

## 2. Centering the servos

Before we start the assembly, you will need to center the different servos to make sure that their movement will be accurate once using and controlling the robot arm.

There are 3 identical large (55g) servos and 2 identical small (9g) servos that each have a specific centering and a specific function for the robot. Check out the picture below to find out the function of each servo. (This will be further explained below, don't worry!)

To help you center all servos at once, we wrote a short Arduino sketch. Follow the steps below!

Not familiar with Arduino? [Then please read their getting started page here first!](#)

Before you start, make sure that you have the **latest Arduino version available!** Otherwise, the sketch will not work properly.

1. Go to <https://github.com/Velleman/VR800> and download VR800.ino. This is the sketch.
2. Connect your servo shield to the arduino and connect GND to A5 with a wire. You need to do this to activate the centering mode in your Arduino! Use a female to female wire (there's a bunch of these wires included in one of the packs).
3. Plug the servos into the proper pin on your Arduino as follows and be sure to mark each servo so you don't forget which servo is which!

Large servos (it doesn't matter which of the three large servos you pick):

- wrist servo: pin 9 (180°)
- shoulder servo: pin 6 (45°)
- base rotation servo: pin 10 (90°)

small servos (it doesn't matter which of the two small servos you pick):

- gripper rotation servo: pin 5 (90°)
- gripper servo: pin 3 (95°)

Again: mark each servo with a post it so you don't forget which one is which! Otherwise, you will have to do these steps all over again. Think about [Murphy's law](#) !

4. Connect the Arduino with your computer and upload the sketch. You will hear the servos 'zoom' very shortly. This means that the sketch has worked.
5. Remove the power supply from the Arduino and remove all servos and place them somewhere safe. Do not touch/rotate the white part of the servo anymore!

Next chapter: [3. Assembly](#)

Posted - Wed, Feb 19, 2020 4:33 PM.

