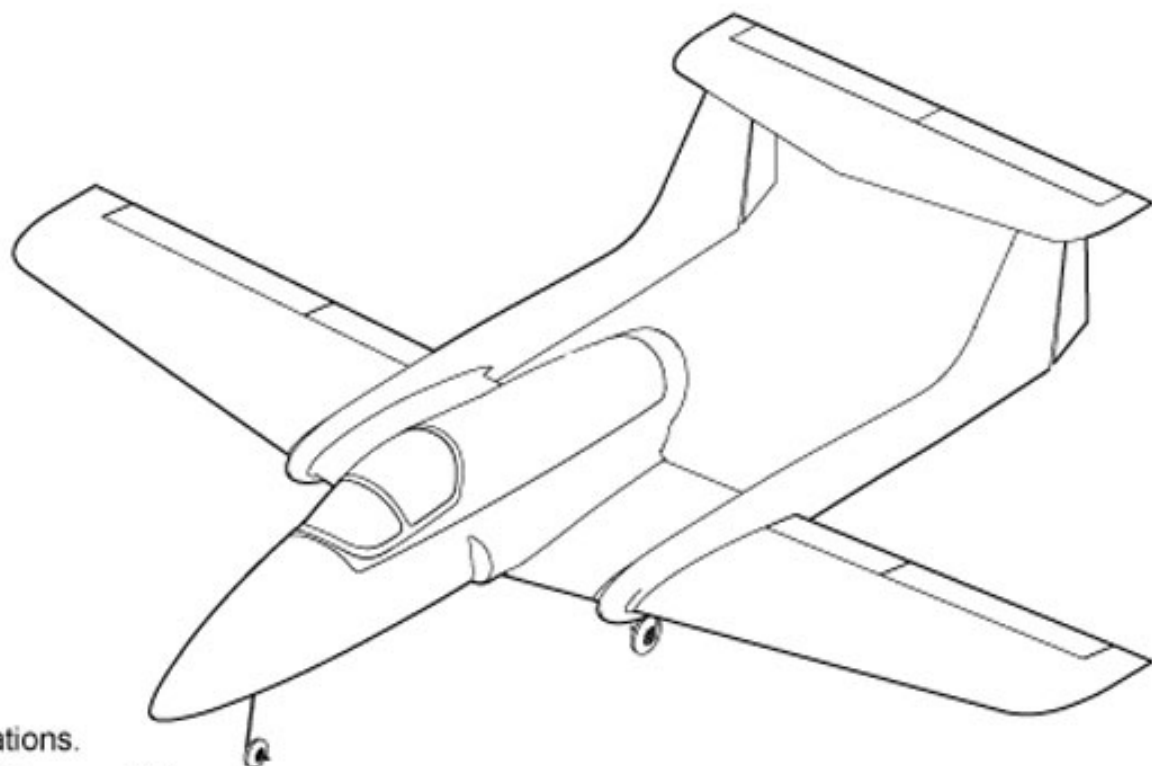


## FRONT PAGE

Read through this manual before you begin construction and follow it during construction.

# BOOMERANG XL ARF

Aerobatic Sport Jet for 18 to 30 lb. thrust turbines.  
Speed Range From 15 to 180 MPH.(25 to 290 KPH).



### Specifications.

Wingspan .....94"

Length .....97"

Weight 28 lbs. (12.7Kg.)

Wing Area 1700 Sq. Ins.(11150 Sq. Cms.)

Radio required 6 channels Minimum. 9 to 11 servos.

Designer Alan Cardash

Boomerang Jets Ltd

Website. [www.boomerangjets.com](http://www.boomerangjets.com)

## (DRAWING)

### Safety Precautions.

**THE XL KIT IS FOR EXPERIENCED MODEL BUILDERS & FLYERS. BUILDING AND FLYING THIS MODEL IS NOT RECOMMENDED FOR BEGINNERS. TURBINE MODELS ARE FOR ADVANCED FLYERS ONLY.**

THIS INSTRUCTION MANUAL IS FOR GUIDANCE ONLY. IF YOU ARE UNSURE OF ANY MODEL BUILDING TECHNIQUES, SEEK HELP FROM AN EXPERIENCED MODELLER OR CONTACT BOOMERANG JETS FOR ASSISTANCE. JET MODEL AIRCRAFT ARE DANGEROUS IF CONSTRUCTION IS CARELESSLY OR INCORRECTLY CARRIED OUT. AS BUILDING AND FLYING OF THIS KIT IS OUT OF OUR CONTROL AFTER THE POINT OF SALE, NO LIABILITY IS ACCEPTED BY BOOMERANG JETS LTD. FOR ANY ACCIDENT OR LOSS, HOWEVER CAUSED BY THE OPERATION OF THIS MODEL. PURCHASE OF THIS KIT IMPLIES ACCEPTANCE OF THESE CONDITIONS BY THE PURCHASER.

## Some of the additional items required to complete this kit:- Extension leads to servos

2 X 1.5 metres (along booms to elevators)

8 X 1 metre from RX to outlet ribs of centre wing

2 X 1 metre along booms to rudders

2 X 300 mm from ailerons in outer wings

2 X 100 mm. from flaps in outer wings

1 X 300mm for steering servo

1 set heavy duty retracts, (Boomerang Jets option available)

1 set of wheels and brakes, (Boomerang Jets option available)

1 set wire legs, (5/6mm) or oleos ( Boomerang Jets option available)

1 X electronic air valve for retracts,

1 X electronic air valve for brakes,

8 servos for control surfaces (5 to 8K torque digitals suggested)

1 servo for nose leg steering.

Many modellers prefer to choose commercially available control horns, so these are not included in the kit. Optional Boomerang Jets custom pushrod/clevis/ horns pack is available.

### Note the Symbols used throughout these instructions.



Assemble left and right sides the same way.



Not supplied



Drill holes to the specified diameter (see Drill sheet).



Cut off shaded portion.



Apply epoxy glue.



Pay close attention here!



Ensure smooth non-binding movement while assembling.



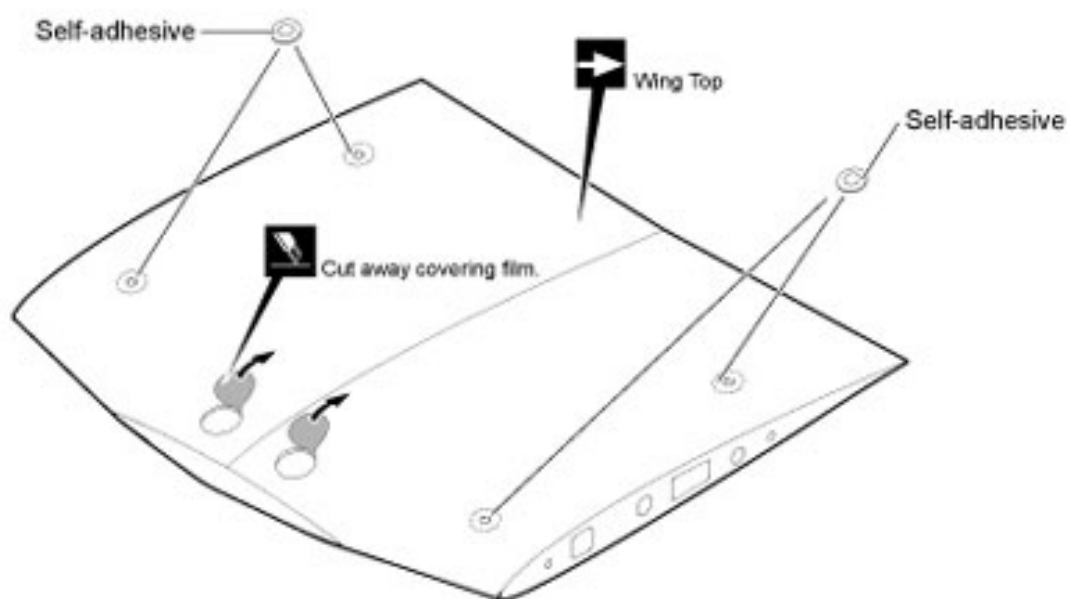
Apply instant glue (CA glue, super glue).



Warning Do not overlook this symbol

## 1 Centre Wing Topside

Iron the area lightly through a cloth with a warm iron before cutting away the covering film from the exit holes.

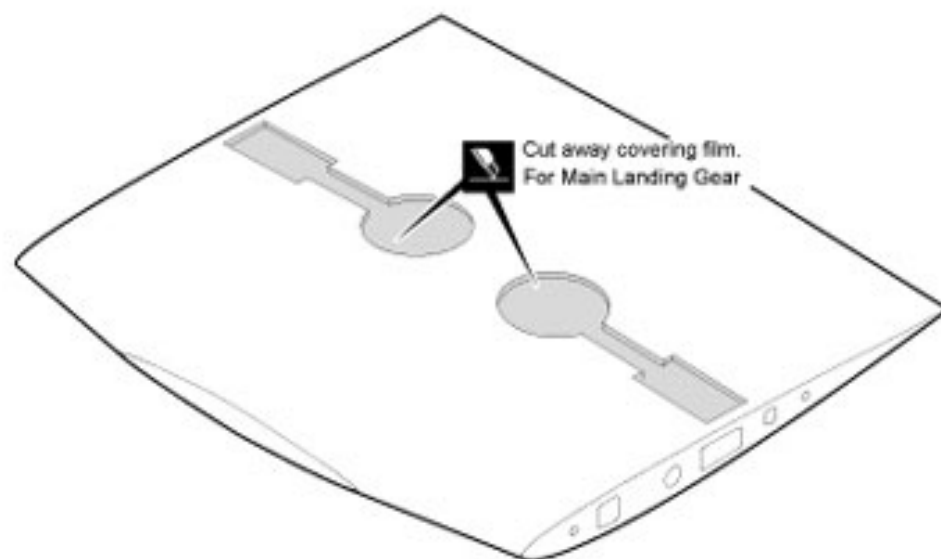


Warning!

Be sure to glue securely.  
This is Vital for safe flying!

