

# COBRA

## INSTRUCTION MANUAL



**ARTF**  
ALMOST READY TO FLY

### **SPECIFICATION:**

LENGTH :	126 cm	50 inches
SPAN :	134 cm	53 inches
ENGINE :	40 - 2 stroke	
WEIGHT :	2.6 kg	5.7 lbs
RADIO :	4 Channel - 5 servos	

## ADDITIONAL ITEMS REQUIRED

- 40 two stroke Engine.
- 4 channel Radio with 5 servos.
- Glow plug to suit Engine.
- Propeller to suit Engine.
- Protective foam Rubber.
- Silicon fuel line.
- Prater stick on weight for balance.

## TOOLS AND SUPPLIES NEEDED

- Kwik bond # 2 thick C/A glue.
- Kwik bond 30 minute Epoxy.
- Kwik bond 5 minute Epoxy.
- Hand or Electric drill.
- Assorted drill bits.
- Modelling knife.
- Straight edge ruler.
- 2 - bender plier 1.
- Wire cutters.
- Masking tape.
- Thread lock.
- Paper towels.

## SUGGESTION

To avoid cratching your new airplane, do not unwrap the pieces until they are needed assembly. Cover your workbench with an old towel or brown paper, both to protect the aircraft and

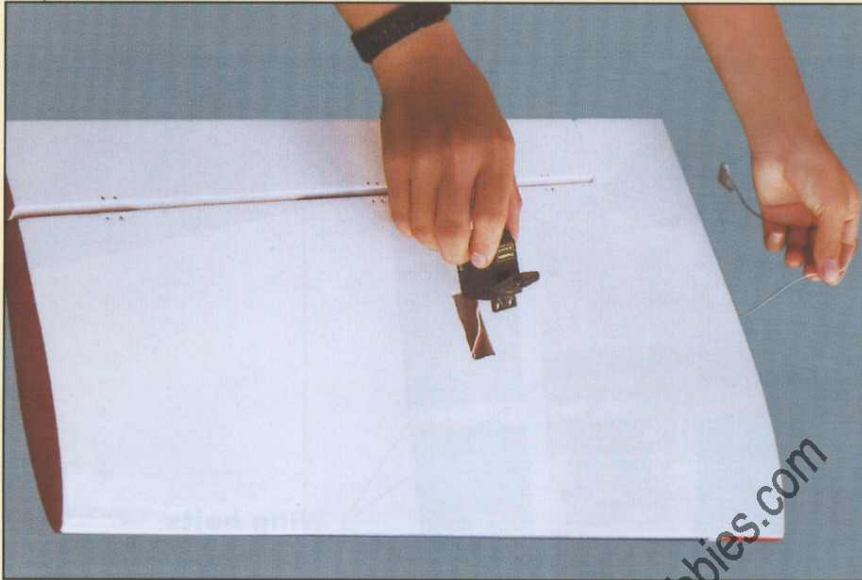
to protect the table. Keep a couple of jars or bowls handy to hold the small parts after you open the bag.

## SAFETY PRECAUTION

- This is not a toy
- No other flyers are using your radio frequency.
- Do not smoke near fuel
- Store fuel in a cool, dry place, away from children and pets.
- Wear safety glasses.
- The glow plug chip must be securely attached glow to the plug.

- Do not flip the propeller with your fingers.
- Keep loose wires away from the propeller.
- Do not Start the engine if people are near. Do not stand on the side of the propeller.
- Make engine adjustments from behind the propeller only. Do not reach around the spinning propeller.

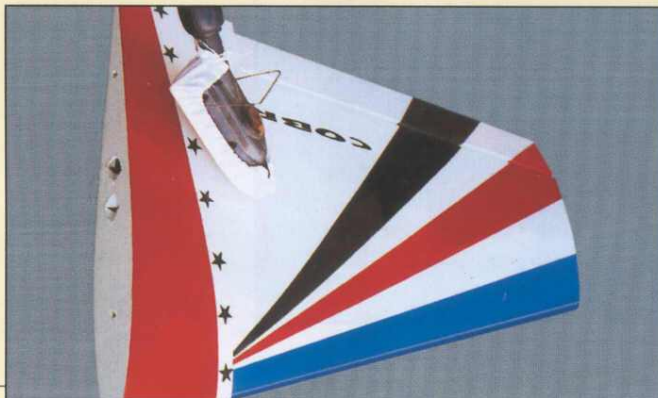
## 1 INSTALLING THE AILERON SERVO



Separate servos are used for the left and right hand ailerons and you will need extension lead (approx 300mm long) and a short "Y" lead to connect the servos to the receiver. You could use one "Y" lead with long leads but this could make the routing of the leads much

