Thunder Tiger

Rare BEAR

1/6 Rare Bear ARF Unlimited Pylon Racer Assembly Manual

Specification:

Wingspan: 63" (1600mm)
Length: 55.5" (1410mm)
Weight: 10.5~11 lbs (4800–5000g)
Engine: .60~ .90 2C .91~1.20 4C
Radio: 5CH
Servo: 5 servos plus 1 retract servo

Thunder Tiger Rare Bear ARF Airplane (TTR4571)

Distributed in North America by Ace Hobby Distributors, Inc. • 2055 Main Street, Irvine, CA 92614
Telephone: 949.833.0088 • www.acehobby.com • E-mail: service@acehobby.com

Warranty

This kit is guaranteed to be free from defects in material and workmanship at the date of purchase. It does not cover any damage caused by use or modification. The warranty does not extend beyond the product itself and is limited only to the original cost of the kit. By the act of building this user-assembled kit, the user accepts all resulting in liability for damage caused by the final product. If the buyer is not prepared to accept this liability, it can be returned new and unused to the place of purchase for a refund.

Notice: Adult Supervision Required

This is not a toy. Assembly and flying of this product requires adult supervision.

Read through this book completely and become familiar with the assembly and flight of this airplane. Inspect all parts for completeness and damage. If you encounter any problems, call us for help.

JE6660

INTRODUCTION

Congratulations on the purchase of one of our finest ARFs to date. The ever-popular Rare Bear piloted by John Penney qualified with the fastest qualification time in the Unlimited Class at 495.039 mph of the 40th National Championships Air Race & Air Show, which was held in Reno Stead Field. For more information please browse www.rarebear.com for more information.

Thunder Tiger has teamed up with the Rare Bear Racing team to bring this legendary airplane to your hands; Thunder Tiger is proudly to present the only officially licensed 1/6th replica of the "Bear" to all the R/C hobbyist alike worldwide! It's a replica that has stayed true to the "Bear" in its purest form, pre-painted fiberglass fuselage and cowl, scale details like panel line and retract well with gear door*etc. With it, you can now experience the thrill of piloting one of the best racing planes in the history! Fly it low*fly it fast to experience the ultimate thrill and pylon racing excitement of the "BEAR". Go Bear!

PRE-ASSEMBLY NOTES

Before beginning the assembly read the instructions thoroughly to give an understanding of the sequence of steps and a general awareness of the recommended assembly procedures.

By following these instructions carefully and referring to the corresponding pictures, the assembly of your model will be both enjoyable and rewarding. The result will be a well built, easy to assemble A.R.F. model, which you will be proud to display.

This Rare Bear is designed for intermediate to advanced pilots, and this manual assumes a basic knowledge of R/C model construction.

Before you begin, check the entire contents of your kit against the parts list and photos to make sure that no parts are missing or damaged. This will also help you to become familiar with each component of your plane. If you find that any of the parts are either missing or damaged, please contact Ace Hobby Distributors, Inc., Customer Service immediately for replacements.

Please read the entire manual before beginning construction.
Neither your dealer nor Ace Hobby Distributors, Inc., can accept kits for return if construction has begun.

Trial fit each part before gluing it in place. Make sure you are using the correct part and that it fits well before assembling. No amount of glue can make up for a poor-fitting part. Always apply Loctite (not furnished) to all screws and nuts to prevent them from loosening .

TABLE OF CONTENTS

RECOMMENDED TOOLS & MATERIALS

Adhesives:
Instant setting Cyanoacrylate adhesive (thin CA)
Slow setting Cyanoacrylate adhesive (thick CA)
10 Minute Epoxy (fast)
20-30 Minute Epoxy (slow)

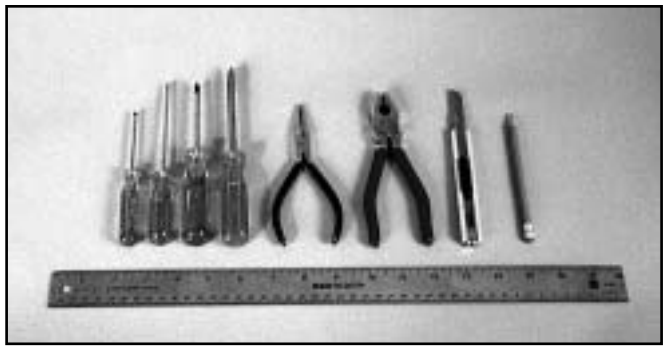
Tools:
Model knife, T-Pins, 1/2" MASK tape
Small screwdrivers, medium screwdrivers
Scissors
Steel straight edge
Long nose pliers and diagonal cutting pliers
Drill and drill bits (1/16", 5/64", 3.4mm)
M4x0.7 Tap
Sanding block
Fine felt tip pen and soft lead pencil
Straight building board

R/C System:
6 Channel radio with 5 servos plus one retract servo
Two 24" extension wires for Flapron Function
One 6" extension wire for Battery
or
5 Channel radio with 5 servos plus one retract servo
Two 12" extension wires and one "Y" extension wire for Aileron
One 6" extension wire for Battery

Engine:
2 cycle: .61~.91
4 cycle: .91~1.2

Propeller:
Appropriate for engine type and preferred performance

Adhesives - You will need two types of adhesives for the Rare Bear - Epoxy and Instant (cyanoacrylate) adhesives. We recommend that you purchase both 5-minute and 30-minute epoxy to cut down on assembly time, but you can get by with only 30-minute epoxy if time is not important. You will also need a small bottle of both "Thick" and "Thin" instant CA adhesive.

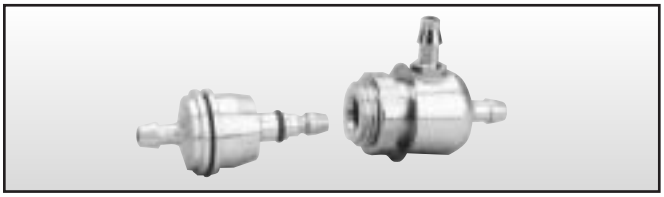


Tools - Model assembly can be much easier if the proper tools are used. Therefore, we have included in our checklist to the left, a complete listing of all the tools we used to assemble our prototype models. As you will notice, many household tools can be utilized during construction.

Engine - The Thunder Tiger PRO-60, PRO-90 are the ideal engines for this airplane. These quiet-running engines are easy to start, require no special break-in periods, are very easy to maintain and will last for years.

Muffler (P/N TTR9791) - Most Pitts style mufflers will fit this Rare Bear. However, we recommend the use of Thunder Tiger custom-made Rare Bear muffler with two exhaust pipes that divert the smoke into the two concavities of the fuselage to obtain a more scale-like apperance . This muffler fits TT and OS .60~.90 engines.

ITEMS YOU MAY NEED

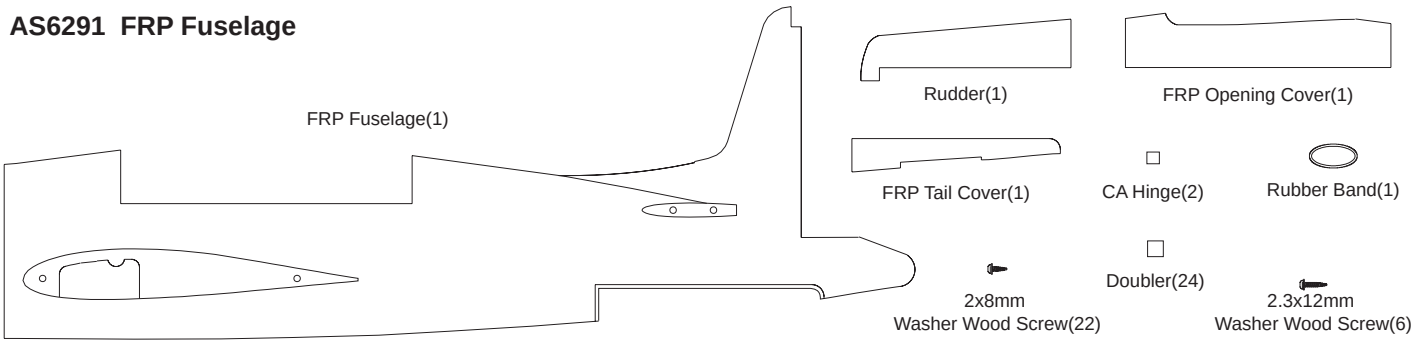


TTR1115 - Precision Fueler Valve

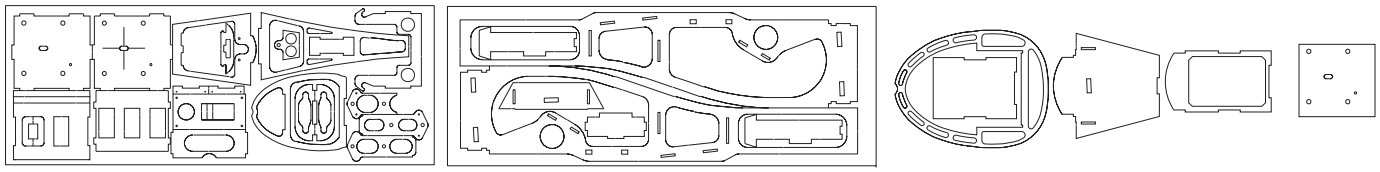
TTR2174 - Built in Glow Plug Extension Wire

