



J. Perkins Distribution Ltd. & Model Engines (Aust) Pty Ltd

Presents

PANIC

A.R.T.F.

To celebrate the 25th Anniversary



Join in the fun



Panic History

Philip Newman designed the Panic Biplane over 25 years ago for fun-flying and competition flying.

The original design used a dihedral lower wing with ailerons and an independent flap on the upper wing. This setup was very popular with new pilots as it gave a very smooth, yet responsive, feel that was in a class of its own and inspired pilots with confidence. With a few modifications, including a flat bottom wing, ailerons coupled top and bottom, the Panic biplane was now competition hungry and one of the most advanced aerobatic aircraft of its time. Over the years the Panic has won more than its fair share of competitions, be it spins, loops, rolls, touch & go's, climb & glide, or freestyle aerobatics. This model does them all with ease which has earned it the tag of being a pilot and club favourite over the years. It has been displayed at many a flying show by the infamous Panic Team U.K. They add their own legendary flying skills and chaos to their well-rehearsed flamboyant flying routines to induce many a ooohhs and aaaahhs from the crowd as they appreciate the havoc like display! Over the years the Panic Team have used modified Panics to entertain the crowds, including a releasable top wing (you need two pilots for this one!) The model flies around and at the click of a switch, the wing is released (at first sight you think the plane is in big trouble but don't get the black bin bag out yet!), and with the help of some servos, battery and receiver, the wing is able to fly around with a few aerobatics thrown in for good measure then land back down on the patch. This always entertains the crowd!

Another crowd favourite is the backward flying panic, that's right, "BACKWARD FLYING". This was the hardest of all projects to achieve (you wouldn't believe where the C/G has to be to keep this model in the air!) but with the tenacity of Robert Newman and a pile of broken Panics, he did not give up until he had overcome all obstacles and had a flying specimen, well done Robert! To add to these eye bogglingly crazy antics, Robert and the team went at it again and created a Panic that is hand launched and, when released, (a bit of acting is needed here with a little trip when the model is released by the helper to help give the crowd the feeling that a deserter is imminent) the back half of the fuselage falls to the ground leaving the remains of the Panic to entertain the crowd. These guys are crazy!

As you can see, the Panic is probably the most fun you can have in the air!
"Another world first". The Panic is the only model that can land on demand in a full power-on flat spin! You need to see this to believe it!! The Panic Team have always tried to find new ways to mass land when performing at shows and with the flexibility of the Panic and inventiveness of the team, mass landings such as mass inverted landings, (sometimes landing on top of each other), hand catching (cut the engine first!), and the power-on flat spin was invented. In most cases, the engine would still be running after the landing so after a quick check of the controls, take-off and have another go.

The Panic aircraft was designed by a pilot and over the years has evolved with the help of pilots, for pilots, to give them the unique and ultimate flying experience that not many models can give.

For more information about this unique fun packed model and video downloads of the panics antics, please check out our web site; www.jperkinsdistribution.co.uk

Guarantee/Warranty

J. Perkins Distribution Ltd and Model Engines (Aust.) Pty. Ltd. guarantee this product to be free of manufacturing or assembly defects for a period of one year from time of purchase. This does not affect your statutory rights. This warranty is not valid for any damage or subsequent damage arising as a result of a crash, misuse, modification or for damage or consequential damage arising as a result of failure to observe the procedures outlined in this manual. Operation of this model is carried out entirely at the risk of the operator. Please note that, whilst every effort is made to ensure the accuracy of instructions and material included with this product, mistakes can occur and neither J. Perkins Distribution Ltd/Model Engines (Aust.) Pty. Ltd. nor it's distributors will be held liable for any loss or damage arising from the use of this model or for any loss or damage arising from omissions or inaccuracies in the associated instructions or materials included with this product.

We reserve the right to modify the design of this product, contents and manuals without prior notification.
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Specifications

- Wing span: 49 in. (1245 m.m.)
- Fuselage length: 42 in (1067 mm.)
- Total wing area: 976 sq.in. (62.67 sq.dm.)
- Take-off weight: 5.3lbs (2.4 kg.)

