PHOENIX MODEL®

BAE HAWK
SCALE 1:7 ½ ARF EDF 90MM

SPECIFICATION

- **Wingspan:** 1300mm (51.18 in)
- **Length:** 1279mm (50.35 in)
- **Flying weight:** 2.9-3.1 kg
- **Wing area:** 54.6 dm2
- **Wing loading:** 55g/dm2
- **Wing type:** Semi-symmertrical airfoils
- **Covering type:** Genuine ORACOVER®
- **Retract gear type:** Mechanic retract gear with CNC Suspension Metal Struts(included)
- **Radio:** 6 - 9 channel . 8 mini hi-torque servo: 2 aileron; 2 flap; 2 elevator; 1 rudder; 1 steering nose; 3 servo retract futaba S3170G (not included)
- **Servo mount :** 13mm x 26mm

- **Engine:** edf 90mm (not included)
- **Gravity CG:** 150mm (5,9 in) Back from the leading edge of the wing, at the fuselage
- **Control throw Ailerons:** Low: 8mm up/down, 10% expo; High: 10mm up/down, 10% expo
- **Control throw Elevators:** Low: 8mm up/down, 12% expo; High: 10mm 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:** 90mm, Minimum thrust 2.7 kg. Motor out turner 3553- 1500W- 1750KV (not included)
- **Lipo cell:** 6 cells / 5500 – 6000mAh (not included)
- **Esc** 80-100 A (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 1:7 ½ ARF EDF 90MM 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.
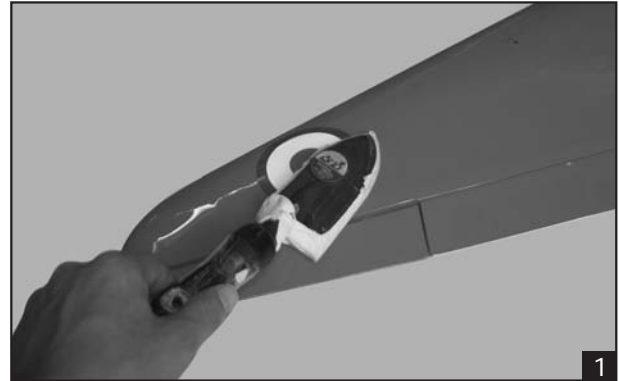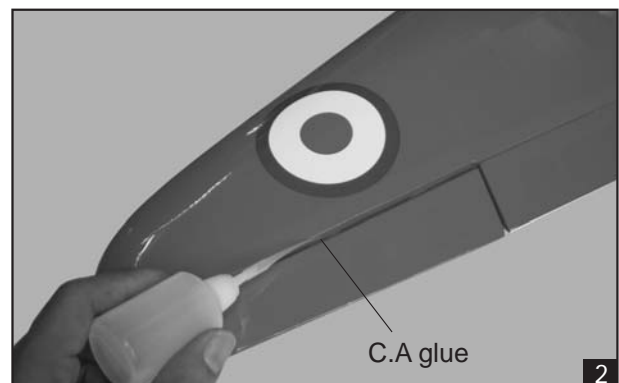

INSTALLING THE AILERONS

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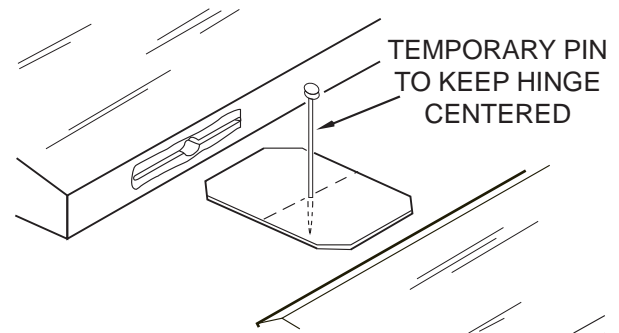
2. Apply six drops of thin CA to the top and bottom of each hinge. Do not use CA accelerator. After the CA has fully hardened, test the hinges by pulling on the aileron.


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.
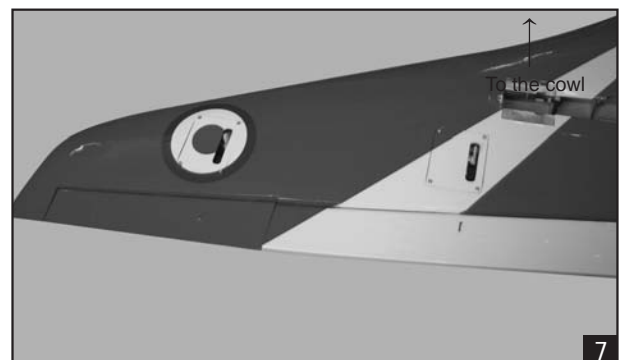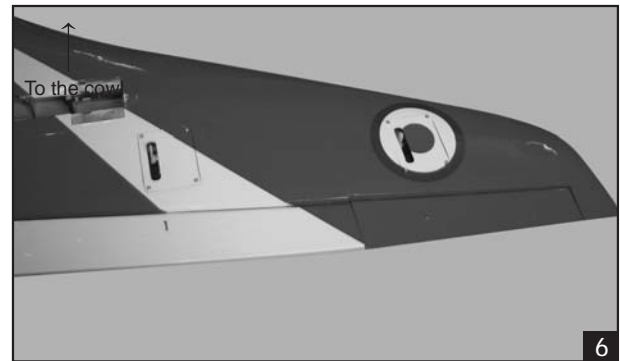

Remove the covering
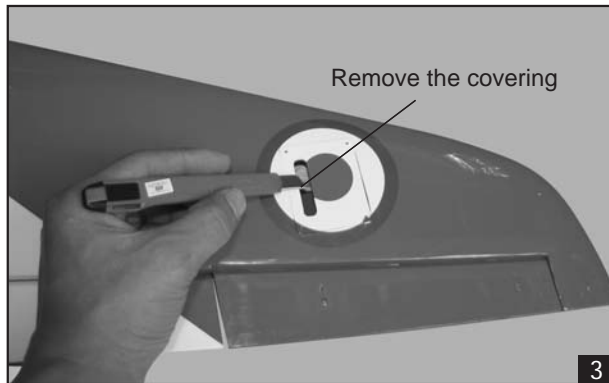
3. Place the servo into the servo tray. Center the servo within the tray and drill 1,6mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.
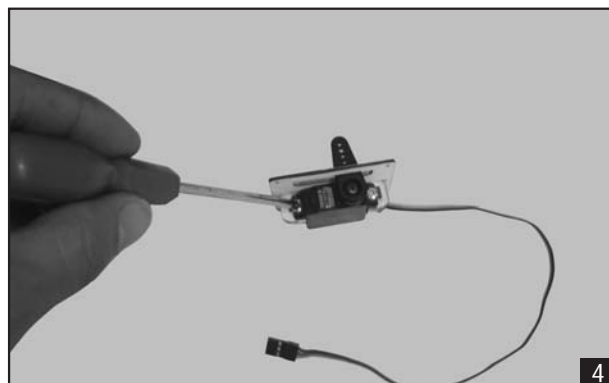
4. Using the thread as a guide and using masking tape, tape the servo lead to the end of the thread: carefully pull the thread out. When you have pulled the servo lead out, remove the masking tape and the servo lead from the thread.

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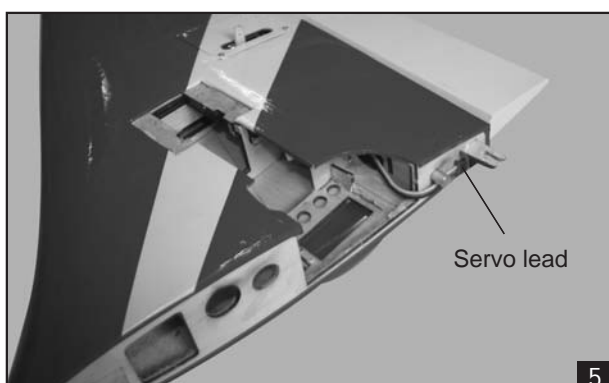
5. Place the aileron servo tray / hatch into the servo box on the bottom of the wing and drill pilot holes through the tray and the servo box for each of the four mounting screws. Secure the servo tray in place using the mounting screws provided (2mm x 12mm).

