6 L X-90.92 Y21.83 FMAX M99

7 L X-79.72 Y-48.85 FMAX M99

8 L X-21.83 Y-90.92 FMAX M99

9 L X48.85 Y-79.72 FMAX M99

10 LBL 0

11 STOP M0

85 LBL 100

86 CYCL DEF 10.0 OTACENI

87 CYCL DEF 10.1 ROTO

88 CYCL DEF 7.0 NULLPUNKT

89 CYCL DEF 7.1 X0

90 CYCL DEF 7.2 Y0

91 CYCL DEF 7.3 Z0

92 LBL 0

93 END PGM VRTANI1STR MM

---

0 BEGIN PGM VRTANI2STR MM

1 BLK FORM 0.1 Z X-117 Y-117 Z-20

2 BLK FORM 0.2 X117 Y117 Z8

3 \* - POLOZKA :

4 \* - NAZEV : NAZEV

5 \* - TYP :

6 \* - OPERACE : OPERACE

7 \* - PROGRAMOVAL : KASPAR8:35 3.4.2017

8 \* - DNE : 03-04-2017 - 08:10

9 \* - ODLADIL :

10 \* - DNE :

11 \* - POLOHA :

12 \* - POCATKY : X+0

13 \* - POCATKY : Y+0

14 \* - POCATKY : Z+0

15 \* - KOMENTAR :

16 ;-----

17 STOP M0 ;odladit

18 ;-----

19 \* - FO\_HELI-010080K-MACH

20 TOOL CALL 8 Z S2706 ;FO\_HELI-010080K-MACH

21 CALL LBL 100

22 \* - GLOB LN HO KS @379

23 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-9.887 ;HLOUBKA ~

Q206=1190.479 ;POSUV NA HLOUBKU ~

Q202=9.887 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=10 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

24 Q2=8

25 CALL LBL 1

26 R0 FMAX M9 M5

27 ;-----

28 \* - NAVRTAVAK 16 SECO DR90 DW

29 TOOL CALL 9 Z S1989 ;NAVRTAVAK 16 SECO DR90 DW

30 CALL LBL 100

31 CYCL DEF 200 VRTANI ~

Q200=2 ;BEZPEC.VZDALENOST ~

Q201=-6.3 ;HLOUBKA ~

Q206=1790.493 ;POSUV NA HLOUBKU ~

Q202=6.3 ;HLOUBKA PRISUVU ~

Q210=0 ;CAS.PRODLEVA NAHORE ~

Q203=0 ;SOURADNICE POVRCHU ~

Q204=10 ;2. BEZPEC.VZDALENOST ~

Q211=0 ;CAS.PRODLEVA DOLE

32 Q2=8

33 CALL LBL 1

34 R0 FMAX M9 M5

35 ;-----

36 \* - DVOUBRITA PRESAZ. 8 HSS

37 TOOL CALL 11 Z S4588 ;DVOUBRITA PRESAZ. 8 HSS



38 CALL LBL 100  
39 L X14.756 Y97.085 R0 FMAX M3  
40 L Z18 FMAX  
41 L Z10 FMAX  
42 L Z4.25 F599  
43 CALL LBL 2  
44 L Z10 FMAX  
45 L X-3.859 Y95.301 FMAX  
46 L Z4.25 F599  
47 CALL LBL 3  
48 L Z10 FMAX  
49 L X13.716 Y74.266 FMAX  
50 L Z4.25 F599  
51 CALL LBL 4  
52 L Z10 FMAX  
53 L X14.756 Y97.085 FMAX  
54 L Z6.25 FMAX  
55 L Z0.5 F599  
56 CALL LBL 2  
57 L Z10 FMAX  
58 L X-3.859 Y95.301 FMAX  
59 L Z6.25 FMAX  
60 L Z0.5 F599  
61 CALL LBL 3  
62 L Z10 FMAX  
63 L X13.716 Y74.266 FMAX  
64 L Z6.25 FMAX  
65 L Z0.5 F599  
66 CALL LBL 4

67 L Z10 FMAX  
68 L X-95.732 Y5.855 FMAX  
69 L Z5 F689  
70 L X-76.26 Y4.664 F367  
71 L Z2 F689  
72 L X-95.732 Y5.855 F367  
73 L Z10 FMAX  
74 L X95.732 Y-5.855 FMAX  
75 L Z5 F689  
76 L X76.26 Y-4.664 F918  
77 L Z2 F689  
78 L X95.732 Y-5.855 F918  
79 L Z10 FMAX  
80 L Z18 FMAX  
81 R0 FMAX M9 M5  
82 L Z+0 R0 FMAX M91  
83 L Y+0 R0 FMAX M91  
84 L M82 M2  
0 LBL 1  
1 L M3 MQ2  
2 L X-6.41 Y-104.804 FMAX M99  
3 LBL 0  
4 STOP M0  
0 LBL 2  
1 L X14.455 Y95.108 F798  
2 L X14.455 Y74.714  
3 L X8.063 Y74.714  
4 L X8.063 Y96.186  
5 L X1.67 Y96.186

6 L X1.67 Y75.953  
7 L X-4.722 Y75.953  
8 L X-4.722 Y96.084  
9 LBL 0  
10 STOP M0  
0 LBL 3  
1 L X-9.083 Y73.541 F798  
2 LBL 0  
3 STOP M0  
0 LBL 4  
1 L X19.008 Y96.309 F798  
2 LBL 0  
3 STOP M0  
85 LBL 100  
86 CYCL DEF 10.0 OTACENI  
87 CYCL DEF 10.1 ROTO  
88 CYCL DEF 7.0 NULLPUNKT  
89 CYCL DEF 7.1 X0  
90 CYCL DEF 7.2 Y0  
91 CYCL DEF 7.3 Z0  
92 LBL 0  
93 END PGM VRTANI2STR MM