



# MIG-29 Park Jet

## INSTRUCTION MANUAL



### Warranty

The contents of this kit are guaranteed to be free of defects at time and date of purchase. The warranty doesn't cover modifications to kit, or damage to Components used in combination with this product. Yardbird RC will only cover the replacement of this kit for defects at time of purchase.

### Liability

Yardbird RC has **NO** control over final assembly of this product and or materials used in the final assembly process. YardBird RC assumes **NO** liability for the final user assembled product. **The user of this product assumes all liability for the final assembly of this product and any damage caused in its operation and use.**

Please return this kit to the place of purchase in a new and unused condition for refund, if the purchaser is not prepared to accept liability for the operation and use of this product.

Read this assembly manual before starting construction. It contains Tips, and important construction instructions. Please read all information enclosed in this manual and information enclosed in products to be used in combination with this product.

**Wing Span:** 24 Inches.  
**Length:** 34.5 Inches.  
**Flying Weight:** 9.5-13.5 Ounces.  
**Radio:** Requires Three Channels, V-Tail Mixing.  
**Recommended Motor:** DUALSKY XM2826CA-12 Brushless Outrunner.

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## Thank You

Thank you for your purchase of the Yardbird RC Mig-29 Park Jet. It is our sincere hope that this product will bring you many hours of fun and safe enjoyment. This kit is primarily designed as a park flyer and has been tested in light winds up to 5 MPH. Please look for the Yardbird RC YB-22 to complete the ultimate dog fighting experience. Yardbird RC is proud of this kit and we know that you will be happy with the quality found inside the box. This kit was proudly manufactured in the USA.

Yardbird RC

## Safety First

**This product is intended for use as a RC aircraft for intermediate to advanced pilots. It should not be used or thought of as a Toy.** This product is capable of speeds in excess of 50 MPH, and just like real aircraft this model could cause damage to people or property. Do not operate this kit in the vicinity of real aircraft or groups of people. This model has a mid-mounted propeller. This design feature is safer than a nose or tail mounted prop. However special care should be used around the propeller. **Propellers can cause damage and injuries.** Please check local laws, restrictions and park rules in your area in regards to operating RC aircraft. Joining a local RC aircraft club is a great idea. Your local hobby shop will have information on local RC clubs. If you are not experience with this type of RC model seek out the help of an experienced RC pilot or instructor for your first few flights.

Please take your time in building your kit. Follow the directions in this manual. You must build this kit strong and true. Do not alter or modify this kit, it will change the flight characteristics in ways that may not be predictable. Yardbird RC has worked diligently to provide a quality kit. However the final assembly and airworthiness of this kit will depend on how you build it. Because Yardbird RC has no control over the final assembly of this kit we don't guarantee the flight characteristics safety or airworthiness of this kit.

## Building Instructions

Each step is numbered so follow the order; don't skip ahead. The picture or pictures for each step is placed before the written instructions. You should look at the picture and read the instructions thoroughly before completing each step.

**Glue:** Read the instruction for the glue you decide to use with this kit. Use only foam safe glue. Use the test piece of foam to test the glue before using it on the rest of the kit. Remember glue adds weight. Too little glue and the joint will be weak; too much the aircraft will lose performance or not fly at all. We recommend that you use Yardbird RC Ultimate RC Foam Glue for the best results.



**Test Fit:** Means to assemble the pieces without glue.

**Attention triangle:** When you see this symbol pay attention to the important instructions or notes.



## Additional Building Materials

- Foam glue: Yardbird RC Ultimate RC Foam Glue.
- CA glue: (Cyanoacrylate Glue) or Super Glue. *Only used for one step. A small bottle or tube will work.*
- X-ACTO knife with number 11 blade.
- 1.5 MM hex head wrench.
- Small cross point screw driver.
- Painters tape. *Optional.*
- Foam Safe Paint. *Optional.*

## Recommended Electronics

**Motor:** DUALSKY XM2826CA-12  
Brushless Outrunner.

**Prop:** ACP 7X5.

**Electronic Speed Control:** DUALSKY XC1812BA.

**Battery:** DUALSKY XP13003GT.

**Radio Controller:** This kit requires three channels and v-tail mixing. A 2.4 GHz radio is recommended for park flyers. Due to the reduced risk of radio interference.