PARTS DRAWINGS

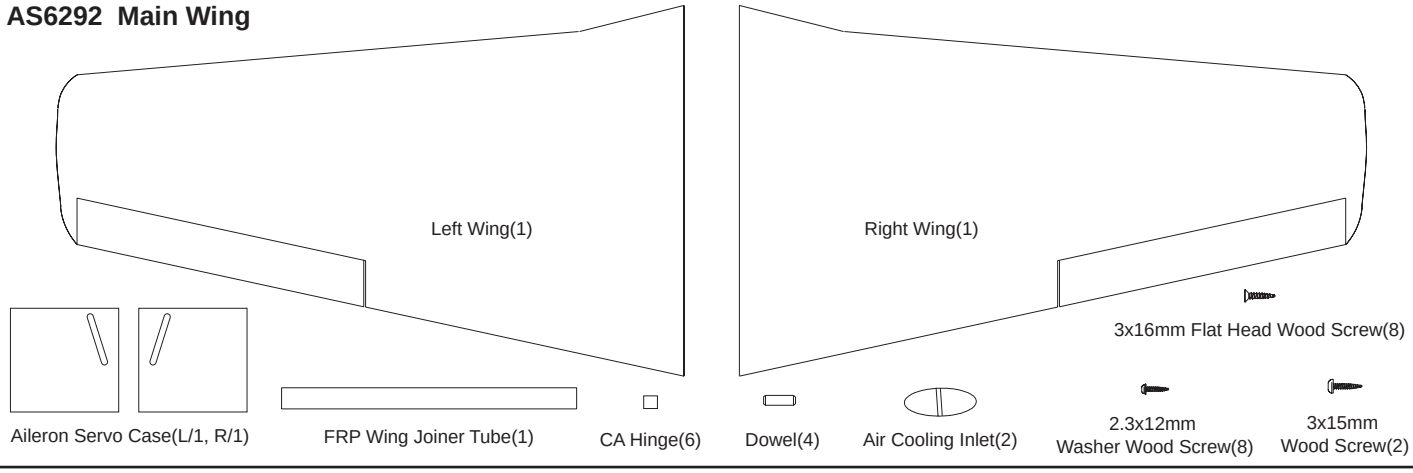
AS6291 FRP Fuselage



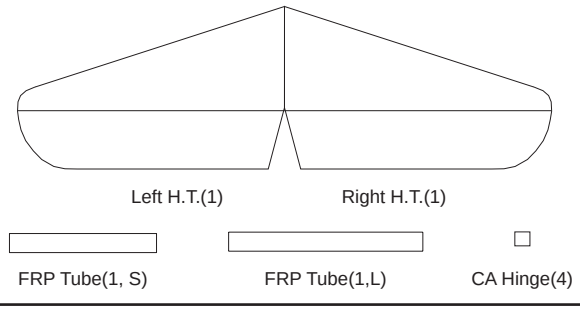
AS6302 Plywood Parts



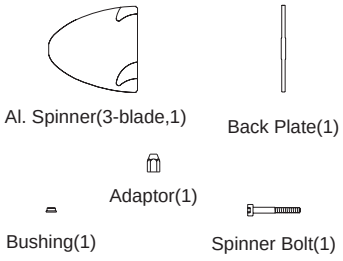
AS6292 Main Wing



AS6293 Horizontal Tail

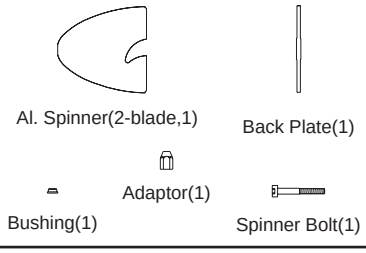


No.3291 Aluminum Spinner (3-blade)



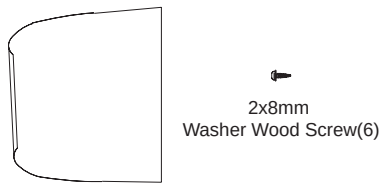
OPTIONAL PARTS

No.3290 Aluminum Spinner (2-blade)



AS6301 Decals

AS6296 Cowl



PARTS DRAWINGS

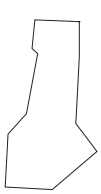
AS6294 Canopy & Cockpit

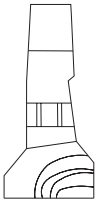

Canopy(1)

2x5mm Wood Screw(4)


Cockpit(1)

AS6295 Retract Decoration


Retract Door (L/1, R/1)


Wheel Well (L/1, R/1)

Pushrod(2)


Collar(2)


M2 Nut(2)

2x5mm Wood Screw(6)

Clevis(2)


Upper Door Retainer A(2)


Upper Door Retainer B(2)

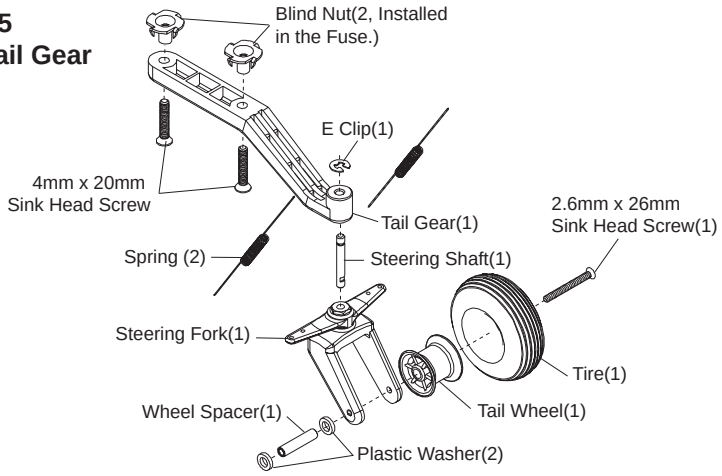

Lower Door Retainer(2)


Pushrod Coupler(2)

3x3mm Set Screw(4)


Wheel Axel(2)

No. 3015 Scale Tail Gear



No. 3265 Fuel Tank

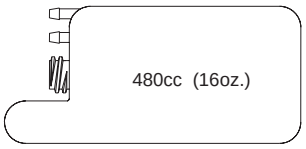
Silicone Tube(1)


Straight Nipple (1)

Crank Weight (1)

Fuel Stopper (1)

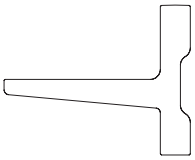

Fuel Cap (1)



Tank (1)


90-degree Nipple (1)

No.3012 Anti Vibration Engine Mount


Mounting Beam(2)

Rubber(8)


T Washer(8)

Blind Nut(4)


Hex Wrench(1)

5 x 40mm Socket Screw(4)

Eng Mounting Screw 6/32 x 20mm(4) 4 x 20mm(4)

No.3023 Retract Servo Link


Retract Servo Link(2)

Pushrods(2)

E Clip(2)

M2 Nut(2)

No.3258 Wheel


Wheel(2)

AS6298 Rudder Linkage Set

Threaded End(4)

M2 Nut(4)

Steering Horn(1)

Clevis(4)

Tail Gear Collar(1)

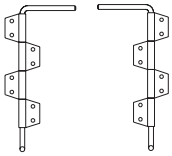

Wire(1)

Brass Tube(4)

Hinge(2)


Rudder Torque Rod

AS6297 Elevator Linkage Set


Elevator Torque Rod (L/1, R/1)

Elevator Wood Pushrod(1)

Pushrod End Retainer(1)

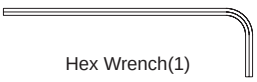
Clevis(3)

M2 Nut(3)

Threaded Pushrod(3)

Torque Rod Link(2)

PE0009 Hardware Set


Hex Wrench(1)


EZ Connector(1)

M2 Nut(1)

3x3mm Set Screw(1)

M2 Washer(1)

AS6299 Pushrod Set

Clevis(2)

M2 Nut(2)

Throttle Pushrod(1)


Z-Bend Aileron Pushrod(2)

AS6300 Control Horn

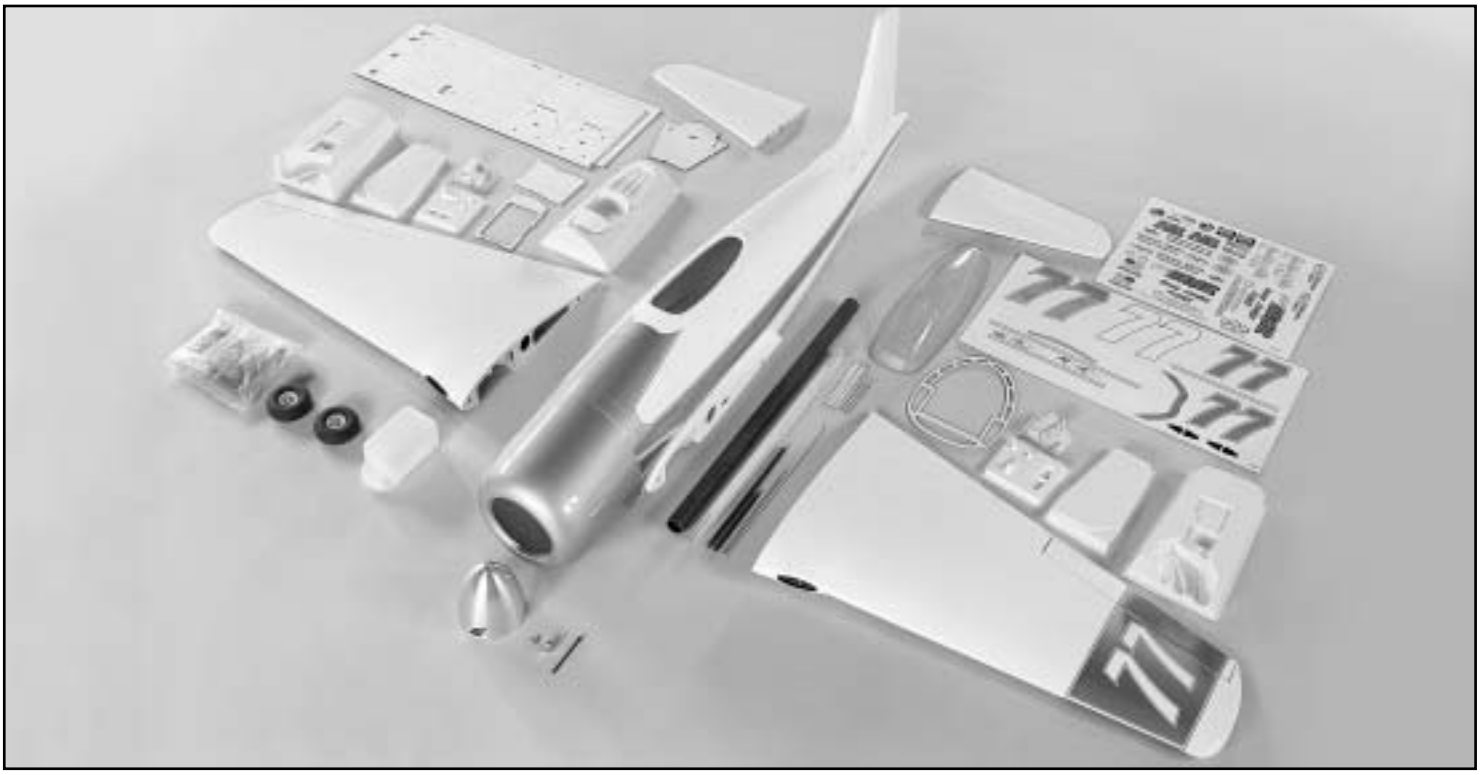

Control Horn(2)

M2 Nut(4)

Backplate(2)

2x22mm Screw(4)

PARTS CHECK LIST



Kit Contents:

