TOP
PHOENIX MODEL

BAE HAWK
SCALE 1:6 ¼ ARF EDF 120MM

SPECIFICATION

- **Wingspan:** 1600mm (63 in)
- **Length:** 1700mm (67 in)
- **Flying weight:** 7.0-7.5 kg
- **Wing area:** 48 dm2
- **Wing loading:** 145g/dm2
- **Wing type:** Naca airfoils
- **Covering type:** Genuine ORACOVER®
- **Retract gear type:** Air retract gear with CNC Suspension Metal Struts (included)
- **Radio:** 6 - 9 channel . 8 hi-torque servo: 2 aileron; 2 flap; 2 elevator; 1 steering nose; 1 retract ; 1 mini hi-torque servo rudder (not included)
- **Engine:** edf 120mm (not included)

- **Gravity CG:** 194mm (7,6 in) Back from the leading edge of the wing, at the fuselage
- **Control throw Ailerons:** Low: 10mm up/down, 10% expo; High: 12mm up/down, 10% expo
- **Control throw Elevators:** Low: 12mm up/down, 12% expo; High: 15mm up/down, 12% expo
- **Control throw Rudder:** Low: 20mm right/left, 15% expo; High: 30mm right/left, 15% expo
- **Experience level:** advanced
- **Plane type:** Scale Military

RECOMMENDED EDF AND BATTERY SET UP

- **EDF:** 120mm, Minimum thrust 7 kg. As BVM 3-12S EVF or Ramtec 120mm …(not included)
- **Lipo cell:** 12 cells / 5000- 6000mAh 60C (not included)
- **Esc** HV 160 A Phoenix Casttle (not included)

TOOLS AND SUPPLIES NEEDED

- Medium C/A glue
- 30 minute epoxy
- 6 minute epoxy
- Hand or electric drill
- Assorted drill bits
- Modeling knife
- Straight edge ruler

- 2 bender plier
- Wire cutters
- Masking tape
- Thread lock
- Paper towels
- Rubbing alcohol

SUGGESTION

To avoid scratching your new airplane, do not unwrap the pieces until they are needed for 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.

NOTE:

1. Please trial fit all the parts. Make sure you have the correct parts and that they fit and are aligned properly before gluing! This will assure proper assembly. The BAE HAWK SCALE 1:6 ¼ ARF EDF 120MM is hand made from natural materials, every plane is unique and minor adjustments may have to be made. However, you should find the fit superior and assembly simple.

2. The painted and plastic parts used in this kit are fuel proof. However, they are not tolerant of many harsh chemicals including the following: paint thinner, C/A glue accelerator, C/A glue debonder and acetone. Do not let these chemicals come in contact with the colors on the covering and the plastic parts.

SAFETY PRECAUTION:

- This is not a toy.
- Be sure that 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 clip must be securely attached to the glow plug.
- Do not flip the propeller with your fingers.
- Keep loose clothing and wires away from the propeller.
- Do not start the engine if people are near. Do not stand in line with the side of the propeller.
- Make engine adjustments from behind the propeller only. Do not reach around the spinning propeller.

PREPARATIONS

Remove the tape and separate the ailerons from the wing and the elevators from the stab. Use a covering iron with a covering sock on high heat to tighten the covering if necessary. Apply pressure over sheeted areas to thoroughly bond the covering to the wood.
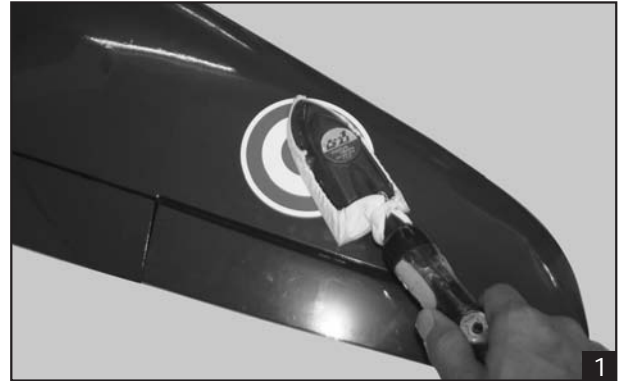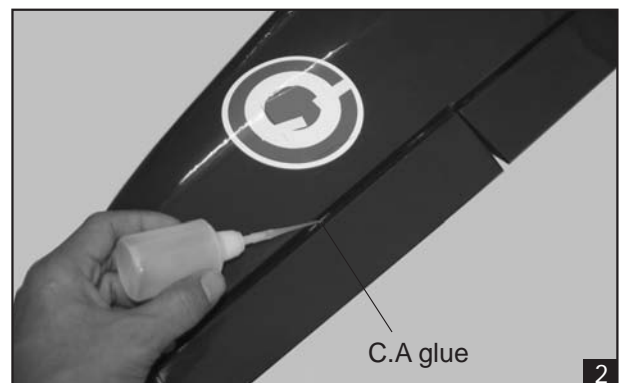

INSTALLING THE AILERONS

1. Test fit the ailerons to the wing with the hinges. If the hinges don't remain centered, stick a pin through the middle of the hinge to hold it in position.

TEMPORARY PIN TO KEEP HINGE CENTERED
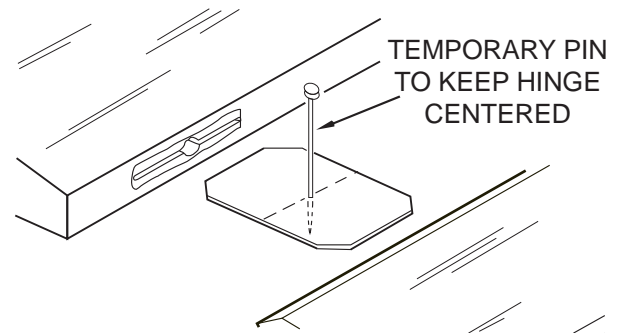
2. Apply six drops of thin CA to the top and bottom of each hinge. Do not use CA accelerator. After the CA has fully hardened, test the hinges by pulling on the aileron.


C.A glue

INSTALLING THE AILERON SERVOS

1. Install the rubber grommets and brass eyelets onto the aileron servo.

2. Using a modeling knife, remove the covering from over the pre-cut servo arm exit hole on the aileron servo tray / hatch. This hole will allow the servo arm to pass through when installing the aileron pushrods.
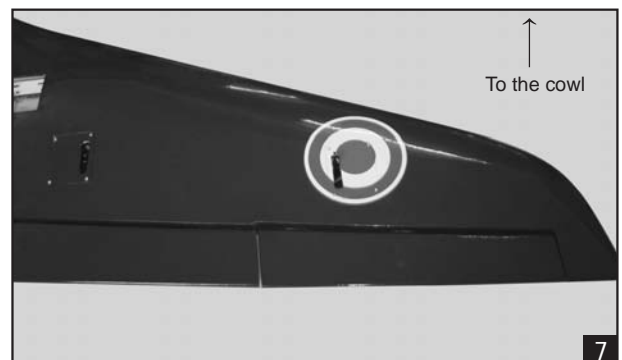

Remove the covering
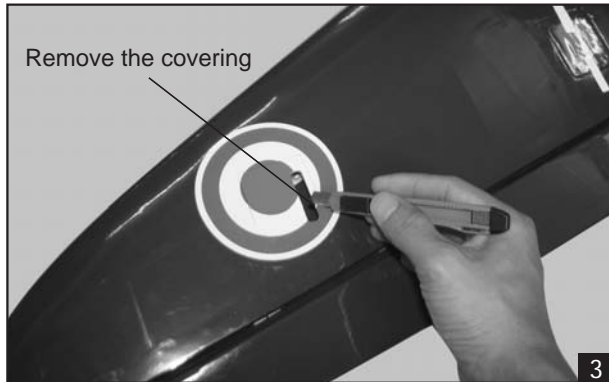
3. Place the servo into the servo tray. Center the servo within the tray and drill 1,6mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.
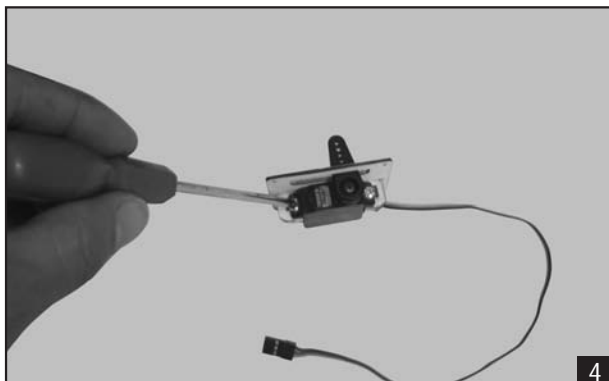
4. Using the thread as a guide and using masking tape, tape the servo lead to the end of the thread: carefully pull the thread out. When you have pulled the servo lead out, remove the masking tape and the servo lead from the thread.

