

INSTRUCTION MANUAL

95% PRE-BUILT
ARF
ALMOST READY TO FLY



STREGA



Wingspan : 1385 mm (54.5 inches)



Length : 1185 mm (46.6 inches)



Weight : 2360 gr



Engine : 40 - 46 (two stroke)
48 - 53 (four stroke)



Radio : 4 channels / 5 servos



PHOENIX MODEL®

We wish you many enjoyable flights with your plane and once again thank you for your choosing a Phoenix Model products.

KIT CONTENTS: We have organized the parts as they were out of the box for better identification during assembly. We recommend that you regroup the parts in the same manner. This will ensure you have all of parts required before you begin assembly.

KIT CONTENTS

AIR FRAME ASSEMBLIES

- (2) Wing halves with ailerons
- (1) Fuselage with canopy, motor mount
- (1) Horizontal stabilizer with elevator halves
- (1) Vertical stabilizer with rudder
- (1) Fiber glass cowling
- (1) Air scoop
- (2) Wing fillet

MAIN GEAR ASSEMBLY

- (2) Main gear
- (2) 60mm diameter wheels
- (4) Nylon strap
- (4) Collars
- (4) 3mm x 6mm screws collars
- (8) 3mm x 12mm wood screw

TAIL WHEEL ASSEMBLY

- (1) Tail wheel bracket w/wire
- (1) 25mm diameter wheel
- (1) 2mm collar
- (1) 4mm screw
- (2) Nylon control clasp
- (4) 2mm x 10mm wood screw

ELEVATOR CONTROL SYSTEM

- (1) Nylon clevis
- (1) Silicon tube
- (1) Nylon snap keeper
- (1) Nylon control horn w/plate
- (2) 2mm x 14mm wood screw

RUDDER CONTROL SYSTEM

- (1) Nylon clevis
- (1) Silicon tube
- (1) Nylon snap keeper
- (1) Nylon control horn w/plate
- (2) 2mm x 14mm wood screw

MOTOR MOUNT ASSEMBLY

- (4) 3mm x 20mm screws
- (4) Lock washer

AILERON CONTROL SYSTEM

- (2) 2mm x 180mm threaded wires
- (2) Nylon clevises
- (2) Silicon tube
- (2) Nylon snap keeper
- (2) Nylon control horn w/plate
- (4) 2mm x 20mm wood screw
- (4) 20mm x 25mm block of woods
- (8) 2mm x 12mm wood screw

THROTTLE CONTROL SYSTEM

- (1) 1,3mm x 500mm wire
- (1) 3,5mm x 350mm nylon pushrod housing
- (1) Metal connector
- (1) 4mm x 4mm screw

FUEL TANK

- (1) Nylon fuel Tank
- (1) Metal clunk
- (1) Silicon tube / 110mm
- (1) Pre - assembled stopper w / 3 tube
- (1) 165mm x 250mm foam protec

MISCELLANEOUS ITEMS

- (1) Plywood dihedral brace
- (2) 4mm x 25mm x 81mm light wood
- (4) 25mm light wood triangle stock
- (2) 25mm x 600mm trim tape
- (4) 6mm x 45mm nylon screws
- (2) Nylon plate of screw
- (4) 3mm x 12mm wood screws
- (1) Decal sheet.
- (1) Set of pushrod
- (1) Block of wood
- (1) Spinner

ADDITIONAL ITEMS REQUIRED

- 46 two stroke Engine.
- 52 four stroke Engine.
- 4 channel Radio with 5 servos.
- Glow plug to suit Engine.
- Propeller to suit Engine.
- Protective foam Rubber.
- Silicon fuel line.
- Stick on weight for balance.

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.
- 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:

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 STREGA ARF 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. 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 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 wires and clothing 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.

WING ASSEMBLY

- (2) Wing halves with ailerons.
- (1) Hardwood dihedral brace.
- (2) Trim Tape.
- (4) Block of wood : 20mm x 25mm.
- (8) Screw 2mm x 12mm.

INSTALLING THE AILERON SERVOS

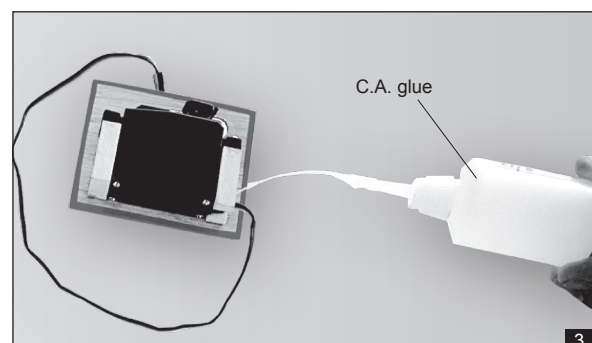
1. Install the rubber grommets and brass eyelets onto the aileron servo.
2. Turn the wing panel right side up. Using a modeling knife, remove the covering from over the pre-cut servo lead exit hole in the root rib and the top of the wing sheeting. This hole will allow the servo leads to pass through when the wing halves are joined.



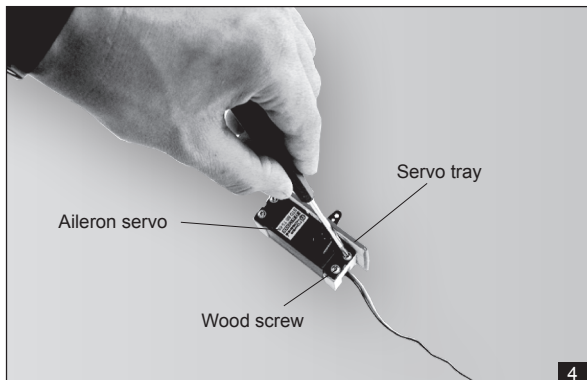
3. Using a modeling knife, remove the covering from over the pre-cut servo arm exit hole on the servo tray/hatch. This hole will allow the servo arm to pass through when installing the aileron pushrod.



4. Using medium C.A. Glue, glue two blocks of wood onto the servo tray. Use your servo to space the blocks properly. Position the blocks so that the servo arm exits the center of the slot in the servo tray.



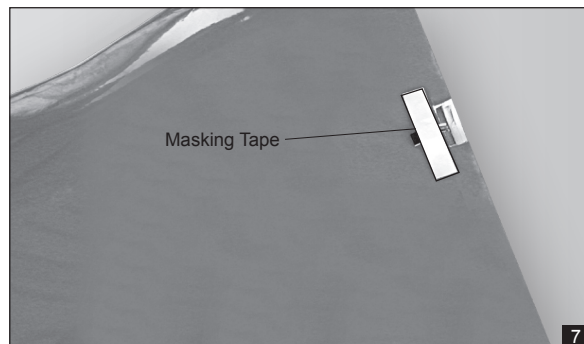
- Place the servo into the servo tray. Center the servo within the tray and drill 1,6mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.



- 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.




- Place the servo tray/hatch into the servo box on the bottom of the wing and drill 1,6mm 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).
- Repeat step # 2 - # 7 to install the second aileron servo the opposite wing half.
- Using masking tape, tape the servo lead on to the top of the wing.

