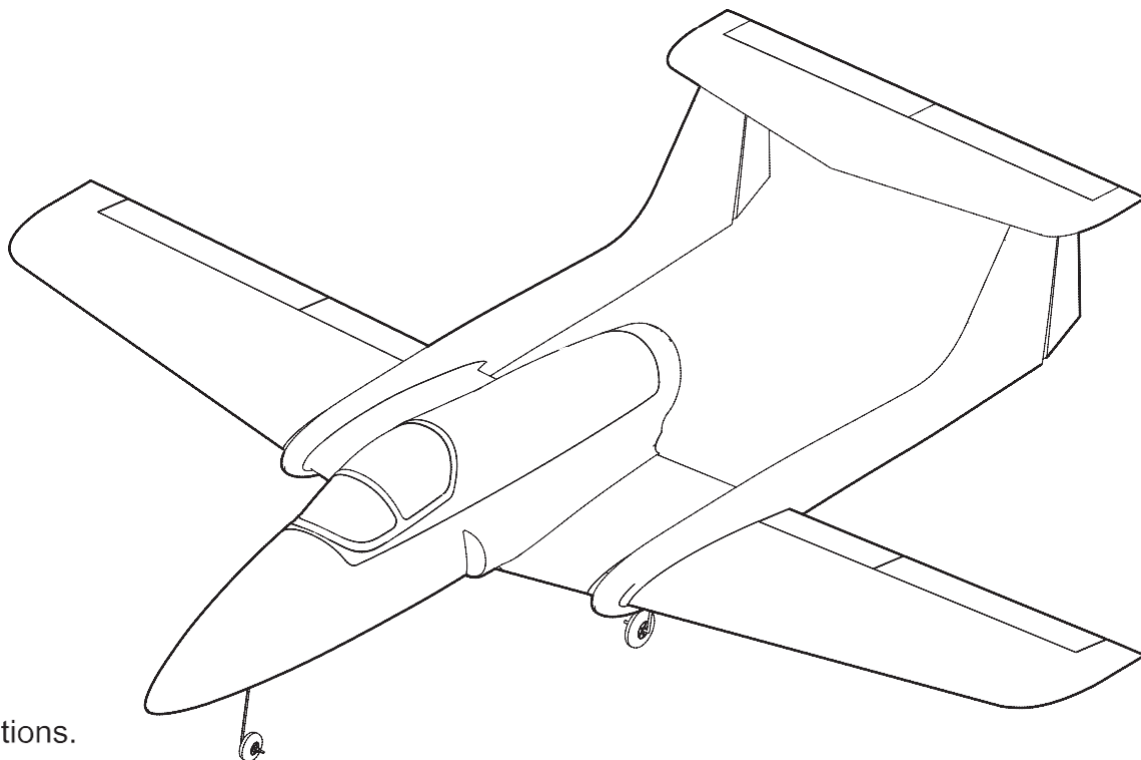


Read through this manual before you
begin construction and follow it during construction.

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.

Wingspan94"

Length97"

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 RC Jets, LLC.

Website www.Boomerang-RC-Jets.com

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 RC Jets, LLC. 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



Assemble left and right sides the same way.



Not supplied



Drill holes to the specified diameter (here: 2mm. shown).



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).

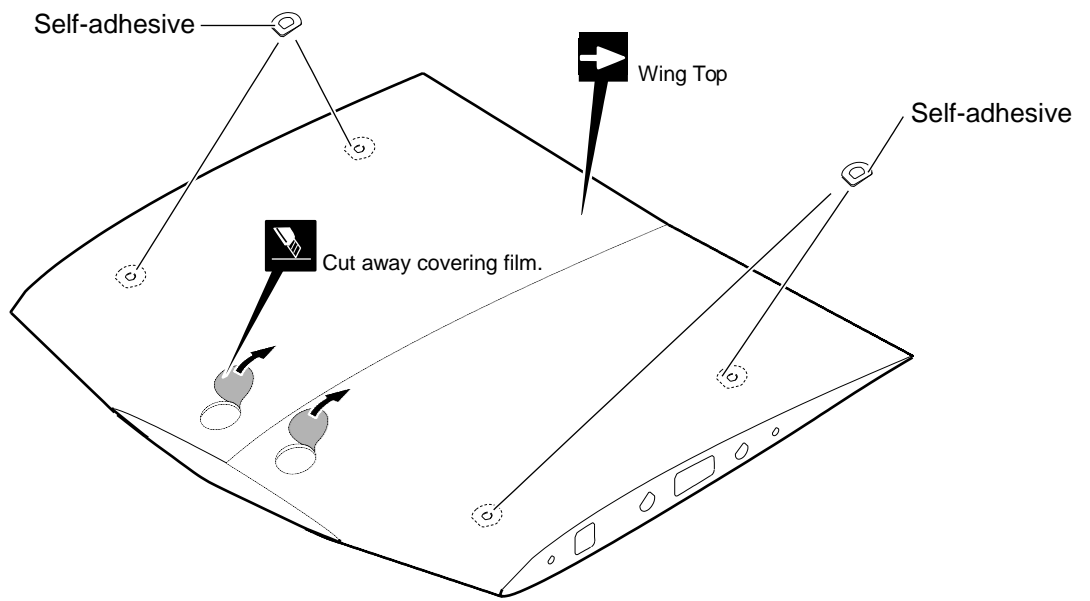


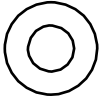
Warning!


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

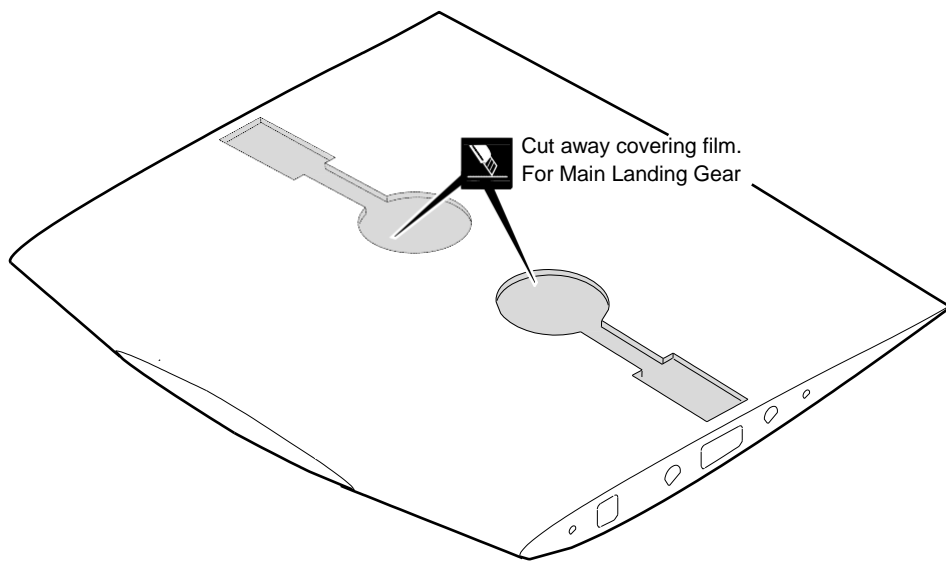


 Self-adhesive 4

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

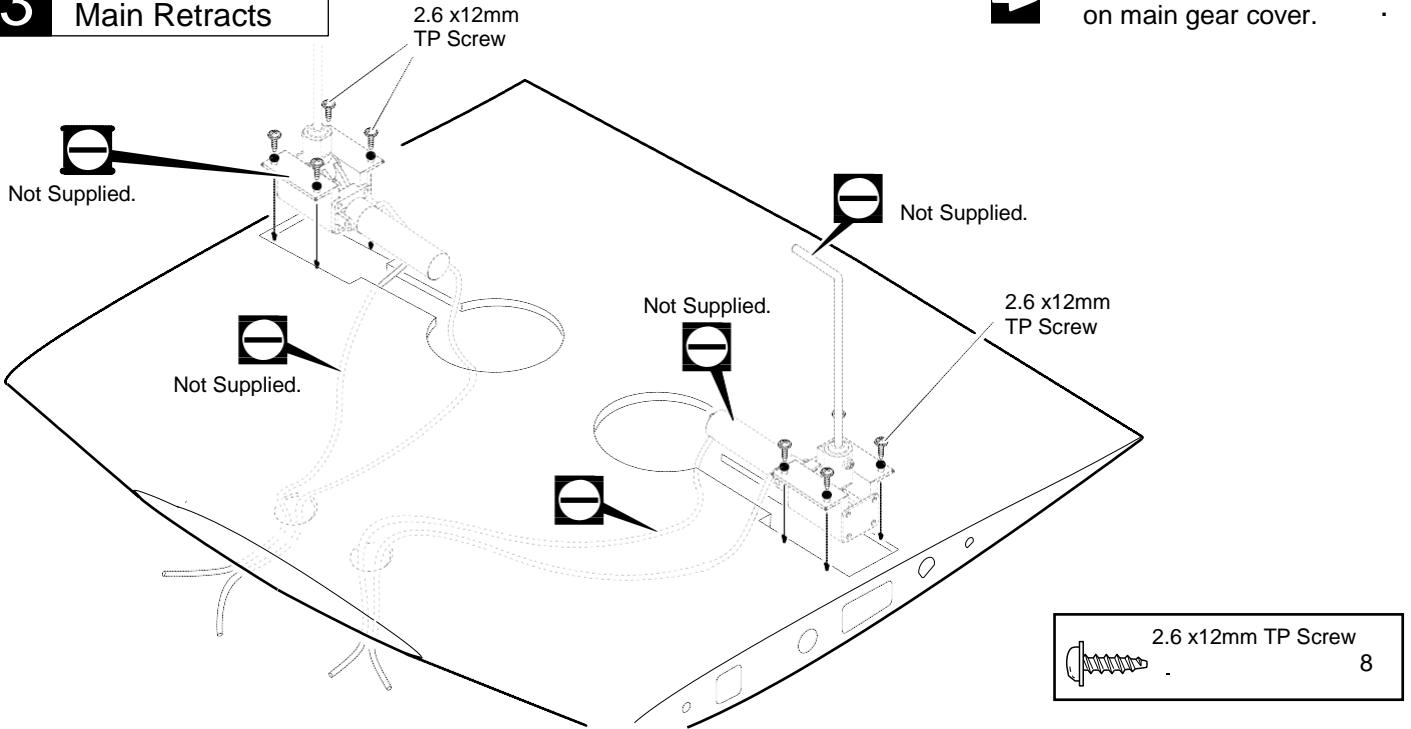
2 Centre Wing Underside

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.

