

# ISO 10791-6 Example part programs

## Introduction

Below is a set of example part programs for a Fanuc controller. These will have to be modified for a users' individual machine.

- By replacing each ' \* ' with the letter of axis under test
- By replacing each ' # ' with the start and end axes positions (depending on the location in the part program) for the machine under test.
- By replacing each ' @ ' with number of the toolcup tool.

The part programs will have to be altered to work with other controllers.

## K1a (X)

|                            |                          |
|----------------------------|--------------------------|
| %                          |                          |
| < K1a_X>                   | (Program ID)             |
| G1 F500                    | (Feedrate)               |
| G90 G54 X101.5 Y0 Z0 A0 C0 | (Insert QC20-W)          |
| G5 P10000                  | (Enable HPCC)            |
| G43.4 H@                   | (Enable TCP - Call tool) |
| G91 *#.                    | (Start position)         |
| M00                        | (Stop)                   |
| G91 X-1.5                  | (Feed-in)                |
| *#.                        | (Run 1)                  |
| X1.5                       | (Feed-out)               |
| G04 X4.                    | (Dwell)                  |
| G91 X-1.5                  | (Feed-in)                |
| *#.                        | (Run 2)                  |
| X1.5                       | (Feed-out)               |
| G04 X1                     | (Dwell)                  |
| G91 *#.                    | (Reference position)     |
| G49                        | (Disable TCP)            |
| G5 P0                      | (Disable HPCC)           |
| M30                        | (Top of program)         |
| %                          |                          |

## K1b Y

|                            |                          |
|----------------------------|--------------------------|
| %                          |                          |
| <K1b_Y>                    | (Program ID)             |
| G1F1000                    | (Feedrate)               |
| G90 G54 X0 Y101.5 Z0 A0 C0 | (Insert QC20-W)          |
| G5 P10000                  | (Enable HPCC)            |
| G43.4 H@                   | (Enable TCP - Call tool) |
| G91 *#.                    | (Start position)         |
| M00                        | (Stop)                   |
| G91 Y-1.5                  | (Feed-in)                |
| *#.                        | (Run 1)                  |
| Y1.5                       | (Feed-out)               |
| G04 X4.                    | (Dwell)                  |
| G91 Y-1.5                  | (Feed-in)                |
| *#.                        | (Run 2)                  |
| Y1.5                       | (Feed-out)               |
| G04 X1                     | (Dwell)                  |
| G91 *#.                    | (Reference position)     |
| G49                        | (Disable TCP)            |
| G5 P0                      | (Disable HPCC)           |
| M30                        | (Top of program)         |
| %                          |                          |

## K1c Z

|                            |                          |
|----------------------------|--------------------------|
| %                          |                          |
| <K1c_Z>                    | (Program ID)             |
| G1 F1000                   | (Feedrate)               |
| G90 G54 X0 Y0 Z101.5 A0 C0 | (Insert QC20-W)          |
| G5 P10000                  | (Enable HPCC)            |
| G43.4 H@                   | (Enable TCP - Call tool) |
| G91 *#.                    | (Start position)         |
| M00                        | (Stop)                   |
| G91 Z-1.5                  | (Feed-in)                |
| *#.                        | (Run 1)                  |
| Z1.5                       | (Feed-out)               |
| G04 X4.                    | (Dwell)                  |
| G91 Z-1.5                  | (Feed-in)                |
| *#.                        | (Run 2)                  |
| Z1.5                       | (Feed-out)               |
| G04 X1                     | (Dwell)                  |
| G91 *#.                    | (Reference position)     |
| G49                        | (Disable TCP)            |
| G5 P0                      | (Disable HPCC)           |
| M30                        | (Top of program)         |
| %                          |                          |

## K2a X

|                            |                          |
|----------------------------|--------------------------|
| %                          |                          |
| <K2a_X>                    | (Program ID)             |
| G1F500                     | (Feedrate)               |
| G90 G54 X101.5 Y0 Z0 A0 C0 | (Insert QC20-W)          |
| G5 P10000                  | (Enable HPCC)            |
| G43.4 H@                   | (Enable TCP - Call tool) |
| M00                        | (Stop)                   |
| G91 X-1.5                  | (Feed-in)                |
| *#.                        | (Run 1)                  |
| X1.5                       | (Feed-out)               |
| G04X4.                     | (Dwell)                  |
| G91 X-1.5                  | (Feed-in)                |
| *#.                        | (Run 2)                  |
| X1.5                       | (Feed-out)               |
| G49                        | (Disable TCP)            |
| G5 P0                      | (Disable HPCC)           |
| M30                        | (Top of program)         |
| %                          |                          |

## K2b Y

|                             |                          |
|-----------------------------|--------------------------|
| %                           |                          |
| <K2b_Y>                     | (Program ID)             |
| G1 F500                     | (Feedrate)               |
| G90 G54 Y101.50 X0 Z0 A0 C0 | (Insert QC20-W)          |
| G5 P10000                   | (Enable HPCC)            |
| G43.4 H@                    | (Enable TCP - Call tool) |
| M00                         | (Stop)                   |
| G91 Y-1.5                   | (Feed-in)                |
| *#.                         | (Run 1)                  |
| Y1.5                        | (Feed out)               |
| G04 X4.                     | (Dwell)                  |
| G91 Y-1.5                   | (Feed-in)                |
| *#.                         | (Run 2)                  |
| Y1.5                        | (Feed out)               |
| G49                         | (Disable TCP)            |
| G5P0                        | (Disable HPCC)           |
| M30                         | (Top of program)         |
| %                           |                          |