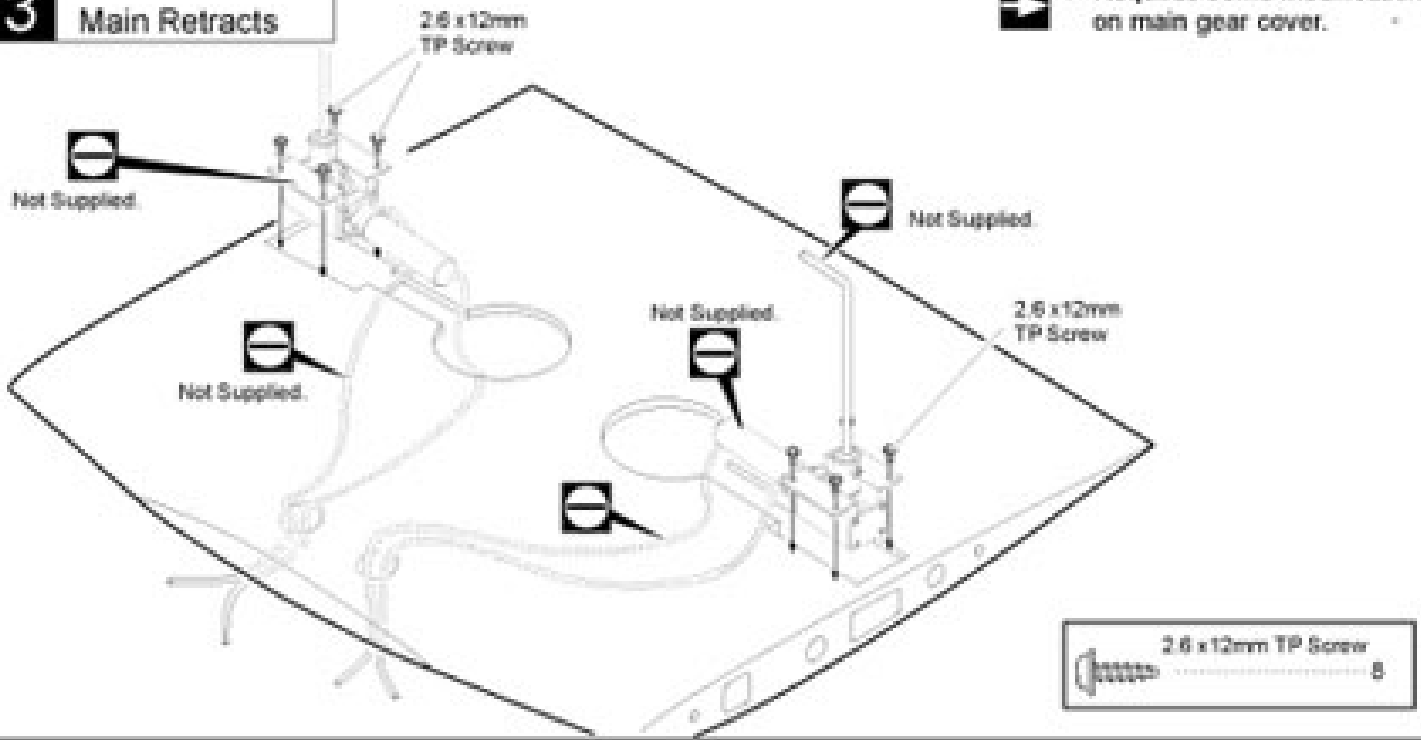
## 2 Centre Wing Underside

Iron the main landing gear area lightly through a cloth with a warm iron before cutting away the covering film.  
Take care not to damage the painted surfaces.

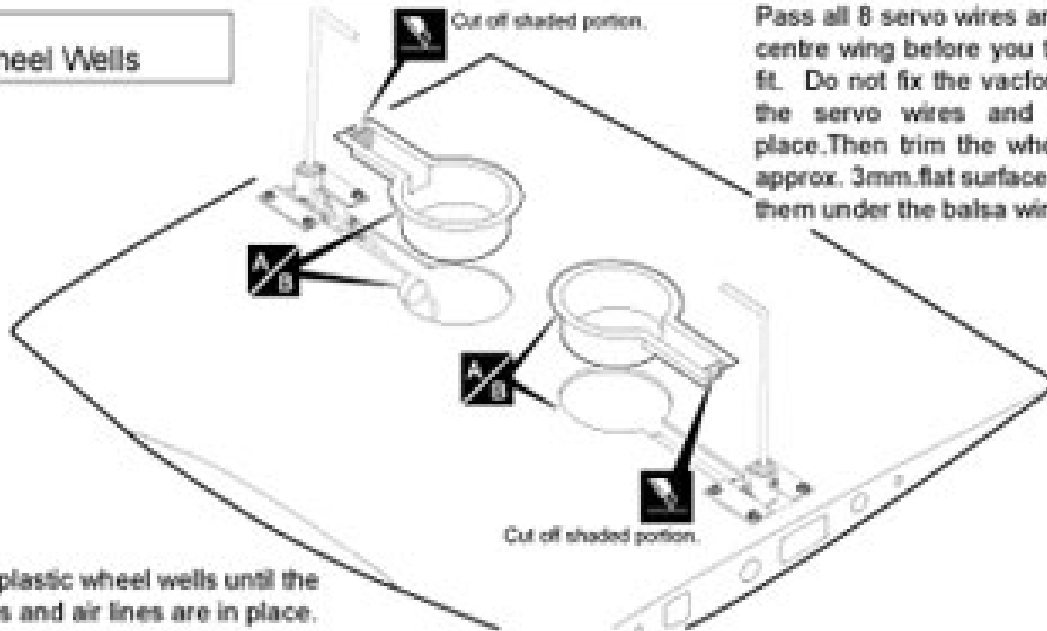


### 3 Main Retracts

Requires some modification on main gear cover.

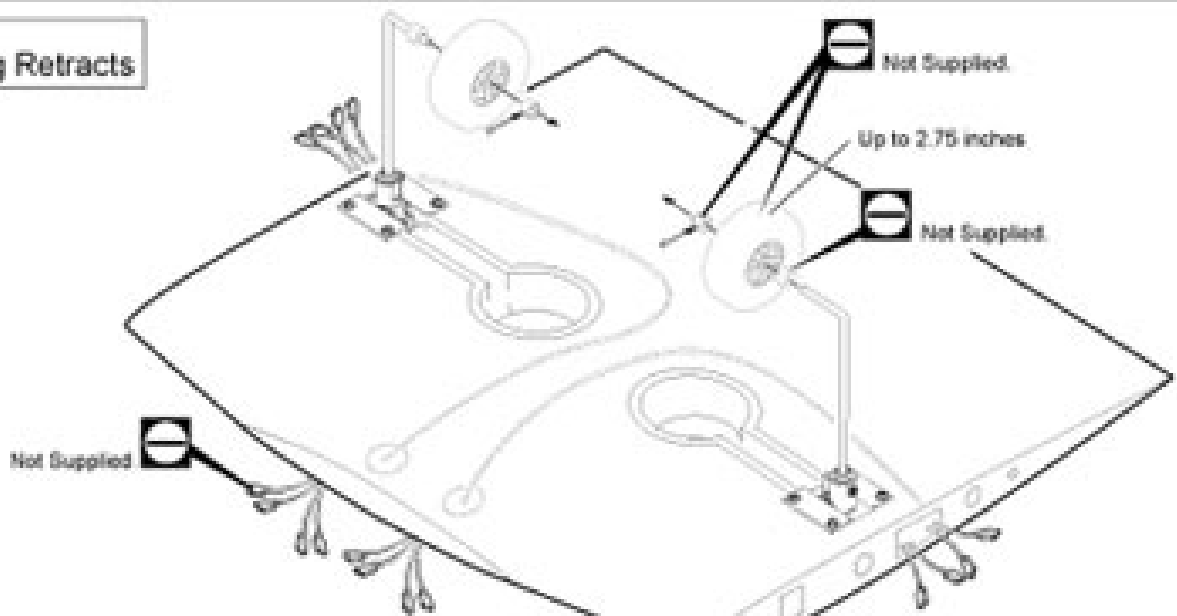


### 4 Wheel Wells



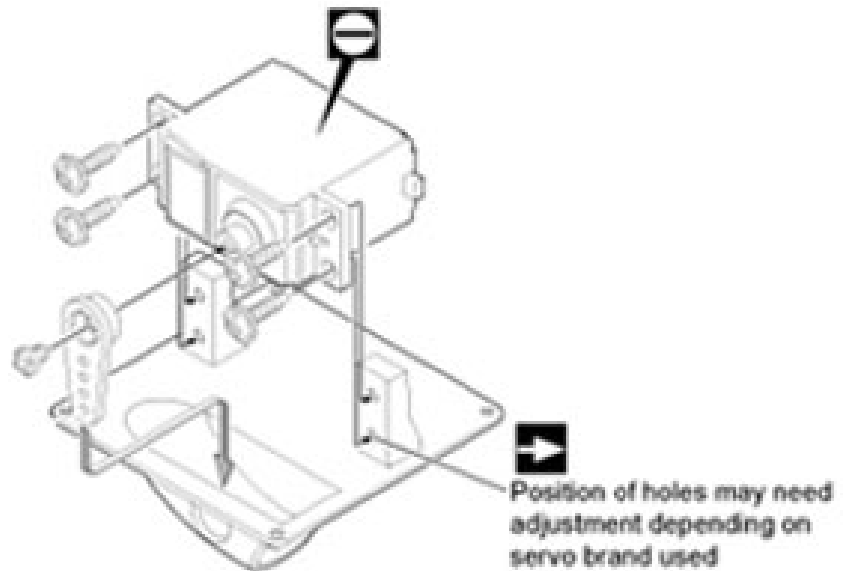
Pass all 8 servo wires and air lines through the centre wing before you trim the wheel wells to fit. Do not fix the vacformed wheel wells until the servo wires and air lines are all in place. Then trim the wheel wells to fit leaving approx. 3mm flat surface on top and fit and glue them under the balsa wing surface.