Servo lead
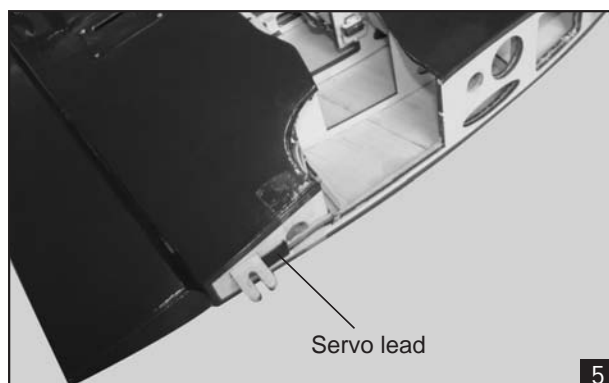
5. Place the aileron servo tray / hatch into the servo box on the bottom of the wing and drill pilot holes through the tray and the servo box for each of the four mounting screws. Secure the servo tray in place using the mounting screws provided (2mm x 12mm).

6. Repeat step # 2 - # 5 to install the second aileron servo in the opposite wing half.

To the cowl

To the cowl

INSTALLING THE CONTROL HORNS

1. Remove the covering from the slot on the aileron.

2. Insert the control horn into the slot and secure it by using C.A glue.

Remove the covering

C.A glue 9
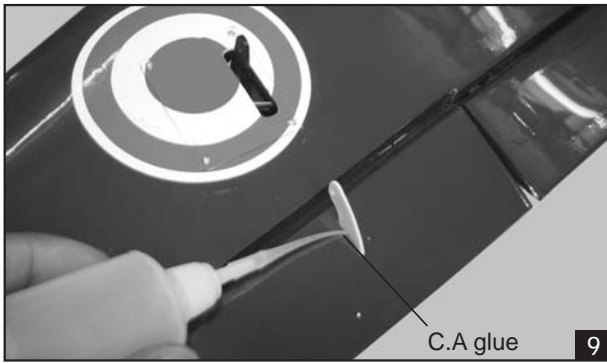
3. Repeat step # 1 - # 2 to install the control horn on the opposite aileron.
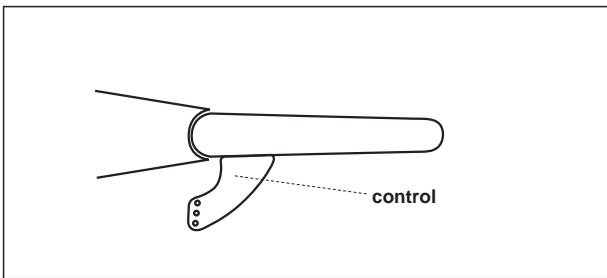
control

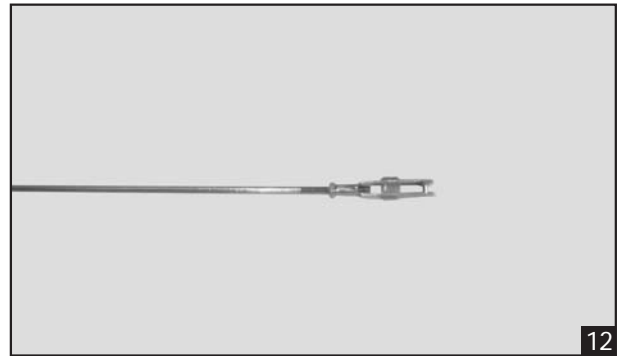## INSTALLING THE CONTROL HORNS FOR FLAP

Repeat step #1 - #3 from installing the control horn for aileron to install the control horn for flap.


10

11
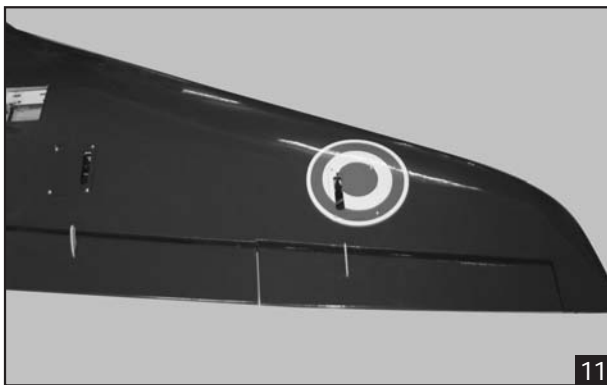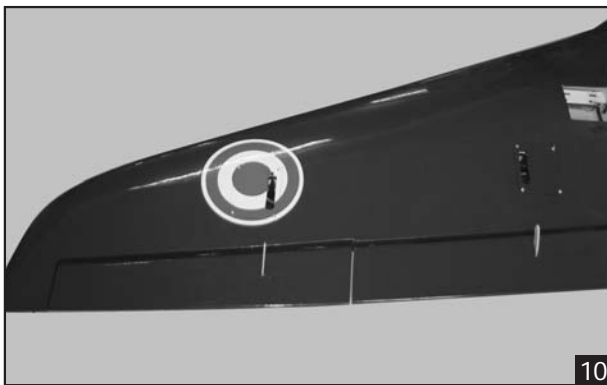
INSTALLING THE AILERON LINKAGES

1. Working with the aileron linkage for now, thread one nylon clevis at least 14 turns onto one of the 2mm x 180mm threaded wires.


12

2. Attach the clevis to the outer hole in the control horn. Install a silicone tube on the clevis.

3. Locate one nylon servo arm, and using wire cutters, remove all but one of the arms. Using a 2mm drill bit, enlarge the third hole out from the center of the arm to accommodate the aileron pushrod wire.

4. Plug the aileron servo into the receiver and center the servo. Install the servo arm onto the servo. The servo arm should be perpendicular to the servo and point toward the middle of the wing.

5. Center the aileron and hold it in place using a couple of pieces of masking tape.

6. With the aileron and aileron servo centered, carefully place a mark on the aileron pushrod wire where it crosses the hole in the servo arm.

7. Using pliers, carefully make a 90 degree bend down at the mark made. Cut off the excess wire, leaving about 4mm beyond the bend.

Silicone Tube
13
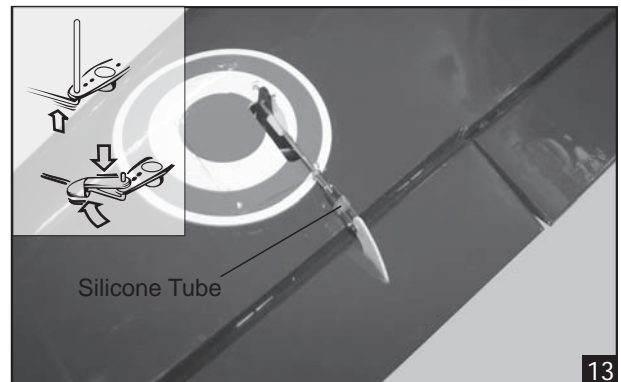
8. Insert the 90 degree bend down through the hole in the servo arm. Install one nylon snap keeper over the wire to secure it to the arm. Install the servo arm retaining screw and remove the masking tape from the aileron.

9. Repeat step # 4 - # 8 to install the second aileron linkage. After both linkages are completed, connect both of the aileron servo leads using a Y-harness you have purchased separately.