FRP Fuselage
- FRP Fuselage(1)
- Rudder(1)
- FRP Opening Cover(1)
- FRP Tail Cover(1)
- Doubler(24)
- CA Hinge(2)
- 2x8mm Washer Wood Screw(22)
- 2.3x12mm Washer Wood Screw(6)
- Rubber Band(1)

Plywood
- Plywood Parts(A)
- Plywood Parts(B)
- Plywood Parts(C)

Canopy & Cockpit
- Canopy(1)
- Cockpit(1)
- 2x5mm Wood Screw(4)

Cowl
- Cowl(1)
- 2x8mm Washer Wood Screw(6)

Main Wing
- Left Wing(1)
- Right Wing(1)
- FRP Wing Joiner Tube(1)
- Air Cooling Inlet(2)
- CA Hinge(6)
- Dowel(4)
- Aileron Servo Case(L/1, R/1)
- 2.3x12mm Washer Wood Screw(8)
- 3x15mm Wood Screw(2)
- 3x8mm Flat Head Wood Screw(8)

Horizontal Tail
- Right H.T.(1)
- Left H.T.(1)
- FRP Tube(1, S)
- FRP Tube(1,L)
- CA Hinge(4)
- Aluminum Spinner (3-blade)

Al. Spinner(3-blade, 1)
- Backplate(1)
- Bushing(1)
- Adaptor(1)
- Spinner Bolt(1)

Anti Vibration Engine Mount
- Mounting Beam(2)
- T Washer(8)
- Rubber(8)
- Blind Nut(4)
- 5 x 40mm Socket Screw(4)
- Hex Wrench(1)
- Eng Mounting Screw 6/32 x 20mm(4)
- 4x20mm(4)

Fuel Tank
- Silicone Tube(1)
- Straight Nipple(1)
- 90-degree Nipple(1)
- Crank Weight(1)
- Fuel Stopper(1)
- Fuel Cap(1)
- Tank(1)

Retract Servo Link
- Retract Servo Link(2)
- Pushrods(2)
- E Clip(2)
- M2 Nut(2)

Control Horn
- Control Horn(2)
- Backplate(2)
- M2 Nut(4)
- 2 x22mm Screw(4)

Retract Decoration
- Retract Door(L/1, R/1)
- Wheel Well(L/1, R/1)
- Collar(2)
- M2 Nut(2)
- Lower Door Retainer(2)
- Pushrod Coupler(2)
- Clevis(2)
- 3x3mm Set Screw(4)
- Upper Door Retainer A(2)
- Upper Door Retainer B(2)
- Wheel Axel(2)
- Pushrod(2)
- 2x5mm Wood Screw(6)

Wheel
- Wheel(2)

Scale Tail Gear
- Blind Nut(2)
- Tail Gear(1)
- 4x20mm Flat Head Screw
- Spring (2)
- E Clip(1)
- Steering Shaft(1)
- Steering Fork(1)
- 2.6mm x 26mm Flat Head Screw(1)
- Tail Wheel(1)
- Tire(1)
- Plastic Washer(2)
- Wheel Spacer(1)

Pushrod Set
- Throttle Pushrod(1)
- Z-Bend Aileron Pushrod(2)
- Clevis(2)
- M2 Nuts(2)

Elevator Linkage Set
- Elevator Torque Rod(L/1, R/1)
- Elevator Wood Pushrod(1)
- Pushrod End Retainer(1)
- Torque Rod Link(2)
- Clevis(3)
- M2 Nut(3)
- Threaded Pushrod(3)

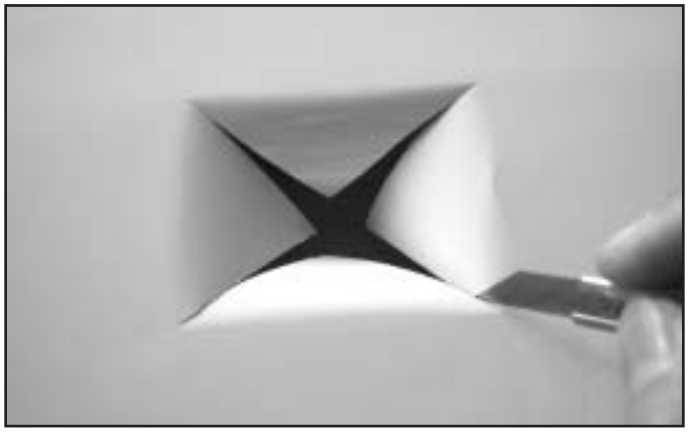
Rudder Linkage Set
- Brass Tube(4)
- Clevis(4)
- Threaded End(4)
- M2 Nut(4)
- Tail Gear Collar(1)
- Hinge(2)
- Wire(1)
- Steering Horn(1)
- Rudder Torque Rod(1)

Decals
- Decal(A)
- Decal(B)

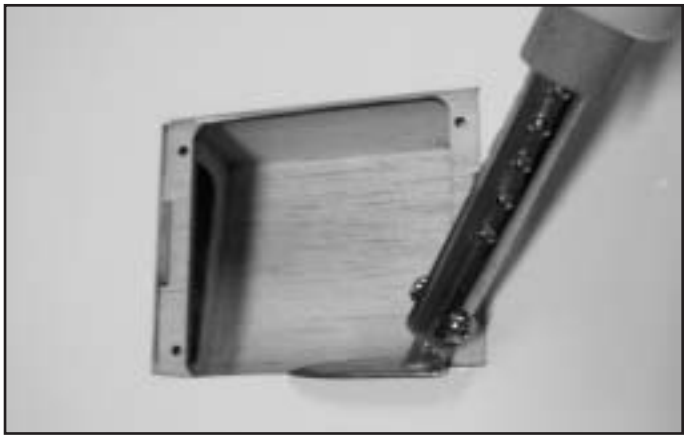
EZ Connector
- EZ Connector(1)
- M2 Nut(1)
- 3x3mm Set Screw(1)
- M2 Wahser(1)

Wing Assembly

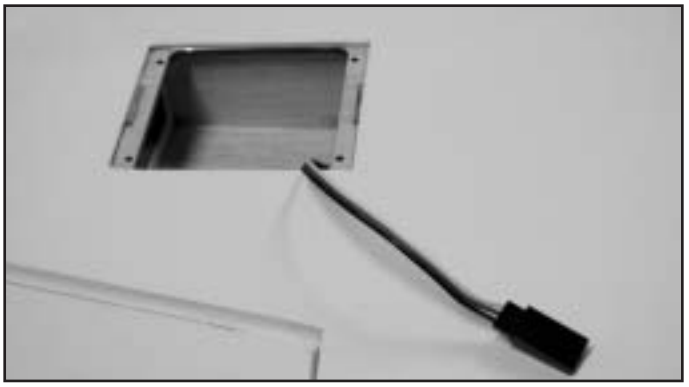
1. CA the aileron in place, make sure the hinges are centered then apply CA at both sides. Make sure aileron is firmly glued.



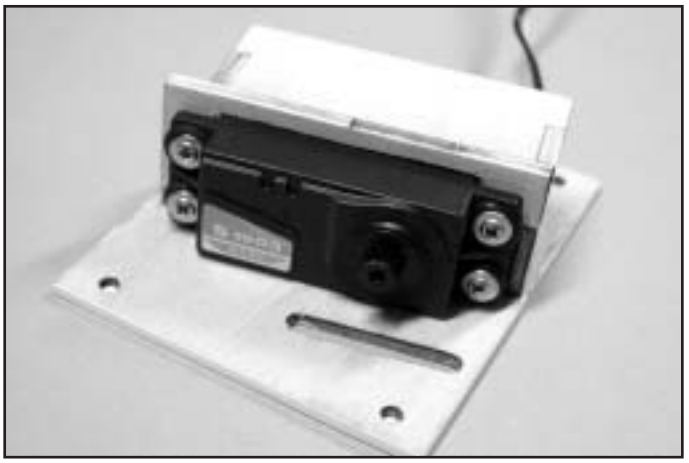
2. Cut the aileron servo well with a hobby knife.



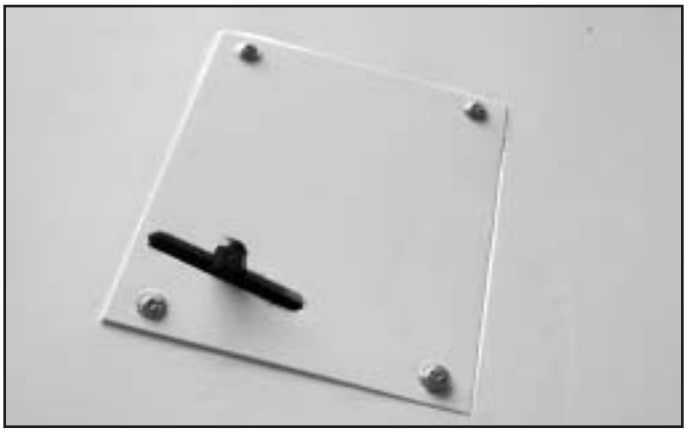
3. Use a sealing iron to tack down the covering inside the servo well.



4. Thread the servo extension wire through the wing panel. It requires 24" long extension wire.



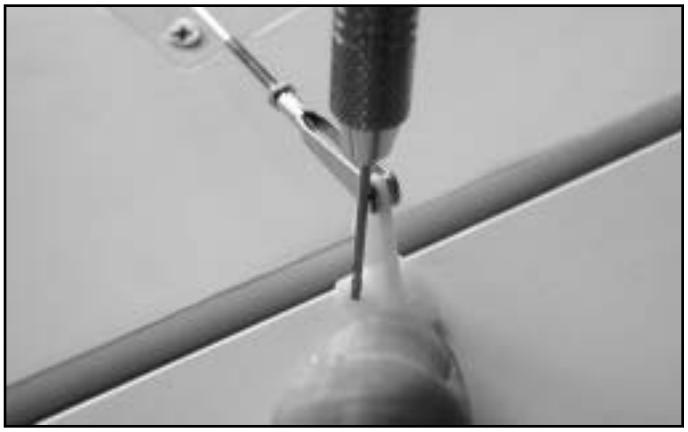
5. Locate the servo case / hatch cover; secure the aileron servo as shown.



