ASSEMBLY MANUAL

"Graphics and specifications may change without notice".

Specifications:

Wing span --------------------------------63in (160cm).
Wing area ------------------643.3sq.in (41.5sq dm).
Weight ------------------------5.5-6.2lbs (2.5-2.8kg).
Length --------------------------------45.8in (116.4cm).
Engine ------------------ 0.40-0.55cu.in ----2 stroke.
                         0.72-0.82cu.in--- 4 stroke.
Radio----------------------4 channels with 4 servos.
Eletric conversion: optional

INTRODUCTION.

Thank you for choosing the **SWIFT40** ARTF by SEAGULL MODELS. The **SWIFT 40** was designed with the sports trainer flyer in mind. It is a High-wing aeroplane which is easy to fly and quick to assemble. The airframe is conventionally built using balsa, plywood and veneer to make it stronger than the average ARTF , yet the design allows the aeroplane to be kept light. You will find that most of the work has been done for you already. The pushrods are pre-made to the correct lengths, the motor mount has been fitted and the hinges are pre-installed and pinned for security. Flying the **SWIFT40** is simply a joy.

This instruction manual is designed to help you build a great flying aeroplane. Please read this manual throughly before starting assembly of your **SWIFT40** . Use the parts listing below to identify all parts.

WARNING.

Please be aware that this aeroplane is not a toy and if assembled or used incorrectly it is capable of causing injury to people or property. WHEN YOU FLY THIS AEROPLANE YOU ASSUME ALL RISK & RESPONSIBILITY.

If you are inexperienced with basic R/C flight we strongly recommend you contact your R/C supplier and join your local R/C Model Flying Club. R/C Model Flying Clubs offer a variety of training procedures designed to help the new pilot on his way to successful R/C flight. They will also be able to advise on any insurance and safety regulations that may apply.

ADDITIONAL ITEMS REQUIRED.

- 0.40-0.55   2 stroke .
- 0.72-0.82   4 stroke.
- 4 channel radio with four servos.
- Glow plug to suit engine.
- Propeller to suit engine.
- Protective foam rubber for radio system.
- Silicone fuel line.
- Stick-on weights for balance (If necessary).

TOOLS & SUPPLIES NEEDED.

- Thick cyanoacrylate glue.
- 30 minute epoxy.
- 5 minute epoxy.
- Hand or electric drill.
- Assorted drill bits.
- Modelling knife.
- Straight edge ruler.
- 2mm ball driver.
- Phillips head screwdriver.
- 220 grit sandpaper.
- 90° square or builder's triangle.
- Wire cutters.
- Masking tape & T-pins.
- Thread-lock.
- Paper towels.

PARTS LISTING.

FUSELAGE ASSEMBLY

- (1) Fuselage.
- (1) Pre-installed throttle pushrod & tube.
- (1) Pre-installed servo tray.
- (1) Pre-installed motor mount.
- (1) Pre-installed rudder pushrod.
- (1) Pre-installed elevator pushrod.

WING ASSEMBLY

- (1) Right wing half with pre-installed aileron.
- (1) Left wing half with pre-installed aileron.

- (1) Plywood wing dihedral brace.
- (1) Covering strip for centre section joint.

TAIL SECTION ASSEMBLY

- (1) Vertical stabilizer with pre-installed rudder.
- (1) Horizontal stabilizer with pre-installed elevator halves.

FACTORY BUILT MODEL

SEAGULL MODEL

HINGING THE AILERONS.

Note: *The control surfaces, including the aileron, elevators, and rudder, are prehinged with hinges installed, but the hinges are not glued in place. It is imperative that you properly adhere the hinges in place per the steps that follow using a high-quality thin C/A glue.*

☐ 1) Carefully remove the aileron from one of the wing panels. Note the position of the hinges.
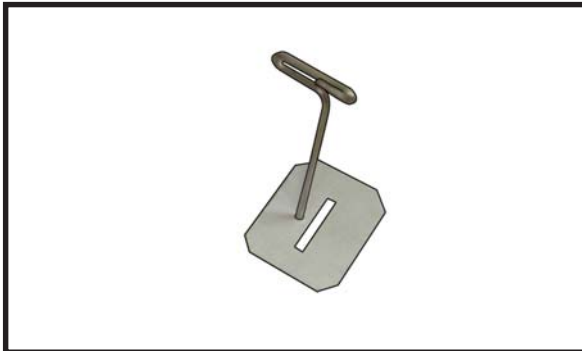
☐ 2) Remove each hinge from the wing panel and aileron and place a T-pin in the center of each hinge. Slide each hinge into the wing panel until the T-pin is snug against the wing panel. This will help ensure an equal amount of hinge is on either side of the hinge line when the aileron is mounted to the aileron.

Hinge.

C/A glue.
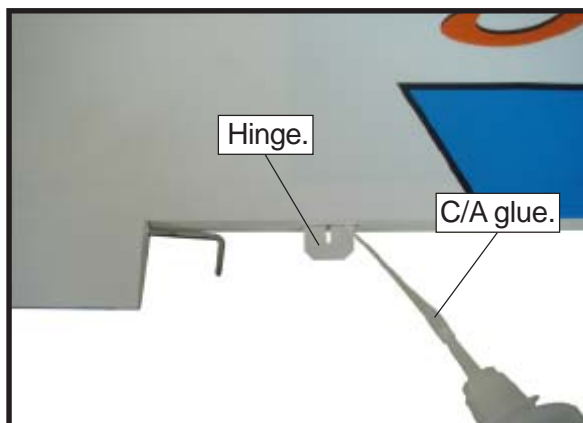
☐ 3) Slide the wing panel on the aileron until there is only a slight gap. The hinge is now centered on the wing panel and aileron. Remove the T-pins and snug the aileron against the wing panel. A gap of 1/64" or less should be maintained between the wing panel and aileron.

SEAGULL MODEL **FACTORY BUILT MODEL**

Epoxy.
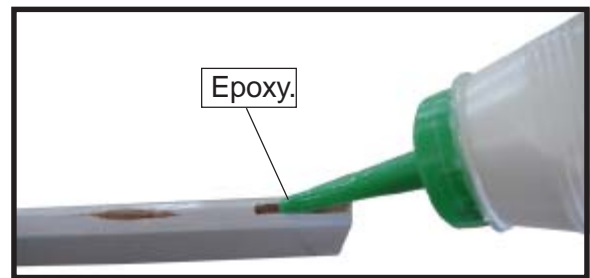
☐ 4) Deflect the aileron and completely saturate each hinge with thin C/A glue. The ailerons front surface should lightly contact the wing during this procedure. Ideally, when the hinges are glued in place, a 1/64" gap or less will be maintained throughout the lengh of the aileron to the wing panel hinge line.

Note: **The hinge is constructed of a special material that allows the C/A to wick or penetrate and distribute throughout the hinge, securely bonding it to the wood structure of the wing panel and aileron.**
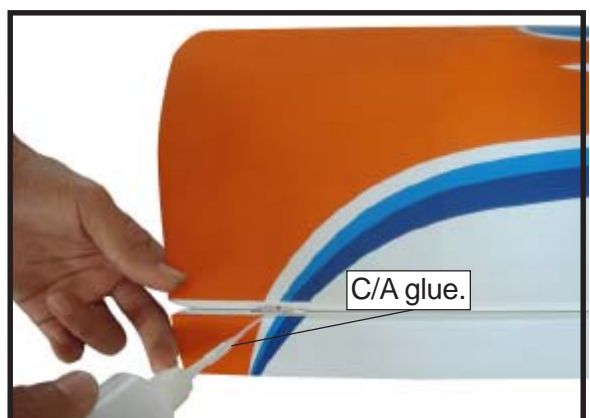
C/A glue.

□ 5) Turn the wing panel over and deflect the aileron in the opposite direction from the opposite side. Apply thin C/A glue to each hinge, making sure that the C/A penetrates into both the aileron and wing panel.

□ 6) Using C/A remover/debonder and a paper towel, remove any excess C/A glue that may have accumulated on the wing or in the aileron hinge area.

□ 7) Repeat this process with the other wing panel, securely hinging the aileron in place.

□ 8) After both ailerons are securely hinged, firmly grasp the wing panel and aileron to make sure the hinges are securely glued and cannot be pulled out. Do this by carefully applying medium pressure, trying to separate the aileron from the wing panel. Use caution not to crush the wing structure.

Note: *Work the aileron up and down several times to "work in" the hinges and check for proper movement.*

HINGING THE ELEVATOR.

Glue the elevator hinges in place using the same techniques used to hinge the ailerons.
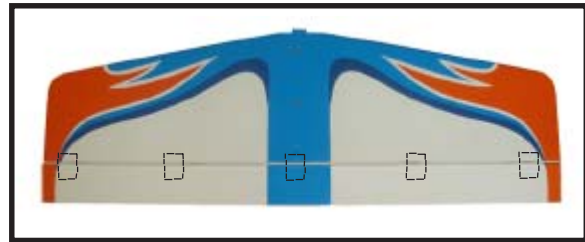
HINGING THE RUDDER.

Glue the rudder hinges in place using the same techniques used to hinge the ailerons.

WING ASSEMBLY.

Aluminum wing tube.

FACTORY BUILT MODEL   SEAGULL MODEL

M2x12mm.

INSTALLING THE AILERON SERVO MOUNT.

M2x12mm.

M2x12mm.

