



Trainer 60



Wingspan : 1900 mm (74.8 inches)



Length : 1450 mm (57 inches)



Weight : 3360 gr



Engine : 60 two strokes



Radio : 4 channels / 5 servos standard

KIT CONTENTS: We have organized the parts as they come 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 motor mount
- (1) Horizontal stabilizer with elevator halves
- (1) Vertical stabilizer with rudder

MAIN GEAR ASSEMBLY

- (2) Main gear (5mm)
- (2) 60mm diameter wheels
- (4) Wheel Collars (5mm)
- (4) 3mm x 6mm set screws
- (3) Metal straps
- (6) 3mm x 12mm sheet metal screws

NOSE GEAR

- (1) Nose gear (5mm)
- (1) Steering arm (5mm)
- (1) 60mm diameter wheel
- (2) Wheel collars (5mm)
- (2) 3mm x 6mm set screws
- (1) Metal connector
- (1) 4mm x 4mm machine screw
- (1) 1,3mm x 500mm wire
- (1) 3,5mm x 350mm nylon pushrod

ELEVATOR CONTROL SYSTEM

- (1) Nylon clevis.
- (1) Silicone tube
- (1) Nylon snap keeper
- (1) Nylon control horn w/plate
- (2) 2mm x 20mm sheet metal screws

RUDDER CONTROL SYSTEM

- (1) Nylon clevis
- (1) Silicone tube
- (1) Nylon snap keeper
- (1) Nylon control horn w/plate
- (2) 2mm x 20mm sheet metal screws

AILERON CONTROL SYSTEM

- (4) 2mm x 180mm threaded wires
- (4) Nylon clevises
- (4) Silicone tubes
- (4) Nylon snap keepers
- (4) Nylon Thread connectors
- (4) 2mm x 16mm wood screws
- (4) 2mm x 20mm wood screws
- (16) 2mm x 10mm wood screws

MOTOR MOUNT ASSEMBLY

- (4) 4mm x 30mm screws
- (4) 4mm lock washer
- (4) 8mm lock washer
- (8) Nut

FUEL TANK

- (1) Nylon fuel tank
- (1) Metal clunk
- (1) Pre - assembled stopper w / 2 tube

MISCELLANEOUS ITEMS

- (2) Aluminum small dihedral
- (1) Aluminum large dihedral
- (1) 25mm x 600mm trim tape (white)
- (2) Metal connector
- (2) 1.7mm x 800mm metal pushrod
- (1) Spinner/screw
- (2) Wing screws

ADDITIONAL ITEMS REQUIRED

- 60 two stroke Engine
- 90 four stroke Engine..
- 4 channel Radio with 4 servos.
- Glow plug to suit Engine.
- Propeller to suit Engine.
- Protective foam rubber.
- Silicone fuel line.
- Stick on weight for balance.

TOOLS AND SUPPLIES NEEDED

- Medium thick C/A glue.
- 30 minute Epoxy.
- 6 minute Epoxy.
- Hand or Electric drill.
- Assorted drill bits.
- Modeling knife.
- Straight edge ruler.
- Pliers - large and small.
- 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 parts bags.

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 TRAINER 60 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.

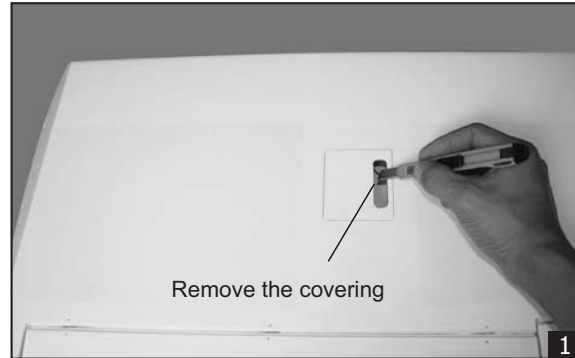
The paint and plastic parts used in this kit are fuel proof. However, they are not tolerant of many harsh chemicals including the following: paint thinner, C/A glue accelerator, C/A glue de-bonder and acetone. Do not let these chemicals come in contact with the colors on the covering and the plastic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

SAFETY PRECAUTION:

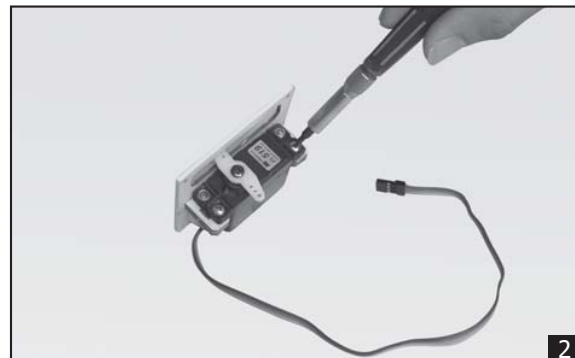
- This is not a toy
- Be sure that no other flyers are using your radio frequency.
- Do not smoke near fuel
- Store fuel in a cool, dry place, away from children and pets.
- Wear safety glasses.
- The glow plug chip must be securely attached to the glow plug.
- Do not flip the propeller with your fingers.
- Keep loose wires and clothing away from the propeller.
- Do not start the engine if people are near. Do not stand on the side of the propeller.
- Make engine adjustments from behind the propeller only. Do not reach around the spinning propeller.

INSTALLING THE AILERON SERVOS

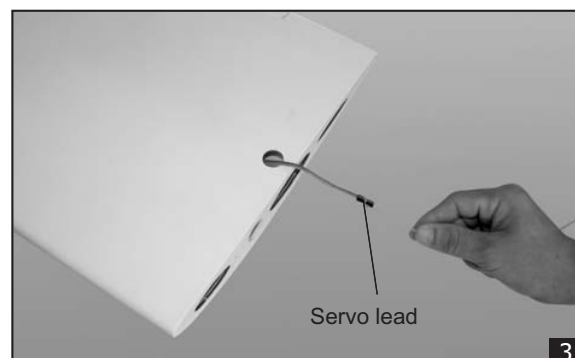
1. Install the rubber grommets and brass eyelets onto the aileron servo.
2. Using a modeling knife, remove the covering from over the pre-cut servo arm exit hole on the aileron servo tray / hatch. This hole will allow the servo arm to pass through when installing the aileron pushrods.



