

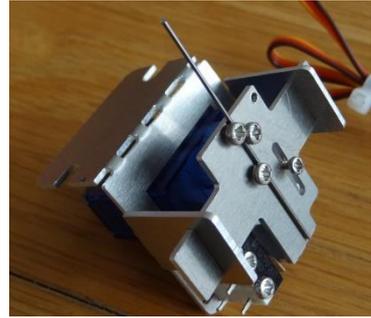
Dingo Servo Mounts

Low Profile MK2 & MK2B Assembly Instructions.

Please read these instructions right through before commencing.

The newer MK2B is the same as the MK2 but has a different drive screw method and slightly longer slider.

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. (I cannot stress this enough! Check and double check before you bend.) Bending can be done by hand on the edge of a work bench or on a wooden block.



Before you start, make sure that all the parts are in the kit (see table on the back page.)

Check the metal parts for excess flash from the lasercutting and remove if required with a small file or modelling knife. A small amount of burr on the edges will not affect operation, however check that the slider fits easily in both wings as tolerances here are quite tight and it needs to move freely for reliable operation.

Any pips can be easily filed away.



Start by folding the mounting footing of the main mount.

Lay the aluminium part flat on the work bench edge with the fold matrix on the edge. (See picture - Note the 4 slots for the micro-switch)

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 fold by pushing on a hard surface to achieve a 90 deg bend.

Now reverse the part and fold the 2 wings in the opposite direction but leave slightly less than 90 deg,
(NOTE THESE FOLDS MUST BE TO THE OPPOSITE SIDE TO THE FOOTING.)



The next part we need to prepare is the slider.

Firstly this needs to be bent to form an actuator for the micro switch.

It is very important to get this bend correct. Please see the pictures and double check before you bend. As you will see the long slot is to the right.

This is very important and must be put in this way if you are using an underboard tiebar kit.



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The top 4 holes in the slider are tapped M2, but we will only use 3 of them. You need to decide now which way you will use the screws to hold your actuator. (See picture) the 3 very small M2x3mm screws are used here - anything longer may interfere with the actuator arm of the servo.

You may also turn the slider over so that the straight arm is on the right but always put the screws in from the top. This could also be used with a "L" Shaped crank to offset the mount from the point.



This completes the slider assembly. The actuator wire can be adjusted at any time by slacking off the screws, moving and re-tightening once in the correct position. I suggest tightening the centre screw first.



See Notes further on for MK2B mount

Now you need to center 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 tester unit like the small blue ones found on Ebay.

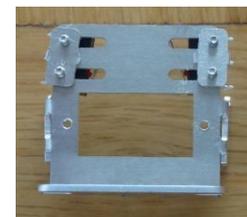
These have a mode switch which will put

the servo in the centre for you.

Once this is done, remove power from the servo, carefully remove the servo horn from the servo pack. (Small screws have a mind of their own and are difficult to replace) and fit the horn as in the picture above.



You can now fit the 2 switches to the base using 4 M2x10mm screws and the 2 nut plates. 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.



Make sure that the switch levers are facing the bottom of the mount ie.

Away from the footing.

Move the switches towards the end of the slots away from the centre before fitting the slider assembly.

Note: Later versions of these mounts now have the switch mounting slots cut right through to the edge of the frame as we have done in the Omni mount and the Micro 10 V2.

This means that you can assemble the switches, wire them up and fit to the mount after the mount is in position.

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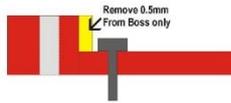
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Now prepare the servo horn if using a MK2B

Take out the smaller horn and fit the M1.6 x 8mm screw through from the back of the horn

It should self-start quite easily through the hole that is already in the servo horn

If you use the second hole from the centre that should be fine, but for a finer adjustment you can use the hole nearest the centre of the horn.



If you do this, you will need to trim away a small amount of the boss before inserting the screw to allow the screw head to clear and for the screw to be at right angles to the horn.

(The object of using servos accurately in model railways, is to allow the servo a large swing, while only moving the pin a small amount. This mechanical disadvantage offers much greater control and tolerance.)



Now fit a Servo tester to the servo and centre the motor

This mount is designed to fit a PowerHD1900A, Fitec FS90 or similar but most 9g motors should also fit.

Fit the horn complete with screw to the servo with the tiny screw in the servo motor pack. (Be careful with these screws as they have a mind of their own and are hard to find replacements for)



In the MK2B version, don't fit the motor until the slider is in position. When fitting the motor make sure that the M1.6mm screw locates into the slot in the slider before fixing the motor with the 2 M2 x 6mm screws.

Now you can mount the motor making sure that the drive shaft is at the right hand side as shown.

This is very important and must be put in this way if you are using an underboard tiebar kit.

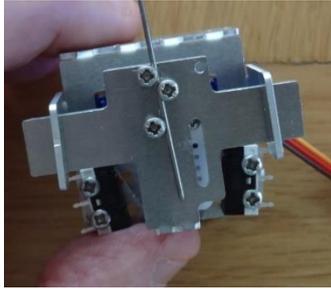
Use the 2 M2x6mm screws (the frame is tapped M2 for this). The screws will need to be inserted from the back of the motor. A small dab of nail varnish or thread lock can be applied to the threads after fixing to prevent any loosening during operation although I have not found this necessary.

Be careful not to over-tighten and strip the threads in the main frame. (If they do strip you can always add an M2 nut to the inside of the frame.)