### 5 Mounting Retracts



## 6 Servo Mounts

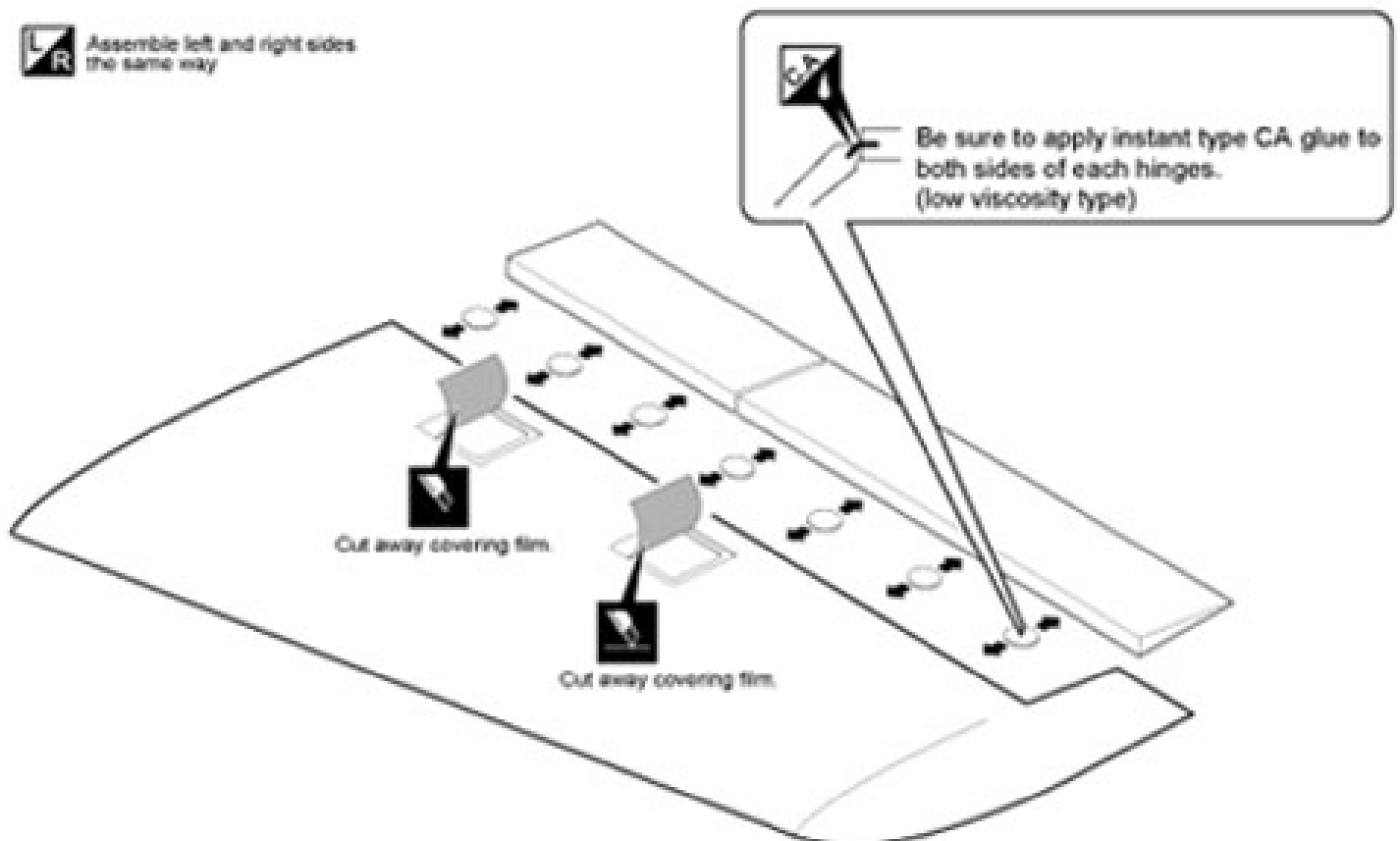
 Assemble left and right sides the same way




## 7 Wings

Lightly iron the covering film through a cloth and cut away allowing 3 mm overhang all round. The servo mounts will hold the cut edges down when they are fixed in place.

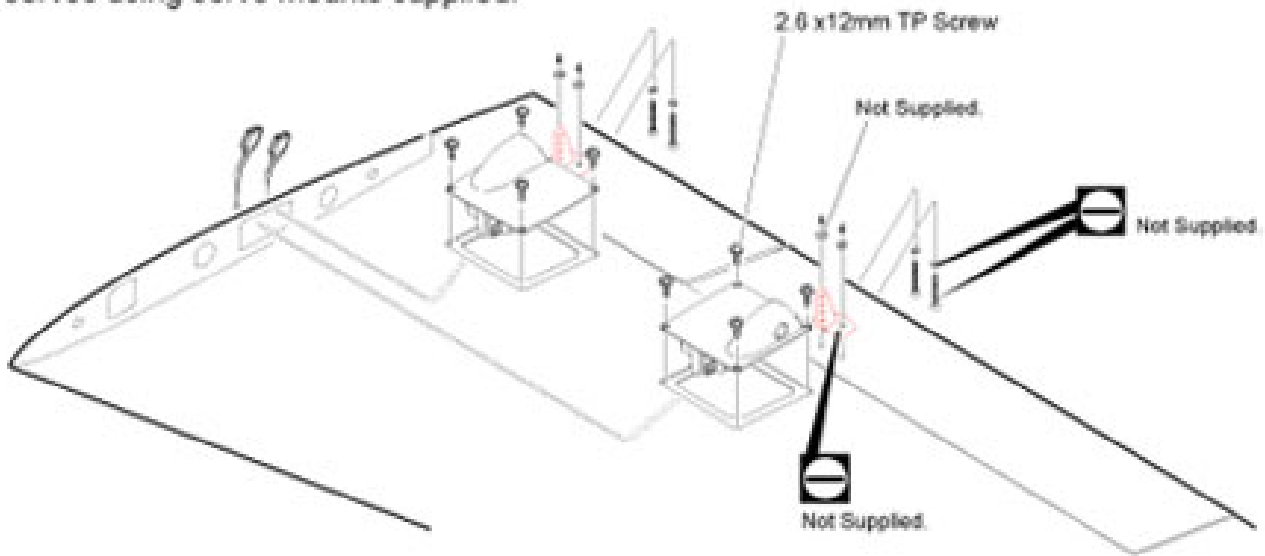
 Assemble left and right sides the same way



 **Warning** Be sure to glue securely  
This is Vital for safe flying!

## 8 Servo Mounts

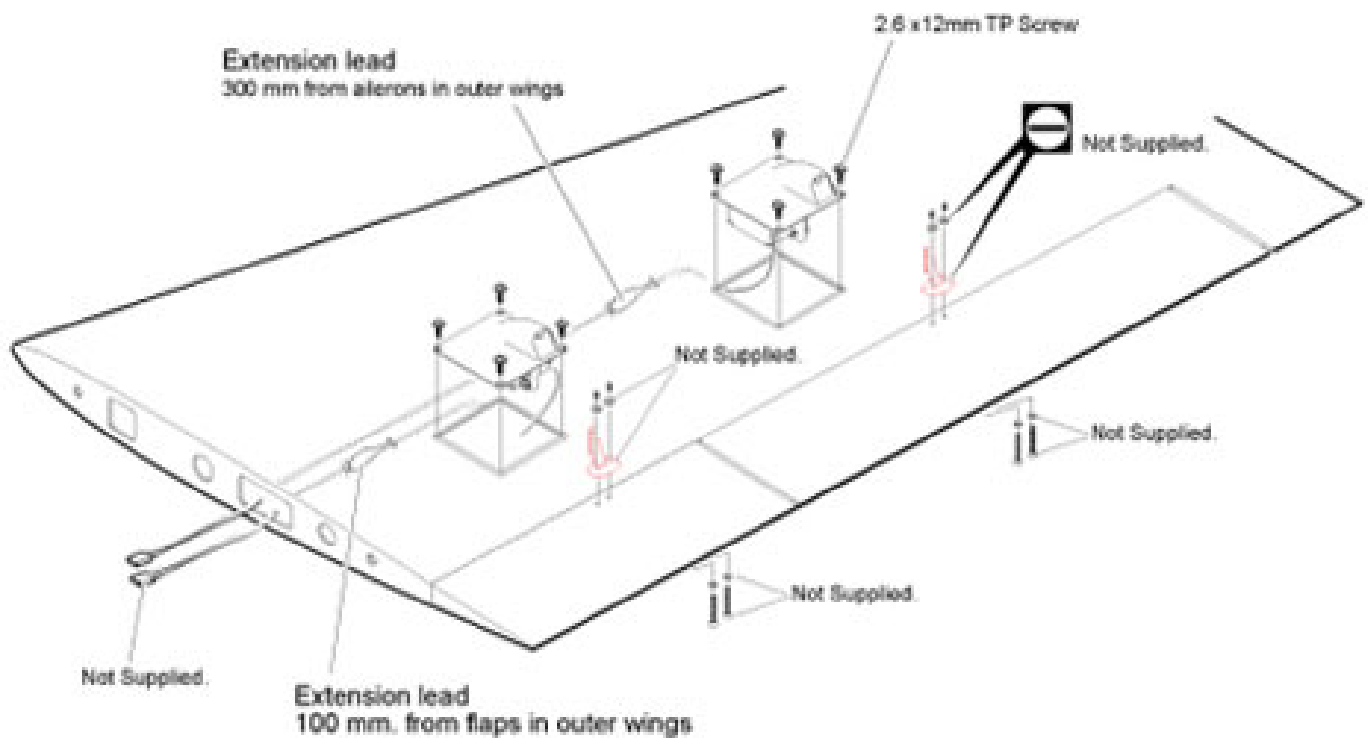
Fix servos using servo mounts supplied.



