

## SLIPSTREAM BUILDERS KIT SL GLIDER VERSION



Thanks for buying the Slipstream 1 metre builders kit.

The Slipstream incorporates the finest building materials from the EPP (Expanded Polypropylene) cores, CNC cut from solid block for unrivalled strength and impact resistance. The carbon fibre spar, manufactured in the EU to aerospace standards. The laser cut balsa elevons picked from hard stock are the best quality you can get.

The Slipstream wing section is extremely efficient, this means it requires less wind to fly in than other models, its also good in a gale.

### **As well as these power systems you will require:**

- 1 x Covering set (FW684)
- 2 x mini servos or Standard size servos (FW196) or (FW160)
- 1 x Receiver (full range) (FW408)
- 1 x Receiver battery (600mah) (FW561)
- 1 x Transmitter capable of elevon mixing or mixing module (FW044)

### **Spares Available:**

- Wingtips set (FW343)
- Elevon Set (FW348)
- Pushrod set (FW406)
- Horn Set (FW345)

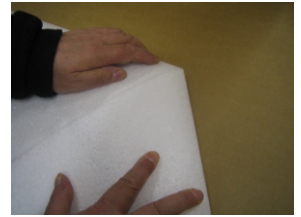
***LETS GET BUILDING***

### Step: 1

Clearly mark the centre of the carbon tube with pencil. Lay the left wing panel on a flat surface and insert the tube into the hole, do this very gently, ensuring the tube is going into the hole straight, you should not have to apply too much force, twisting the tube as you insert it can help.

Hold the end of the tube and spray the root surface as shown with spray glue, quite thickly so as it bubbles up. Get the right panel and spray the root in a similar manner. Wait 5 minutes.

Lay the left panel with tube on a flat surface and gently push the right panel onto the tube, joining the wings. Due to the nature of the material, perfect alignment of the holes is very hard to achieve, hence, once you have joined the the two panels, you may have to manouvre them into alignment. Secure with temporary pieces of strapping tape at the nose and rear. Allow to dry for a further 10 minutes.



### Step: 2

Now install the lateral carbon spars (2 x Flat 8mm x 0.8mm x 500mm).

Run a bead of UHU Por into the two slots, push the carbon spars in so they sit flush with the bottom of the wing. Run another bead of glue over the top of each one and remove surplus glue.

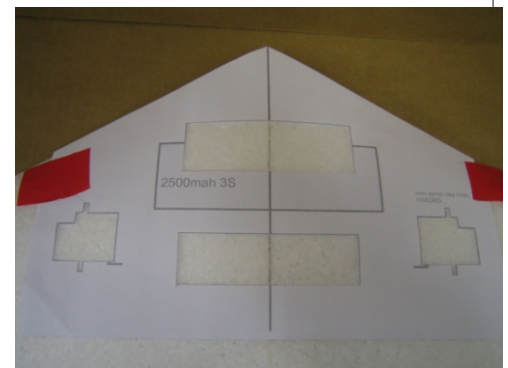
Use some strapping tape to keep them in place, allow 1 hour to dry.



### Step: 3

Template T1 show's where to insert your radio equipment and battery, if your servos are a different shape to the one drawn, over lay the servo and draw around it approximately central with the one shown.

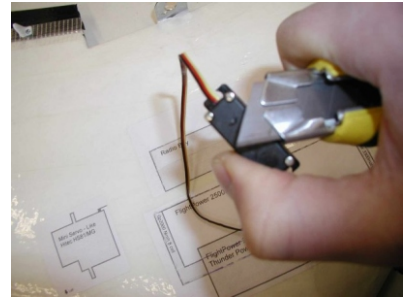
Cut out the template T1 where shown, align these on the joined wing as in diagram and tape in place.



### Step: 4

Set or mark your knife to the depth of the servo to give a guide to how deep you should cut. Cut around the servo shape and make criss cross patterns inside. Dig out the foam carefully, checking with the servo for a good fit all the time, if you dig too deep then pack out with some foam you have removed.

Cut a slot 3mm deep to run the servo cables into the radio bay.



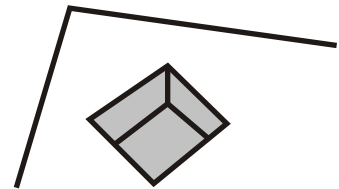
### Step: 5

Set your knife depth to the thickness of your receiver battery plus 3mm for the hatch, cut out the area shown on the template T1, checking for depth at stages.

The radio bay, can be modified to suit the receiver and speed controller you are using, cut down to allow approx 3mm space above the equipment to allow for a hatch.