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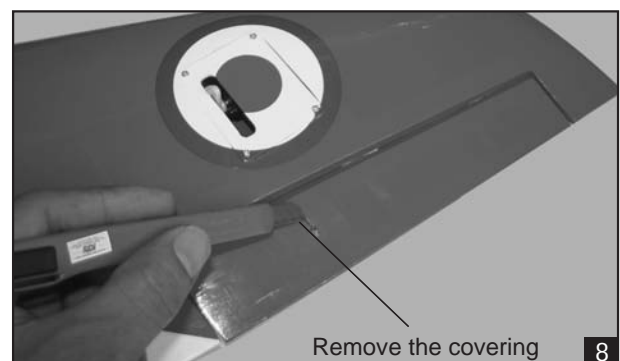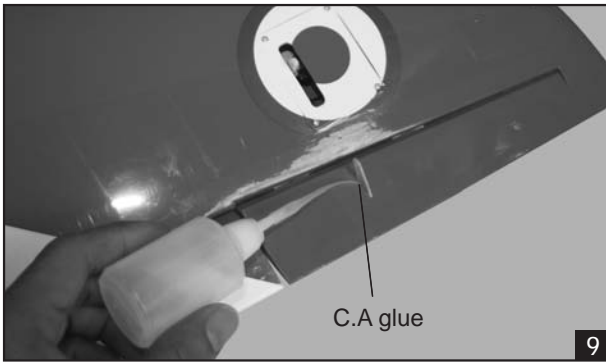
3. Repeat step # 1 - # 2 to install the control horn on the opposite aileron.
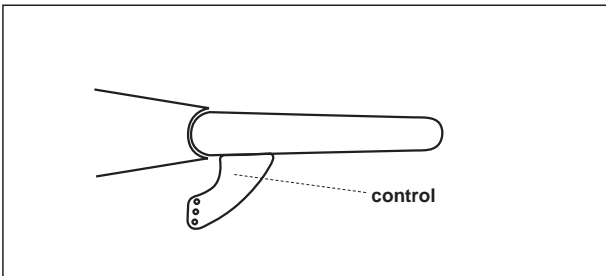
control

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
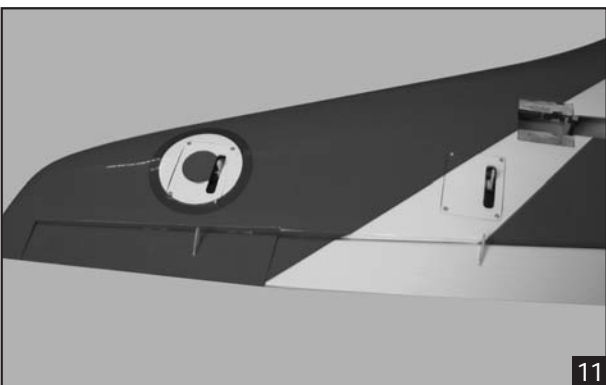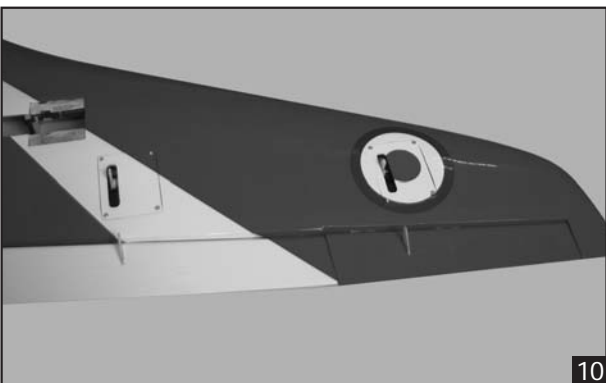
INSTALLING THE AILERON LINKAGES

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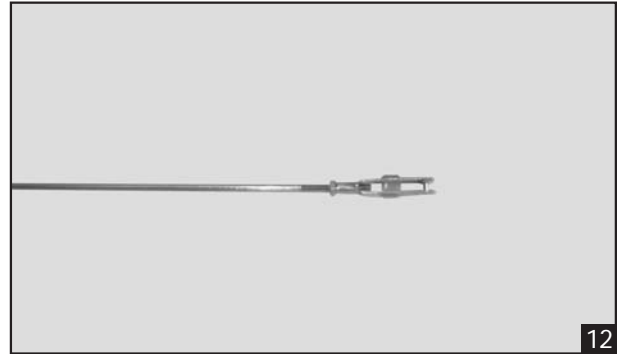
2. Attach the clevis to the outer hole in the control horn. Install a silicone tube on the clevis.

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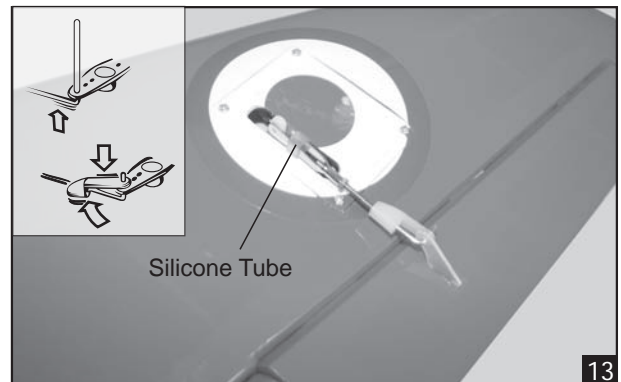
8. Insert the 90 degree bend down through the hole in the servo arm. Install one nylon snap keeper over the wire to secure it to the arm. Install the servo arm retaining screw and remove the masking tape from the aileron.

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.
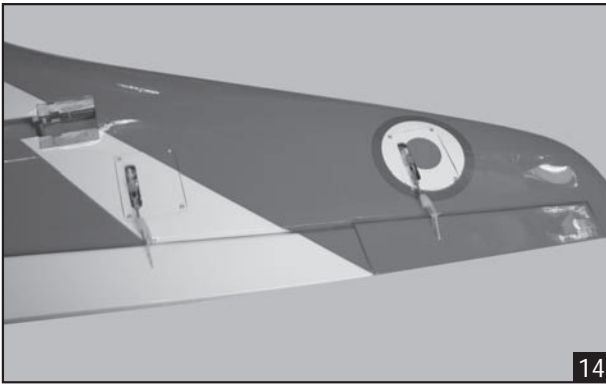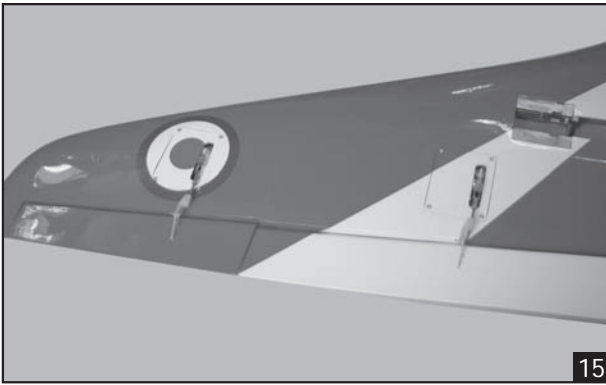
INSTALLING THE LANDING GEAR
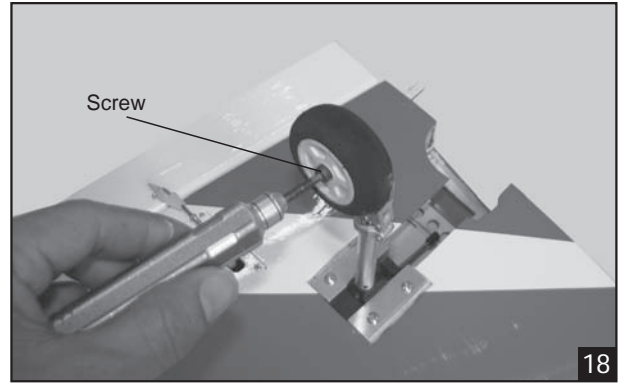
OPTION 01: MECHANIC RETRACT

1. The retract set.

2. Secure the retract to the wing.

Screw
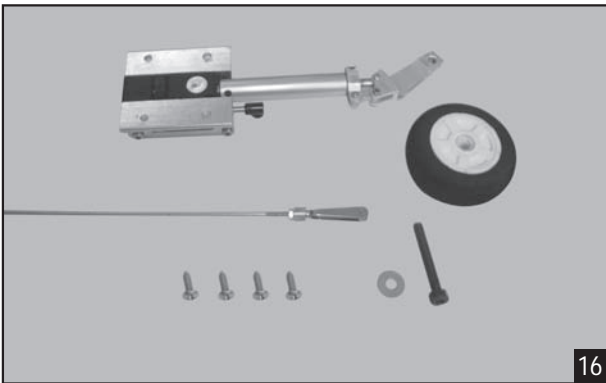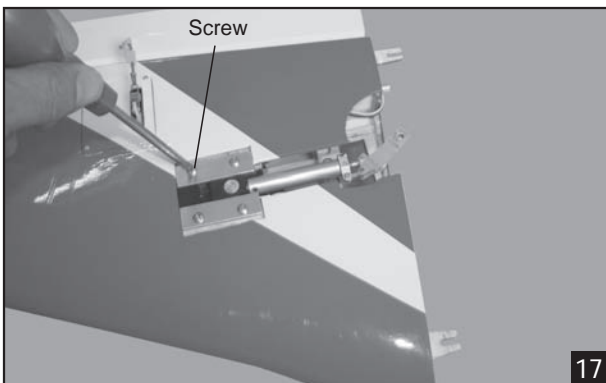
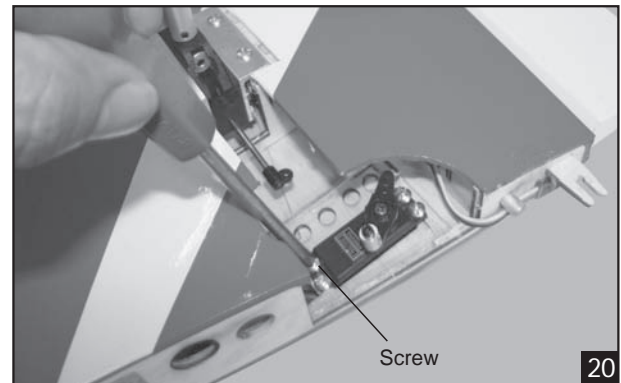3. Install and secure the wheel.