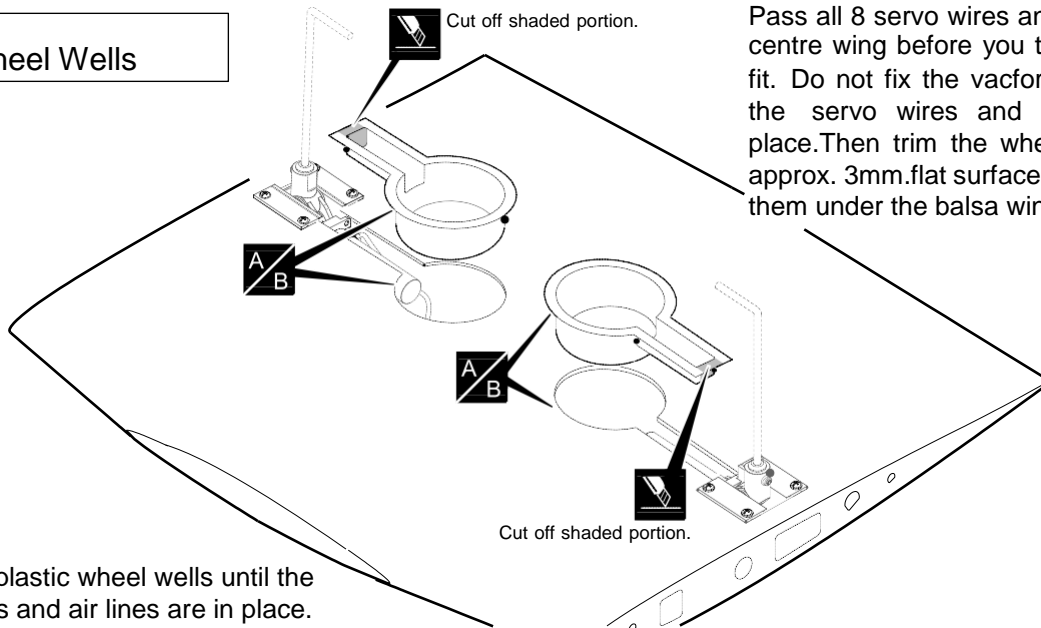


3 Main Retracts

➔ Requires some modification on main gear cover.



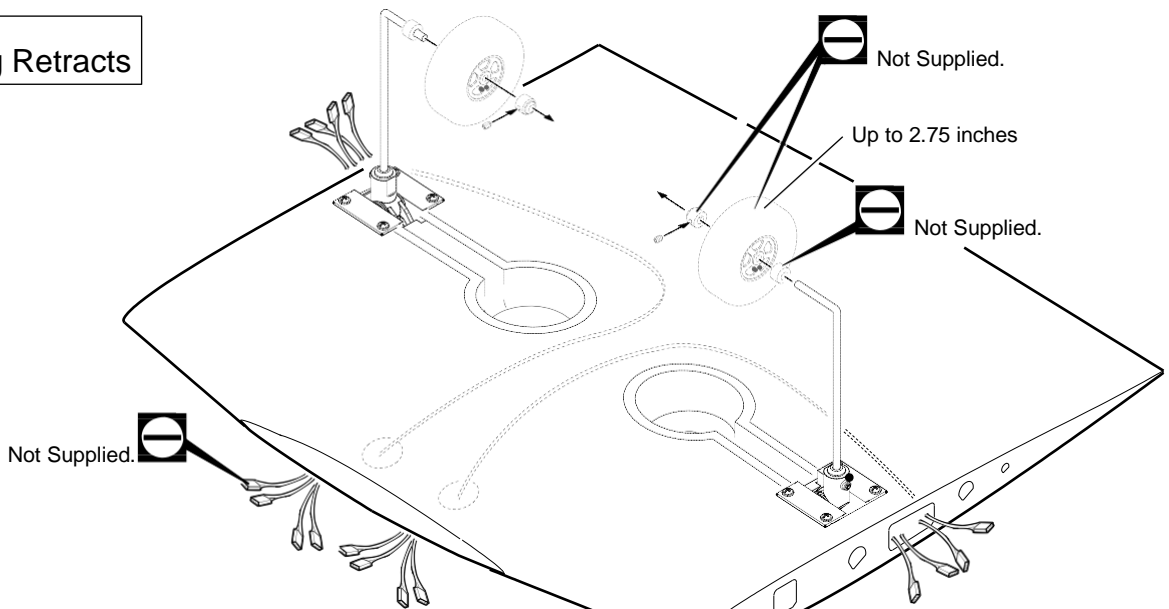
4 Wheel Wells



Pass all 8 servo wires and air lines through the centre wing before you trim the wheel wells to fit. Do not fix the vacuumformed 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.

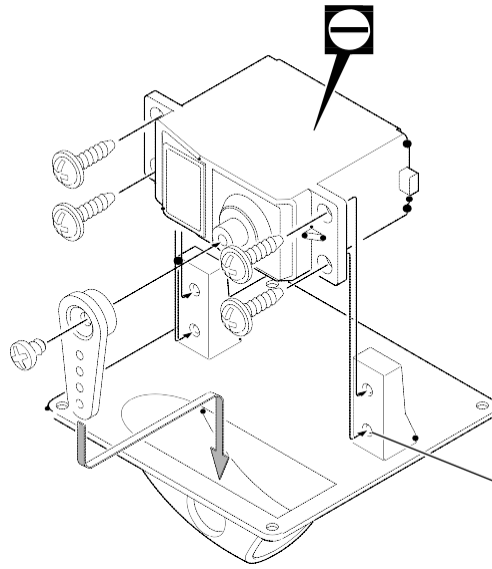
NOTE;
Do not fix plastic wheel wells until the servo wires and air lines are in place.

5 Mounting Retracts



6 Servo Mounts

L **R** Assemble left and right sides the same way

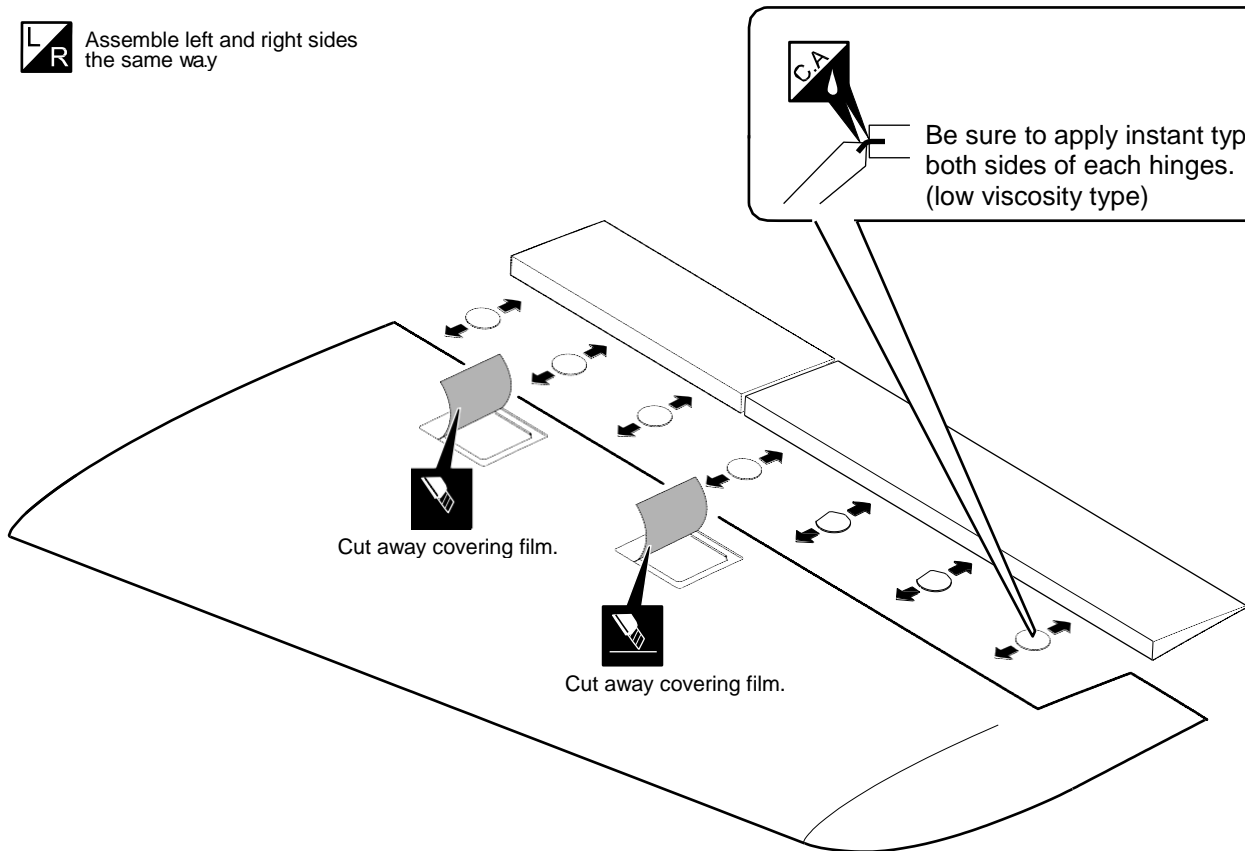


Position of holes may need adjustment depending on servo brand used

7 Wings

Lightly iron the covering film through a cloth and cut away allowing 3 mm overhang all round.

