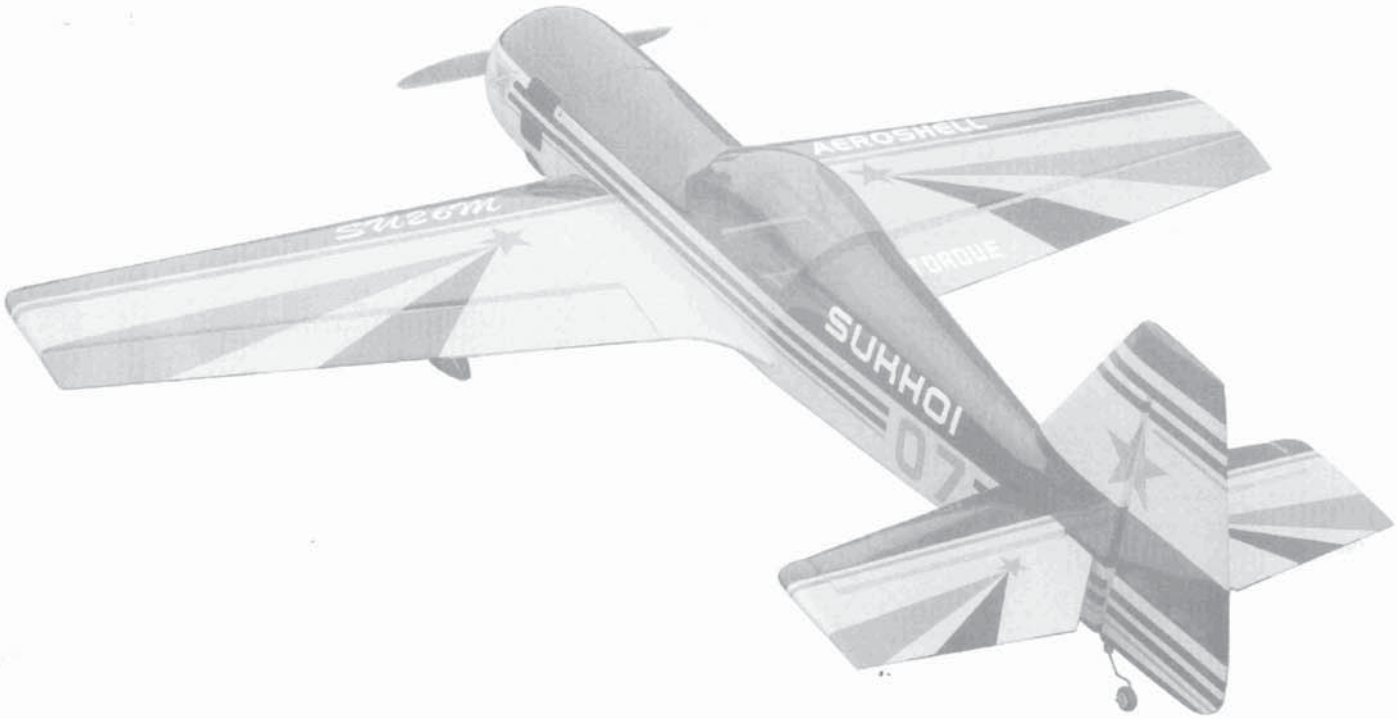
Gasoline powered

50CC Series

Edge540T\Extra260\Extra330L\Katana
Raven\ Yak54\Yak55SP \Su26M

ALMOST-READY-TO-FLY



Assembly Manual

Congratulations on your purchasing of this excellent almost-ready-to-fly R/C model! This ARF adopts the latest 3D design features and emphasizes high performance, light weight and fun. The plane is designed by professional engineers and built by skilled craftsmen. Many of the parts are already pre-installed for you!

*Note: This manual depicts the assembly procedures for these eight planes. Please read through the manual to determine which steps are appropriate for your aircraft.

Cautions: This R/C model is not a toy!

1. The RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly it only in open area and follow all instructions including your Radio and Engine.
2. As this product was designed for high performance, incorrect installation would affect the flying performance. Please ask for assistance from an experienced modeler if you don't understand the methods of assembly.
3. Because the package contains many small parts, Please keep children away from assembly area while assembling the plane.
4. For safety reasons, please consider every possible accident when operating this model airplane and follow your club/country rules.
5. This model was designed for 50 to 60CC gas engine and 2.40 Nitro engine, please use the recommended engine size or equivalent electric motor.
6. Please read this manual carefully before assembly. Always refer to it during assembly and do not deviate from the established construction methods.

Note: This manual depicts the assembly procedures for both the Yak 55sp and Yak 54. Please read through the manual to determine which steps are appropriate for your aircraft.

Features:

- Latest structure
- Super quality
- Easy installation
- Complete with accessories
- Low wing loading easy to flying
- High performance hardware including: Ball linkage control system
  Advanced PU wheels
  Anodized 6061 landing gear
- Light weight construction and high structural strength
- Excellent aerobatics and 3D performance
- Two pieces removable wings and stabs
- Aerofoil tail wings
- Canopy and cowling with shockproof silicon rubber blanket
- Two pieces wings fitted our produced nylon screws
- C. F. Wing tube
- Long servo arm included
- C. F. tubes to make the planes light weight

Specification:

	Edge540T	Extra260	Extra330L	Katana
Wing Span:	88"(2234mm)	87"(2210mm)	88"(2234mm)	88"(2240mm)
Length:	81"(2057mm)	80"(2040mm)	80.5"(2044mm)	80.7"(2050mm)
Wing Area:	1465sq.in(94.5sq.dm.)	1426sq.in.(92sq.dm.)	1465sq.in(94.5sq.dm.)	1457sq.in(94sq.dm.)
Flying Weight:	15.5-17lbs(7000-7700g)	15.5-17lbs(7000-7700g)	15.5-17lbs(7000-7700g)	15.5-17lbs(7000-7700g)

	RAVEN	Yak54	Yak55SP	SU26M
Wing Span:	87"(2210mm)	85"(2160mm)	87"(2210mm)	87"(2210mm)
Length:	81"(2060mm)	80"(2035mm)	80-5/8"(2048mm)	80-5/8"(2048mm)
Wing Area:	1449sq.in(93.5sq.dm.)	1429sq.in.(92.2sq.dm.)	1451sq.in(93.6sq.dm.)	1466sq. In(94.6sq.dm.)
Flying Weight:	16-17.5lbs(7250-7900g)	16-17.5lbs(7250-7900g)	16-17.5lbs(7250-7900g)	16-17.5lbs(7250-7900g)

Other Items Needed (not included in the kit)

- Propeller 20*10~23*8
- Spinner (3"- 4")
- 18" or 36"servo Extension

Additional Required Equipment

Radio Equipment

6-channel radio system
1 standard servo for throttle
5 hi-torque servos

Recommended

- JR systems
- JR 9X or JR 9XII
- JR PCM 10X
- Futaba systems
- Futaba 9CHPS
- 12ZAP
- 14MZA

Recommended engines

- Gasoline:50-60CC
- 2-Stroke: 2.40
- 4-Stroke: 3.00

Additional Required tools and adhesives Tools

- Adjustable wrench (small)
- 4-40 Tap
- Canopy scissors
- Drill (drill press preferred)
- Drill bit: 1mm-6mm set
- Drum sander
- Cut off wheel
- Flat blade screwdriver w/short handle
- Foam: 6mm
- Hex wrench
- Hobby knife
- Masking tape
- Philips screwdriver (small)
- Razor saw
- Scissors
- Square
- Syringes
- Tap handle
- Toothpicks
- Velcro straps