See Fig 5D for the aerial path, cut a 3mm deep slot and push the aerial into it, the aerial will exit at the tip, leave this loose. (2.4ghz system, need not do this) Leave the receiver in during the covering process, remove everything else

Dig down & insert battery, cut a 3mm slot to run the lead to the radio bay, cut a square piece of epp sheet supplied, cover over with strapping tape.



### Step: 6

Now your ready to start the covering process.

Refer to **FIG1**, Turn the wing upside down, ply plate upwards, Give the wing a good spray of spray glue, allow to dry for 2 minutes. Apply tape as shown, be careful not to create creases especially on the leading edge. Turn the wing over and repeat the process shown in **FIG2**. Do not be tempted to cover the whole wing with strapping tape, this will add too much weight, cause problems with the CofG and will not make it any stronger.

SEE FIG 1&2

### Step: 7

Refer to FIG3

Now the final covering of coloured tape.

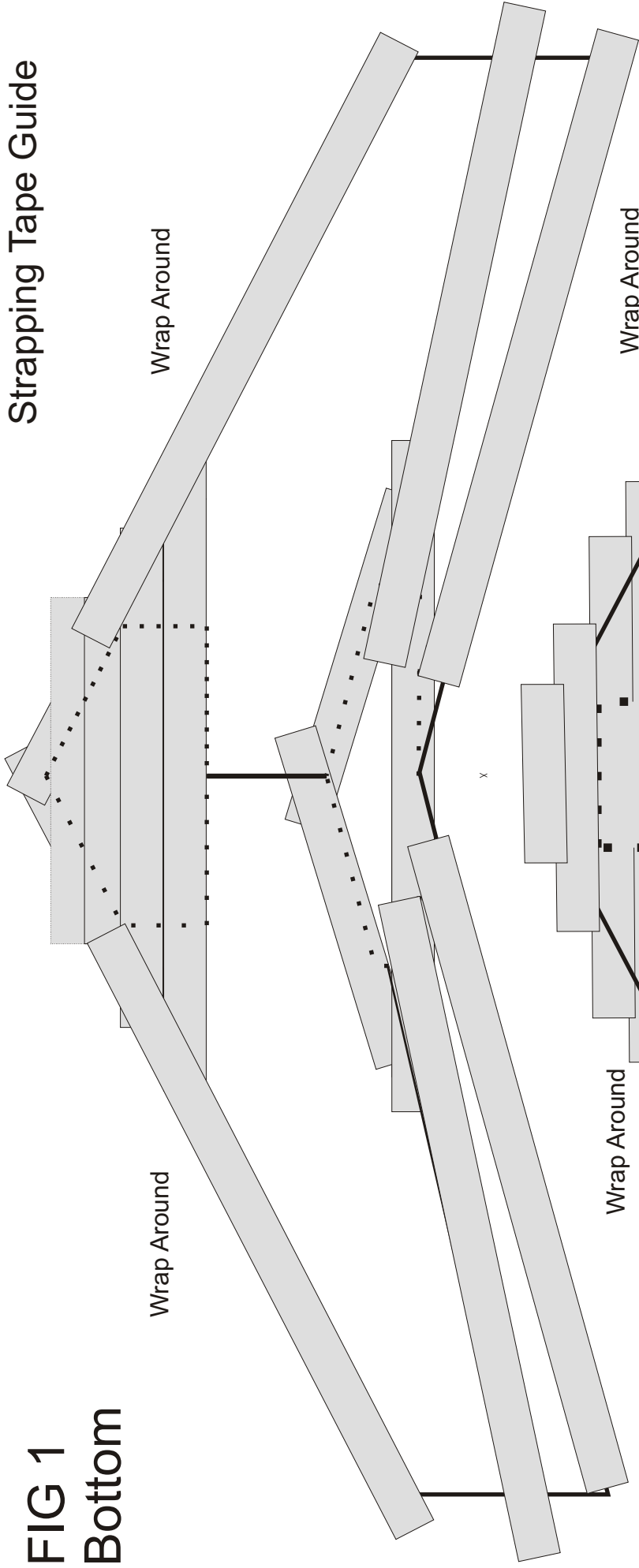
We have found that its best to cover the top and bottom in contrasting colours, ie black or blue on bottom and a light colour on top, or vice versa, this will help with orientation in the sky.

Turn the wing so that top is up (ply plates down) and give the wing an additional light spray of glue  
Start with the back of each wing on the top side, Note, you will covering over the holes cut earlier, this is ok. trim any surplus that folds over to the bottom, leaving 20mm of over lap. Turn the wing over Spray again and cover.