 2.6 x 12mm TP Screw 8

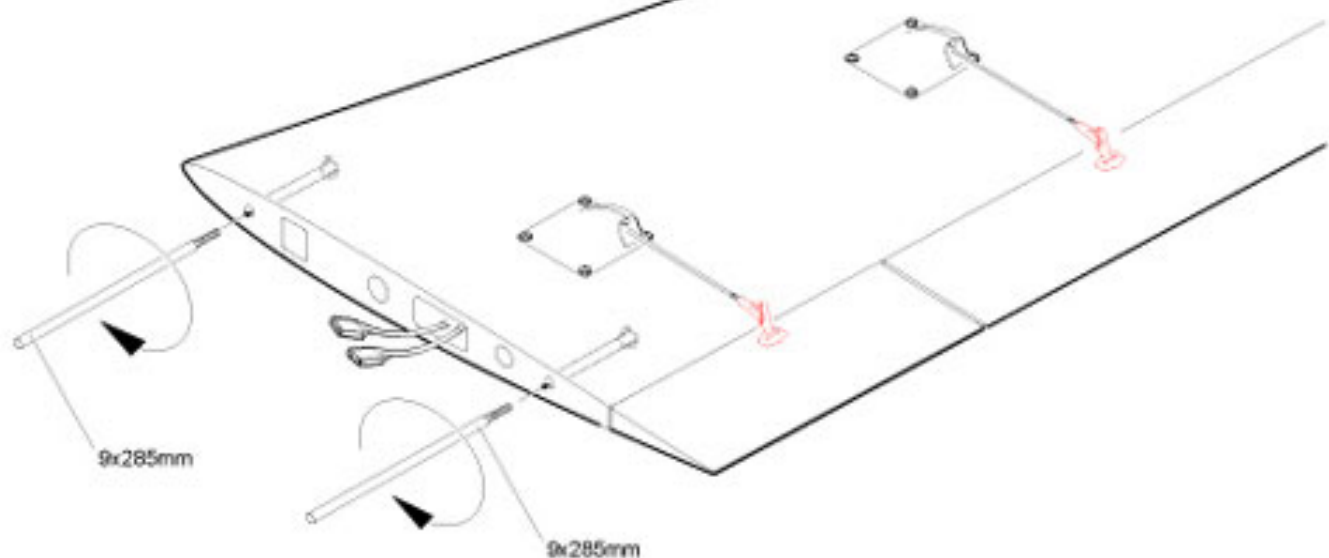
## 9 Servo Mounts

Note: - Both flap servos are the same hand to ensure identical movement.  
Allow 120 mm (5") overhang of servo leads.



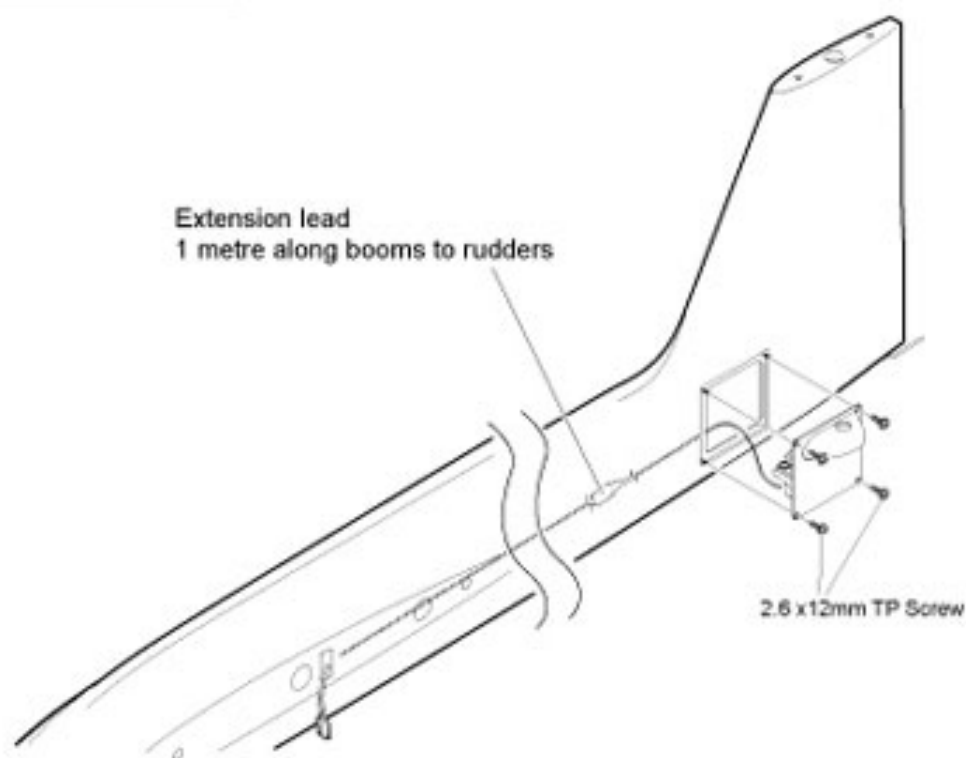
 2.6 x 12mm TP Screw 8

## 10 Alloy dowels



Screw in the 9 X 285 mm alloy dowels.  
Ensure at least 120 mm (5") servo wire minimum overhang  
(to pass through the booms when field assembling)


## 11 Rudder Servo



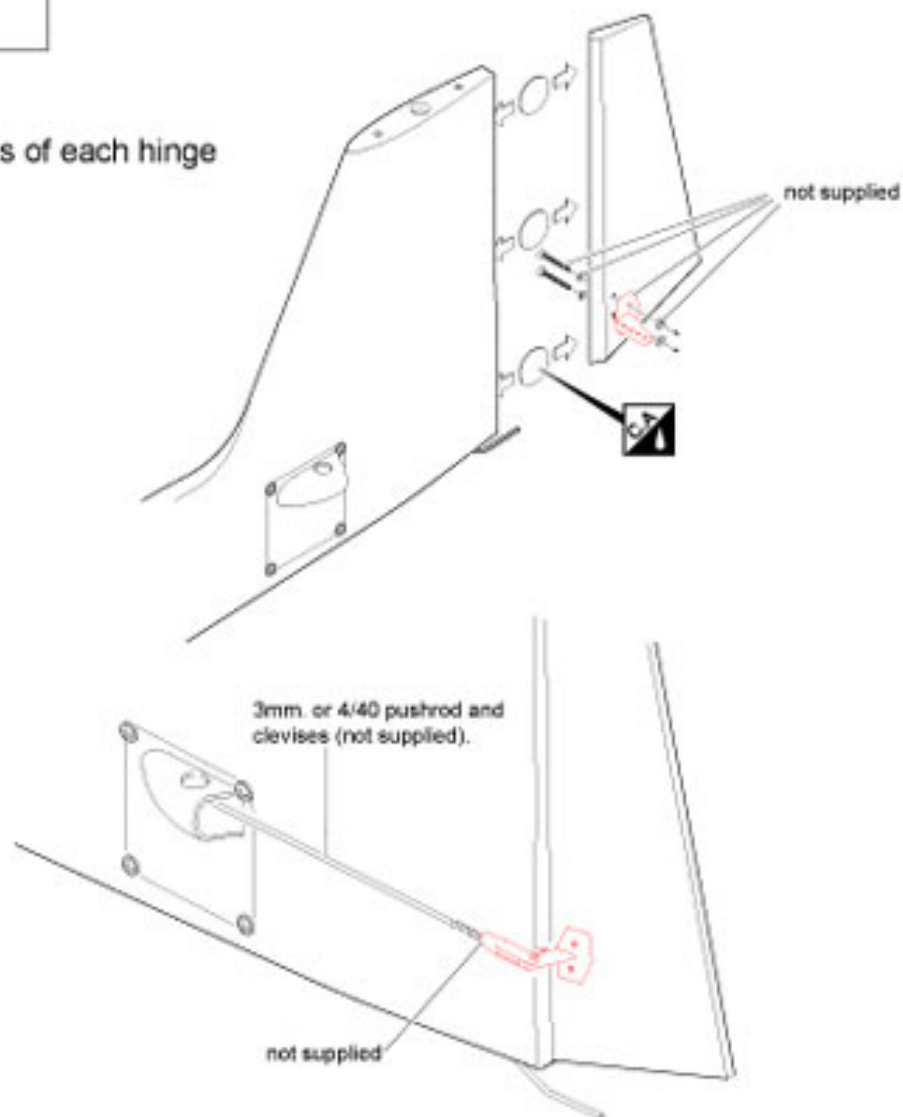
2.6 x 12mm TP Screw


8

## 12 Rudders

 Assemble left and right sides the same way.

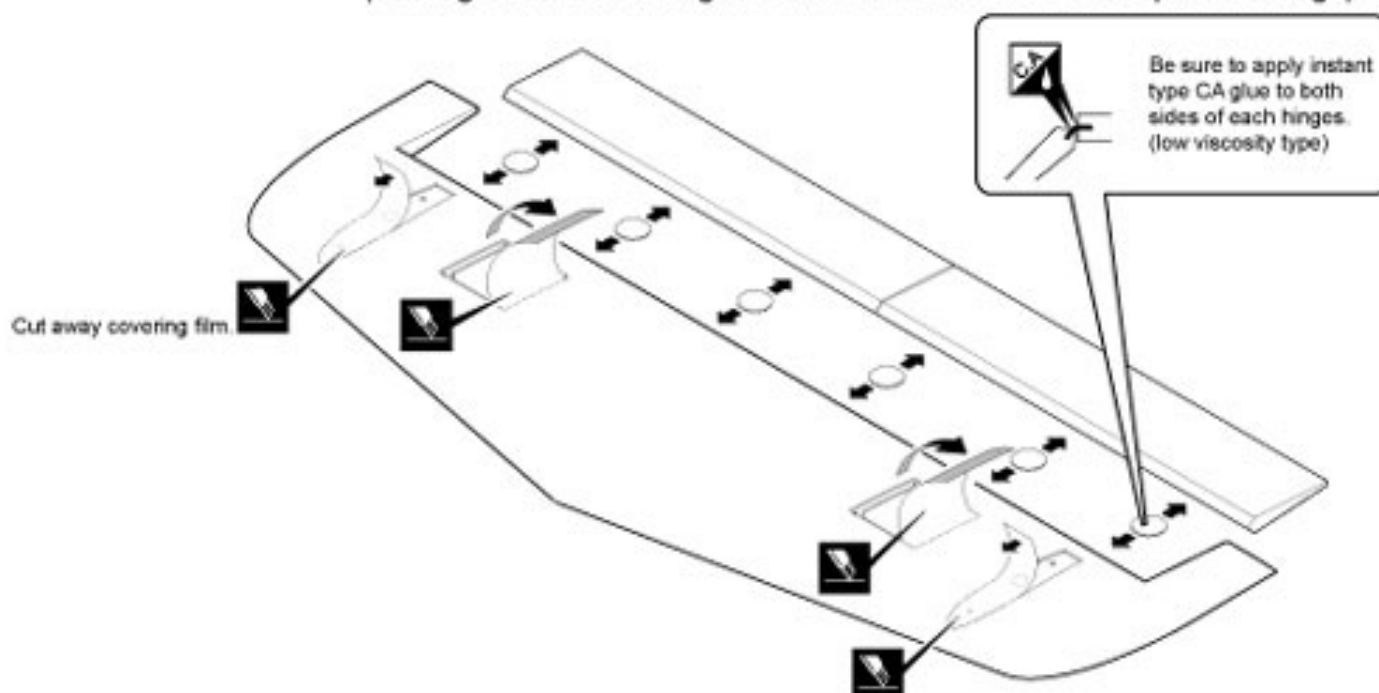
Use thin cyano both sides of each hinge



 Assemble left and right sides the same way.