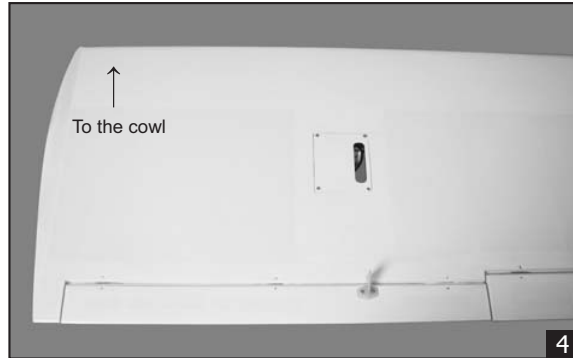
3. Place the servo into the servo tray. Center the servo within the tray and drill 1,6mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.



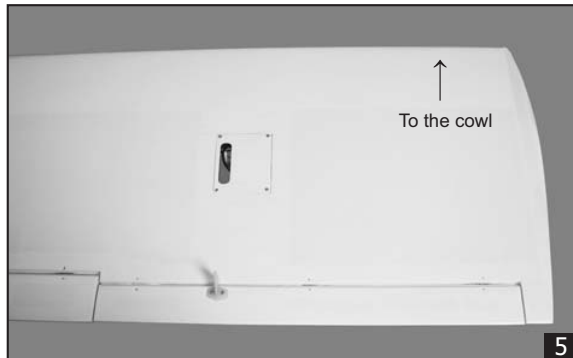
4. Using the thread as a guide and using masking tape, tape the servo lead to the end of the thread: carefully pull the thread out. When you have pulled the servo lead out, remove the masking tape and the servo lead from the thread.



- Place the aileron 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).



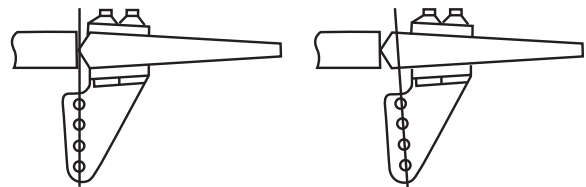
- Repeat step # 2 - # 5 to install the second aileron servo in the opposite wing half.



- Using masking tape, tape the servo leads on to the top of the wing.

INSTALLING THE CONTROL HORNS

- 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.
- Drill two 1.6mm holes through the aileron using the control horn as a guide and screw the control horn in place.



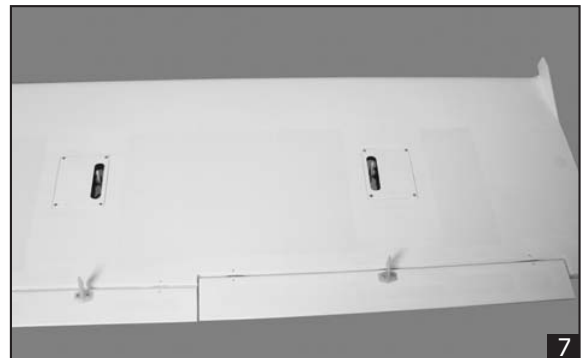
RIGHT

WRONG

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

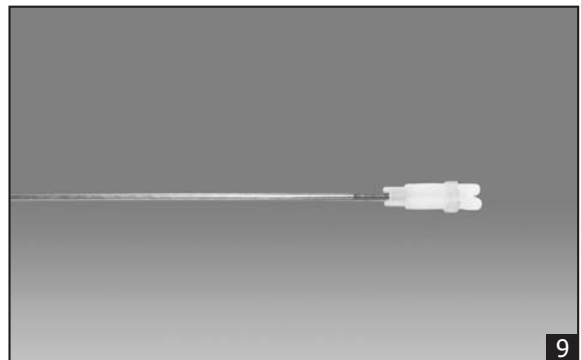
INSTALLING THE CONTROL HORNS FOR FLAP

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

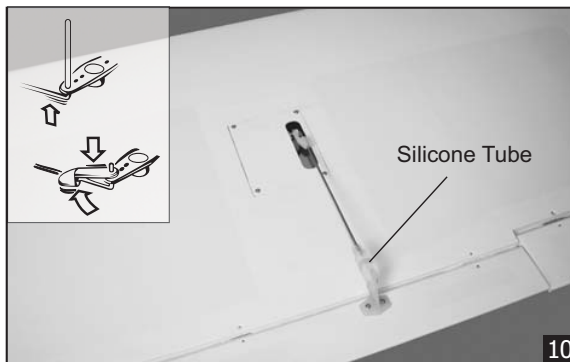


INSTALLING THE AILERON LINKAGES

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



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.



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.

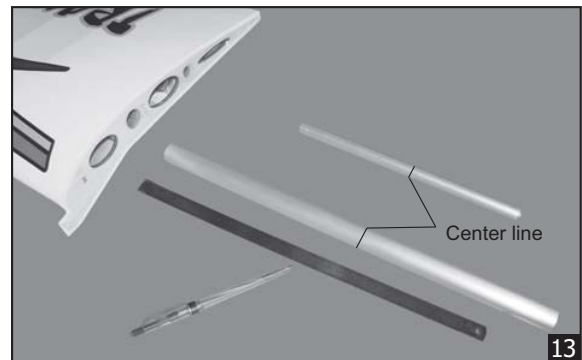
INSTALLING THE FLAP LINKAGE

Repeat step #1 - #9 from installing the aileron linkage to install the flap linkage.