SEAGULL MODEL *FACTORY BUILT MODEL*
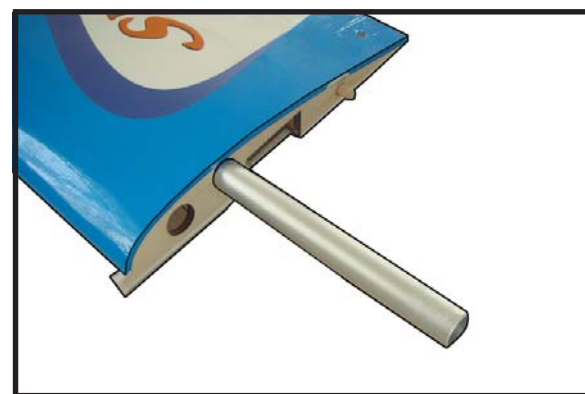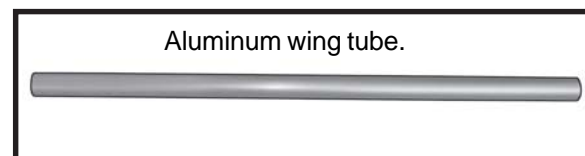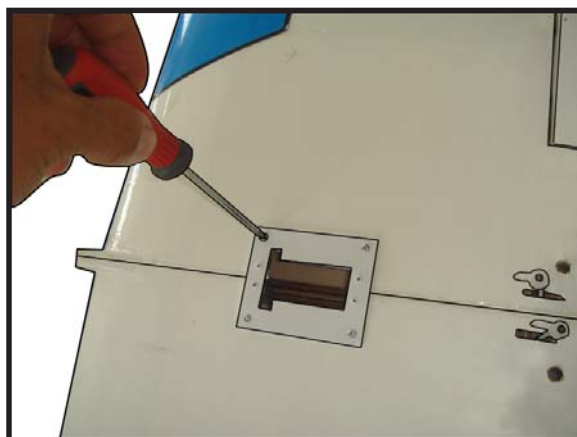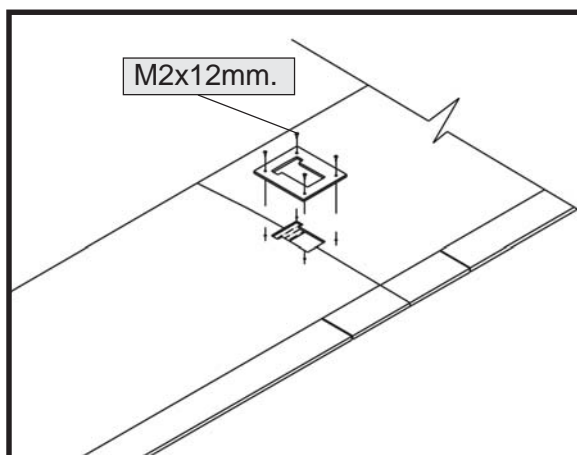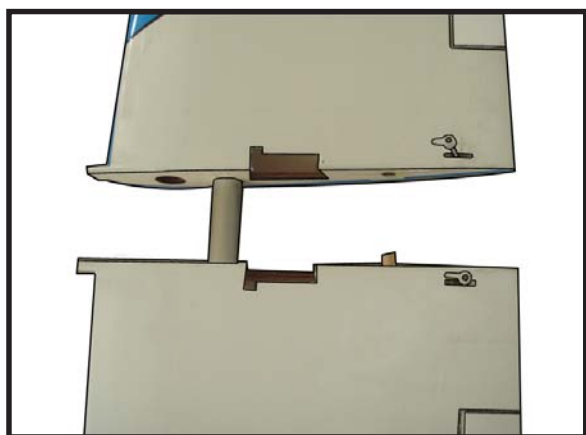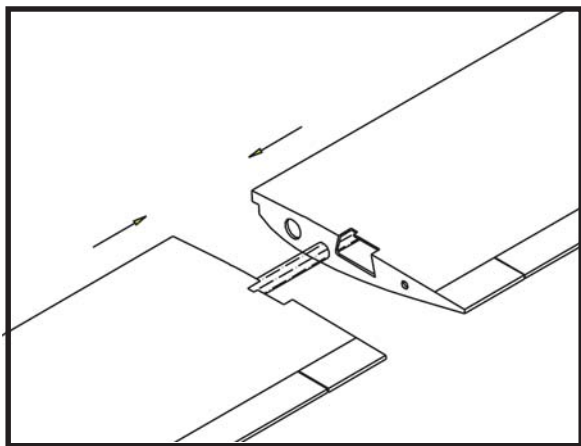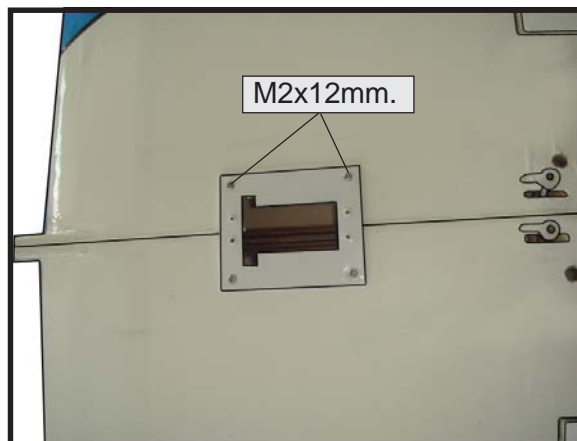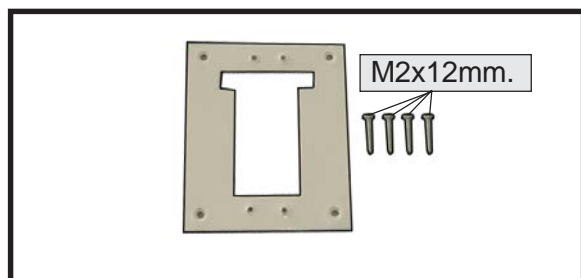
INSTALLING THE AILERON SERVO.

Install the aileron servo into the servo mount, with the output shaft towards the leading edge of the wing, using the wood screws provided with your radio system. Drill 1/16" pilot holes through the mount before installing the screws. This will prevent the wood from splitting.
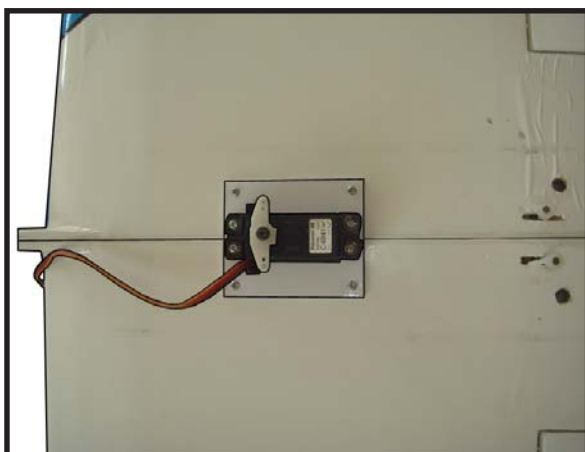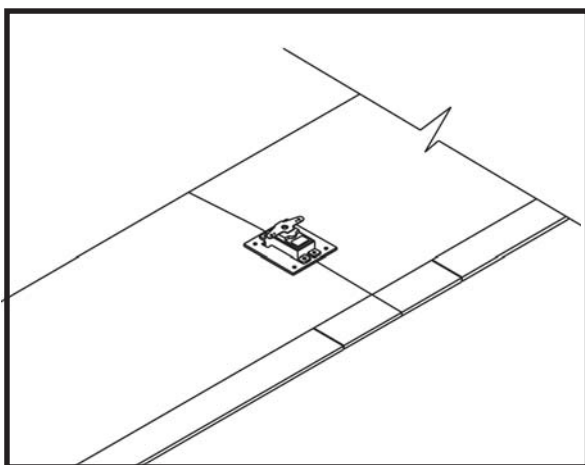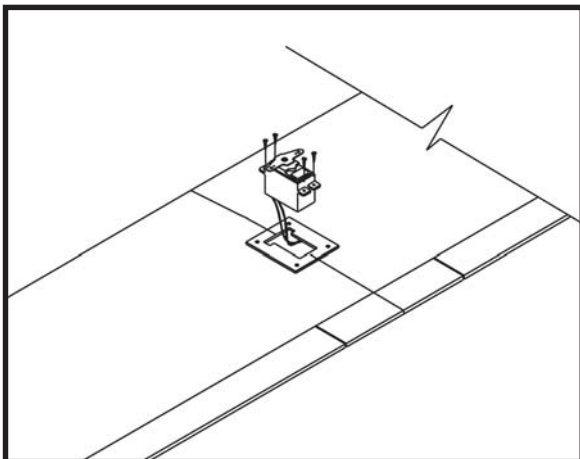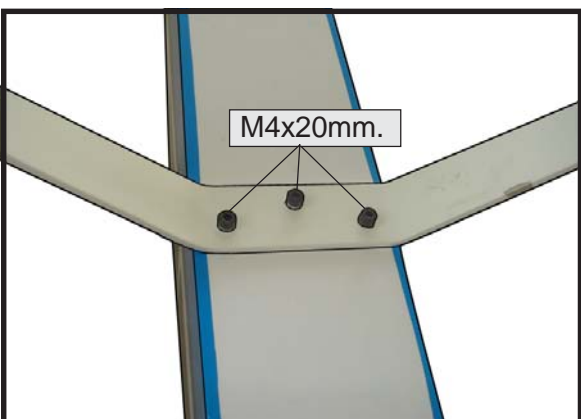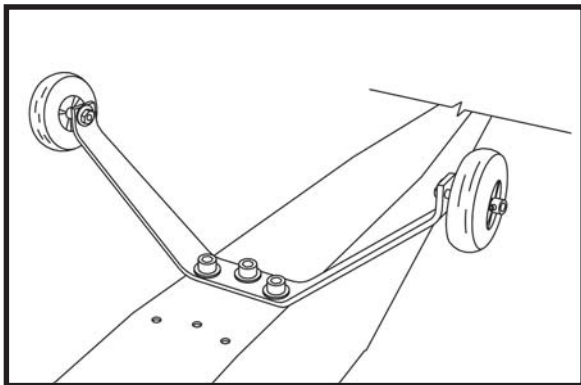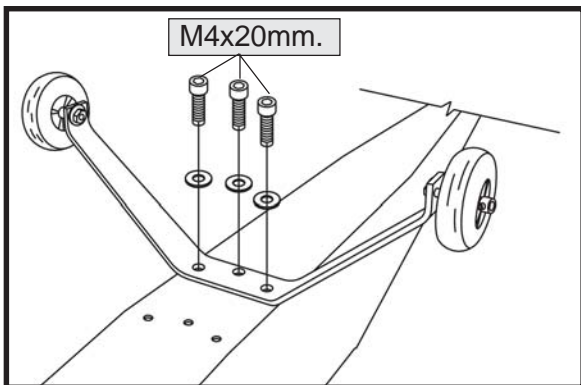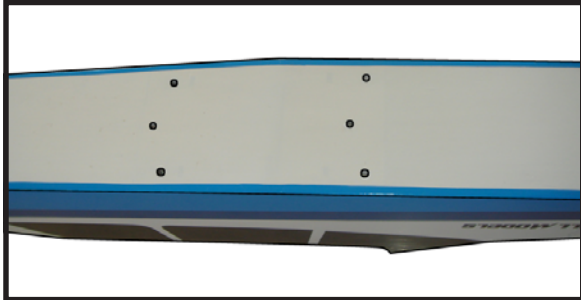

INSTALLING THE AILERON LINKAGE.
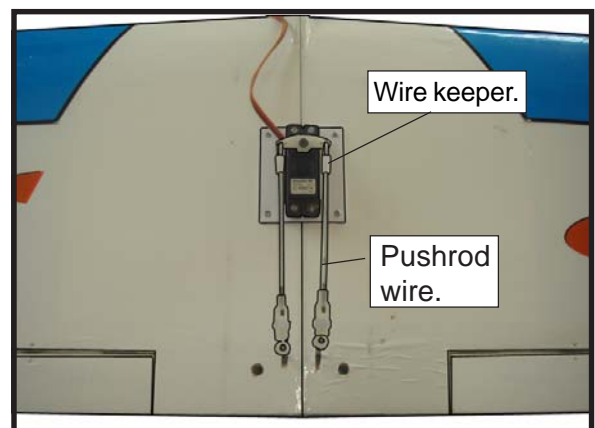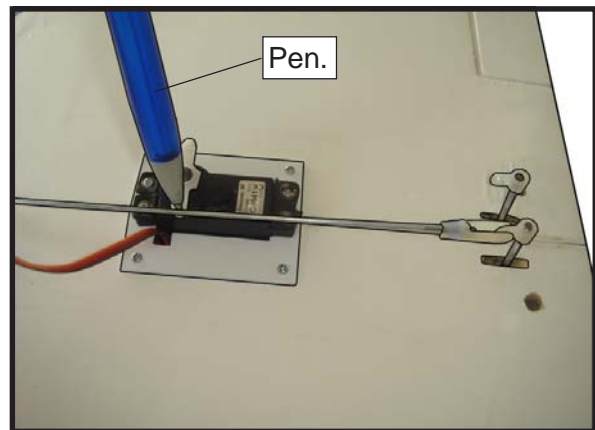
Wire keeper.