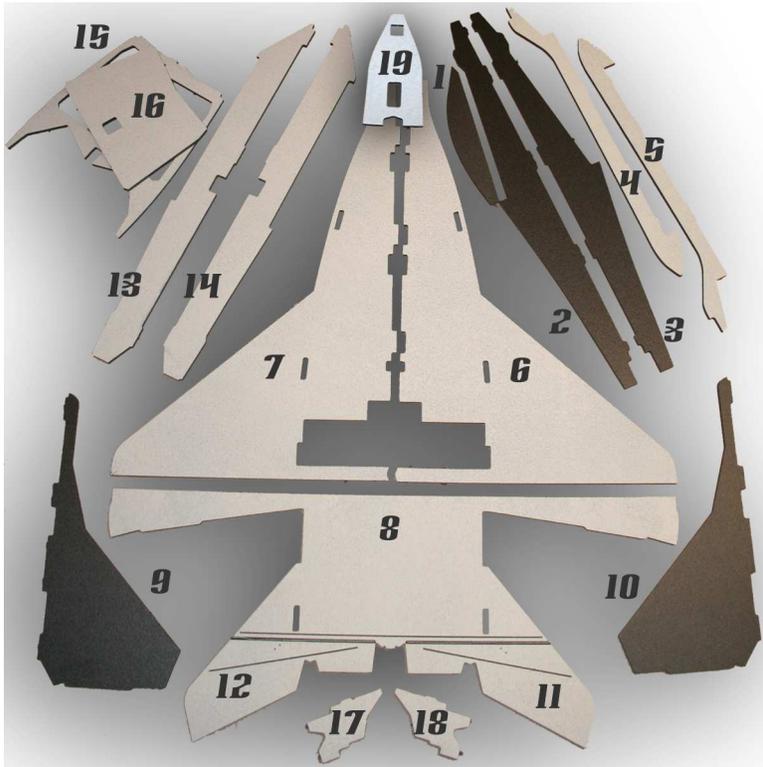
Please read all warning and setup information enclosed in products to be used in combination with this kit.



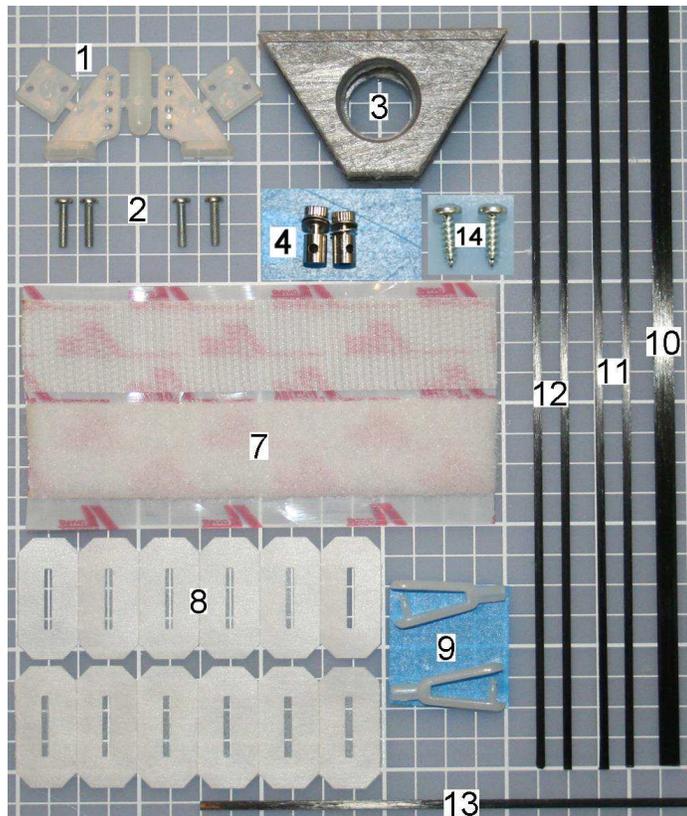
**LITHIUM POLYMER BATTERYS**  
Can catch fire or explode. Always use and maintain the manufacture recommendations!

## Kit Contents

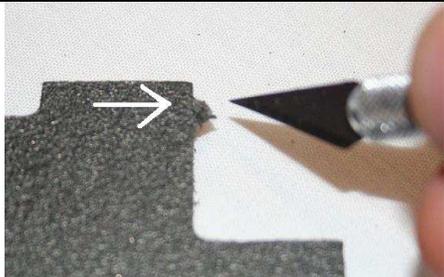
Part Name	Part #
1 Canopy	0129
2 Upper Fuselage	0229
3 Upper Fuselage	0229
4 Lower Fuselage	0329
5 Lower Fuselage	0329
6 Left Wing Deck	04L29
7 Right Wing Deck	05R29
8 Aft Wing Deck	06L29
9 L Vertical Stabilizer	06R29
10 R Vertical Stabilizer	07L29
11 Left Elevon	08R29
12 Right Elevon	09L29
13 Left Aft Fuselage	10R29
14 Right Aft Fuselage	11L29
15 Belly Plate	12R29
16 Access Door	1329
17 Aft Brace	1429
18 Aft Brace	1529
19 Nose Deck	1629
Not Shown	



Part Name	Part #
1 Control Horns (2)	1629
2 Control Horn Screw (4)	1729
3 Engine Mount	1829
4 E/Z Connector (2)	1929
5 Deleted	2029
6 Deleted	2129
7 Velcro Strip	2229
8 Fiber Hinge (3 sets)	2329
9 Clevis (2)	2429
Carbon Fiber	
10 24 Inch Wing Spar	2529
11 9.5 Inch Control Rod (2)	2629
12 6 Inch Elevon Rod (2)	2729
13 12 Inch Aft Fuselage Rod	2829
14 Engine Mount Screws	2929
Not Shown	
15 Decal Sheet	3029

