



Ryan STA Sport Scale Model Aircraft Assembly and Instruction Manual



Warning:

This radio controlled model is not a toy. It requires skill to fly and is not recommended for the novice pilot. It should not be operated by children without the supervision of a suitably experienced adult. Max-Thrust reserves the right to modify the specification of this model at any time.

Safety Precautions

- 1) Do not attempt to repair or modify this aircraft with non-factory parts.
- 2) Never fly this model over roads, railway lines, near to power lines, airports, buildings or any people.
- 3) Do not fly this model in excessively strong winds, in the rain, or thunderstorms.
- 4) Do not fly or launch the model towards people.
- 5) Keep hands and face away from rotating propeller at all times.
- 6) We strongly recommend that all fixings and fasteners used in the construction of this model are checked regularly for integrity. Failure to do so could cause a crash or personal injury.
- 7) We only recommend the use of 2.4GHz radio equipment with this model.

Disclaimer

- 1) This radio controlled model is not a toy. Used incorrectly it is capable of inflicting serious injury to persons or damage to property. The owner/pilot assumes all responsibility for any damage to persons or property resulting from the use of this product.
- 2) The manufacturer and distributor decline all responsibility for any liability arising from use of this product.
- 3) It is very important that you follow all instructions for assembling and setting up of this model. Failure to do so could result in a loss of control and possibly a crash.

Overview

Thank-you for purchasing this MAX-THRUST Ryan STA radio controlled model aircraft. The Ryan STA offers a stunning combination of terrific looks and sensational flight performance. Manufactured from “EPOFLEXY” it is extremely robust, however, in the event of a “less than perfect” arrival, we supply a range of spares to get you flying again in the shortest time. It is capable of a wide range of aerobatic manoeuvres to thrill the experienced pilot, but with reduced control throws it provides a solid and predictable flight performance, perfect for the sports flyer. We are certain you will enjoy your new model, please take the time to read this manual thoroughly and understand its contents completely prior to commencing assembly.

Key Features

Powerful Brushless Motor
30A Brushless ESC
Scale Undercarriage
Highly Detailed Wire Rigging
Factory Applied Decals
Pre-Installed servos
“Live” Control Surface Hinging (Optional)
Durable “EPOFLEXY” Construction
Steerable Tail Wheel

Specification

Wingspan: 1000mm
Length: 740mm
Flying Weight: 670g
Motor: 3128 Out-Runner
ESC: 30A
Servos: 4 x 9g
Battery: 1350mAh 3S 11.1V Li-Po (Not Included)

Parts List

Fuselage
Main Wing
Horizontal Stabiliser
Fin & Rudder
Undercarriage
Hardware Pack

Propeller
Spinner
Rigging
Spring Pack
Tail Wheel
Live Hinges



Tools required to complete

1. Screwdrivers
2. Pliers
3. Modelling Knife
4. Scissors
5. Measure or Ruler

Additional items required to complete

1350mAh 3S 11.1V Li-Po battery (POWER-TECH 1350mAh 33C 3S 11.1V recommended
Part No. PT-B-3313503S)
Charger (Power-Tech C6, B606 or X-Drive 6 recommended)
2.4GHz Transmitter
2.4GHz Receiver
Self-Adhesive Tape
Thread Locking Compound

Recommended Item:
Servo Tester (Power-Tech, Part No. PT-ACC-ST)



Please Note:

“EPOFLEXY” is a very tough and durable material perfect for the manufacture of model aircraft. When using screwed fixings with “EPOFLEXY” components it is important to tighten the screws sufficiently to provide a firm fixing.

Excess tightening could result in the foam material becoming compressed, possibly damaging or distorting the part. Take care to ensure that all screws are tightened sufficiently to provide a firm fixing, but do-not over tighten. We recommend that all fixings are checked regularly for security and safety purposes.

1. Hinge check

Check that all control surface hinges are firmly secured. If required they can be cut and the 'live-hinges' supplied can be fitted.