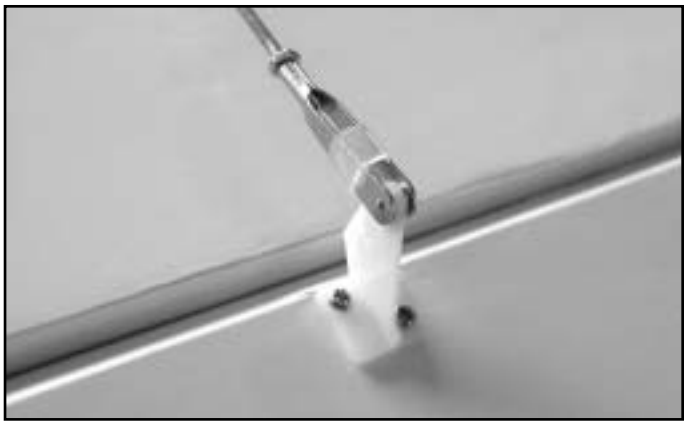
6. Install the straight servo horn, next plug the servo wire to CH1, turn on the transmitter and receiver. Activate the Flapron function, set your servo arm in the center neutral position and make sure the direction is correct.

Secure the servo case in place with four 2.3x12mm Washer Wood Screws at four corners where already has holes. Make sure servo case is secured firmly and servo arm exit slot is perpendicular to the trailing edge.

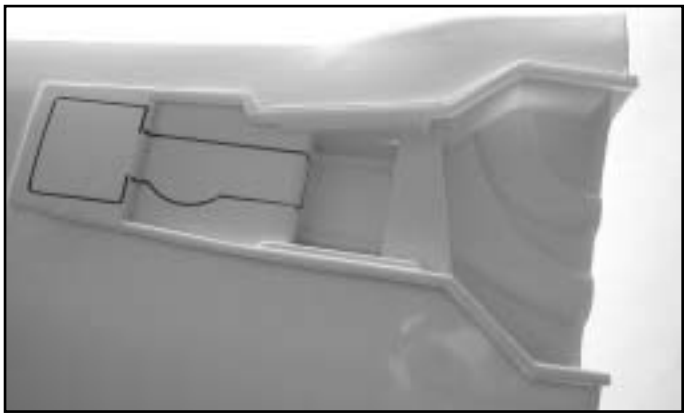
WING ASSEMBLY



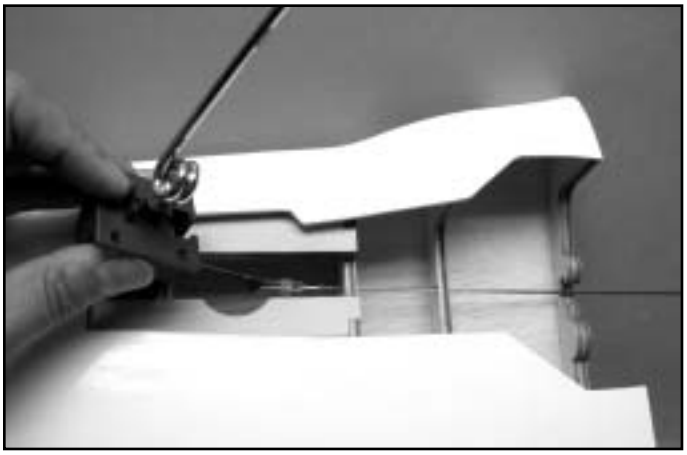
7. Install the control horn and aileron pushrod with metal clevis. Drill 5/64" (2mm) holes to secure the control horn.



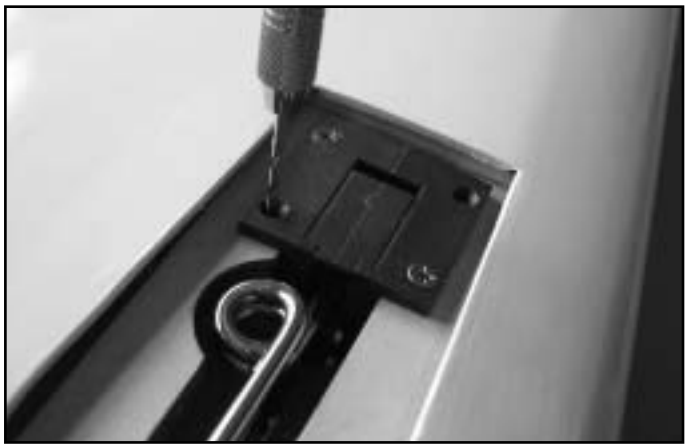
8. Please note that the aileron is thick; carefully drill the holes and make sure the backplate is flash with the hinge line at the other side of Aileron. Secure the control horn in place with 2x22mm machine screws and M2 nut. Trim away the excess screw from the backplate. Repeat the same procedure on the other wing and plug the other servo wire to CH6 and set up Flapron.



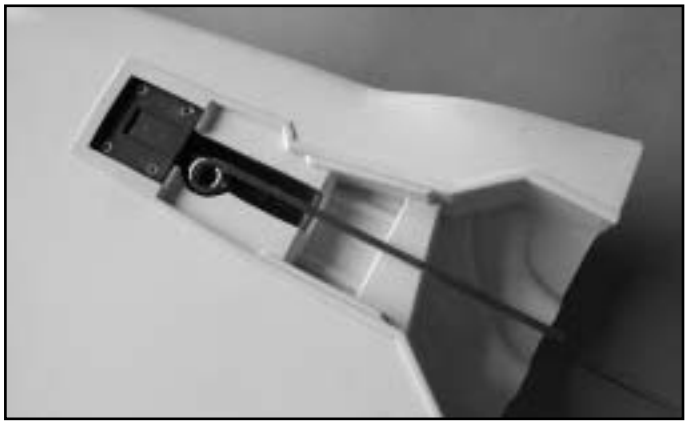
9. Locate the plastic retract well; trim alone with the molded line first and trial fit it in place. Use marker to draw cutting lines as shown, you may use the other side of the retract as guide to draw the line.



10. Remove the plastic retract well, place the retract gear with the pushrod installed (metal clevis and M2 nut). Before installing the Retract Gear, it may be wise to apply epoxy to reinforce the mounting area. Shall you choose to install another aired Retract Gear , then a modification of this mounting area might be required.

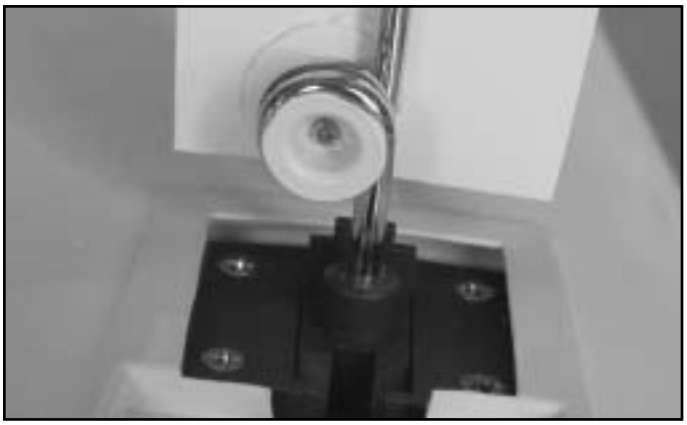


11. Drill 5/64"(2mm) holes on the retract mount. Next secure the retract in place with four 3x16mm Flat Head Wood Screw.

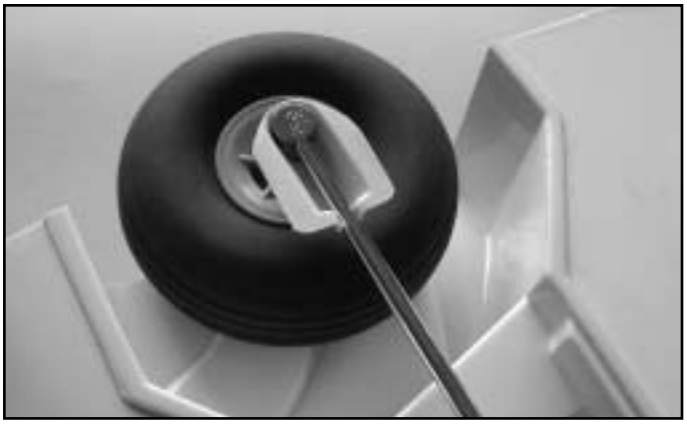


12. Glue the plastic retract well in place with CA, trim the plastic well at the wing root so the plastic well is leveled with the root surface.

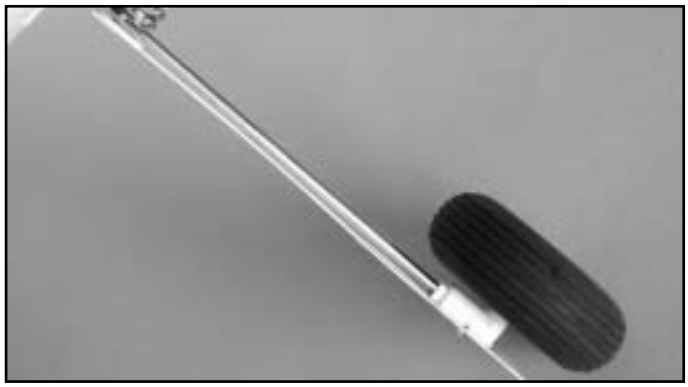
13. Install the wheel axle and secure it with 3x3mm set screw. Make sure the position and angle are just right. Trim the retract gear door and fit the retract well accordingly.



14. Trim the retract door in the upper retainers and glue one retainer (bigger area) on the door then secure the other side of the retainer at the strut coil with 2x5 mm wood screw. Hint: Place the retainer in the strut coil with the retract in the well, next apply CA on the retainer then place the gear door on retainer and fit to the well simultaneously.



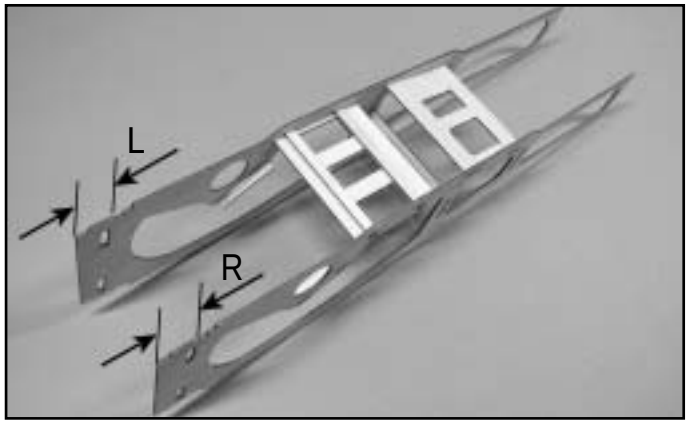
15. Locate and trim the other retract door of the lower retainer, which will be installed on the wheel axle. It may be wise to sand the glue area to enhance the adhesion. Install the wheel and secure the collar firmly with 3x3mm set screw. Make sure the wheel rotates freely.