Items needed to complete the Panic Aerobatic Biplane

- 5 std size servos
- 1 extension lead (500mm) for rudder servo.
- 1 receiver (minimum 4 channels)
- If using a radio without mixing, you will need a "y" lead' for the ailerons
- Engine size from 40 2-stroke up to 90 4-stroke (recommended 60-size 2-stroke)
- Glue: Cyano & Epoxy
- 2 extension leads (250mm) for aileron servos
- 1 switch harness
- 1 receiver battery (4.8-6.0 v.)
- Fuel Proofer (it is recommended that this is used inside the fuselage around the fuel tank)

Electric Power Version (optional)

Alternatively a brushless electric motor may be used to power your Panic. Anything that will turn a propeller of 11inches or larger at over 10+ thousand rpm will be suitable and a speed controller that handles 60 amps or more.

Please check www.jperkinsdistribution.co.uk for a list of recommended motors, ESC & Batteries to suit your Panic.

Assembly Instruction

This aircraft is intended for people who have some experience building ARF models. If there are any building processes that you do not fully understand when assembling this model, please contact your local model shop for advice.

Some pictures may not match the components in your kit due to improvement in production or hardware and accessory pack improvements.



Figure 1. Kit parts lay out

Parts List

Bag No.	Description	Qty.
1	Upper wing panel	1
2	Lower wing panel with servo holes	1
3	Fuselage	1
	Wood wing dowels	4
	Servo tray for throttle and elevator	1
	Rubber strips for wing seating	1
4	Horizontal tailplane & elevator	1
5	Vertical fin and rudder	1
6	Wing tip struts	2
7	Engine mount (L & R)	2
	M4 x 20 bolt (to fix engine mount on firewall)	4
	M4 blind nuts	4
	M4 x 25 bolt (to fix engine on the mount)	4
	M4 self-lock nut	4
	Washer for M4 screw	4
8	Fuel tank	1
9	Main landing gear	1
10	Main wheels	2
	Wheel collars	4
	Landing gear saddle clamps	4
	Saddle clamp screws (M3 x 8)	8
11	Hard wood elevator push-rod with steel wire and metal clevis	1 set
	Elevator horn	1
	Horn fixing screws (M2 x 12)	2
	M2 nuts	4
12	Rudder pull-pull cable system	1 set
	Rudder horn	2
	M12 x 12 screws	2
	M2 nuts	2
13	Aileron push-rod with clevis	2 set
	Aileron horn	2
	Horn fixing screws (M2 x 12)	4
	M2 nuts	4
14	Throttle control cable	1
	Aileron ball linkage and ball caps	2
	Tail skid	1