2. Horizontal Tail Plane

Fix the elevator control horn in the moulded recess as shown using two M2 x 15mm screws, (**image 1**). Make certain that the plastic horn is fitted to the correct side, with the plastic reinforcement plate fixed in the moulded recess on the top side of the elevator.



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Using a light grade abrasive paper, lightly abrade the painted mating surfaces where the horizontal tail plane joins the fuselage. This provides a good key for the adhesive. (**image 2**). Glue the horizontal tail plane in position using the supplied adhesive. Secure in position using the M2 x 40mm screws, (**image 3**). Use the adhesive sparingly towards the edges of the parts to be glued and immediately wipe any excess from the joint.



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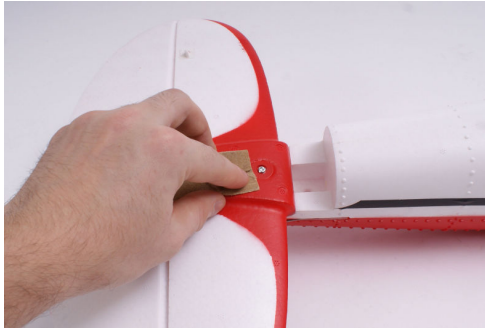


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3. Vertical Fin & Rudder

Fix the plastic rudder control horn in the moulded recess using two M1 x 20mm screws. Make certain that the plastic horn is fitted to the correct side, with the reinforcement plate fixed in position on the opposite side of the rudder. Using a light grade abrasive paper, lightly abrade the painted lower surface of the rudder and using the supplied epoxy. Fit the tail wheel to the rudder (**image 4**). Lightly abrade the top of the mating surfaces of the rudder and horizontal tail plane to provide a good key for the adhesive (**image 5**).

Building Tip: Fit the fin and rudder with a 3mm offset to the right for the perfect trim position.

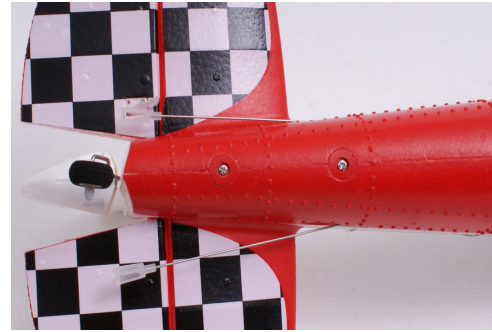


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Apply adhesive sparingly to the mating surface of the horizontal tail plane and push the fin assembly into position. Remove any excess adhesive immediately. Secure in place using an M2 x 40mm screw at the front mounting point and an M2 x 30mm screw at the rear mounting point via the fixing holes positioned underneath the fuselage, (**image 7**)



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4. Fuselage Control Rods

Centre the elevator and rudder servos. Connect the elevator and rudder plastic links to their control horns. It is recommended to fit the elevator pushrod to the inner most hole on the elevator servo horn, Make certain that the control surfaces are in their neutral positions and that the plastic links are “snapped” closed, (**image 8**). Any minor adjustments to the neutral positions of the control surfaces can be made by rotating the plastic link on the threaded portion of the control rod.

Building Tip: The control horns should be fitted to the outer most hole in the clevises.

5. Wing Assembly

First fix the undercarriage, these are handed. The central rigging mounts should be on the inner edge, leaving the rearward rigging mounts on the outer edges (**image 9**). The undercarriage should be fixed in position using the screws supplied in the pack.



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Once the undercarriage is in place, the main wing can be fitted. The wing fits in leading edge first, with the tongue on the wing slotting into the fuselage. Make sure the aileron servo connections are slotted through the hole in the underside of the fuselage, otherwise the wing will not seat properly. The trailing edge of the wing is fixed in position using the two M2 x 30mm screws (**image 10**).

Now the wing is fitted, the cabane struts can be fitted from the topside of the wing to the cockpit using the screw pack supplied with the them **(image 11)**.