Pen.

8mm

Wire keeper.

Pushrod wire.

INSTALLING THE MAIN GEAR WIRES.

☐ 1) The blind nuts for securing the landing gear are already mounted inside the fuselage.

☐ 2) Using the hardware provided, mount the main landing gear to the fuselage.

☐ 3) Place the fuselage inverted on the workbench in a suitable stand. Set the landing gear in place and use a screwdrive to secure the landing gear to the fuselage using bolts M4x20mm and washers. Make sure to use the threadlock on the bolts so they don't vibrate loose.

FACTORY BUILT MODEL   SEAGULL MODEL

M4x20mm.

M4x20mm.

NOSE GEAR INSTALLATION.

Steering arm.

Pushrod wire.
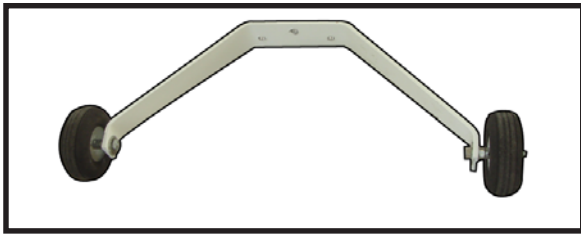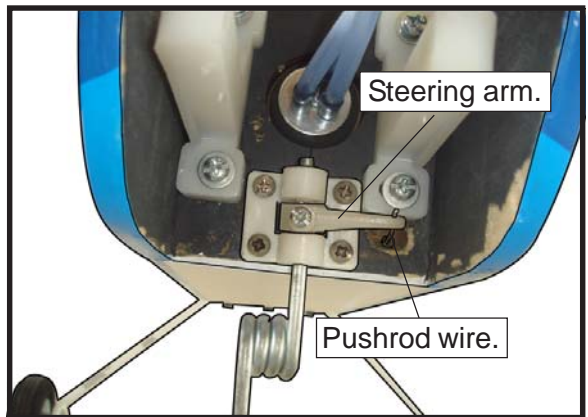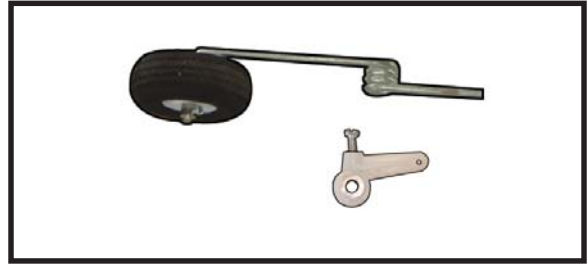
FUEL TANK INSTALLATION.

B

A
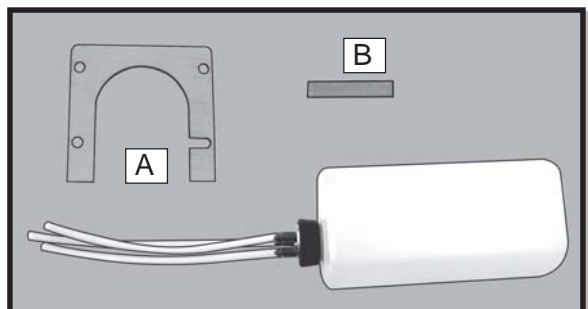
⚠ *You should mark which tube is the vent and which is the fuel pickup when you attach fuel tubing to the tubes in the stopper. Once the tank is installed inside the fuselage, it may be difficult to determine which is which.*

☐ 1) Slide the fuel tank into the fuselage. Guide the lines from the tank through the hole in the firewall.

☐ 2) Use balsa plywood to help prevent moveable from transferring to the fuel tank as shown.

A

C/A glue.

Balsa wood included.

B

Fuel tank.

C/A glue.

Vent tube.

Fuel pick up tube.

Fuel fill tube.
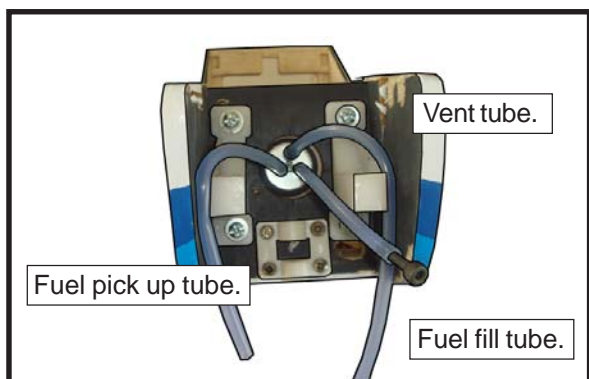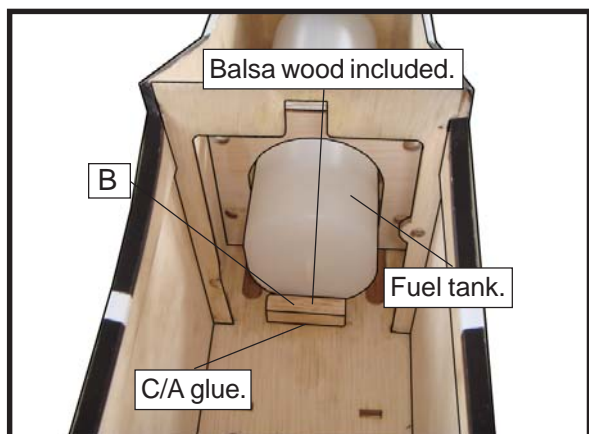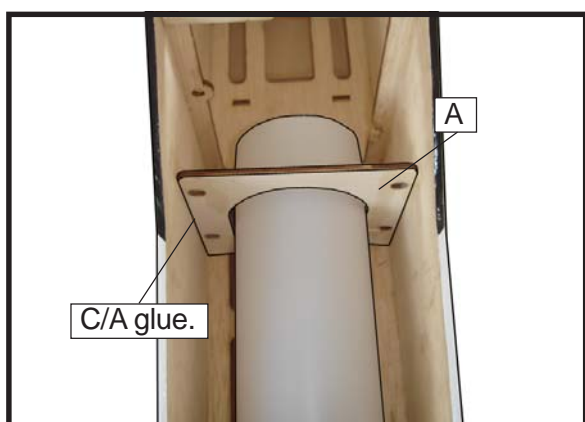
3) Connect the lines from the tank to the engine and muffler. The vent line will connect to the muffler and the line from the clunk to the carburetor.
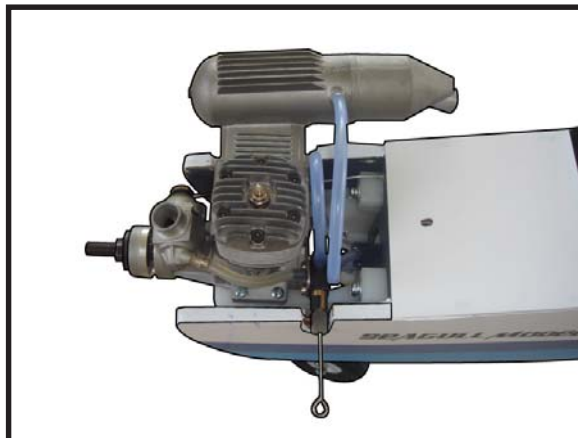
⚠ *Blow through one of the lines to ensure the fuel lines have not become kinked inside the fuel tank compartment. Air should flow through easily.*

INSTALLING THE FUSELAGE SERVOS.

⚠ *Because the size of servos differ, you may need to adjust the size of the precut opening in the mount. The notch in the sides of the mount allow the servo lead to pass through.*

☐ 1) Install the rubber grommets and brass collets onto the throttle servo. Test fit the servo into the aileron servo mount.

☐ 2) Secure the servos with the screws provided with your radio system.

Throttle servo.

Rudder servo.

Elevator servo.

FACTORY BUILT MODEL   SEAGULL MODEL
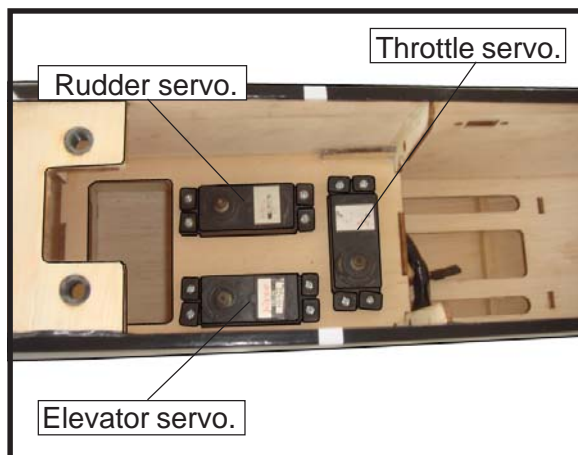
THROTTLE SERVO ARM INSTALLATION.

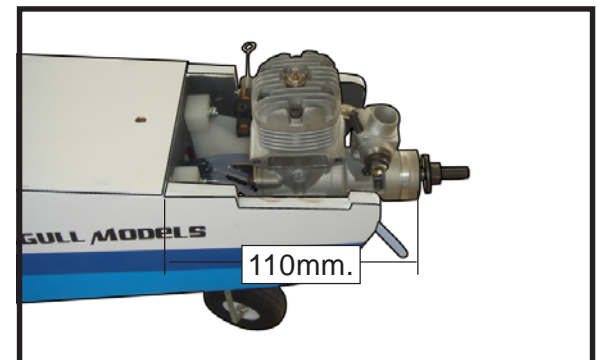Install adjustable servo connector   in the servo arm as same as picture below:

Adjustable servo connector.

Loctile secure.

Servo arm.

Rudder servo .

Throttle servo arm.

Elevator servo .
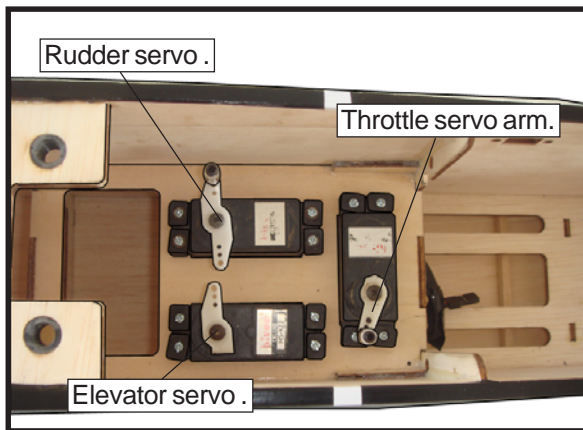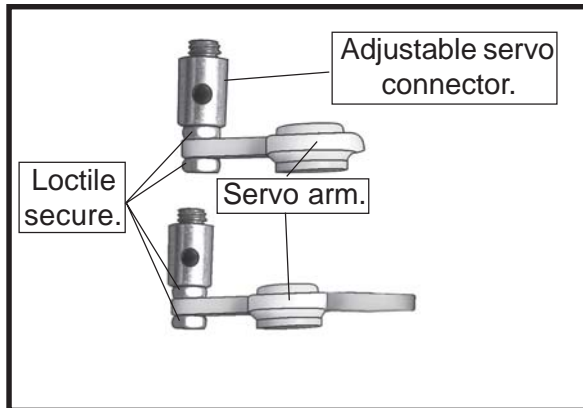
INSTALLING THE SWITCH.

