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## ServoMotor Brackets

### Building Blocks for Robotic Projects

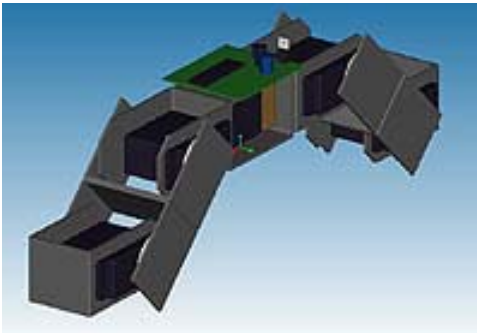
Our servomotor brackets will allow you to create various servomotor robots and projects. The brackets are designed so that they may be configured in a number of ways to create robots.

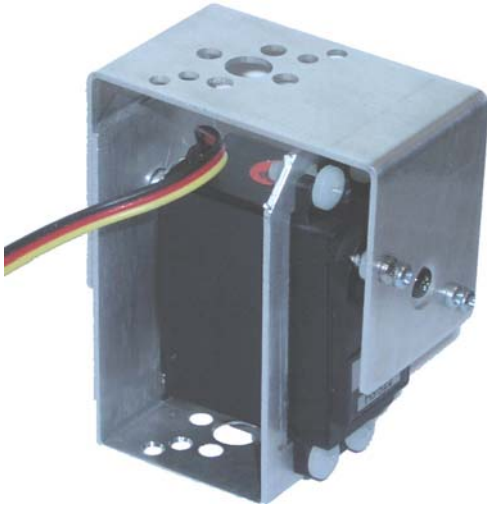
By connecting multiple servomotors using the brackets you can create a variety of robotic designs. Below are three simple robotic designs using the servomotor brackets. The first is an inchworm, the second is a golfer-bot and a robotic arm. These are just a sample of the robots you can create.

Golfer-Bot

Robotic Arm

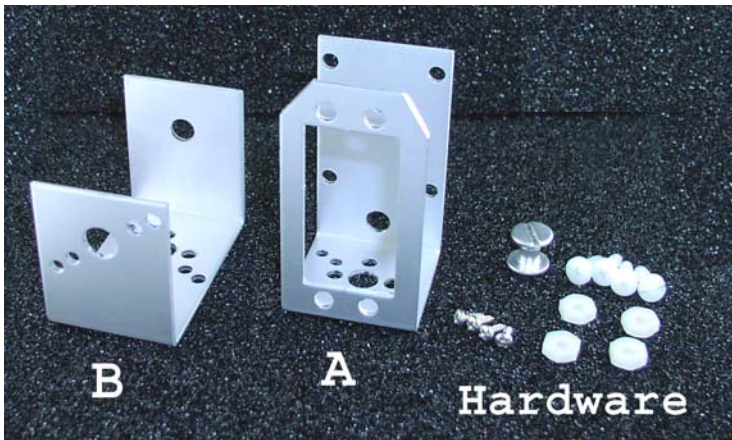
Inchworm





Servomotors are ideal for generating controlled motion in robots. Servomotors are readily available in a wide range of output torques and are capable of positional control. The rotational range on hobby servomotors are guaranteed to be 90 degrees (+/- 45 degrees). Most servomotors range extends well past the guaranteed 90 degrees coming closer to a full 180 degrees.

The servomotor bracket components are shown in figure 1. Each of the aluminum U brackets that make up the assembly has multiple holes for connecting a standard Hi-Tec or Futaba servomotor as well as bottom and top



holes for connecting U brackets and assemblies to one another.

The servomotor horns included are only compatible with Hi-Tec servomotors, see compatibility list below. These brackets may also be used with similar size Futaba servomotors, see compatibility list below, but you need to find a suitable horn to attach

to part B.