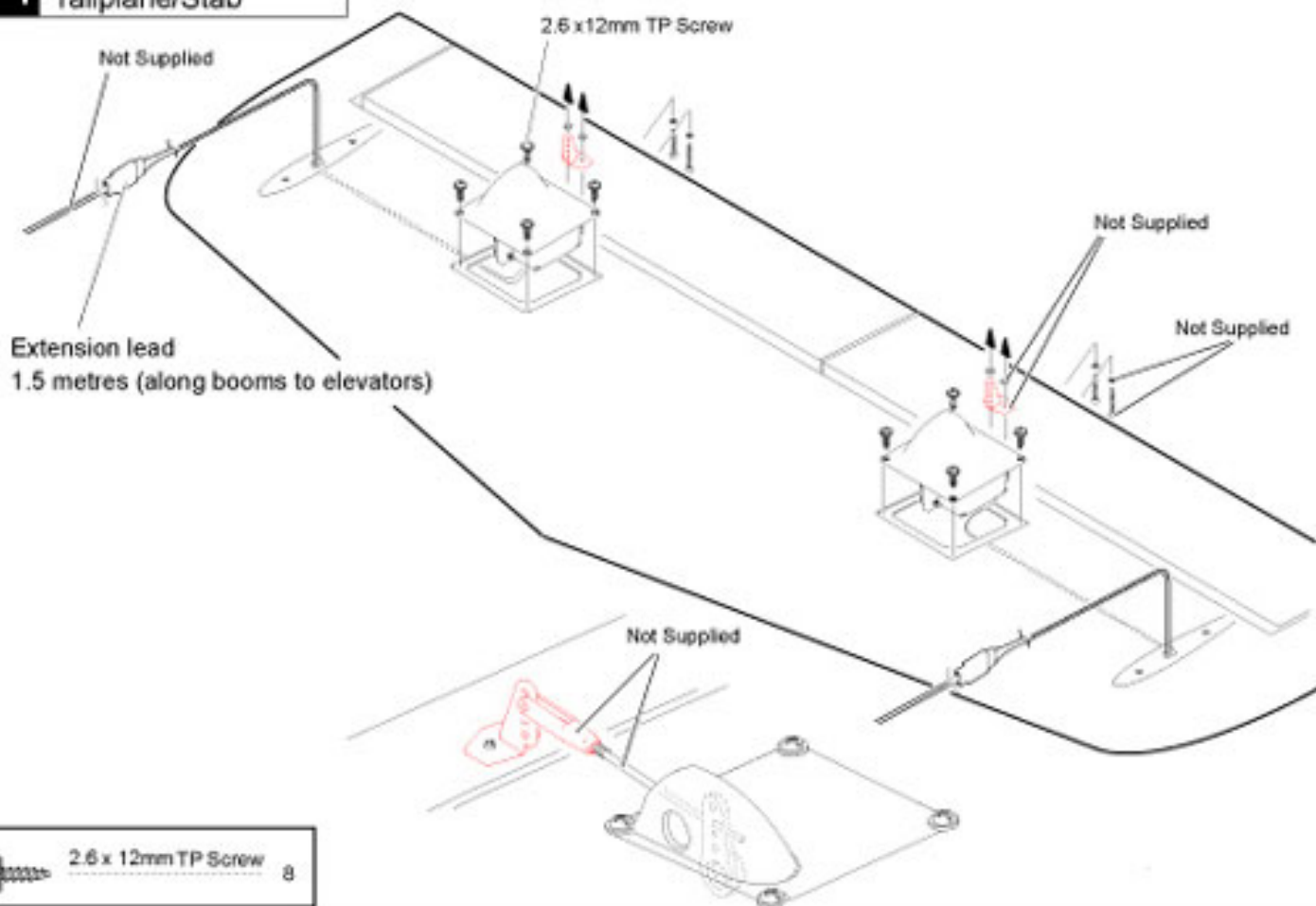
## 13 Tailplane/Stab

Lightly iron covering through a cloth with warm iron before cutting away covering film, (leaving 3 mm. overhang all round the servo mounts as per the wings).