Assembly and Installation

Step 1 Assemble and install the main landing gear and wheels

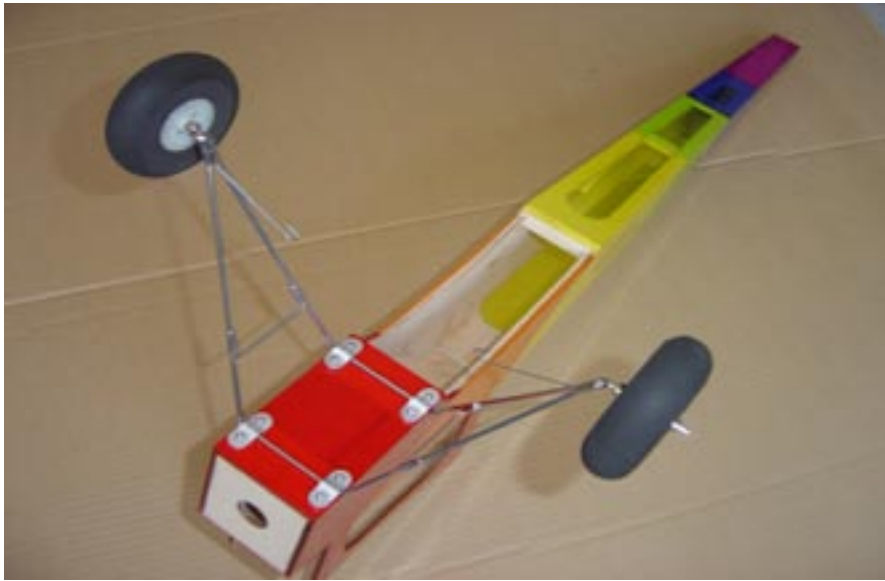


Figure 2. Assemble and install the main landing gear and wheels

- ▼ 1. Locate the undercarriage so the thicker wire is facing the rear of the model.
- ▼ 2. Use the 4 aluminium saddle clamps and 8 M3x8 screws to fix the main landing gear onto the fuselage as shown.
- ▼ 3. Install the main wheel on the wheel axle (L&R) and fix each wheel with the collars supplied.

Step 2 Install the tail skid onto the bottom side of the fuselage tail-end.



Figure 3. Install the tail skid

Step 3 Install rudder horn (L&R) and hinge rudder to the fin

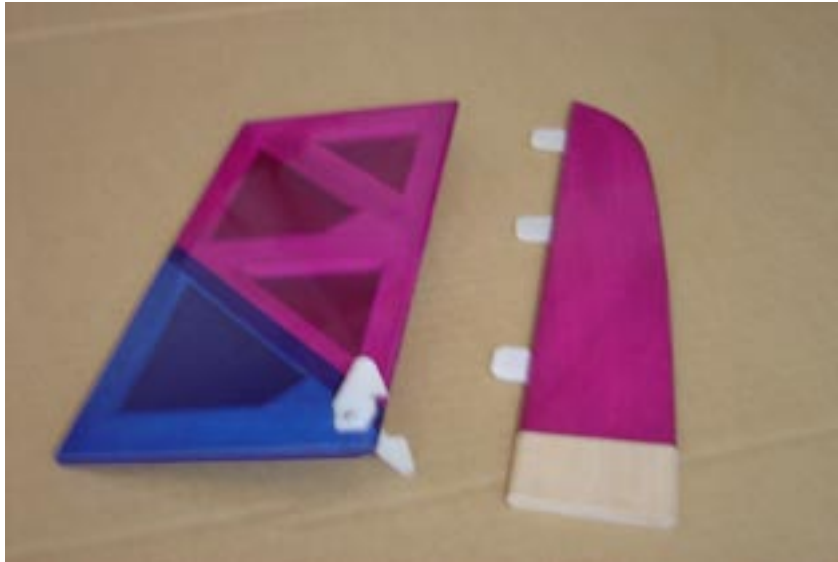


Figure 4. Install rudder horn and then hinge the rudder to the fin

- ▼ 1. Install control horn (L&R) onto the rudder. A small amount of the rudder horn may need to be cut away to allow for more left and right movement.
- ▼ 2. Apply CA to glue hinges into the rudder and the fin. Make sure that the rudder moves freely.

IMPORTANT

To achieve maximum movement (up to 80 degrees) on the rudder it is necessary to fix the rudder horn so the clevis holes are 5mm behind the hinge line.