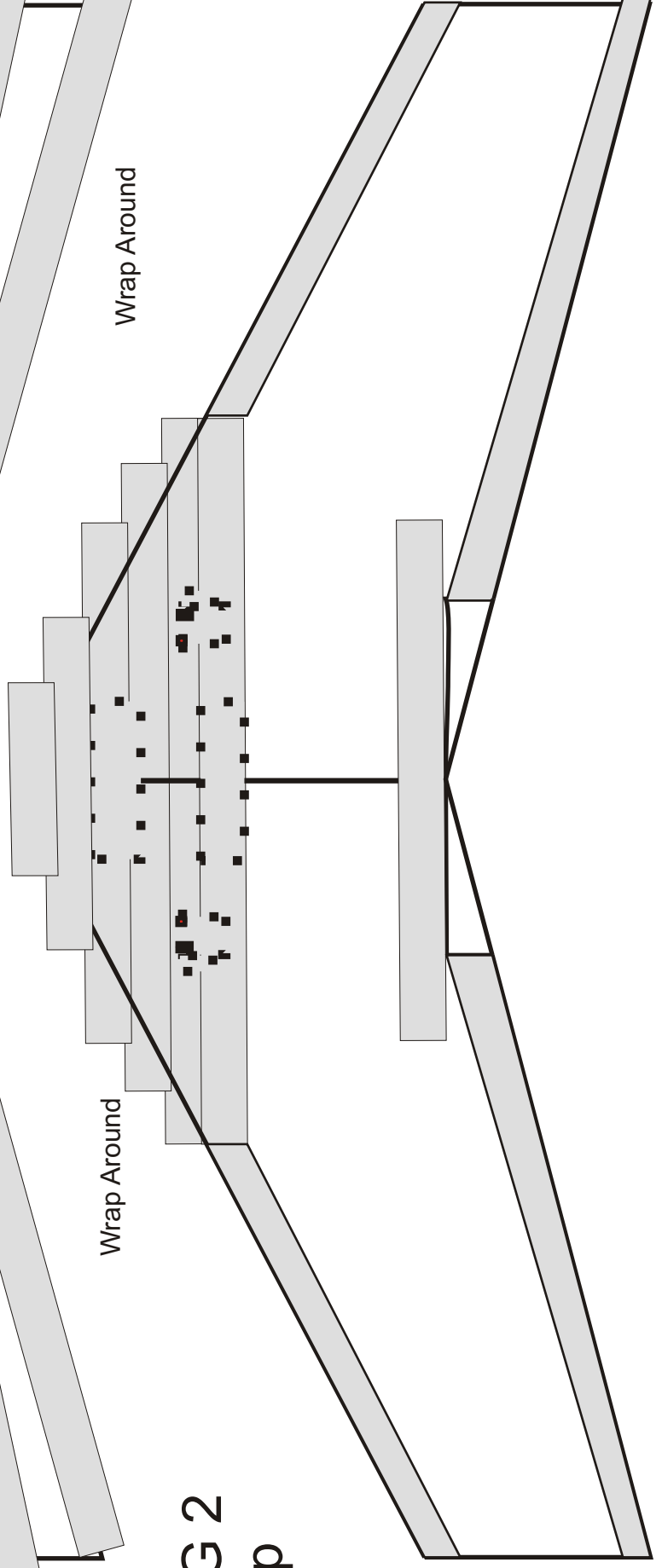
SEE FIG 3

# Strapping Tape Guide

**FIG 1**  
**Bottom**



**FIG 2**  
**Top**



**Tip:** Apply the tape from one end, whilst pressing down to remove any trapped air, before covering the bottom, you can use different tape colours to create stripes etc