INSTALLING THE FLAP LINKAGE

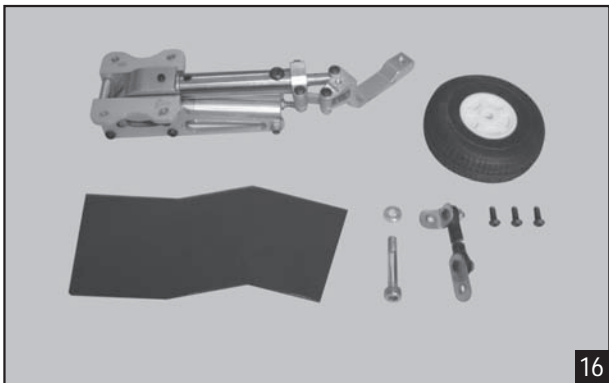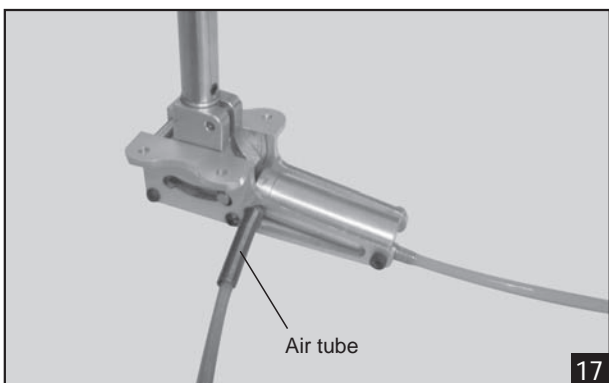Repeat step #1 - #9 from installing the aileron linkage to install the flap linkage.
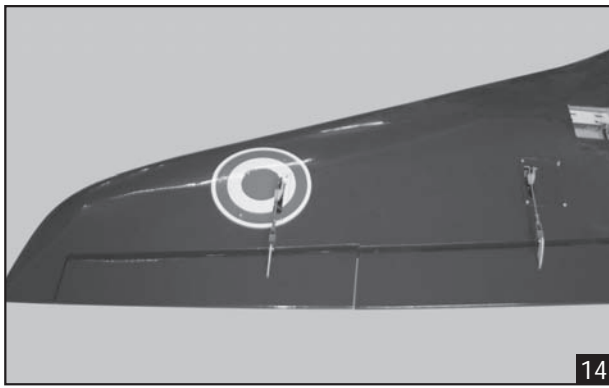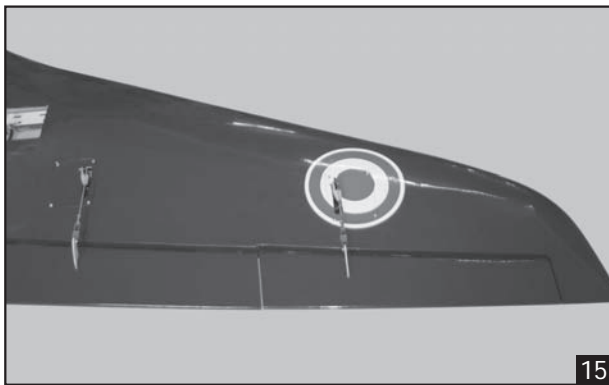
INSTALLING THE LANDING GEAR

1. Air retract.

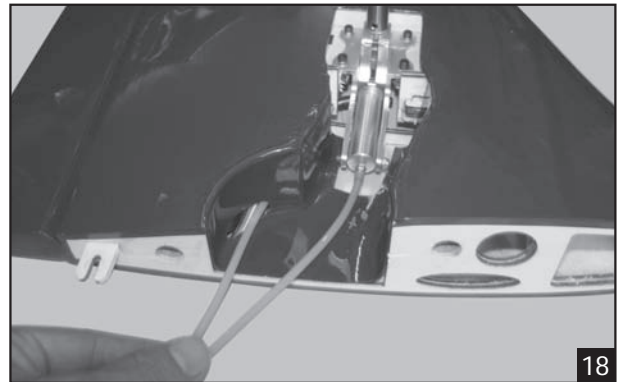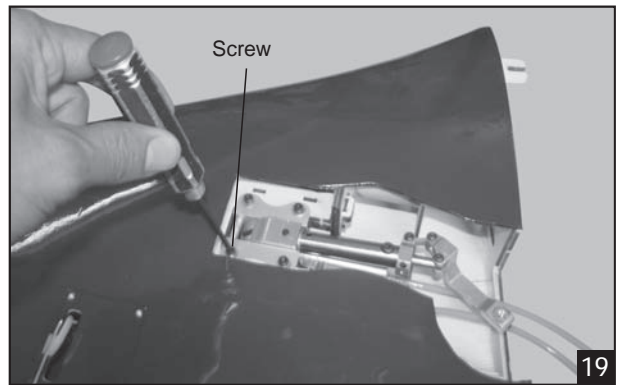2. Install the tube to the air retract.

Air tube

3. Place the retract to the wing and pull out the air tube through the wing section.
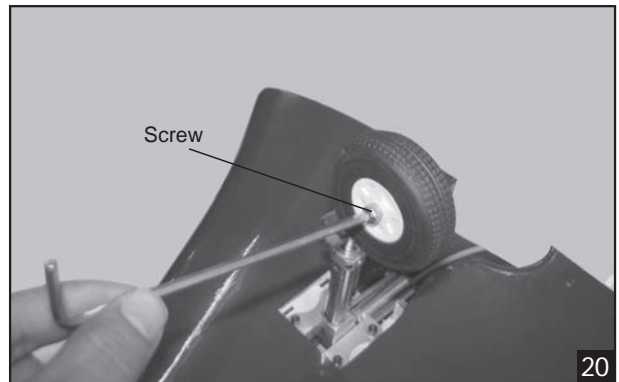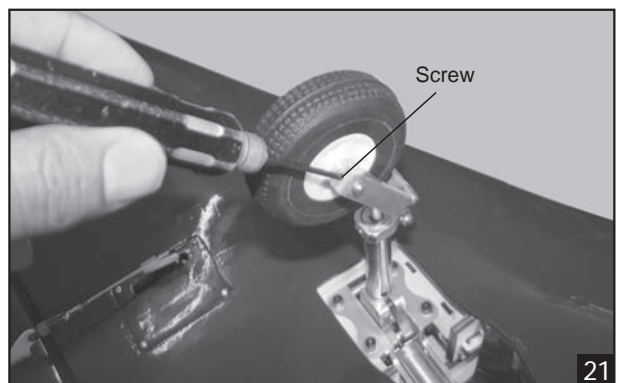

4. Secure the air retract to the wing.

Screw

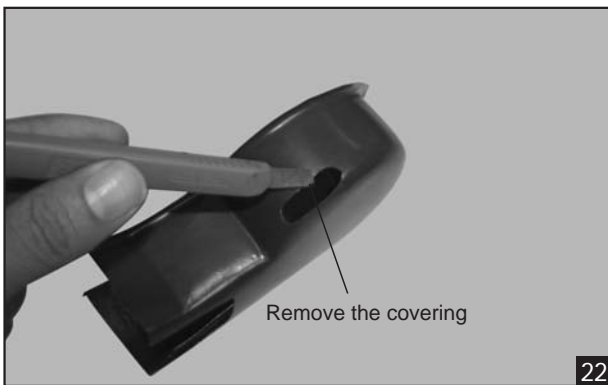5. Install and secure the wheel.

Screw

6. Secure the axle.

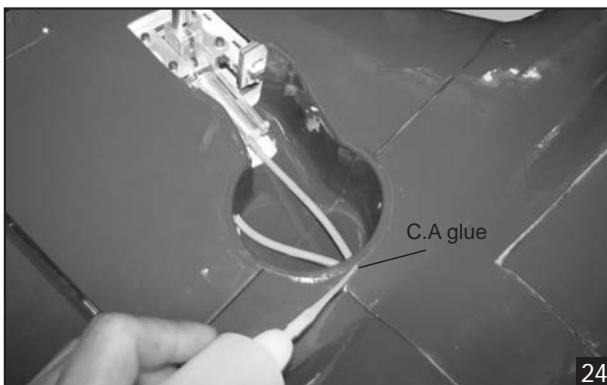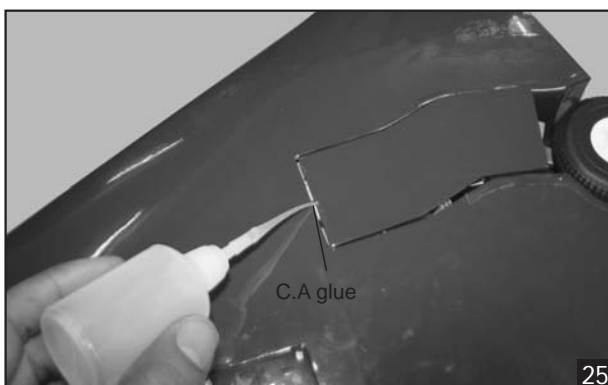
Screw

7. Trim the plastic cover.

Remove the covering

22

8. Glue the plastic cover.

C.A glue

23
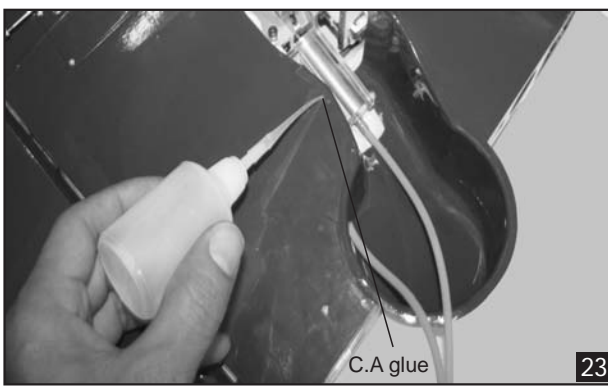
9. Glue the plastic cover.