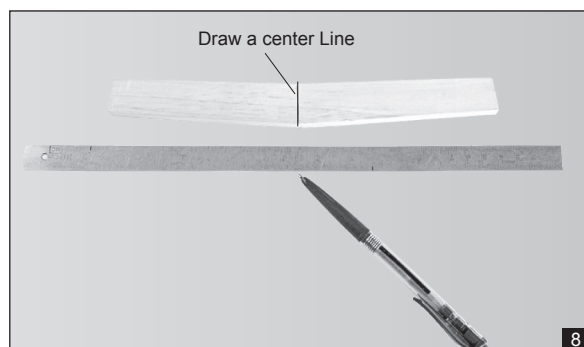


INSTALLING THE DIHEDRAL BRACE

- Look carefully at the surface of each root rib on both wing halves. Notice how the excess covering material overlaps onto them. Using a modeling knife, carefully cut out away the covering from both root ribs. Iron the covering down so that it does not pull away from the ribs.

 *It is important that the excess covering be removed from the root ribs. This will ensure an adequate wood to wood glue joint and will help prevent wing failure during flight.*

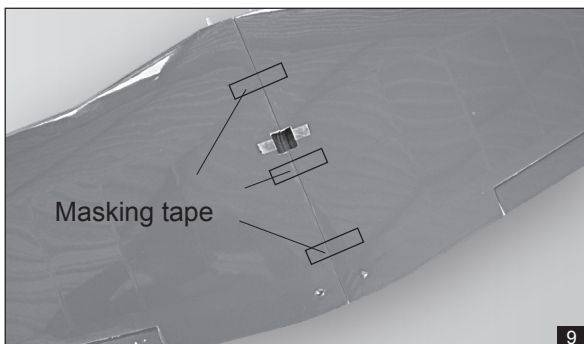
- Using a ruler and a pen, locate and mark the center line of the hardwood dihedral brace. Draw the vertical line at this location on each of the brace.



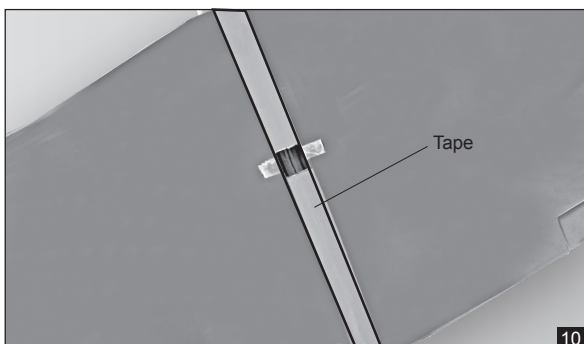
- Test fit the dihedral brace into the plywood box in each wing half. The brace should slide into each wing half up to the center line. If it does not, remove the brace and lightly sand the edges and tips until the proper fit is obtained.
- Test fit both of the wing halves together with the dihedral brace temporarily installed. Do not glue it in at this time! The wing halves should fit together tight with little or no gaps in the center section joint. If the center section joint is not tight, remove the wing halves and lightly sand the edges and tips of the dihedral brace. Test fit the wing halves together with the dihedral brace installed again. Repeat until you are satisfied with the fit of the wing halves. The proper dihedral is built into the two root ribs and should not be altered.
- When satisfied with the fit of the wing halves, remove the wing halves and the dihedral brace.

JOINING THE WING HALVES

15. Mix a generous amount of 30 minute epoxy. Working with only one wing half for now, apply a thin layer of epoxy inside the plywood dihedral brace box and to only half of the dihedral brace. Make sure to cover the dihedral brace top and bottom as well as the sides, and use enough epoxy to fill any gaps.
16. Slide the dihedral brace into the plywood box up to the center line. Remove any excess epoxy before it dries using a paper towel and rubbing alcohol. Allow the epoxy to cure before proceeding.
17. Once the epoxy has cured, trial fit both wing halves together to double check that the wing halves still fit correctly.
18. Mix a generous amount of 30 minute epoxy. Apply a thin layer of epoxy to the exposed half of the dihedral brace, the inside of the plywood dihedral brace box and the entire surface of both root ribs. Make sure to use enough epoxy to fill any gaps.
19. Slide the two wing halves together and carefully align them at the leading and trailing edges. Wipe away any excess epoxy using a paper towel and rubbing alcohol. Use masking tape to hold the two wing halves in place until the epoxy cures.



20. When the epoxy has fully cured, double check the center section joint. If any gaps are present, mix a small amount of 30 minute epoxy and carefully fill any remaining gaps. Remove the excess epoxy using a paper towel and rubbing alcohol. Allow the epoxy to fully cure before proceeding.
21. Apply the trim tape to the center section of the wings where they join.



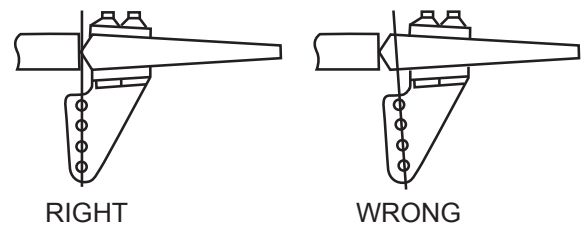
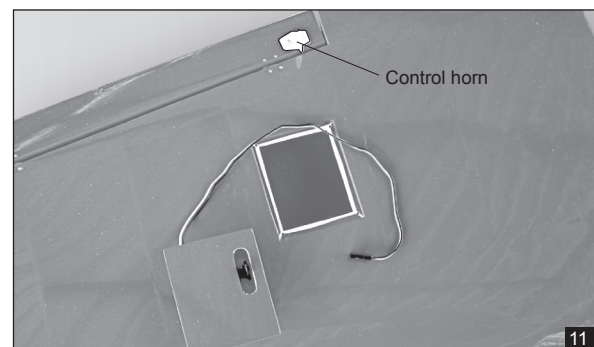
AILERON LINKAGE


PARTS REQUIRED

- (2) 2mm x 180mm Threaded wires.
- (2) Nylon control horns.
- (2) Silicon tube
- (2) Nylon clevis.
- (2) Mounting snap keepers
- (4) 2mm x 20m wood screw.

INSTALLING THE CONTROL HORNS

1. One aileron control horn in positioned on each aileron. Using a ruler and a pen locate and mark the location of the control horn. It should be mounted on the bottom side of the aileron at the leading edge, **in line with the aileron pushrod.**
2. Drill two 2mm holes through the aileron using the control horn as a guide and screw the control horn in place.

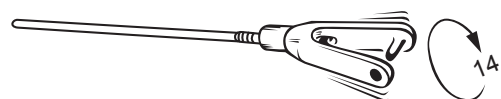


 Apply a couple of drops of thin C/A to the nut to prevent it from loosening. Allow the glue to cure completely before proceeding. If the screws are too long, cut them shorter if necessary.

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

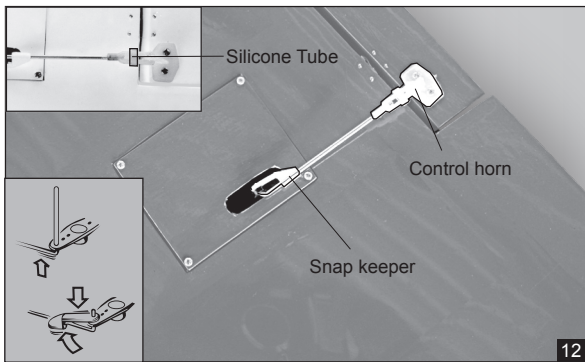
INSTALLING THE AILERON LINKAGES

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



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

6. 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.
7. Plug the aileron servo into the receiver, turn on the radio system and center the servo. Install the servo arm into the servo. The servo arm should be perpendicular to the servo and point toward the middle of the wing.
8. Center the aileron and hold it in place using a couple of pieces of masking tape.
9. 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.
10. Using pliers, carefully make a 90 degree bend down at the mark made. Cut off the excess wire, leaving about 4mm beyond the bend.