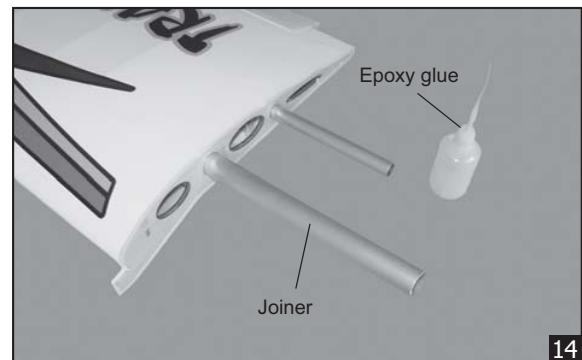


WING ASSEMBLY

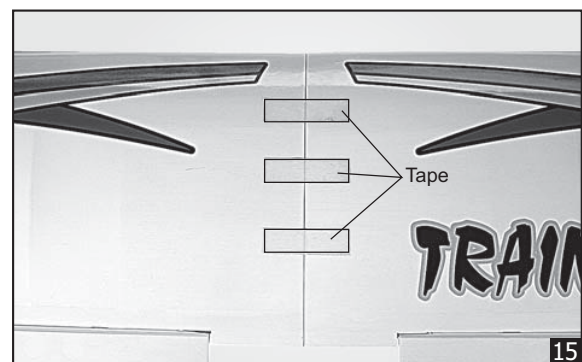
Draw a center line on the wing joiner.



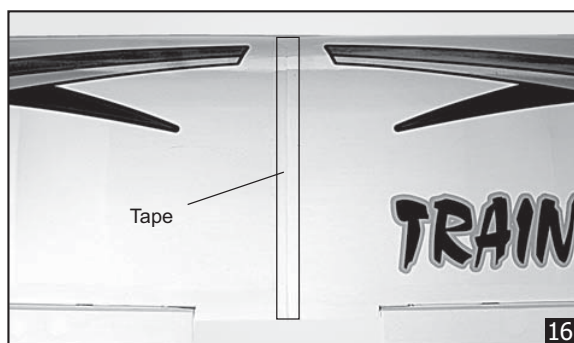
Glue wing joiner in wing halves with 30 minute epoxy. Put epoxy on wing joiner and in wing joiner pocket. Wipe off excess epoxy with a paper towel and alcohol.



Hold wing halves together with tape while epoxy cures.



Cover wing joint with self adhesive trim strip.

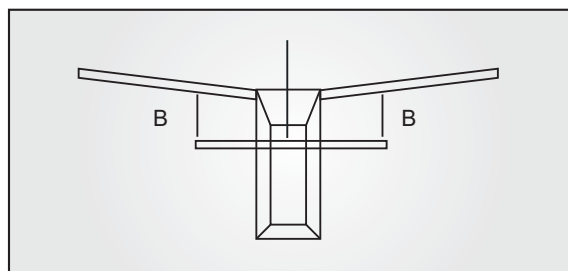
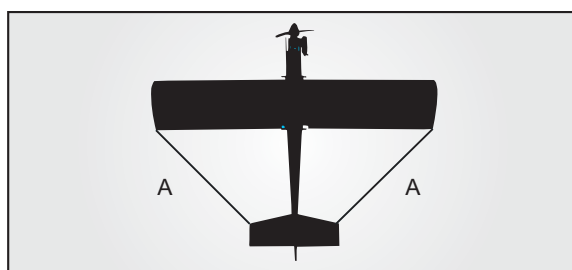


HORIZONTAL-VERTICAL INSTALLATION

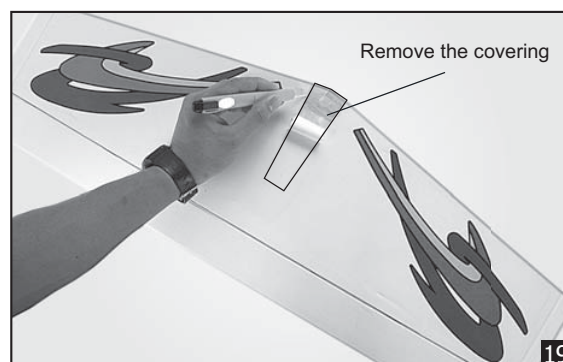
Secure the wing to the fuselage using the plastic screws



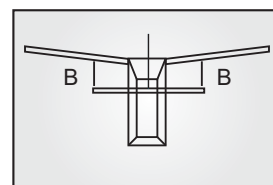
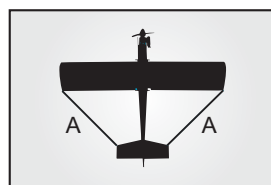
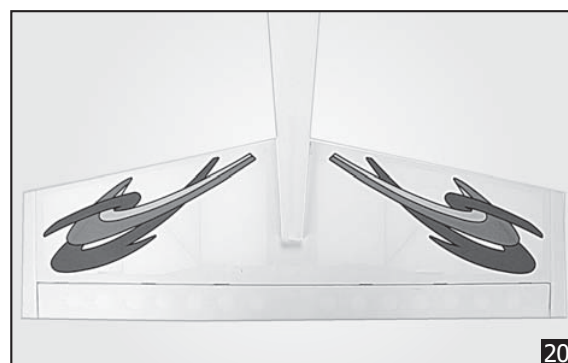
Center the wing. Cut the covering from the slots in the fuselage for the Horizontal Stab and Vertical Fin. Put horizontal stab on fuselage and center like the wing, also level the stab to match up with the wing. Mark the horizontal stab where it will glue to the fuselage.