16. Glue the door on the lower retainer. You may secure the door with the two 2x5mm furnished wood screws. Make sure the retract works smoothly and the door fits in well perfectly. The furnished rubber wheels are good size for Rare Bear and we suggest to use them for static demostration or sitting on the floor for an extended period of time. However, for flying actions, the wheels are a way too heavy, therefore, when flying, we would suggest switching a pair of smaller or lighter foam wheels for better retract performance.

17. Trim the air-cooling inlet and glue it in place as shown. Repeat the same procedures on the other wing half.

Fuselage

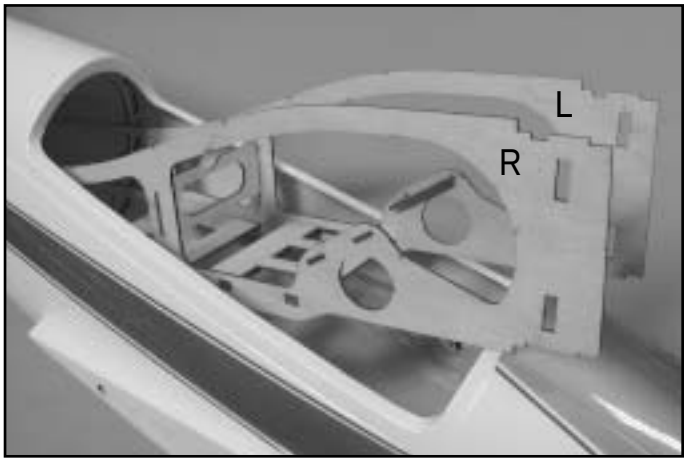


18. Locate the two side framse, servo trays, servo tray doubler and retract servo mount stripes. Glue them with Epoxy or thick CA as shown on the photo.

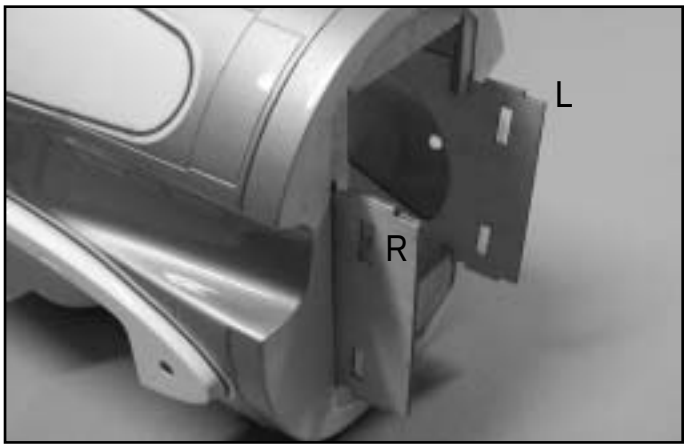
NOTE: the slot cut to the very front at firewall area of Left frame is shorter than Right frame. This is to make Firewall with Right/ Down thrust angle.

FUSELAGE

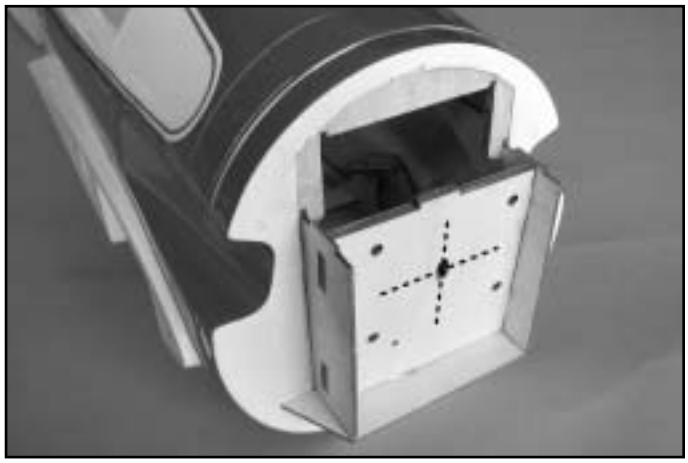
19. Glue the fuselage center bulkhead in place. It will be better to lightly sand the glue area then apply Epoxy or thick CA and position it tight to the fuselage.



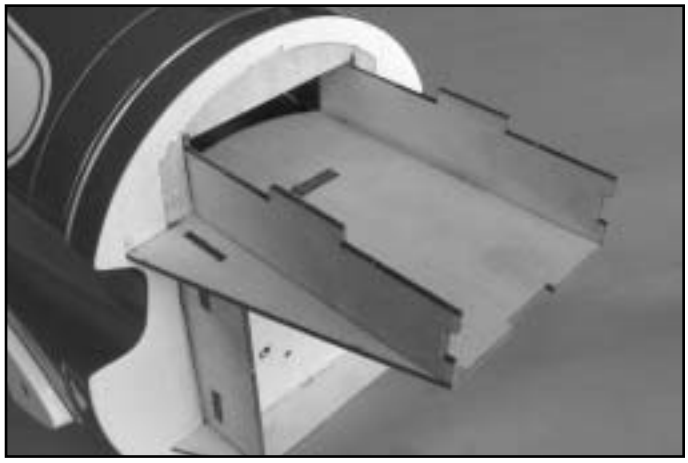
20. Place the side frame assembly into the fuselage. Go rear first then slide the side frame assembly into the front fuselage. Finally slide the side frame assembly through the front bulkhead as shown. Make sure the notch is just right out of the firewall. Glue the side frame on front bulkhead with epoxy.



21. Glue the side frames on middle bulkhead with thick CA or epoxy.



22. Sandwich the three firewalls together; note the cross laser cut mark should be on the top and smallest one at the bottom. Epoxy the firewall and reinforced plywood piece on the side-frame and make sure the throttle pushrod hole is at the bottom.



23. Epoxy the battery box; first glue the bottom of the box, then the two sides. Note the two box sides should reach the very front end of the bottom of the box.

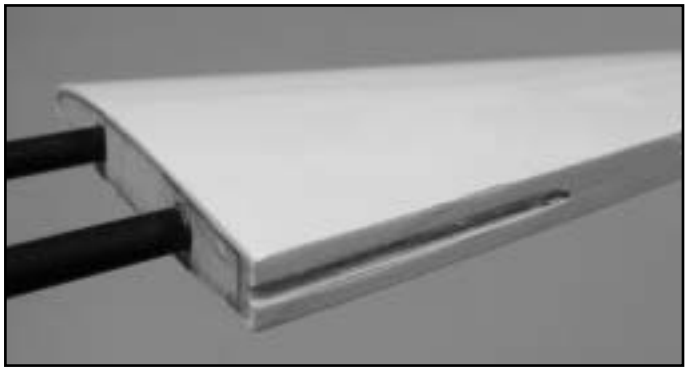
24. Next glue the front of the box, then the top. Lightly apply epoxy on all firewalls area as well as the battery box so the plywood could be fuel-proof. Just mix the epoxy with some alcohol then brush on firewall.

25. Install the fuel tank support as shown.

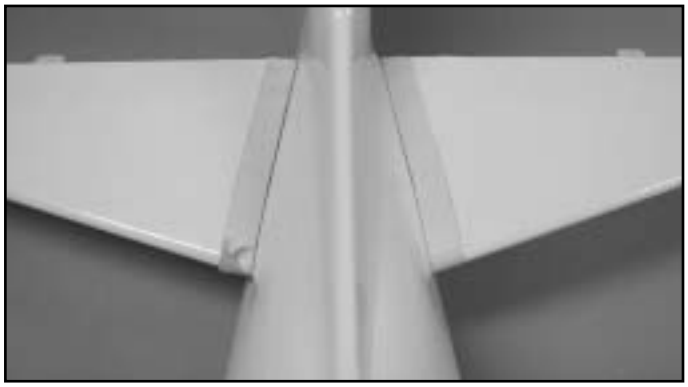
Tail Feathers

26. Remove the elevator from the horizontal tail; carefully use hobby knife to cut away the covering as shown.

27. Locate the elevator torque rod; add lubricant oil to the first and third hinges. You may spray WD-40 on the hobby knife then use the knife tip to contact the hinge and torque shaft and the oil will go in. Cut away the covering of trailing edge at the horizontal tail root where the torque rod is going to be installed.

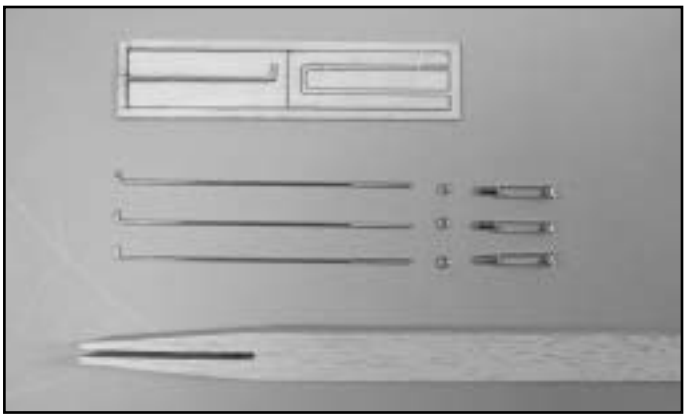


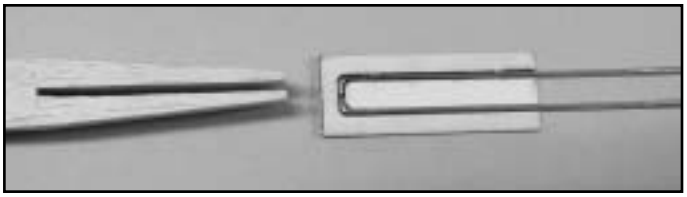
28. Locate two fiberglass tubes; trial fit the tube on the horizontal tail halves on the fuselage. The tubes should be tight fit to the holes in the tail halves, never push too hard or improperly as it may break the ribs inside. Glue two tubes in one tail half.

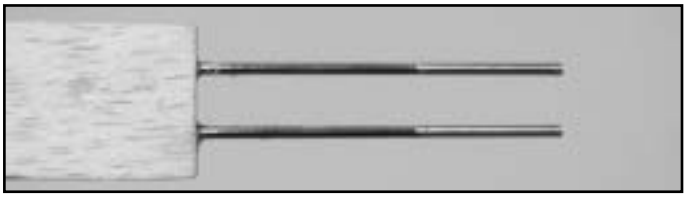


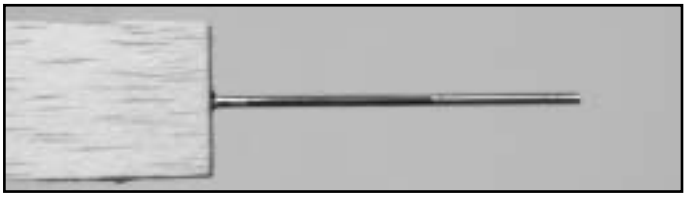
29. Sand the glue area of the fuselage, next mask-tape the horizontal tail halves then epoxy the horizontal tail halves in place as shown. When cured, install the two elevators; the torque rod goes in the fuselage first then insert all hinges in place then apply CA glue when satisfied. Thread the torque link on the torque rod. You may install the torque link first but you will have to enlarge the torque rod hole on fuselage.