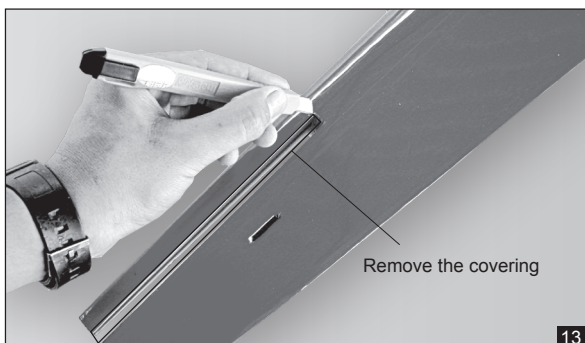


11. Insert the 90 degree bend down through the hole in the servo arm. Install one nylon snap keeper over the wire to secure it to the arm. Install the servo arm retaining screw and remove the masking tape from the aileron.
12. Repeat step # 4 - # 11 to install the second aileron linkage. After both linkages are completed, connect both of the aileron servo leads using the Y - harness you purchased separately.

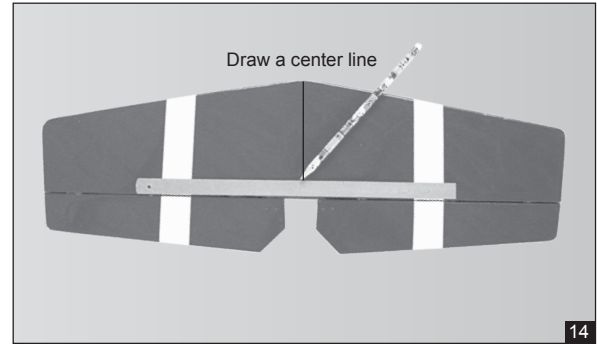
HORIZONTAL STABILIZER INSTALLATION

PARTS REQUIRED

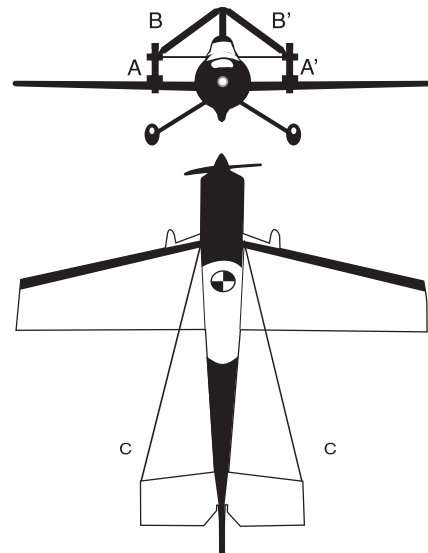
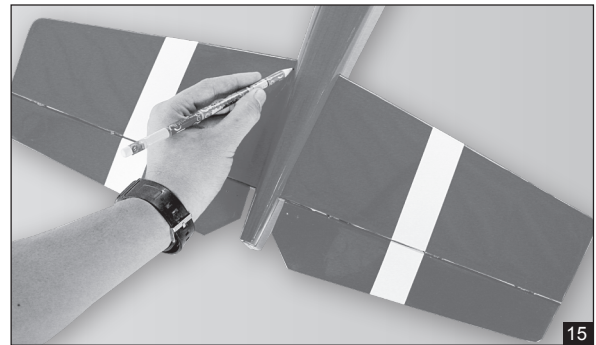
- (1) Horizontal stabilizer with Elevator halves.
1. Using a modeling knife, cut away the covering from the fuselage for the horizontal stabilizer and remove it.



2. Draw a center line onto the horizontal stabilizer.



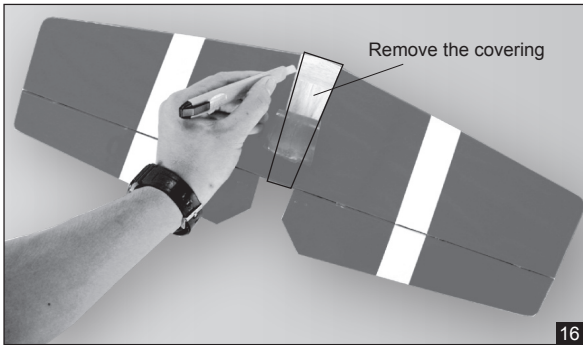
3. Check the fit of the horizontal stabilizer in its slot. Make sure the horizontal stabilizer is square and centered to the fuselage by taking measurements, but don't glue anything yet.
4. With the horizontal stabilizer correctly aligned, mark the shape of the fuselage on the top and bottom of horizontal stabilizer using a water soluble / non-permanent felt-tip pen.



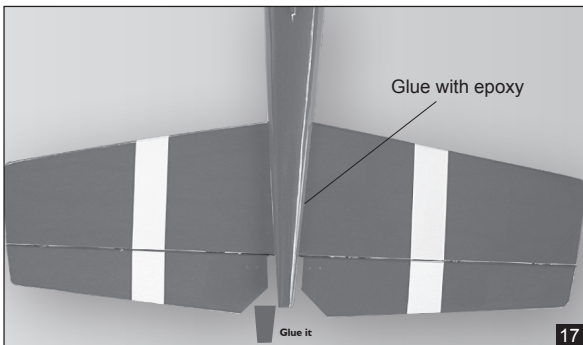
5. Remove the stabilizer. Using the lines you just drew as a guide, carefully remove the covering from between them using a modeling knife.



When cutting through the covering to remove it, cut with only enough pressure to only cut through the covering it'sself. Cutting into the balsa structure may weaken it. This could lead to possible failure during flight.



6. When you are sure that everything is aligned correctly, mix up a generous amount of 30 minute epoxy. Apply a thin layer to the top and bottom of the stabilizer mounting area and to the stabilizer mounting platform sides in the fuselage. Slide the stabilizer in place and re-align. Double check all of your measurements one more time before the epoxy cures. Remove any excess epoxy using a paper towel and rubbing alcohol and hold the stabilizer in place with T-pins or masking tape.



7. After the epoxy has fully cured, remove the masking tape or T-pins used to hold the stabilizer in place and carefully inspect the glue joints. Use more epoxy to fill in any gaps that were not filled previously and clean up the excess using a paper towel and rubbing alcohol.

VERTICAL STABILIZER INSTALLATION

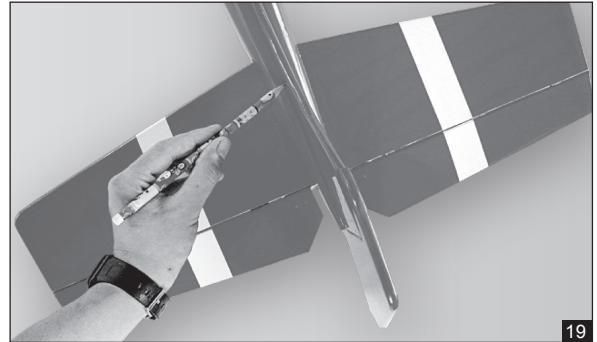
PARTS REQUIRED

- (1) Vertical stabilizer with rudder.

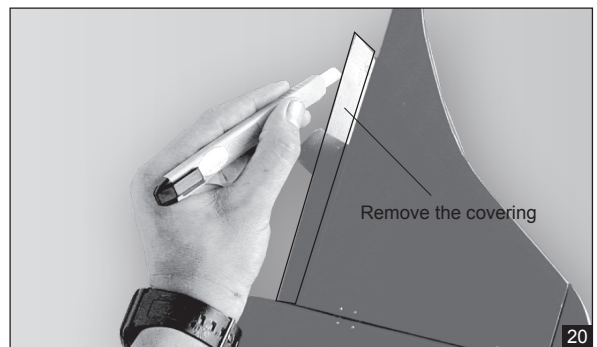
1. Using a modeling knife, remove the covering on the top of the fuselage for the vertical stabilizer.