C.A glue

24

10. Insert and glue the wooden plate.

C.A glue

25

11. Secure the plate.

Screw

26
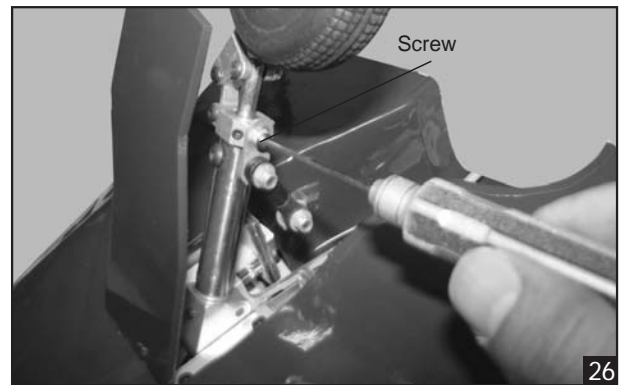
12. Remove the covering.

Remove the covering

27

13. Secure the plate.

28

14. Secure the plate.

29

15. Secure the plate.

INSTALLING THE HORIZONTAL STABILIZER

1. Remove the covering from the fuselage.

Remove the covering

2. Remove the covering from the Horizontal Stabilizer.

Remove the covering
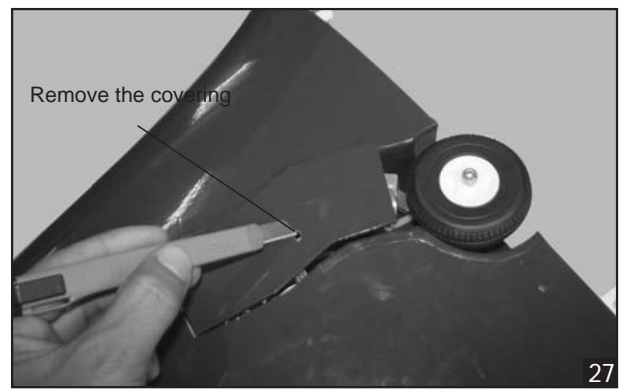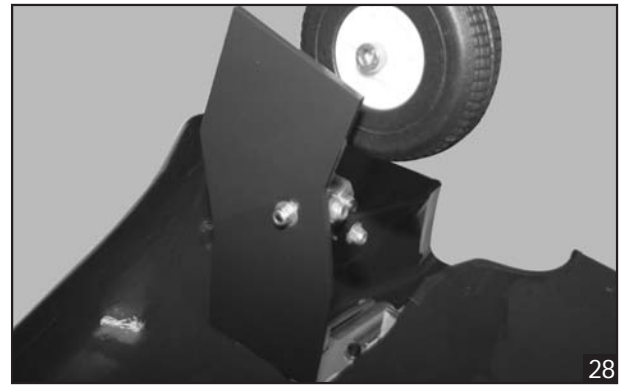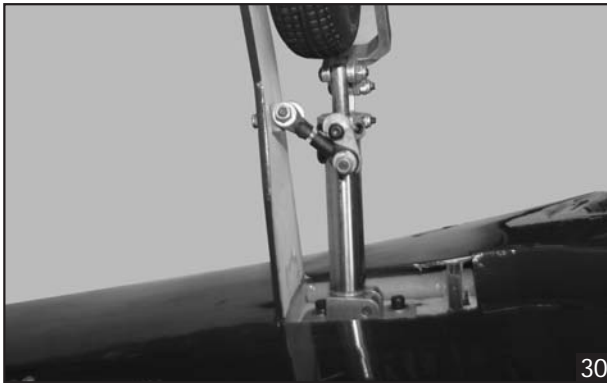
3. Glue the joiner using C.A glue.

C.A glue

4. Attach and secure the horizontal stabilizer to the fuselage using aluminum control horn. Each control horn secure by 3 screw and using "Loctite" lock these screw.

Screw

Screw
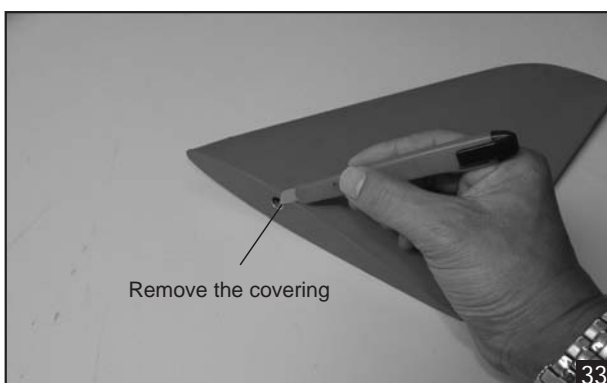
INSTALLING THE ELEVATOR SERVOS

⚠ **Note:** *Two servos for Elevator must be a hight torque and minimum is 12 kg.*

1. Install the rubber grommets and brass collets into the elevator, rudder and throttle servos. Test fit the servos into the servo tray. Trim the tray if necessary to fit your servos

2. Mount the servos to the tray using the mounting screws provided with your radio system.
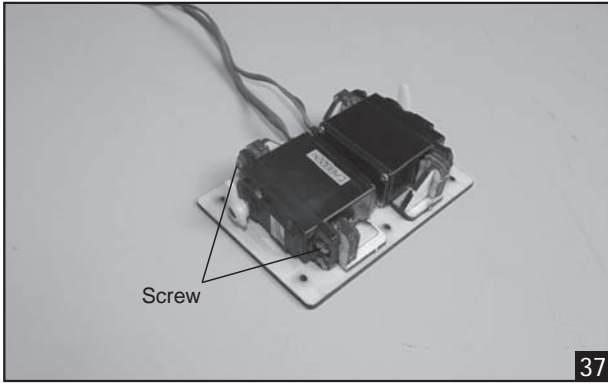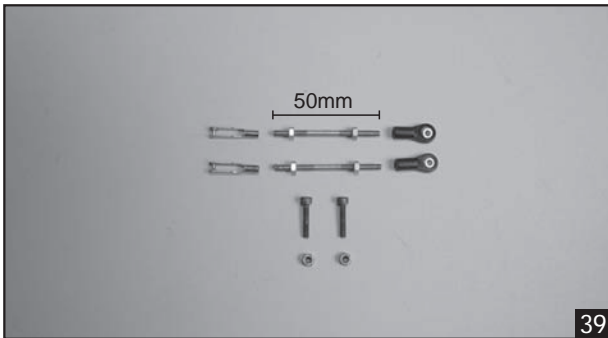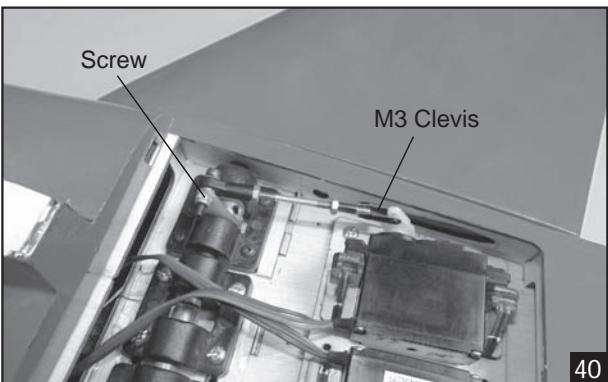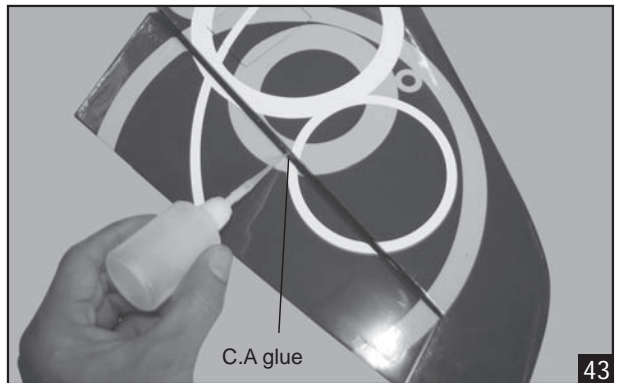
3. Secure the servo plate to the fuselage.
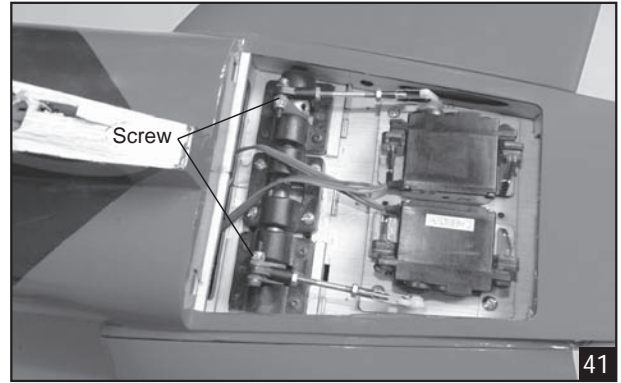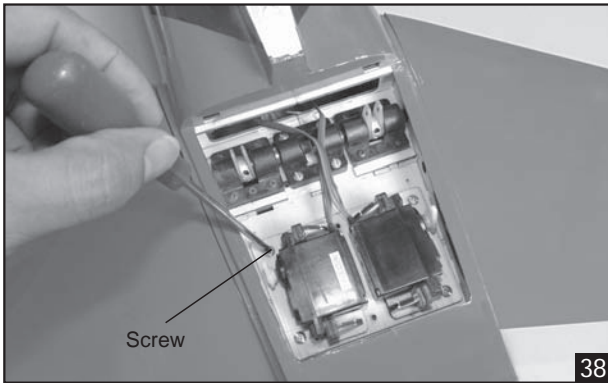
INSTALLING THE ELEVATOR LINKAGES