Adhesives

- 5-minute epoxy
- 30-minute epoxy
- Medium CA Glue
- Thread lock

Other Required Items

- Epoxy brushes
- Felt-tipped pen or pencil

Other Required Items

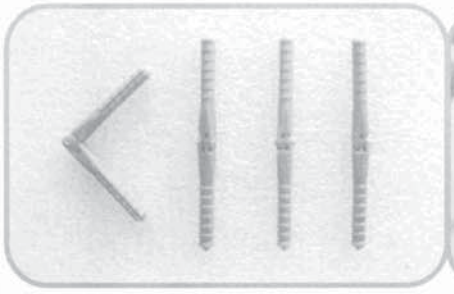
- Epoxy brushes
- Felt-tipped pen or pencil
- Measuring device (e.g. ruler, tape measure)
- Mixing sticks for epoxy
- Paper towels
- Petroleum jelly
- Rubbing alcohol
- Sanding bar
- Sandpaper (coarse)
- Covering iron
- Dental floss or string

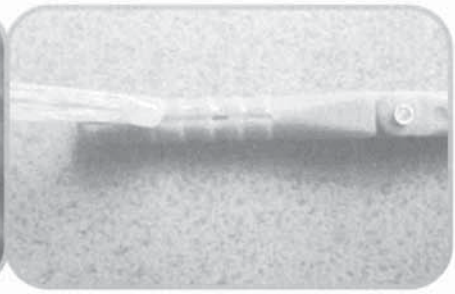
Before starting Assembly

Before begin the assembly of these models, thoroughly inspect the fuselage, wing panels, rudder, and stabilizer. If you find any part damaged or missing, please contact the local dealer. If you find any wrinkles in the covering, please use a heat gun or covering iron to smooth them.

Assembly

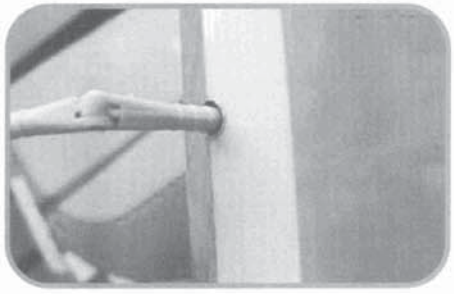
I. Hinging the Control Surfaces



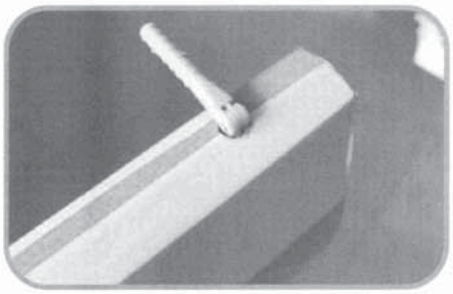


Before start hinging, you need to prepare:

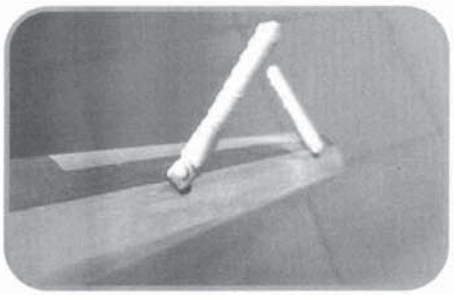
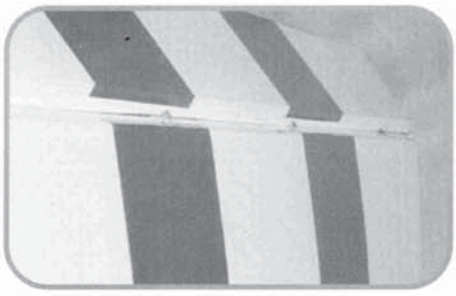
- Hinges
- 30-minute epoxy
- Toothpicks



- Apply epoxy into the trailing edge hinge holes of the wing.
- Apply epoxy on one side of the hinges.

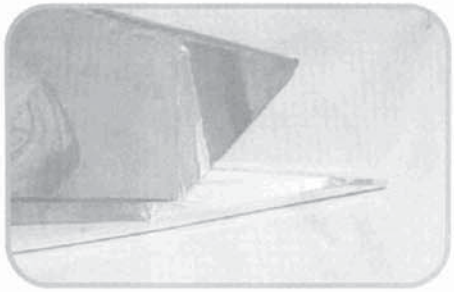


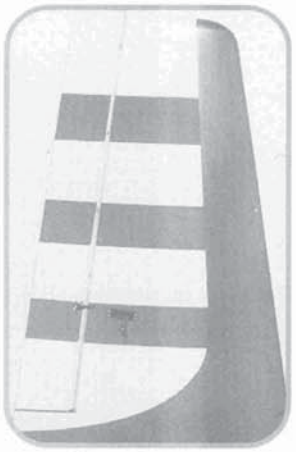
- Insert them into the holes.

- Apply epoxy into the hinge holes of the leading edge.

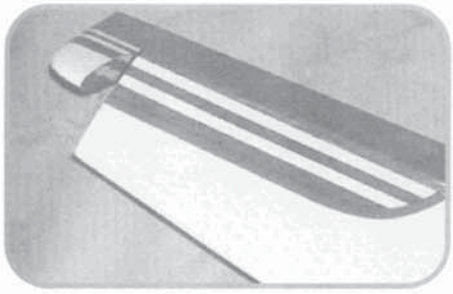
- Apply epoxy to the other side of the hinges.
- Install the control surfaces.





- Move the surface up and down a couple of times to make sure all the hinges are aligned correctly and the desired throw is attained (Aileron:40degrees,others:45degrees).

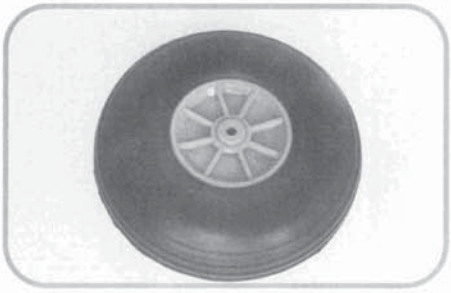
- Use some masking tape to hold the surfaces together until all of the surfaces are secure in place with epoxy.

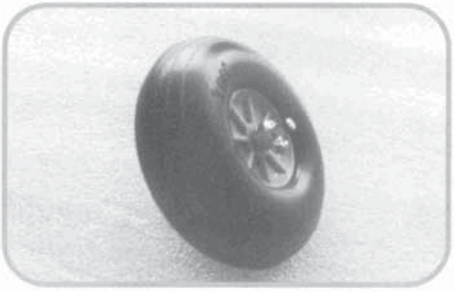


- Hinge the Elevator and Rudder with the same way.

II. Landing Gear Installation

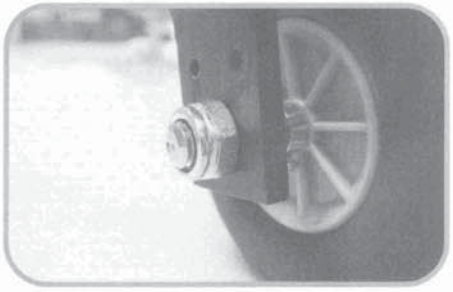
Main Landing Gear

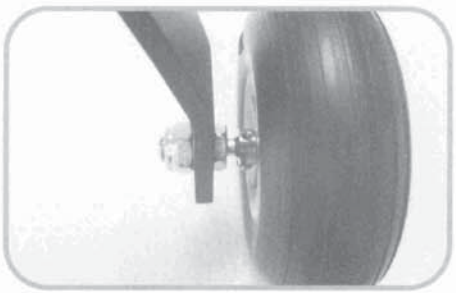




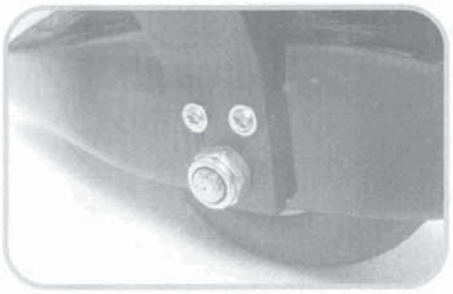
- Insert the wheel axle through the center hole of the wheel.
- Install two wheel collars, ensure that the wheel rolls freely.
- When the wheel and wheel pant are installed completely, you can adjust these two wheel collars to let the wheel be in the center of the wheel pant.

