

6DOFRobot installation tutorial

If this is your first time installing a similar robotic arm, the following information will be of great help to you. Word,

The most common mistakes are incorrect screw specifications and incorrect installation of the servo rudder angle. So before installation, please be sure to be familiar with the following contents.

You can complete the installation of 6DOF manipulator faster.

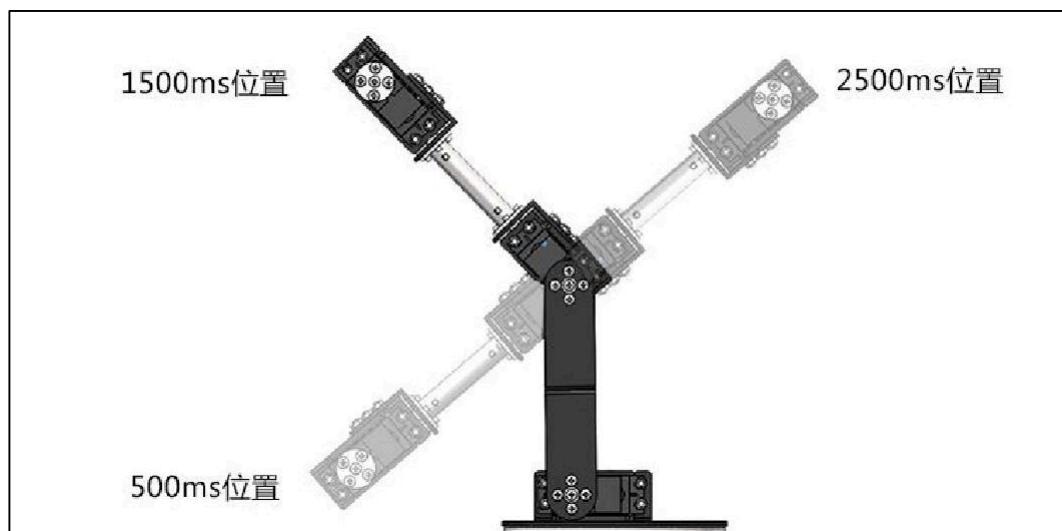
The screws used for installation are equipped on demand, so it is strictly forbidden to use screws indiscriminately during installation. The use of screws should follow the following regulations:

but:

- M3*6 screws are mainly used to install the steering wheel;
- M3*8 screws are mainly used to install the servo and the brackets; M3*10
- screws are mainly used to install flange bearings;

The most important step in the installation process is to center the servo. If you do not pay attention to the centering problem, the servo will

The mechanical arm cannot be flexibly controlled and can only be dismantled and reassembled. The following describes how to install the central servo with one degree of freedom.



The 1500ms position in the figure is the midpoint of the servo we need to find (it does not need to be very precise). For a 180-degree servo is the 90-degree position, then 0 degrees corresponds to the 500ms position, and 180 degrees corresponds to the 2500ms position; After installation, the robotic arm works just within the range of motion we need.

Therefore, it is very important to determine the midpoint (or 0 degree point, 180 degree point) of the servo before installation.

There are usually two types, one with internal limit points and the other without internal limit points. Usually the ones without limit points are digital rudders

The best way to judge is to turn the rudder angle by hand after installing it. If it cannot be turned after a certain angle, it means that it has an internal limiter.

The one that can rotate continuously has no internal limit.

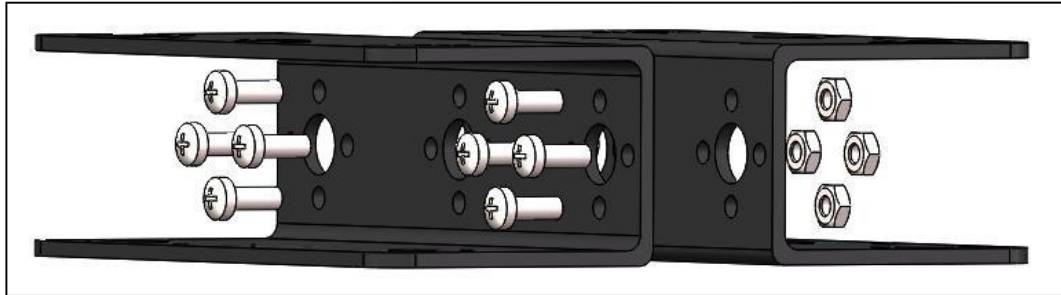
For a servo with a limit switch, when it stops rotating counterclockwise, it is at 0 degrees, and when it stops rotating clockwise, it is at 180 degrees.

Position; For servos without limit switches, you must power on and test to find the midpoint of 1500ms. You can write your own code for the test.

Or use a dedicated servo controller to achieve it.