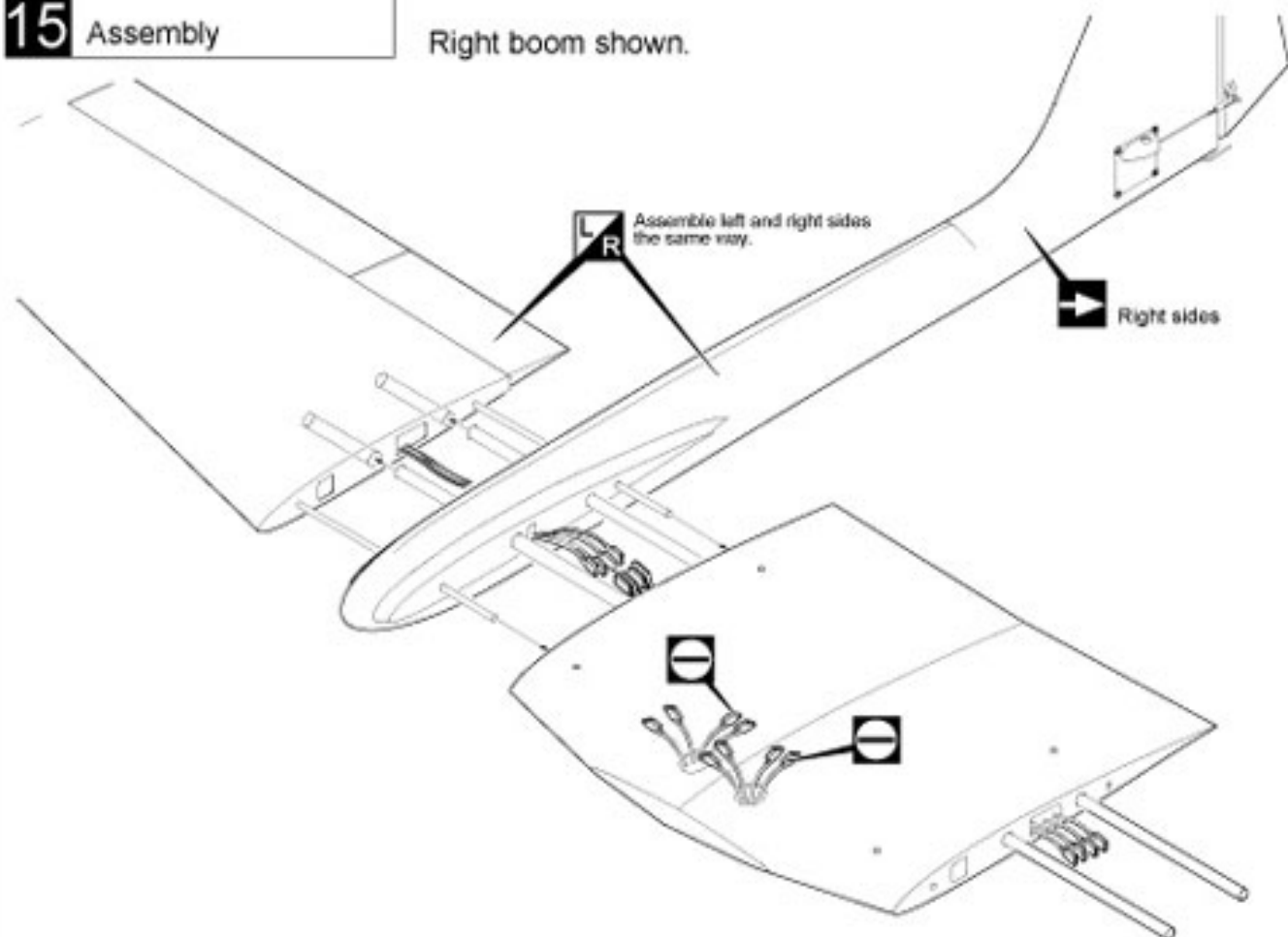


# 14 Tailplane/Stab

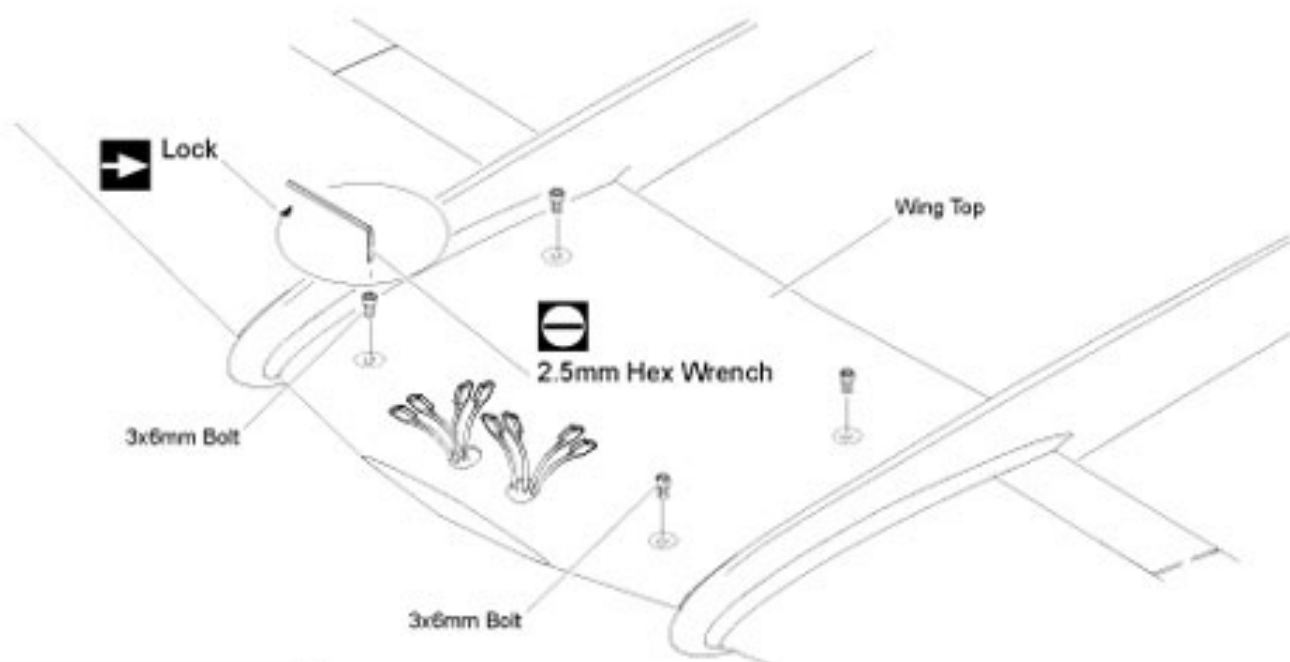


# 15 Assembly

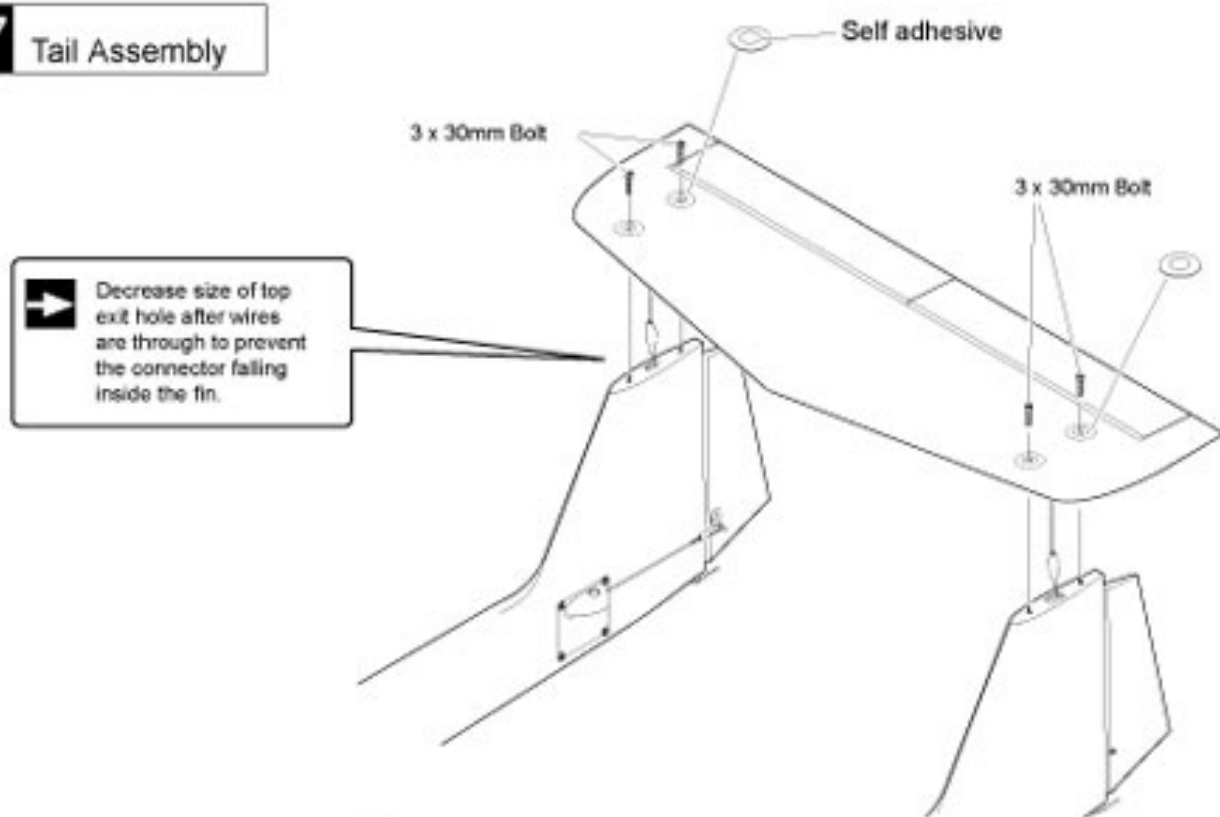
Right boom shown.



## 16 Wing Locking



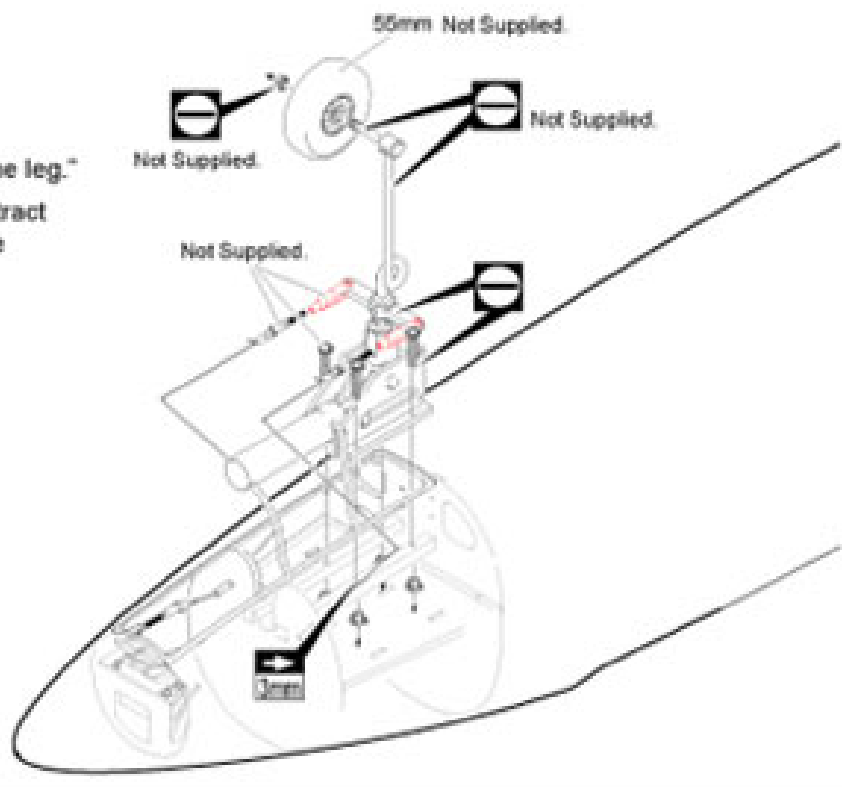
## 17 Tail Assembly



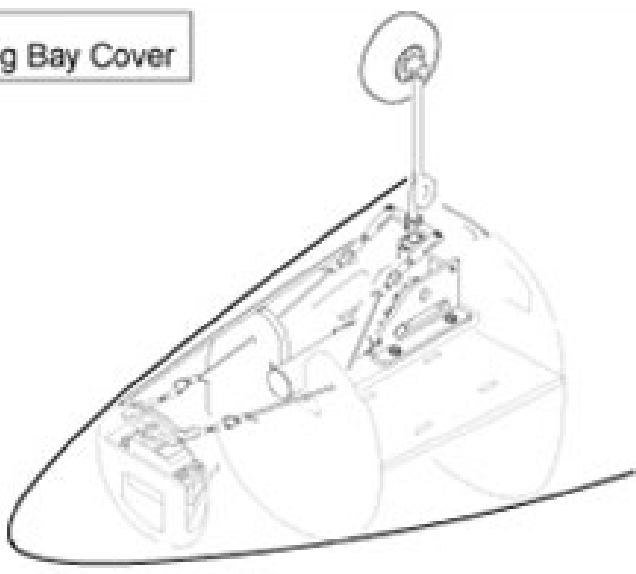
# 18 Nose gear



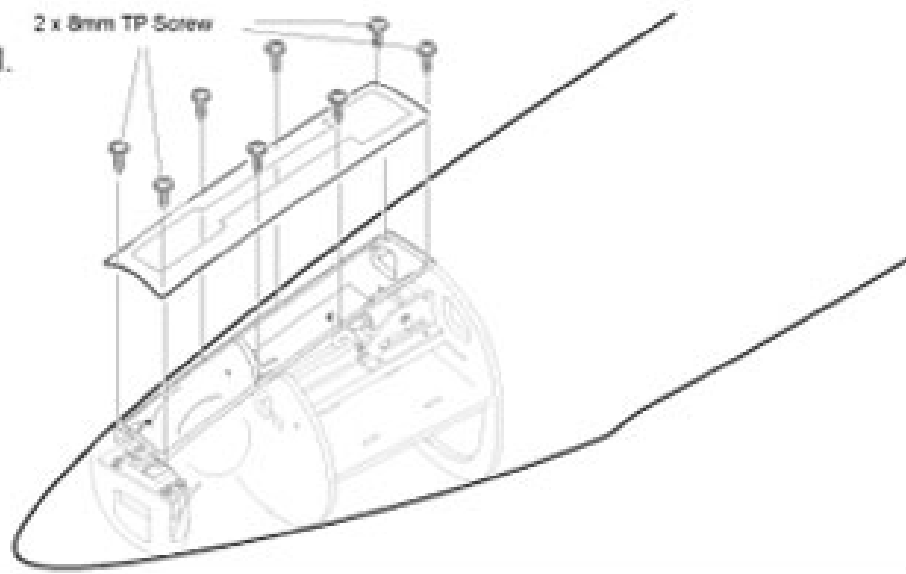
"Trim the Cover Plate to clear the leg."  
"Use plywood to pack up the retract mount as necessary to clear the bearers when retracted."