Note: Use thread locking compound when installing all nuts and bolts during assembly.

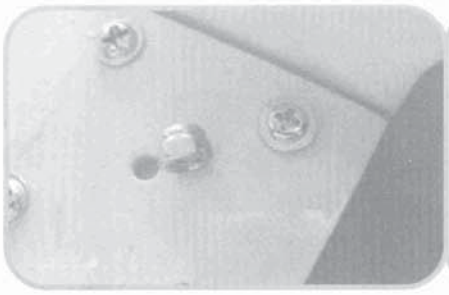
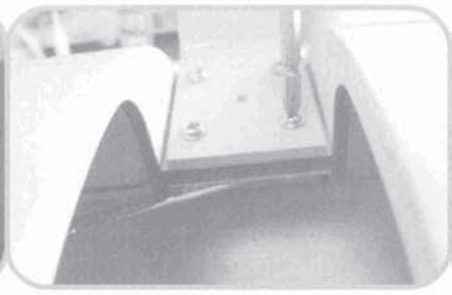
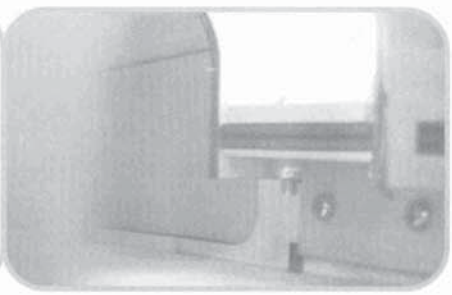




- Then Insert the axle through the hole in the landing gear, And attach the axle for the main landing gear firmly with the locknut.

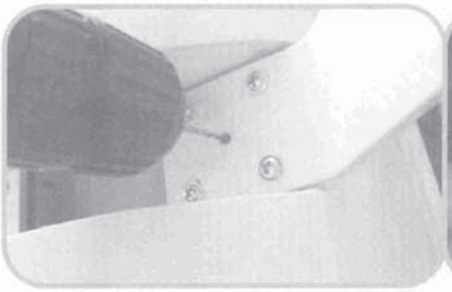
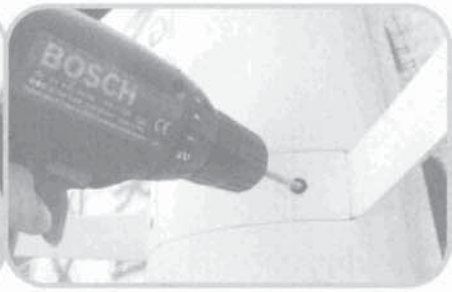


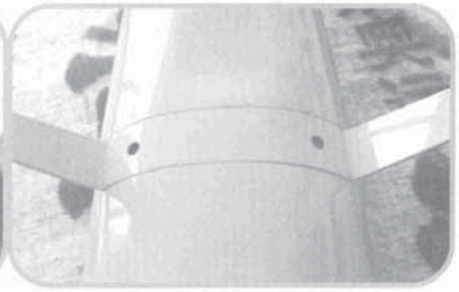
- Install the wheel pant with two bolts, Making sure the wheel is in the center of the wheel pant.

- Install the main landing gear on the bottom of the fuselage. Consider using "thread lock" on the screws to keep them from vibrating during flight.

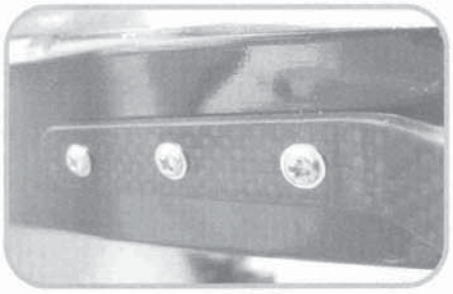
Note: Use thread locking compound when attaching all nuts to bolts during assembly.

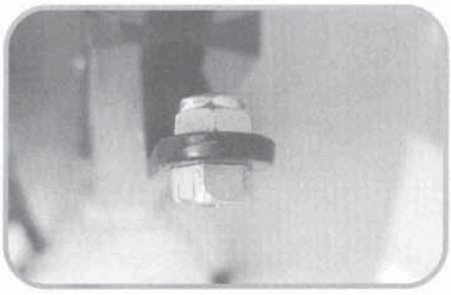
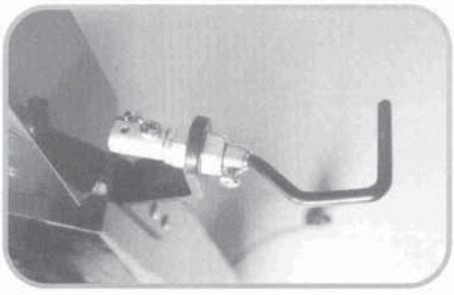


- Drill a D2mm hole at the landing gear mount for installation.
- Cover the main landing gear with the housing by attaching it with the self-tapping screws provided.This step is only for Yak55SP/Yak54/SU26M.

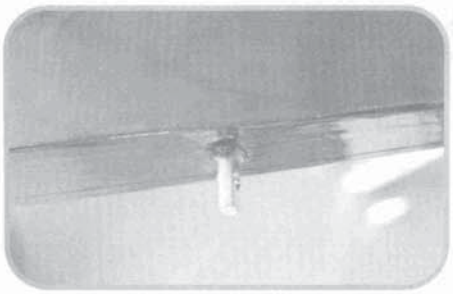
Tail Wheel Instllation

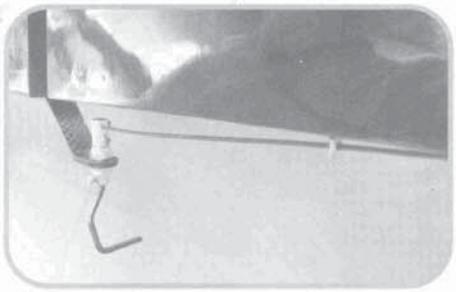


- Center the tail wheel bracket on the mounting block.
- Mark the mounting locations for the large wood screws.
- Drill three small pilot holes for the wood screws.
- Use three metal screws to secure the tail wheel bracket in place.

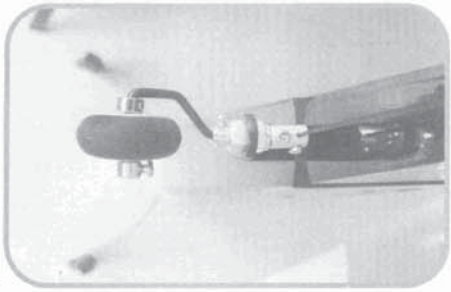
- Install the tail wheel parts.

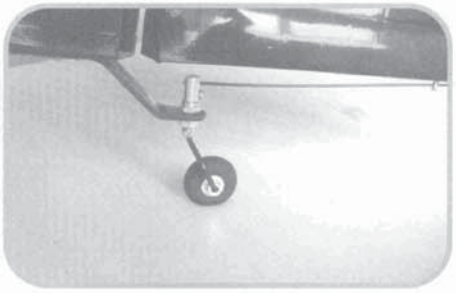




- Drill a hole for the connective bolt and install it with glue.

- Let the control wire through the holes of connective bolt and landing gear connector.
- Tighten the screw to secure the control wire.