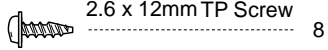
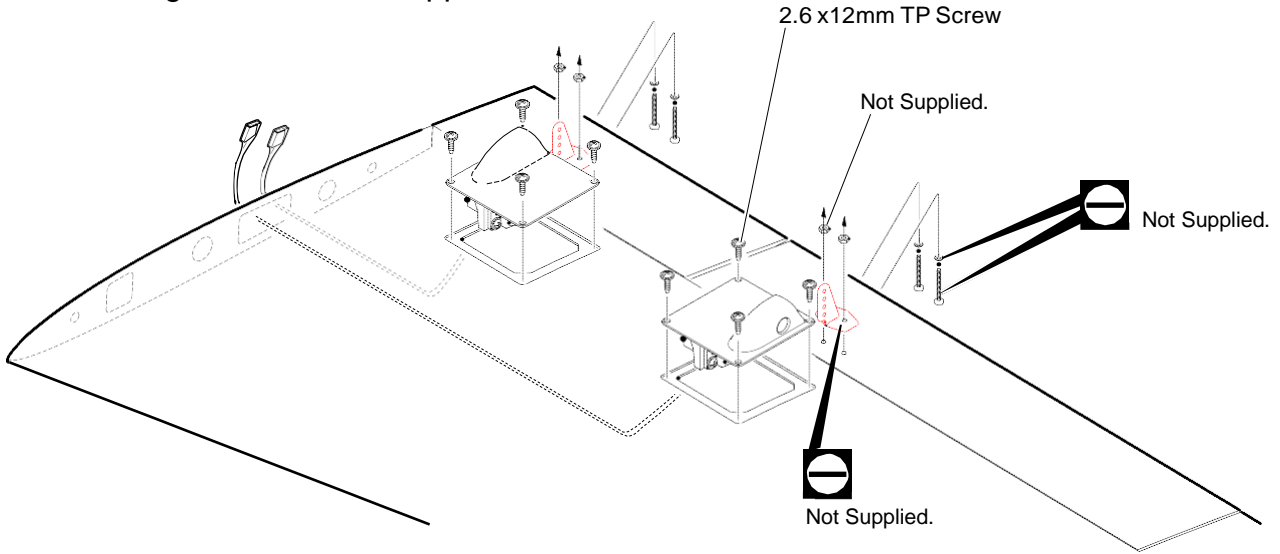
L **R** Assemble left and right sides the same way



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

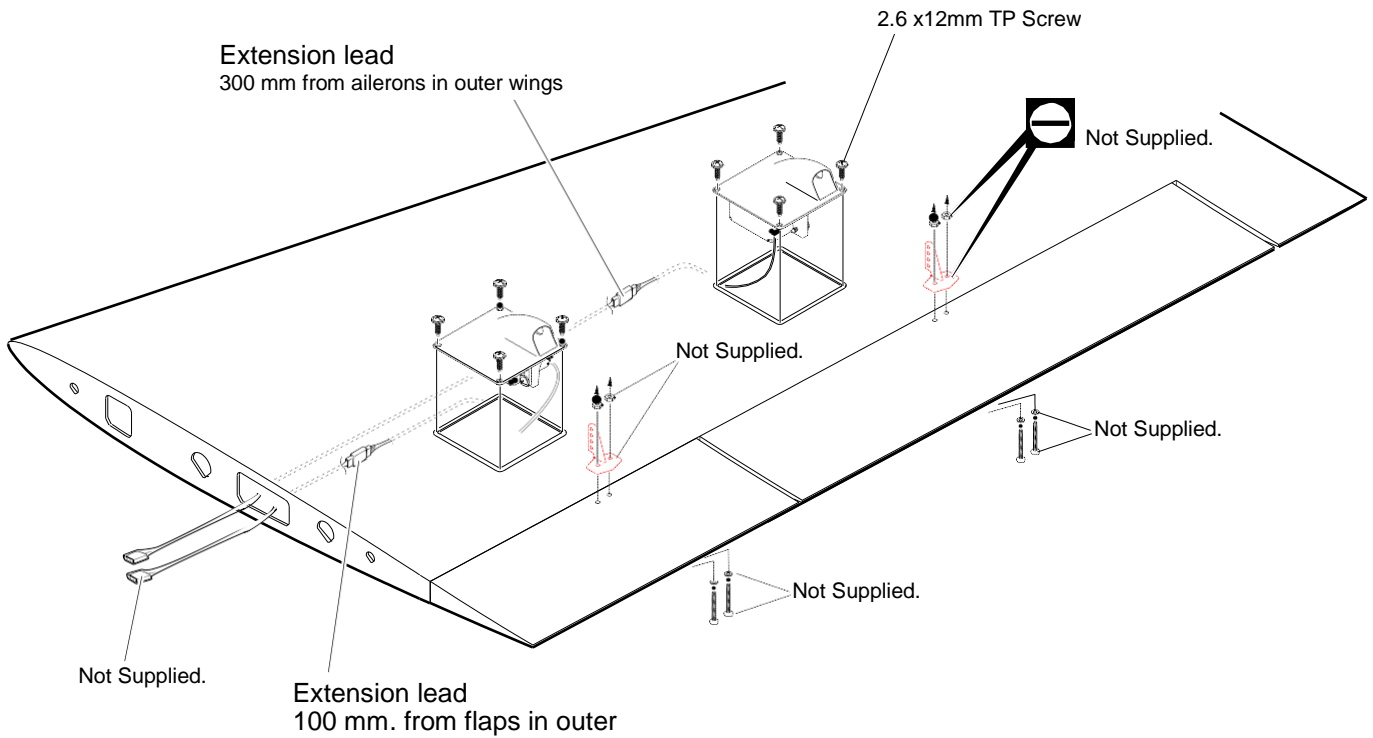
8 Servo Mounts

Fix servos using servo mounts supplied.