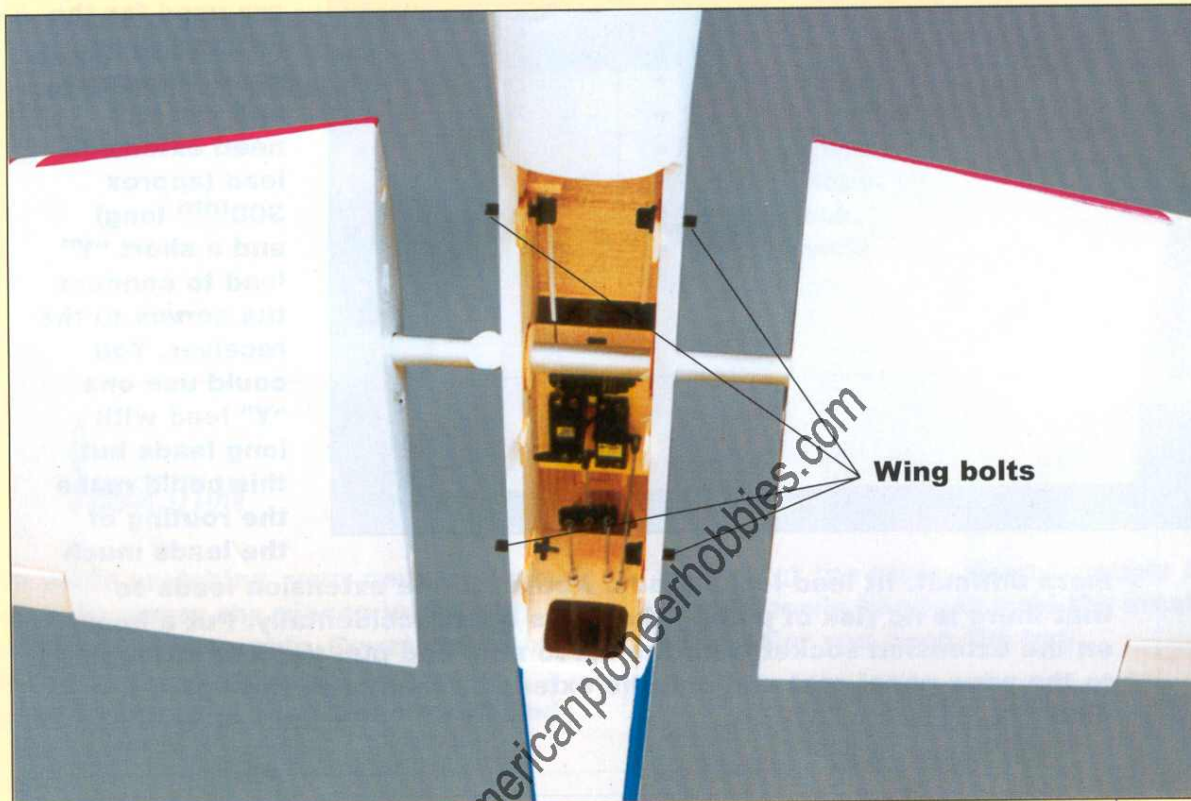
more difficult. fit lead-locks (Radio Active) to the extension leads so that there is no risk of pulling the plugs apart accidentally. Put a hook on the extension socket from the servo end, and pull the lead through to the wing panel root and pull the extension lead back through the hold (See Photo)

The Pre-covered film on ARF kits may wrinkle due to variations of temperature smooth out as explained right