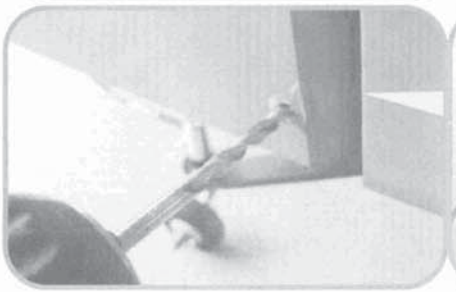


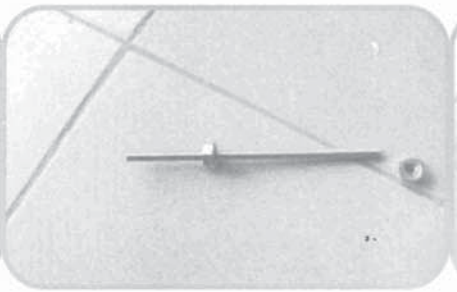


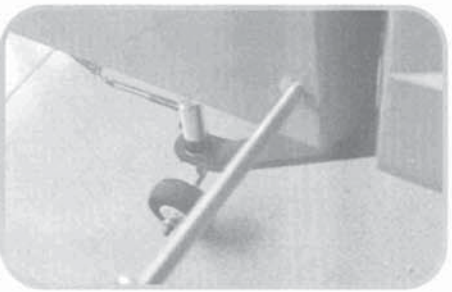
- Install the wheel with two wheel collars, ensure that the wheel rolls freely.

Tail surfaces Installation

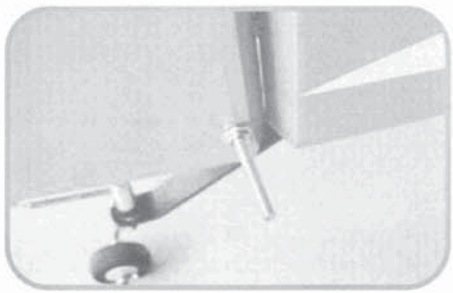
- High performance accessories-Ball Linkage Control System.



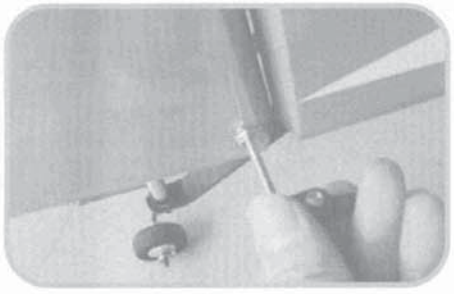




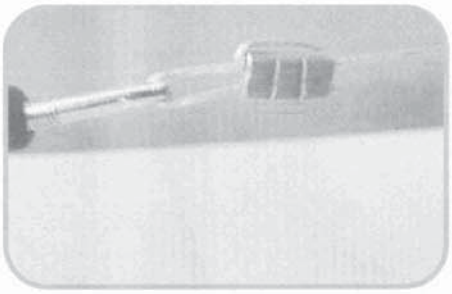
- Measure and mark your horn bolt location.
- Drill a vertical 3.7mm hole in the rudder for the M4 bolt.
- Fasten the M4 bolt into the hole in the rudder and secure it in place with epoxy.
- Use thread locking compound on the bolt base to ensure the bolt will not go back out during flight.



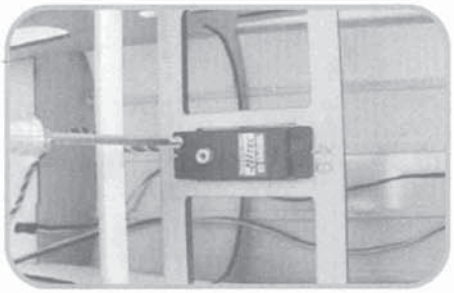
- Screw the M4 flange nuts onto the bolt from both sides of the rudder.
- Position the bolt. It should be centered in the rudder.



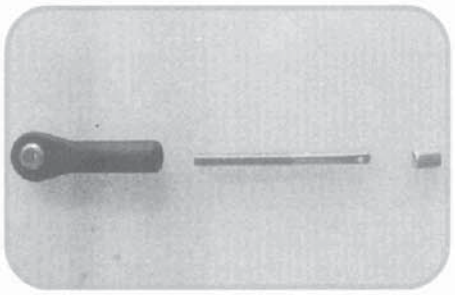
- Screw the ball link onto the bolt.
- Cut the cable into two equal pieces. Prepare one end of the pull-pull cable by using the cable, threaded cable end and crimp. The cable passes through the crimp, through the cable connecter end, then back through the crimp the second time. Pull the excess cable tight and use a crimping tool to complete the job.



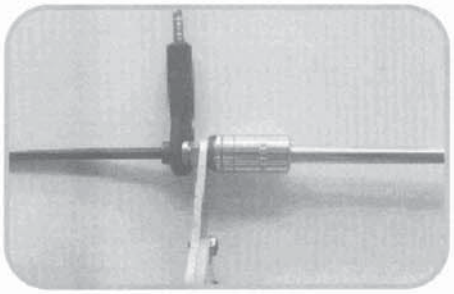
- Thread the cable connecter halfway into the ball link.
- Pass the cable into the fuselage through the slot.



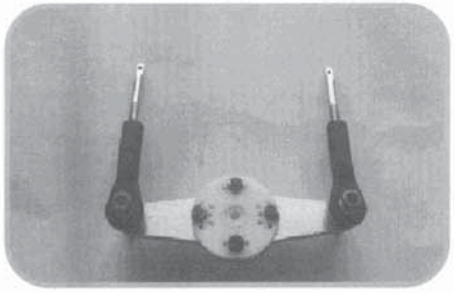
- Install the rudder servo.
- Prepare the rudder servo arm (we advise you to use long servo arm) attaching two ball links by using the Screws and lock nuts.
- Center the rudder servo and place the servo arm onto the servo.



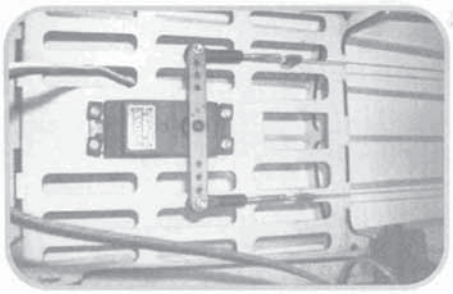
- Slide a crimp onto the cable, connect the cable and cable connecter like other end, but do not use crimping tool, let the crimp can remove freely.
- Repeat these steps to install the second rudder cable.



- Adjust the position of the connecter end on the cable.
- Use a crimping tool to fix the crimp and cable.
- Rotate the connecter or ball link to tension the cables.



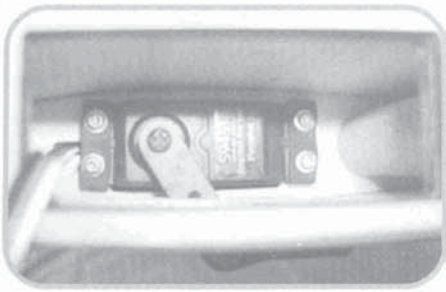
- Secure the servo arm to the rudder servo by using the screw that came with the servo.



- Install a 24" servo extension onto the elevator servo. Either tie the servo leads together, or use a connector to secure the extension to prevent it from coming loose during flight.

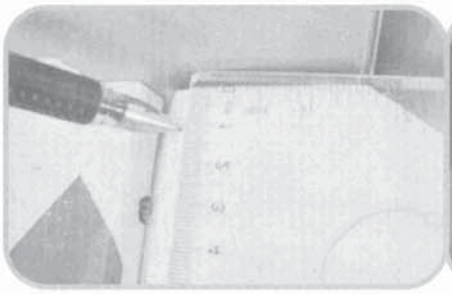
Yak55SP/SU26M/Edge540T/Extra330L: Install the servo in the Stabilizer section of both sides.

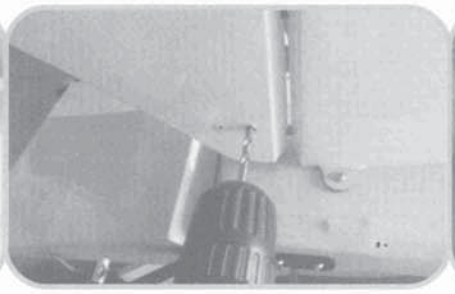
Yak54: Install the servos in the fuselage in precut locations on both sides.