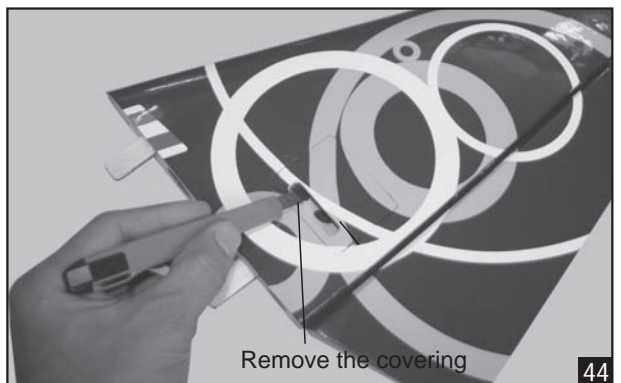Make the same way from installing the aileron linkages for installing the elevator linkges.

50mm

Screw

M3 Clevis

Screw

Screw

INSTALLING THE RUDDER SERVO

1. Repeat these step from the installing aileron for the installing rudder.
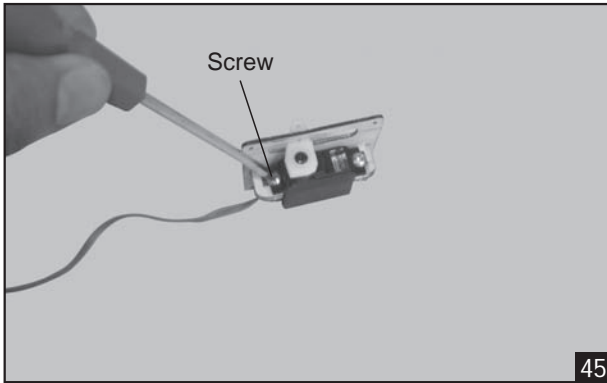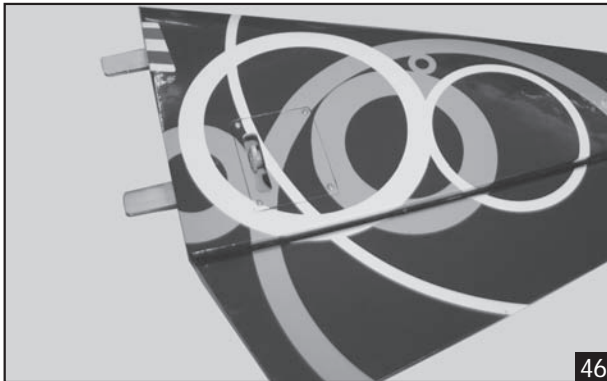

C.A glue

2. Remove the covering.

Remove the covering

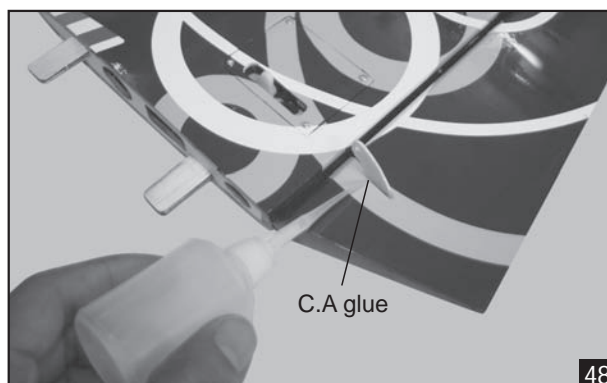3. Install the rudder servo.

4. Secure the servo plate.

5. Remove the covering.

Remove the covering

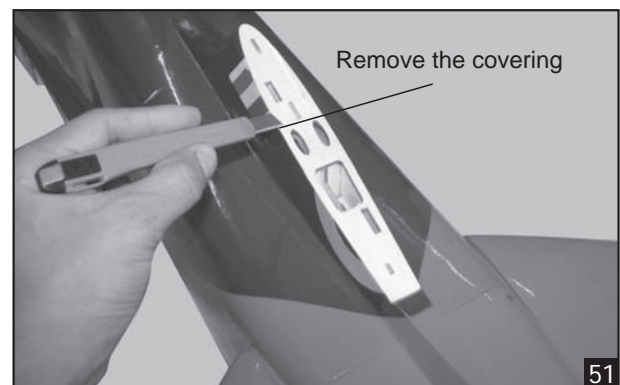6. Install and glue the rudder control horn.

C.A glue

INSTALLING THE RUDDER LINKAGES
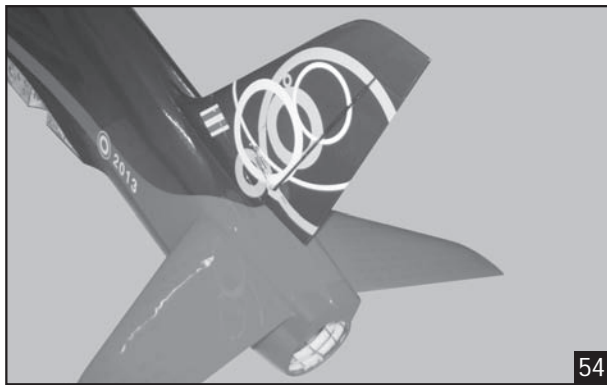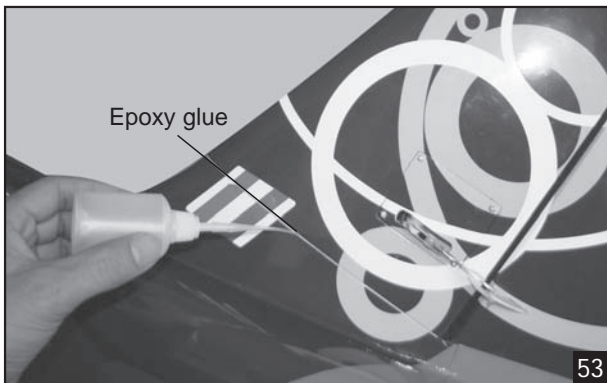
The rudder likages are assembleb as shown below.