Step 4 Install the elevator horn and glue the hinges to the stabilizer

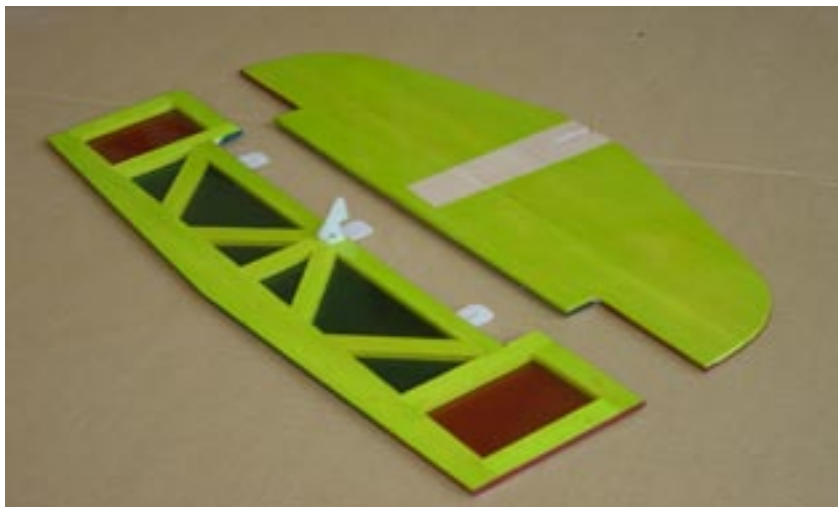


Figure 5. Install elevator horn and hinge it to the stabilizer

- ▼ 1. The elevator horn must be mounted slightly off centre, allowing the push rod to pass one side of the vertical fin post.
- ▼ 2. A small amount of the elevator horn may need to be cut away to allow for more down elevator. Check movement each way and trim if necessary.
- ▼ 3. Fit the elevator push rod using the metal link at the elevator end and the bent wire with a swing keeper at the servo end.

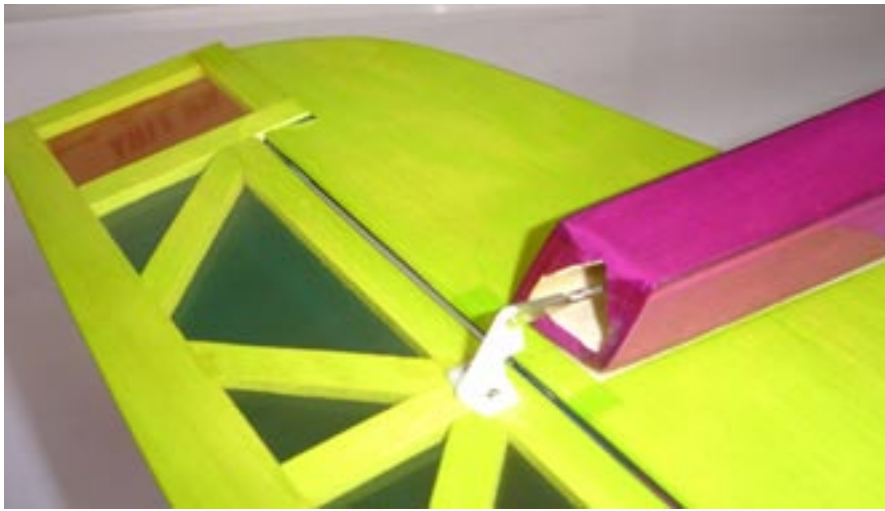


Figure 6. Using the metal link connect the push-rod to the elevator horn

Step 5. Glue the complete tail surfaces in place

IMPORTANT

Make sure the tail plane and rudder both dry fit in position before gluing in place and the rudderpost is 90 degrees to the tail plane, otherwise you will not get the 80 degrees rudder movement needed in both directions.

- ▼ 1. Use epoxy glue to glue the tail plane and fin in place. An adequate amount of glue should be used on the bottom of the fin to secure it to the inside of the fuselage. (Figure 7).
- ▼ 2. Install the rudder servo and connect the rudder pull-pull control system. (Figure 8)