Screw

4. Remove the covering.

Remove the covering
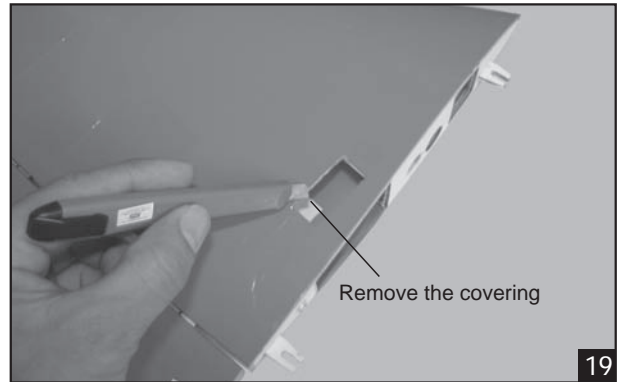
5. Install the servo retract gear.

Screw

6. Attach the rod to the servo.
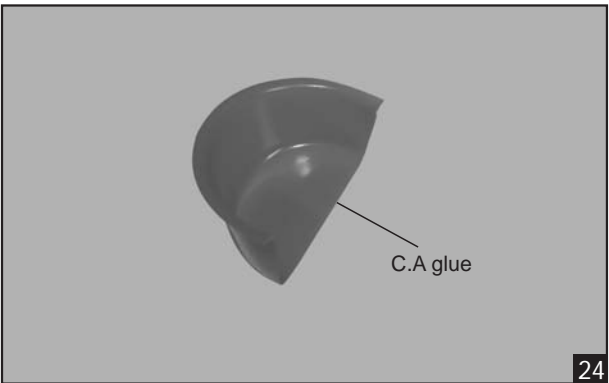
7. Trim the plastic cover.

Remove the covering
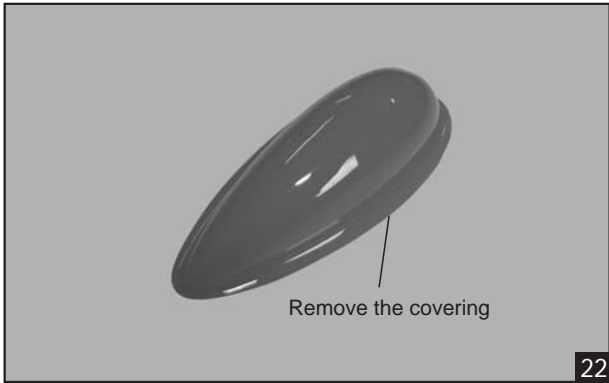
22

8. Glue the plastic cover.

C.A glue
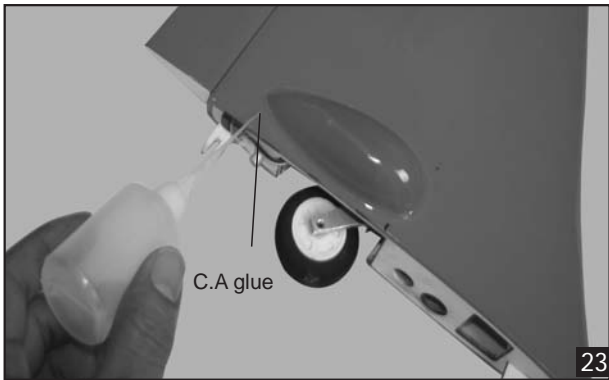
23

9. Trim the plastic cover.
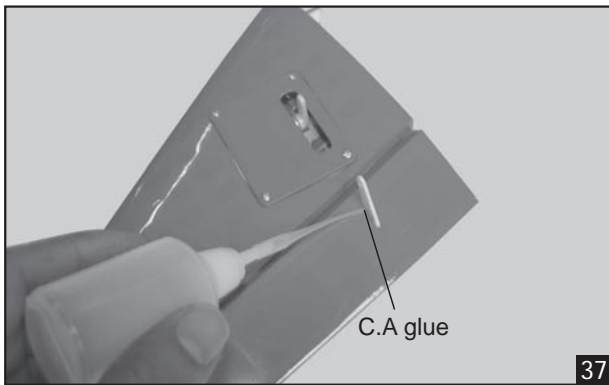

C.A glue

24

10. Glue the plastic cover.

C.A glue
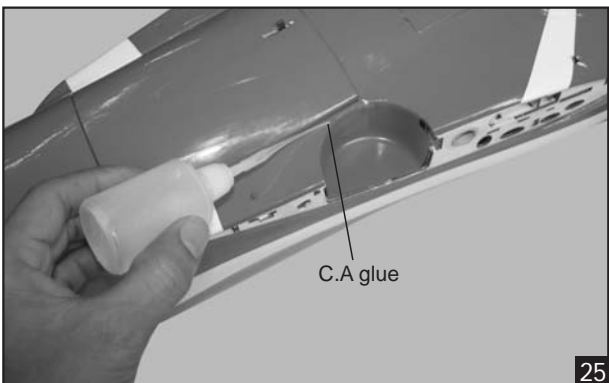
25

OPTION 02: ELECTRIC RETRACT

(NOT INCLUDED WITH THE KIT)

In case you want to use with the. Electric retract (not included with the kit), please pay attention with the dimension as picture below.

Electric retract gear (not included)

33mm
21mm
36mm
74mm

26

Electric retract gear (not included)

28mm
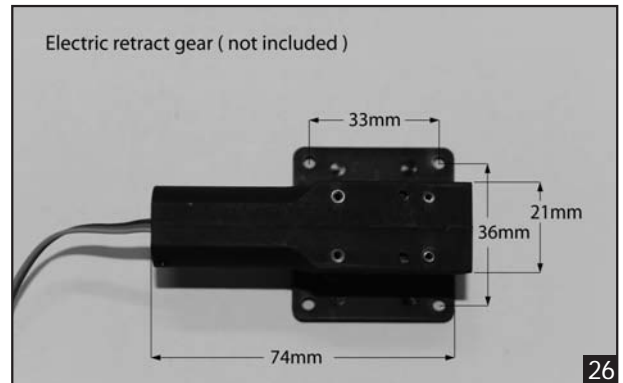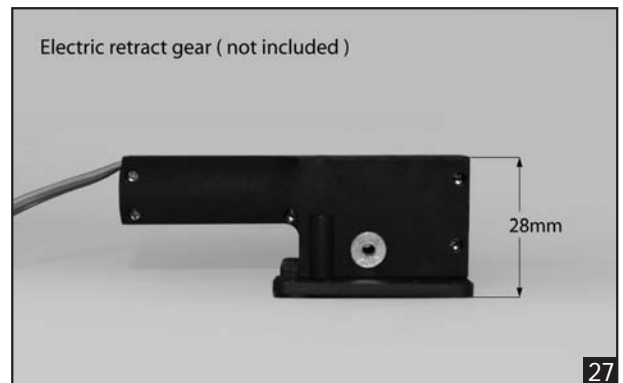
27

1. The retract set (Electric retrac not included with the kit).

Not included
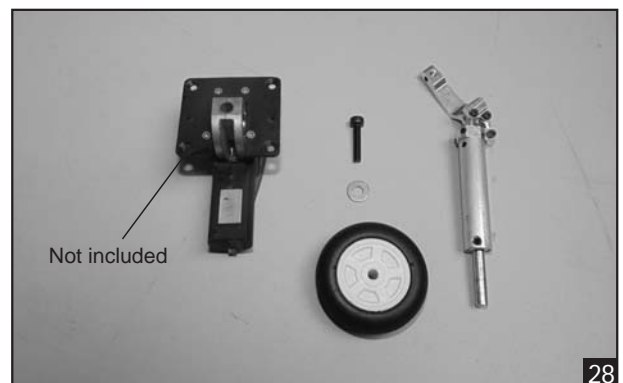
28

2. Secure the retract to the wing.

Screw

2. Secure the retract to the wing.

3. Install the servo.

Screw

4. Secure the servo plate.

INSTALLING THE HORIZONTAL STABILIZER

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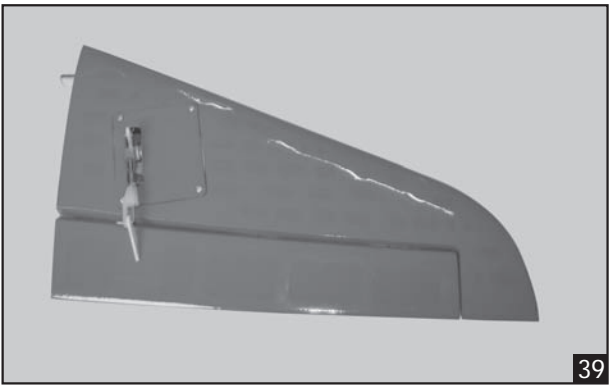