2. Slide the vertical stabilizer into the slot in the mounting platform in the top of the fuselage. Mark the shape of the fuselage on the left and right sides of the vertical stabilizer using a felt-tip pen.

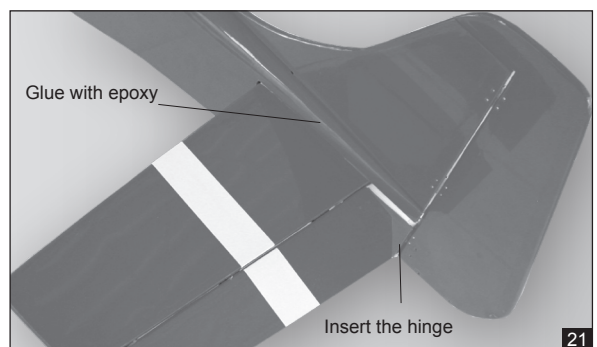


3. Now, remove the vertical stabilizer and using a modeling knife, carefully cut just inside the marked lines and remove the film on both sides of the vertical stabilizer. Just as you did with the horizontal stabilizer, making sure you only press hard enough to cut the film not the balsa vertical stabilizer.



4. Slide the vertical stabilizer back in place. Using a triangle, check to ensure that the vertical stabilizer is aligned 90 degree to the horizontal stabilizer.

5. When you are sure that everything is aligned correctly, mix up a generous amount of 30 minute epoxy. Apply a thin layer to the slot in the mounting platform and to the vertical stabilizer mounting area. Apply epoxy to the lower rudder hinge and set the stabilizer in place and re-align. Double check all of your measurements once more before the epoxy cures. Remove any excess epoxy using a paper towel and rubbing alcohol and hold the stabilizer in place with T-pins or masking tape. Allow the epoxy to fully cure before proceeding.

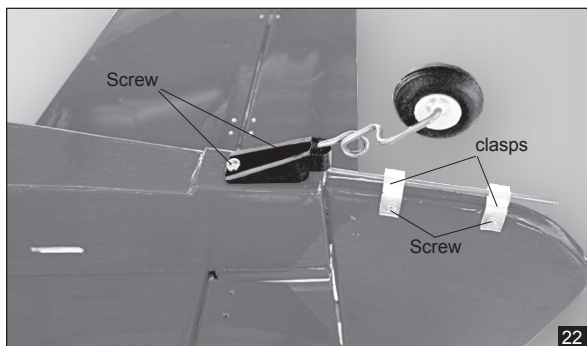


TAIL WHEEL INSTALLATION

PARTS REQUIRED

- (1) Tail wheel bracket w/wire.
- (1) Wheel collar with set screw.
- (1) 25mm diameter tail wheel.
- (2) nylon control clasp.
- (2) 2mm x 10mm screws.
- (2) 2mm x 10mm screws.

1. Set the tail wheel assembly in place on the plywood plate.
2. Drill 2,6mm pilot holes through the plywood plate.
3. Secure the tail wheel bracket in place using two 3mm x 12mm screw.
4. Align the tail wheel wire so that the wire is parallel with the bottom of the rudder. The control clasp has a pre-drilled hole through the top of it. Slide this hole on to the tail wheel wire while sliding the clasp over the bottom of the rudder.
5. Secure the two clasps to the rudder bottom using two 2mm x 10mm screws.



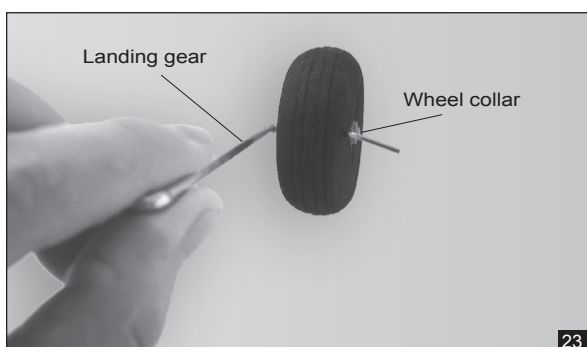
MAIN GEAR INSTALLATION

PARTS REQUIRED

- (2) Main gear.
- (2) 65mm diameter wheels.
- (4) Wheel collars + screws.
- (4) Nylon plate
- (8) 3mm x 12mm wood screw

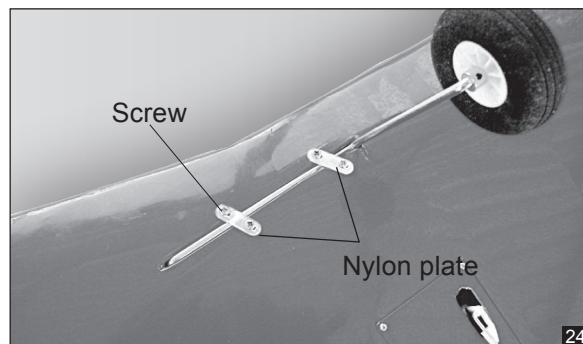
INSTALLING THE WHEEL

Center both collars and wheel in the middle of the gear (as the photo), lock both collars in place using a hexagon 2mm screw.



INSTALLING THE MAIN LANDING GEAR

1. Remove the covering from the bottom of the wing as the photo.
2. Install main landing gear into the wing using 4 wood screws provided in the kit.
3. Repeat this step to install the second landing gear.



INSTALLING THE PUSHROD HOUSING

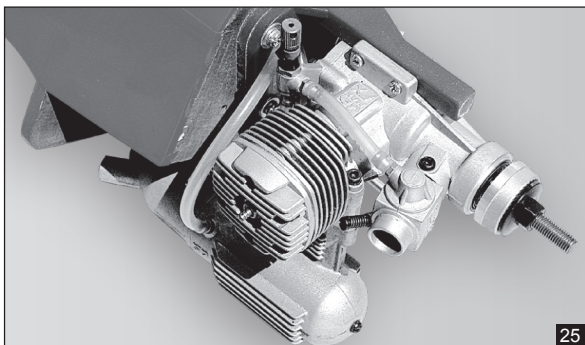
1. Place the engine into the engine mount and align it properly with the front of the cowling. The distance from the firewall to the front of the engine thrust washer should be 4-1/4" [10.5mm].

⚠ *If your engine is equipped with a remote needle valve, we suggest installing it into the engine at this time.*

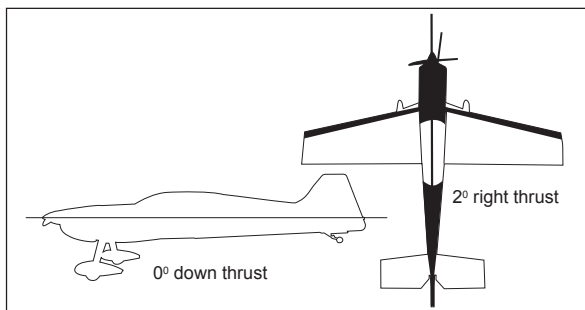
2. When satisfied with the alignment of the engine, use a pencil and mark the hole location into the firewall, where the throttle pushrod will exit.
3. Now, remove the engine. Using a 5mm drill bit, drill holes through the firewall and the forward bulkhead at the marks made.
4. Slide the pushrod housing through the hole in the firewall, through the hole in the forward bulkhead, and into the servo compartment.
5. Apply a couple of drops of thin C/A to the pushrod housing where it exits the firewall and where it passes through the forward bulkhead. This will secure the housing in place.
6. Using a modeling knife, cut of the nylon pushrod housing 26mm in front of the servo tray.