Install the switch into the precut hole in the side, in the fuselage.

3/ 32" Hole.

Trim and cut.

Switch.
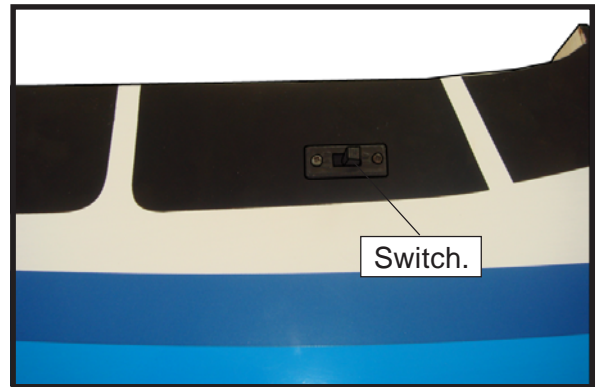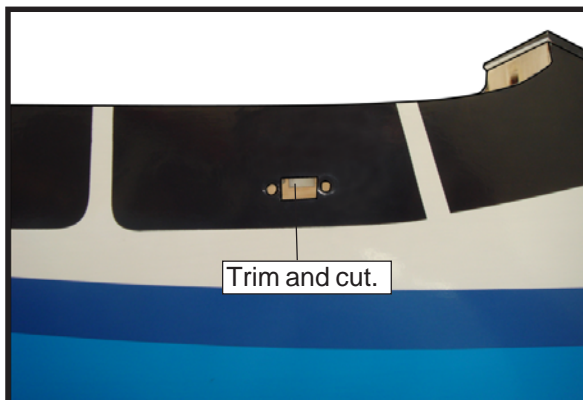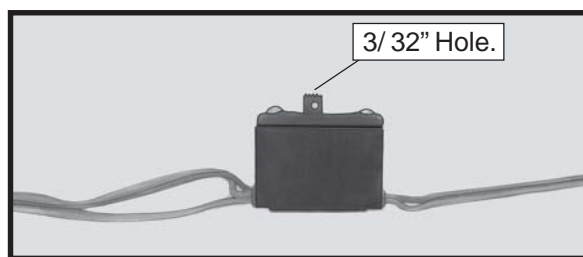
MOUNTING THE ENGINE.

+ ENGENE .46- .55 : 2 STROKE.

☐ 1) Position the engine with the drive washer (110mm) forward of the firewall as shown.

110mm.

2) Use a pin drill and 2mm drill bit to drill a small indentation in the mount for the engine mounting screw.

2mm.

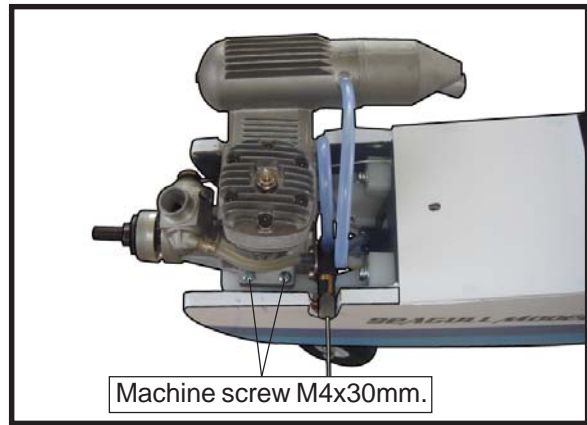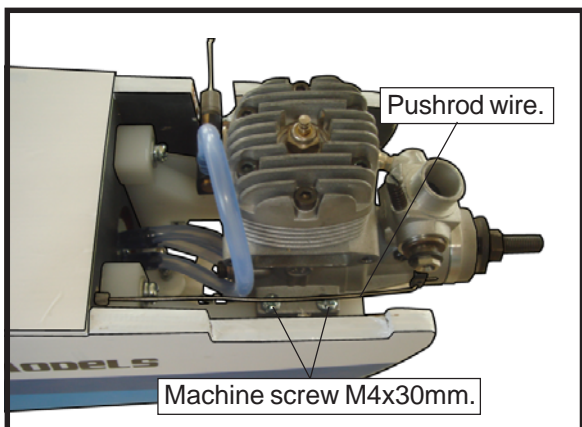3) Use a drill to drill the four holes in the engine mount rails.

2mm.

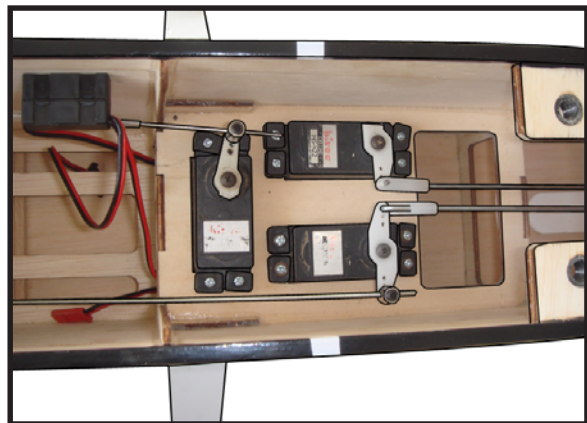4) On the fire wall has the location for the throttle pusshrod tube (pre-drill).

2mm.

5) Slide the pushrod tube in the firewall and guide it through the fuel tank mount. Use medium C/A to glue the tube to the firewall and the fuel tank mount.

6) Connect the Z-bend in the 450mm throttle pushrod to the outer hole of the carburetor arm.
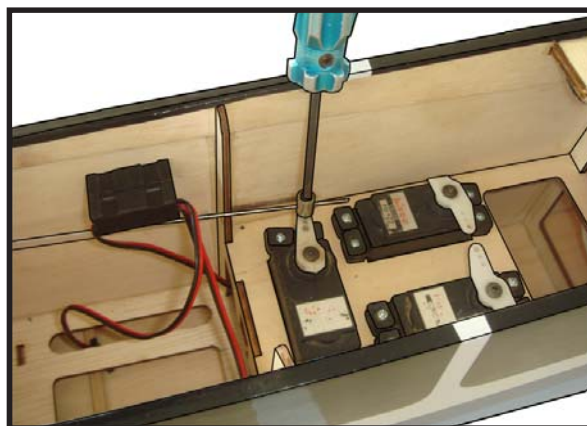
7) Slide the throttle pushrod wire into the tube. Position the engine between the mounts. Use four M4x30mm machine screws to secure the engine to the mount as shown.

Pushrod wire.

Machine screw M4x30mm.

Machine screw M4x30mm.

8) Reinstall the servo horn by sliding the connector over the pushrod wire. Center the throttle stick and trim and install the servo horn perpendicular to the servo center line.


9) Move the throttle stick to the closed position and move the carburetor to closed. Use a 2.5mm hex wrench to tighten the screw that secures the throttle pushrod wire. Make sure to use threadlock on the screw so it does not vibrate loose.
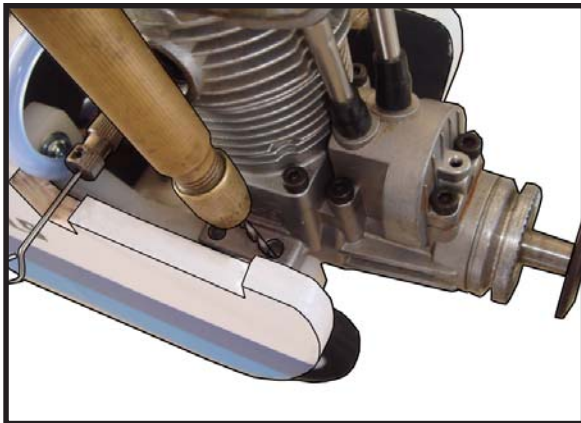

FACTORY BUILT MODEL   SEAGULL MODEL

MOUNTING THE ENGINE.
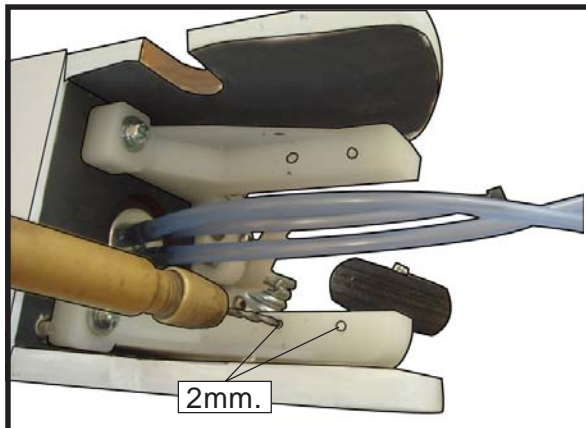
+ ENGENE .72- .82 : 4 STROKE.

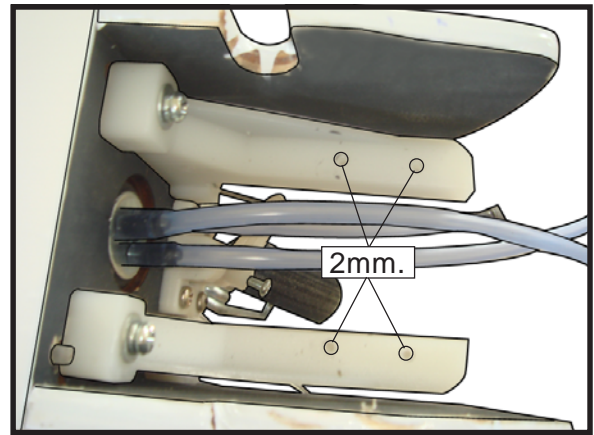☐ 1) Position the engine with the drive washer (120mm) forward of the firewall as shown.
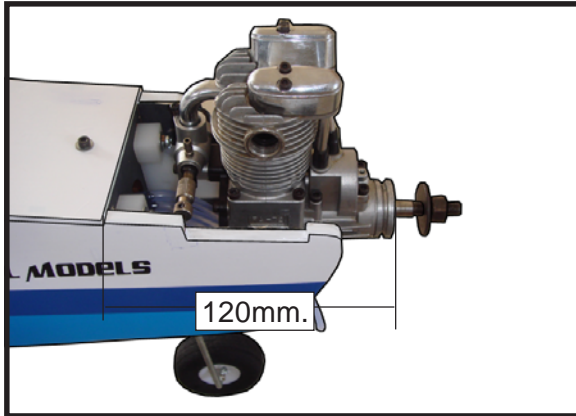
120mm.

2) Use a pin drill and 2mm drill bit to drill a small indentation in the mount for the engine mounting screw.