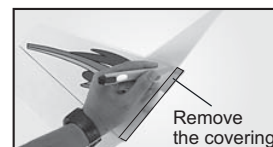
Trim the covering from the stab where it will glue onto the fuselage. Cut only through the covering, do not cut into the balsa.

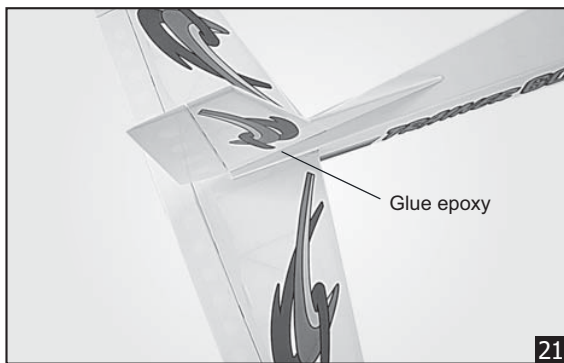


Glue stab on with 30 minute epoxy and recheck alignment.



Put vertical fin in fuselage slot, mark where covering needs to be trimmed. Carefully trim covering. Line up vertical fin and epoxy in place keeping the vertical fin perpendicular to the stab.

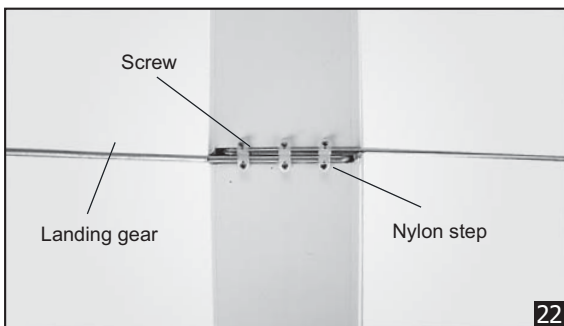




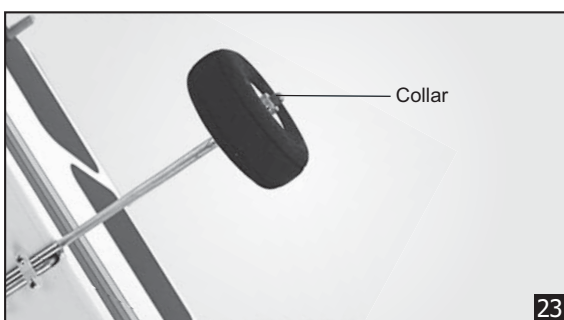
MAIN GEAR INSTALLATION

Cut the covering from the slot in the landing gear mount.

Put landing gear wires in fuselage bottom and secure using screws and nylon straps.

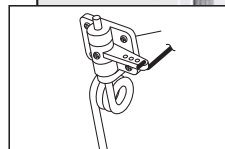
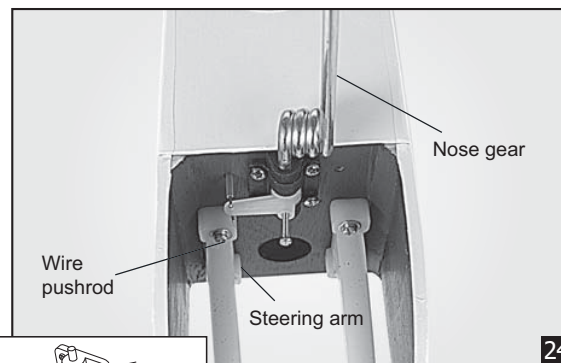


Put wheels on the gear and secure using the wheel collars.

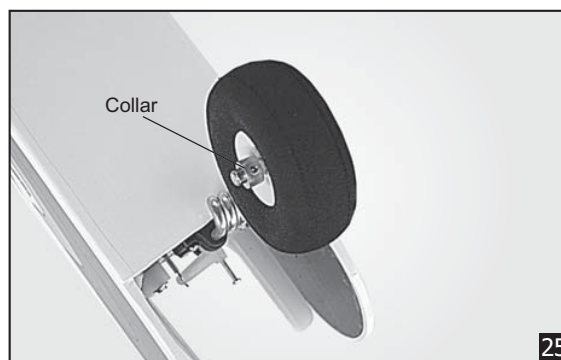


Fit the nose leg steering arm onto the "Z" bend on the steering pushrod. Now slide the steering arm into the middle of the pre-fitted nylon nose gear bearing. Hold the nose gear steering arm in place then slide the nose wire into the nylon mount, passing through the steering arm.

Note that the ground flat section of the leg should face forward. Now tighten the nose gear steering arm retaining screw onto the nose leg. This will ensure that the nose leg cannot turn in the steering arm.

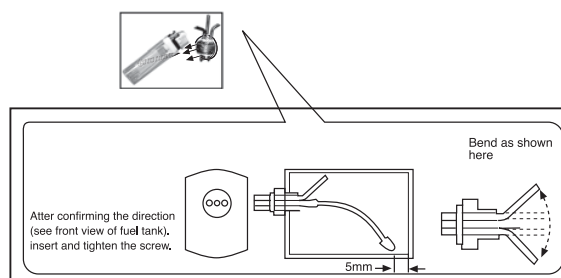


Install nose wheel using supplied wheel collars.

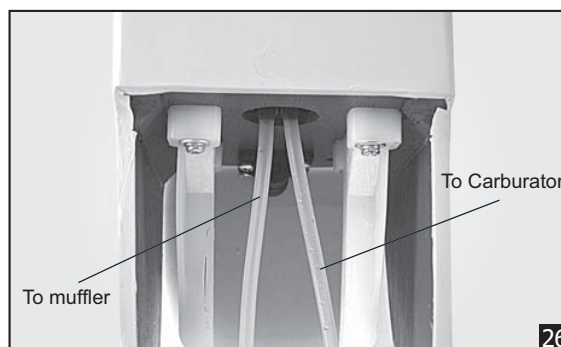


FUEL TANK INSTALLATION

Assemble the fuel tank.