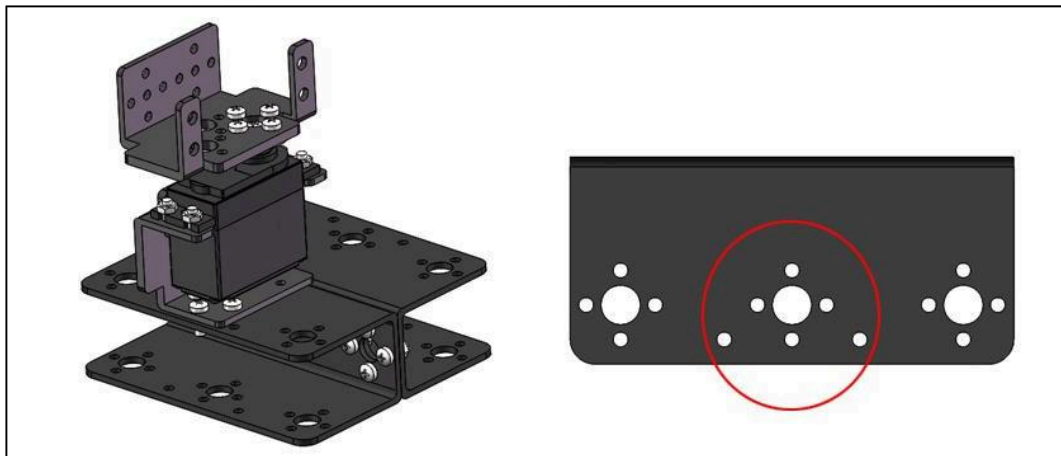
The installation of the servo in any degree of freedom must follow the above process, otherwise unexpected failures may occur.

1. Combine two U-shaped beams



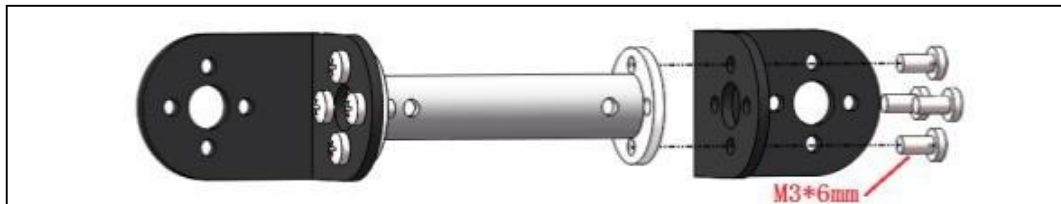
- M3*8 screw* 8
- M3 nut* 8

2. Fix the multifunctional bracket and the bottom U-shaped beam



- The red circle in the figure above is the fixing hole of the multi-function bracket. When installing, fix the bracket first, then fix the servo. The servo is
- fixed with screws with washers. The direction is opposite to that in the figure, and the same applies below.
- M3*6 screw* 5
- M3*8 Spacer Screw* 4
- M3*8 screw* 4
- Nut* 8

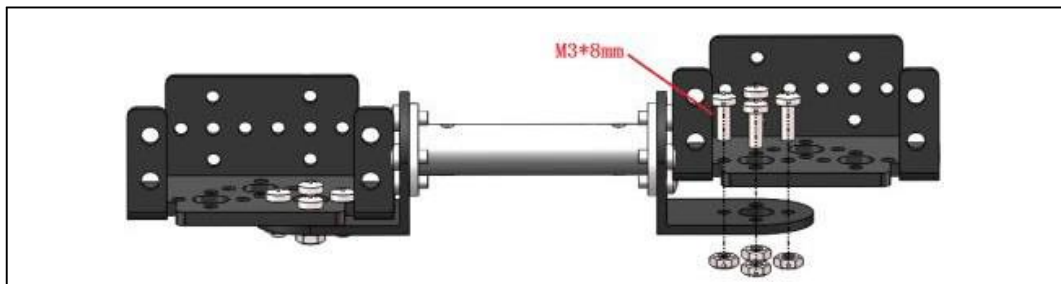
3. Combine the convex lift and L-shaped bracket



- M3*6 screw*8
- Left and right mirror symmetrical installation

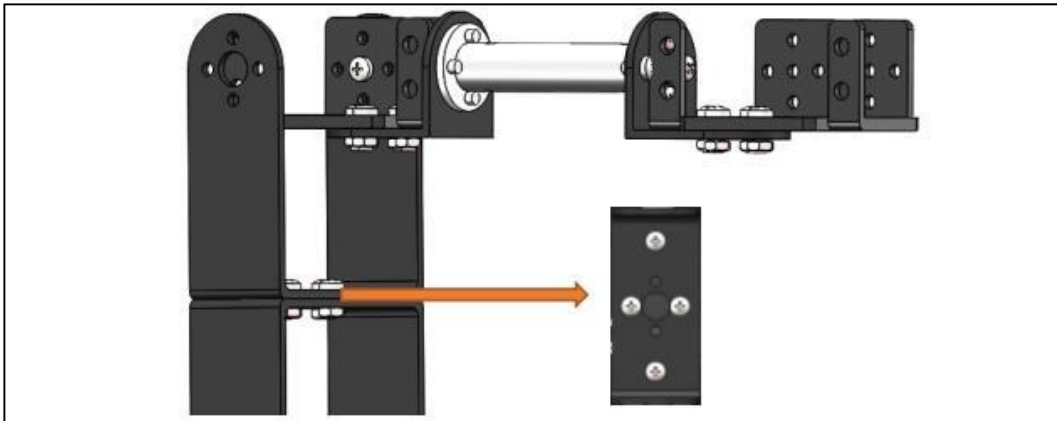
4. Combined multifunctional bracket

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- M3*8 screw* 8
- M3 nut* 8
- Multifunction bracket is installed symmetrically on the left and right