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Once the main build has been completed, you may wish to fit the wire rigging. The rigging is purely cosmetic and won't alter the flight characteristics of the model, but does enhance the scale appearance.



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There are two different springs used in the rigging system, springs with hooks at both ends, and springs with one hook and a closed loop. The closed loop springs fit to the underside of the wing, and are screwed down using the screws provided in the spring pack. **(image 12)**

The springs used on the outside of the undercarriage legs are hooked at both ends, once these are in place the wire can be fitted. The main wing uses 1x 210mm and 1x 190mm wire on each outer edge. The centre of the fuselage and undercarriage use 4x closed loop springs, all screwed to the fuselage, 4x open hook springs hooked to the undercarriage itself and 4x 55mm rig wires. **(image 13)**



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The topside of the wing uses open hook springs on all fittings and the screws provided in the spring pack. Each side of the wing uses 1x 250mm wire and 1x 270mm wire **(image 14)**. The rudder uses 2x open hook springs on each side, with 2x 105mm rig wires.

Building Tip: Once the rigging wires are fitted, the open ends of the springs should be clamped shut using long nose pliers to ensure the rigging remains firmly fixed in place.

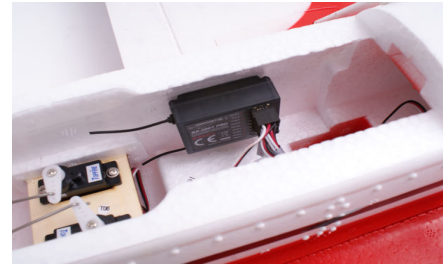
6. Receiver installation.

Note: We only recommend the use of 2.4GHz radio equipment with this model and make the following recommendations for receiver location and mounting. These must be followed in conjunction with the instructions supplied by your receiver manufacturer.

Connect the aileron (marked CH1), the rudder (marked CH4) and elevator (marked CH2) to the corresponding outputs on your receiver. Locate the lead from the ESC, the lead marked 3 is the throttle control and should be connected to the corresponding output on your receiver.

Please double check that all plugs are connected to the correct outputs on your receiver and that all leads are routed in a neat and tidy manner.

Mount the receiver inside the fuselage, using your choice of double sided self-adhesive or “Velcro” tape. The receiver should be fixed inside the fuselage securely where it will not foul any moving parts (**image 15**).



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7. Final Assembly

Test all servo connections, and make sure that all control surfaces are operating correctly. Once you are happy that everything is working, it is time to fit the propeller.



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Fit the backplate of the spinner onto the motor shaft, the backplate is keyed to match the motor bell, once this is positioned correctly, the two bladed propeller can be fitted onto the shaft and secured using the lock nut provided. When the propeller is secured, the spinner should be fitted using the two small fixing screws provided. Although not specifically required, some pilots may wish to balance the propeller for optimum performance (**image 16**).

8. Battery Installation

Your flight battery, (not included) needs to be firmly secured in the battery compartment to prevent it from moving in flight. The flight battery needs to be fitted as far forward as possible to achieve the correct Centre of Gravity. Many pilots have their own favoured method of securing the battery, so we have left this up to you.

9. Final Checks

Double check that all fixings and fasteners used on the model are secure, including snap links, servos screws, wheel retaining screws etc. Check that all control surfaces are moving in the correct direction in relation to control inputs from your transmitter.

We recommend the following control throws for initial flights, however these can be adjusted to suit your personal preference after flight testing has been completed.

Elevator: 5mm deflection each way.
Ailerons: 5mm deflection each way.
Rudder: 10mm deflection each way.

The centre of gravity of your Ryan STA is **45mm** back from the furthest forward point of the wing. Using the recommended 1350mAh flight battery, this centre of gravity should be easily achieved. If you choose to use a lighter battery it will be necessary to add additional ballast to the model in order to achieve the correct centre of gravity. (**image 17**)



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