INSTALLING THE ENGINE

7. Locate the long piece of wire used for the throttle pushrod. One end of the wire has been pre-bend in to 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 screws provided.



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FUEL TANK

PARTS REQUIRED

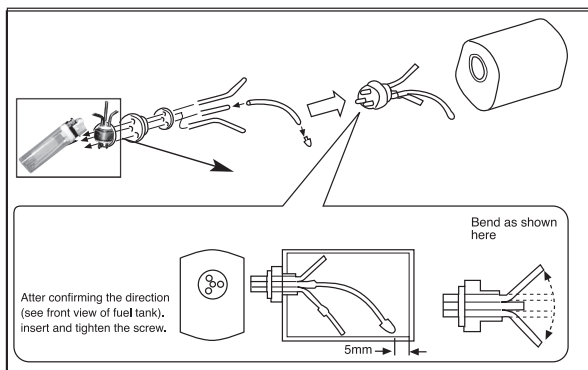
- (1) Nylon fuel tank.
- (1) Metal clunk.
- (1) Silicone tube.
- (1) Pre-assemble stopper.
- (1) 165mm x 250mm foam.

INSTALLING THE STOPPER

1. The stopper has been pre-assembled at the factory.
2. Using a modeling knife, cut one length of silicone fuel line (the length of silicone fuel line is calculated by how the weighted clunk should rest about 8mm away from the rear of the tank and move freely inside the tank). Connect one end of the line to the weighted clunk and the other end to the nylon pick up tube in the stopper.
3. Carefully bend the second nylon tube up at a 45 degree angle (using a cigarette lighter). This tube will be the vent tube to the muffler.
4. Carefully bend the third nylon tube down at a 45 degree angle (using a cigarette lighter). This tube will be vent tube to the fueling valve.



When the stopper assembly is installed in the tank, the top of the vent tube should rest just below the top surface of the tank. It should not touch the top of the tank.



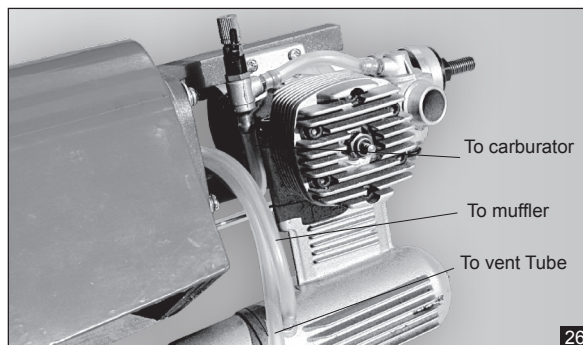
5. Test fit the stopper assembly into the tank. It may be necessary to trim some of the flashing around the tank opening using a modeling knife. If flashing is present, make sure none falls into the tank.
6. When satisfied with the alignment of the stopper assembly tighten the 3mm x 20mm machine screw until the rubber stopper expands and seals the tank opening. Do not over tighten the assembly as this could cause the tank to split.
7. Using a modeling knife, cut 3 lengths of fuel line 150mm long. Connect 2 lines to the 2 vent tubes and 1 line to the fuel pickup tube in the stopper.
8. Feed three lines through the fuel tank compartment and through the pre-drilled hole in the firewall. Pull the lines out from behind the engine, while guiding the fuel tank into place. Push the fuel tank as far forward as possible, the front of the tank should just about touch the back of the firewall.

Blow through one of the lines to ensure the fuel lines have not become kinked inside the fuel tank compartment. Air should flow through easily.

9. To secure the fuel tank in place, apply a bead of silicone sealer to the forward area of the tank, where it exits the fuselage behind the engine mounting box and to the rear of the tank at the forward bulkhead.



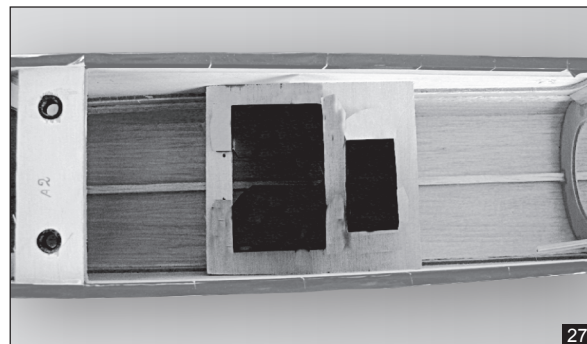
Do not secure the tank into place permanently until after balancing the airplane. You may need to remove the tank to mount the battery in the fuel tank compartment.



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SERVO INSTALLATION

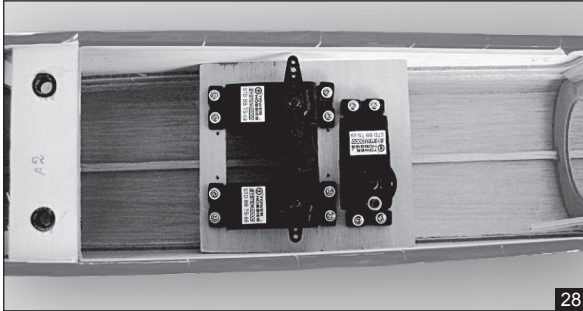
Glue the servo tray as in the photo



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INSTALLING THE FUSELAGE SERVOS

1. Install the rubber grommets and brass eyelets into the elevator, rudder and throttle servos. Test fit the servos into the servo tray.
2. Mount the servos to the tray using the mounting screws provided with your radio system.



INSTALLING THE ELEVATOR PUSHROD

PARTS REQUIRED

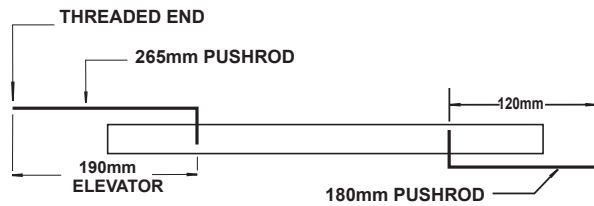
- (1) Nylon clevis
- (1) Silicone tube
- (1) Nylon snap keeper
- (1) Nylon control horn w/plate
- (2) 2mm x 14mm wood screw
- (1) Elevator pushrod

1. Prepare the elevator pushrod as shown.

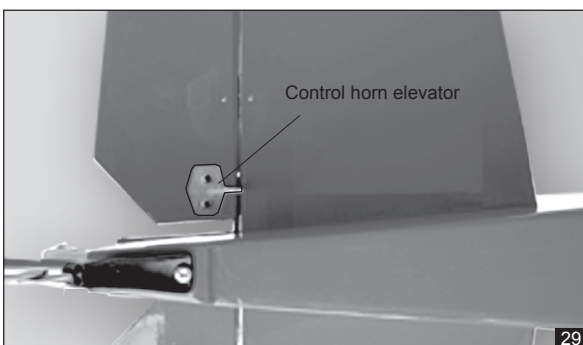


Using some strips of tape to secure the pushrods to the dowel after that heat shrink the tape

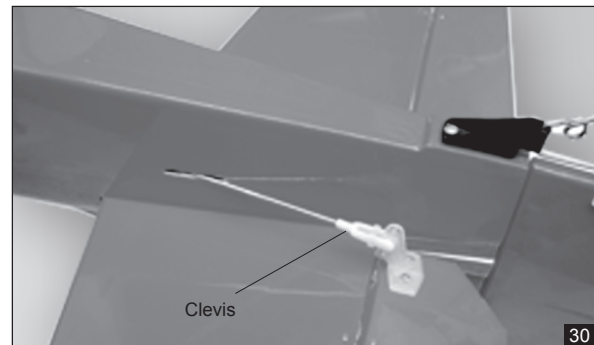
2. Locate the pushrod exit slot on the left side of the fuselage. It is located slightly ahead and below the horizontal stabilizer.



