Dingo Servo Mount V6

Assembly instructions.

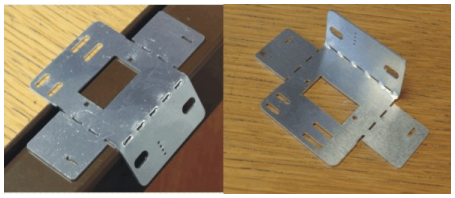
Parts List

Description	Qty
Main Aluminium chassis	1
Aluminium Actuator bar	1
Servo Motor kit	1
Switches	2
M2 x 6mm screws	2
M2 x 10mm screws	2
M2 x 16mm screws	2
M2 nuts	3
M2 Nut Plates (2 holes each)	2
M2 stand-off	1
1.6mm Self Tap Screw	1
Short length piano wire	1
Mounting screws	2
M2x3 screws and M2 spring washers	2 each

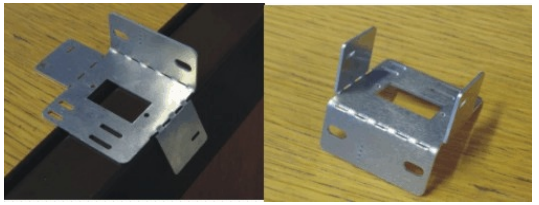
Take a little care with the assembly and you will have a really robust servo mount. Remember that you can only bend the aluminium once, so make sure you have the correct orientation before bending. Bending can be done by hand on the edge of a work bench or on a wooden block.

Note this mount is very versatile and may be configured in various ways.
The method outlined here is a basic suggestion.

Start by folding the top flange of the main mount.
Lay the aluminium part flat on the work bench edge with the fold matrix on the edge. (See picture)
Push gently on the overhanging piece while holding the part flat on the bench. It will fold on the line. Once you have pushed this as far as it will go, pick up and finish the fold by hand.

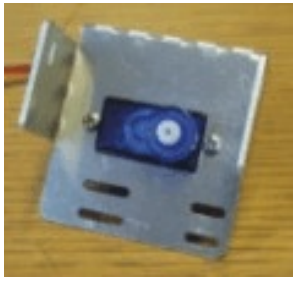


Now reverse the part and fold the 2 wings part way down. These can also be finished gently by hand until the folds are square with the main base.



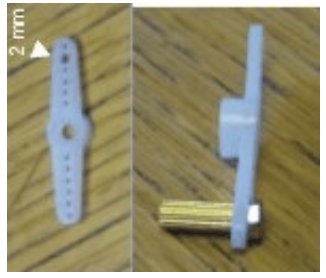
Congratulations !
You now have the finished frame.

Now you can mount the motor making sure that the centre of the drive shaft is central to the 2 sets of switch mounting slots. Use the 2 M2x6mm screws with 2 M2 nuts to secure. A small dab of nail varnish can be applied to the nuts/threads after fixing to prevent any loosening during operation although I have not found this necessary.

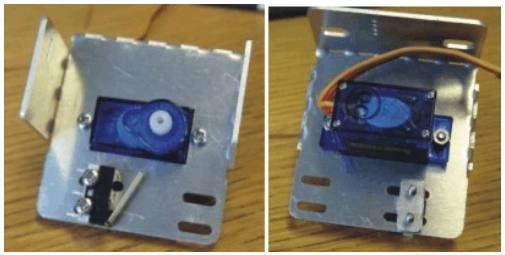


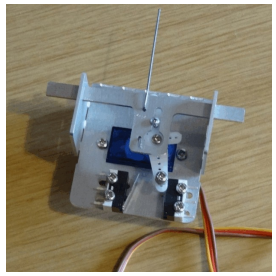
Note: If you have folded the mount the other way (It happens) just turn the motor around to keep the drive shaft central to the switches.

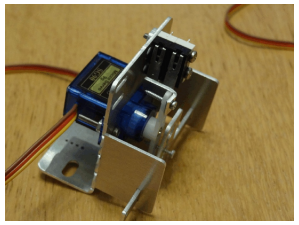
Next carefully remove the servo actuator arm from the servo pack. *(Small screws have a mind of their own and are difficult to replace)* I suggest using the one in the picture. You will need to drill a 2mm hole near one end to hold the stand-off which will act on the switches. Once this hole is drilled, mount the stand-off through the hole using the remaining M2 nut to secure. Make sure you have this the right way around.