Each servomotor bracket assembly consists of the following components: two aluminum U brackets, labeled A and B, (1) binding head post screw, (4) 6-32 plastic machine screws with nuts and four sheet metal screw for mounting a servomotor horn. When assembled with a compatible servomotor, the bracket becomes a modular motion controlled

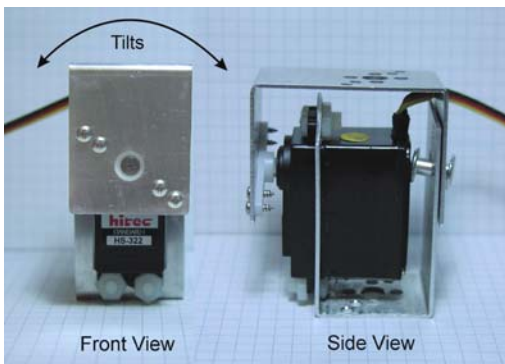
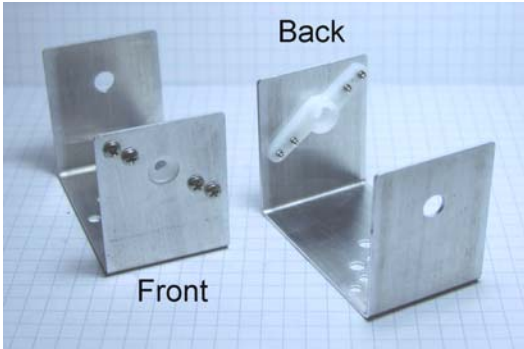


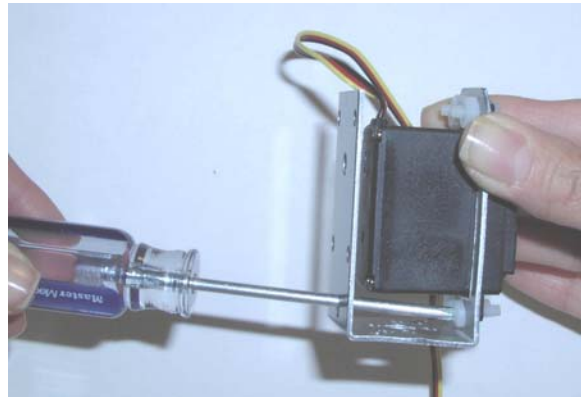
Figure 2

component that may be attached to other brackets and components.

The bracket allows the top and bottom components of the bracket to swivel along the axis of the servomotor's shaft, see figure 2.



The first step in assembly is to attach the servomotor horn to part B, see figure 3, using the four sheet metal screws.



The servomotor is attached to Part A. Use the 6-32 screws and nuts to attach the servomotor to part A.

The bottom two screws can be held in place with a screwdriver and the nuts secured to the front, see figure 4.

Once the servomotor is attached we can add part B to the assembly. First use a servomotor horn to position the servomotor to the center point of its rotation.



Figure 5

Remove the horn and attach part B, see photo to the left, figure 5. Now we need to add the back pivot that consists of a binding head screw and post.

Grab Binding post with a needle nose pliers.

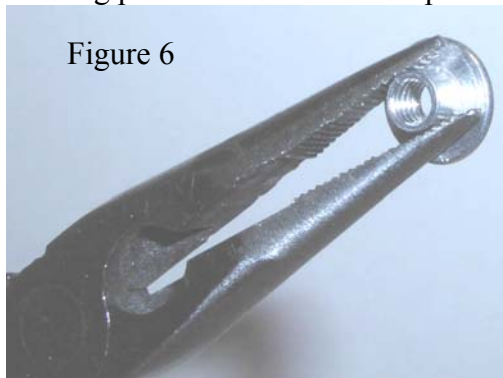
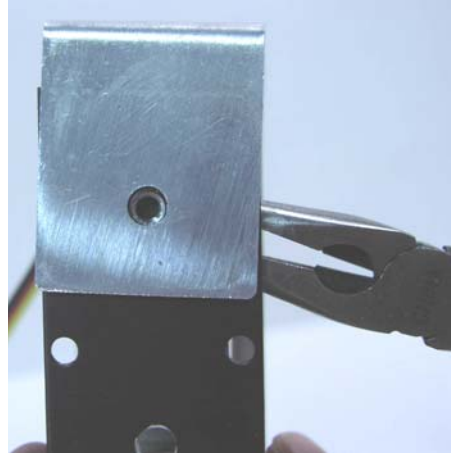
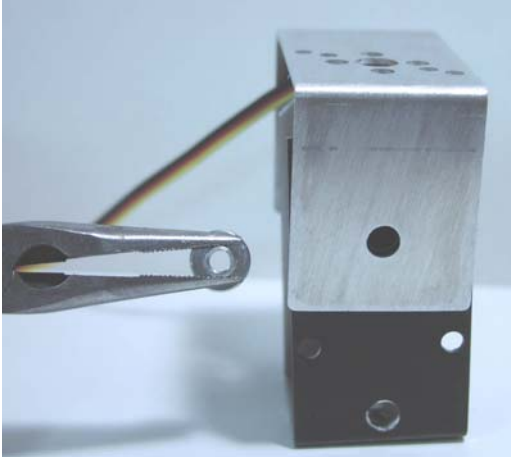


Figure 6

Figure 7

Figure 8



Use needle nose pliers to position binding post behind the servomotor so that the hole of the binding post is aligned with the holes of parts A and B, see figures 6,7 and 8.