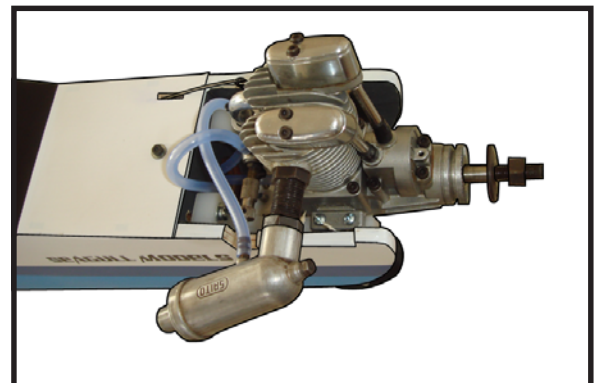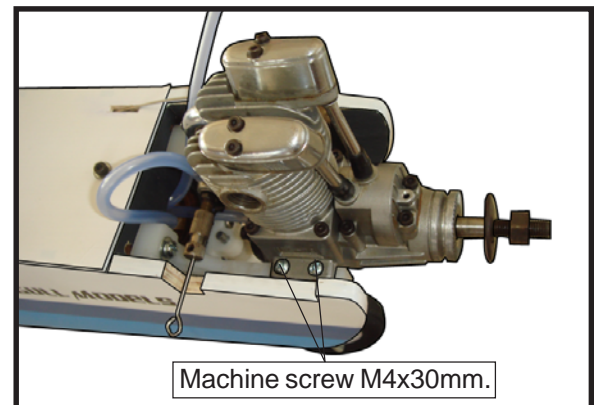3) Use a drill to drill the four holes in the engine mount rails.

2mm.

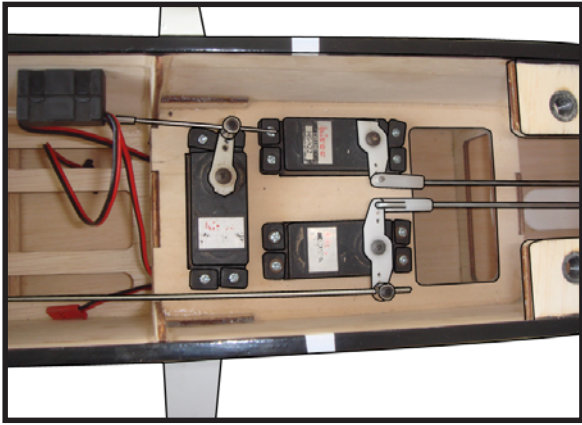4) On the fire wall has the location for the throttle pusshrod tube (pre-drill).

2mm.

5) Slide the pushrod tube in the firewall and guide it through the fuel tank mount. Use medium C/A to glue the tube to the firewall and the fuel tank mount.

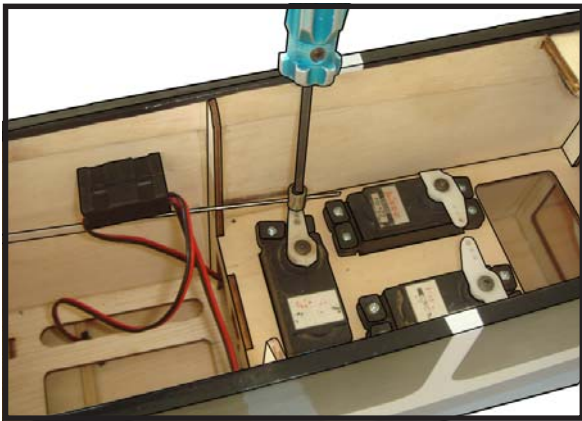6) Connect the Z-bend in the 450mm throttle pushrod to the outer hole of the carburetor arm.

7) Slide the throttle pushrod wire into the tube. Position the engine between the mounts. Use four M4x30mm machine screws to secure the engine to the mount as shown.

Machine screw M4x30mm.

8) Reinstall the servo horn by sliding the connector over the pushrod wire. Center the throttle stick and trim and install the servo horn perpendicular to the servo center line.

9) Move the throttle stick to the closed position and move the carburetor to closed. Use a 2.5mm hex wrench to tighten the screw that secures the throttle pushrod wire. Make sure to use threadlock on the screw so it does not vibrate loose.
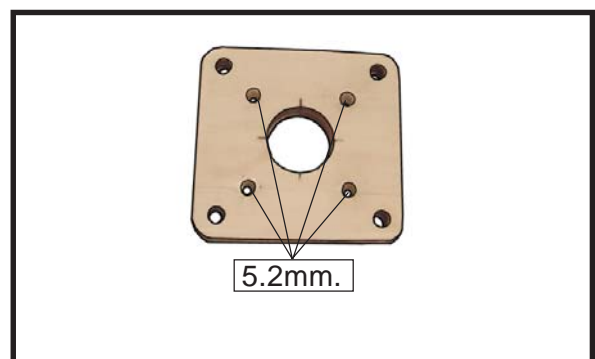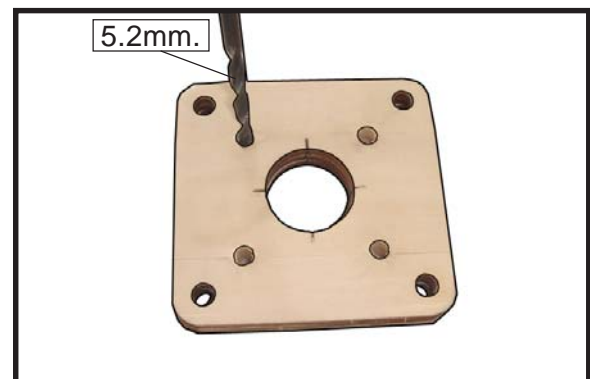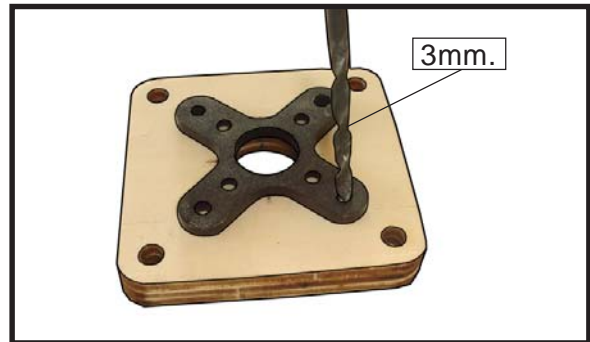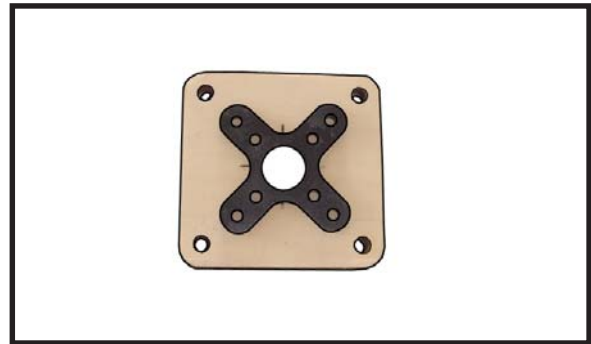

ELECTRIC POWER CONVERSION.

1) Locate the items neccessary to install the electric power conversion included with your model.

M4x70mm.
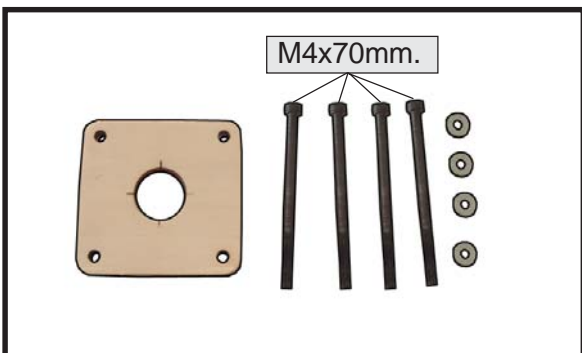
- **Model size: .35-.45 size models**
- **Motor: 35mm 830 rev per volt**
- **Propeller: 10x7**
- **ESC: 50A**
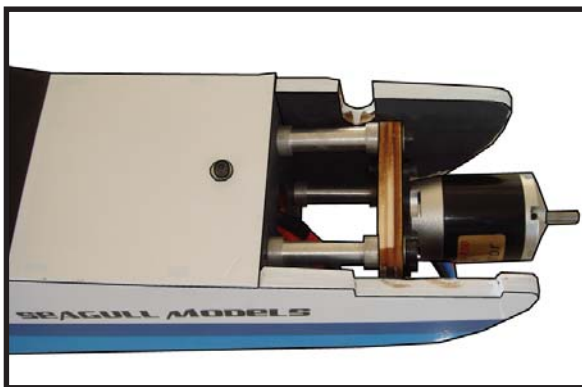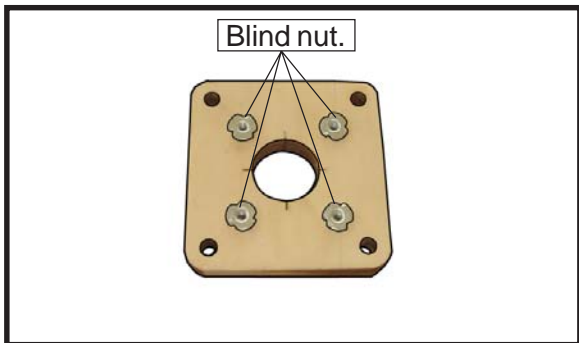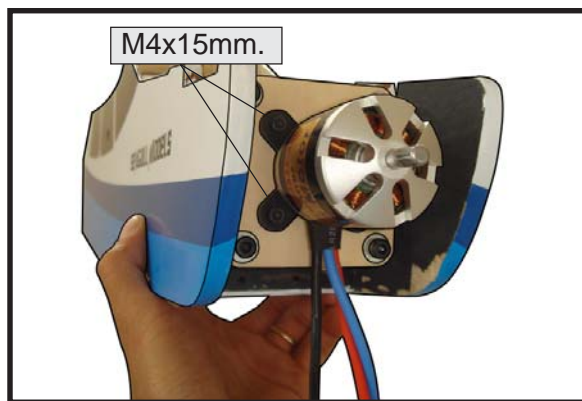- **Lipo Batteries: 4cell 3200mA**

2) Attach the electric motor box to the firewall suitable with the cross lines drawn on the electric motor box and firewall. Using epoxy and balsa stick to secure the motor box to the firewall. Please see pictures below.

3mm.

5.2mm.

5.2mm.

FACTORY BUILT MODEL   SEAGULL MODEL

Blind nut.

Blind nut.

M4x70mm.

M4x15mm.

Battery.