C.A glue
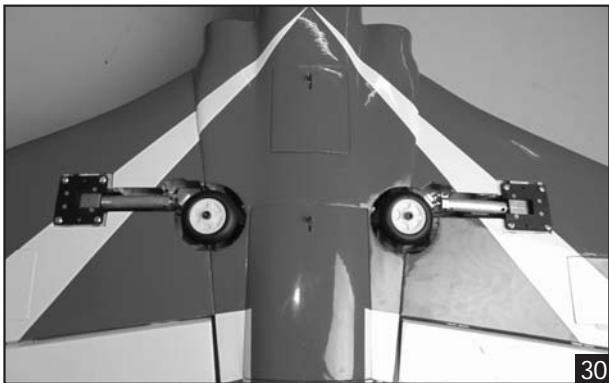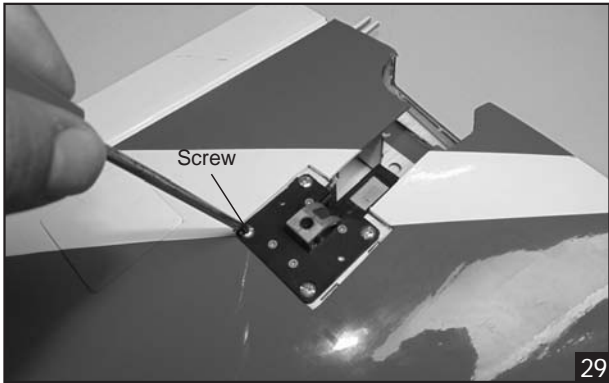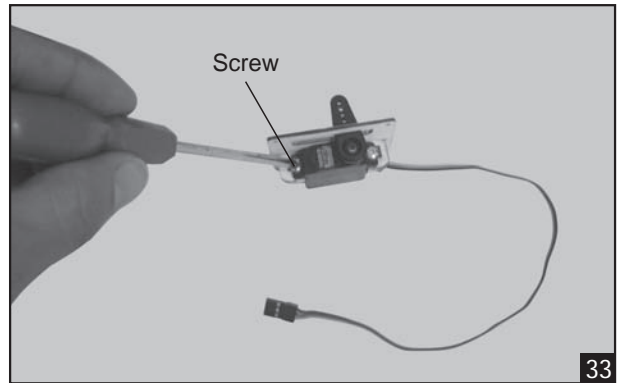
2. Remove the covering.

Remove the covering
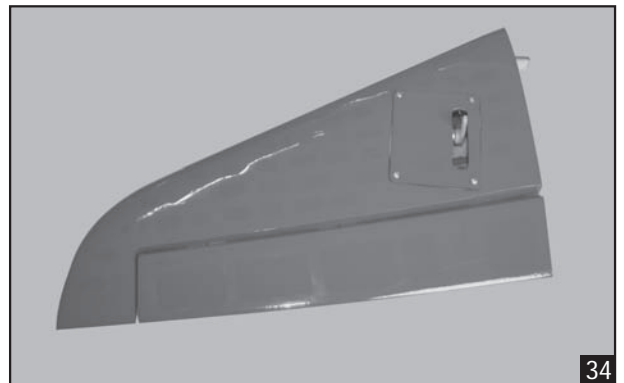
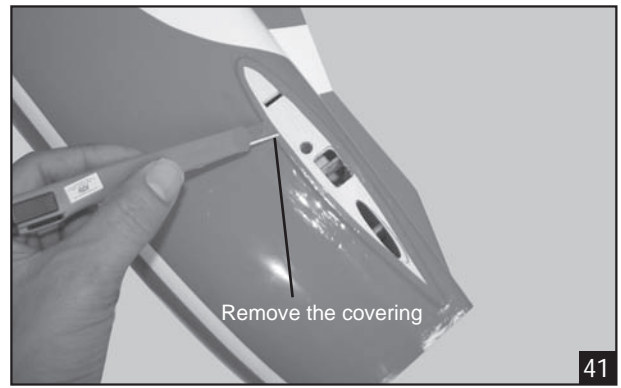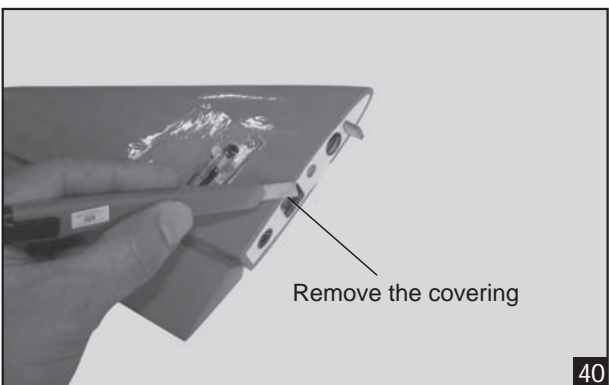5. Make the same way for the second stabilizer.
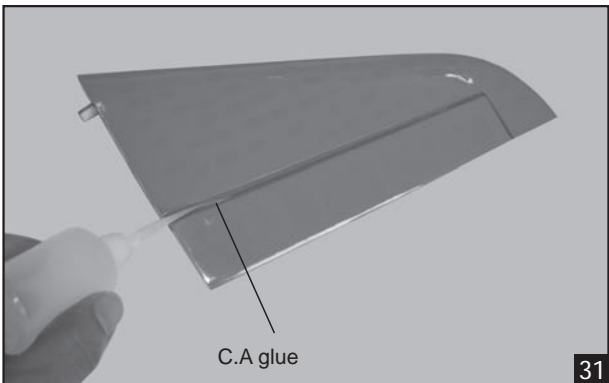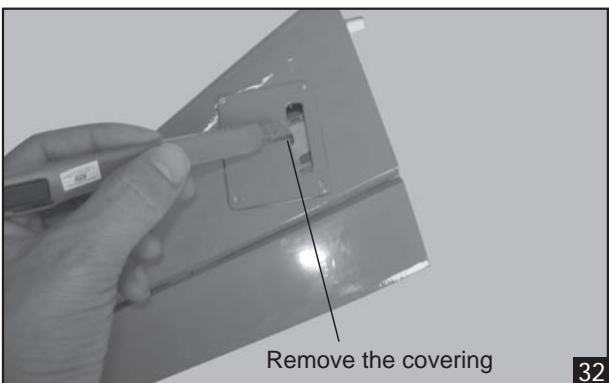
6. Remove the covering.
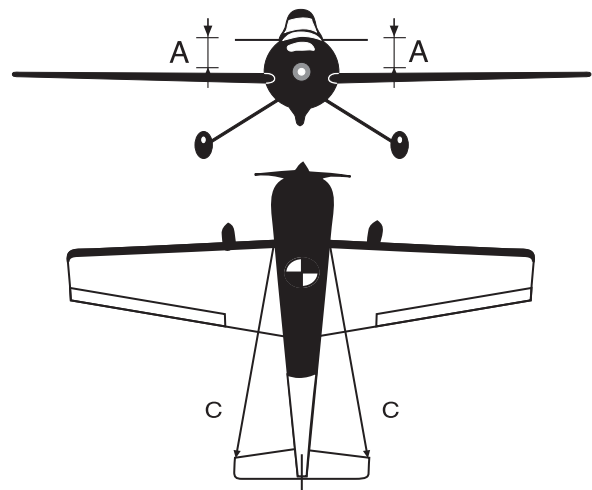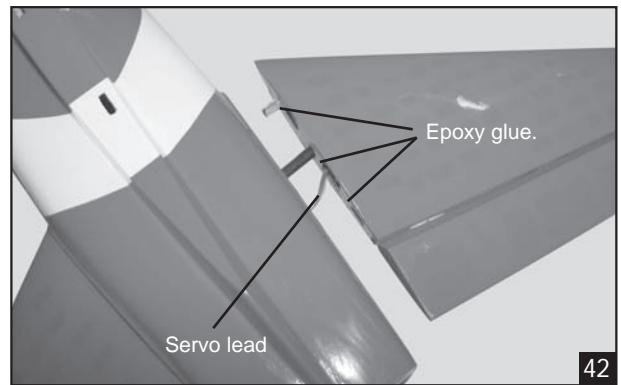

Remove the covering
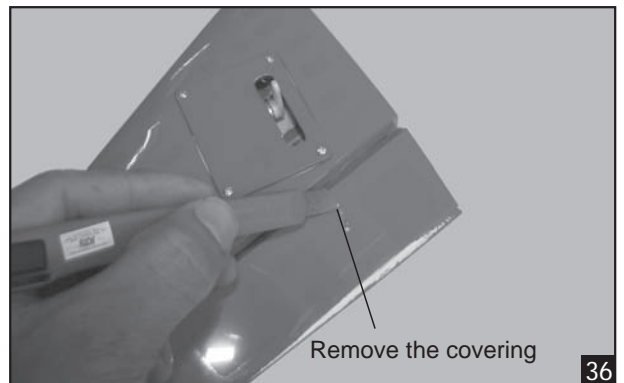
7. Install and glue the elevator control horn.