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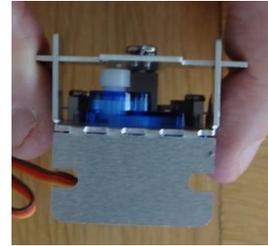
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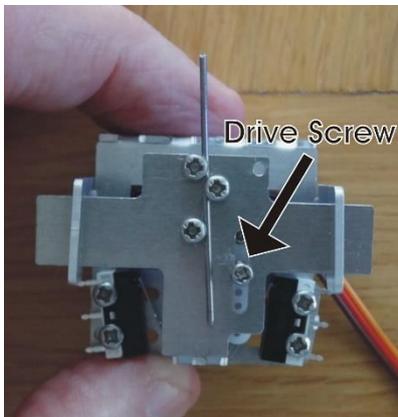
Now it's time to fit the assembled slider.

Fit the short one side in first and slide all the way home then fit the other side.

Once it is in you can gently square up the 2 wings to make the completed mount.



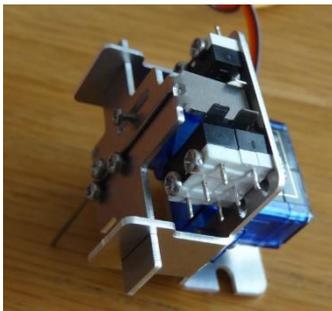
Note: Check that the slider moves easily and adjust the wings slightly if this is not the case. If you bend them just past the 90 deg point the slider will be trapped.



The Slider now secured to the 1.7mm self-tapping screw through the centre slot and into one of the servo horn 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 hysteresis.

This has been designed for.

We can set the switch positions later but you may like to operate the servo to make sure everything is working as planned.



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.

You can "double stack" the switches on the left hand side of the mount, but you will need to purchase a Long Screw Multipack with longer screws and extra switches to do this.

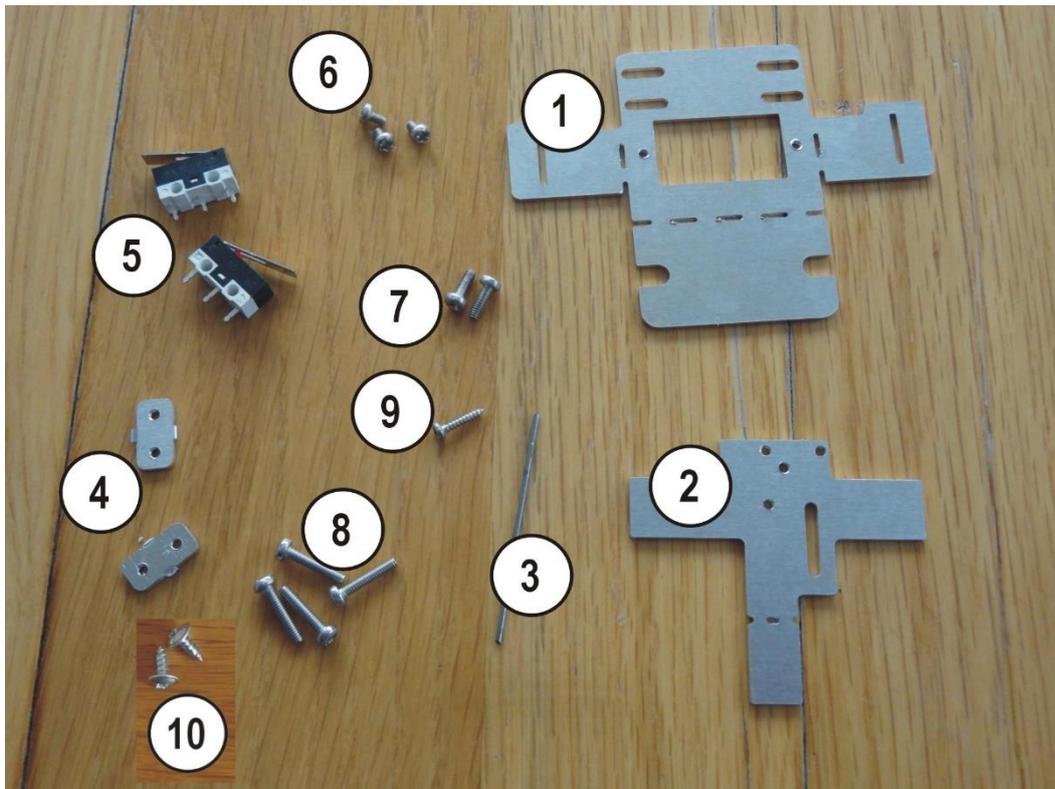
(Screws in this pack are M2 x 16mm)

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No	Description	Qty
1	Main Body	1
2	Slider	1
3	Actuator wire (0.8mm)	1
4	Nut Plates	2
5	Switch (SPDT)	2
6	M2 x 3 mm Pozi Pan Head Screws	3
7	M2 x 6 mm Pozi Pan Head Screws	2
8	M2 x 10 mm Pozi Pan Head Screws	4
9	1.7mm Retaining Screw (M1.6 x 8mm in MK2 pack)	1
10	3mm x 6mm long Flange fixing Screws.	2

Note: Multipacks do NOT contain switches, Nut Plates and the M2x10mm screws.

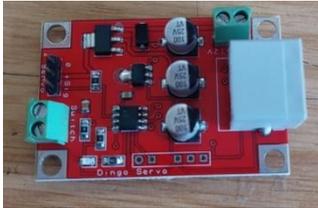


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Dingo Servo Mounts have a variety of control boards including a single servo board unit and a Twin servo controller board which will operate this unit.

Other control boards are on offer from MERG (in kit form) or from companies like Megapoints and Tam Valley Depot.



I hope you have many trouble free hours operating this unit.

I welcome feedback in order to improve the units for the future.

Please forward any comments or issues to me.

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