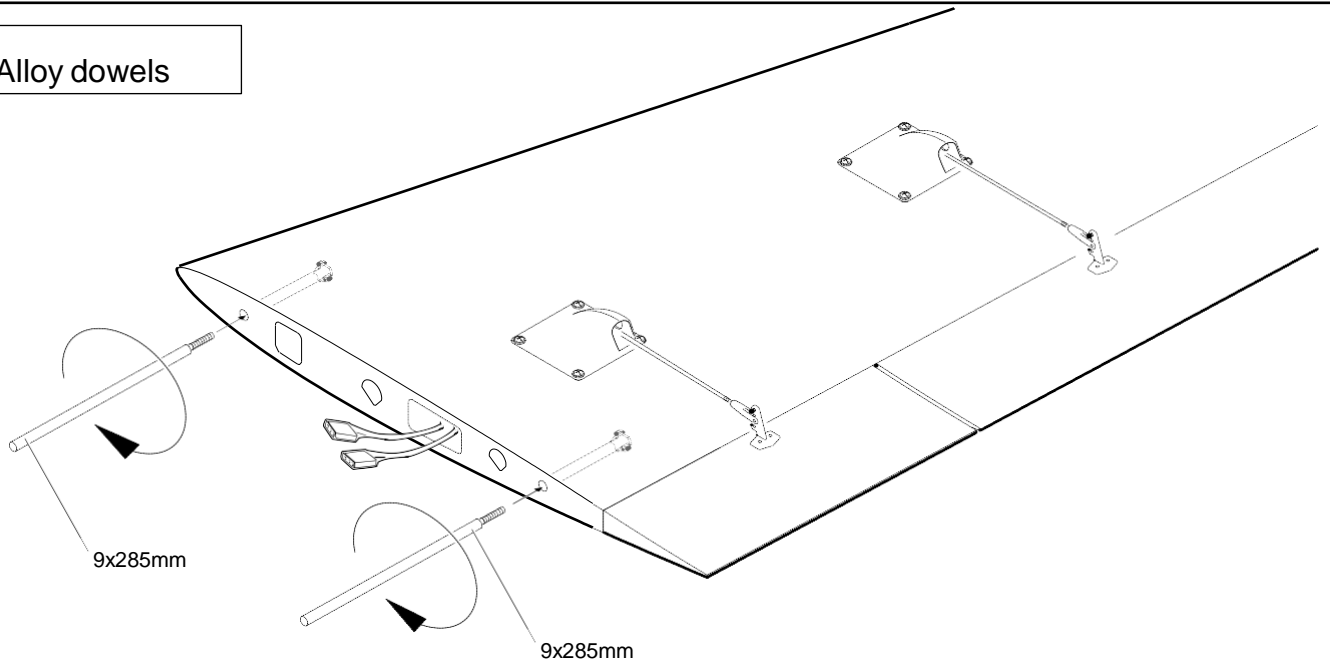


9 Servo Mounts

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

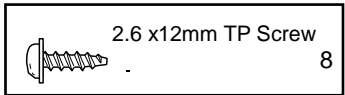
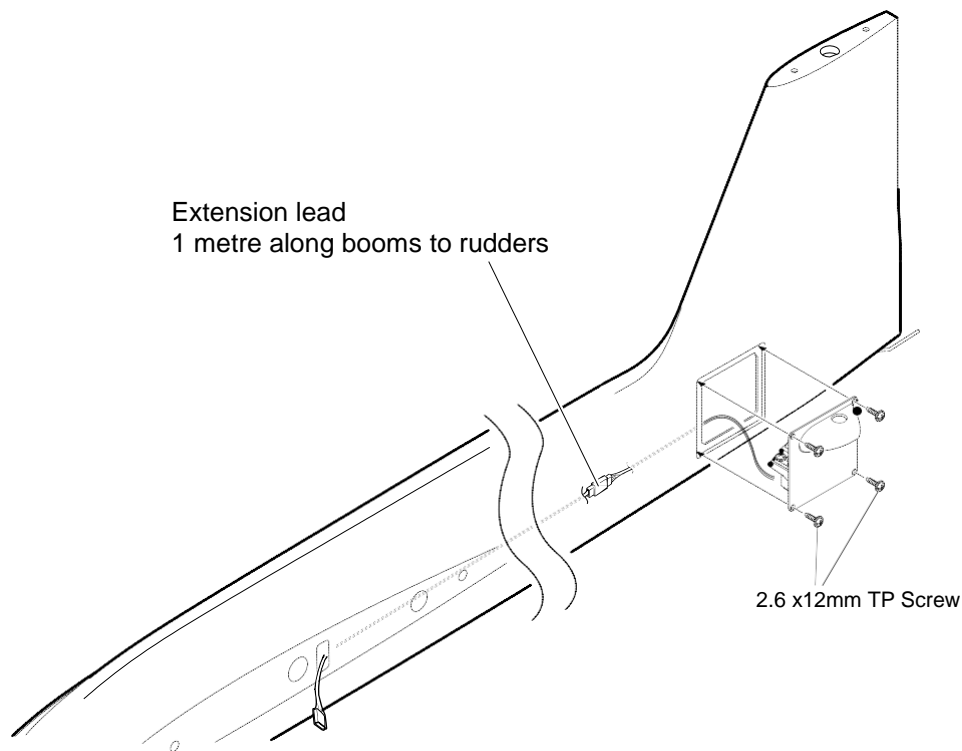


10 Alloy dowels




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)

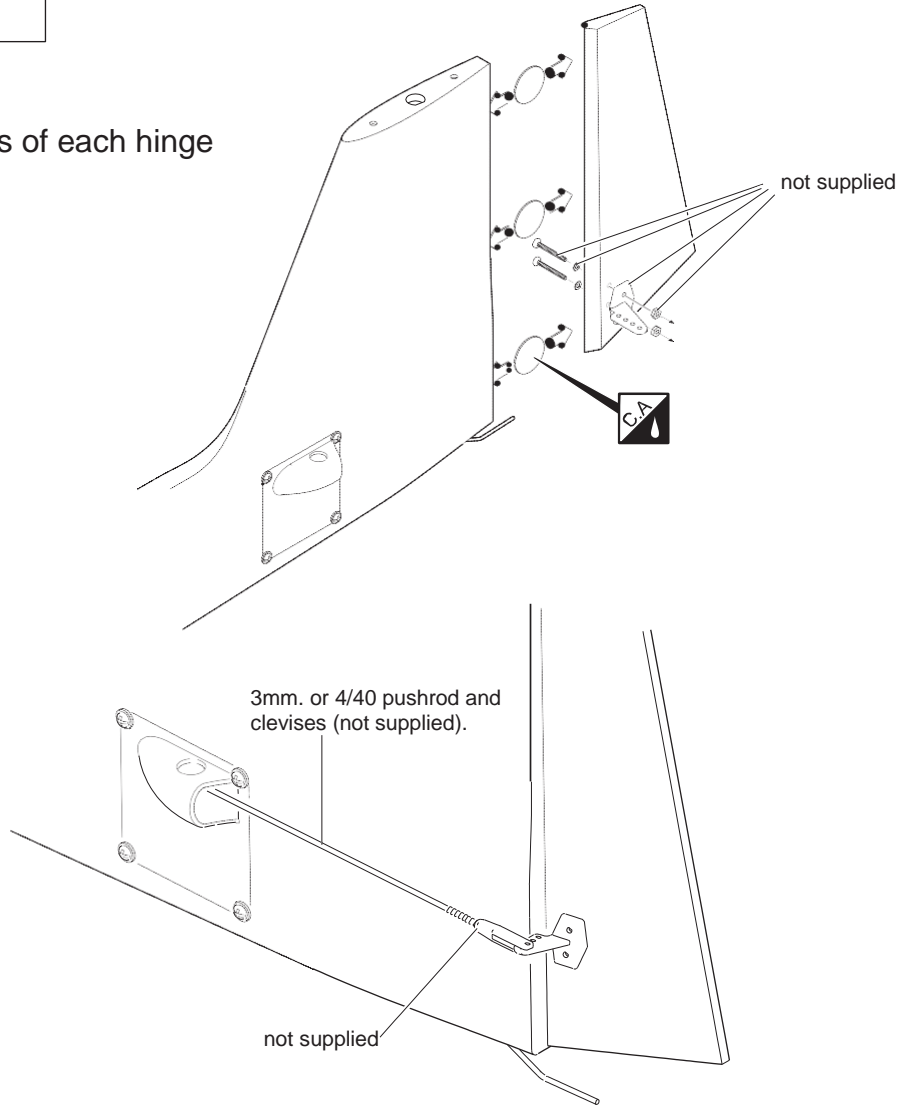
11 Rudder Servo




12 Rudders

 Assemble left and right sides the same way.