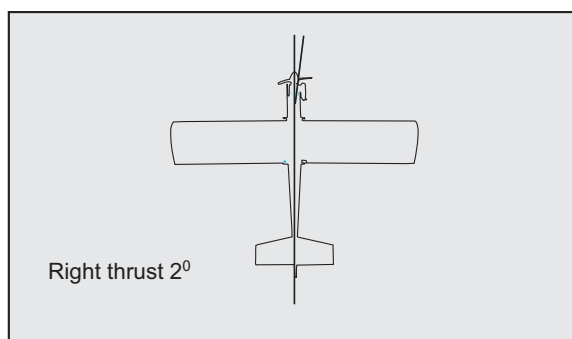
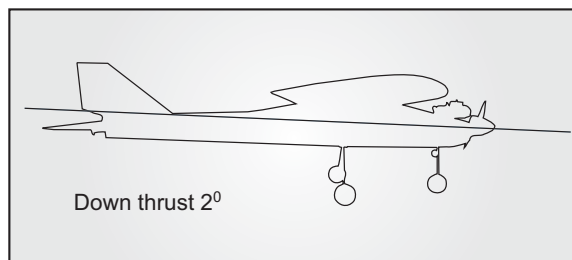
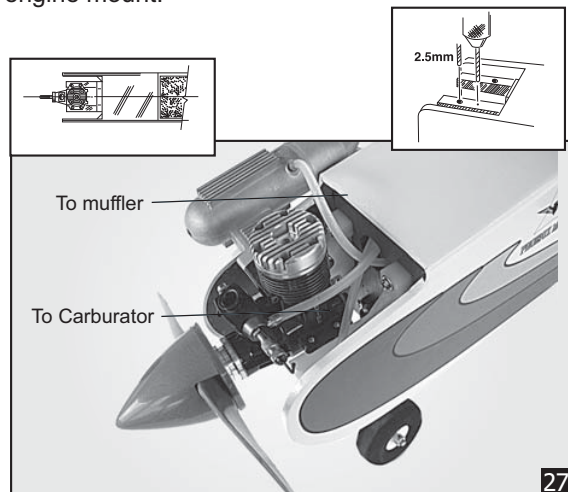
Put the fuel tank in the fuselage using foam rubber to cushion the tank, and route the fuel lines out the hole in the firewall.



ENGINE INSTALLATION

Insert the Z-bend of the throttle pushrod into the throttle arm of the engine. See the "high throttle" photo on page 9

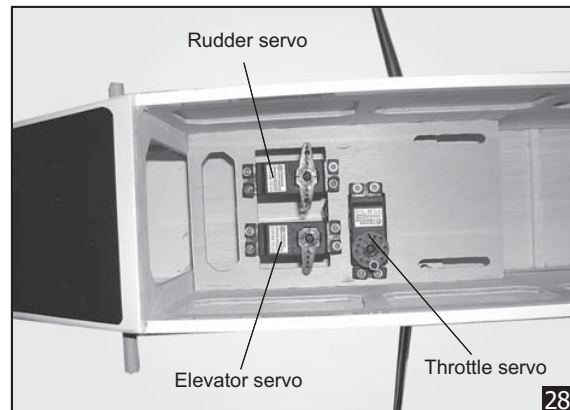
Install the engine of your choice using the Philip head screws. Make sure the engine is pointing straight ahead or pointing a little to the right, i. e. with right thrust. Mark the locations of the screws and drill mounting holes with a drill bit that is slightly smaller than the screw threads. Test to get the right size drill bit before drilling holes in the engine mount.



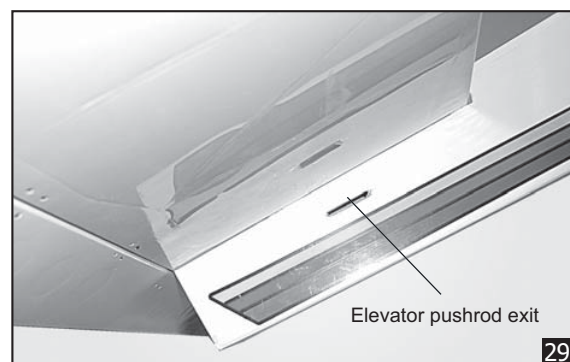
SERVO INSTALLATION

Install the rubber grommets and brass eyelets into the elevator, rudder and throttle servos. Test fit the servos into the servo tray.

Mount the servos to the tray using the mounting screws provided with your radio system.



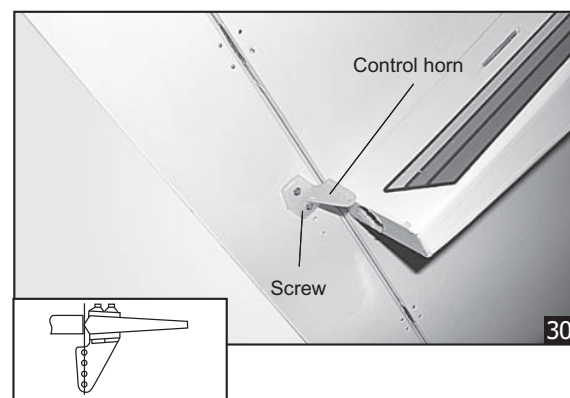
ELEVATOR - RUDDER LINKAGE



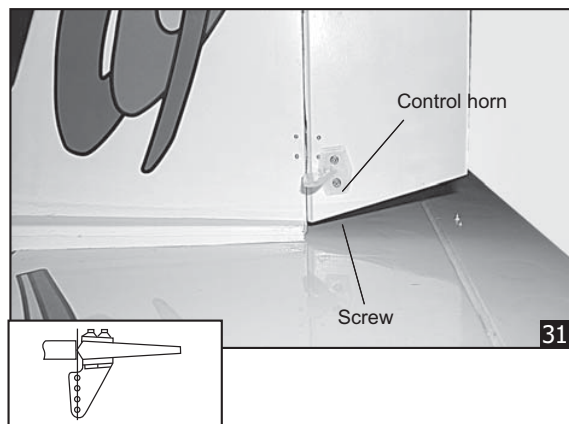
Remove the covering from the hole as shown.