RUDDER INSTALLATION

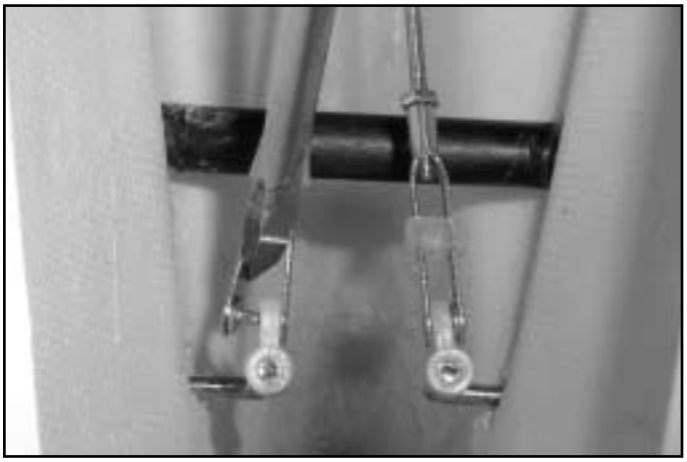




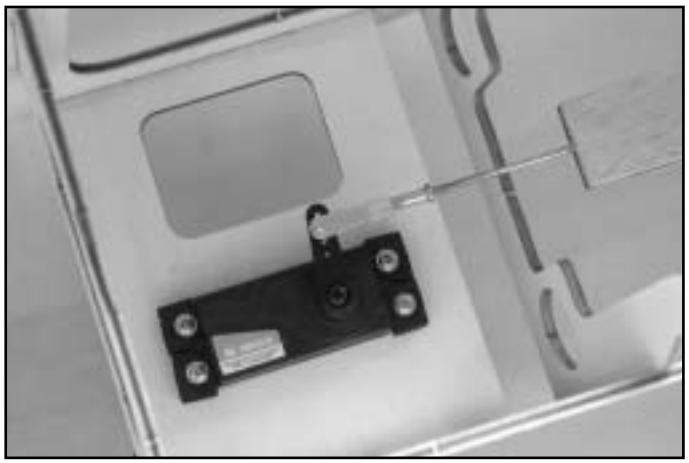




30. Locate the elevator pushrod parts as shown, epoxy the plywood inside the wood rod at two ends with wires. Thread the M2 nuts and clevises and make sure the whole elevator pushrod has no free play.

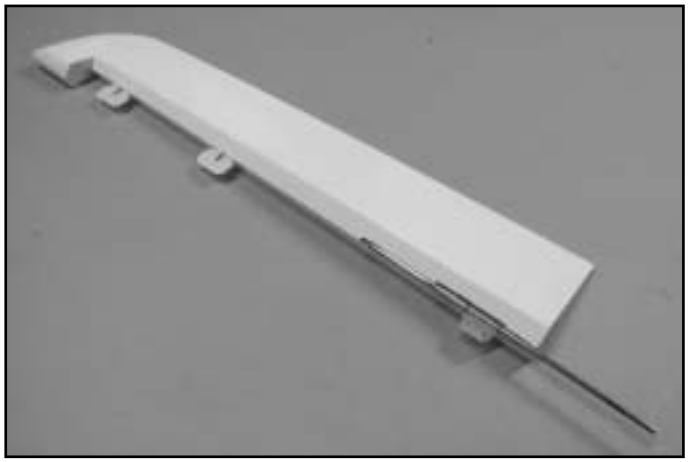


31. Apply a small tube onto the clevis then connect the elevator pushrod to the elevator torque rod links. A flat head screwdriver will help snapping the clevises onto the torque rod link.



32. Install elevator servo, note the servo orientation. Then adjust the clevises to make sure elevators are level when servo is in neuronal position. When satisfied, remove the elevator pushrod temporarily and secure all M2 Nut and Clevises firmly.

Rudder Installation



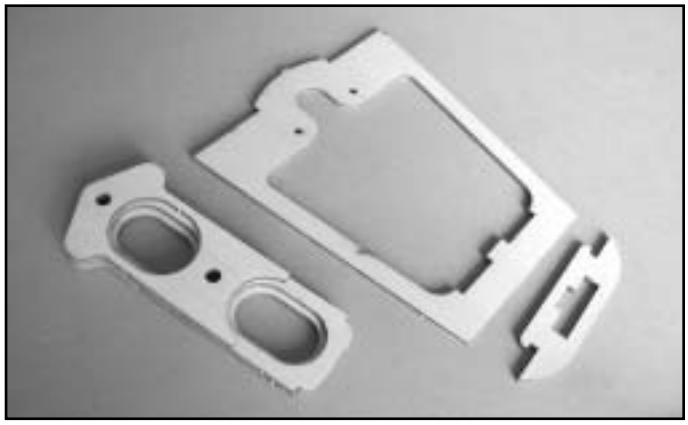
33. Install the rudder torque rod and glue the hinges in place as shown.

34.CA the rudder on the vertical fin.

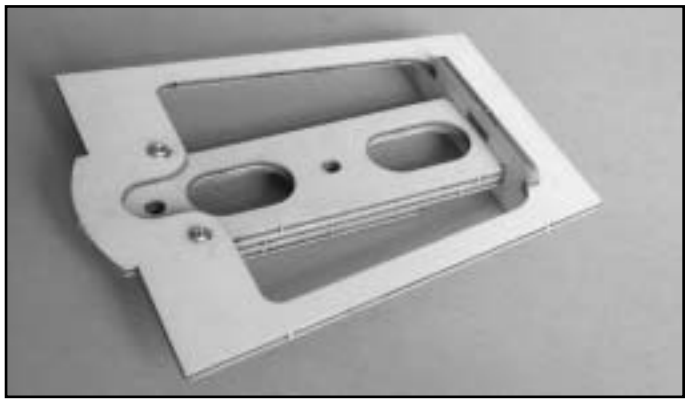
35. Locate the steering arm, trim the outer hole away as it is too long to install in the tail.

36. Secure the steering arm on rudder torque rod with 3x3mm set screws. Then locate the bushing and press it into the torque rod retaining plywood. Epoxy this plywood piece in the tail with the rudder torque rod inserted.

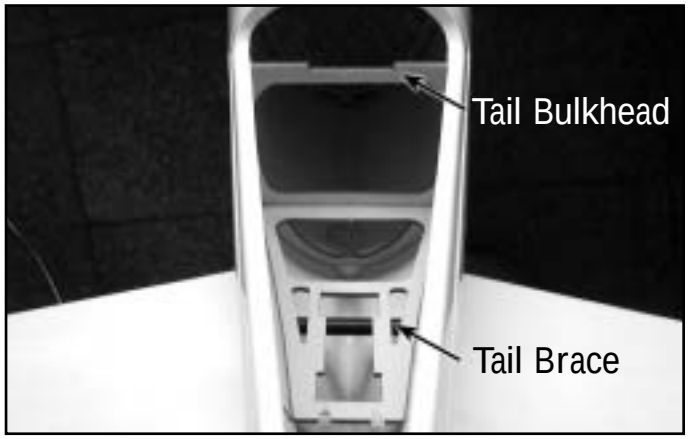
Tail Gear Section



37. Locate three plywood pieces, glue them together as shown.

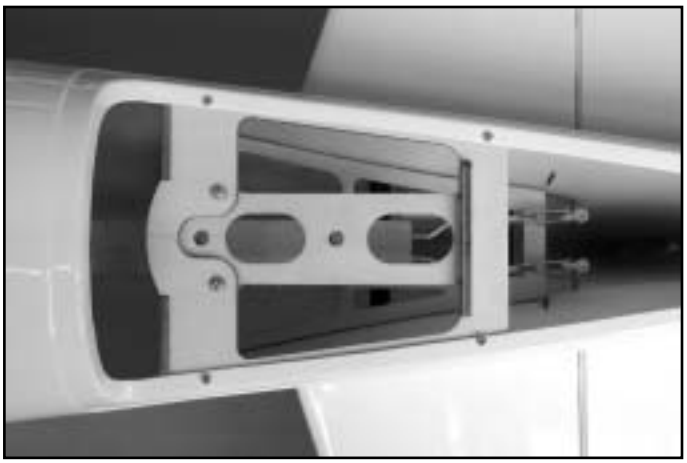


38. Secure the triple layout plywood on the tail gear mount with 2.3x12mm washer wood screws as shown.

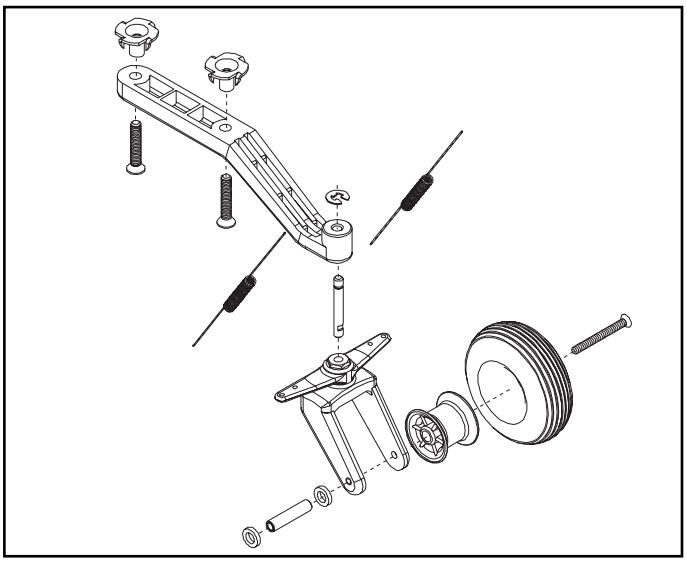


39. Locate the tail brace and bulkhead, trial fit them in the fuselage as well as the tail gear mount assembly. Mark the position where they are going to be glued. Glue the bulkhead and tail brace first as shown on the photo, then proceed to install the elevator pushrod.