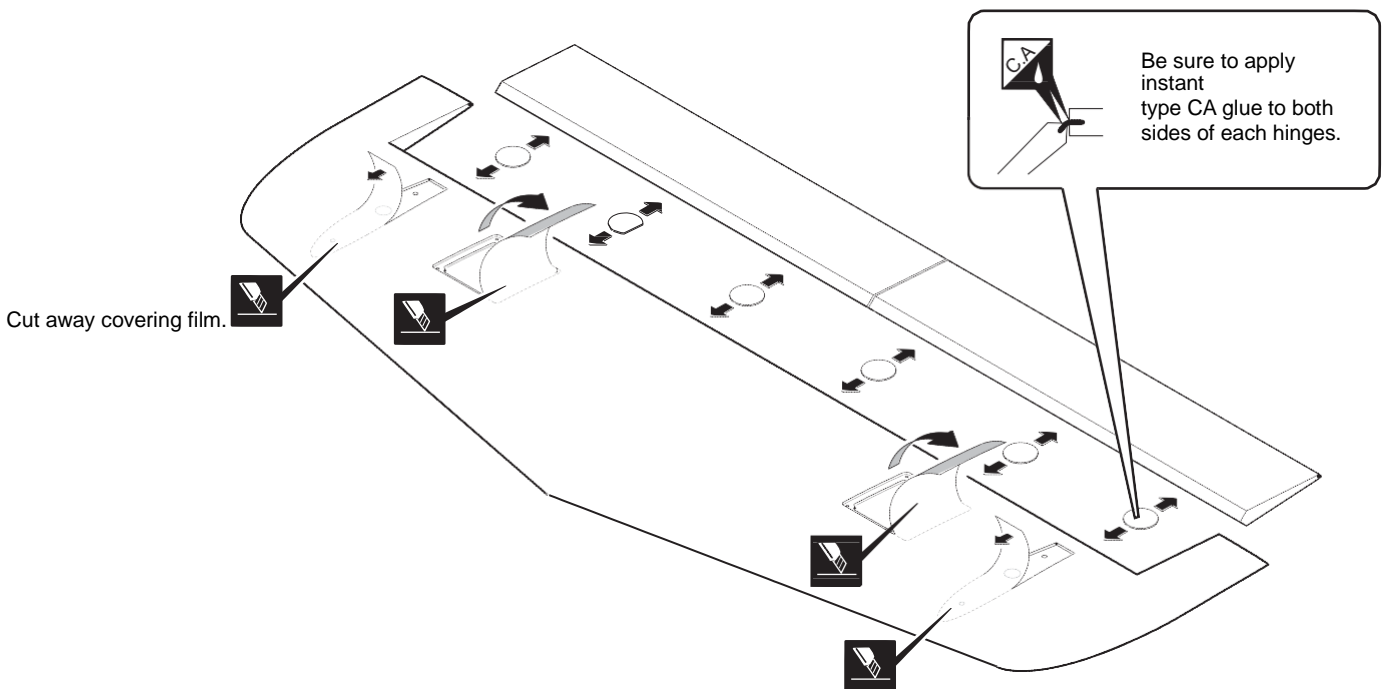
Use thin cyano both sides of each hinge



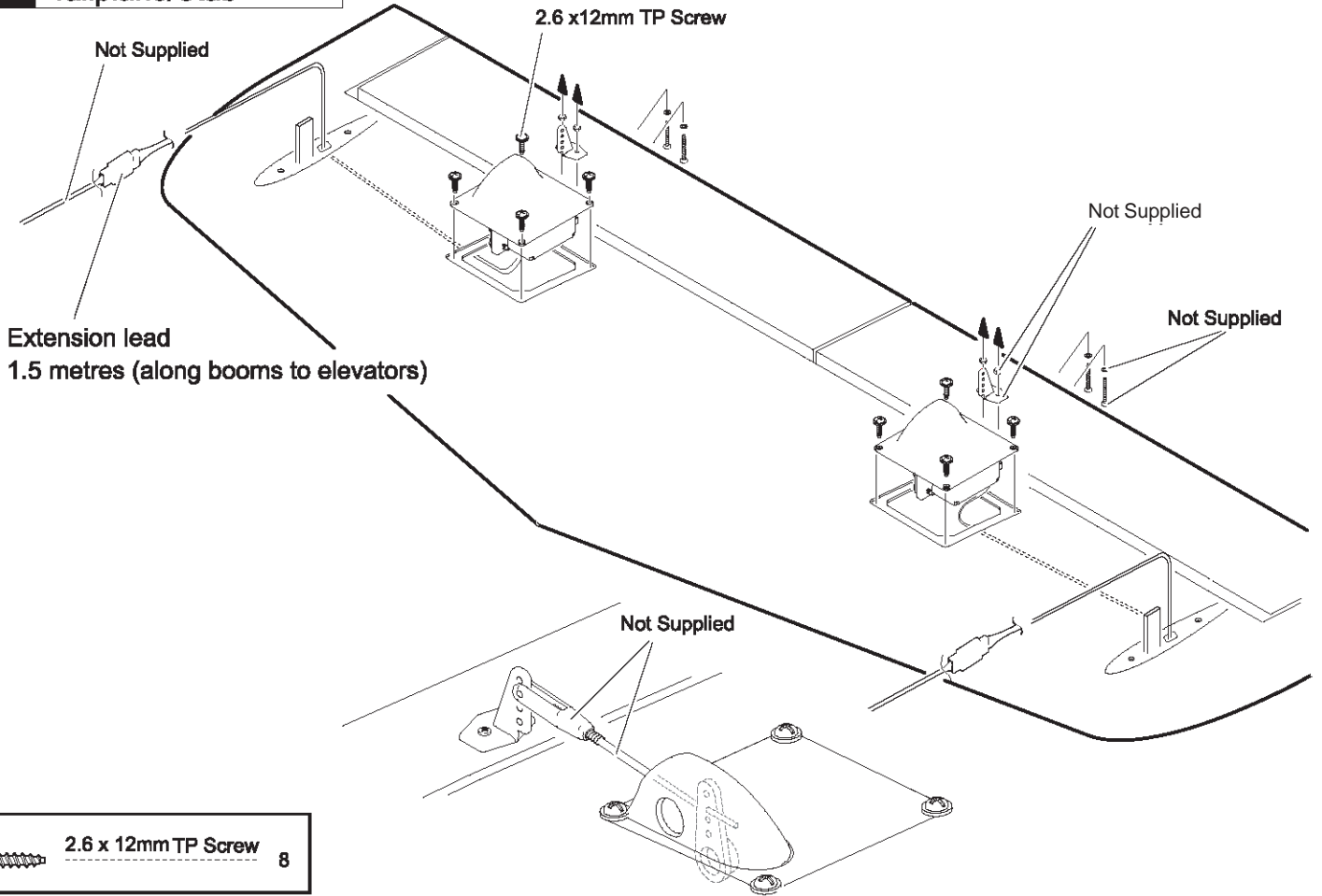
 Assemble left and right sides the same way.

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



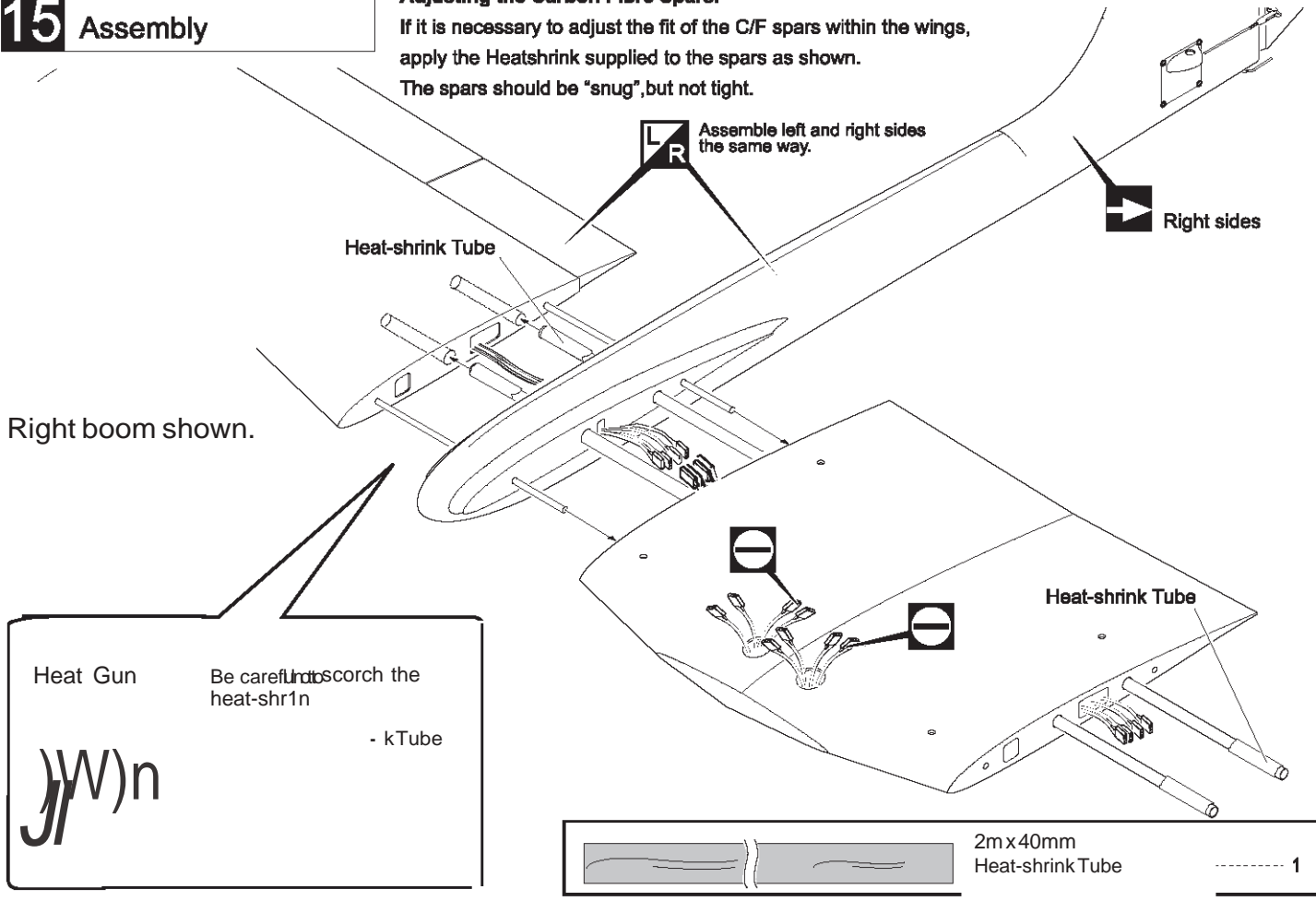
14 Tailplane/Stab



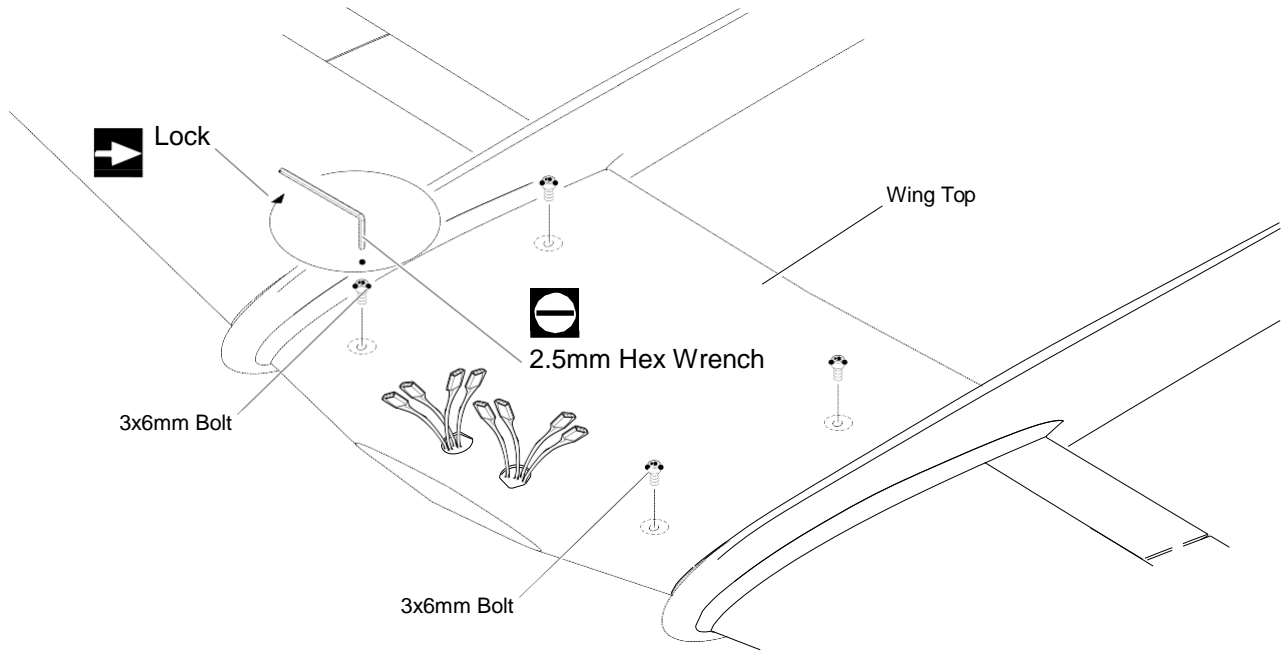
15 Assembly

Adjusting the Carbon Fibre Spars.

If it is necessary to adjust the fit of the C/F spars within the wings, apply the Heatshrink supplied to the spars as shown. The spars should be "snug", but not tight.