With the holes so aligned, place binding head screw through the holes of parts A and B and start screwing it into the binding post, see figure 9.

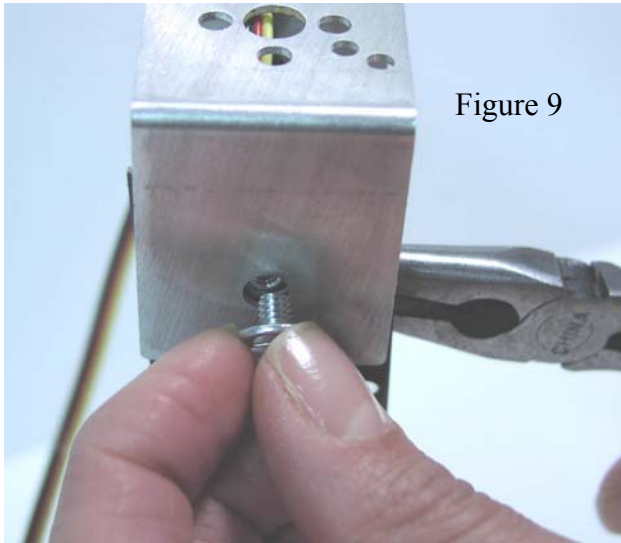


Figure 9

Once you have the screw started, push the binding head post through the holes.

You may want to use a small flat head screwdriver. Then finish by screwing the screw all the way in, see figures 10 and 11.

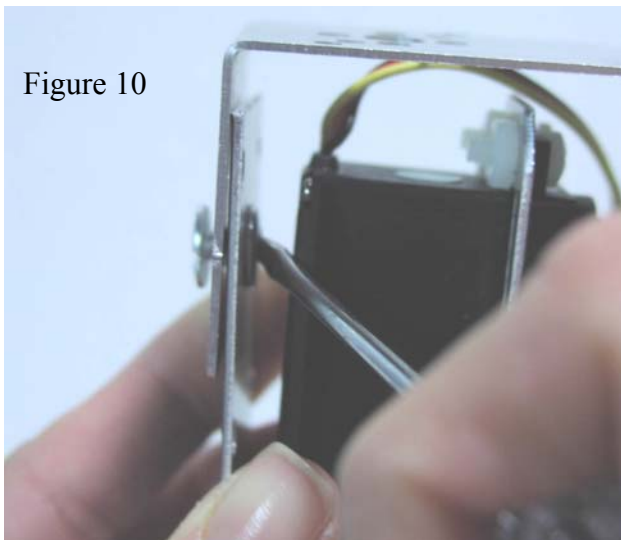


Figure 10

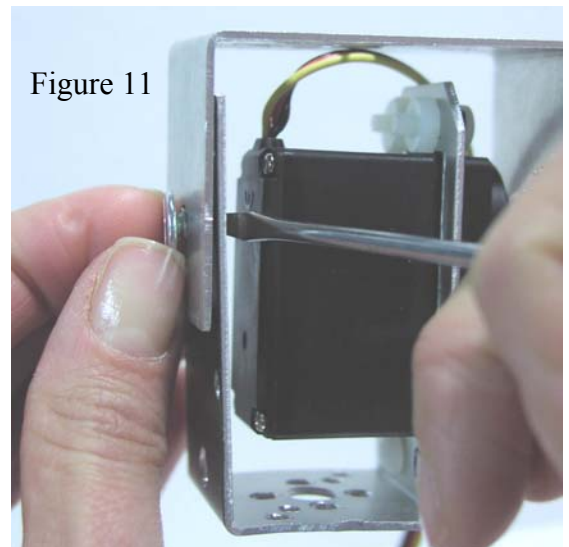


Figure 11

This completes construction of the servomotor bracket. For ideas on using the servomotor brackets to build robotic projects visit Images SI Inc. website at

<http://www.imagesco.com>.