# Donna

Saturday, June 20, 2015

Wheel size: 2.559 inches. Circumference then 8.039 inches (204 mm). Each 1/1200 odometer count then is 0.0067 inches (0.17mm).

Code: fc81b4e..3277a91

Put car to right of line

Enter key to start

>> FORWARD

[Odo:0] +++ FOLLOW\_LINE

\*[Odo:0] Position: 3155 L 23 23 23 761 140 23 3 23 R, YAW: 261.94

... ... PID. Position: 3.16, a\_speed: 64, b\_speed: 64

>> FORWARD

\*[Odo:2] Position: 3155 L 23 23 23 761 140 23 3 23 R, YAW: 261.94

[Odo:2] +++ FOLLOW\_LINE

... ... PID. Position: 3.16, a\_speed: 64, b\_speed: 64

>> FORWARD

\*[Odo:10] Position: 3155 L 23 23 23 761 140 23 3 23 R, YAW: 261.94

[Odo:10] +++ FOLLOW\_LINE

... ... PID. Position: 3.16, a\_speed: 64, b\_speed: 64

>> FORWARD

\*[Odo:23] Position: 3155 L 23 23 23 761 140 23 3 23 R, YAW: 261.94

[Odo:24] +++ FOLLOW\_LINE

... ... PID. Position: 3.16, a\_speed: 64, b\_speed: 64

>> FORWARD

So loop is reading about every 12 odometries, or 0.08 inches (2 mm). Then:

\*[Odo:1888] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:1892] +++ FOLLOW\_LINE

... ... FOUND start of crossing, left: 1, right: 1

\*[Odo:1932] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:1935] +++ FOLLOW\_LINE\_END

\*[Odo:1963] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:1967] +++ FOLLOW\_LINE\_END

\*[Odo:1998] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2002] +++ FOLLOW\_LINE\_END

\*[Odo:2031] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2035] +++ FOLLOW\_LINE\_END

\*[Odo:2066] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2072] +++ FOLLOW\_LINE\_END

\*[Odo:2098] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2102] +++ FOLLOW\_LINE\_END

\*[Odo:2132] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2136] +++ FOUND\_END

\*[Odo:2161] Position: 2804 L 1000 861 658 436 300 258 350 658 R, YAW: 265.37

[Odo:2165] +++ FOUND\_END

\*[Odo:2188] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2189] +++ FOUND\_END

\*[Odo:2204] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2205] +++ FOUND\_END

\*[Odo:2218] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2220] +++ FOUND\_END

\*[Odo:2231] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2232] +++ FOUND\_END

\*[Odo:2239] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2239] +++ FOUND\_END

\*[Odo:2245] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2245] +++ FOUND\_END

\*[Odo:2249] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2250] +++ FOUND\_END

\*[Odo:2252] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2252] +++ FOUND\_END

\*[Odo:2253] Position: 0 L 0 0 0 8 0 0 0 0 R, YAW: 265.87

[Odo:2253] +++ FOUND\_END

Car stopped approximately 0.72 inches beyond end-symbol end (18mm) [105 odos], is further to left. End-symbol is about 2.12 inches (54mm) [318 odos].

At 1892 odos, found line start. At 2136 odos, found line end. Sensor determined line width was 244 odos instead of 318.



6/20/2015 12:09 RUN 2 code: 3277a91..be21ba5

Start with motor to right of line over sensors 2 and 3 (1 is leftmost).

Car corrected so line is between 3 and 4

Enter key to start

>> FORWARD

\*[Odo:0] Position: 1744 L 25 253 738 48 3 25 3 25 R, A: 64, B: 64, YAW: 271.90

[Odo:0] +++ FOLLOW\_LINE

\*[Odo:1] Position: 1744 L 25 253 738 48 3 25 3 25 R, A: 64, B: 64, YAW: 271.90

[Odo:1] +++ FOLLOW\_LINE

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\*[Odo:1279] Position: 1737 L 0 260 731 0 0 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1287] +++ FOLLOW\_LINE

... ... FOUND start of crossing, left: 1, right: 1

\*[Odo:1320] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1327] +++ FOLLOW\_LINE\_END

\*[Odo:1357] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1364] +++ FOLLOW\_LINE\_END

\*[Odo:1393] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1399] +++ FOLLOW\_LINE\_END

\*[Odo:1428] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1435] +++ FOLLOW\_LINE\_END

\*[Odo:1460] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1468] +++ FOLLOW\_LINE\_END

\*[Odo:1496] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 64, B: 64, YAW: 273.07

[Odo:1504] +++ FOLLOW\_LINE\_END

\*[Odo:1531] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 0, B: 0, YAW: 273.07

[Odo:1536] +++ FOUND\_END

\*[Odo:1560] Position: 2869 L 218 663 663 570 356 286 145 218 R, A: 0, B: 0, YAW: 273.07

[Odo:1566] +++ FOUND\_END

\*[Odo:1586] Position: 2374 L 30 30 540 323 0 6 0 6 R, A: 0, B: 0, YAW: 272.21

[Odo:1588] +++ FOUND\_END

Starting sensor array: 25 253 738 48 3 25 3 25

Sensor array at line start: 0 260 731 0 0 286 145 218

THERE WAS NO PID CORRECTION. The next sensor reading is:

218 663 663 570 356 286 145 218

which is quite a bit of variation for the line. By near line end, the sensors are (identically)

218 663 663 570 356 286 145 218

After line end, with line continuation, sensors are:

30 30 540 323 0 6 0 6

The line is correctly between sensors 3 and 4.

Crossing line is 0.73in (109 odos). Found start at 1892, found end at 2136 or 244 odos (1.63in).

From line end at 2136 to stop at 2253, took 117 odos to stop (0.78in).

CONCLUSIONS:

* Need to stop faster.