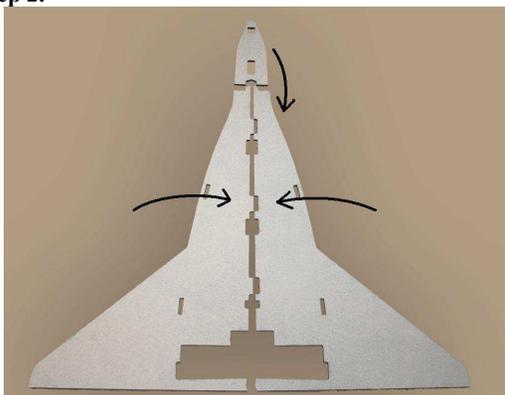


**Step 1.**



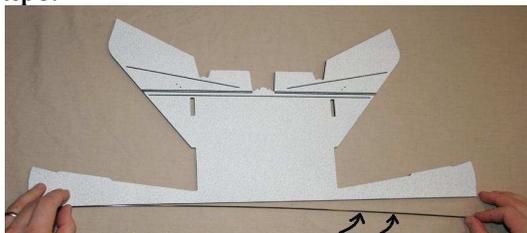
Use the X-ACTO knife to remove the milling tabs on all the foam parts.

**Step 2.**



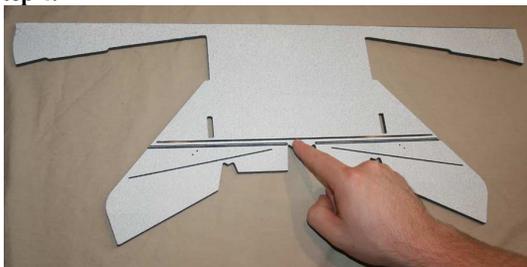
Test fit the left and right wing deck to the nose deck piece. Make sure that the surface being used to work on is completely flat. Glue the three pieces together. *Use two large books to hold the pieces together and flat against the table until glue is set.*

**Step 3.**



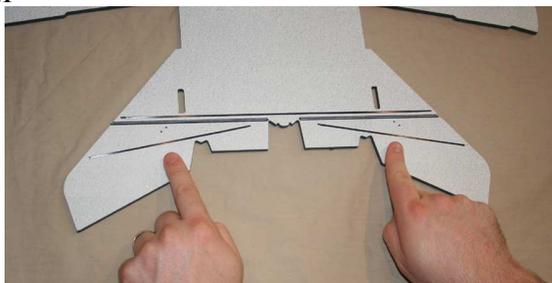
Glue the flat side of the 24 inch carbon fiber wing spar to the aft wing deck.

**Step 4.**



Test fit and glue the 12 inch long carbon fiber rod into the channel at the bottom of the aft wing deck.

**Step 4.1**



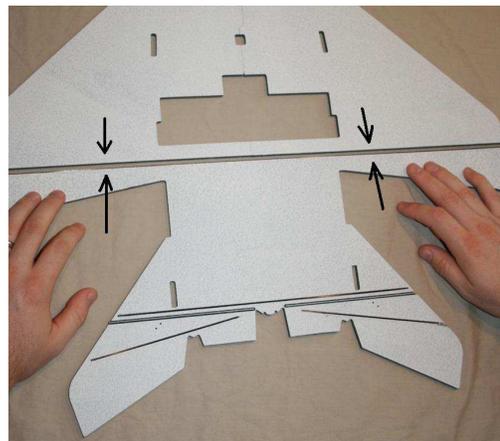
Test fit and glue the 6 inch pieces of carbon fiber into the 6 inch channels in the elevons.

**Step 4.2**



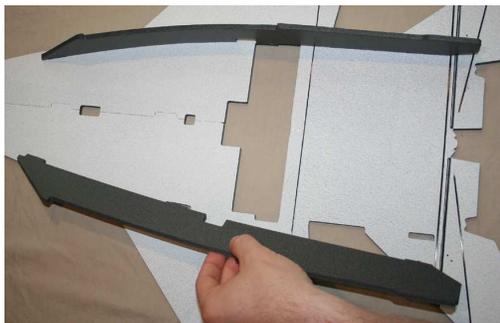
Flip the aft wing deck over so that the gray side is up. Apply hinge tape to the left elevon hinge joint as show above. Repeat for the right side.

**Step 5.**



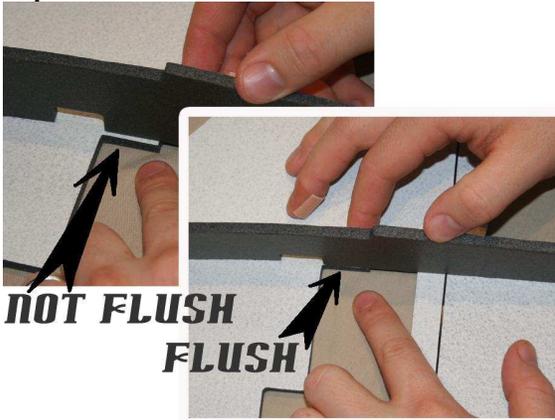
With the white sides up. Firmly glue and press the wing deck assemblies together. *Use two large books to hold the pieces together and flat against the table until glue is set.*

**Step 6 .**



Test fit the aft fuselage pieces into place. They should fit as pictured above. White sides should face out.