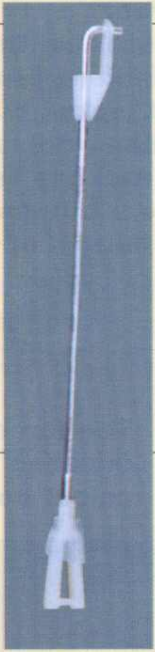
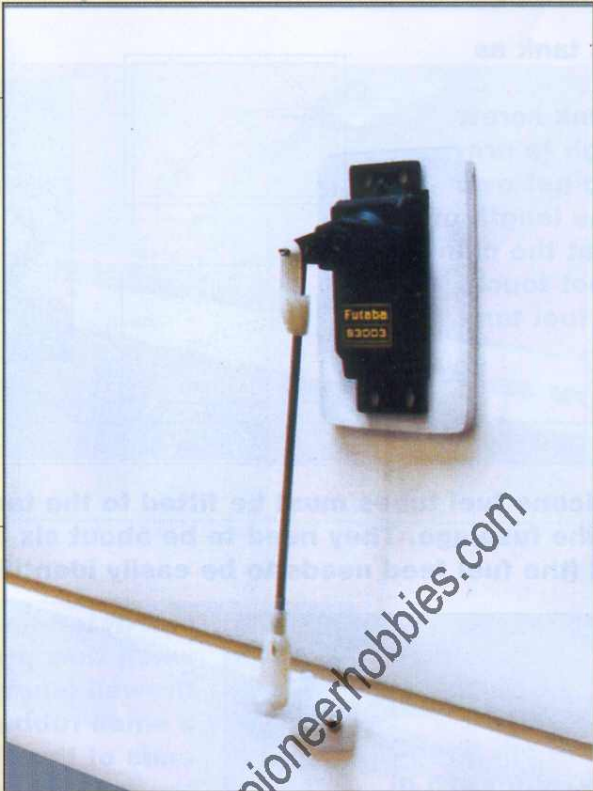
Use an iron covered with a cloth! Start at low setting. Increase the setting if necessary. if it is too high, you may damage the film.

## JOINING THE WINGS

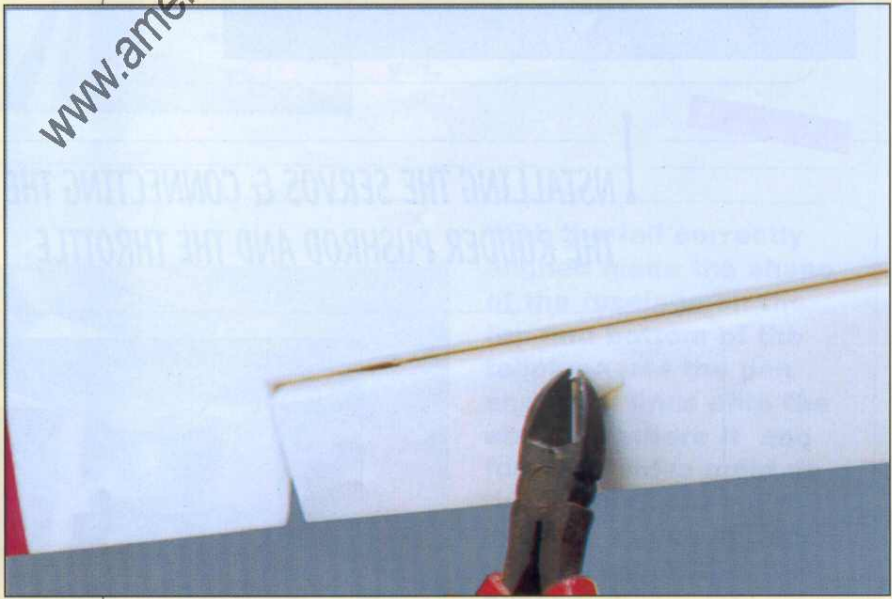


**The wing should be locked the fuselage side by two bolts.**

# INSTALLING THE AILERON SERVO AND AILERON PUSHROD



See Photo

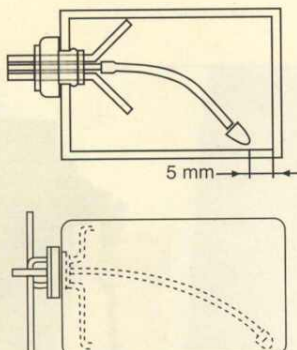


See Photo

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## FITTING THE FUEL TANK

Assemble the fuel tank as shown. Ensure that the tank screw is tightened enough to prevent leaks, but do not over tighten. Adjust the length of the fuel line so that the clunk is near but does not touch the bottom of the fuel tank.