3. Carefully cut away the covering material from the slot.
4. Working from inside the fuselage, slide the threaded end of the pushrod in until it reaches the exit slot. Carefully reach in with a small screwdriver and guide the pushrod out of the exit slot.
5. Install the clevis in the elevator pushrod. Make sure 6mm of thread shows inside the clevis.
6. The control horn should be mounted on the bottom, left side of the elevator at the leading edge, **in line with the elevator pushrod.**



7. Drill two 1,6mm holes through the elevator using the control horn as a guide and screw the control horn in place.
8. Attach clevis to the third hole in the control horn. Install a silicone tube on the clevis.
9. 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 to accommodate the elevator pushrod wire.
10. Plug the elevator 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 fuselage.
11. Center both elevator halves and hold them in place using a couple of pieces of masking tape.
12. With the elevator halves and elevator servo centered, carefully place a mark on the elevator pushrod wire where it crosses the hole in the servo arm.
13. Using pliers, carefully make a 90 degree bend up at the mark made. Cut off the excess wire, leaving about 8mm beyond the bend.
14. Insert the 90 degree bend up 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 elevator halves.



INSTALLING THE RUDDER PUSHROD

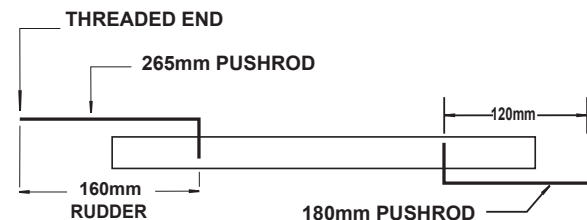
PARTS REQUIRED

- (1) Nylon clevis
- (1) Nylon snap keeper.
- (1) Silicone tube
- (1) Nylon control horn W/plate.
- (2) 2mm x 12mm wood screw
- (1) Rudder pushrod.

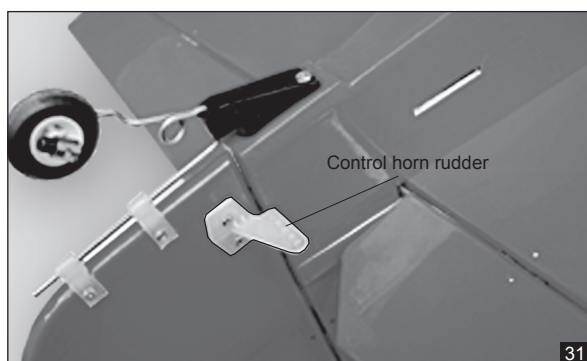
1. Prepare the rudder pushrod as shown.



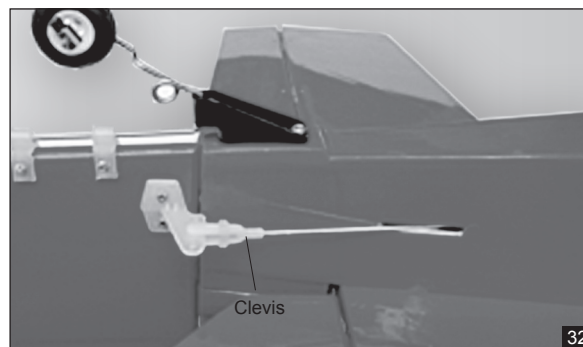
Using some strips of tape to secure the pushrods to the dowel after that heat shrink the tape



2. Locate the pushrod exit slot on the right of the fuselage.
3. Carefully cut away the covering material from the slot.
4. Working from inside the fuselage, slide the threaded end of the remaining pushrod down the inside of the fuselage until the pushrod reaches the exit slot. Carefully reach in with a small screw driver and guide the pushrod out of the exit slot.
5. Install the clevis on the rudder pushrod. Make sure 6mm of thread shows inside the clevis.
6. The control horn should be mounted on the right side of the rudder at the leading edge, ***in line with the rudder pushrod.***



7. Drill two 1,6mm holes through the rudder using the control horn as a guide and screw the control horn in place.
8. Attach clevis to the hole in the control horn. Install a silicone tube on the clevis.
9. 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 centre to accommodate the rudder pushrod wire.
10. Plug the rudder servo into the receiver and center the servo. Install the servo arm onto the servo.
11. Center the rudder and hold it in place using a piece of masking tape.
12. With the rudder and rudder servo centered, carefully place a mark on the rudder pushrod wire where it crosses the hole in the servo arm.
13. Using a pliers, carefully make a 90 degree bend up at the mark made. Cut off excess wire, leaving about 8mm beyond the bend.
14. Insert the 90 degree bend up 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 rudder.



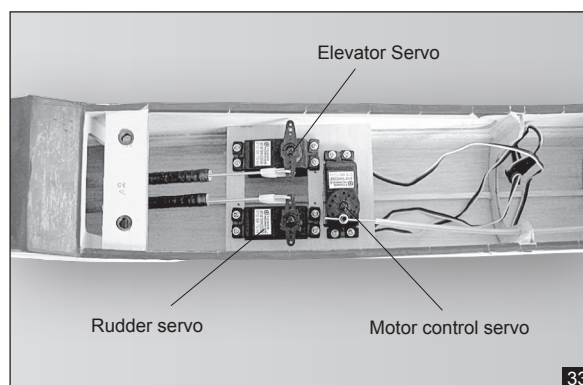
INSTALLING THE THROTTLE

1. Install one adjustable metal connector through the third hole out from the center of one servo arm, enlarge the hole in the servo arm using a 2mm drill bit to accommodate the servo connector. Remove the excess material from the arm.



After installing the adjustable metal connector apply a small drop of thin C/A to the bottom nut. This will prevent the connector from loosening during flight.

2. Plug the throttle servo into the receiver and turn on the radio system. Check to ensure that the throttle servo output shaft is moving in the correct direction. When the throttle stick is moved forward from idle to full throttle, the throttle barrel should also open and close using this motion. If not, reverse the direction of the servo, using the transmitter.
3. Slide the adjustable metal connector / servo arm assembly over the plain end of the pushrod wire. Position the throttle stick and the throttle trim at their lowest positions.
4. Manually push the carburator barrel fully closed. Angle the arm back about 45 degree from center and attach the servo arm onto the servo. With the carburator barrel fully closed, tighten the set screw in the adjustable metal connector.
5. Remove the excess throttle pushrod wire using wire cutters and install the servo retaining screw.




MOUNTING THE COWL

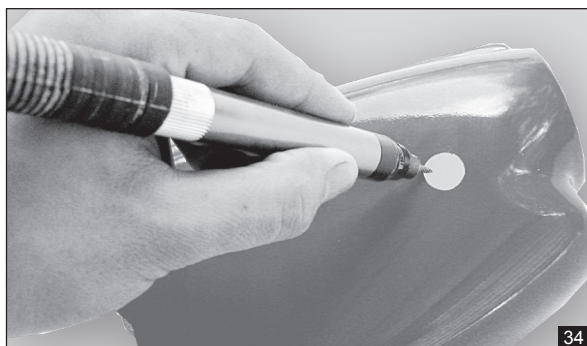
PARTS REQUIRED

- (1) Fiberglass cowl
- (4) 3mm x 12mm wood screw

1. Remove the muffler and needle valve assembly from the engine. Slide the fiberglass cowl over the engine.
2. Measure and mark the location to be cut out for engine head clearance, needle valve, muffler. Remove the cowl and make these cutouts using a rotary tool with a cutting disc and a rotary sanding drum attachment.
3. Slide the cowl back into place. Align the front of the cowl with the crankshaft of the engine. The front of the cowl should be positioned so the crankshaft is in the middle of the precut opening. Hold the cowl firmly in place using several pieces of masking tape.
4. While holding the cowl firmly in position, drill four 1,6mm pilot holes through both the cowl and through the mounting blocks (edges of the firewall).
5. Using a 3mm drill bit, enlarge the four holes in the cowling.