**Step 6.1**



Glue the aft fuselage pieces flush with the edge as shown above. Don't apply glue to the 1 inch by 1/2 inch servo slots. Glue the aft fuselage pieces into place. Use two large books to hold the wing deck assembly flat against the table. *This is very important. If not used the deck could warp. Don't remove books until glue is set.*

**Step 7.**



Glue the two lower fuselage pieces together.

**Step 7.1**



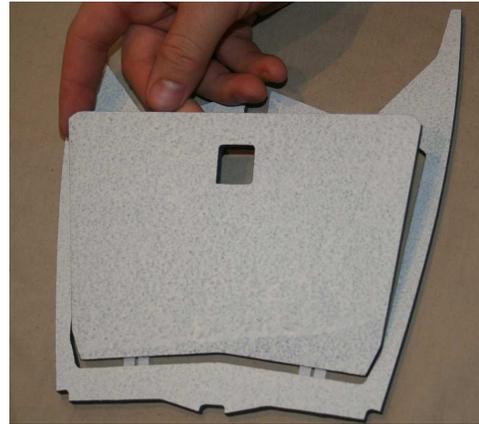
Test fit the lower fuselage assembly to the wing deck assembly as pictured above. After test fitting glue the pieces together.

**Step 8.**



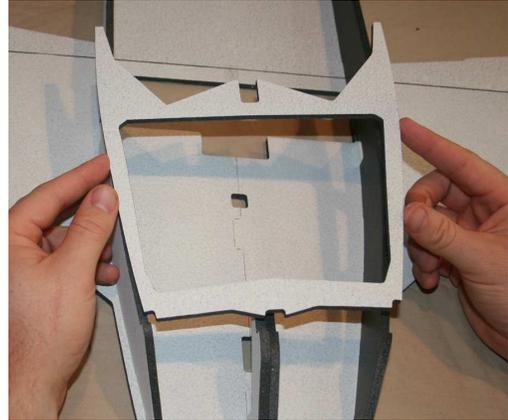
Use the X-ACTO knife to cut 2 separate 1/2 inch long slots in the end of the access door opposite of the round hole. Then install fiber hinges. **Do not glue.** Take your time.

**Step 9.**



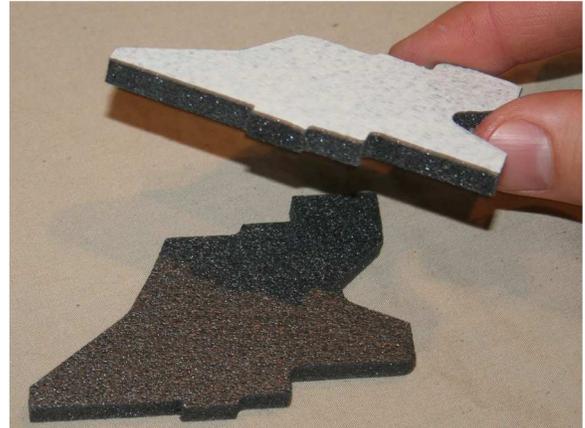
Cut the two separate 1/2 slots for the opposite end of the fiber hinges. Now slip the fiber hinges into the belly plate slots to complete the step. **Do not glue the fiber hinges to the belly plate.** Only glue the fiber hinges to the access door so the door can be completely removed for access to the battery and electronics. Add a small drop of glue to the tip of the fiber hinges and then slid them into the 1/2 inch slots. Remove the access door for the next few steps.

**Step 10.**



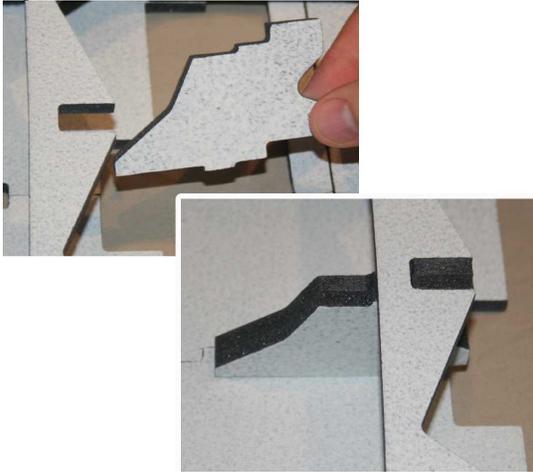
Test fit the belly plate to the aft fuselage and lower fuselage pieces as pictured above. *Note every place the three pieces come in contact with each other. You will need to glue all the points of contact. Take your time on this step you may have to push the aft fuselage pieces inboard to get the edges to line up perfectly with the belly plate. The two aft extensions of the belly plate can be held in place with painters tape until glue sets.* After test fitting glue the pieces to together.