Covering (Coloured)  
Tape Guide

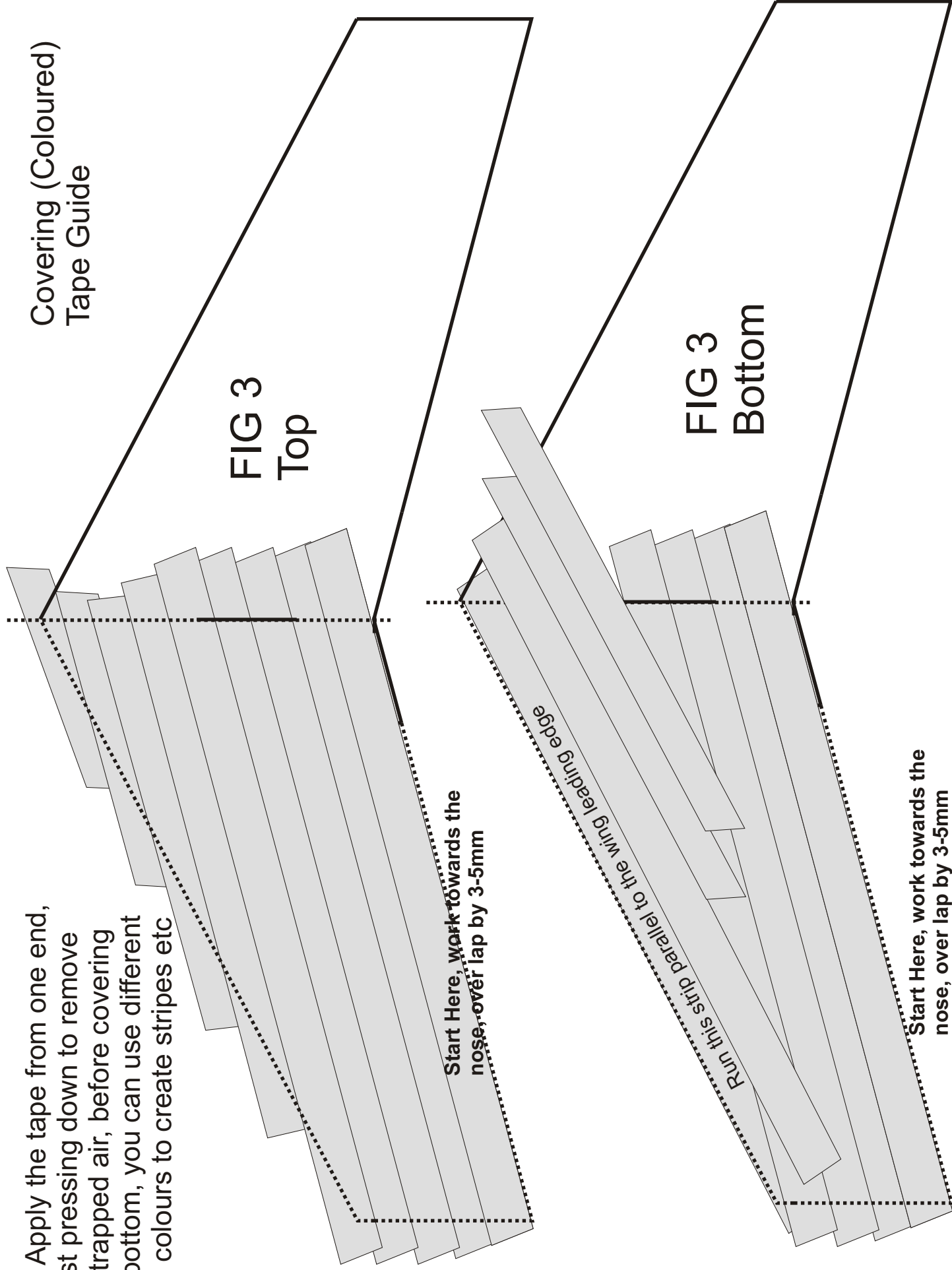
FIG 3  
Top

Start Here, work towards the nose, over lap by 3-5mm

Run this strip parallel to the wing leading edge

FIG 3  
Bottom

Start Here, work towards the nose, over lap by 3-5mm



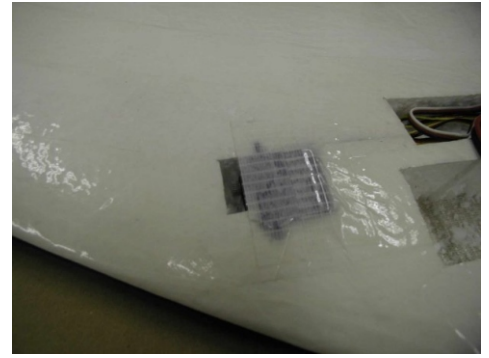
### Step: 8

Set up your radio equipment outside of the model see "Radio Setup" section.

Trim around the holes cut for radio and battery locations. Insert your equipment for fit making adjustments accordingly, cut a slot around 5mm deep for the servo leads to run directly into the radio bay.

Using strapping tape, secure down the servos, then cover with coloured tape allowing for the horn and slot.

To seal edges of covering tape, use a domestic clothes iron and medium setting, and run it along the leading edge and around the ply plates. Always test heat on a scrap piece of tape before.