# 19 Steering Linkage/Noseleg Bay Cover

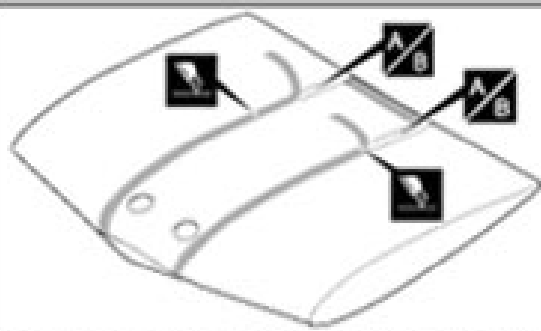


Trim the cover as required to clear the retracting leg and wheel.

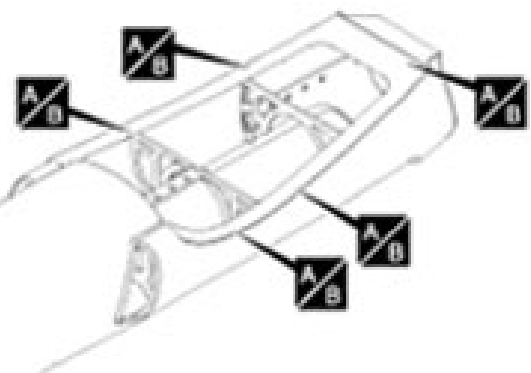
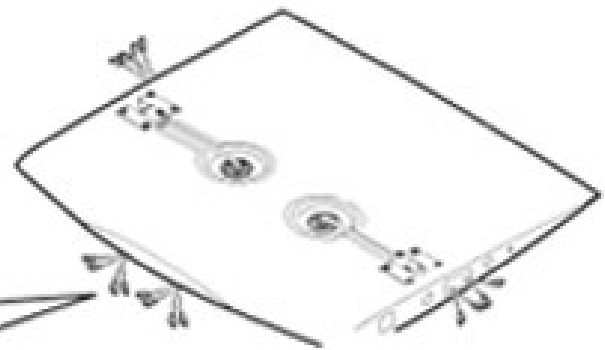


2 x 8mm TP Screw  
 8

## 20 Gluing fuselage to wing

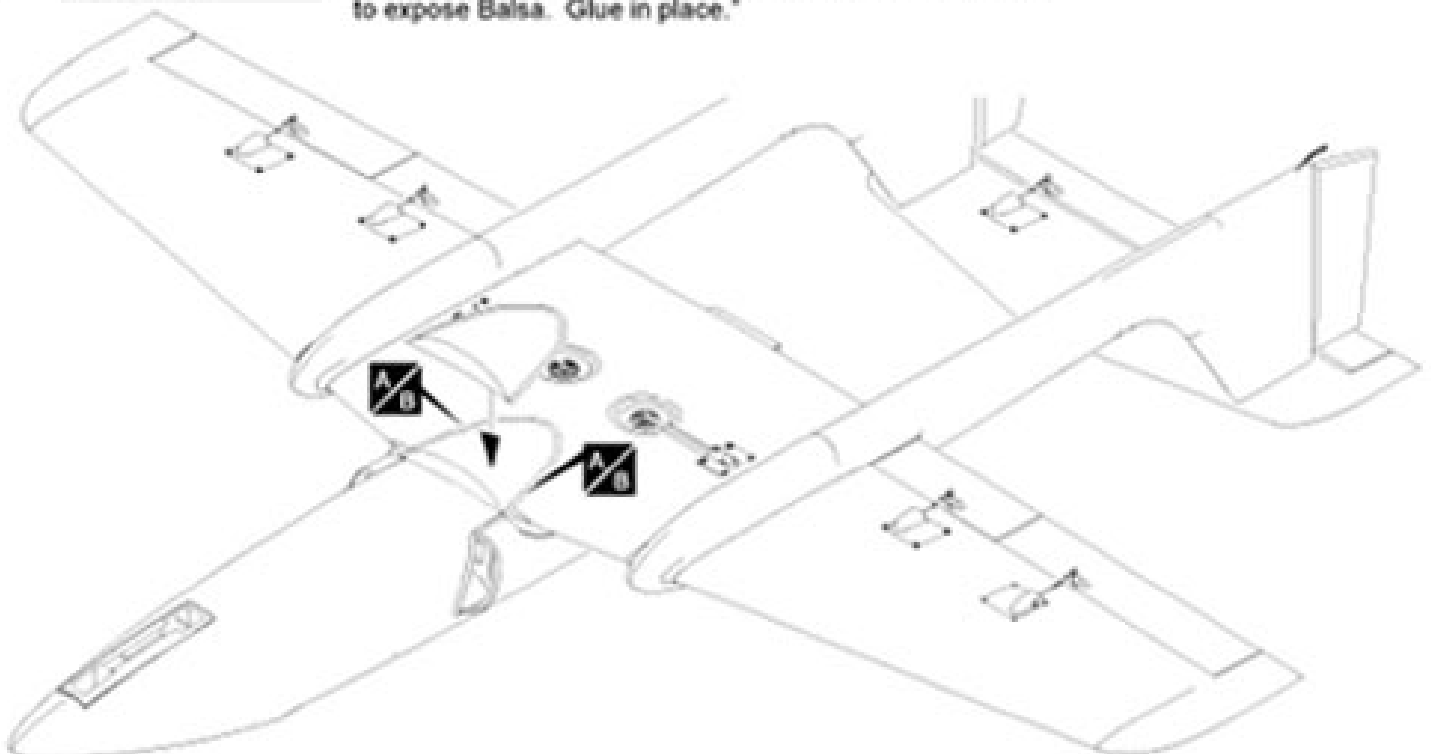


Iron the covering with a warm iron to ensure bonding. Place the fuselage on the centre wing checking that it is central and square to T/E. Check for the fit to the fuselage. Drill two holes centrally about 40mm. (1.5") apart through the former where the leading edge touches the plywood former. With the wing in position mark through the holes and drill where marked the leading edge and insert two 6mm (1/4") dowels into the wing. Lightly mark the wing covering along the outside and inside edges of the fuselage wing seat. Remove the fuselage and carefully cut away the wing covering in strips at about 2 mm (1/16") inside the marks you have made each side. Take care not to cut into the balsa surface of the wing. Mask the wing surface carefully outside the marked line of the fuselage using low tack masking tape. Using a dremel or file, clean off the paint under the fuselage wing seat and roughen the moulded surface to give a key for the glue joint. Glue the fuselage to the wing. This is the most vital glue joint in the construction, so ensure that the wing is central and square, and use a slow setting top quality glue, such as Loctite Hysol, Araldite 24hr., Aeropoxy or similar with some milled fibre mixed in. Wipe away glue around the joint and later remove the making tape while the glue is semi-set.



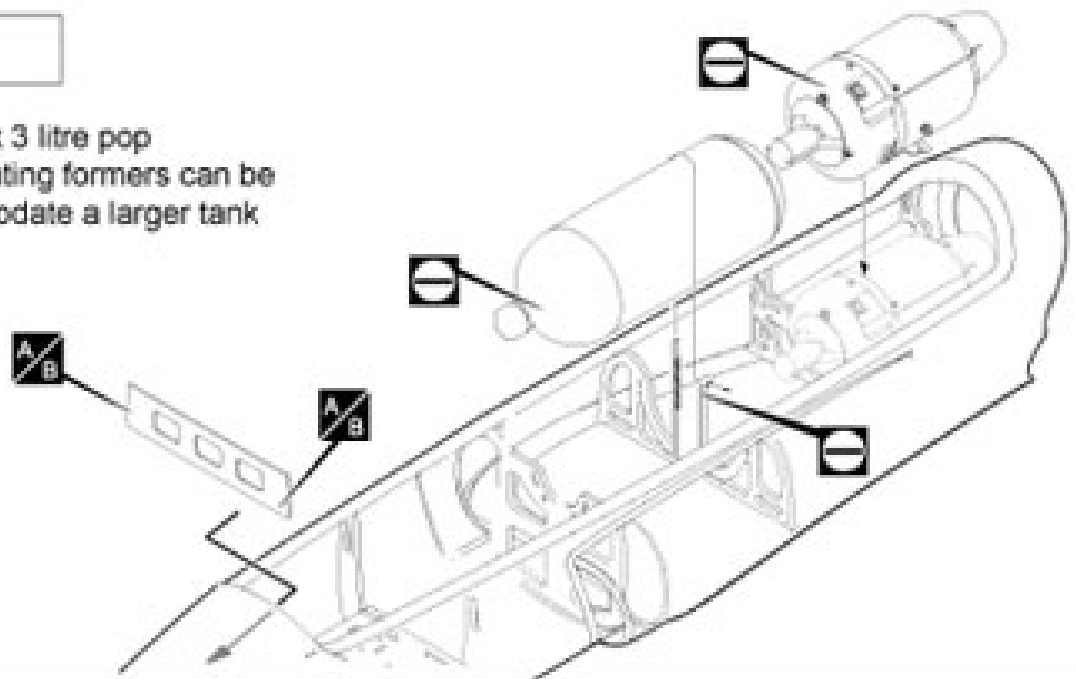
## 21 Belly Pan

Check belly pan for fit, mark, then lightly iron covering, then cut away wing covering as you did with the fuselage, to expose Balsa. Glue in place.