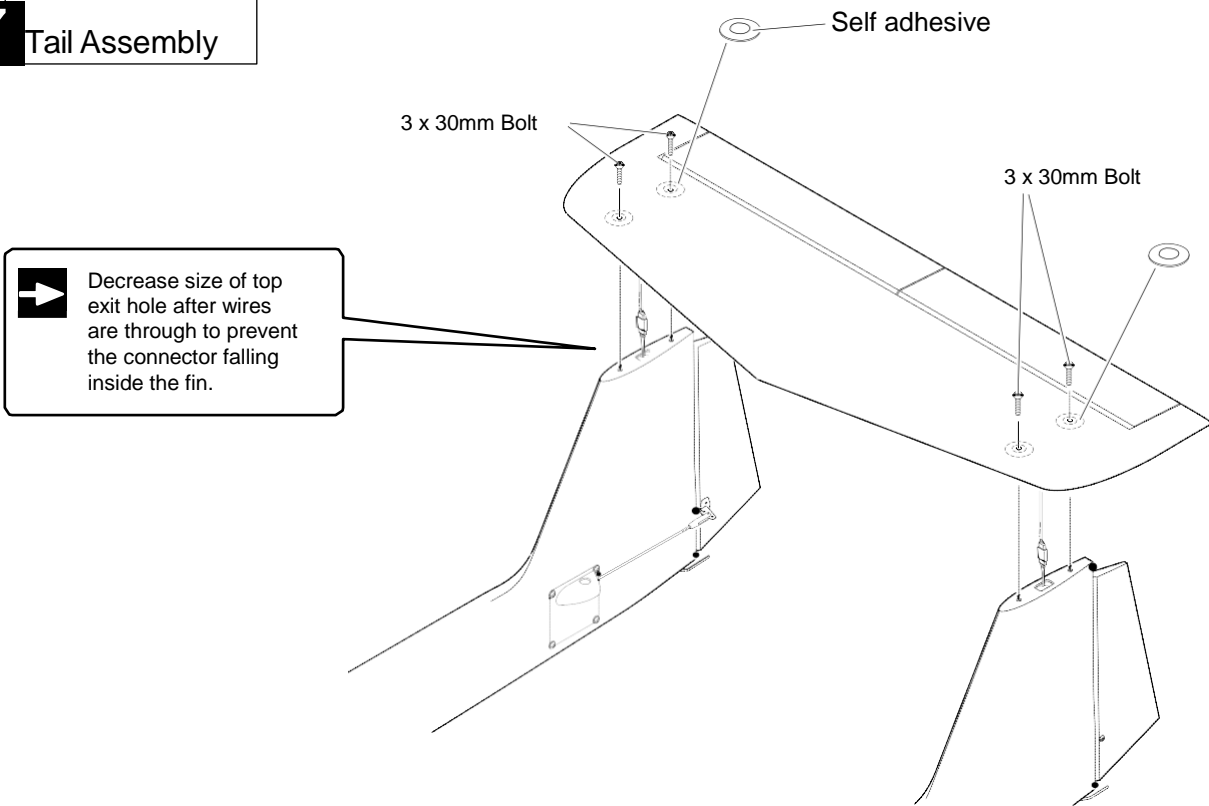


16 Wing Locking



3 x 6mm Bolt 4

17 Tail Assembly



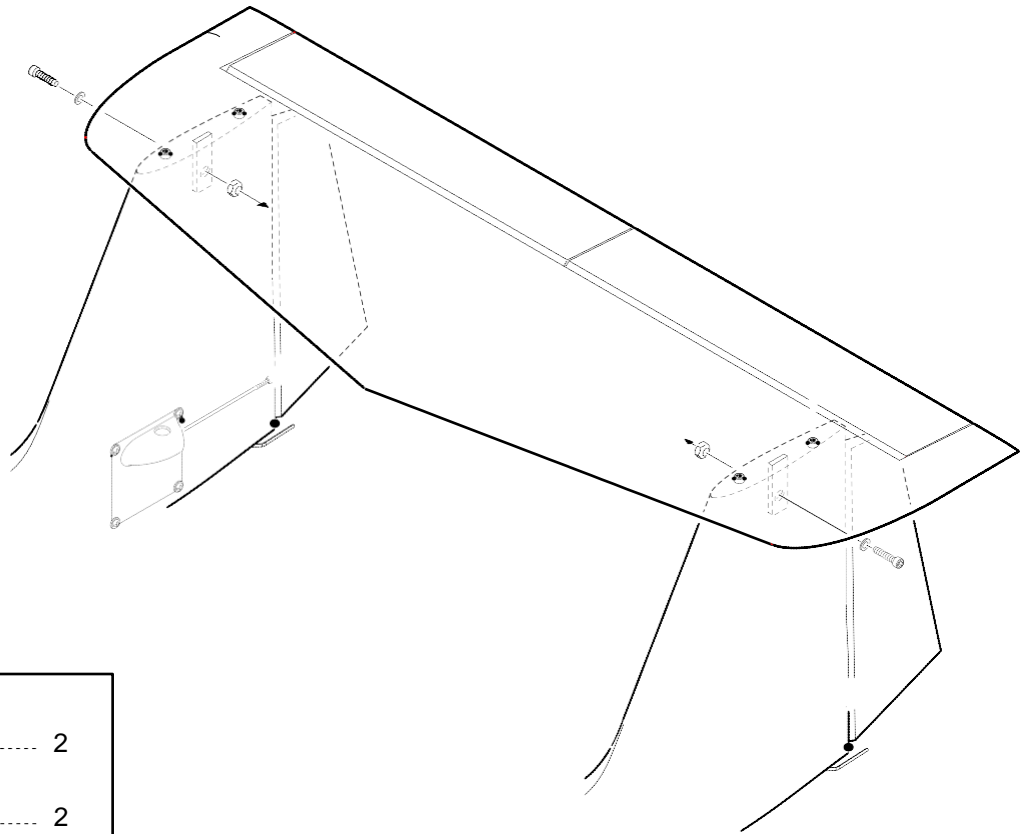
Decrease size of top exit hole after wires are through to prevent the connector falling inside the fin.




Self adhesive 4

3 x 30mm Bolt 4

18 Additional safety fitting to stabilisor

With tailplane (Stab.) firmly screwed down, pass a 3.6mm drill through the holes in the fins and drill a hole through the metal tongue projecting down from the Stab. Remove the Stab and tap the new hole in the tongue out to 4mm thread. Repeat the process through the other fin. During assembly apply the 4mm X15mm bolt through the fins and the tongues and lock in place with the 4mm nylock nuts and washers supplied. If a 4mm tap is not available drill the hole in the tongue out to 4mm and assemble the same way.



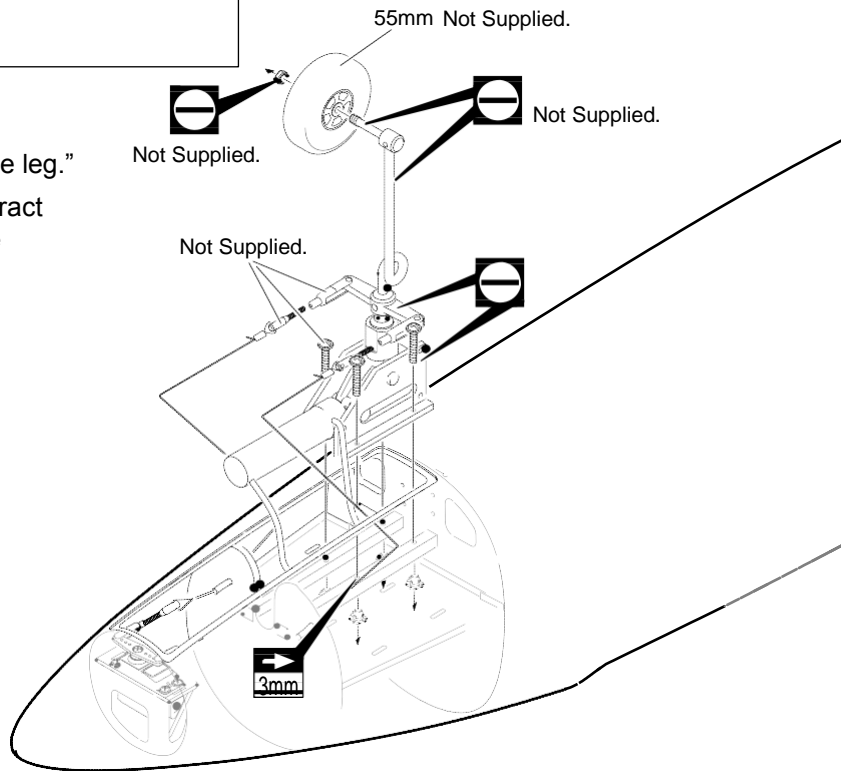
	4mm Washer	2
	4mm Lock Nut	2
	4 x 15mm Screw	2

19 Nose gear



“Trim the Cover Plate to clear the leg.”

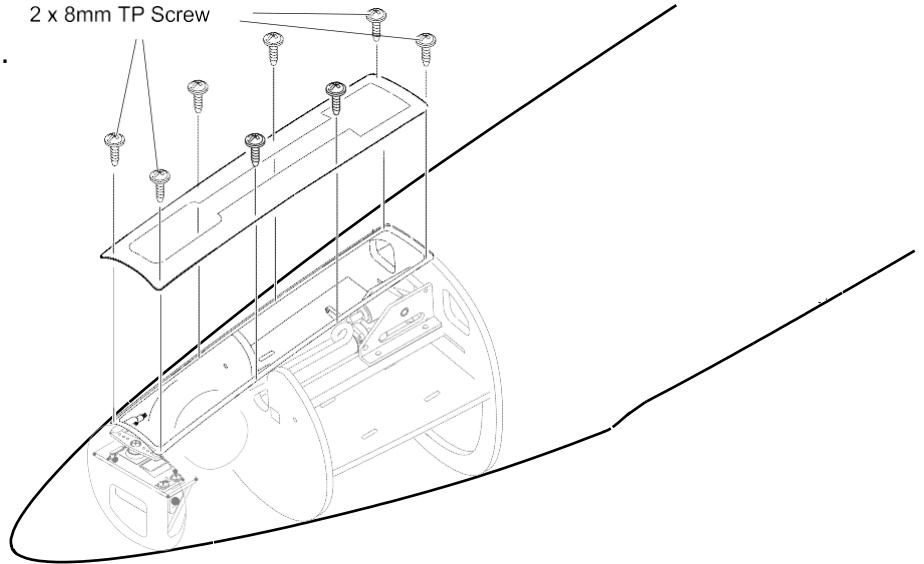
“Use plywood to pack up the retract mount as necessary to clear the bearers when retracted.”