INSTALLING THE VERTICAL STABILIZER

1. Remove the covering from the fuselage.

Remove the covering

Remove the covering

2. Install the vertical stabilizer and glue it using epoxy glue.
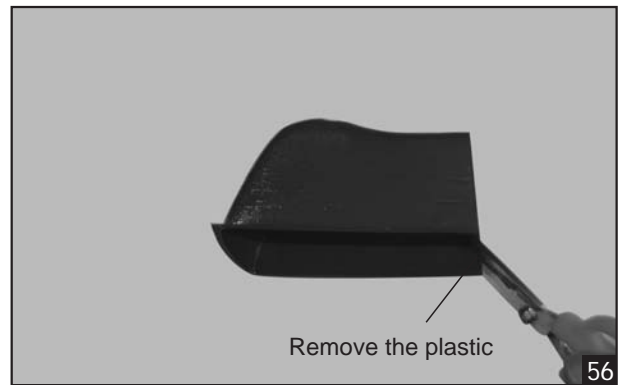

Servo lead

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Epoxy glue

53

54
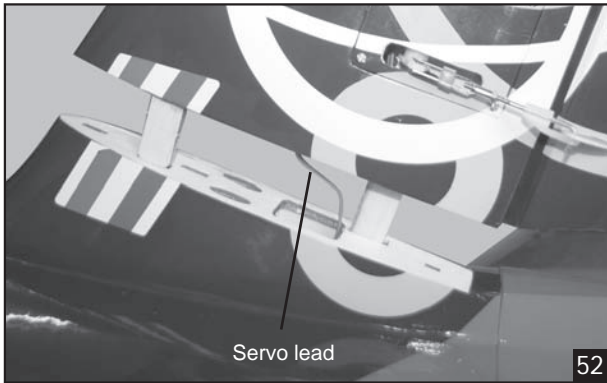
INSTALLING THE NOSE GEAR RETRACT

1. Install the steering nose servo into the servo tray in the fuselase.
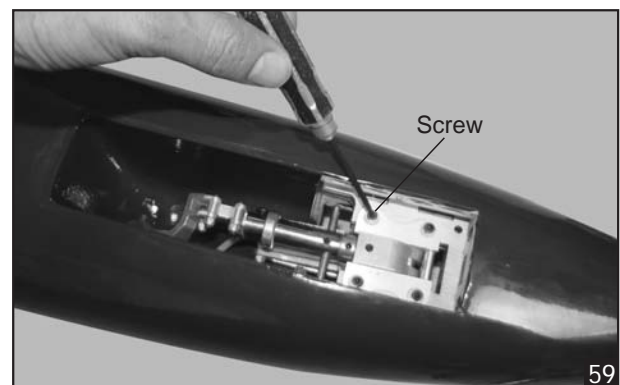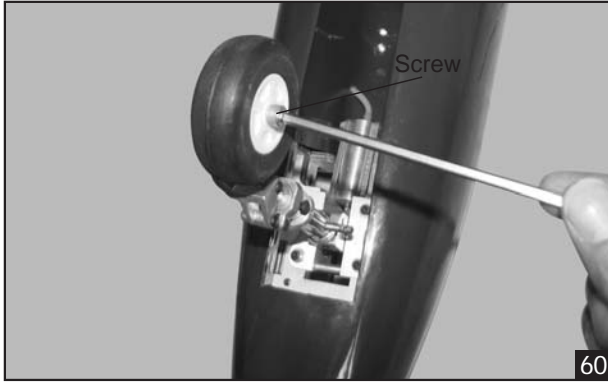

55

2. Remove the plastic.

Remove the plastic

56

3. C.A glue plastic.

C.A glue

57
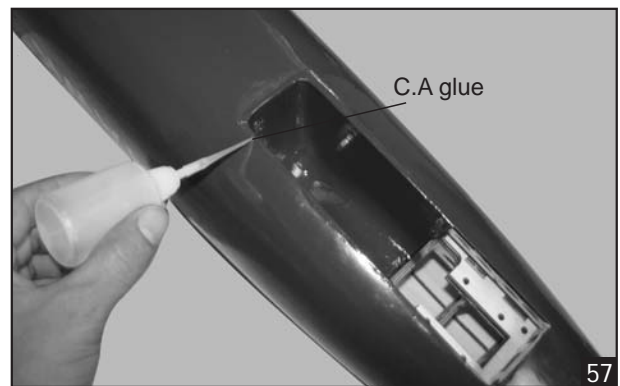
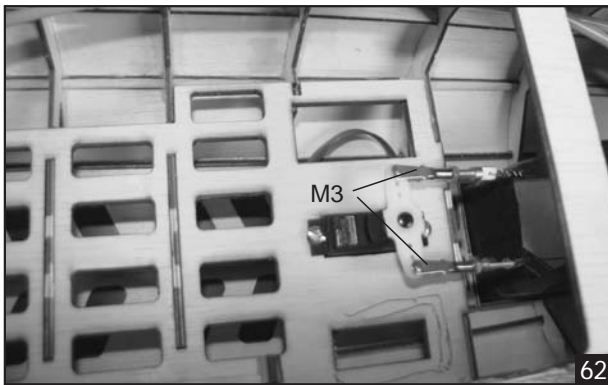4. Install the tube to the air retract.
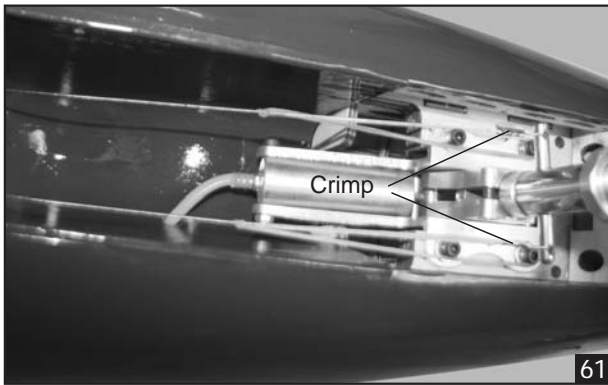

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5. Secure the air retract.

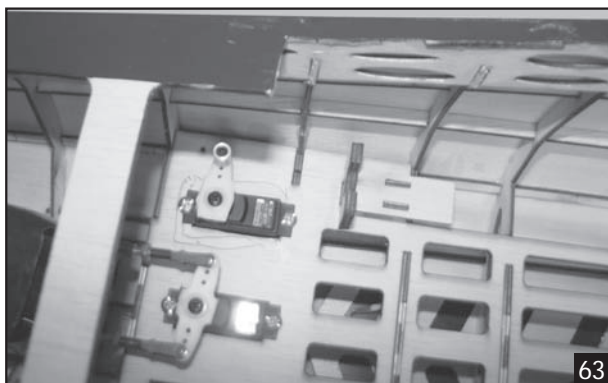Screw

59

6. Secure the nose wheel.

7. Slide and secure two cable rod to the nose geat.

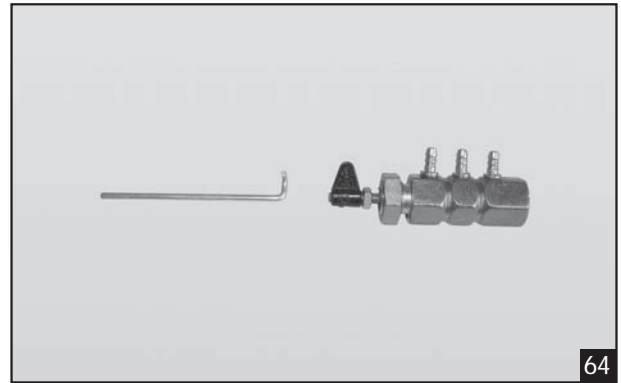## INSTALLING THE CONTROL AIR SYSTEM

1. Install the servo to the fuselage.

2. The air valve.

3. Attach the air valve to the servo.
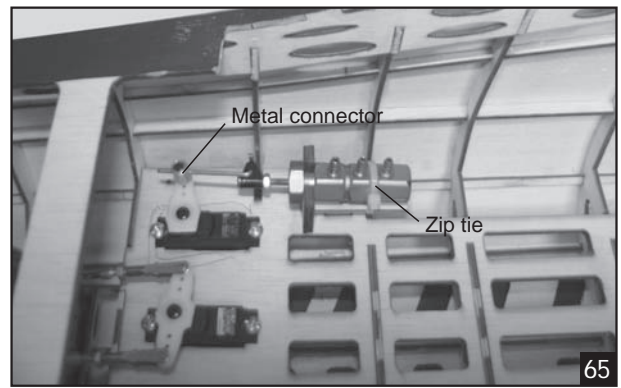
4. Install the air tank.

INSTALLING THE EDF

Remove the covering

Screw
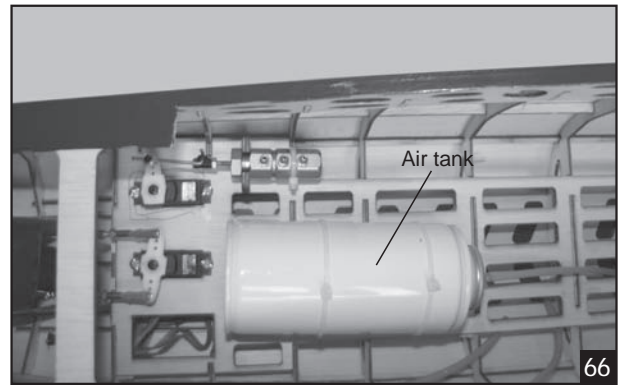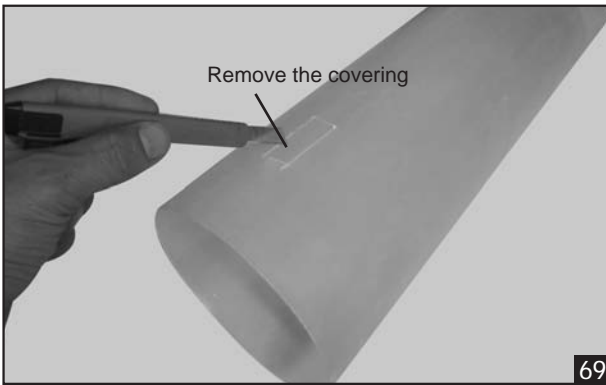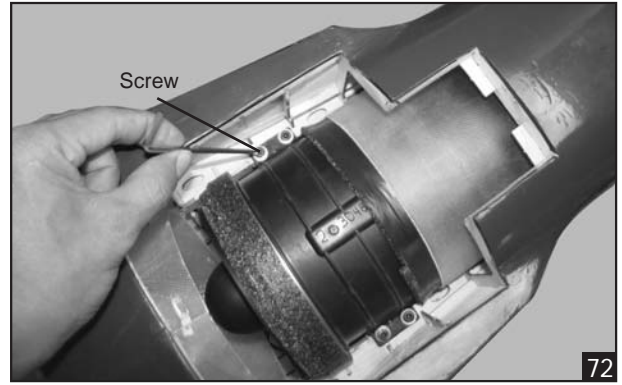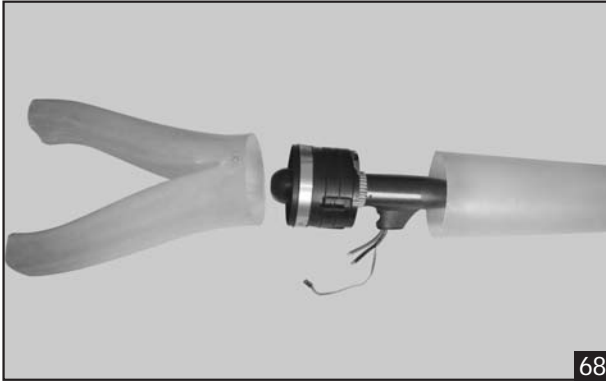
Wooden belt for EDF (Included with the kit).