 *Enlarging the holes through the cowl will prevent the fiberglass from splitting when the mounting screws are installed.*

6. Slide the cowl back over the engine and secure it in place using four 3mm x 12mm wood screws.
7. Install the muffler. Connect the fuel and pressure lines to the carburator, muffler and fuel filler valve. Tighten the screws completely.



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WING MOUNTING

PARTS REQUIRED

- (1) Belly pan
- (2) 6mm x 45 mm nylon screws

INSTALLING THE WING

1. Using a modeling knife, remove the covering from over the two pre-drilled holes in the forward bulkhead that accept the wing hold down dowels.
2. Using a modeling knife, remove the covering from over the two pre-drilled wing mounting holes in the trailing edge of the wing. Remove the covering from over the holes on both the top and the bottom of the wing.
3. Place the wing into the wing saddle to check the fit. Temporarily secure the wing in place using the two 6mm x 45mm nylon screws.


 *Do not over tighten the screw.*

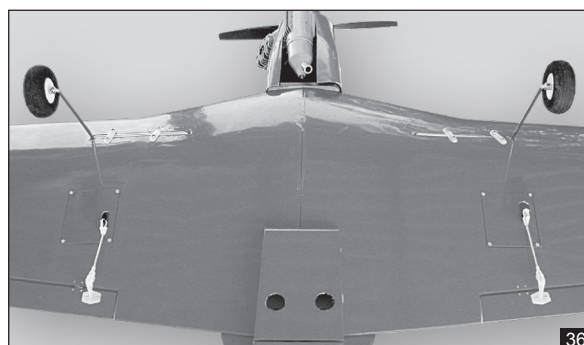
ALIGNING THE AIR SCOOP

1. With the wing securely attached to the fuselage, trial fit the air scoop to the bottom of the wing. *The sides of the air scoop, at both the front and the rear, should be flush with the sides of the fuselage.*
2. When satisfied with the fit, hold the air scoop in place on the wing using pieces of masking tape.
3. With the air scoop held firmly in place and aligned properly, use a felt tip pen and outline the air scoop onto the wing surface the two outside edges of the air scoop.
4. Remove the air scoop. Using the lines as a guide, use a modeling knife and remove about 4mm of the covering from just inside the edge of each line. Be careful not to cut into the balsa under the covering.
5. Cut the covering from the bottom edges of the air scoop where it contacts the wing.

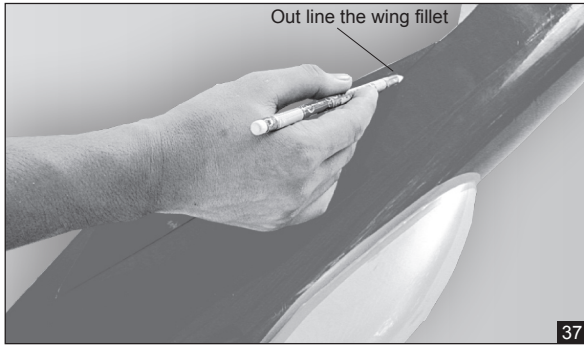
INSTALLING THE AIR SCOOP

1. Mix up a generous amount of 30 minute epoxy. Apply a thin layer of epoxy to the bottom edges of the air scoop. Carefully set the air scoop back in place on the wing and align it as you did previously. Remove any excess epoxy using a paper towel and rubbing alcohol.
2. Hold the air scoop firmly in place using strips of masking tape along the entire gluing surface. Allow the epoxy to fully cure before you remove the masking tape.

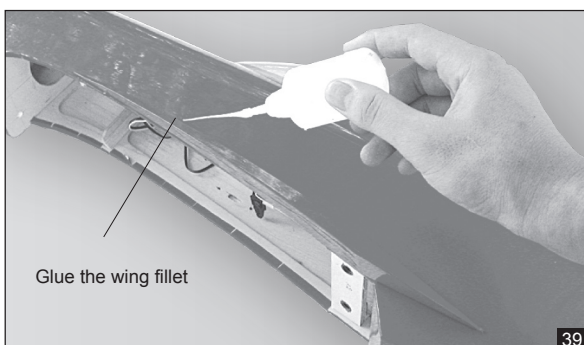
 *Be carefully not to get any epoxy between the wing and the fuselage.*



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INSTALLING THE WING FILLET

1. When satisfied with the fit, hold the wing fillet in place on the fuselage using pieces of masking tape.
2. With the wing fillet held firmly in place and aligned properly, use a felt tip pen and outline the wing fillet onto the fuselage surface.
3. Remove the wing fillet. Using the lines as a guide, use a modeling knife and carefully remove the covering from just inside the edge of each line. Be careful not to cut in to the balsa under the covering.
4. Mix up a generous amount of 30 minute epoxy. Apply a thin layer of epoxy to the bottom of the wing fillet. Carefully set the wing fillet back in place on the fuselage and align it as you did previously. Remove any excess epoxy using a paper towel and rubbing alcohol.
5. Hold the wing fillet firmly in place using strips of masking tape along the entire gluing surface. Allow the epoxy to fully cure before you remove the masking tape.

**INSTALLING THE RECEIVER AND BATTERY**

1. Plug the servo leads and the switch lead into the receiver. You may want to plug an aileron extension into the receiver to make plugging in the aileron servo lead in the wing easier when you are installing the wing. Plug the battery pack lead into the switch.
2. Wrap the receiver and battery pack in the protective foam to protect them from vibration. Use a rubber band or masking tape to hold the foam in place.
3. Position the battery pack and receiver behind the fuel tank. Use the two light plywood pieces, placed over the battery and receiver and glue to the fuselage sides to hold the battery and receiver securely in place. Use 15mm triangle pieces glued between the fuselage sides and the plywood pieces to reinforce the joints.

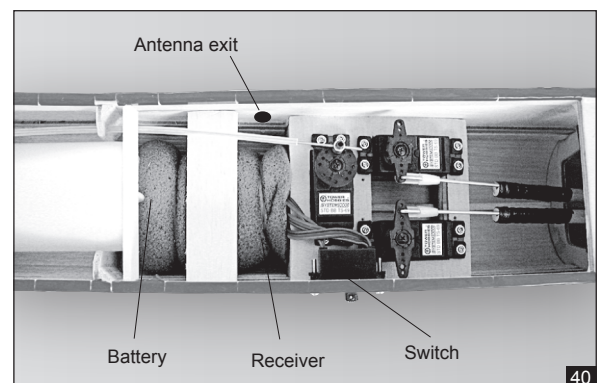


Do not permanently secure the receiver and battery until after balancing the model.

4. Using a 2mm drill bit, drill a hole through the side of the fuselage, near the receiver, for the antenna to exit.

INSTALLING THE SWITCH

5. The switch should be mounted on the fuselage side, opposite the muffler, close enough to the receiver so the lead will reach. Use the face plate of the switch cut out the opening and locate mounting holes.
6. Cut out the switch hole using a modeling knife. Use a 2mm drill bit and drill out the two mounting holes through the fuselage side.
7. Secure the switch in place using the two machine screws provided with the radio system.

