

Setting up R12 from scratch – 5-axis version.

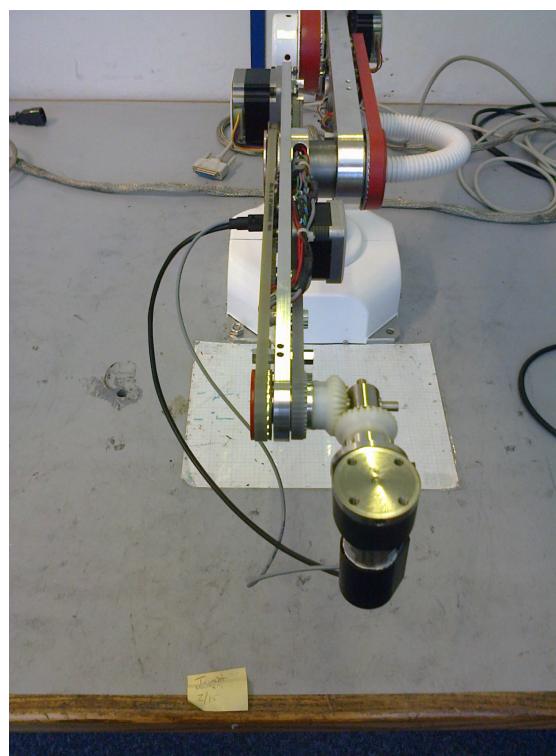
Setting up R12 from scratch – 6-axis version.

Set up the robot on a flat surface in approximate home position. Remove 2 covers from the top (back) side of the robot so you can get a spirit level on the machined surface. You don't have to remove all the covers. See pictures 3 and 4 below.

The 6th axis should be point backwards as in picture 1 below. Use a spirit level to ensure the surface is level as picture 1:



picture 1



picture 2

Click file, download and choose the file SETUP6.ED from the projects folder on your CD.

Once downloaded enter

START

Then enter

CAL1

The shoulder moves down to approx horizontal (not exact).

Use sight or any way you wish to make the waist at zero point as picture 2 using the teach pad J1.

This is not critical.

Help sheet 13 Absolute Calibration

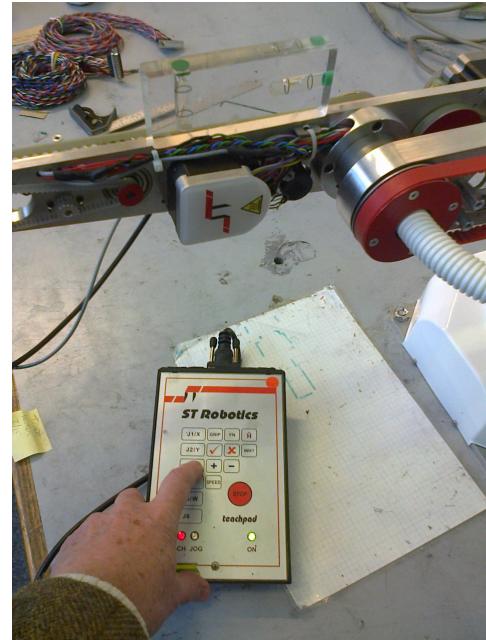


Place a spirit level on the shoulder as picture 3 below. Still using the teach pad level the top surface of the upper arm using J2 the spirit level. Next move the level to the fore-arm and level that with J3 as in picture 4.



picture 3

Press esc to exit CAL1



picture 4

Enter CAL2

Using the teach pad level pitch first using J4 then yaw using J5 as in pictures 5 and 6 below.



picture 5



picture 6

Press esc to exit. The robot goes HOME.

Enter CAL3

This is to set J6 (6th axis roll) level. If you have a gripper fitted you will need to position your spirit level so you can level the gripper. If you have no gripper you can insert 2 screws as in picture 7 below.



Picture 7

Remove the level and press esc. The robot goes HOME.

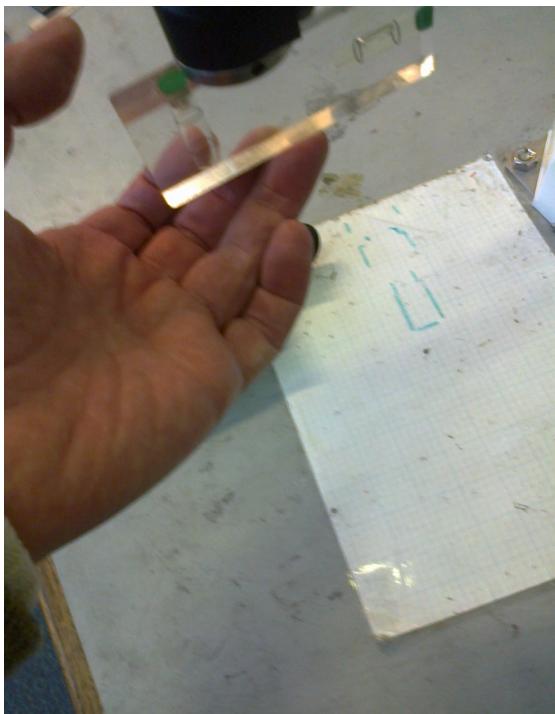
Help sheet 13 Absolute Calibration



You now need to do axes 4 and 5 again as these are different for working positions (i.e. the READY position) due to drive belt tolerances.

Enter CAL4

Level the pitch first with J4 then yaw with J5 as pictures 8 and 9 below.



Picture 8

press esc.

Enter CAL5

The robot goes back home and performs the CHECK function which is similar to CALIBRATE. This is to seek out the sensors and log the counts between the sense positions and the zero (HOME) positions. If you get a "too far to sensor" error simply enter CAL5 again and maybe a 3rd time to complete the function. You should then see

DOING SETLIMITS

The program has now over-written the previous calibration values in the array LIMITS with the new values. These are not yet saved in flash.

Check that CALIBRATE works. If it seems ok enter

USAVER

to save the new parameters to flash.



picture 9