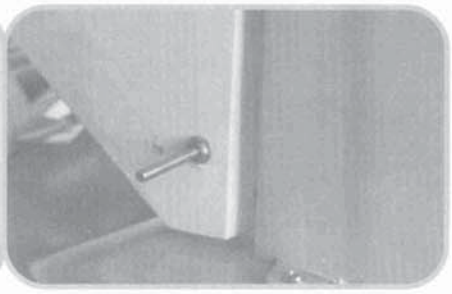


- Install the horizontal stabilizer assemblies at this time. Insert the stab tube.
- Slide each stabilizer half onto the tube. Make sure the anti-rotation pins are fully seated.

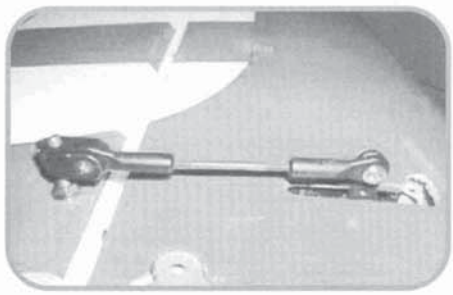
- Install four bolts (two per side). Don't forget to use "thread lock" on the screws before install to keep them from vibrating during flight.

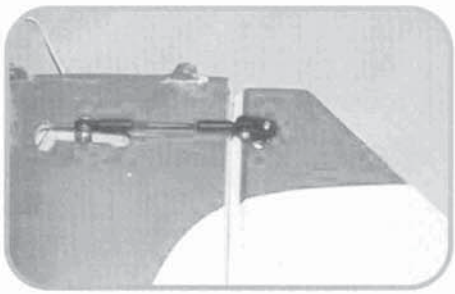




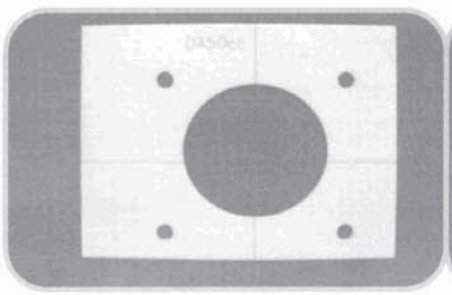
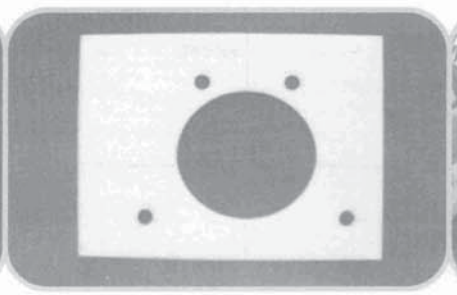
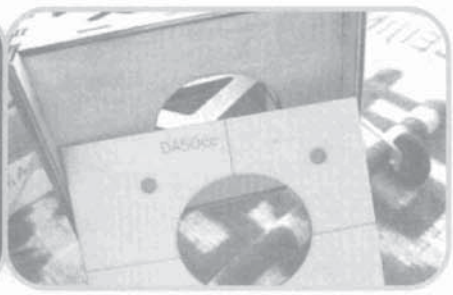


- Follow the same way to install the elevator control system like rudder control horn installation.
- Measure to find and mark your horn bolt location.
- Insert the control horn both left side and right side.
- Connect the control horn and servo arm with ball link.

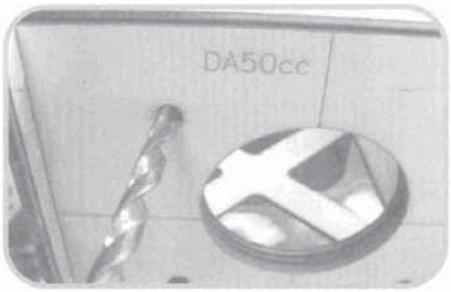




IV. Engine Installation

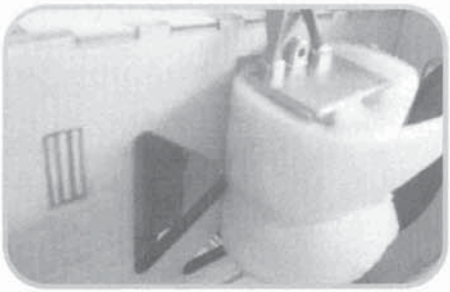




- There are two pieces of wooden templates supplied, one for 3W 50cc gasoline engine, the other one for DA 50 engine. Select the right template for your engine (if it is 3W 50cc or DA 50) to mark the location of mounting holes.



- Mark the centerline on the firewall for the engine. Note: the vertical centerline is offset to the right side of center as viewed from the front due to the built-in right-thrust. These will be necessary no matter what engine you choose to install.

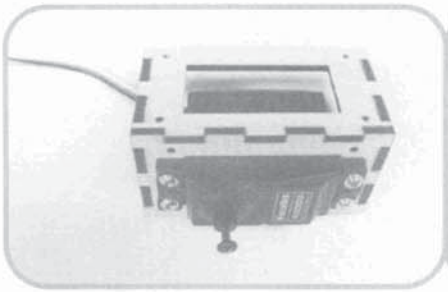
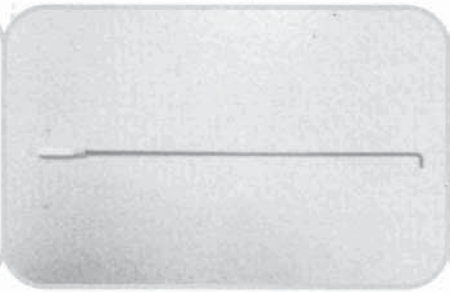
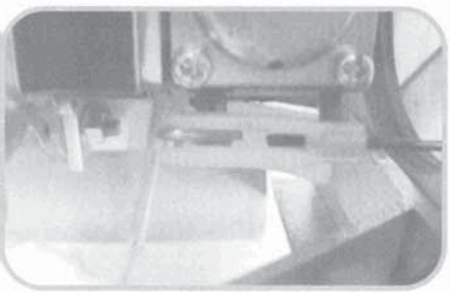
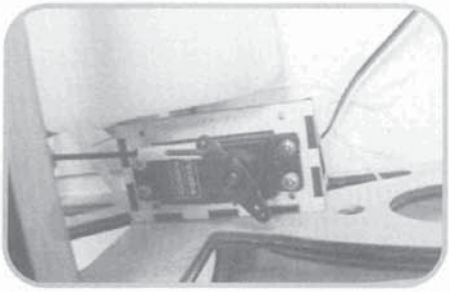
- Drill the installation holes on the firewall. If you intend to install nitro engine, you need to install the engine mount on the firewall with screws first.
- Drill holes on the engine mount and firmly fasten the screws on the mount.




- Measure the length of the cowling and decide where to install the engine. Let the propeller drive washer come out 2mm from the cowling in the front.

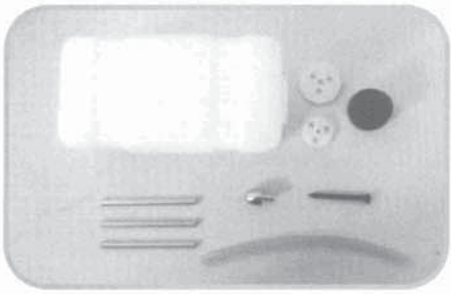
- If you are installing a gasoline engine, drill holes in the firewall and then fasten the supplied screws from the back of the firewall. Make sure the engine is fixed firmly and then apply "thread lock" glue on the bolts.
- Install the Ignition.

Throttle servo Installation

- Install the throttle servo onto the servo mount and glue it in the place where you want to mount.
- Decide the length and the location of the throttle linkage rod according to the position of the servo arm and the engine throttle arm. Install the linkage rod.