C.A glue

37

8. The rudder likages are assembleb as shown below.
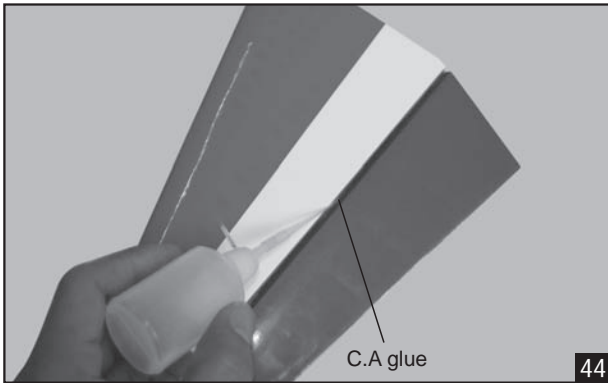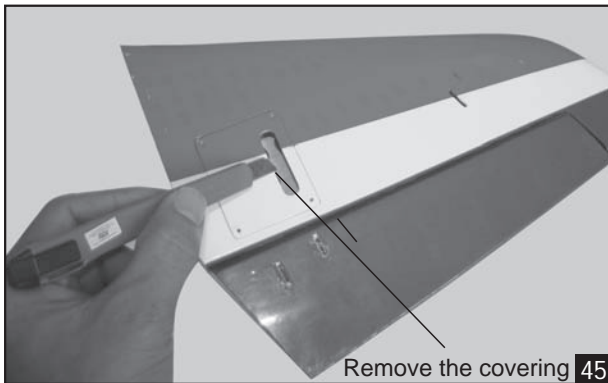

38

39

9. Remove the covering.

Remove the covering

40

Remove the covering

41

10. Install the horizontal stabilizer and glue it using epoxy glue.

Epoxy glue.

Servo lead

42

A   A

C   C

Epoxy glue

43
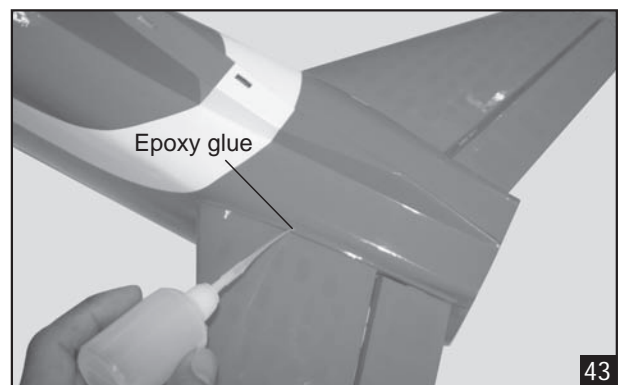
INSTALLING THE VERTICAL STABILIZER

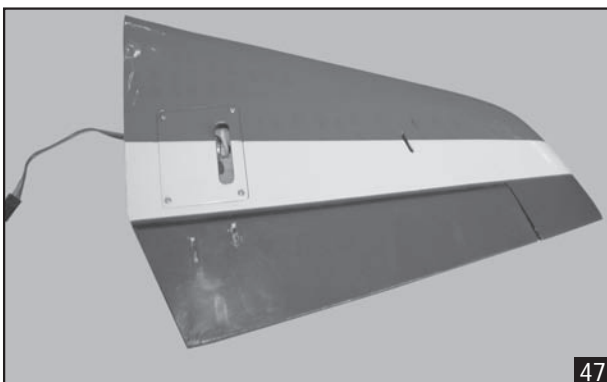1. Repeat these step from the installing aileron for the installing rudder.
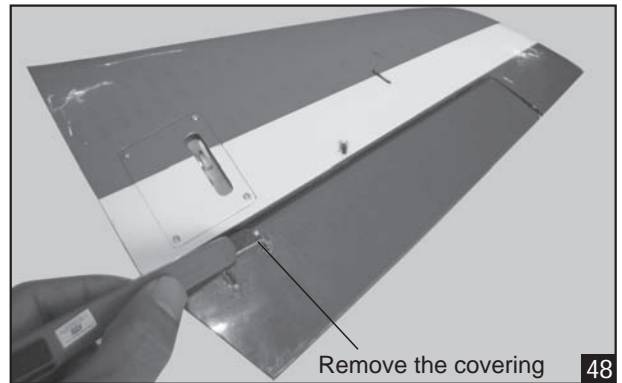

C.A glue   44

2. Remove the covering.

Remove the covering   45

3. Install the rudder servo.

Screw

46

4. Secure the servo plate.

47
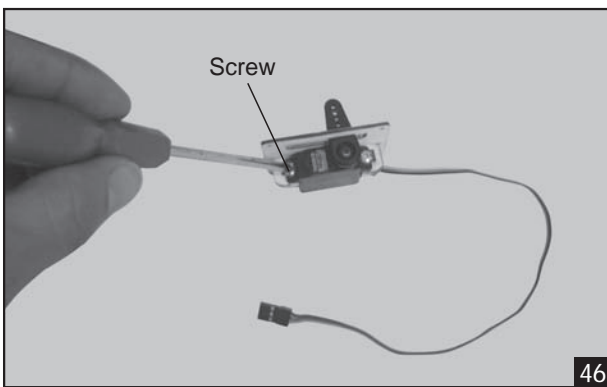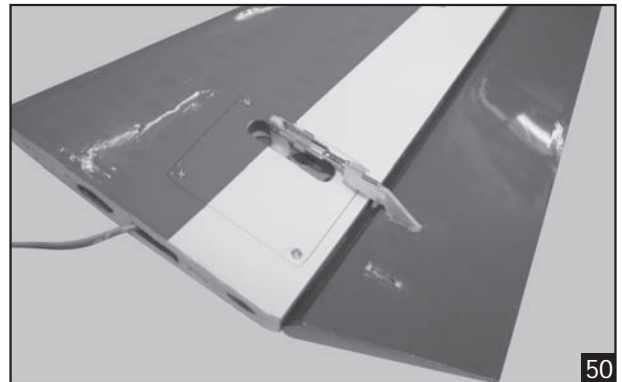
5. Remove the covering.

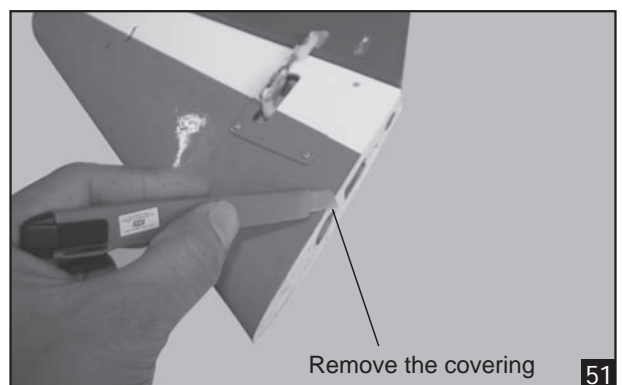Remove the covering   48

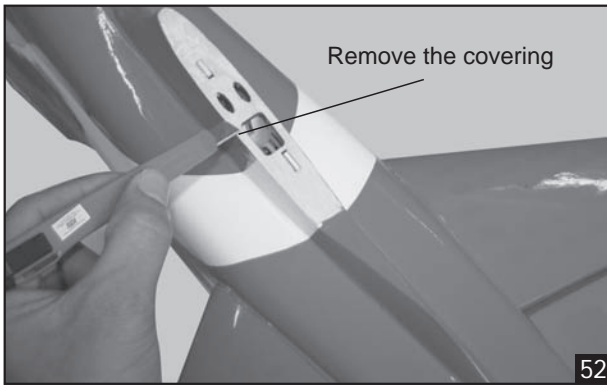6. Install and glue the rudder control horn.

C.A glue   49
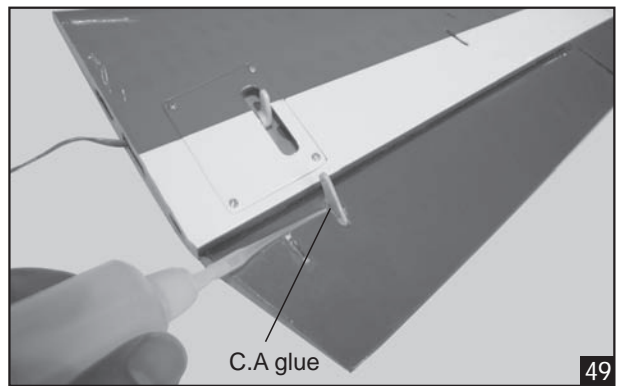
7. The rudder linkages are assembleb as shown below.
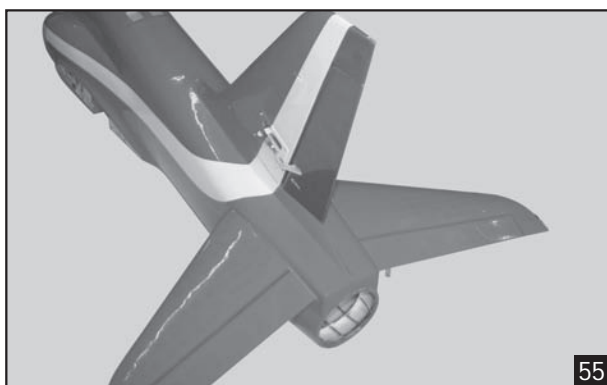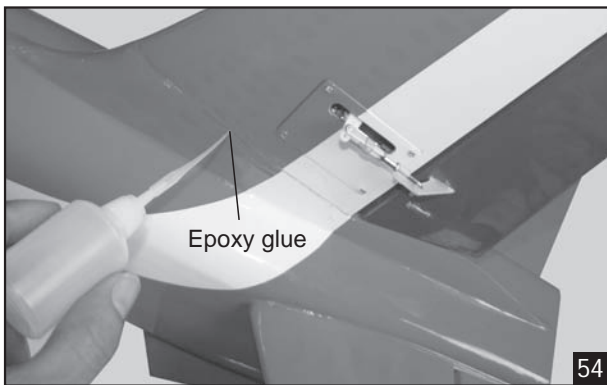