### Step: 9

Refer to FIG 4,  
Chamfer the balsa elevons as shown, and then cover with tape.

Using 25mm strapping tape or cut some 50mm down the middle, apply to the trailing edge on the top, offer each elevon to the trailing edge holding it down at 45 degrees, do both elevons, turn the model over and repeat, remembering to hold the elevon down at 45 degrees to allow for movement.

SEE FIG 4

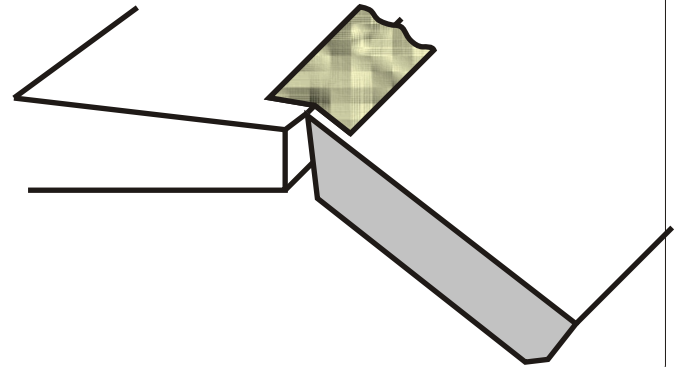
**The elevons are handed ie left and right, make a handed pair**

Cover the elevons with coloured tape in a similar manner to the wing

### Step: 10

Align the elevons to the back of the wing so that it is 3mm short of the end of the wing to prevent it rubbing on the wing tip. With the wing top upwards, attach a 25mm strip of tape along one side of the rear of the wing half on half off.

Offer up the elevon at a sharp angle as shown and attach, a small gap between the elevon and wing of 1mm is ok. Turn the wing over and repeat, again holding down the elevon downwards. Run you finger nail down the gap between the elevon, the elevon should move quite freely.