The elevator control horn should be mounted on the bottom of the elevator at the leading edge, IN LINE WITH THE ELEVATOR PUSHROD

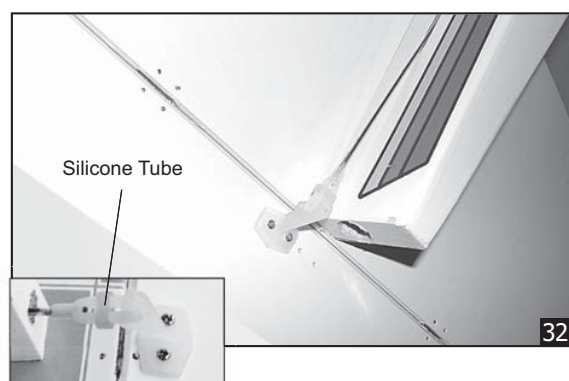
Cut the covering from the exit slot for the rudder pushrod on the top of the fuselage, on the left side of the vertical fin.



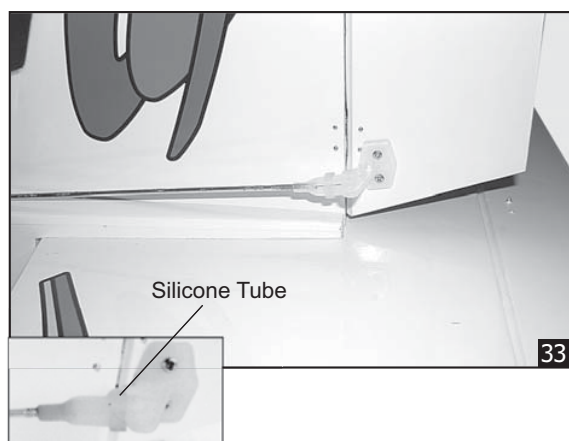
The rudder control horn should be mounted on the left of the rudder at the leading edge, IN LINE WITH THE RUDDER PUSHROD.



Install the elevator pushrod in fuselage. Thread a nylon clevis at least 6 mm onto the pushrod. Route it to the elevator, attach clevis to horn and secure using small piece of silicone tubing.

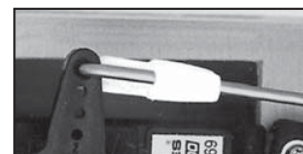
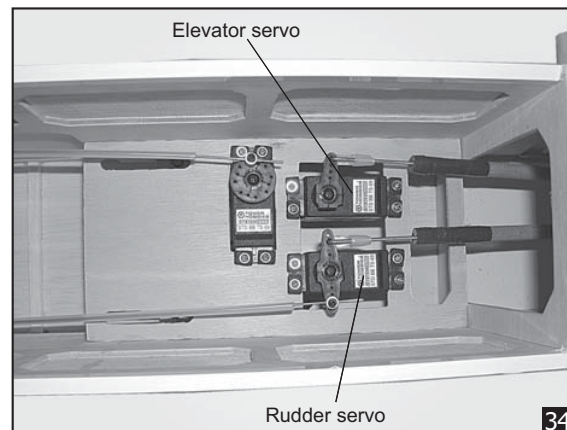


Install the rudder pushrod in fuselage. Thread a nylon clevis at least 6 mm onto the pushrod. Route it to rudder, attach clevis to horn and secure using small piece of silicone tubing.



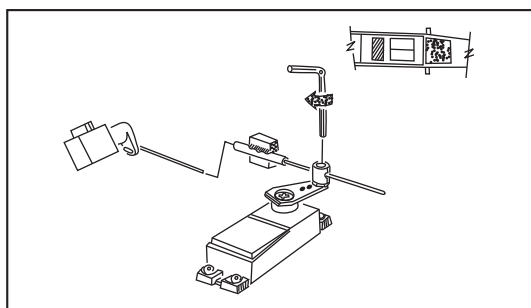
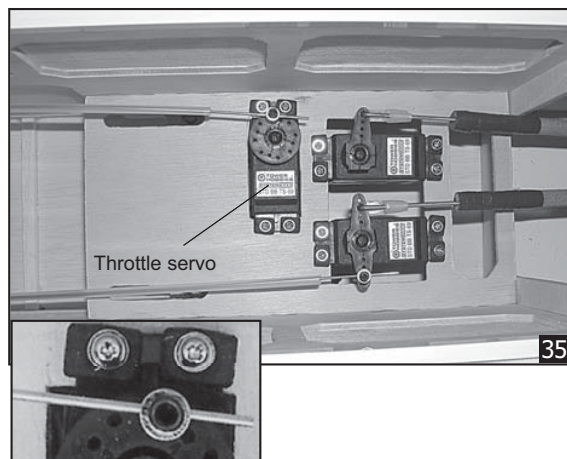
Trim and attach the pushrods to the servos using fast loc connectors.

Install a metal connector onto the rudder servo arm and connect the nose wheel steering pushrod to it.



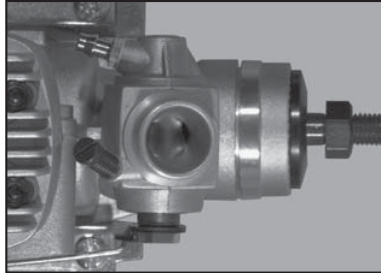
THROTTLE LINKAGE

Attach throttle pushrod to throttle servo arm using a metal connector. Use two wood blocks to hold the pushrod securely.