20 Steering Linkage/Noseleg Bay Cover

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

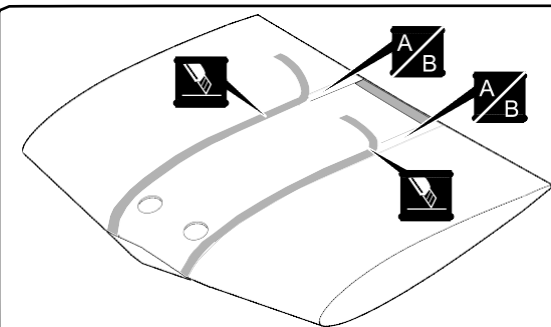
2 x 8mm TP Screw



2 x 8mm TP Screw

8

21 Gluing fuselage to wing

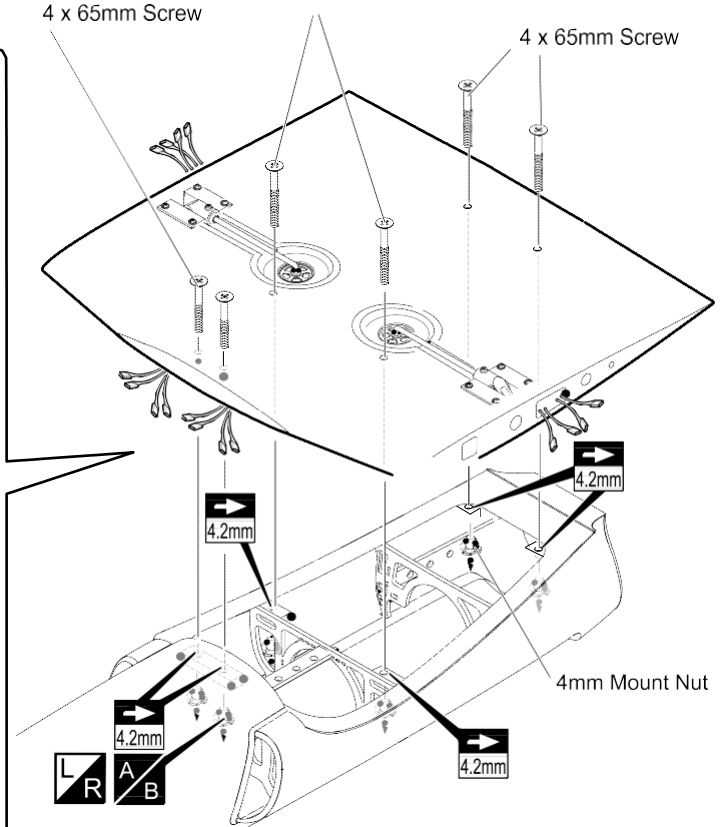


"Iron the covering with a warm Iron to ensure bonding. Place the fuselage on the centre wing checking that it is central and square to T/E. Check for the fit to the fuselage. Drill two holes centrally about 150mm. (6") apart through the former where the leading edge touches the plywood former. With the 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.

4 x 65mm Screw

4 x 80mm Screw

4 x 65mm Screw

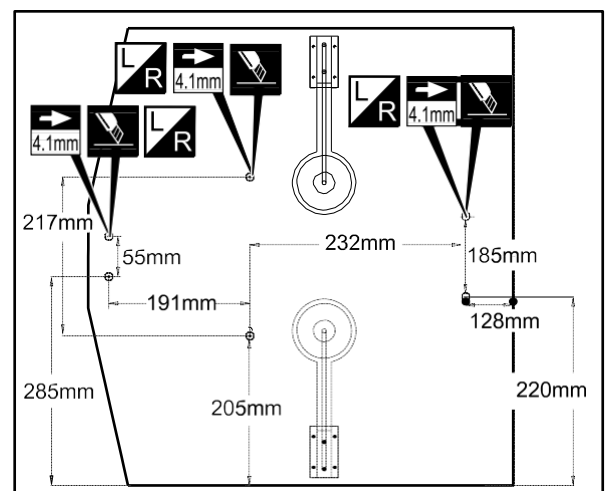


L R A B

4.2mm

4.2mm

4mm Mount Nut



4 x 80mm Screw

2

4 x 65mm Screw

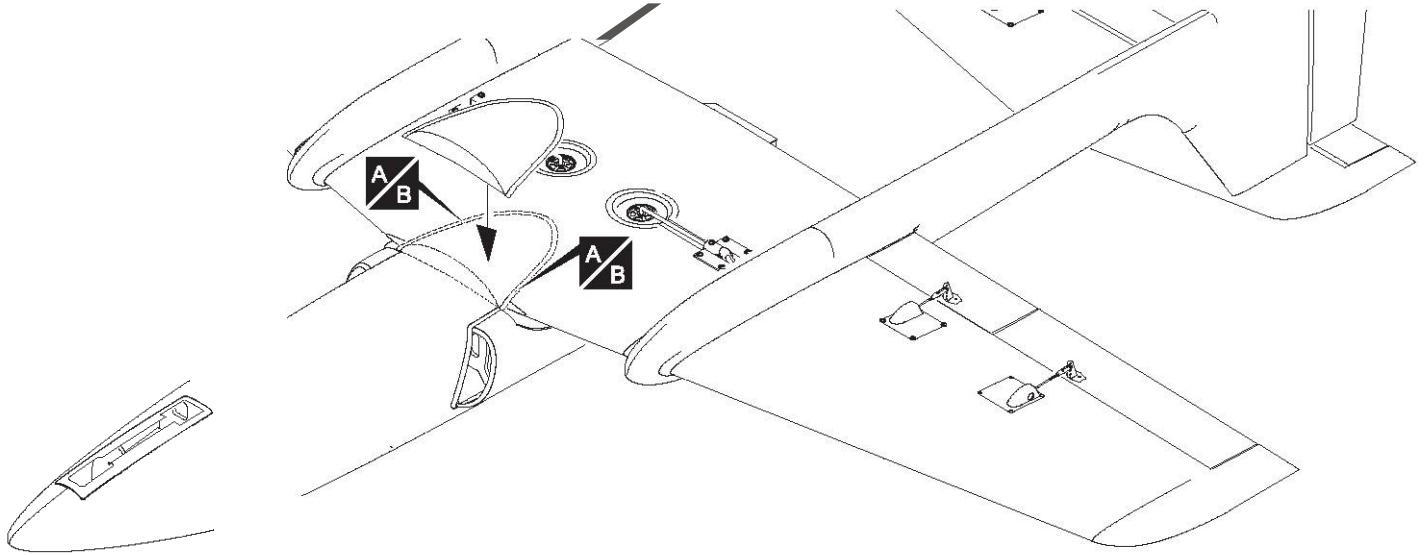
4

4mm Mount Nut

6

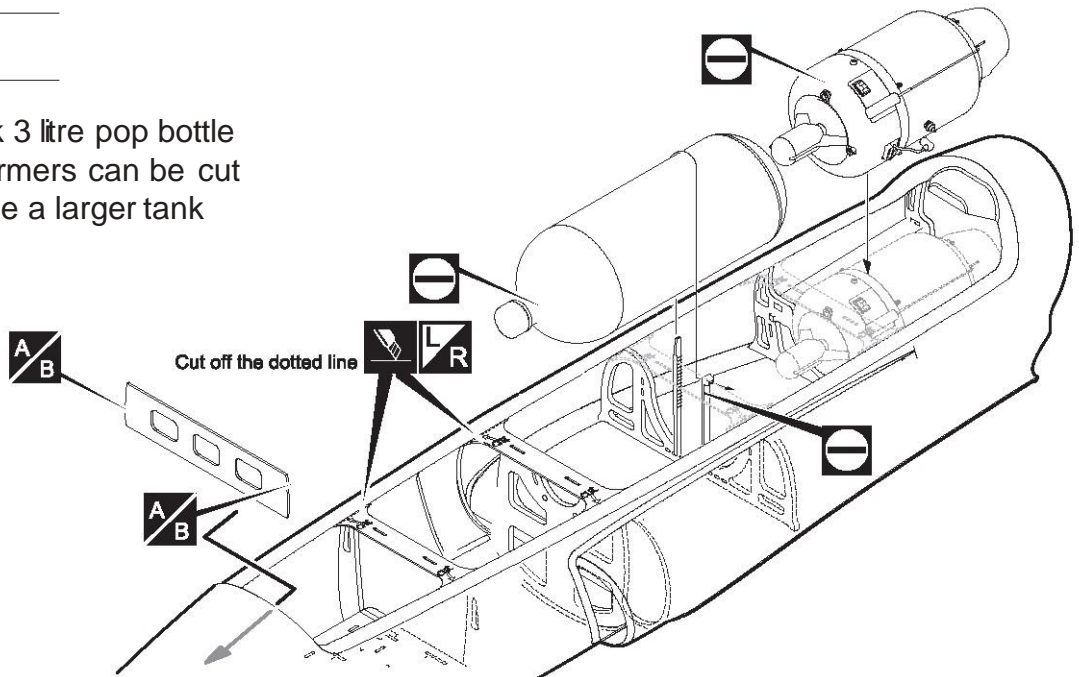
22 Belly Pan

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."