50

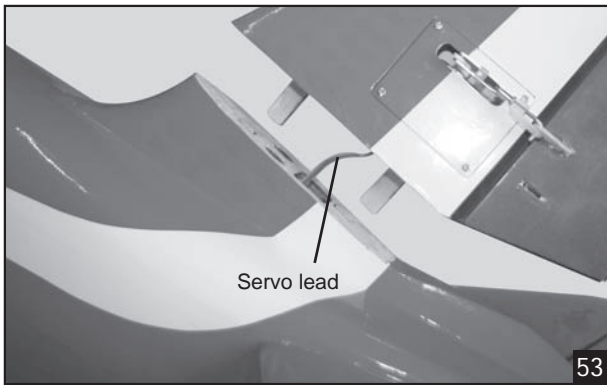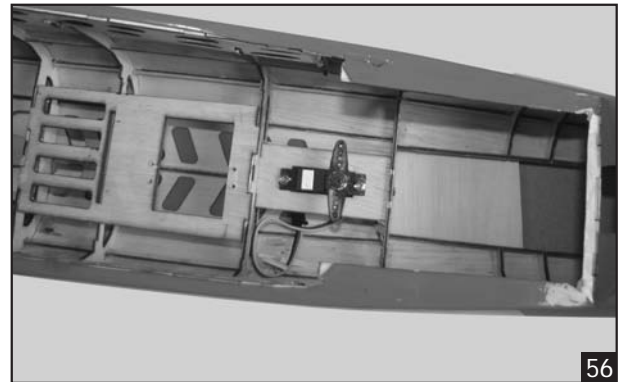8. Remove the covering.

Remove the covering   51

Remove the covering

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

Servo lead
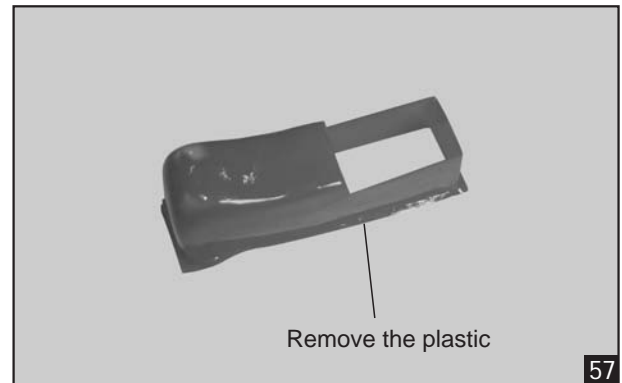

Epoxy glue

INSTALLING THE NOSE GEAR RETRACT
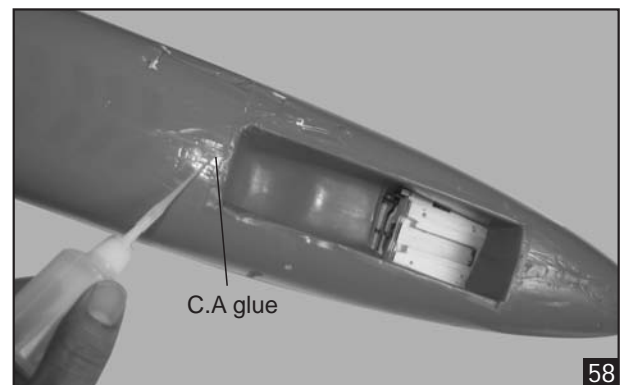
1. Install the steering nose servo into the servo tray in the fuselase.
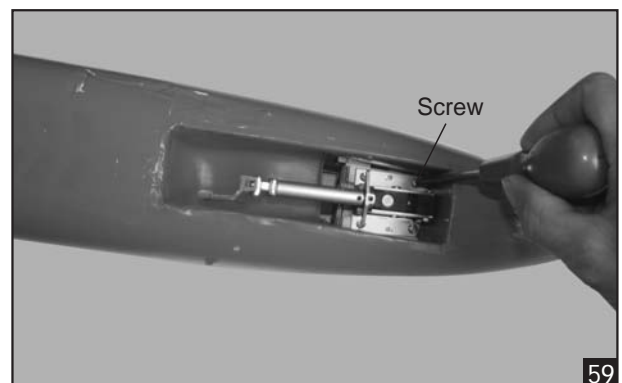

2. Remove the plastic.

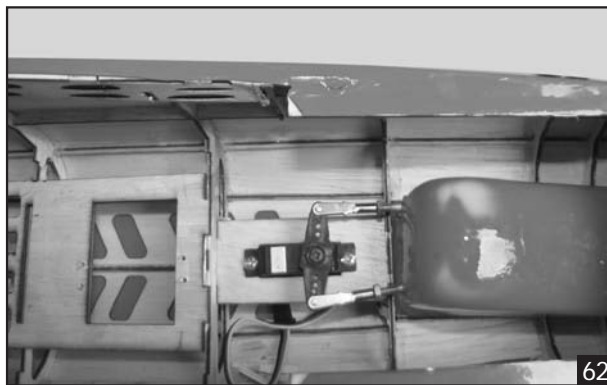Remove the plastic

3. C.A glue plastic.

C.A glue

4. Secure the retract.

Screw

5. Secure the nose wheel.
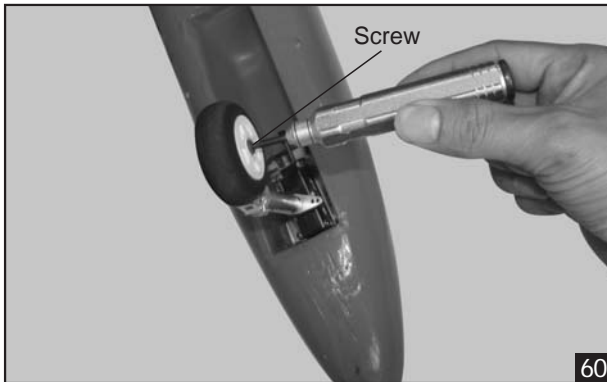
6. Slide and secure two cable rod to the nose gear.
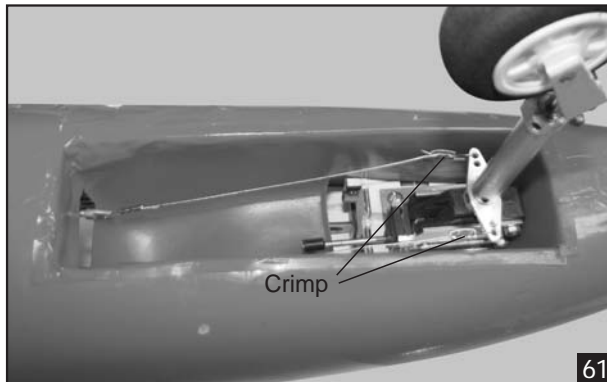
7. Install the servo retract nose gear.
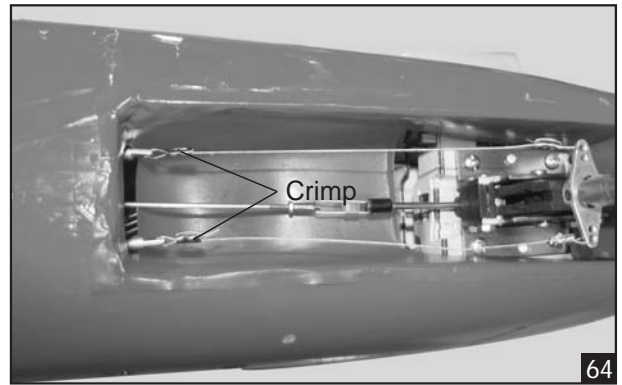
8. Attach the rod to the servo.
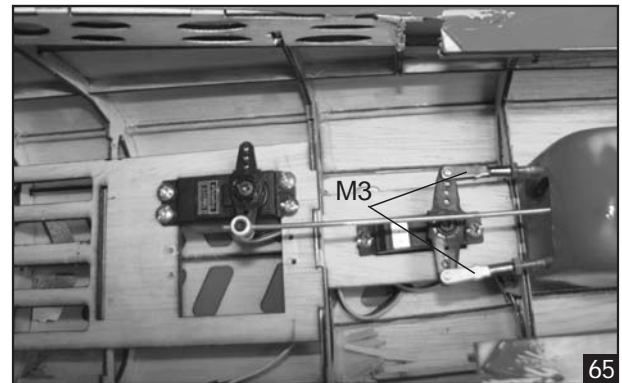
INSTALLING THE EDF
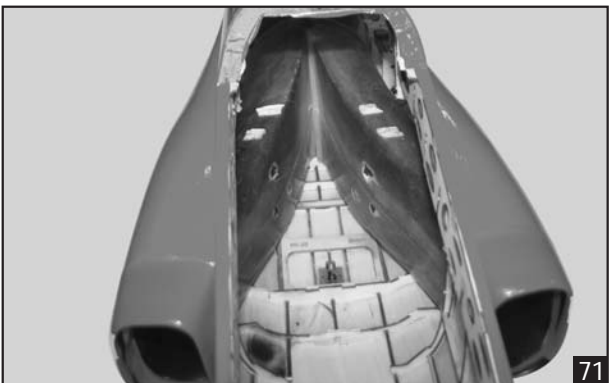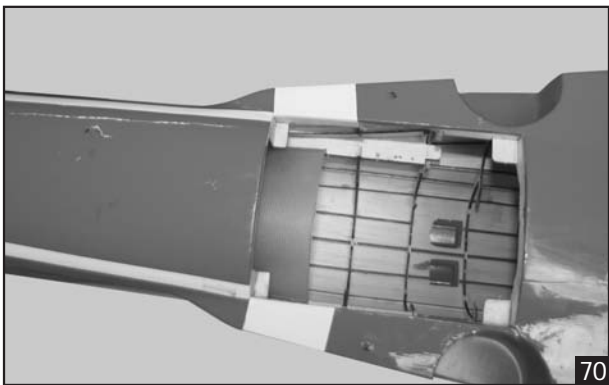
Remove the covering