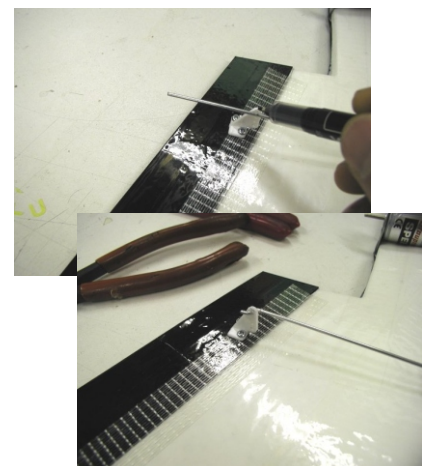
### Step: 11

Refer to FIG 5A

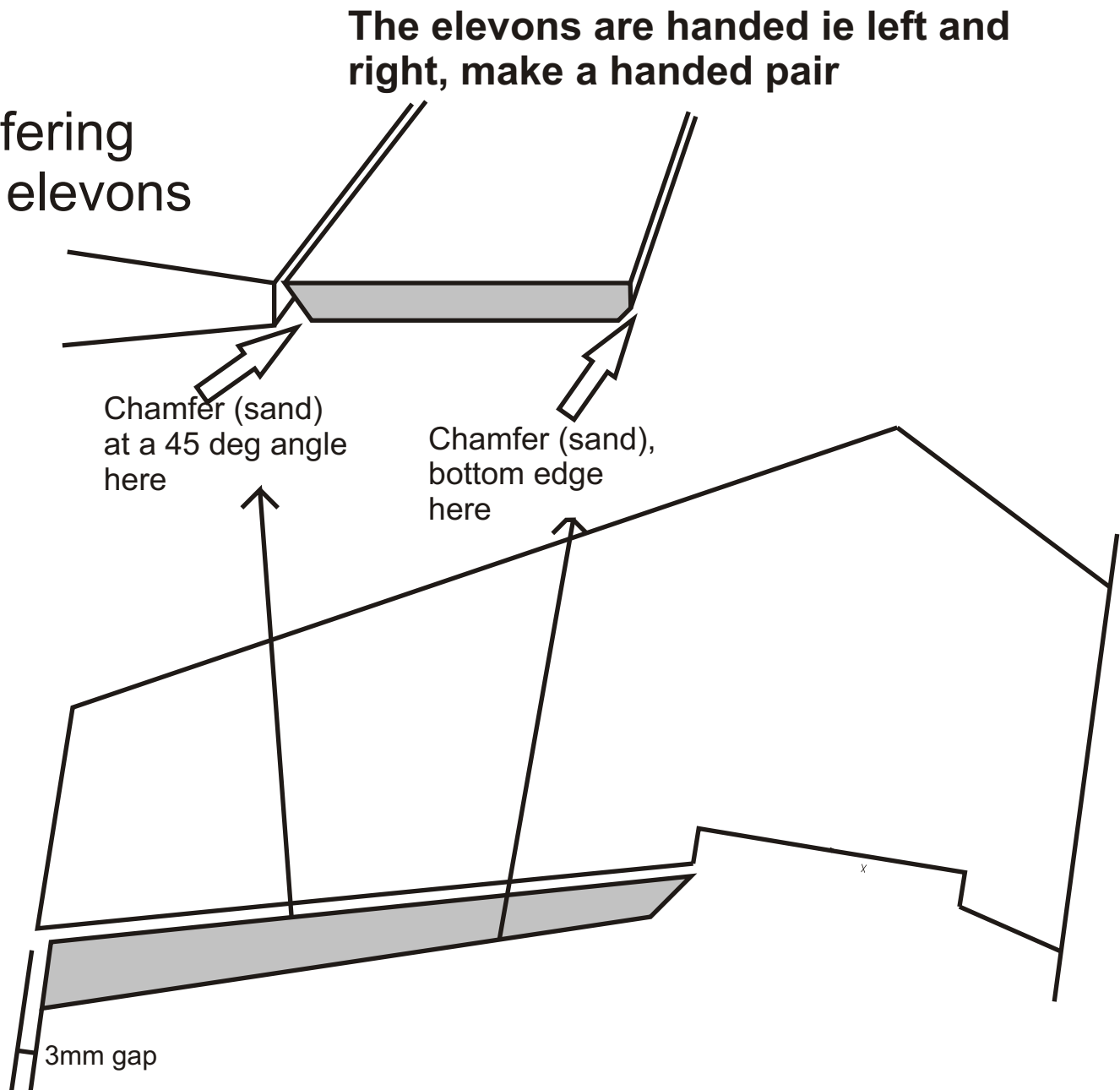
Use a ruler to mark the positions of the horn, put the screws into the horns so that the point of the screws stick through by approx 1mm. Push the horn onto the elevon in the correct place and screw down. Align the horn bottom plate up with the screws and re-tighten, do not over tighten, just enough to grip the elevon firmly.

Switch on the radio system, neutralise all trims, check the horn is as vertical as it will allow. Lay the model flat, the edge of the elevon should be raised up 8mm from the surface. This is the neutral position.

Create a z-bend with pliers. Take off clevis attach z-bend and re-attach clevis, adjust accordingly.



**FIG 4**  
**Chamfering**  
**Balsa elevons**



**Applying the vinyl graphics: Last job to be done.**

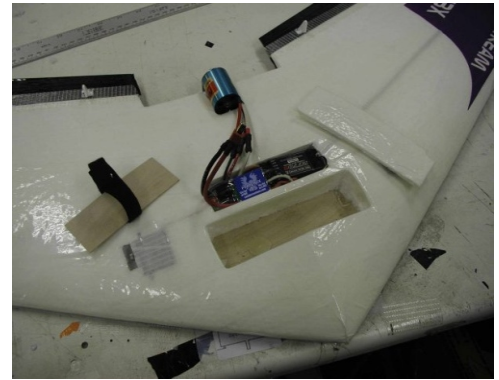
Step1: Carefully peel the white paper away from the backing paper (the sticky paper that resembles masking tape) leaving the vinyl graphic on the backing paper. If any part refuses to stick to the backing paper, press it down between your fingers until it does.

Step2: Align the backing paper with vinyl onto the model where you wish to apply it, rub it down firmly and peel back the backing paper to reveal the graphic

## Step: 12

Installing the velcro strap.

Get the small ply plate, glue the velcro strap to the plate as shown, then glue the plate down to the bottom of the battery bay, trim the velcro strap to suit battery.



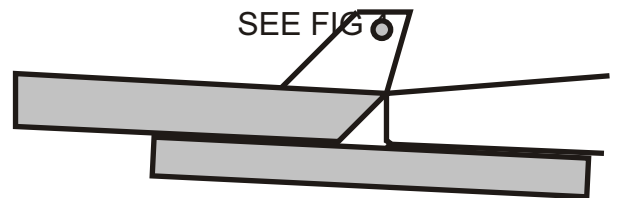
## Step: 13

Installing the horns & pushrods.