Speed control.
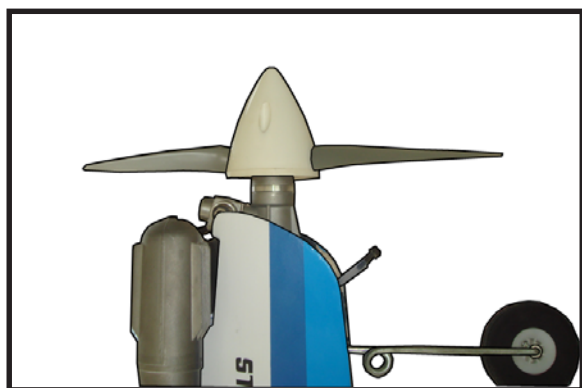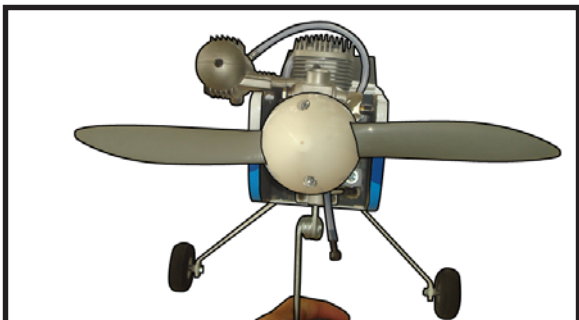
SEAGULL MODEL FACTORY BUILT MODEL
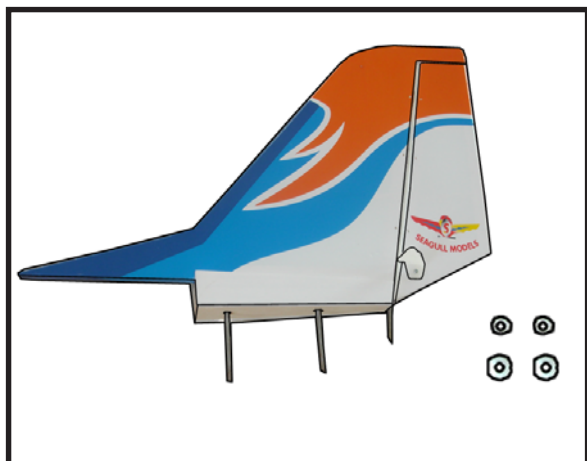
13
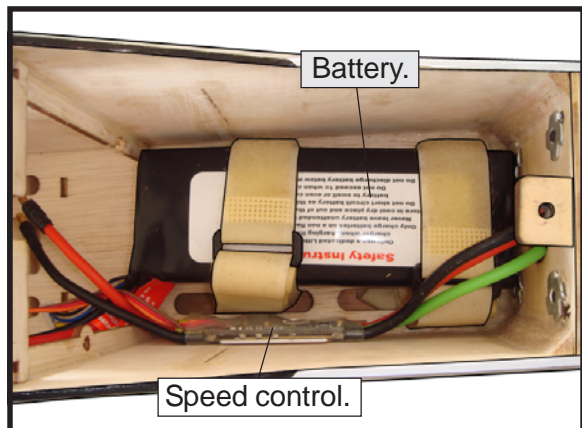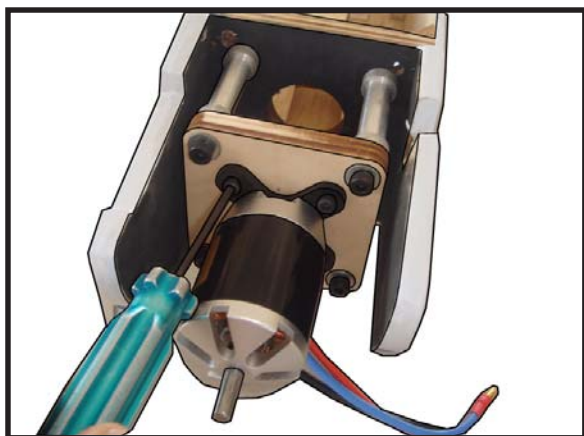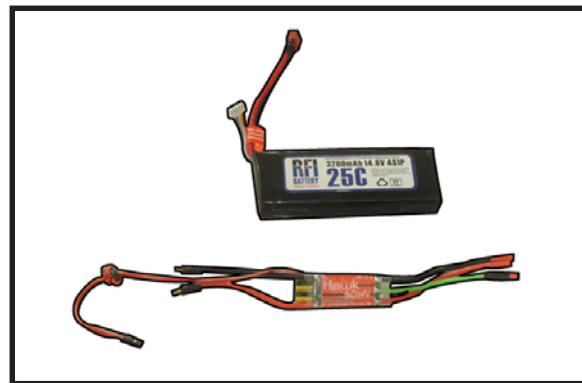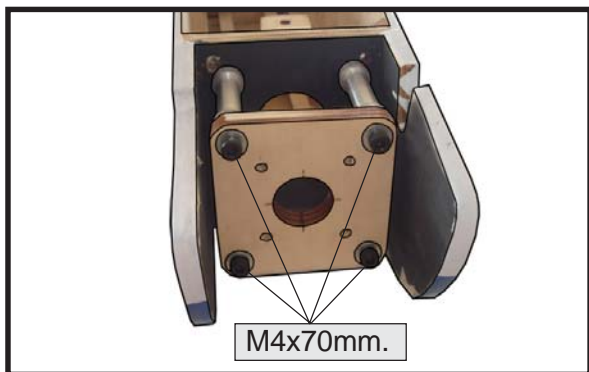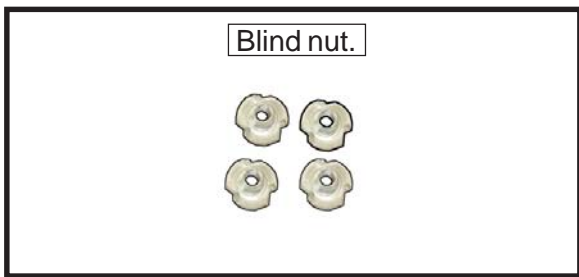
INSTALLING THE SPINNER.

Install the spinner backplate, propeller and spinner cone.

⚠ *The propeller should not touch any part of the spinner cone. If it does, use a sharp modeling knife and carefully trim away the spinner cone where the propeller comes in contact with it.*
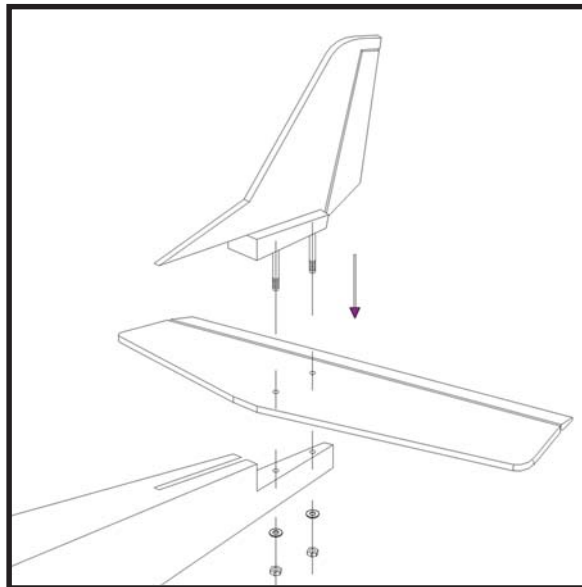

HORIZONTAL STABILIZER.

VERTICAL STABILIZER INSTALLATION.

☐ 1) Slide the threaded rods from the rudder assembly into the holes in the stabilizer. The two forward rods go through the stabilizer as shown.

☐ 2) Guide the threaded rods through the stabilizer saddle then through the holes in the bottom of the fuselage.
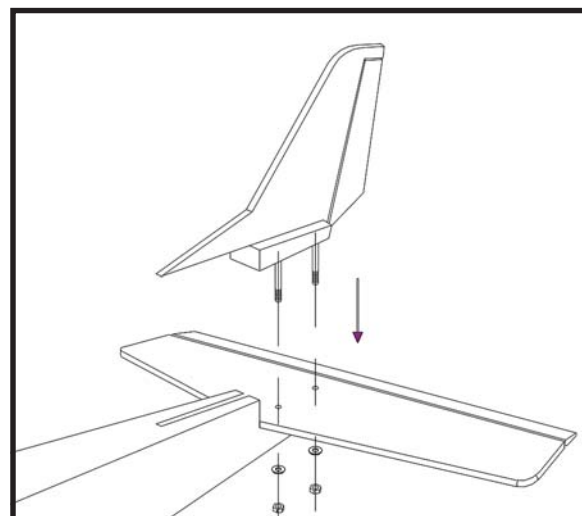
☐ 3) Secure the tail assembly to the fuselage using three 3mm washers and three 3mm locknuts. Do not overtighten the nuts and crush the fuselage.

FACTORY BUILT MODEL   SEAGULL MODEL

8mm.

M3 lock nut.

Elevator control horn.
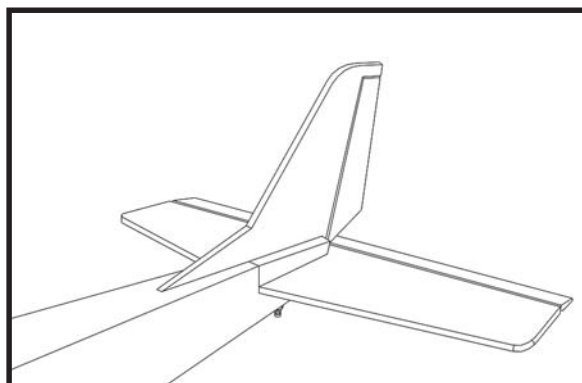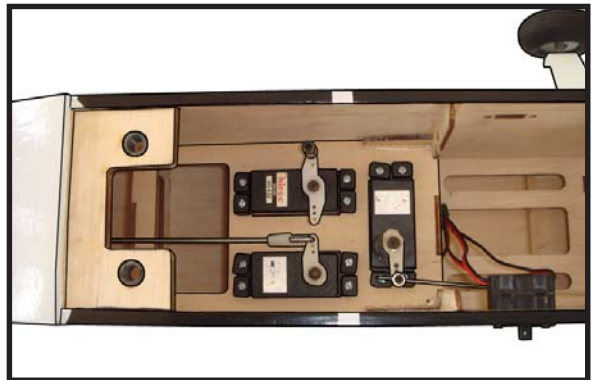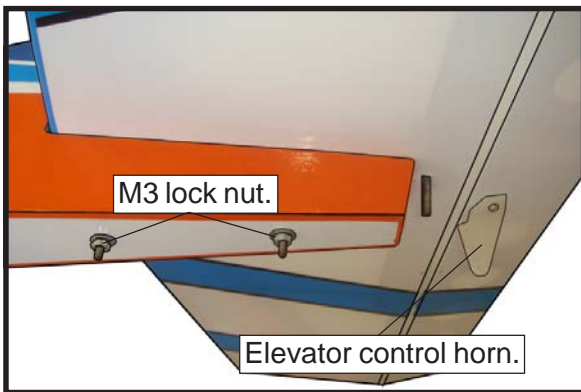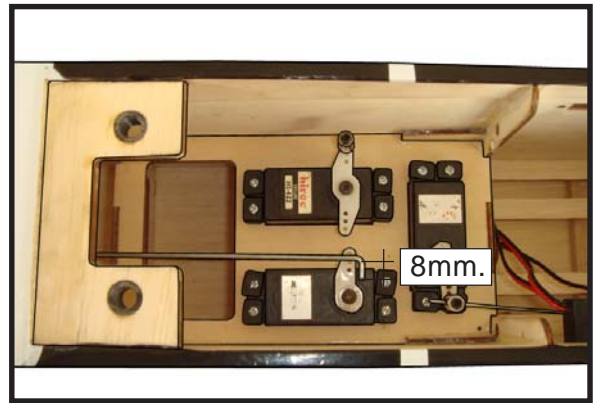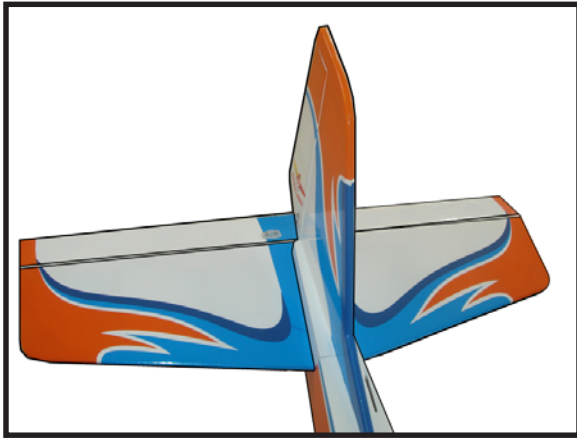
ELEVATOR PUSHROD HORN INSTALLATION.