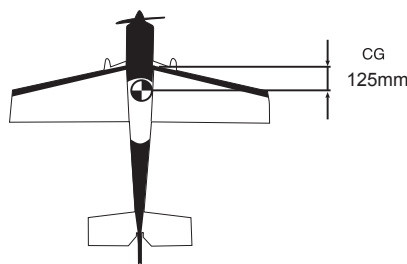


BALANCING

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 125mm BACK FROM THE LEADING EDGE OF THE WING, AT THE FUSELAGE. This location is recommended for initial test flying and trimming. There is a 5mm margin forward and aft. **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 125mm 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



LATERAL BALANCE

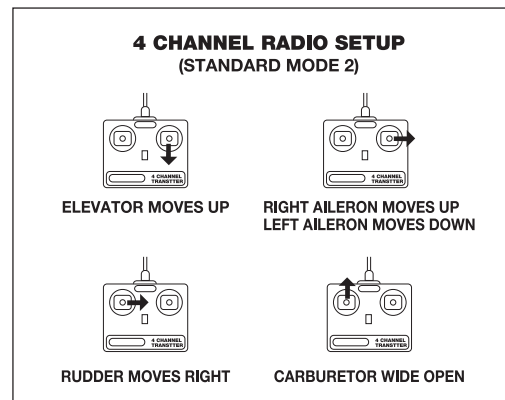
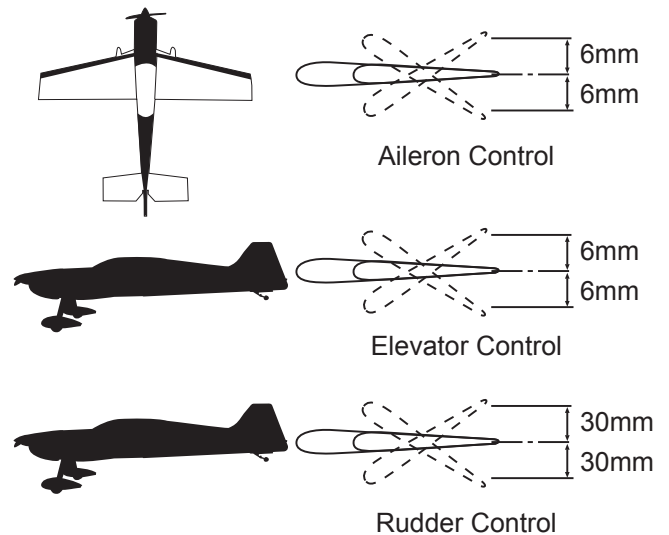
After you have balanced a plane on the C.G. You should laterally balance it. Doing this will help the airplane track straighter.

1. 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.
2. If one side of the wing falls, 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 surface!.
3. Check to be sure the control surfaces move in the correct directions.

Ailerons	: 6mm up 6mm down
Elevator	: 6mm up 6mm down
Rudder	: 30mm right 30mm left



FLIGHT PREPARATION

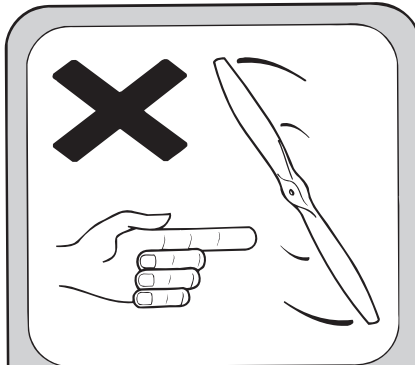
PRE FLIGHT CHECK

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.

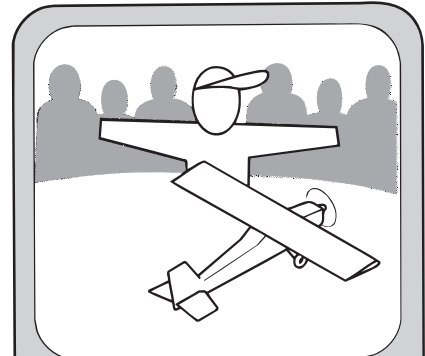
I/C FLIGHT WARNINGS



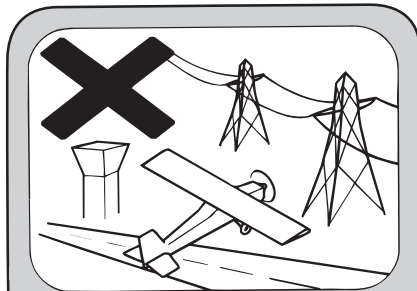
Always operate in open areas, away from factories, hospitals, schools, buildings and houses etc. **NEVER** fly your aircraft close to people or built up areas.



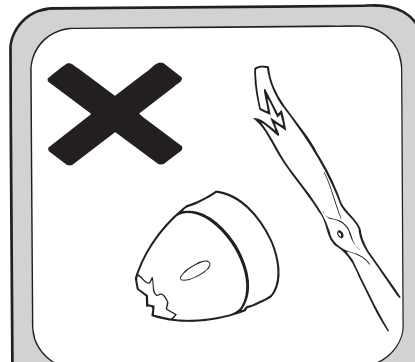
THE PROPELLER IS DANGEROUS
Keep fingers, clothing (ties, shirt sleeves, scarves) or any other loose objects that could be caught or drawn in, away from the propeller. Take care at **ALL** times.



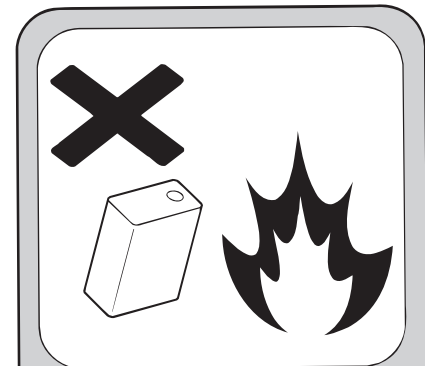
Keep all onlookers (especially small children and animals) well back from the area of operation. This is a flying aircraft, which will cause serious injury in case of impact with a person or animal.



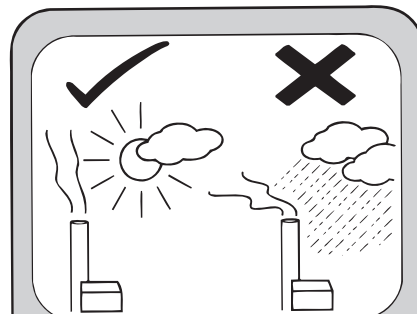
NEVER fly near power lines, aerials or other dangerous areas including airports, motorways etc.



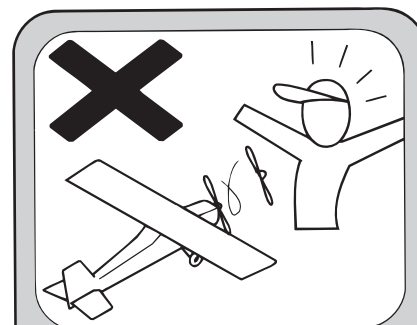
NEVER use damaged or deformed propellers or spinners.



DO NOT dispose of empty fuel containers on a fire, this can lead to an explosion.



NEVER fly in wet conditions or on windy or stormy days.



ALWAYS adjust the engine from behind the propeller, and do not allow any part of your body to be in line with the propeller.

I/C FLIGHT GUIDELINES