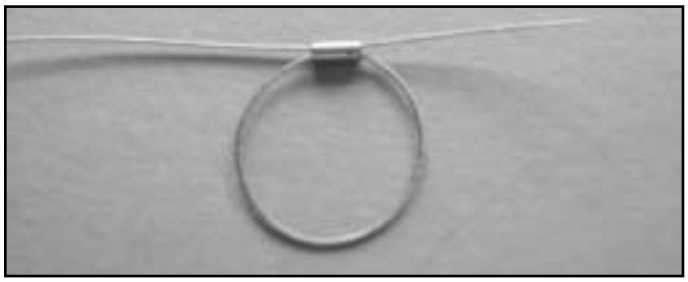
TAIL GEAR SECTION



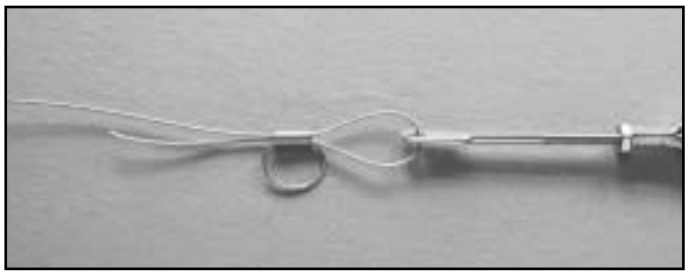
40. Glue the tail gear mount and secure the mount on the tail with four 2x8mm washer wood screws.



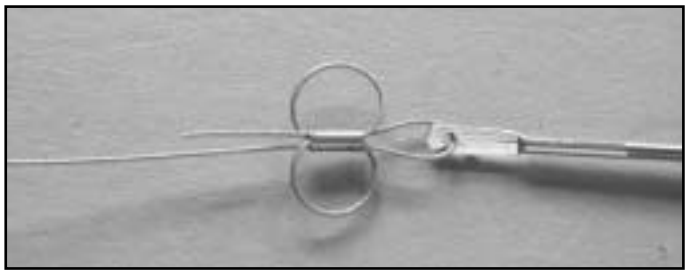
41. Locate the tail gear bag, and assemble the tail gear as shown. Secure the tail gear assembly on the tail gear mount with 4x20mm Flat Head machine Screws.



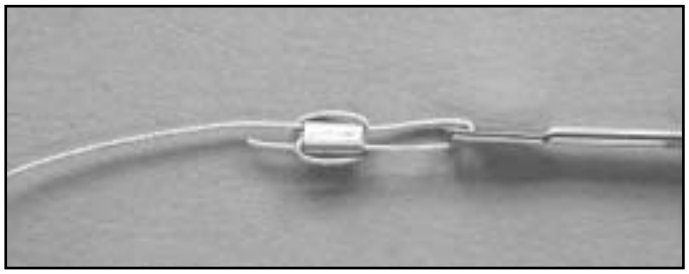
42. Locate the straight threaded end, brass tube, M2 nuts, clevises and cable. First thread the M2 nut and clevis then secure the M2 nut on clevis. Then route the cable through the tube and make it a circle.



43. Next slide the cable through the threaded end then slide to the tube again.



44. Make the other circle as shown.



45. Adjust the cable to make the circle as small as possible then use the pliers to crimp the cable firmly.

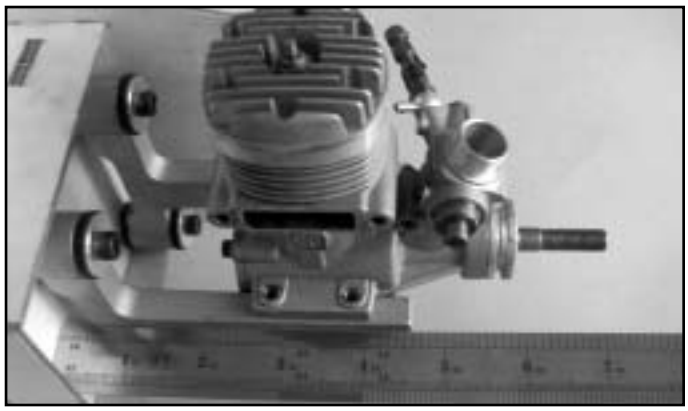
46. Use masking tape to tape the cable on the servo tray, thread the other end with clevis through the fuselage and snap the clevis onto the steering arm.

47. Remove the masking tape and install the rudder servo. Do the same procedure to install the links on both two cables. The only thing you have to notice is trying to adjust the wire so that the clevis will reach the servo horn outmost hole just right.

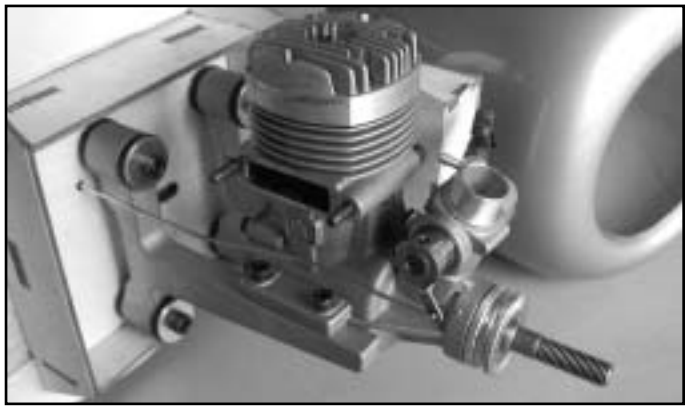
48. Install the tail gear spring, link one end to the threaded rod and link the other end to the steering arm of the tail gear. You may adjust the two-spring tension by threading the threaded rod or clevis and making sure the tail gear is in line with Rudder. Adjust the threaded end at the servo end to make sure both rudder and tail gear are straight and get better tension of the wires.

49. Locate the bottom tail cover, position it in place then drill six 1/16"(1.5mm) holes. Remove the cover, get six small plywood doublers and glue them inside the fuselage at the holes area. Drill the holes on doublers then secure the bottom tail cover with 2x8mm washer wood screws.

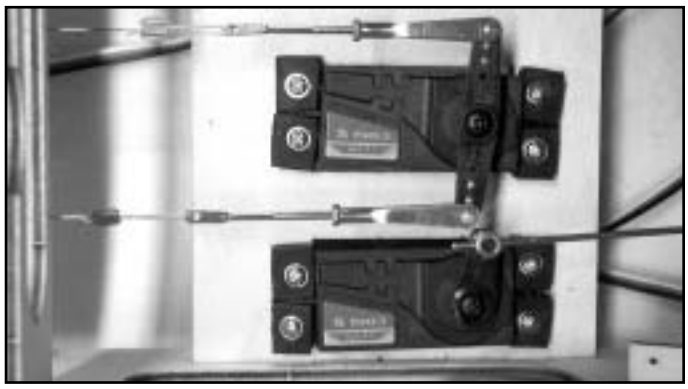
Engine Installation



50. Install the anti-vibration engine mount with 5x40 mm socket screws. Place the Engine (Thunder Tiger PRO-90 Shown) in the Engine Mount then proceed to make mount hole marks on the engine mount where drive washer is 6"(15.2mm) to the firewall.

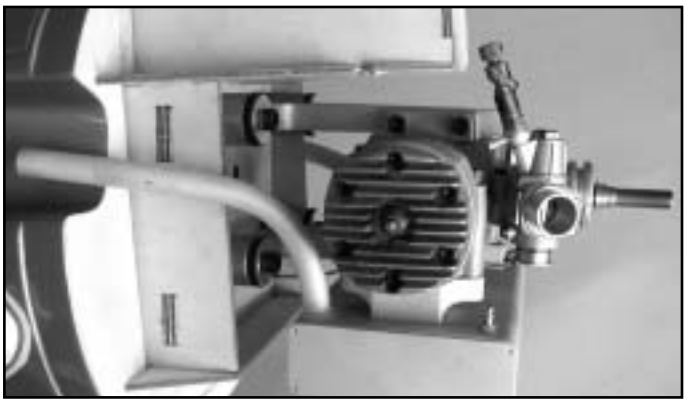


51. Remove the engine and engine mount. Drill 3.4mm holes on those marks then tap the hole with M4x0.7 thread tap. Re-install the engine mount and use M4x20mm socket screws to secure the engine in place. Locate the z bent throttle pushrod, and install it onto the throttle lever.



52. Install the EZ connector on the throttle servo horn with M2 washer and M2 nut. Afterwards, thread the throttle pushrod through the EZ connect and secure the servo horn on the servo. Adjust the servo with the radio on, once satisfied with the result, proceed to secure the throttle pushrod with a 3x3mm set screw.

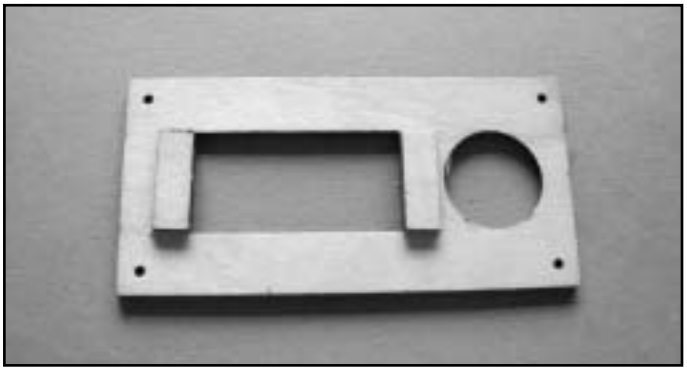
RETRACT SERVO INSTALLATION



53. Install the Rare Bear Special Muffler (TTR9791), which contains 2 angled exhaust pipes and aim to the concavity of the fuselage for better scale looking.

Retract Servo Installation

54. Locate the four dowels, trial fit them on the wing root first, glue them in place with epoxy or thick CA and make sure the dowel is at least 1/4"(8mm) in length outside the wing root.



54. Locate the retract servo tray, glue the doubler as shown. Then, install the retract servo on the servo tray.

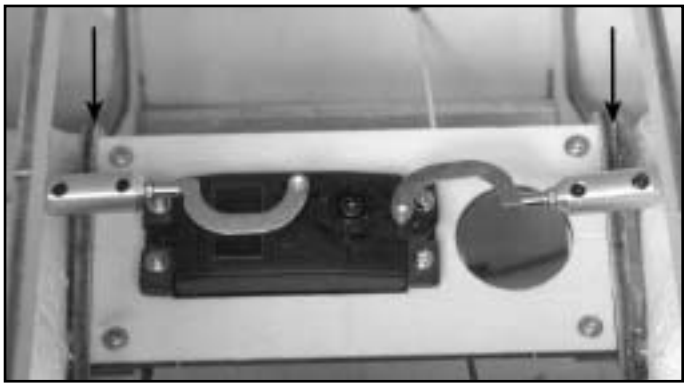
55. Secure the retract servo tray in place with four 2.3x8mm washer wood screws.