**SWITCH ON YOUR RADIO AND CANCEL ALL SUB TRIM  
SET TRIMS TO NEUTRAL**

Screw the screws into the horns so that the points of the screws are just proud, Line up the horns as shown in FIG 5C, press down the horns, then screw them right down, get the bottom part of the horn, align screws and screw down until the horns grip the elevon, but not too tight.

Screw the clevises onto the pushrods halfway, attach the clevis to the servo horn, Set the elevon position slightly upwards as shown, mark the pushrod with a felt tip and make your z-bend at this point. Note the horn holes may need to be enlarged slightly,



Use a ruler to set neutral position

## Step: 14

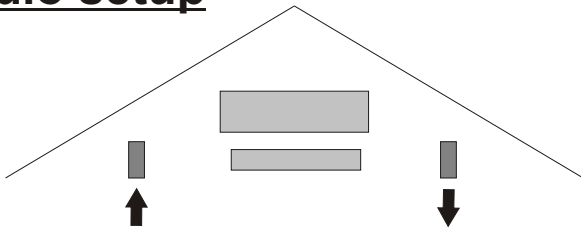
Final checks and balancing.

The centre of gravity (where the model balances) should work out at 180mm back from the tip of the nose.

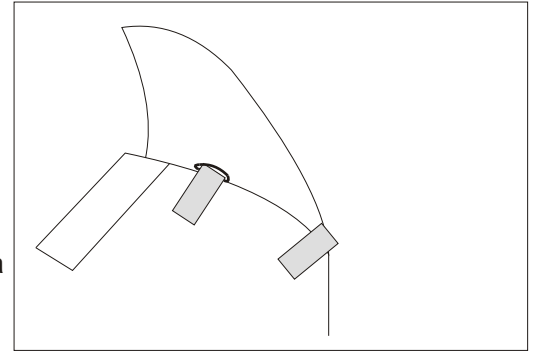
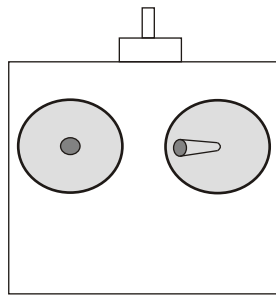
Check controls are working in the correct direction, see .Radio setup section.

Check motor is turning the correct way then attach prop, always be careful the prop can injure fingers on contact.

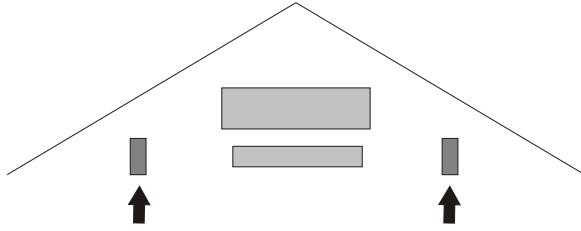
## Radio setup



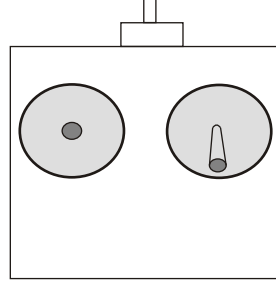
**Left Aileron:** right servo travels back, left travels forward & vice versa



Attach Wingtips with filament tape, thread 5" of filament tape through the pre-cut slots and tape to top and bottom of wing tip. Secure the front with another piece.



**Up Elevator:** right servo travels back, left travels back & vice versa



Recommended control throws measured at trailing edge of elevon.  
Up/Down +/- 10mm, Left/Right +/- 10mm