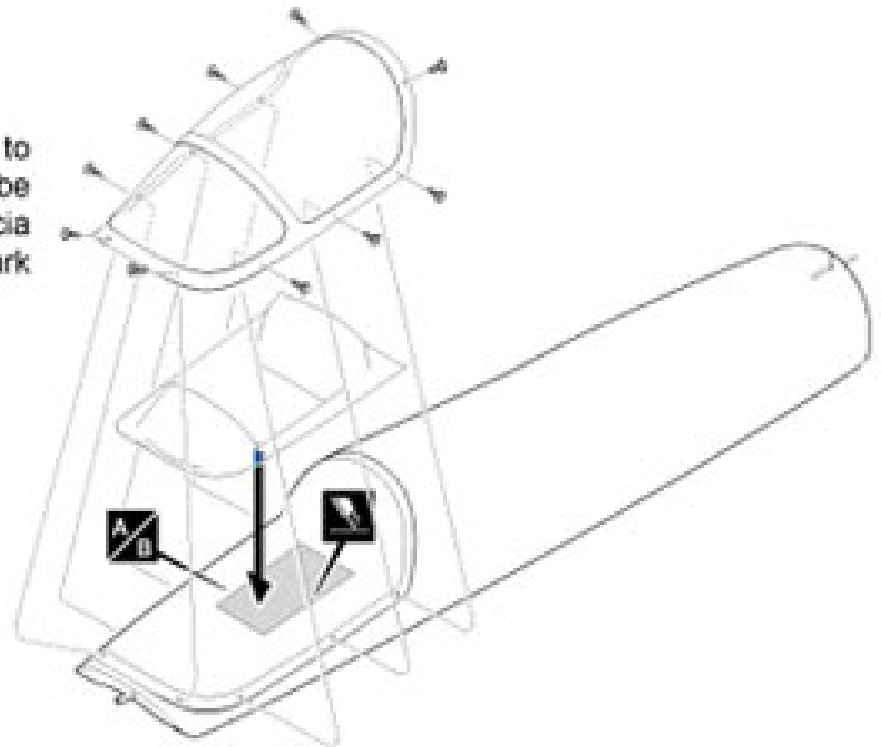
## 22 Fuel Tank etc

Suggested Fuel Tank 3 litre pop bottle. The tank mounting formers can be cut away to accommodate a larger tank if required.



## 23 Cockpit/Canopy

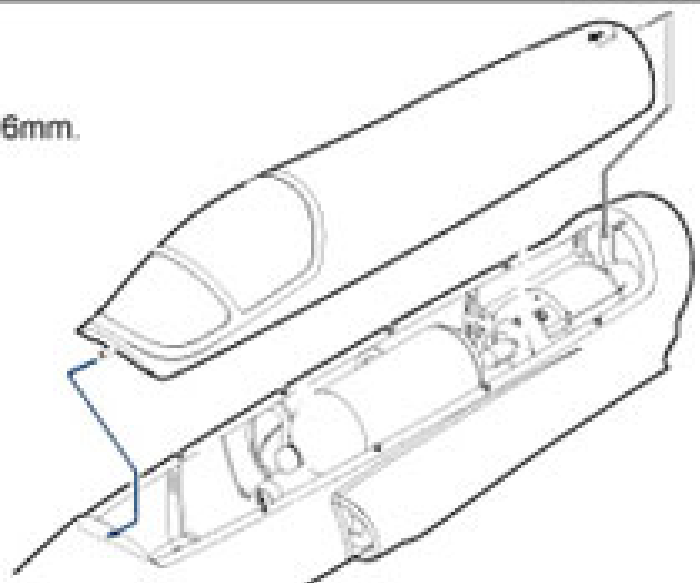
"Cut away a section of the cockpit floor to allow the vacuum formed seat unit to be glued or screwed in place. Add fascia decal. Add pilot (not supplied). Mark and drill canopy and screw in place."



 2.6 x 12mm TP Screw ..... 10

## 24 Top Hatch

"Trim hatch latch and if necessary adjust the 6mm. dowels to achieve a good fit."



## 25 Setting Up

"If necessary, the use of large nicad packs will give the correct CG for the first trimming flights CG should be as shown. Later you can move the CG back a small amount at a time to increase sensitivity for aerobatics. Set the travel to the values shown below for the first flight. You can increase these later for aerobatics if desired. Mount the control horns so that ; -The hole for the clevis is at 5 mm. behind the hinge on ailerons (to provide differential).10mm. behind the low hinge line for the flaps (to maximise movement), and Close to the hinge line for the rudders and elevators."



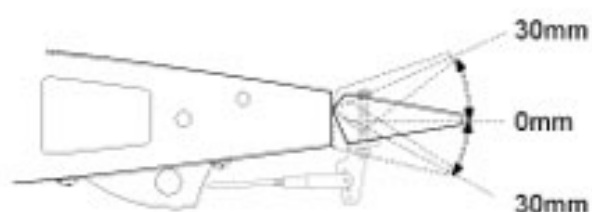
Set the travel to the values show below for the first flights. You can increase these later for aerobatics if desired.



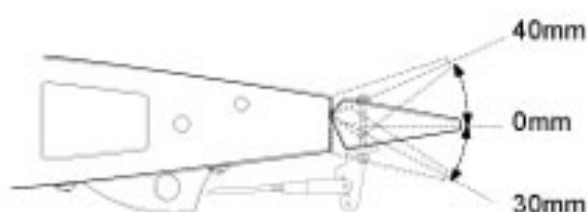
Carefully install the receiver and battery pack to ensure that they will not shift during flight.



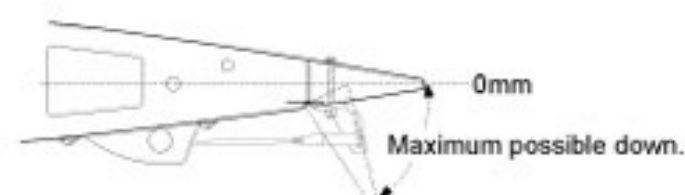
Shift the location of the receiver and battery pack as needed to obtain the specified CG.



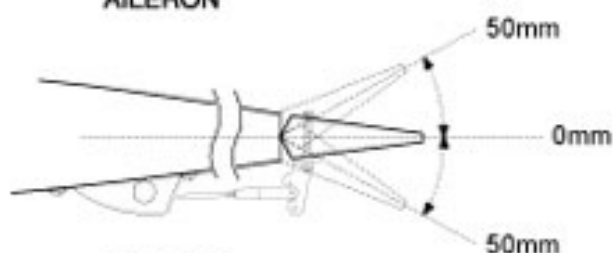
ELEVATOR



AILERON



FLAP



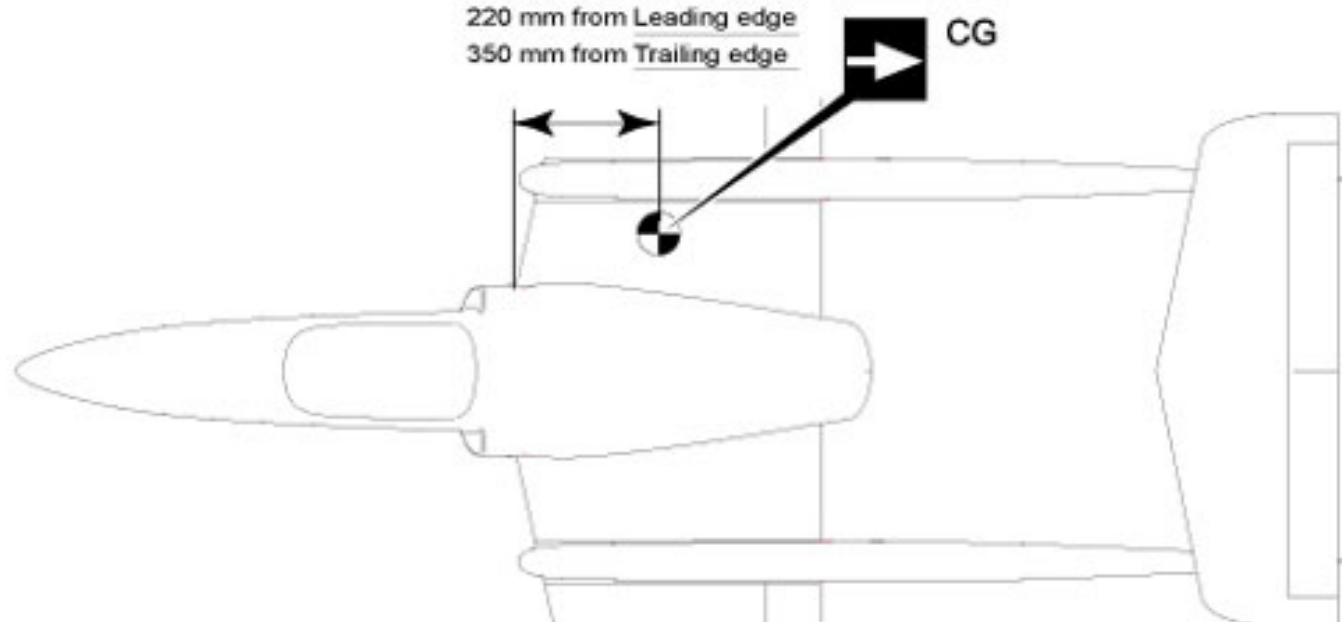
RUDDER



For first trimming flights CG should be as shown. Later you can move the CG back a small amount at a time to increase sensitivity for aerobatics.

220 mm from Leading edge  
350 mm from Trailing edge

CG



**The Boomerang XL is capable of just about any manoeuvre possible with a jet. Take off run even on grass is about ten yards if desired, and landing similarly short. All development and most testing was done flying from a 75 yard square grass surfaced flying field, ensuring that the concept of a low maintenance, low stress, easy to fly jet model was achieved. You will find that there is almost no trim change when using the flaps. The original XL models all used crow braking. If you have a suitable computer transmitter, have the ailerons on two separate channels and the flaps on a single channel using a Y lead. Mix the flap and aileron channels so that from half flap onwards the ailerons both rise together until at full flap deflection of between 80 and 90 degrees down, both ailerons are approximately 25 degrees deflected up. This will still allow good lateral control and will allow amazing slow flight on about one third to a half throttle with the nose high, including a virtually stationary hover on a breezy day.**