V. Fuel Tank Installation



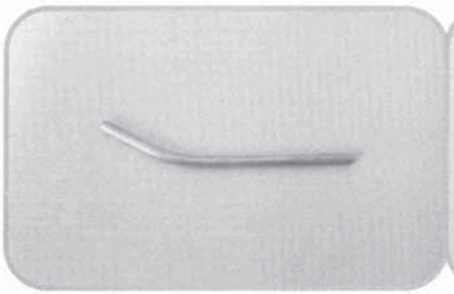
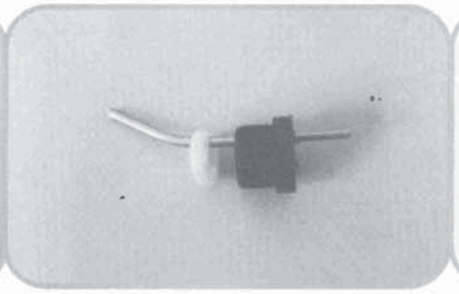
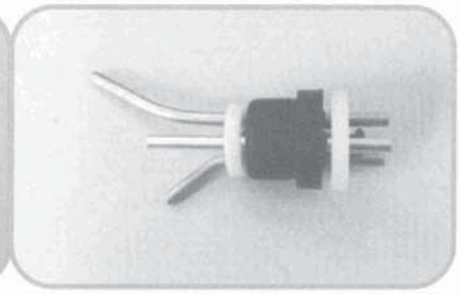
1.Required Parts:

- Clunk (fuel pickup)
- Caps (2)
- Fuel Pickup tubing
- Fuel tank
- Rubber stopper
- M3 x 30 screw
- Metal tubes (3)

2.Required Tools and Adhesives:

- Hobby knife Foam: 1/4"
- Phillips screwdriver (small)

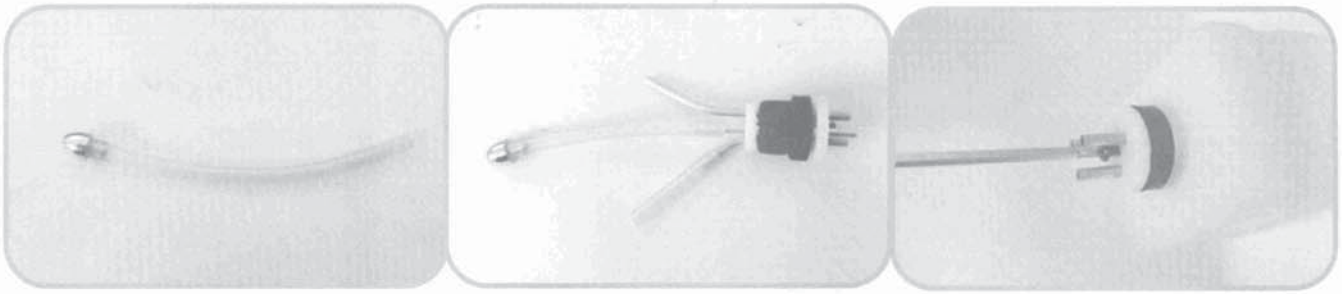
Note: The stopper provided with the Yak has three holes. The holes are for the fuel pickup, fill and vent lines. You can use two holes: One for the fuel pickup and one for the fuel vent. Only open the third hole if you are going to use a separate fill line.
Note for gas engines: While the stopper is OK for both gas and glow, the inside fuel tubing supplied is for gas and glow. If a gasoline engine is used, Use tygon tubing (not included) for all lines outside the fuel tank.

3. Bend two fuel tubes carefully to a 45-degree angle using your fingers. These will be the fuel tank fill and vent tubes. Use carefully not to kink the tube while bending.

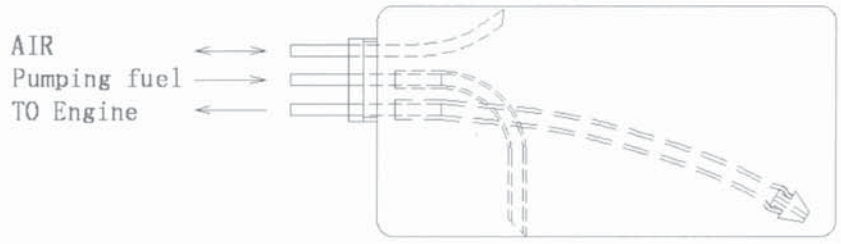
4. Locate the rubber stopper. Insert the three metal fuel tubes into the holes in the stopper so that an equal amount of tube extends from each side of the stopper. The straight tube will be the fuel tank pickup that provides fuel to the engine.

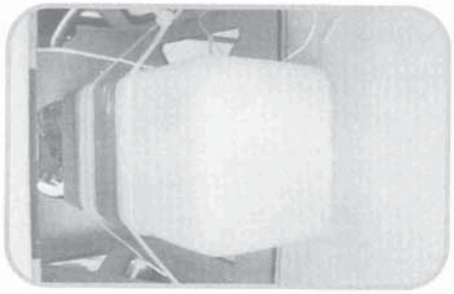
5. Slide the smaller cap over the tube on the smaller end of the rubber stopper. This end will be inserted into the fuel tank. The larger cap is placed on the side of the rubber stopper that makes the cap. Loosely install the M3 x 30 screws through the center of the stopper.



6. Locate the clear piece of tygon or silicone fuel tubing and the fuel tank clunk. Cut the tubing to appropriate length. Install the clunk onto one end of the tygon or silicone tubing. Slide the tubing (end opposite the clunk) onto the fuel tank pickup tube (straight tube) in the stopper.
7. Slide the tubing onto the metal tube which has been bent.
8. Carefully insert the stopper assembly into the fuel tank. Note the position of the vent tube; it must be up at the top portion of the fuel tank to function properly. Also, it may be necessary to shorten the length of the fuel pickup tubing to make sure the clunk does not rub against the back of the fuel tank. You should be able to turn the tank to any attitude, and the clunk will fall to the lowest point (all directions except for having the stopper facing down).
9. Tighten the M3 x 20 screw carefully do not overly tighten. This allows the rubber stopper to form a seal by being slightly compressed, thus sealing the fuel tank opening.

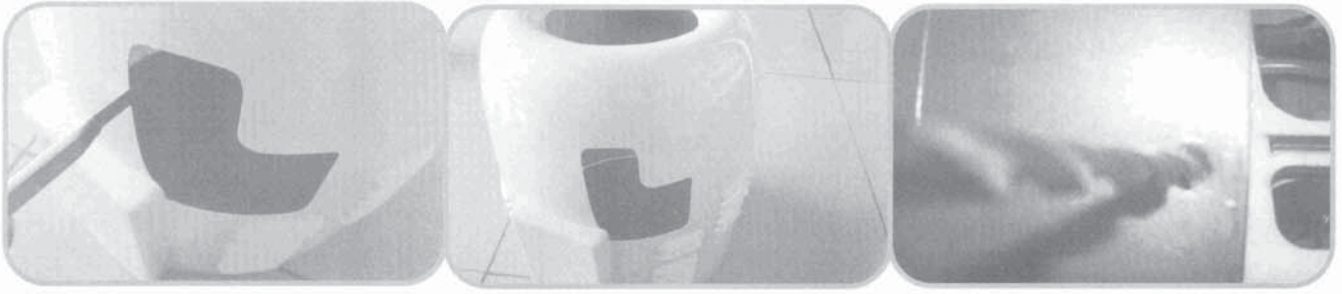
Note the position of the fill tube; it must be down at the bottom portion of the fuel tank, then you can pick up fuel when you end your flying.



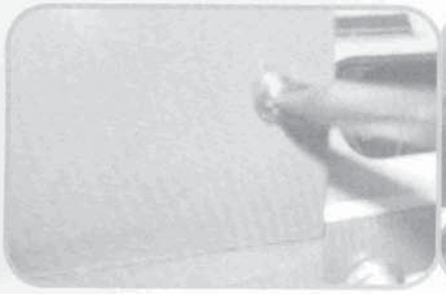
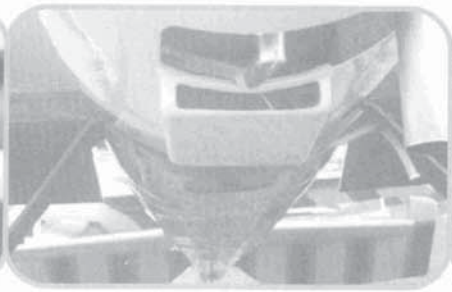


- Assemble and check the fuel tank to ensure there are no leaks before installing it. Make sure you connect the three inlet/outlet tubes (see picture) correctly when connecting the fuel lines.
- Bind the fuel tank with nylon strips.