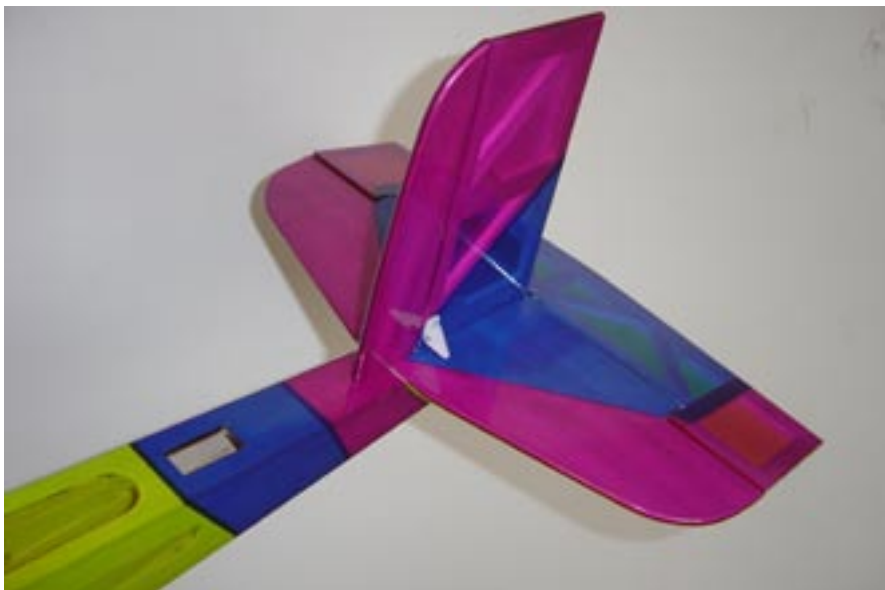


Figure 7. Glue the tail plane and fin in place

IMPORTANT

The rudder servo fits in the cut out in front of the rudder post. The pull-pull wires will go slack when the rudder is not in the neutral position. This is normal. Ensure wires can move freely and do not foul on either the rudderpost or the rudder servo.

ELECTRIC OPTION

If you are building an electric version you may wish to move the rudder servo into the now redundant throttle servo location and use a longer pull-pull system. This will help the C/G.



Figure 8. The rudder pull-pull control system

- ▼ 1. Rudder servo installation
- ▼ 2. Maximum rudder movement recommended for advanced pilots

Step 6 Install engine and fuel tank

- ▼ 1. You can use either a pair of L&R engine mounts or a solid round engine mount as shown in Figure 9. Firstly fix your engine onto the mount with 4 M4x25 screws and M4 self-lock nut.



Figure 9. Engine installation

- ▼ 2. Place the mount along with the engine on the firewall and rotate around until the silencer runs underneath the fuselage and as close to the centre as possible.
- ▼ 3. Mark the position of the 4 fixing holes on the firewall
- ▼ 4. Remove the engine mount. Drill 4 holes in the firewall for the 4 M4x20 bolts and insert them through the firewall.
- ▼ 5. Fit the 4 blind nuts behind the firewall and tighten to secure the engine mount in place.
- ▼ 6. Fit the fuel tank in place behind the firewall. (See Figure 10) make sure the tank is secure and cannot move.

Step 7 Installation of radio

- ▼ 1. Glue the factory ready-made servo tray in position.
- ▼ 2. Fit the throttle and elevator servo as shown.
- ▼ 3. Connect one end of the throttle control cable to the engine throttle arm, the other end to the throttle servo arm. (See Figure 10.)
- ▼ 4. Install the battery.
- ▼ 5. Install the receiver.