**Step 11.**



Test fit and glue the brace together. Glue the gray sides together.

**Step 12.**



Test fit and glue the brace assembly into the fuselage as pictured above. *Take care to glue the brace on top of and parallel to the joint between the right and left wing deck. Glue all the points of contact with the fuselage including the engine mount.*

**Step 13.**



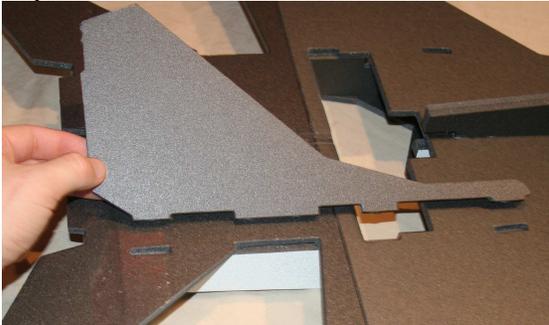
Glue the two upper fuselage pieces together. *Same technique as step 11.*

**Step 14.**



Test fit and glue the upper fuselage assembly to the top side of the wing deck as show above.

**Step 15.**



Test fit and glue the vertical stabilizers as shown in the picture above. *Make sure that these two pieces are firmly glued in place.*

**Step 16.**



Cut a 1/2 inch section from the Velcro strip. Attach it to the inside of the access door aft of the round hole.

**Step 17.**

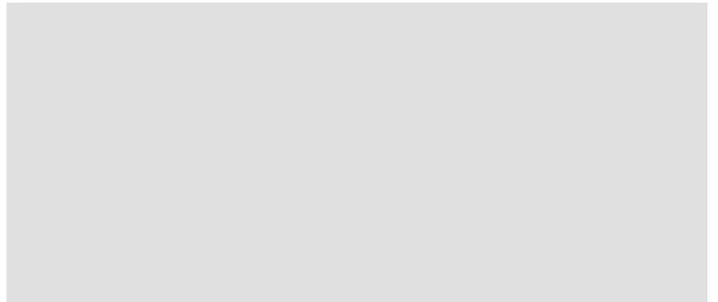


Use a small drop of glue to secure the control horn to the bottom side of the elevon. Gently push the two screws threw the two holes in the elevon. Then secure the back plate to the other side of the elevon with the two screws and a drop of glue.

**Step 18.**



Install Engine mount. *The holes drilled in the engine mount are sized for the recommended DUALSKY XM2826CA-12 Brushless Motor. If you use a differerent power system you may have to drill new mounting holes.*