VI. Cowling Installation

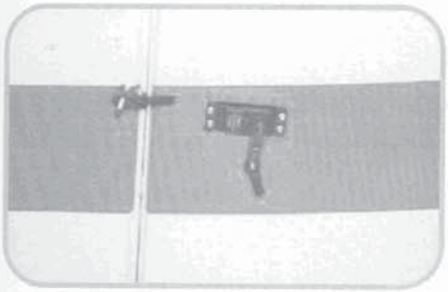
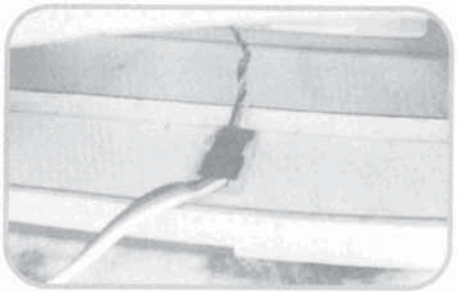


- Cut out the necessary holes in the cowl to accommodate your engine. Keep in mind that you may need to relieve the lower portion of the cowl in order to provide adequate airflow for the engine.

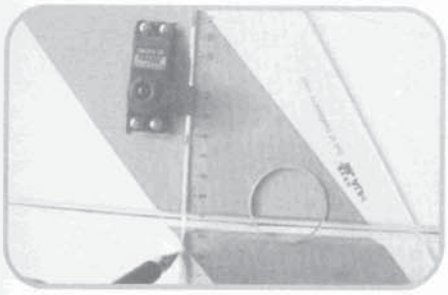
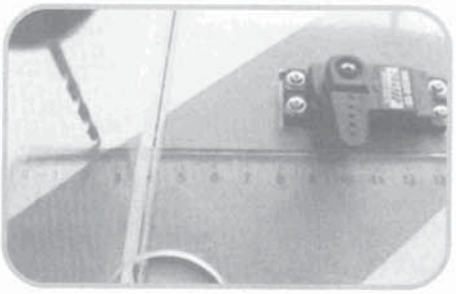




- Install a suitable propeller and spinner on the engine according to the suggestions from the engine manufacturer. Fit the cowling and drill holes to accommodate the cowling screws.

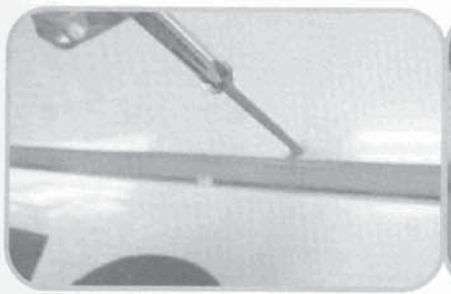
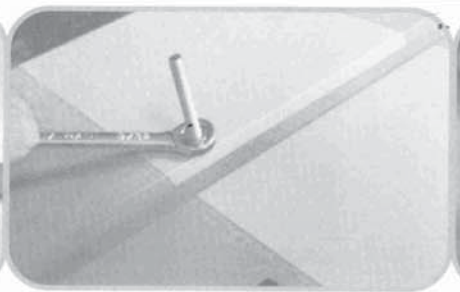
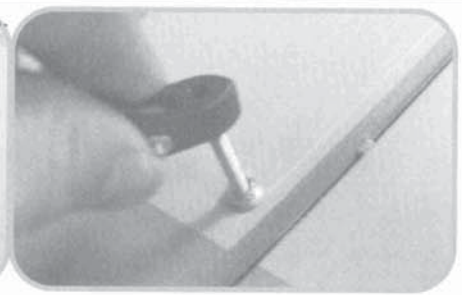
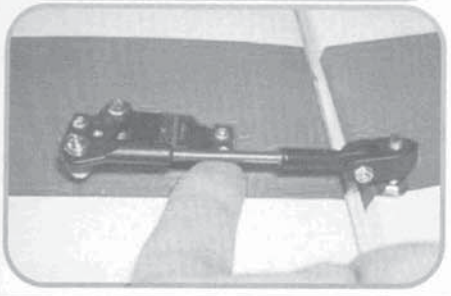
VII. Wing Installation

- Install the aileron servos with 18" servo extension into the servo trays located in the bottom of the wings .

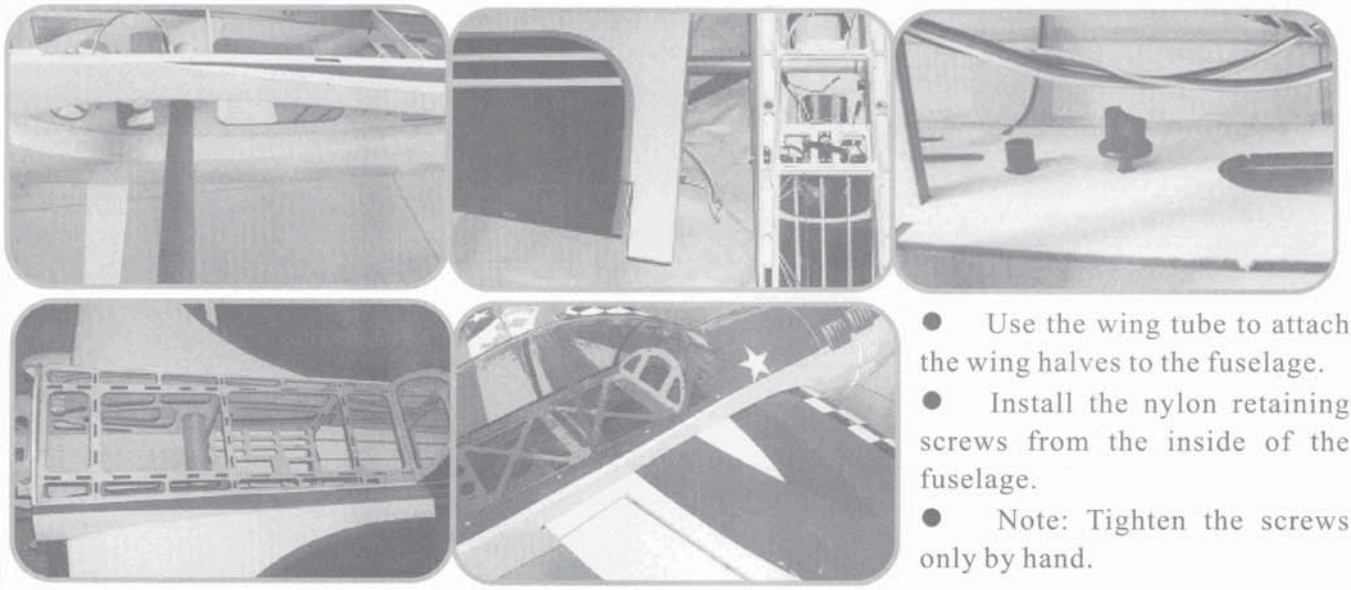



- Ensure your aileron servos are centered and then mount the arms parallel to the hinge line.
- With a ruler measure the position on the control surface for installing the horn.
- Drill D3.7mm holes in the ailerons for the M4 bolts.

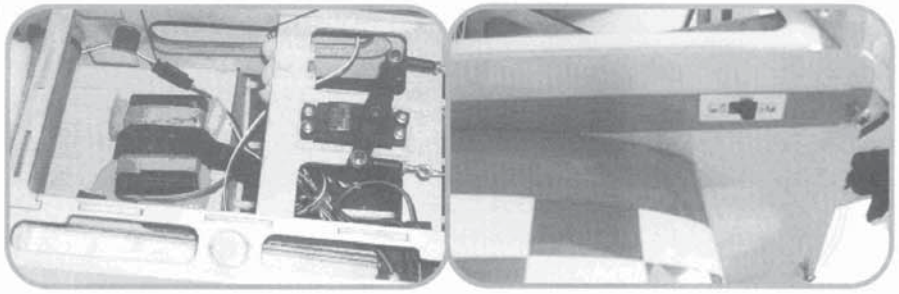
- Install the control horn. Adjust the horn and servo arm. Fix the horn in place firmly. Install the ball link and push rod. Make sure it's firm and flexible.