68

Foam

72

69

Screw

73

70

Open and Close

74

Trim the plastic cover.

71

75

- Glue the plastic cover.

C.A glue

76

- Trim the plastic cover.

77
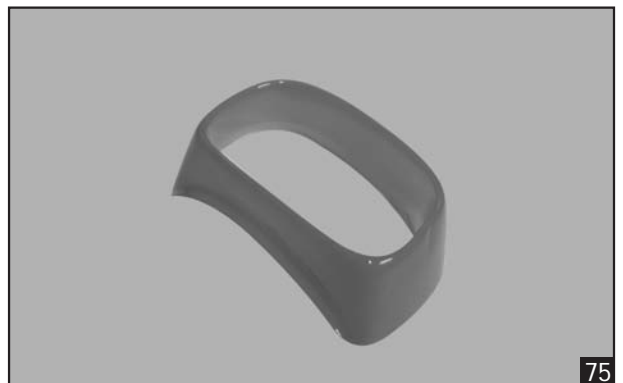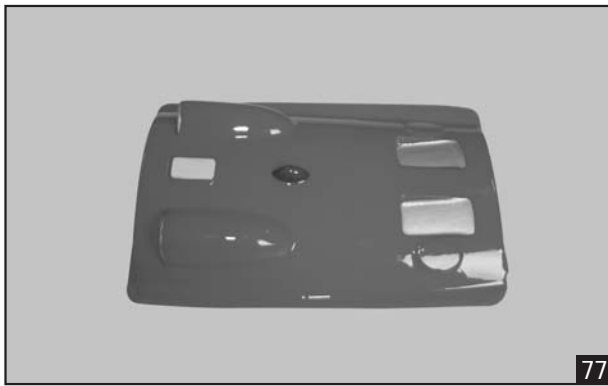
- Glue the plastic cover using C.A glue.

C.A glue

78

C.A glue

79

C.A glue

80

C.A glue

81

C.A glue

82

C.A glue

83

Remove the covering

84

C.A glue

85
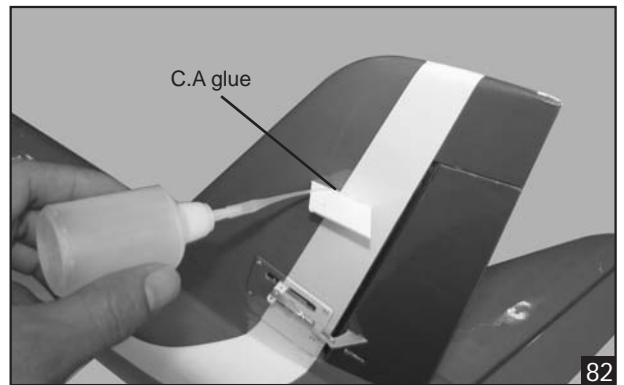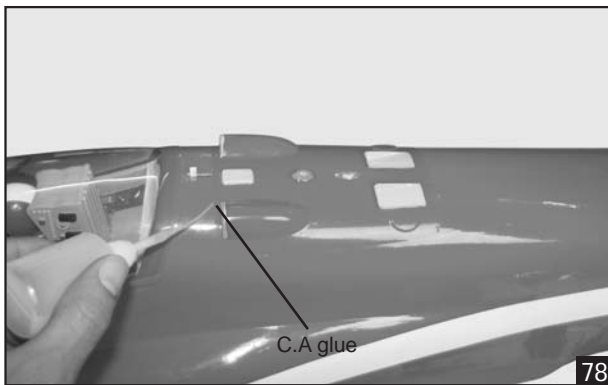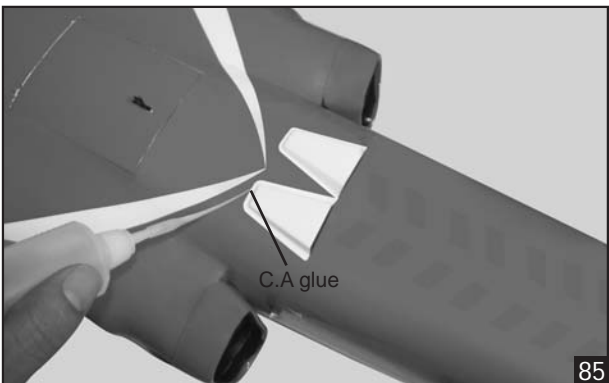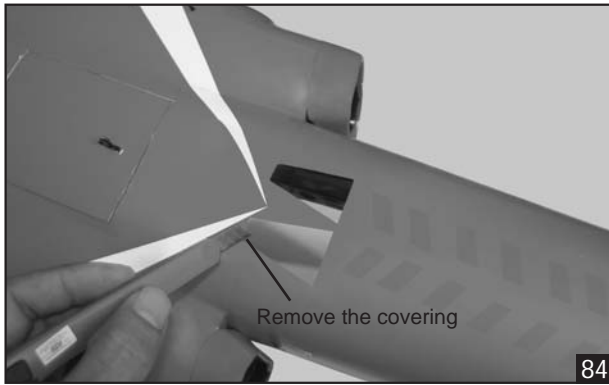
OPEN AND CLOSE THE CANOPY