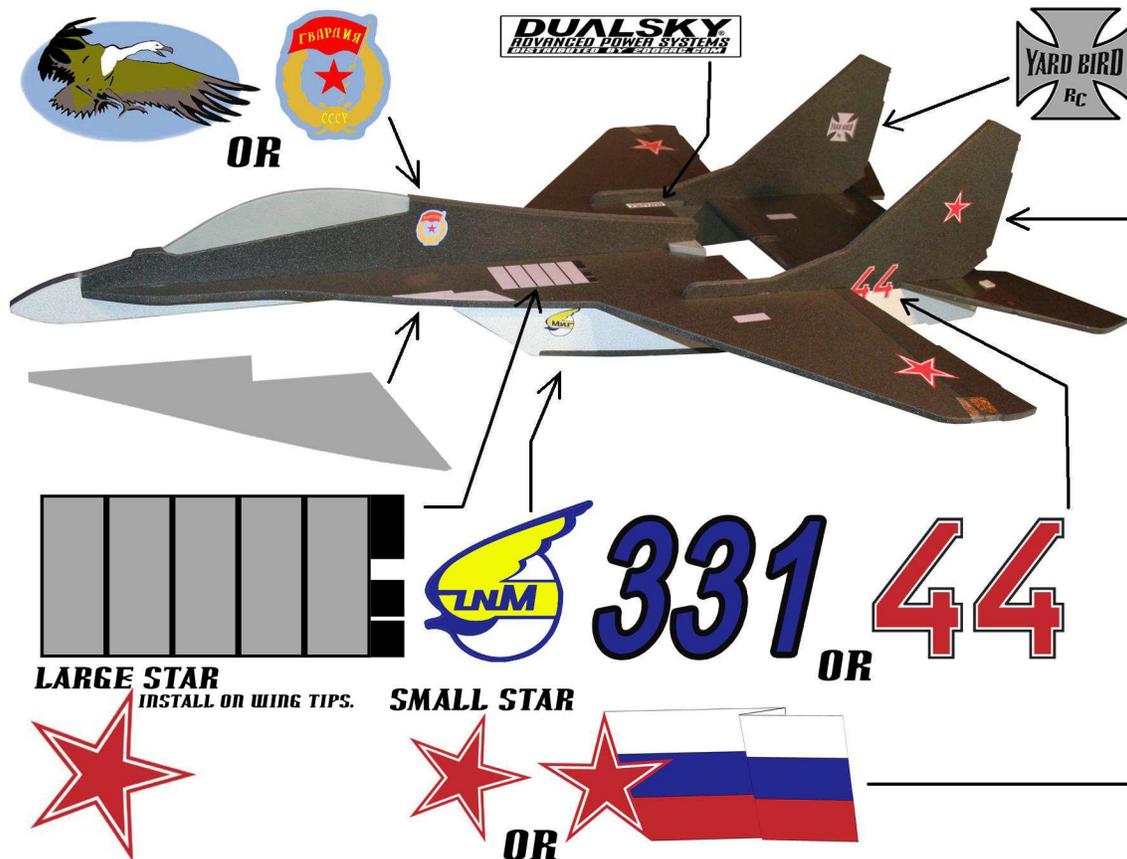
## Paint and Decal Installation

### Step 19.

#### Paint

Paint is optional. Paint adds weight and painting the entire model is not recommended. **Always use foam safe paint.** Test all paints on the test piece before applying to the model. Always paint in a well ventilated area and follow the directions for the paint chosen.

*Paint used for the cockpit below was TESTORS 1238 Gloss Gray. Remember to always test first.*



### Step 20.

#### Decals

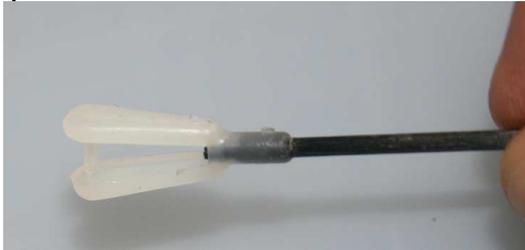
The decals are installed as pictured above. The decals are printed on a ultra thin vinyl. Lightly rub the decals after they are in place to secure them. The vinyl adhesive will set completely after 24 hours.

Step 21.



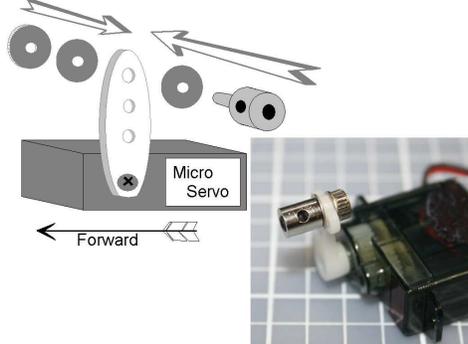
Test fit and glue the cockpit in place as shown in the above picture. *If you plan to paint the kit you may wish to glue the cockpit on after painting.*

Step 22.



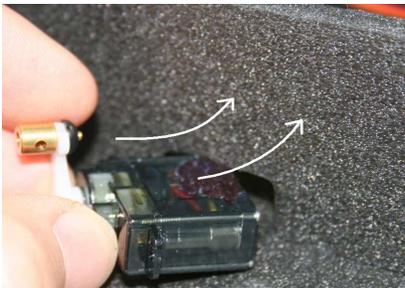
Use the CA glue or super glue to attach the clevis to one end of the 9.5 inch carbon fiber rod. Repeat step for the both 9.5 inch rod.

Step 23.



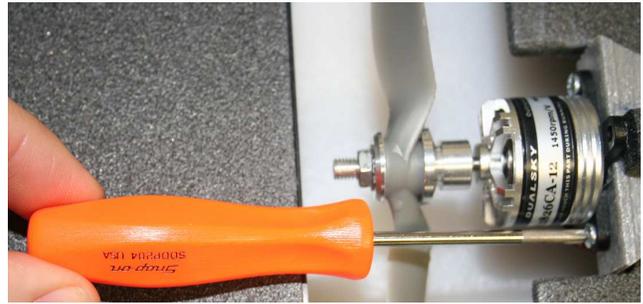
The servo arms should be installed at a 90 degree angle as depicted above. Install the E/Z connectors on the servo arms as shown above. *Put a small drop of CA glue or thread locker on nut and threads after tightening.*

Step 24.



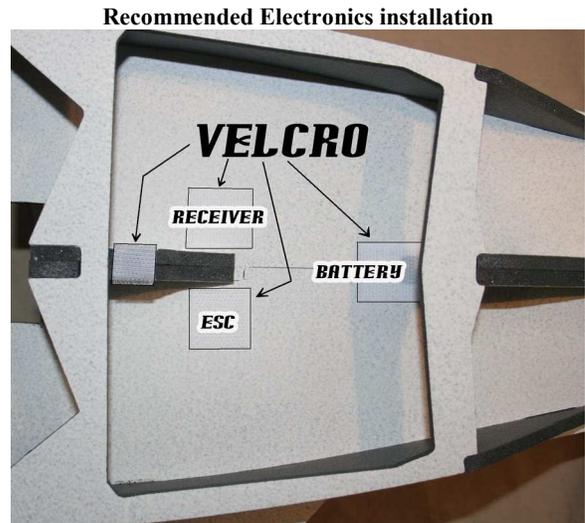
Gently slide the servos into the servo slots. Glue the servo in place **after** setup is complete.