## K2c Y

|                             |                          |
|-----------------------------|--------------------------|
| %                           |                          |
| <K2c_Z>                     | (Program ID)             |
| G1 F500                     | (Feedrate)               |
| G90 G54 Z101.50 X0 Y0 A0 C0 | (Insert QC20-W)          |
| G5 P10000                   | (Enable HPCC)            |
| G43.4 H@                    | (Enable TCP - Tool call) |
| M00                         | (Stop)                   |
| G91 Z-1.5                   | (Feed-in)                |
| *#.                         | (Run 1)                  |
| Z1.5                        | (Feed-out)               |
| G04 X4.                     | (Dwell)                  |
| G91 Z-1.5                   | (Feed-in)                |
| *#.                         | (Run 2)                  |
| Z1.5                        | (Feed-out)               |
| G49                         | (Disable TCP)            |
| G5 P0                       | (Disable HPCC)           |
| M30                         | (Top of program)         |
| %                           |                          |

## K3 Y

|                            |                          |
|----------------------------|--------------------------|
| %                          |                          |
| <K3_Y 10 30>               | (Program ID)             |
| G1 F500                    | (Feedrate)               |
| G90 G54 X0 Y101.5 Z0 A0 C0 | (Move to start)          |
| G5 P10000                  | (Enable HPCC)            |
| G43.4 H@                   | (Enable TCP - Tool call) |
| M00                        | (Stop)                   |
| G91 Y-1.5                  | (Feed-in)                |
| *#*#                       | (Run 1)                  |
| Y1.5                       | (Feed out)               |
| G04 X4.                    | (Dwell)                  |
| G91 Y-1.5                  | (Feed-in)                |
| *-#*-#                     | (Run 2)                  |
| Y1.5                       | (Feed-out)               |
| G49                        | (Disable TCP)            |
| G5 P0                      | (Disable HPCC)           |
| M30                        | (Top of program)         |
| %                          |                          |

## K4a X

|                                 |                          |
|---------------------------------|--------------------------|
| %                               |                          |
| <K4a_X>                         | (Program ID)             |
| G90 G54 X101.5 Y0 Z0 A0 C0 F500 | (Move to start)          |
| G5 P10000                       | (Enable HPCC)            |
| G43.4 H@                        | (Enable TCP - Tool call) |
| M00                             | (Stop)                   |
| G91 X-1.5                       | (Feed-in)                |
| *-# *#                          | (Run 1 part 1)           |
| *# *#                           | (Run 1 part 2)           |
| X1.5                            | (Feed out)               |
| G04X4                           | (Dwell)                  |
| G91 X-1.5                       | (Feed-in)                |
| *-# *#                          | (Run 2 part 1)           |
| *# *#                           | (Run 2 part 2)           |
| X1.5                            | (Feed out)               |
| G49                             | (Disable TCP)            |
| G5 P0                           | (Disable HPCC)           |
| M30                             | Top of program)          |
| %                               |                          |



## K4b Y

|                                  |                          |
|----------------------------------|--------------------------|
| %                                |                          |
| <K4b_Y>                          | (Program ID)             |
| G90 G54 X0 Y-101.5 Z0 A0 C0 F500 | (Move to start)          |
| G5 P10000                        | (Enable HPCC)            |
| G43.4 H@                         | (Enable TCP - Tool call) |
| M00                              | (Stop)                   |
| G91 Y1.5                         | (Feed-in)                |
| *-# *#                           | (Run 1 part 1)           |
| *# *#                            | (Run 1 part 2)           |
| Y-1.5                            | (Feed out)               |
| G04X4                            | (Dwell)                  |
| G91 Y1.5                         | (Feed-in)                |
| *-# *#                           | (Run 2 part 1)           |
| *# *#                            | (Run 2 part 2)           |
| Y-1.5                            | (Feed out)               |
| G49                              | (Disable TCP)            |
| G5 P0                            | (Disable HPCC)           |
| M30                              | (Top of program)         |
| %                                |                          |

## K4c Z

|                                 |                          |
|---------------------------------|--------------------------|
| %                               |                          |
| <K4c_Z>                         | (Program ID)             |
| G90 G54 X0 Y0 Z101.5 A0 C0 F500 | (Move to start)          |
| G5P10000                        | (Enable HPCC)            |
| G43.4H@                         | (Enable TCP - Tool call) |
| M00                             | (Stop)                   |
| G91 Z-1.5                       | (Feed-in)                |
| *-# *#                          | (Run 1 part 1)           |
| *# *#                           | (Run 1 part 2)           |
| G91 Z1.5                        | (Feed out)               |
| G04X4                           | (Dwell)                  |
| G91 Z-1.5                       | (Feed-in)                |
| *-# *#                          | (Run 2 part 1)           |
| *# *#                           | (Run 2 part 2)           |
| Z1.5                            | (Feed out)               |
| G49                             | (Disable TCP)            |
| G5 P0                           | (Disable HPCC)           |
| M30                             | (Top of program)         |
| %                               |                          |



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