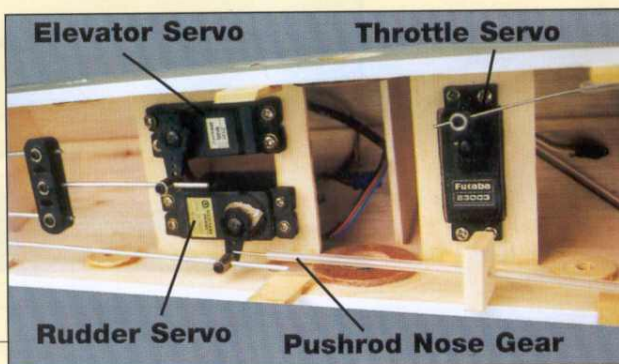


The three silicone fuel tubes must be fitted to the tank before it is installed on the fuselage. They need to be about six inches long and colour coded (the fuel feed needs to be easily identifiable) so that you

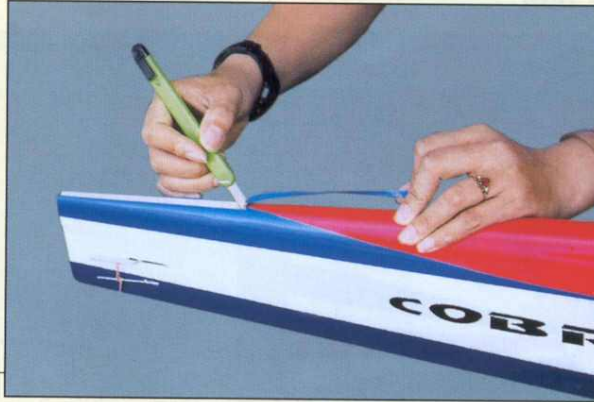


can determine the correct ones when they project through the firewall (engine bulkhead). Put a small rubber band around the ends of three tubes together the long piece throttle pushrod through the holes in the bulkheads, internally

## INSTALLING THE SERVOS & CONNECTING THE ELEVATOR PUSHROD, THE RUDDER PUSHROD AND THE THROTTLE



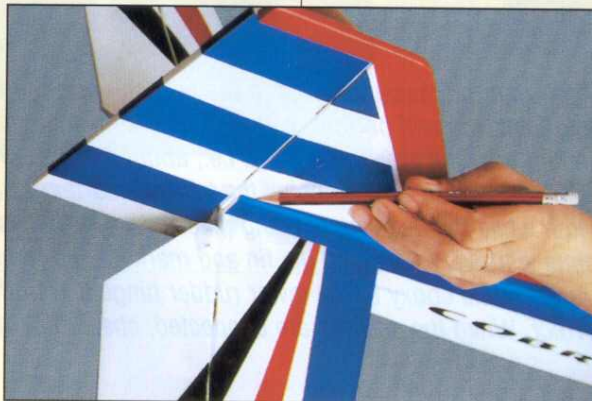
## FITTING THE TAILPLAN (Vertical / Horizontal Tail)



**Cut away only the film**



**Check the fit of the tailplane in its slot make sure the tail is square and centred to the fuselage by taking measurements as shown in the diagram, but don't glue anything yet.**

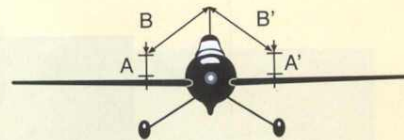
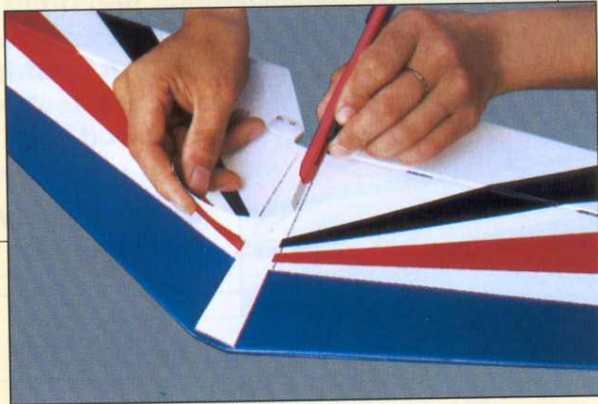


**With the tail correctly aligned made the shape of the fuselage on the top and bottom of the tailplane use the pen and draw lines onto the stabilizer where it and fuselage sides meet do this on both the right and left sides and top and bottom of the stabilizer**

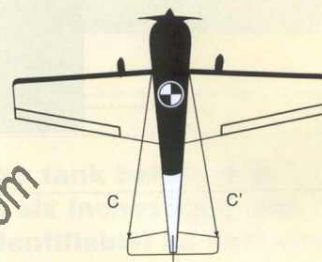
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## FITTING THE TAILPLAN