Step 25.



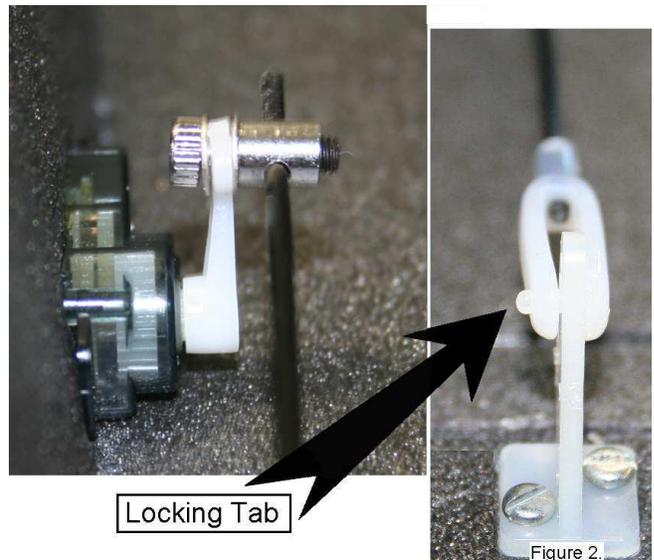
Attach the motor to the engine mount using the motor mount screws. Position the motor so the three wires exit the bottom side of the airframe. *On APC props the APC lettering should face the motor (forward).*

Step 26.



Use the Velcro to secure the electronics and battery in the compartment under the access door.

Step 27.



Slide the free end of the carbon fiber control rod into the E/Z connector as illustrated above. Attach the clevis end to the second hole down on the control horn (Figure 2.). Make sure the locking tab is exposed as shown above. Use the hex head screw on the E/Z connector to securely hold the carbon fiber in place.

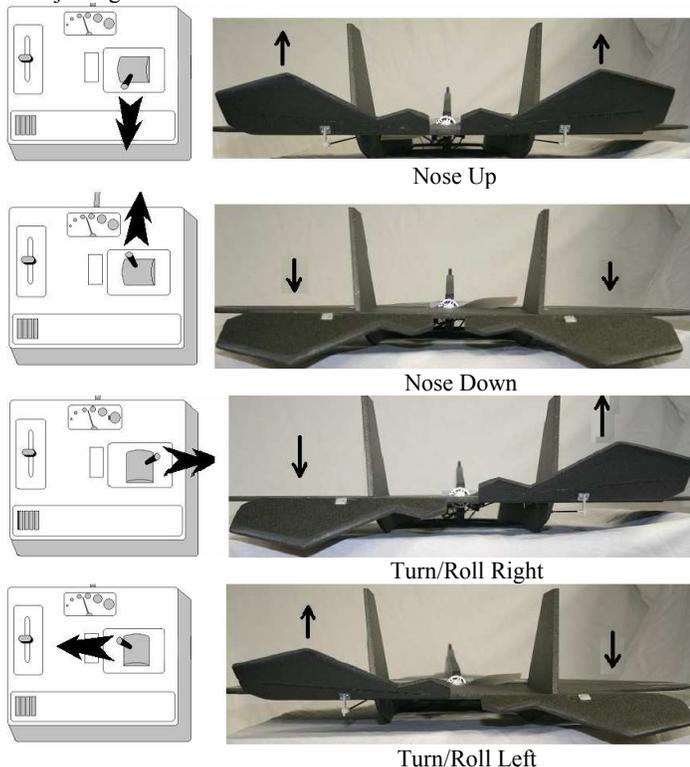
## Step 28.

## Setting Control Direction



Take care around the prop. You may wish to remove or wait to install the prop until after the control direction setup.

Power Up the transmitter and receiver. Center all the trim levers. With the trim levers centered check the two elevons. They should be even. You may have to loosen and retighten the screws on the E/Z connectors after re-adjusting the control rods.



Make sure the elevons move in the correct directions as illustrated above. If the servos move in the wrong direction use the servo reversing on the transmitter to get the correct movement. After adjusting is complete recheck to make sure the trim and control surfaces remain centered. The elevons up and down range from center should be about 33-35 degrees.



## Center of Gravity

Center of gravity or C.G. (the balancing point of the model) can affect flight performance drastically. Failure to correctly balance the model will result in an un-flyable aircraft.

## Step 29.



Make a mark using a felt tip marker at 2.125 inches from the back of the engine mount. This will indicate the ideal C.G. position for the aircraft.

## Step 30.



(YARDBIRD RC YB-22 shown above.)

Always perform C.G. checks with all the gear installed. The model in the illustration is balance correctly. With all gear installed the aircraft should be between 9.5-13.5 oz. Moving the battery location is the most effective way of changing the C.G.