56. Trail fit the two wing halves and join them with the fiberglass tube. Insert the fiberglass tube into the fuselage, center it, then thread the retract gear pushrod and aileron servo wire to go through the fuselage which are pre-drill in factory and slowly join the wing halves until it makes contact the fuselage. Never push too hard as it may damage the tube-stop rib inside the wing panel.

57. Locate the hole that is located at the bottom wing just right above the fiberglass tube about 4 1/2" (11.3cm) away from the wing root. Drill a 5/64" (2mm) hole through the fiberglass tube of the main wing halves, and make sure they are firmly close to the fuselage then secure 3x15mm wood screws.

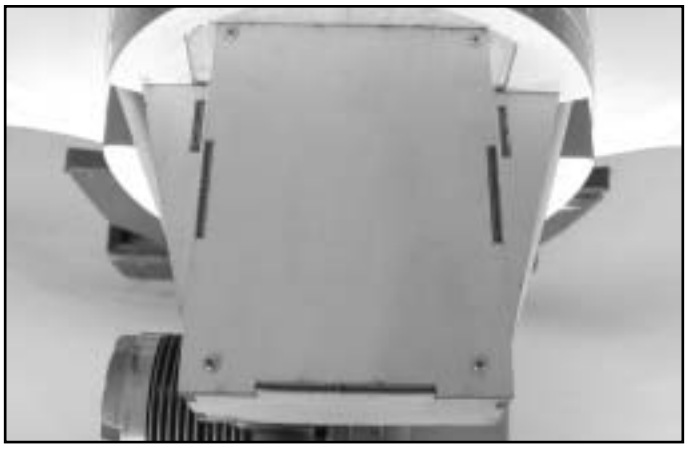
RETRACT SERVO INSTALLATION

58. Locate the retract servo link, E clip, short pushrod, M2 nut and coupler and assemble it as shown on the photos . If Futaba Retract servo is used, then the servo link is installed on the second hole of the horn.

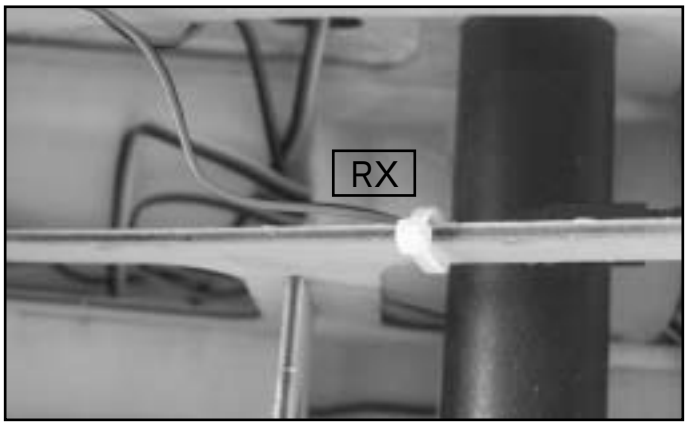


59. Fine adjust the retract pushrod, secure the pushrod and servo link with 3x3 mm set screws. Try switching on the retract gear to make sure the retract gear works fine. You may glue a piece of plywood at the retract servo tray area as there is space between the side frame and fuselage. This is to ensure that servo tray is firmly secured without any movement when it is working.

60. Place a battery in the battery case; use double side tape to secure it in the front of battery case.You can use the excess plywood to make a block to hold battery in place. It may need an extension wire to connect to the switch harness. Approximately 200~250g of weight will be added in the front of the battery case. See balance section in page 20 and add proper weights to get right CG.



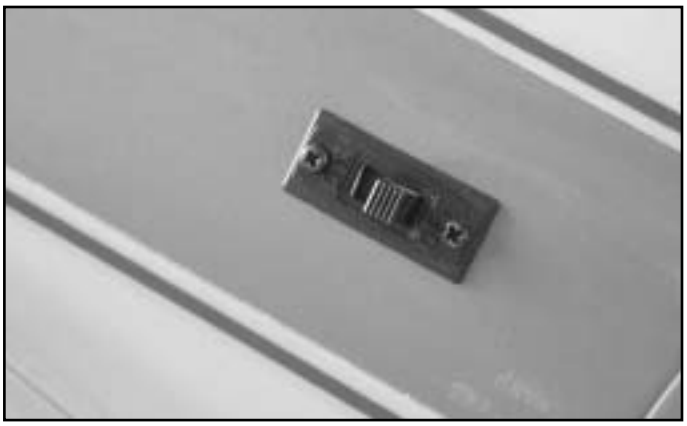
61. Secure battery box cover with four 2x8mm washer wood screws.



62. Connect all servo wires to the receiver; wrap the receiver with foam to fully protect the receiver. Secure the receiver in the fuselage under the fiberglass tube or use Velcro to fix it in place.

63. Route the antenna along the fuselage and exit at the tail gear opening. Use Scotch Tape to tape it as shown.

COWL INSTALLATION



64. Install the switch harness as shown.

Fuel Tank

65. Locate the fuel tank and its accessories. Assemble the tank as shown.

66. Install the fuel tank, use rubber band to secure the fuel tank in place. Connect the fuel line (not furnished) properly to the carb and muffler.

Cowl Installation

67. Install the engine cowl; first glue the plywood doublers inside the fuselage at the firewall where notches are located. Trial fit the cowl in place and temporarily secure it with mask tape. Drill 1/16" (1.5mm) at the place where doublers are. Drill needle valve extension wire exit hole.

68. You may install precision Fueler (TTR1115) and built-in glow plug extension wire (TTR2174) for easy fueling and engine start, hence avoiding damaging the decal.

69. File the cowl located near the vent of carburetor as shown, the engine will get enough air and run smoother. When satisfied, secure the cowl in place with six 2x8mm washer wood screws.

Cockpit Installation

70. Trial fit the upper fuselage cover, drill eight 1/16" (1.5mm) holes and glue small plywood doublers inside the fuselage at the holes area. Drill the doublers again and secure the upper cover in place with 2x8mm washer wood screws.

71. Trim the cockpit and canopy; apply decal on the cockpit and canopy as shown on the photo.

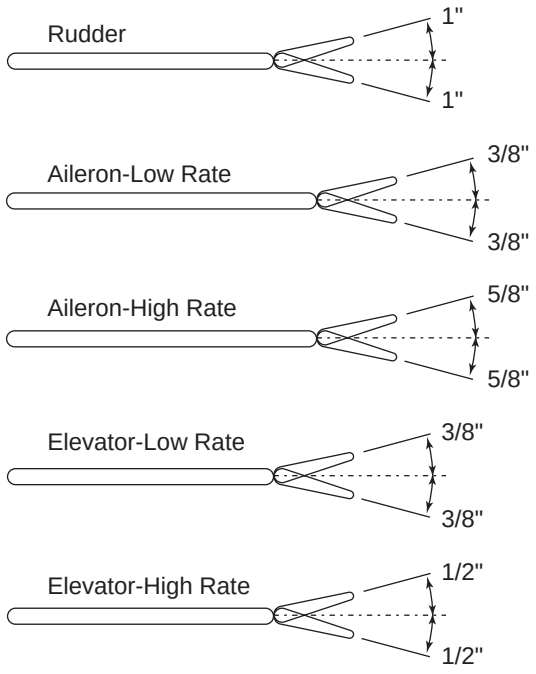
72. Trial fit the canopy on the cover, same procedure to glue the plywood daubers and drill four 1/16"(1.5mm) holes. Glue the cockpit in place and secure the canopy with four 2x5mm wood screws. You may install a pilot (Cap'n Eddie ACE3019) to obtain a more realistic view.

73. Refer to the box label then apply all decals. The photos shown is the decal at retract gear door.

74. Your Rare Bear is now ready to fly, carefully set up the control throws and balance your plane well before your first flight. Always examine everything before each and every flight ; never take chances or rush fly your Rare Bear.

Control Throws

The following are the suggested control throws at a starting point for your radio setup. After you familar with its flying characteristics then these control throw can be tailored to fit your flying style.

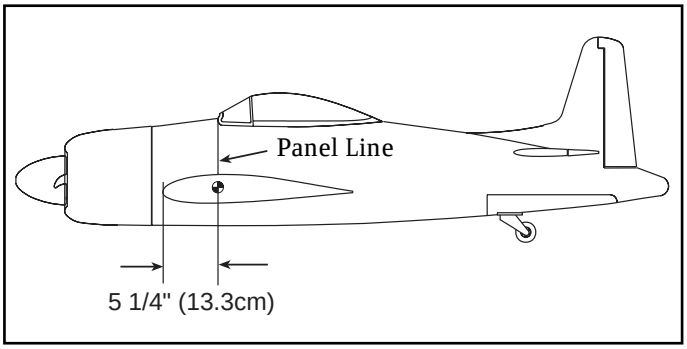


BALANCE

Center of Gravity

IMPORTANT- Do not attempt to fly your model before completing this very important section. A model that is not properly balanced will be unstable and could cause serious damage and/or injury. Adjust the battery location or add weight as needed to achieve level balance. Once you have everything positioned as necessary, wrap your battery pack in 1/4" thick foam for protection.

The balance point is about 5 1/4" (13.3mm) from the leading edge where there is a panel line on fuselage.



Locate A Good Flying Site

Generally, the best place to fly your model is at an AMA (Academy of Model Aeronautics) chartered club field. Your local hobby dealer can tell you if there is such a club in your area or write the AMA for information. It is also a good idea to join this organization before flying your model since they offer liability insurance that can protect you if your model causes damage or injury to others.

Academy of Model Aeronautics

5151 East Memorial DR

Muncie, IN 47302-9252

If there is not a chartered club field in your community, you will need to find a large area free of obstructions, and has a smooth grass or asphalt surface to be used as a runway. For safety's sake, it should be located well away from houses, buildings, schools, power lines and airports. If you will be flying within 6 miles of an airport, you should check with the airport manager before flying your model.

A Note On Batteries

The batteries are the heart of your radio system. Make sure you have fully charged batteries! With rechargeable batteries, follow the manufacturers instructions to make sure the batteries are fully charged, especially the first time the radio is used.

We would recommend you use larger capacity(1000mAh) if you use high performance servos as they will draw more current than ordinary servos.

Congratulations

Now that you have completed the assembly of your Rare Bear we feel that you have a very capable and good looking sports scaleplane. We hope that you will enjoy this model and get many hours of flying pleasure form its use. Thank you for purchasing this Rare Bear from Thunder Tiger and we look forward to providing you with other great R/C products in the future.