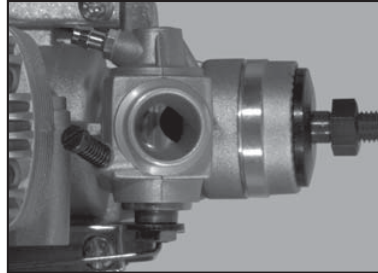


SETTING UP THE THROTTLE

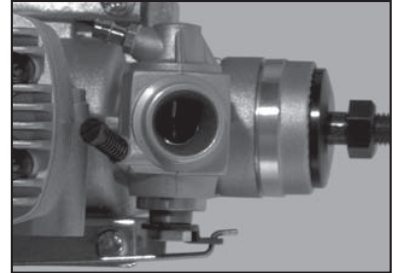
This is a very important stage in the completion of the model. The throttle must open and close fully - without the linkage binding at either end of its travel. Work by setting the "mid throttle" position first, followed by the low and high. Once the linkage has been properly set-up it can be adjusted mechanically or by using the Travel Adjust, or ATV/EPA feature on most modern transmitters.



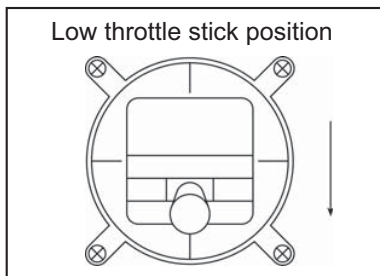
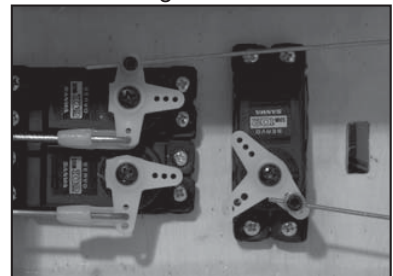
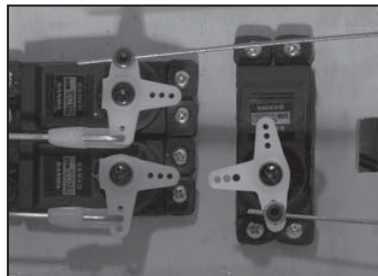
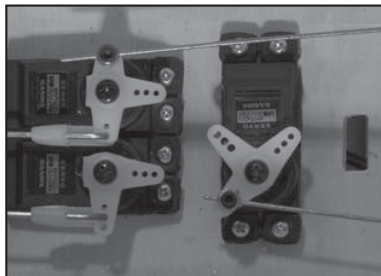
Low throttle



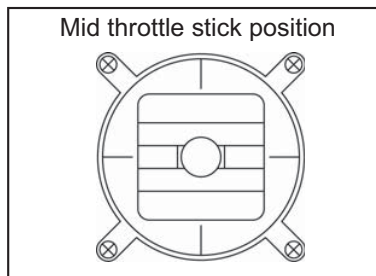
Mid throttle



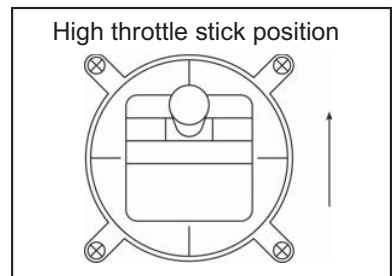
High throttle



Low throttle stick position



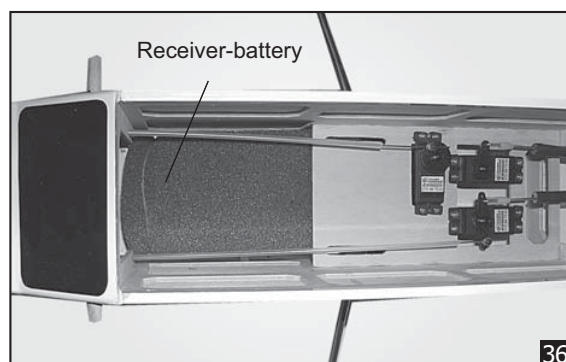
Mid throttle stick position



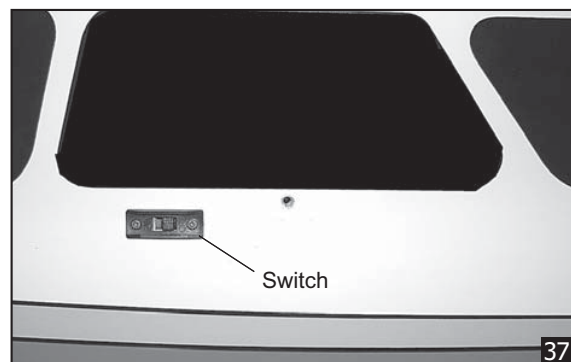
High throttle stick position

Wrap battery and receiver in protective foam padding.

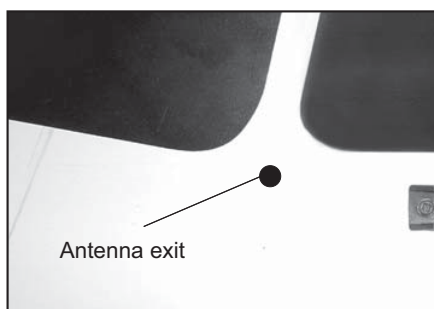
Install the switch.



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37

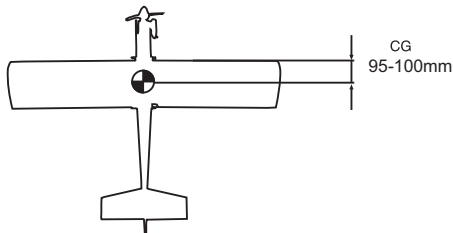


BALANCING

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

Place receiver and battery in radio compartment and adjust their position to make the plane balance on the center of gravity (100mm from leading edge of wing). Make sure the center of gravity is located where it is indicated before flying. If additional tail or nose weigh is needed, securely attach it at the nose or tail as needed.