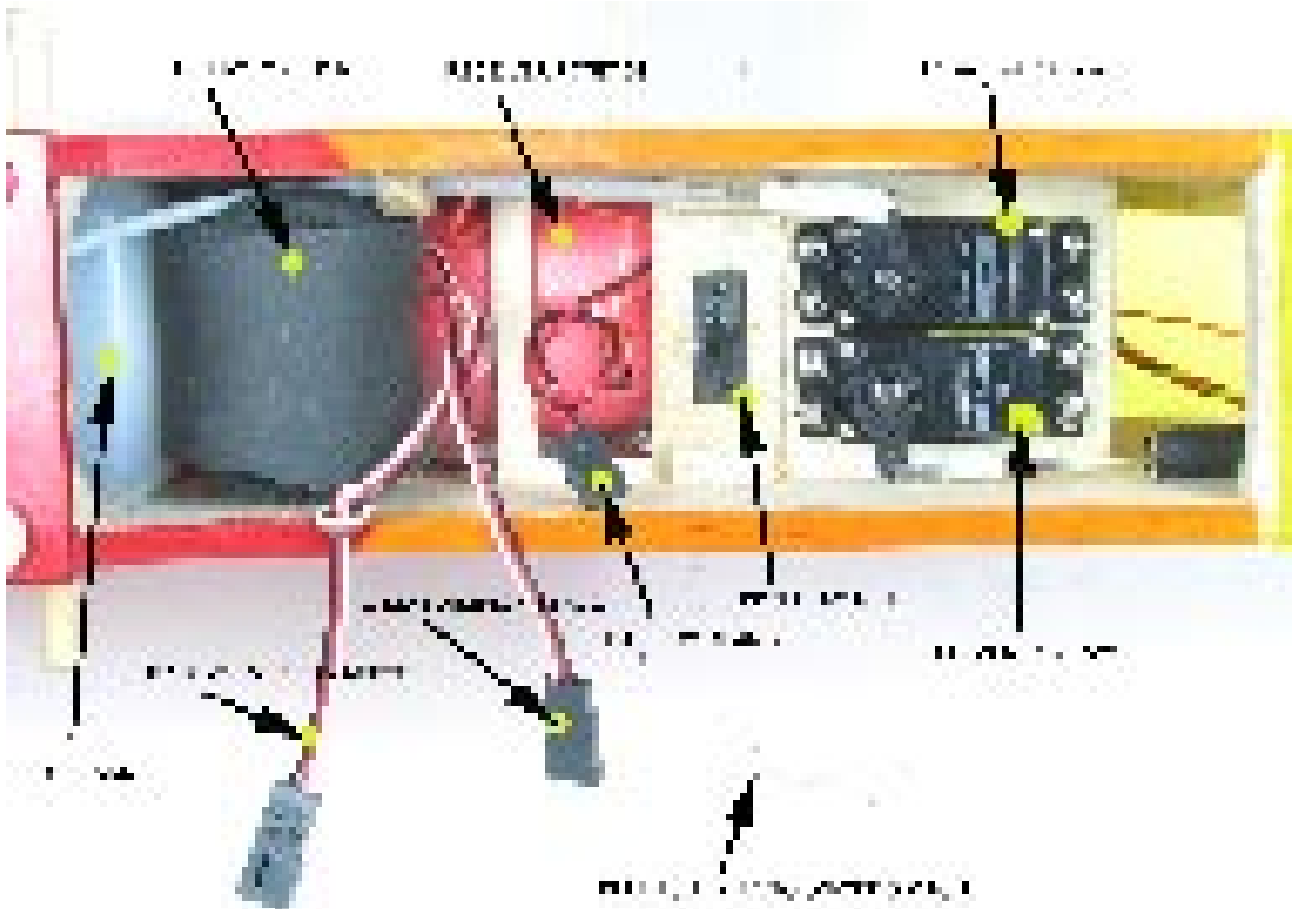


Figure 10. Radio installation

REMARKS

The battery charging lead can be mounted on the outside of the fuselage using any number of readily available mounts. This will assist charging and battery monitoring without the need to remove the wing.

The On/Off switch can be mounted on the side of the fuselage or as shown using some pull/pull wire running through each side of the fuselage.

The battery position may need to be moved to obtain the correct C/G. This can depend on which motor is used or the weight of RX battery pack being used.

Step 8 Aileron assembly and installation

- ▼ 1. Use epoxy to glue the ball cups (aileron top and bottom connecting points) in the trailing edge of the ailerons. Note that the ball cup holes should be facing upwards on the lower aileron (i.e. the red side of lower ailerons) and downwards on the upper wing aileron (i.e. the green side of the upper aileron).



Figure 11. Glue ball cups in the holes on the ailerons

- ▼ 2. Glue the aileron hinges using a thin Cyano and fit control horns to the underside of the lower wing as shown.
- ▼ 3. Fit the aileron servos on the underside of the lower wing panel. When installing the wing servos, extension leads may be needed.



Figure 12. Install aileron servos and connect push-rods

Step 9 Mount and fix the upper and lower wing panels in place

- ▼ 1. Glue hard wood dowels into the fuselage sides then stick the black rubber strips onto the wing saddle. (Figure 13)
- ▼ 2. Use rubber bands to fix the upper and lower wing panels in place. Depending on the rubber bands used, you will need at least 4 bands per wing.