### Cut away only the film

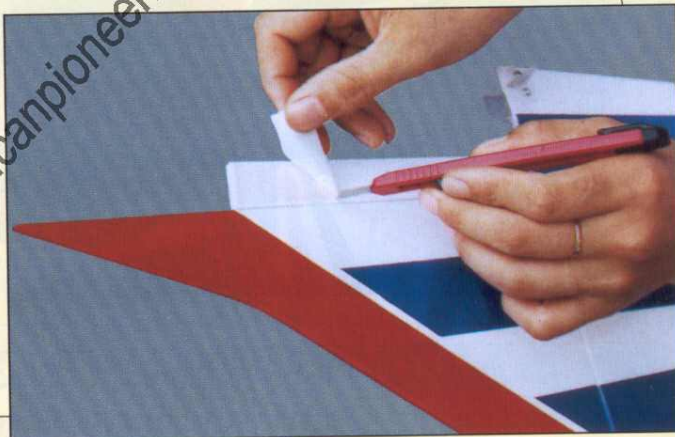


A=A' B=B' C=C'



- ⚠ When cutting through the film to remove it out with only enough pressure to cut through the film only, cutting into the balsa structure may weaken it.

- ⚠ Carefully cut the covering film away from the fuselage slots for the tailplane and fin. Slide in the tailplane and mark the centre rear edge to line up with the centre of the fuselage stern post. Take a length of no-stretch thin cord, fix one end to a pin positioned at the centre of

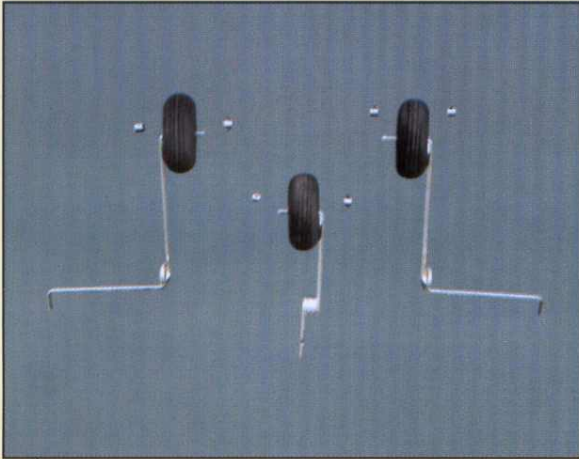


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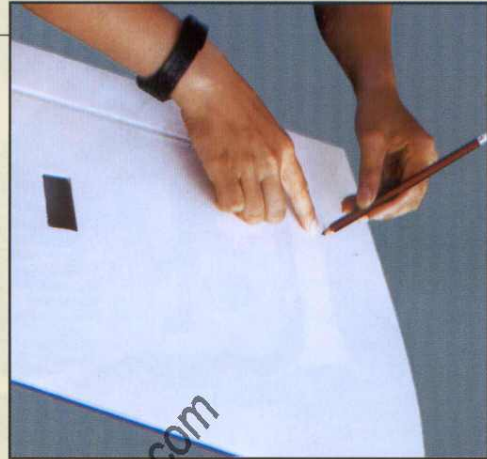
of the top of the cabin former and check that the measurements to the tailplane tips are equal. When satisfied, mark the fuselage/tailplane joint, top and bottom, with a Chinagraph pencil and then remove the tailplane. Cut away the film over the area to be glued i.e., about 2 mm (3/32in) inside the pencil mark; The chinagraph can then be cleaned off. Re-install the tailplane and temporarily fit the fin (to maintain the correct fin slot width while the tailplane is being glued). Use Deluxe Materials Rocket cyano glue because the joints were very close. Fit the fin and mark for the removal of the covering as for the tailplane. Apply some epoxy to the lower rudder hinge and fit the fin in position, cyano glue when it is correct. When the clevises are connected, check that the elevators are level with each other.