Assembling the Wing



- Use the wing tube to attach the wing halves to the fuselage.
- Install the nylon retaining screws from the inside of the fuselage.
- Note: Tighten the screws only by hand.

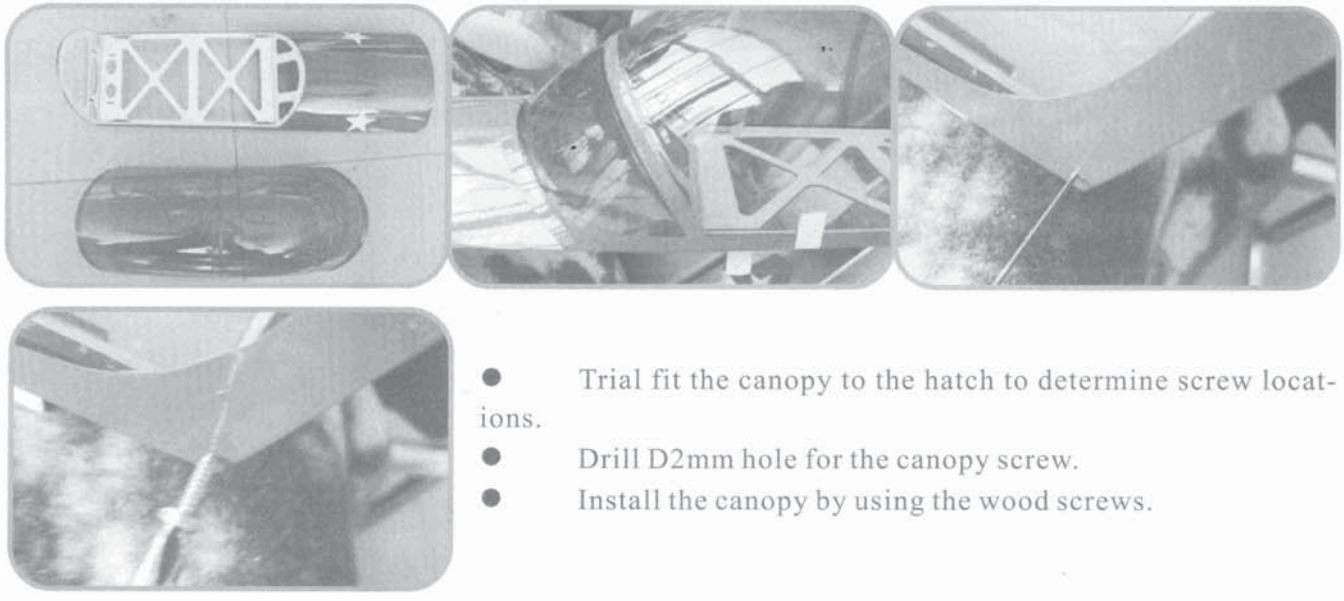
VIII. Radio Installation



- Wrap the receiver battery and receiver in foam. Attach the receiver and battery to the battery tray by using Velcro straps so as to secure the receiver.
- Mount the receiver switch in a convenient location in the side of the fuselage.

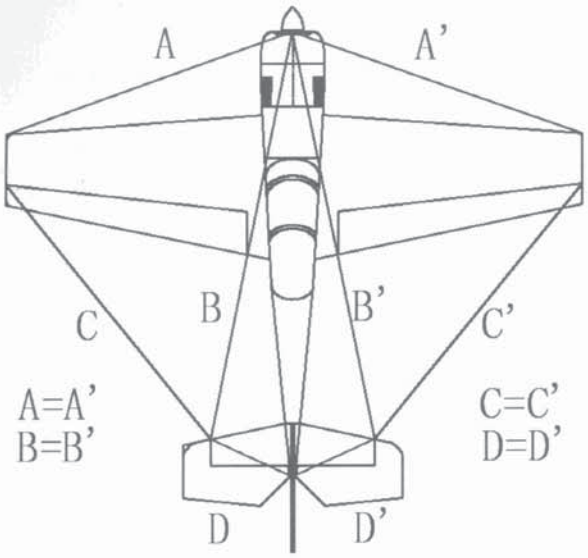
IX. Canopy and Hatch Assembly

***Canopy Attachment not Applicable to Yak55SP&SU26M**

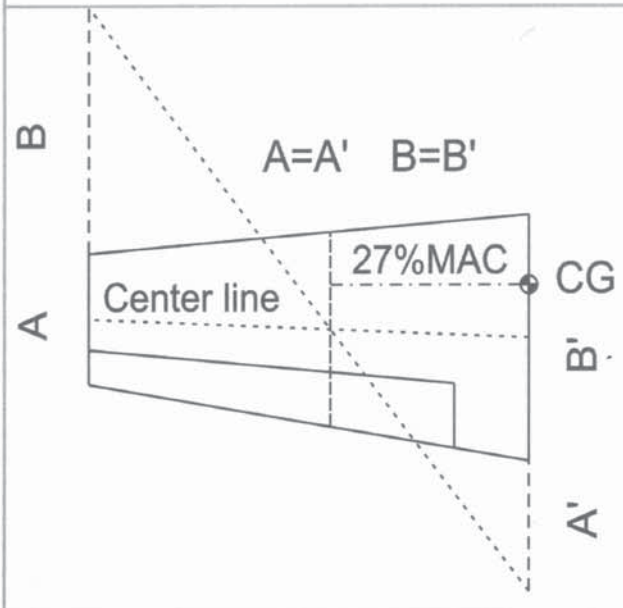


- Trial fit the canopy to the hatch to determine screw locations.
- Drill D2mm hole for the canopy screw.
- Install the canopy by using the wood screws.

- Install the hatch onto the fuselage by using the wood Screws. When satisfied with the fit, remove the canopy and hatch, and then use optional canopy glue to fix the canopy.
- Caution! CA will fog the canopy, so do not use CA to install canopy.



Adjust the aircraft and make sure both of the sides are symmetric,like the diagram.So that the plane is ready for fight.



Measure the CG from the leading edge of wing root rib,Adjust the battery pack location. For CG proper position should be at 27%MAC.This recommendation balance point is for your first flights. The CG can be moved around later to fit your personal taste.

PLANE:	Edge540T	Extra260	Extra330L	Katana	Raven	Yak54	Yak55SP	Su26M
27% MAC CG Location:	118mm 4-3/5inch	145mm 5-3/4inch	146mm 5-3/4inch	138mm 5-2/5inch	125mm 4-7/8inch	152mm 6inch	152mm 6inch	140mm 5-1/2inch

1. Check every angle and adjust them to correct position.
2. Check all parts and make sure the installation is firm and reliable.
3. Add some weight in either of wingtip to balance the left and right wings.

Power on to trim your plane.

1. Range check the radio (test whether the Engine/Motor is running or not).
2. Ensure that the servos and control surfaces move smoothly and are in the correct direction.
3. Adjust the servo throw. The chart below is the recommended throws for the first flight. You can adjust the servo arms and control horn length later to fit your flying style.

Control Throw:

	Surface	Throws	Exp
Common flying	Aileron	20 degrees	25%
	Elevator	20 degrees	25%
	Rudder	30 degrees	30%
3D flying	Aileron	40 degrees	45%
	Elevator	40 degrees	45%
	Rudder	45 degrees	45%

Trail run the Engine to check its stability at high speed and low speed to ensure there are no problems with vibration on the model. Run the motor at high speed about 30min,check the Engine and make sure the temperature is below the prescription of manufacturer.Once everything is right... ...

Good luck & Have fun!