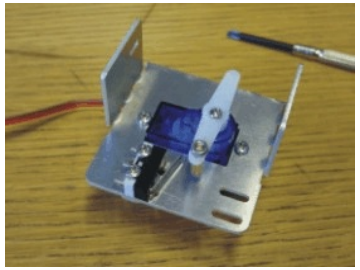
You can now fit switches to the base. There are many options. You can just put a single switch on using 2 M2x10mm screws and a nut plate or use the 16mm screws to fit 2 switches on the same side. Alternatively you can fit one switch on each side of the standoff. The nut plate has 2 threaded holes spaced at exactly the right pitch for the switches. This allows the switches to be adjusted very easily without having to resort to spanners etc.



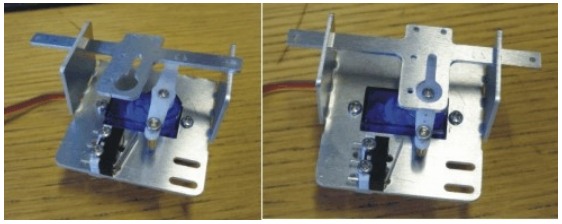




Now you need to centre the servo motor. This can be done by hooking up to the servo board you are going to use to drive it or by using a servo test unit like the PMP3 (Pocket money project). Once this is done, remove power from the servo and fit the actuator arm with the standoff on the switch side.
Be careful with the small fixing screw as they are difficult to replace and have a mind of their own sometimes.
We can set the switch positions later but you may like to operate the servo to make sure everything is working as planned.

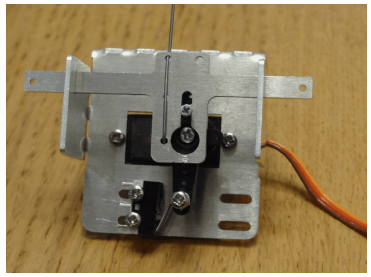


You may now fit the actuator bar. One leg is longer than the other and would go into the left hand side of the unit pictured above. You can slide this through and then back until the operating slot is over the actuator bar.

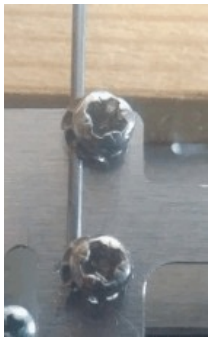


Before securing this you may want to bend and fit the piano wire to operate your turnout/ point or other device. The picture only shows one possible idea. Its up to your imagination as to how you interface the two items.

As the actuator bar is only held in place with one small screw its easy enough to remove and add / change your wire fitting.

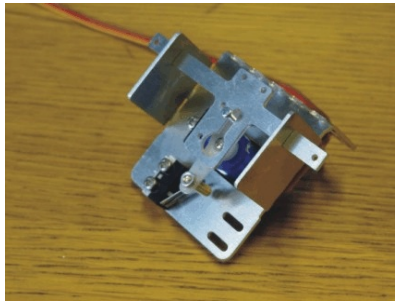


Servo 6 Upgrade



All Servo 6 kits now contain an actuator bar
with 2 tapped holes (M2).
Also 2 M2x4mm Screws and 2 Spring washers
Use these screws and washers to clamp the wire actuator.
This allows the adjustment of wire once unit is in position.

The actuator bar is now secured to the 1.6mm self tapping screw through the centre slot and into one of the servo actuator arm holes. The further you go from the centre of the drive shaft - the longer the throw will be. For most points in n or OO gauge the hole closest to the drive shaft will probably suffice. This will also give you good travel on the servo motor and make setting the switches easier.
There will be some play in the unit which will give a small amount of histeresis.
This has been designed for.



Your unit is now ready to install with 2 screws from under the baseboard, wire up and set. Once everything is moving correctly, slack off the switch screws and move to the right position so that the switch just activates at the end of travel.

I hope you have many trouble free hours operating this unit.
I welcome feedback so as to improve the units in the future.

Please forward any comments, issues to me.

Email - dingoservo@gmail.com Mob 0775 4901324