5. Assemble the two long U-shaped brackets and assemble them with the multi-functional bracket in step 4.



- M3*10 Screw* 1
- M3*8 screw*4
- M3 nut*5

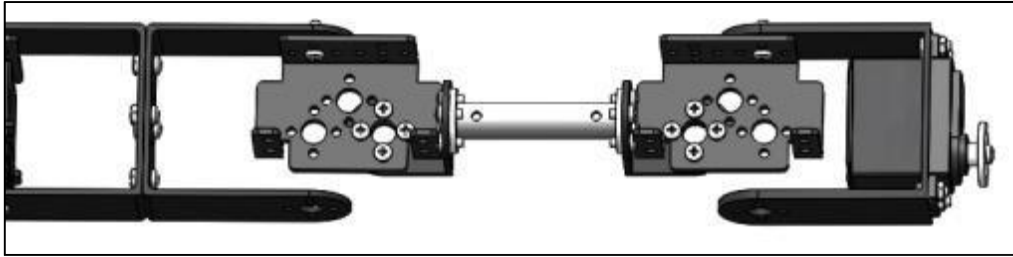
6. Fix the servo on the U-shaped bracket and install the steering wheel



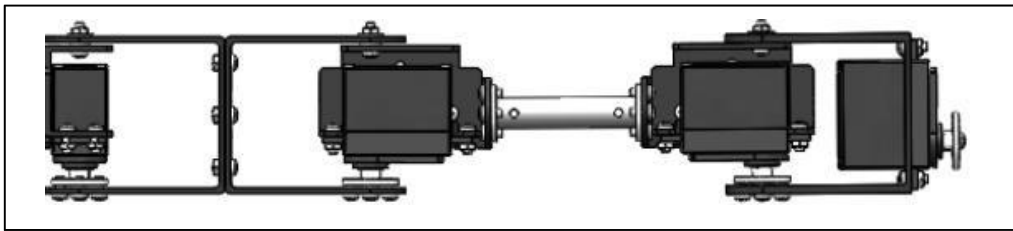
- The servo fixing screws in the figure are from bottom to top.
- M3*6 screw* 1
- M3*8 screw* 4
- M3 Nut* 4

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7. Assemble the U-shaped bracket with the servo installed with the multi-functional bracket in step 5.

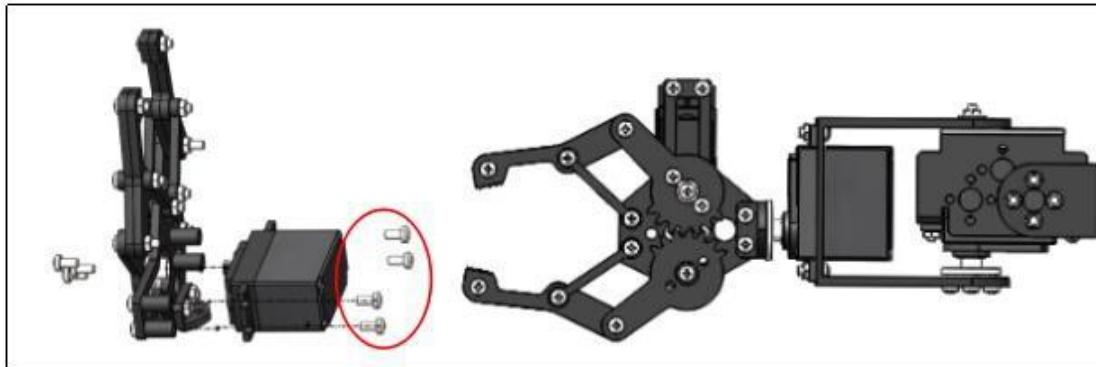


8. Install the servo



- M3*6 Screw* 10
- M3*8 Washer screw* 8
- M3 nut* 8

9. Install the servo on the robot gripper and fix it to the main structure



- M3*6 washer screw* 4 (red circle)
- M3*6 screw* 5
- M3 Nut* 4

10. Install the arm onto the multi-function bracket in step 2. The installation is now complete.

- M3*6 screw* 5
- M3*8 Spacer Screw* 4
- M3*10 Screw* 1
- M3 Nut* 4