Open and Close

86
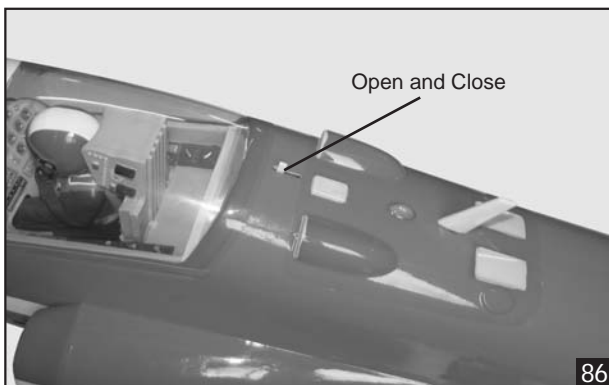
BALANCING

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 150mm 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 150mm back from the leading edge, at the fuselage sides.
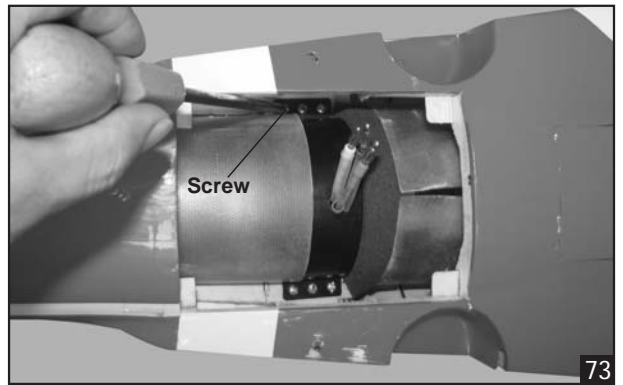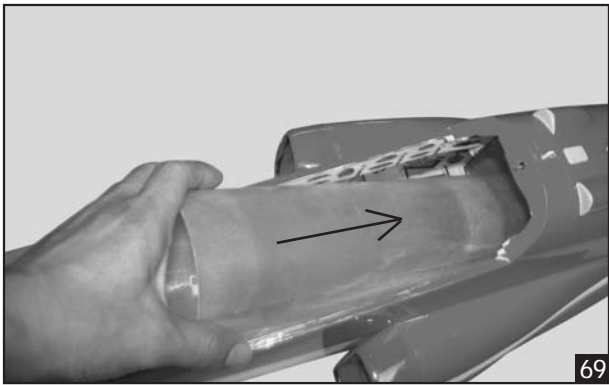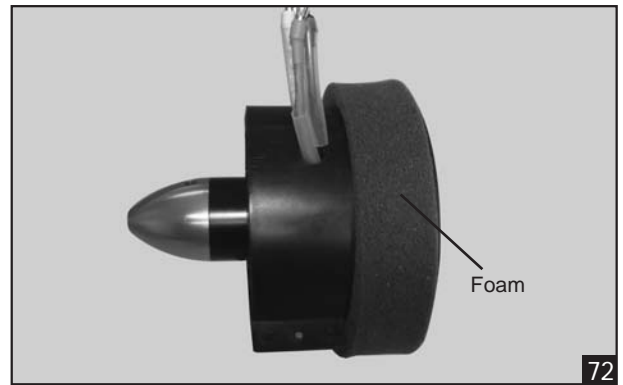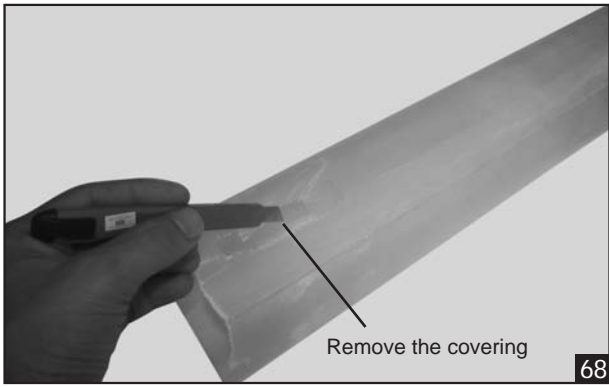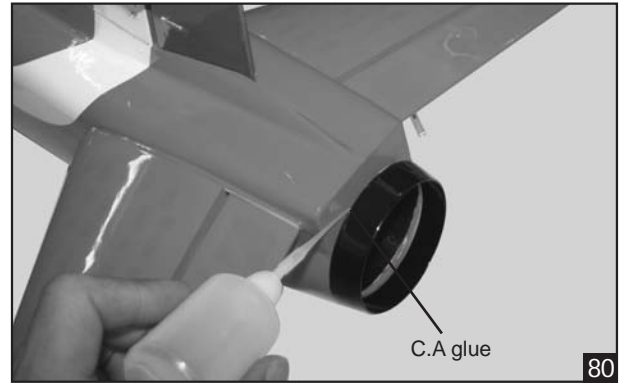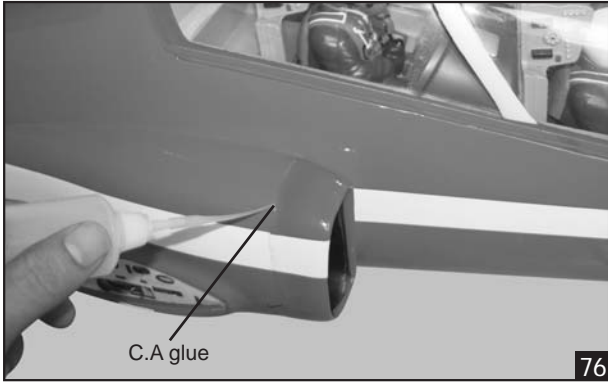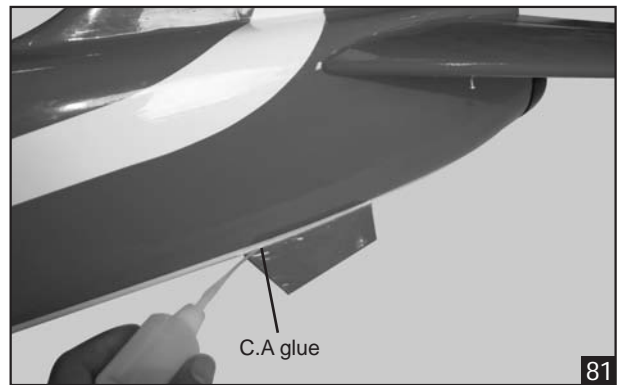
3. Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane.

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
150mm
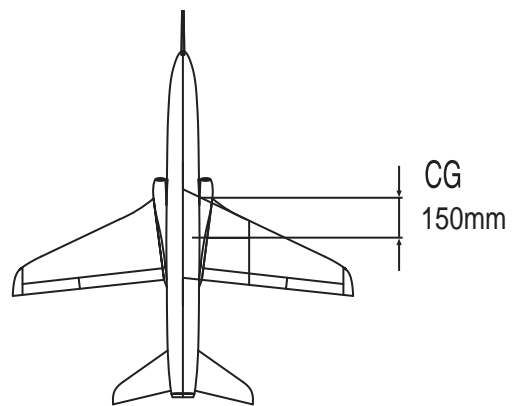
LATERAL BALANCE

After you have balanced a plane on the C.G. You should laterally balance it. Doing this will help the airplane track straighter.
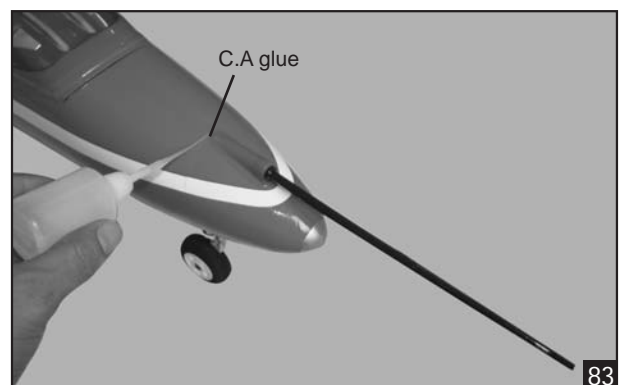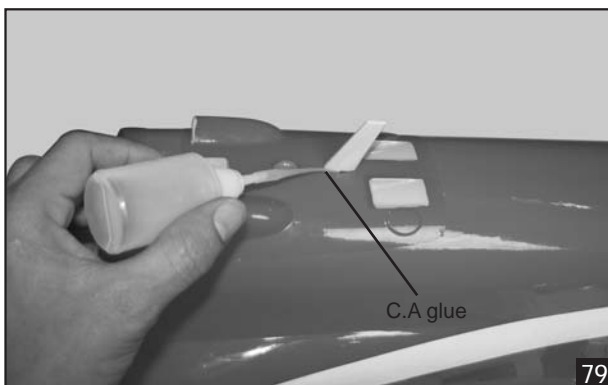
5. Turn the airplane upside down. Attach one loop of heavy string to the engine crankshaft and one to the tail wheel wire. With the wings level, carefully lift the airplane by the string. This may require two people to make it easier.

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 : 8mm up   8mm down
Elevator : 8mm up   8mm down
Rudder : 20mm right 20mm left

8mm
8mm

Aileron Control

8mm
8mm

Elevator Control

20mm
20mm

Rudder Control

4 CHANNEL RADIO SETUP
(STANDARD MODE 2)

ELEVATOR MOVES UP   RIGHT AILERON MOVES UP
                         LEFT AILERON MOVES DOWN

RUDDER MOVES RIGHT   CARBURETOR WIDE OPEN
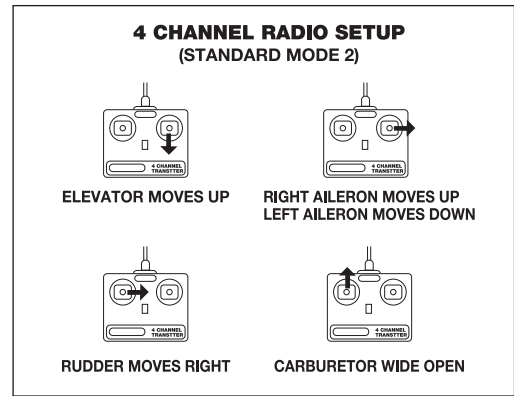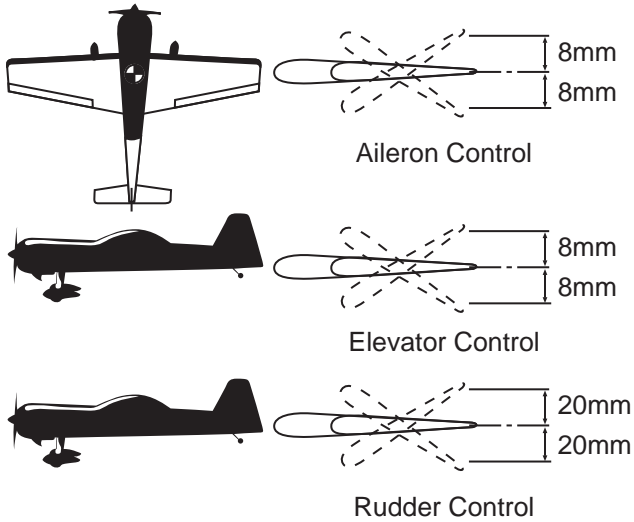
FLIGHT PREPARATION PRE FLIGHT CHECK

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.

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.

Made in Vietnam