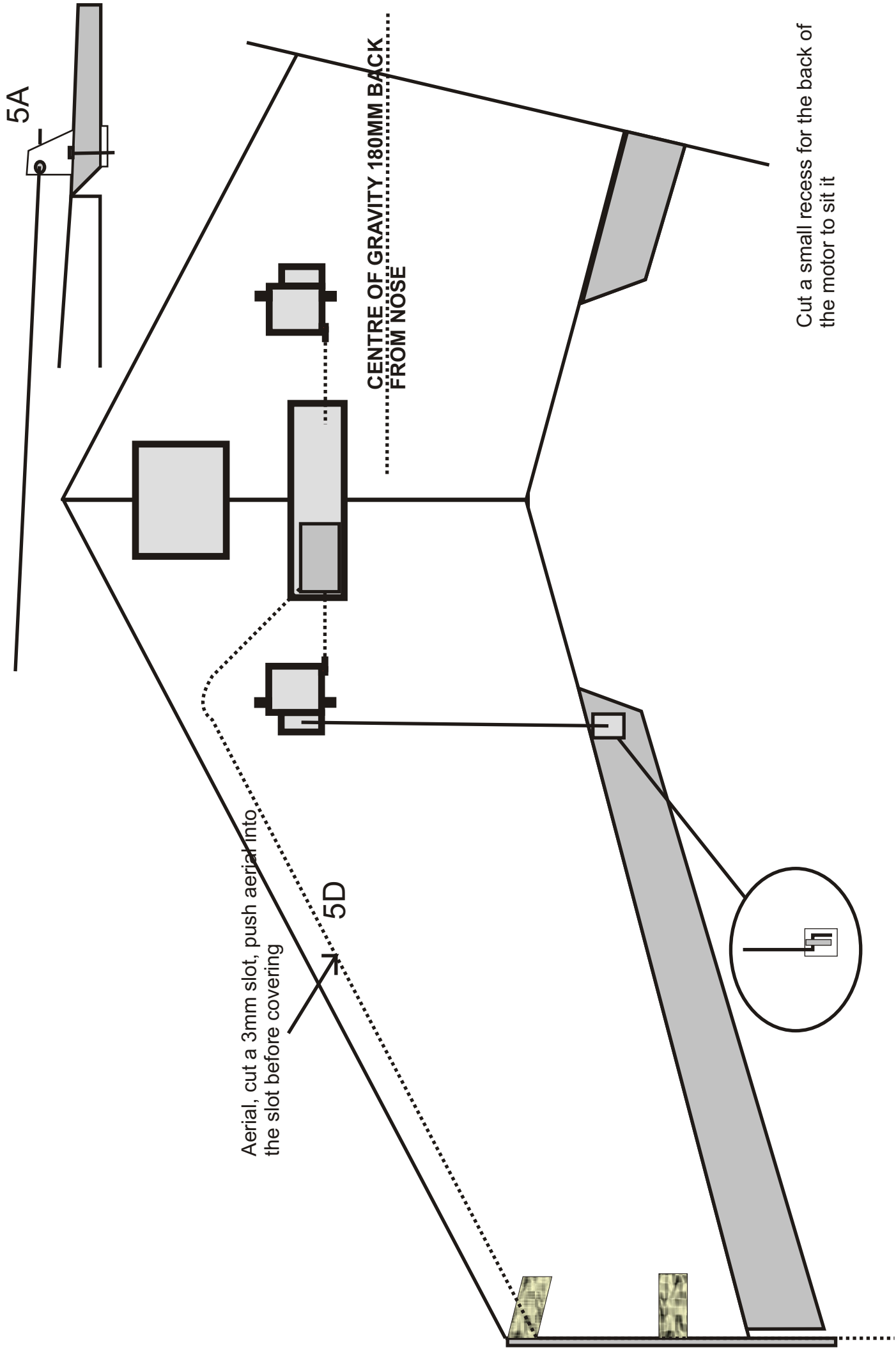
Important : When setting control throws, note that all 4 settings (up,down,left,right) are the same whatever value. Ie all 75% or all 65%

Help Line 01908 615163  
Email [help\\_sales@flyingwings.co.uk](mailto:help_sales@flyingwings.co.uk)

Flyingwings recommends  
that you get insured by the  
BMFA.

[www.bmfa.org](http://www.bmfa.org)

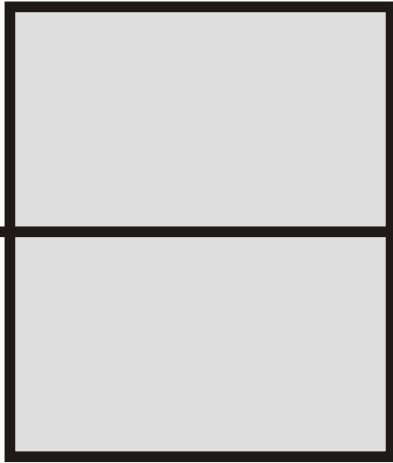
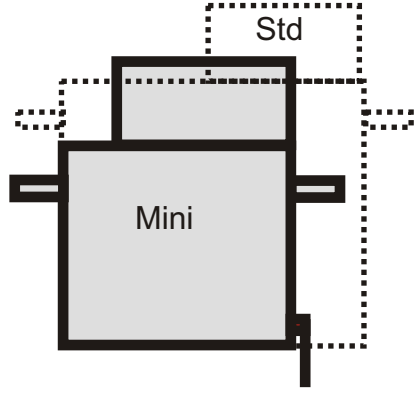
FIG 5



# T1



mini servo, like Hitec  
HS82MG or standard  
size servos



Radio Bay, cut to suit  
your equipment