RUDDER PUSHROD HORN INSTALLATION.

Control horn.

Elevator pushrod.

Control horn.

Rudder pushrod.

Pen.

Pen.

SEAGULL MODEL FACTORY BUILT MODEL

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8mm.

Cut.
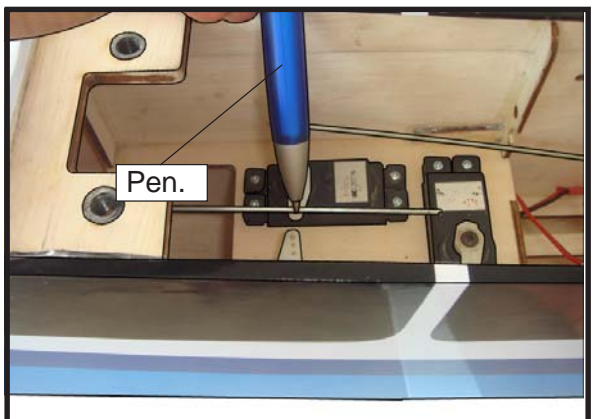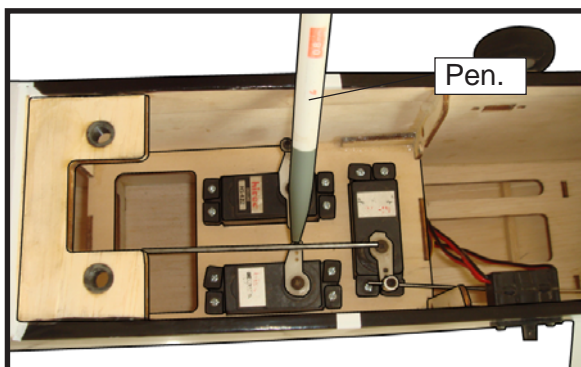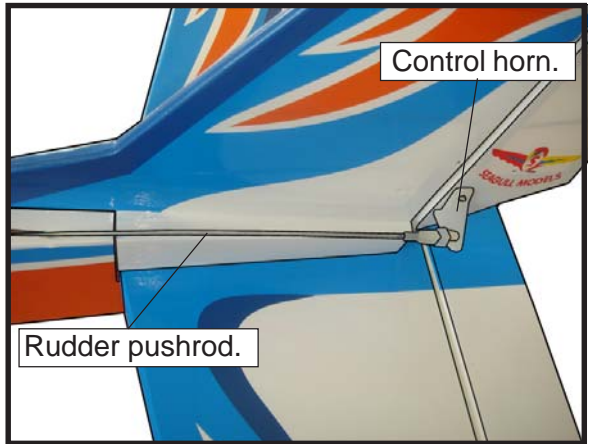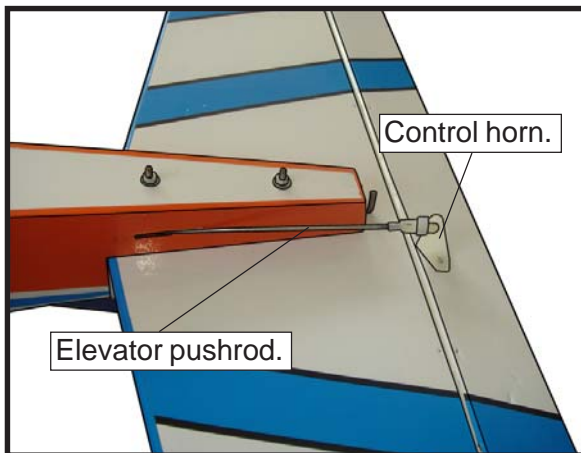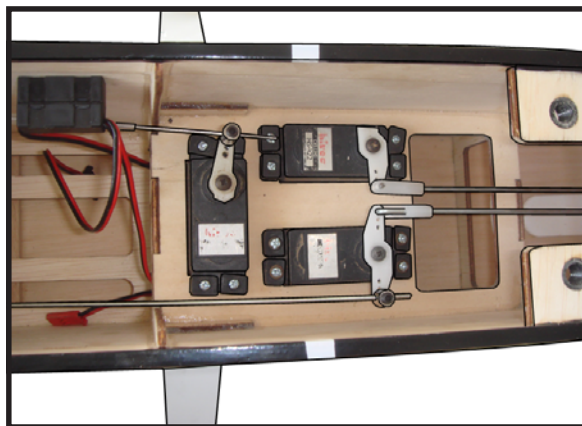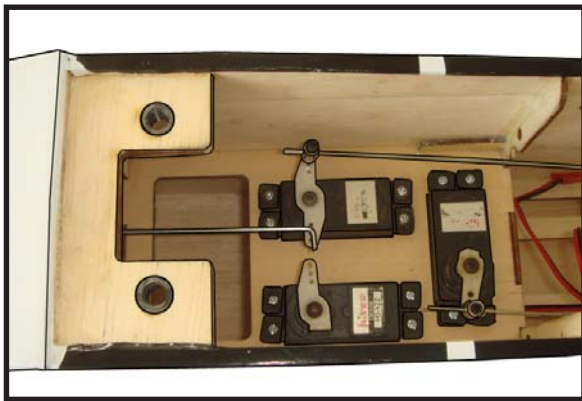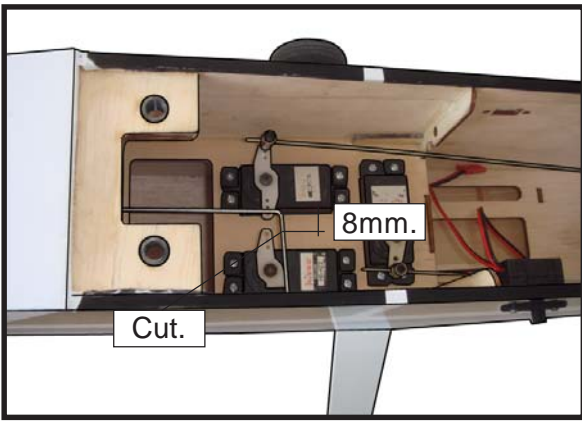
INSTALLING THE RECEIVER AND BATTERY.

☐ 1) Plug the five servo leads and the switch lead into the receiver. Plug the battery pack lead into the switch also.

☐   2) Wrap the receiver and battery pack in the protective foam rubber to protect them from vibration.

☐ 3) Route the antenna in the antenna tube inside the fuselage and secure it to the bottom of fuselage using a plastic tape.

Receiver.

Battery.
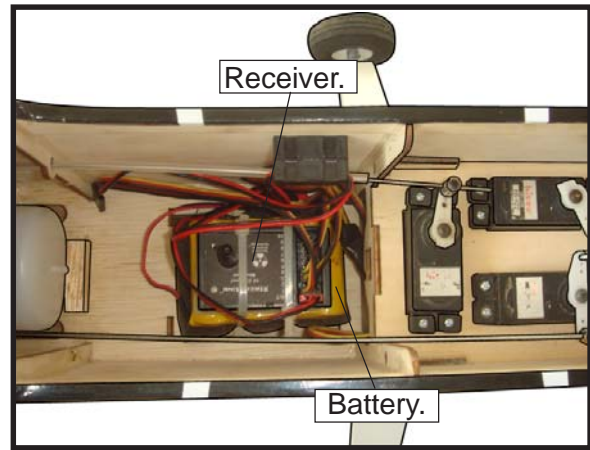
ATTACHMENT WING-FUSELAGE.

Wing bolt.

TAIL - DRAGGER CONVERSION.

M3x12mm.

FACTORY BUILT MODEL   SEAGULL MODEL
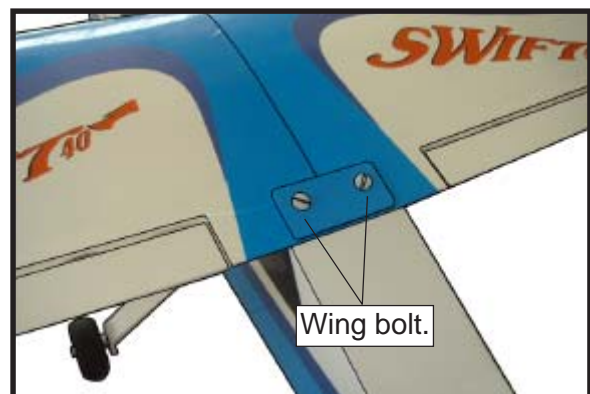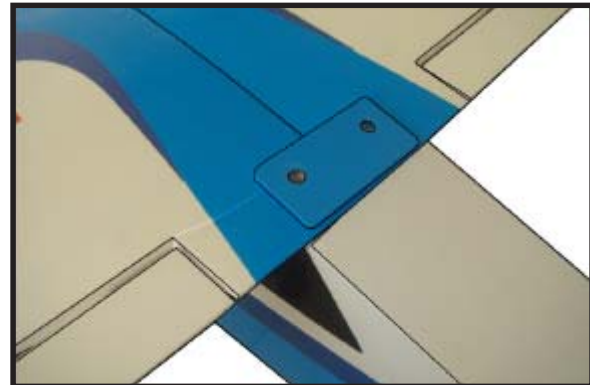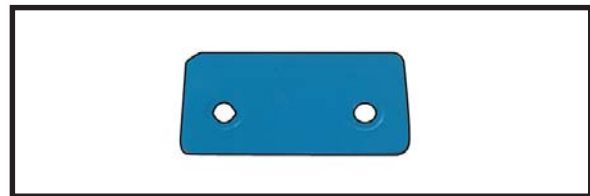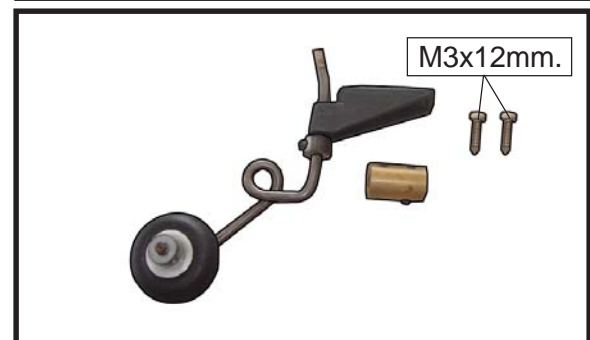
1)   Test fit the fin and the tail gear, to make sure that everything fits properly. When you are happy with the fit, glue the fin permanently in place.