C.A glue
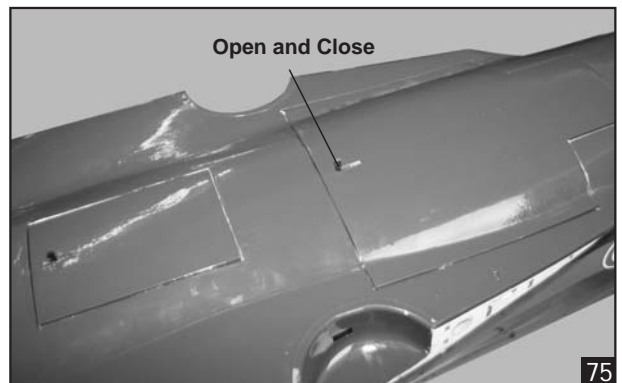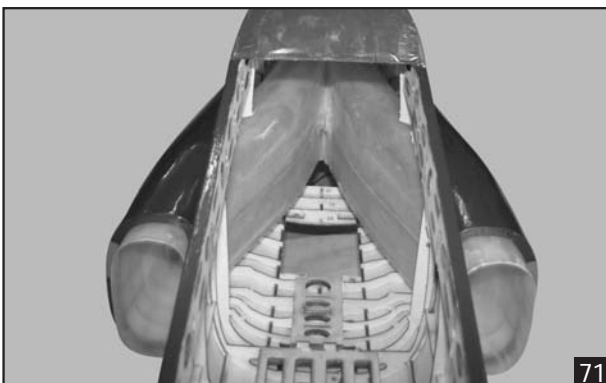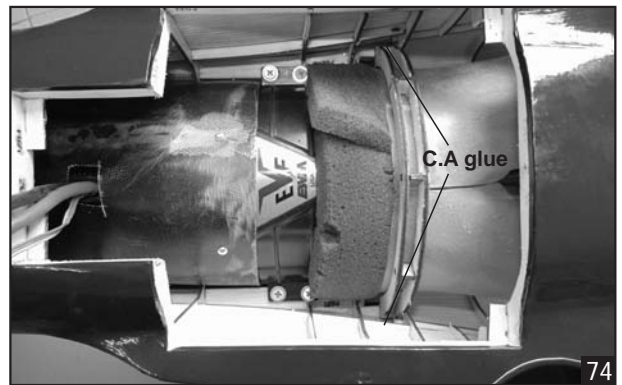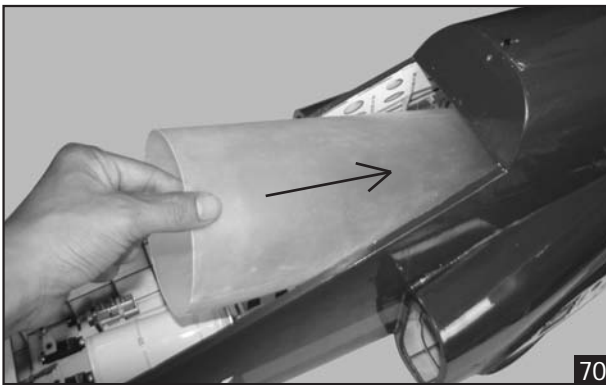
Open and Close

Trim the cowling.

- Glue the cowling.

C.A glue

- Trim the plastic cover.

- Remove the covering.

Remove the covering

- Glue the plastic cover using C.A glue.

Screw

C.A glue

C.A glue

C.A glue

C.A glue
84

C.A glue
85
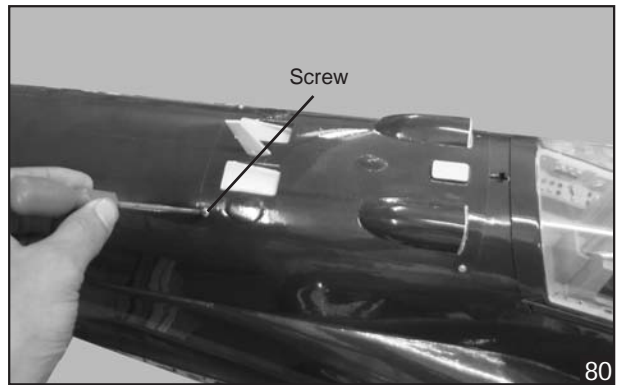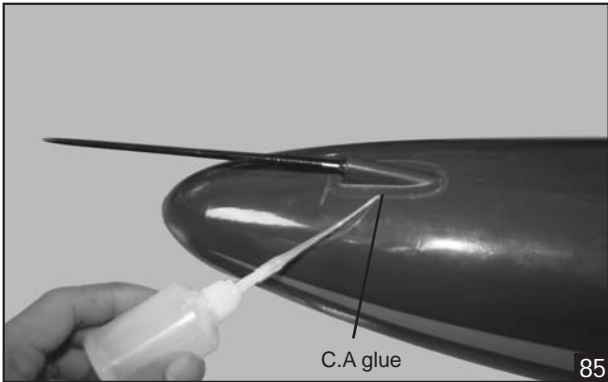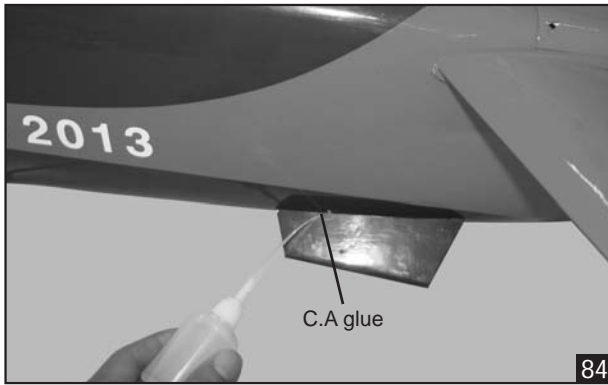
OPEN AND CLOSE THE CANOPY

Open and Close
86

BALANCING

1. It is critical that your airplane be balanced correctly. Improper balance will cause your plane to lose control and crash.

   THE CENTER OF GRAVITY IS LOCATED 194mm BACK FROM THE LEADING EDGE OF THE WING, AT THE FUSELAGE. BALANCE A PLANE UPSIDE DOWN WITH THE FUEL TANK EMPTY.