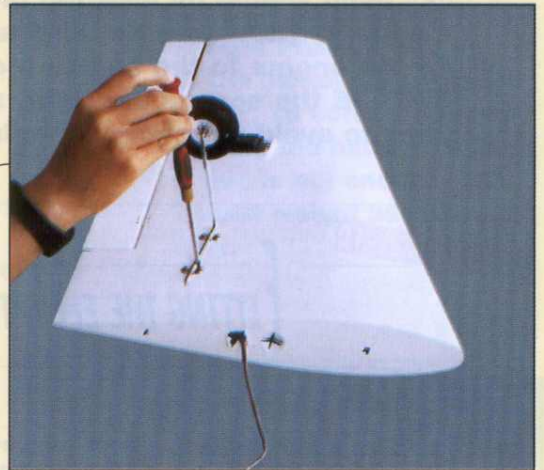
# FITTING THE LANDING GEAR



**Prepare the accessories for landing gear**



**Install the landing gear into the fuselage as shown.**



**Install the landing gear into the wing (underside) as shown.**

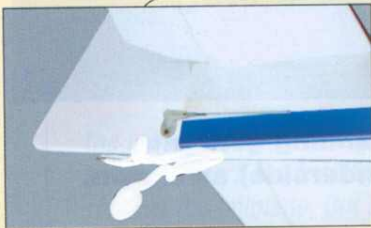
## FITTING THE ENGINE



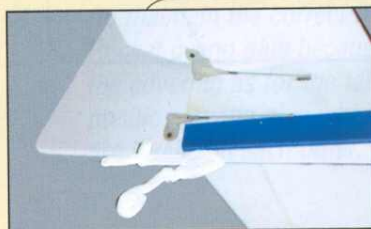
Locate the long piece of wire used for the throttle pushrod. One end of the wire has been pre-bent into a "Z" bend at the factory. This "Z" bend should be inserted into the throttle arm of the engine as the engine is fitted onto the engine mount.

Fit the engine to the engine mount and screwed provided. **ENSURE** the screws are tight, a thread lock compound may also be used to avoid vibration loosening the screw.

## FITTING THE ELEVATOR HORN AND THE RUDDER HORN

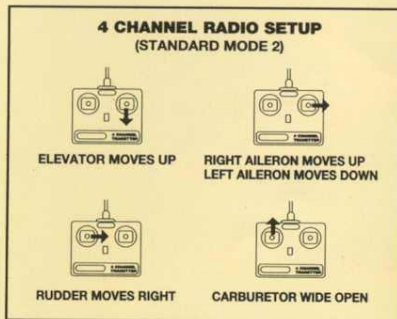


There are pre-cut rudder and elevator pushrod exit slots in the rear of the fuselage. These can be found by gently running a finger over the covering, and will easily be detected. Use a sharp knife and carefully remove the covering over the slots.



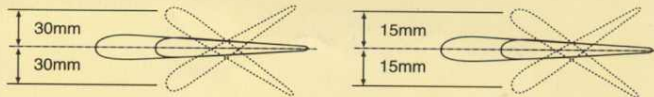
Feed the elevator pushrod out of exit slot. This is made simpler if a length of flexible tubing is inserted into the slot from the rear until it emerges in the radio compartment. The Threaded end of the pushrod can then be fitted into the end of the tubing which will act as a guide when the pushrod is fed down the fuselage. Fit the clevis to the pushrod and connect to the elevator horn.

# RADIO CONTROL AND CONTROL SURFACE THROWS



**We recommend the following control surface throws :**

ELEVATOR : 15m.m up  
15m.m down  
RUDDER : 30m.m right  
30m.m left  
AILERON : 10m.m up  
10m.m down



# BALANCE YOUR MODEL

**NEVER FLY BEFORE CHECKING THE CG'S REQUIRED POSITION**



This section is very important and must not be omitted ! A model that is not properly balanced will

be unstable and possibly unflyable.

The Balance Point is 125mm back from the

leading edge of the wing. Assemble the model and use masking tape to mark the balance point. Lift the model at the marks, if the nose of the model falls, it is nose heavy. If the tail of the model falls, it is tail heavy. To correct this, try moving the battery pack. If this is not enough, add ballast weight as necessary.

# PRE-FLIGHT CHECK

Completely charge your transmitter and receiver batteries before your first day of flying.

Check every bolt and every glue joint in your model to ensure everything is tight and well bonded.

Check that the tubes used for clevis retainers are in place.

Double check the balance of the airplane. Do this before filling the tank with fuel.

Check the control surfaces. All should move in the correct direction and not bind in anyway.

Check the receiver antenna. It should be fully extended and not still coiled up in the fuselage.

## GLADIATOR Contents List

• Fuselage	1 pc
• Wing Panels	1 pc
• Tailplane/elevator	1 pc
• Fin /rudder	1 pc
• Landing Gear	1 set
• Nose Wheel	1 set
• Accessories bag	1 pc
• Belly Pan	1 pc
• Pushrod	1 set