2)   See below picture how to assembly the tail-Dragger Conversion.

M3x12mm.
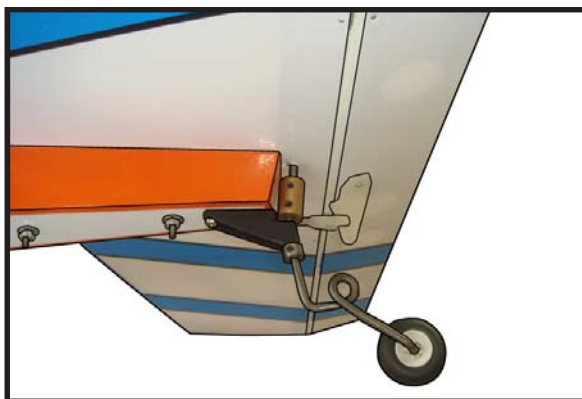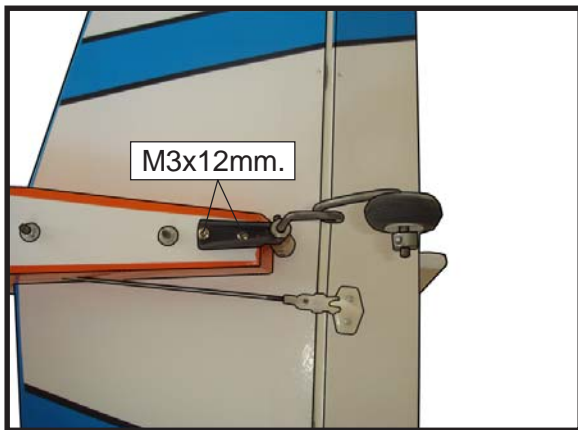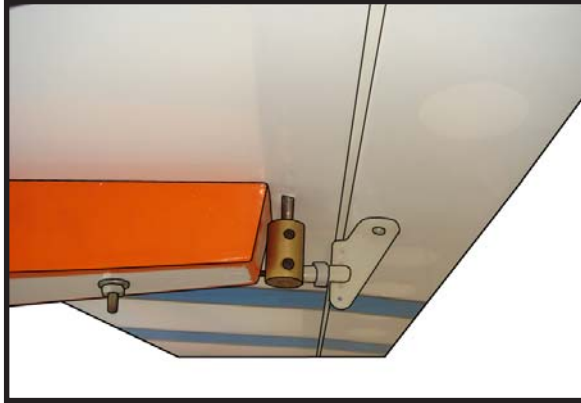
3)   Install the control horn on the rudder, then hold the rudder in place and mark it where the music wire will enter. When you are happy with the fit, fill the hole with epoxy and use CA to glue in the rudder hinges.

SEAGULL MODEL **FACTORY BUILT MODEL**

INSTALLING THE MAIN GEAR WIRES.

☐ 1) The blind nuts for securing the landing gear are already mounted inside the fuselage.

☐ 2) Using the hardware provided, mount the main landing gear to the fuselage.

☐ 3) Place the fuselage inverted on the workbench in a suitable stand. Set the landing gear in place and use a screwdrive to secure the landing gear to the fuselage using bolts M4x20mm and washers. Make sure to use the threadlock on the bolts so they don't vibrate loose.

M4x20mm.

M4x20mm.
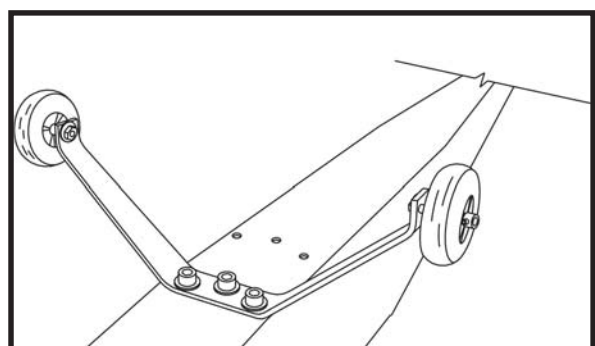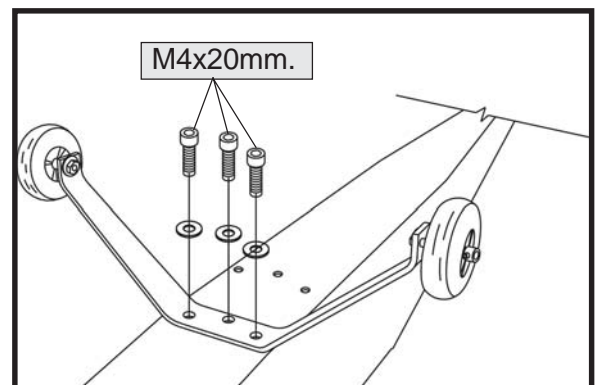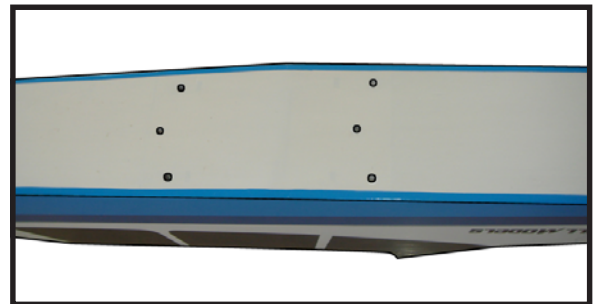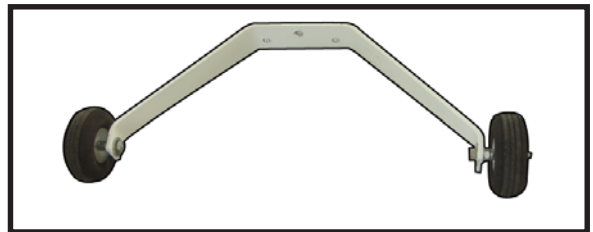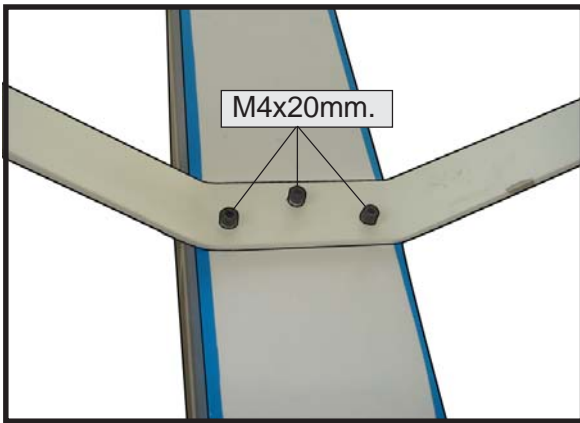
BALANCING.

☐ 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 **_65 MM_** BACK FROM THE LEADING EDGE OF THE WING AT THE WING ROOT.

☐ 2) Mount the wing to the fuselage. Using a couple of pieces of masking tape, place them on the top side of the wing **_65 mm_** back from the leading edge of the wing at the wing root.

☐ 3) Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane .

Accurately mark the balance point on the top of the wing on both sides of the fuselage. The balance point is located **_65 mm_** back from the leading edge of the wing at the wing root. This is the balance point at which your model should balance for your first flights. Later, you may wish to experiment by shifting the balance up to 10mm forward or back to change the flying characteristics. Moving the balance forward may improve the smoothness and arrow- like tracking, but it may then require more speed for take off and make it more difficult to slow down for landing. Moving the balance aft makes the model more agile with a lighter and snappier "feel". In any case,please start at the location we recommend .

With the wing attached to the fuselage, all parts of the model installed (ready to fly), and empty fuel tanks, hold the model at the marked balance point with the stabilizer level.

Lift the model. If the tail drops when you lift, the model is "tail heavy" and you must add weight* to the nose. If the nose drops, it is "nose heavy" and you must add weight* to the tail to balance.

*If possible, first attempt to balance the model by changing the position of the receiver battery and receiver. If you are unable to obtain good balance by doing so, then it will be necessary to add weight to the nose or tail to achieve the proper balance point.

65mm.
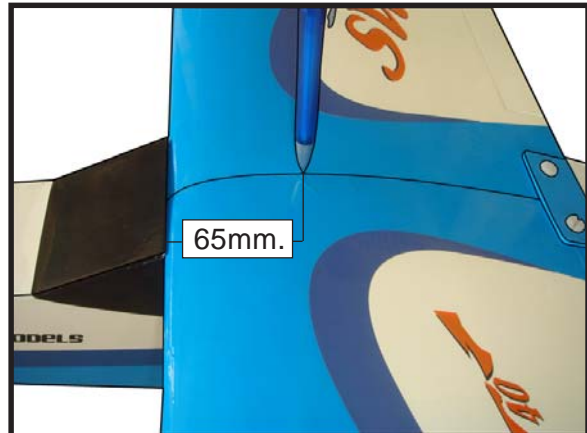
CONTROL THROWS.

INITIAL FLYING/SPORT FLYING

Ailerons: 3/8" up   3/8" down
Elevator: 3/8" up   3/8" down
Rudder: 1/2" right   1/2" left

AEROBATIC FLYING

Ailerons: 1/2" up   1/2" down
Elevator: 5/8" up   5/8" down
Rudder: 1" right   1" left

Do not use the aerobatic settings for initial test flying or sport flying.

FLIGHT PREPARATION.

A) Check the operation and direction of the elevator, rudder, ailerons and throttle.

B) Plug in your radio system per the manufacture's instructions and turn every thing on.

C) Check the elevator first. Pull back on the elevator stick. The elevator halves should move up. If it they do not, flip the servo reversing switch on your transmitter to change the direction.

FACTORY BUILT MODEL SEAGULL MODEL

D) Check the rudder. Looking from behind the airplane, move the rudder stick to the right. The rudder should move to the right. If it does not, flip the servo reversing switch on your transmitter to change the direction.

E) Check the throttle. Moving the throttle stick forward should open the carburetor barrel. If it does not, flip the servo reversing switch on your transmitter to change the direction.

F) From behind the airplane, look at the aileron on the right wing half. Move the aileron stick to the right. The right aileron should move up and the other aileron should move down. If it does not, flip the servo reversing switch on your transmitter to change the direction.

PREFLIGHT CHECK.

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

□ 2) Check every bolt and every glue joint in the **SWIFT40** to ensure that everything is tight and well bonded.

□ 3) Double check the balance of the airplane. Do this with the fuel tank empty.

□ 4) Check the control surfaces. All should move in the correct direction and not bind in any way.

□ 5) If your radio transmitter is equipped with dual rate switches double check that they are on the low rate setting for your first few flights.

□ 6) Check to ensure the control surfaces are moving the proper amount for both low and high rate settings.

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

□ 8) Properly balance the propeller. An out of balance propeller will cause excessive vibration which could lead to engine and/or airframe failure.

We wish you many safe and enjoyable flights with your SWIFT40.