23 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.

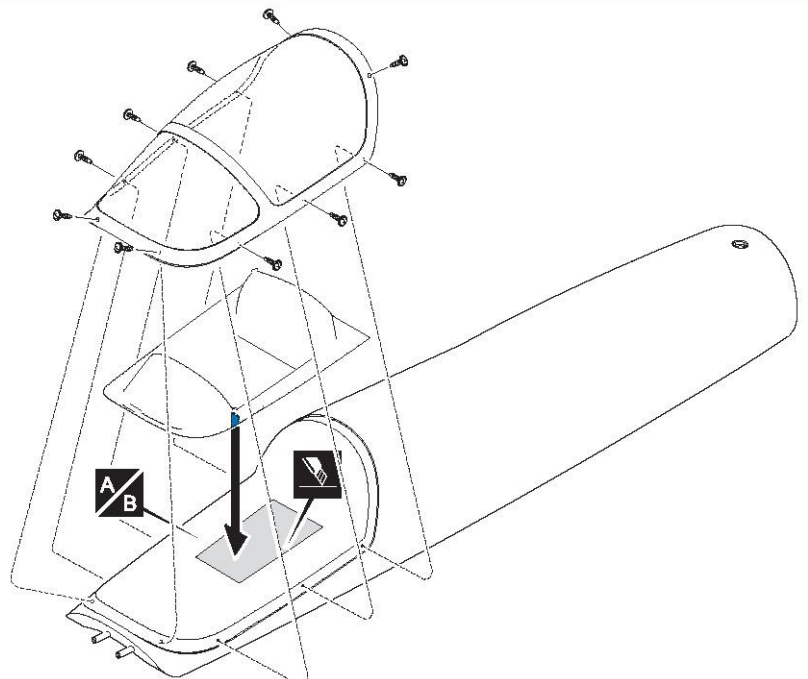


24 CockpitCanopy

"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."


2.6x12mm TPScrew

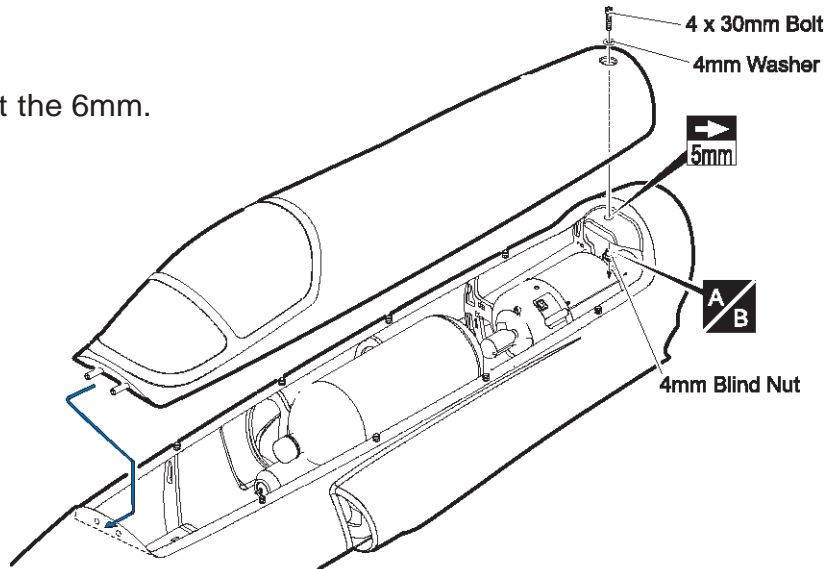
10



25 Top Hatch

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

e	4mm Blind Nut	1
@	4mm Washer	1
	4 x 30mm Bolt	1



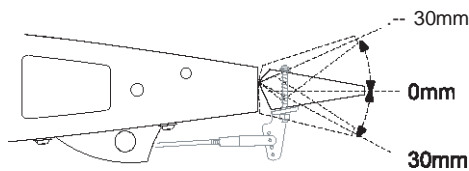
26 Setting Up

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."

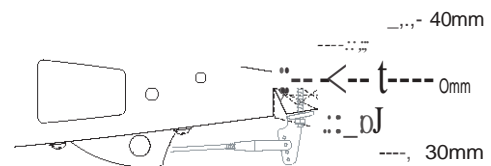
Set the travel to the values show below for the first flights. You can increase these later for aerobatics if desired.

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

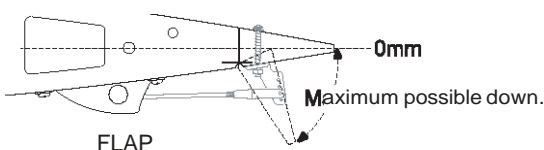
Shift the location of the receiver and battery pack as needed to obtain the specified CG.



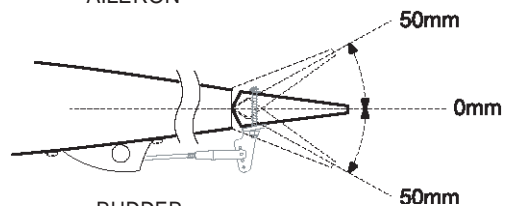
ELEVATOR



AILERON



FLAP

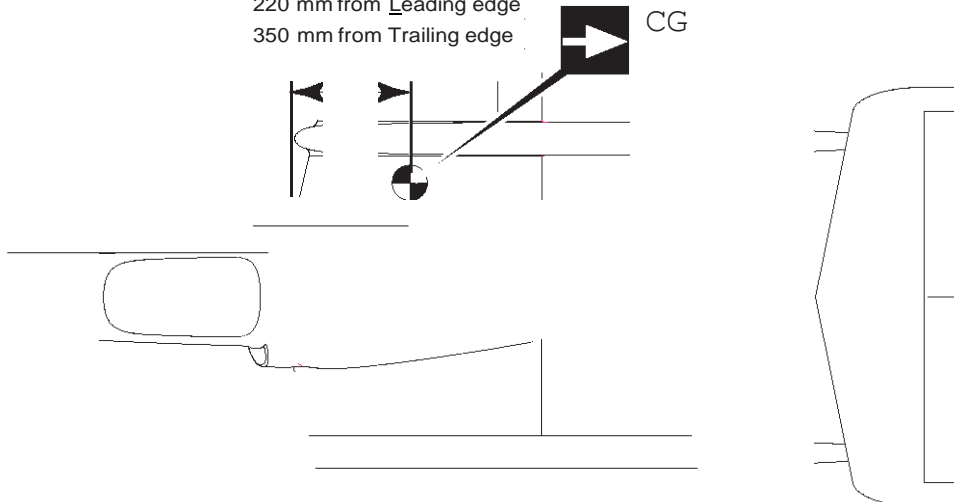


RUDDER

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 maneuver 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.

IMPORTANT WARNING.

READ THROUGH BEFORE ASSEMBLING OR FLYING YOUR KIT.

Just as in any full size aircraft, any RIC model aircraft can be made to fail, be it a wing folding or a fuselage breaking under too high a load. Model RC aircraft have a maximum safe G limit. Because you are not in the plane it is difficult to judge the G during flight, and it is very easy to exceed the limits of the aircraft. This is particularly important if you install a turbine larger or more powerful than the power band specified for that particular kit. This negates any airframe warranty straight away.

All our designs are thoroughly test flown before the kit is released for sale. Turbine powered RIC model aircraft are not manufactured to withstand unlimited G forces. When flying your Boomerang Jet, be aware of the high loads which can be in excess of the airframes capability to handle. Respect the airframe as you would when flying a full size aircraft. Fit a turbine only up to the specified power.

Understand that if you perform a snap roll, wall, blender, knife edge loop or any similar maneuver, or pull hard on the elevator, particularly at high speed, you can over stress the airframe by up to 15 G or more. At 15 G, the 27 lbs (12.2 Kilo) model effectively weighs over 400 lbs (184 kilo), and though it may be for only a few seconds, the strain on the airframe is huge. Your model may survive those hard maneuvers a few times, but eventually the cumulative damage will tell and airframe break up can occur.

It is common practice for any manufacturer not to replace an airframe which breaks in the air or upon landing. Manufacturers may replace airframes when they have noticed many incidences of the same failure and it is determined that there was a design fault or repeated manufacturing error. If you break an airframe, and you are the only one to do so, then it is highly unlikely to be the fault of the manufacturer. Fly safely, and avoid full throttle operation other than at low airspeeds.

RIC model jets are not toys! If misused, they can cause serious bodily harm and property damage. Fly only in open areas, and AMA (Academy of Model Aeronautics) or BMFA (British Model Flying Association) or your country's approved flying sites. Follow all manufacturer instructions included with your plane, radio, servo's, batteries and engine. Each kit is guaranteed to be free from defects in both material and workmanship at the date of purchase. Warranty does not cover any component assembled by the customer. All parts of high stress must be inspected and reinforced if necessary by a competent builder.

Some parts should be examined, and if necessary, glued again. High stress areas such as firewalls, motor mounts, wing mounts, landing gear mounts, etc., are areas of high concern. Seek help if necessary.

In no case shall Boomerang RC Jets, LLC. warranty cover any product which is not manufactured by Boomerang RC Jets, LLC. The liability to the manufacturer cannot exceed the original cost of the purchased item.

Further, Boomerang RC Jets, LLC. reserves the right to change or modify this warranty without notice. In that Boomerang RC Jets, LLC. has no control over the assembly or materials used by the builder of the model during final assembly, no liability shall be assumed nor accepted for any damage resulting from the use of the final user-assembled product. By using the user assembled product, the user accepts all resulting liability. The kits manufacturers have provided you with a top quality, thoroughly tested kit and instructions, but ultimately the quality and flying ability of your finished model depends on how you build it. Therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model. It is the user's responsibility to inspect each component for airworthiness.