2. Mount the wing to the fuselage. Using a couple of pieces of masking tape, place them on the top side of the wing 194mm back from the leading edge, at the fuselage sides.
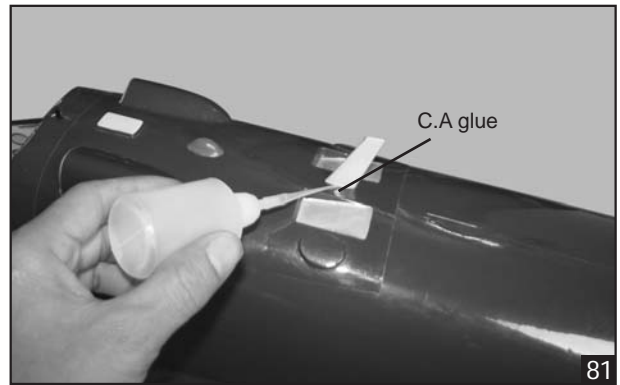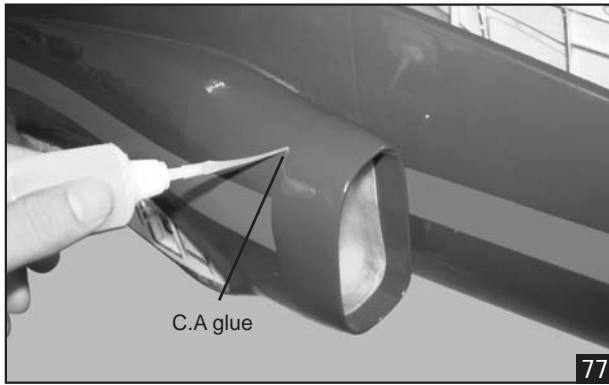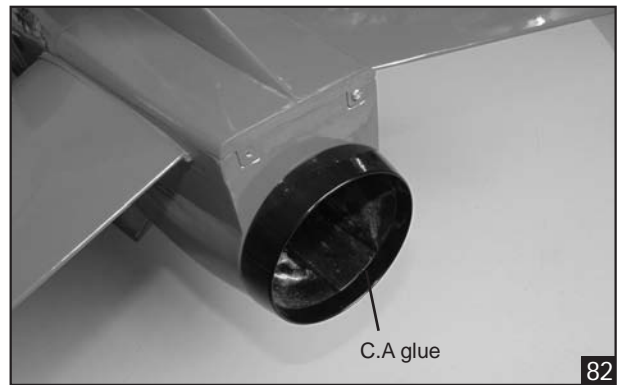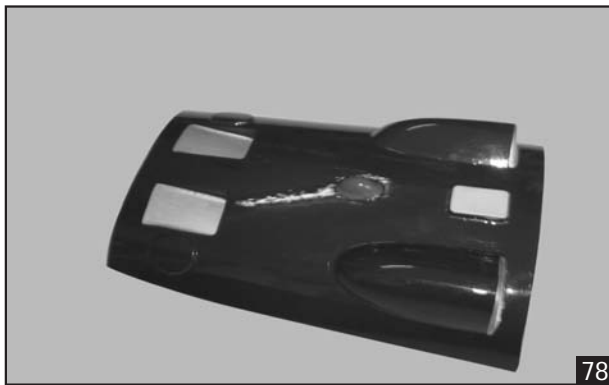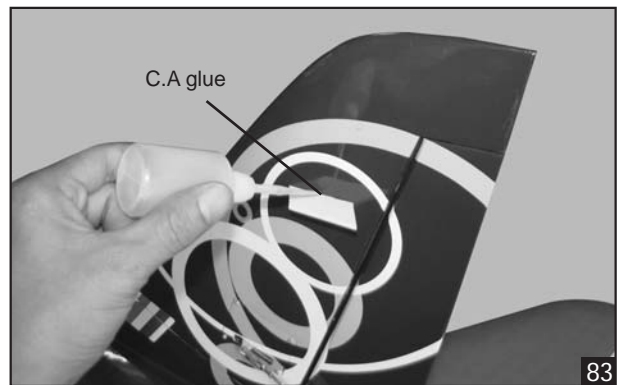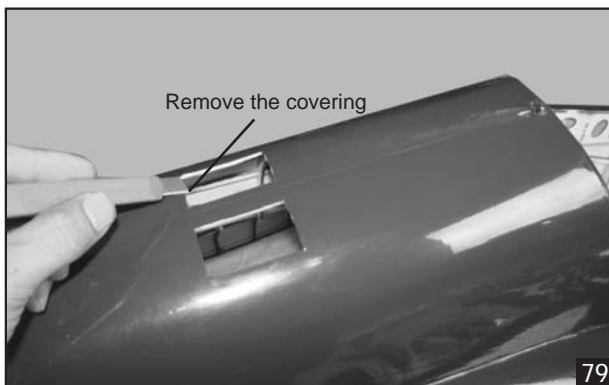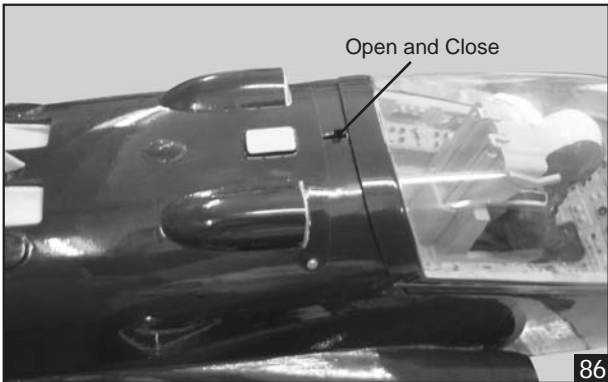
3. Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane.

4. If the nose of the plane falls, the plane is nose heavy. To correct this first move the battery pack further back in the fuselage. If this is not possible or does not correct it, stick small amounts of lead weight on the fuselage under the horizontal stabilizer. If the tail of the plane falls, the plane is tail heavy. To correct this, move the battery and receiver forward or if this is not possible, stick weight into the firewall. When balanced correctly, the airplane should sit level or slightly nose down when you lift it up with your fingers.

CG
194mm
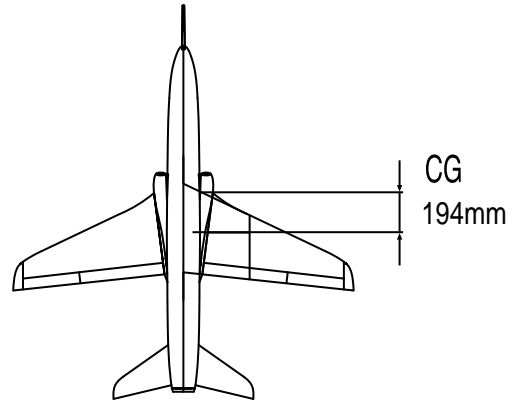
LATERAL BALANCE

After you have balanced a plane on the C.G. You should laterally balance it. Doing this will help the airplane track straighter.

5. Turn the airplane upside down. Attach one loop of heavy string to the engine crankshaft and one to the tail wheel wire. With the wings level, carefully lift the airplane by the string. This may require two people to make it easier.

6. If one side of the wing fall, that side is heavier than the opposite. Add small amounts of lead weight to the bottom side of the lighter wing half's wing tip. Follow this procedure until the wing stays level when you lift the airplane.

CONTROL THROWS

1. We highly recommend setting up a plane using the control throws listed.

2. The control throws should be measured at the widest point of each control surface.

3. Check to be sure the control surfaces move in the correct directions.

- **LOW RATE**

Ailerons : 10mm up	10mm down	
Elevator : 12mm up	12mm down	
Rudder : 20mm right	20mm left	

Aileron Control

10mm
10mm

Elevator Control

12mm
12mm

Rudder Control

20mm
20mm
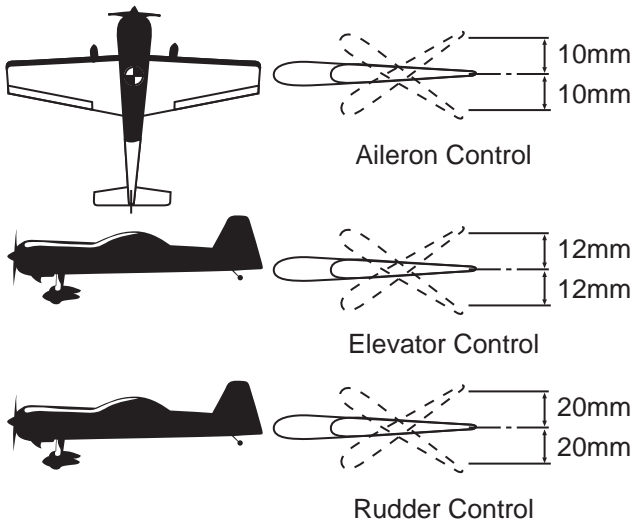
FLIGHT PREPARATION PRE FLIGHT CHECK

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

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

3. Double check the balance of the airplane

4. Check the control surface

5. Check the receiver antenna. It should be fully extended and not coiled up inside the fuselage.

6. Properly balance the propeller.

4 CHANNEL RADIO SETUP
(STANDARD MODE 2)

ELEVATOR MOVES UP

RIGHT AILERON MOVES UP
LEFT AILERON MOVES DOWN

RUDDER MOVES RIGHT

CARBURETOR WIDE OPEN

I/C FLIGHT GUIDELINES

When ready to fly, first extend the transmitter aerial.

Switch on the transmitter.

Switch on the receiver.

Check that the wings are correctly fitted to the fuselage.

Operate the control sticks on the transmitter and check that the control surfaces move freely and in the CORRECT directions.

Check that the transmitter batteries have adequate power.

ALWAYS take off into the wind.

If the model does not respond correctly to the controls, land it as soon as possible and correct the fault.

ALWAYS land the model INTO the wind, this ensures that the model lands at the slowest possible speed.

Switch off the receiver.

Switch off the transmitter.

Empty the fuel tank after flying, fuel left in the tank can cause corrosion and lead to engine problems.

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