Figure 13. Glue wood dowels and stick rubber strips

- ▼ 3. Use the wing tip struts to connect the upper and lower wing panels. (Figure 14)

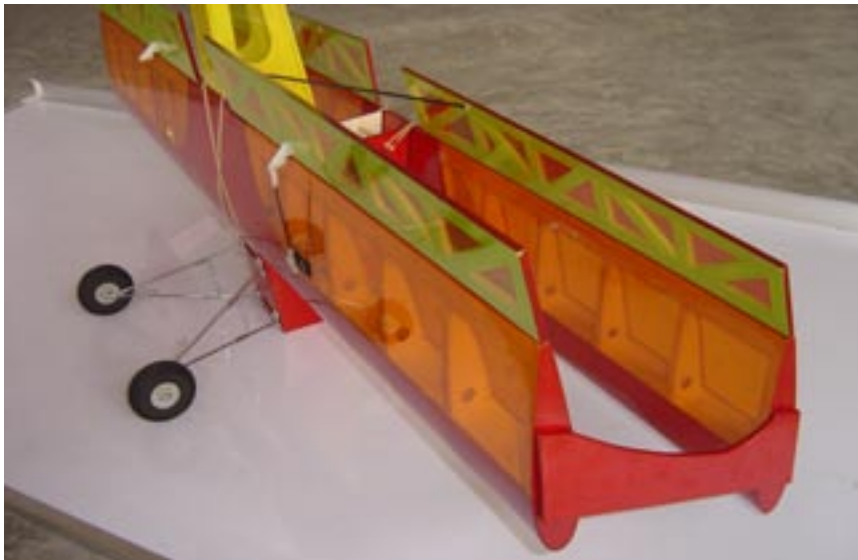


Figure 14. Fix the upper and lower wing panels in place

Step 10 Setting up the aileron upper and lower joiner rods

- ▼ 1. Check that the ailerons are level and in line on both the bottom and top wing.
- ▼ 2. Insert the brass balls into the ball cups on each aileron.
- ▼ 3. Measures the distance from the end of the tread at the ball end to the same point on the opposite aileron then trim the carbon tube to size.
- ▼ 4. Using epoxy, glue the carbon tubes in place and mark left and right as the length from left and right may vary.

This system has been used for many years and given excellent service, however, there are many other ways you can join top and bottom ailerons together so please feel free to use your preferred method.

Step 11 Check the C/G (Centre of Gravity) location and the control throws

- ▼ 1. The C/G location is measured on the top wing at 100mm (4") back from the leading edge.
- ▼ 2. In order to obtain the correct C/G, move the RX battery inside the fuselage until you are happy then secure in place.

Suggested Control Throws

Experienced pilots

Aileron. 25mm (1") each way.

Elevator. 40mm (1" 5/8) each way.

Rudder. Up to 80 degrees each way

Not quite so experienced pilots

Aileron. 15mm (1/2") each way.

Elevator. 20mm (3/4") each way.

Rudder. Up to 50mm (2") each way

Optional Anti-Vibration Engine Mount System (TEAM ISSUE)

This engine mount system is used by the Panic Team and helps stop the fuel from foaming in the tank and vibration through the airframe. It can also help reduce the overall noise of the aircraft!

See our web site for more details www.jperkinsdistribution.co.uk



Important - First Flight

It is recommended that you use rate switches set to 50% (half the suggested travel throw movements) on the first flight. Once you are happy with the flying characteristics then experiment with rates off (100%) .

Fine tune to your desired settings.

If you have a computer radio with exponential you can program the aileron and elevator at -20 and rudder at -50. This will give you a smoother feel to the controls.

Recommendations

- Here in the U.K. we recommend that all pilots join and are covered under a recognized governing body such as the BMFA "British Model Flying Association" who help promote our sport and safe flying. For more information check out: www.bmfa.org

In other countries, contact your local model shop who will be happy to give you contact details of other flying associations and local clubs.

- This aircraft is a high powered aerobatic airplane and we would strongly recommend that this model is flown in a safe manner at all times.
- That this model is flown at a recognized, affiliated model-flying club under the rules laid out by the club.
- That inexperienced pilots are accompanied by experienced pilots in accordance with club rules.
- That this model is checked before and after each flight for any signs of fatigue or damage.