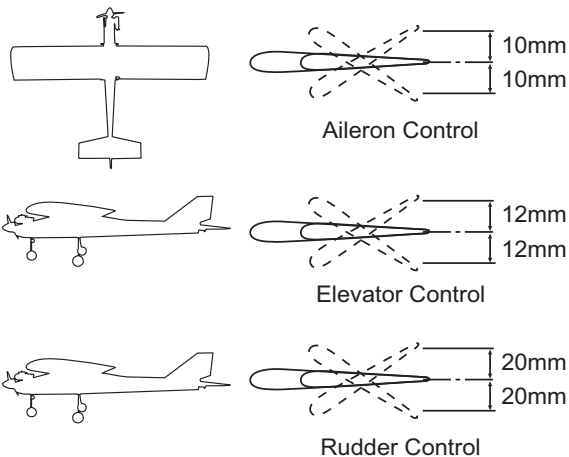
2. Wrap battery and receiver in protective foam padding. Route the receiver antenna out of the fuselage and to the rear of the airplane. Secure to the vertical fin or one side of the horizontal stab with a pin and small rubber band.



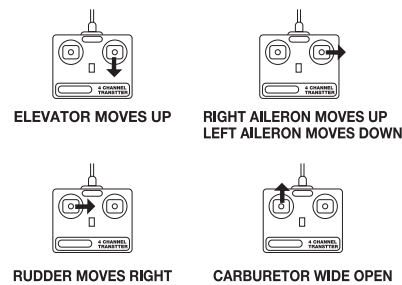
CONTROL THROWS

1. We highly recommend setting up a plane using the control throws listed. Adjust pushrod positions on control arms or horns to provide control surface throws as illustrated. Center all control surfaces.
2. The control throws should be measured at the widest point of each surface!.

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



4 CHANNEL RADIO SETUP (STANDARD MODE 2)



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 surfaces.
5. Check the receiver antenna . It should be fully extended and not coiled up inside the fuselage.
6. Properly balance the propeller.
7. Use at least 5 rubber bands per side to hold the wing onto the fuselage.

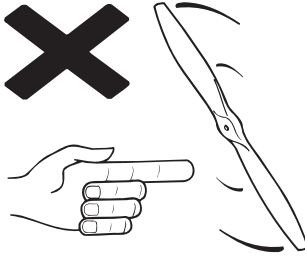
We wish you many enjoyable flights with your plane and once again thank you for your choosing a Phoenix Model's product.



I/C FLIGHT WARNINGS

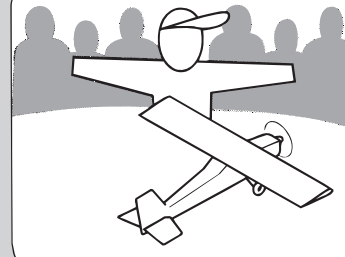


Always operate in open areas, away from factories, hospitals, schools, buildings and houses etc. **NEVER** fly your aircraft close to people or built up areas.

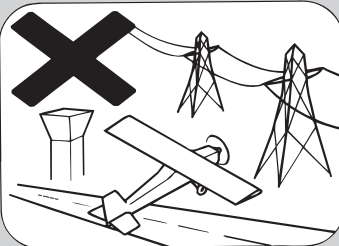


THE PROPELLER IS DANGEROUS

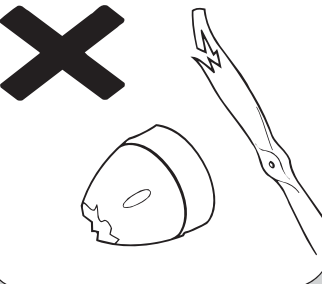
Keep fingers, clothing (ties, shirt sleeves, scarves) or any other loose objects that could be caught or drawn in, away from the propeller. Take care at **ALL** times.



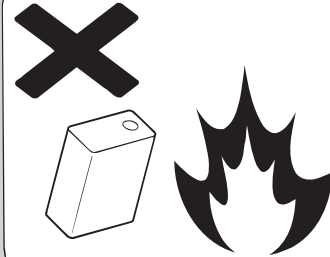
Keep all onlookers (especially small children and animals) well back from the area of operation. This is a flying aircraft, which will cause serious injury in case of impact with a person or animal.



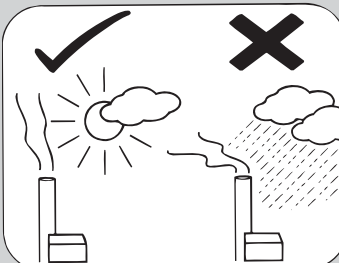
NEVER fly near power lines, aerials or other dangerous areas including airports, motorways etc.



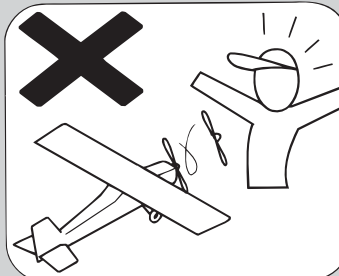
NEVER use damaged or deformed propellers or spinners.



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.

Metric Conversions

Inches x 25.4 = mm (conversion factor)

1/64" = .4 mm	3/16" = 4.8 mm	1" = 25.4 mm	21" =
533.4 mm	1/4" = 6.4 mm	2" = 50.8 mm	24" =
1/32" = .8 mm	3/8" = 9.5 mm	3" = 76.2 mm	30" =
609.6 mm	1/2" = 12.7 mm	6" = 152.4 mm	36" =
1/16" = 1.6 mm			
762.0 mm			
3/32" = 2.4 mm			
914.4 mm			