The C.G. jig illustrated above was simply made by gluing two 10 inch rods into a block of foam. Then screwing two wire caps on top of the rods.

## Step 31.

## Final Building Notes



It is recommended to rap a 1 x 3 inch piece of clear packing tape around the top and bottom of the wing tip as illustrated above. Install 1/8 oz of ballast on the right wing. Pushing a finishing nail into the wing tip works great.

## General

Good Job, you've finished a great looking model and you're dying to go fly it! Well there are a few things to remember before that first critical flight.

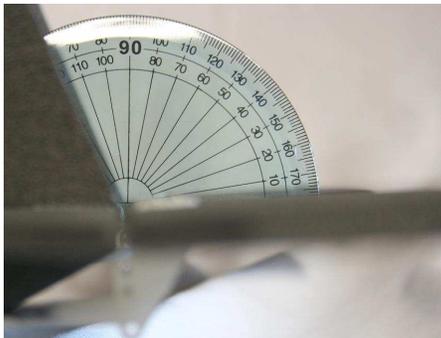
1. You must do a ground range check of the radio equipment used in the aircraft.
2. Remember to get assistance from an experience pilot if you are not familiar with this type of RC model.
3. Don't fly with spectators until you are competent and safe with the flight of this model.
4. Don't fly within three miles of an airport.
5. Don't fly within three miles of a pre-existing flying field unless you are in accordance with a frequency sharing agreement.
6. Don't try and catch or touch the model in flight.
7. Do not use this model with pyrotechnics (firecrackers, rockets, rocket motors, projectile, fuel of any kind, anything that explodes or burns).
8. Remember to use common sense. If it doesn't seem right it probably isn't. Park flyers must be courteous and considerate of others. Don't abuse the park or field rules. Remember never to fly over people or property.
9. Never apply full power in a dive of steep decent.

*Preflight Check list*

- 1. Perform a range check with the radio.
- 2. Always perform a C.G. check before flying.
- 3. Make sure the electronics are installed securely. Check that the
  - servos are glue in tight.
  - servo arms are attached with the proper screws.
  - E/Z connectors are tight and you can see the brass tab.
  - battery is attached securely.
  - receiver and electronic speed control are secure.
  - The motor and engine mount are securely attached.
- 4. Check the elevons. Check that the
  - hinges are attached securely.
  - control horns are secure and all hardware is attached.
  - clevises is attached correctly with the locking tab exposed.
- 5. Check the controls move and the correct direction. And throws are set to low rate for the first flight.
- 6. Check the operation of the motor.
- 7. Check the overall condition of the foam. Check that the
  - joints are all firmly glued.
  - carbon fiber pieces are firmly attached.

*First Flight*

The first flight should be about getting used to the way this model handles and flies. Be ready to add a little nose up trim. 4-6 degrees of trim is a good starting point.



This aircraft has a wide speed range so be prepared to make slight trim adjustments for different airspeeds. It's not recommended to attempt high speed runs on the first flight. Just take it easy. Get the model trimmed out at get comfortable with it.

*Launching the Model*

On the first flight it is recommended to have a assistant launch the model so that the pilot can concentrate on flying. The recommended technique for assisted launch is for the thrower to grasp the wing tips with there thumbs on the top side of the wings and gently toss the model at a 30 degree nose high attitude. Simultaneously the pilot should add  $\frac{3}{4}$  power and climb to a safe altitude.

Once you have got the aircraft trimmed out and a familiar and comfortable with the launch and climb out. The alternate launch method is to lightly grasp the model with you right hand. Your thumb in the gap between the two elevons and your fingers spread under the aft wing deck. Hold the aircraft at a 30 degree nose high attitude adding  $\frac{3}{4}$  power and let the model fly out of your hand.



*This illustration shows the alternate launch method.*

*Flight*

Once at a safe altitude gently guide the model around the pattern at  $\frac{1}{2}$  power. Get the aircraft trimmed out for straight and level flight. Take some time and get comfortable with it. Try some slow flight. Try some practice landing approaches. Remember to relax and think ahead of the aircraft. Fly the airplane the entire time, if you take a mental brake you may break something else.



**Battery**

*Always monitor you battery level, this type of aircraft doesn't fly well without power. If for some reason you loose power immediately lower the nose and make a steep approach to land.*

*Landing*

*It's good to make a few practice approaches before you attempt to land. This model is capable of very low airspeed. And you should be able to make spot landings with a little practice. Remember to land into the wind.*

Start by reducing power to  $\frac{1}{2}$  and inter the down wind leg at about 50 feet above the ground. Make a wide descending turn to final approach reducing power to  $\frac{1}{4}$  or less depending on the wind. As you approach the spot of intended landing slowly reduce power to idle and about 3 feet above the ground allow the airframe to make a pizza box flop type landing. Gently floppy down preferably in soft grass. It may take a little practice but you should be able to touch down softly with no forward skidding. **Remember to idle the prop before touch down.** That's it.

**Good work, Now go fly!**



**MIG-29 Park Jet**