

MAX



TRAINER
Balsa *Pro-Built* Series



Instruction Manual

MAX-THRUST

Statement

Warning:

This radio controlled model is not a toy. It requires skill to fly and is not recommended for use by beginners without assistance from an experienced model 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, do not fly this model in excessively strong winds, in the rain, or thunderstorms.
3. Do not fly or launch the model towards people.
4. Keep hands and face away from rotating propeller at all times.
5. 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, injury to yourself or others around you.
6. 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



Items Required

Some pictures throughout this manual may be of the prototype model and some details may now have changed. If you have any questions please contact us sales@jperkins.com.

Tools:

Philips Screwdriver Medium
Philips Screwdriver Small
Modelling Knife and Spare Blades
3mm Allen Key
2mm Allen Key

Zap 5 Minute Epoxy Glue
Zap Slow Cyanoacrylate Glue
(Cyno)
Foam Padding



Recommended Equipment:

1 x Futaba T6K Transmitter and Receiver
4/5 x Futaba U300 or Hitec HS425BB Servos
2 x 200mm Servo Extension Leads
1 x 200mm Y-Lead



IC Version:

1 x SC 32-40 IC Engine
1 x Suitable Propeller
1 x Radiant Receiver Battery
1m Fuel Tube
1 x Fuel Filter



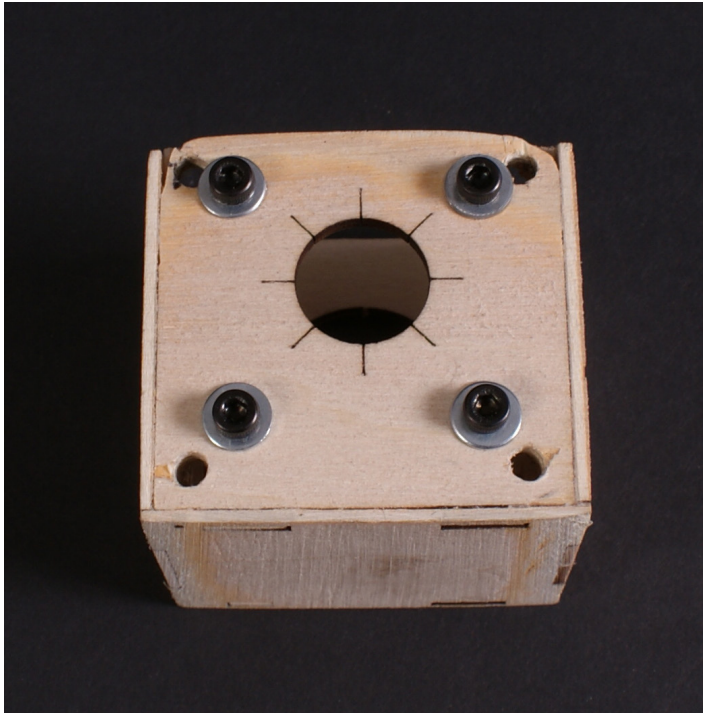
Electric Version

1 x Radiant 3536 1050kv Brushless Motor
1 x Radiant ESC 60A
1 x Suitable Propeller and Propeller Adapter
1 x Radiant LiPo 11.1v 3s 2200mAh



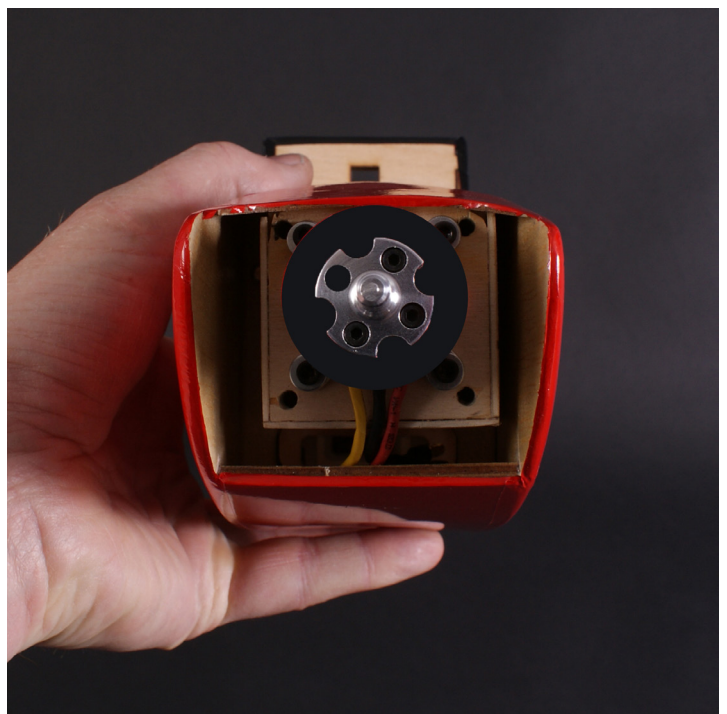
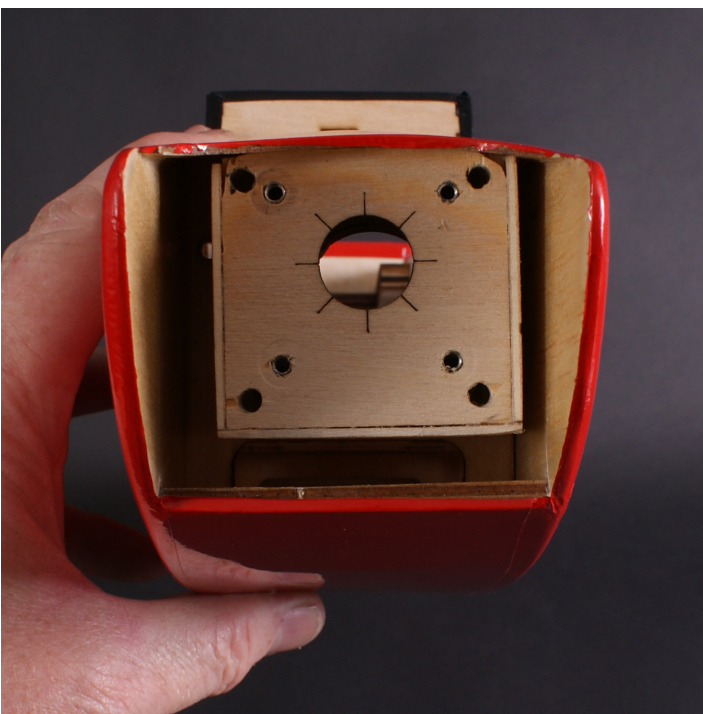
Building Your Max-Trainer

1. Take the plywood electric motor mount and drill 4 hole to suit your electric motor after marking and aligning the motor on the mount. Using 4 x 3mm cap head bolts & washers fit the captive nuts to the back side of the plywood mount by tighten them together. Mix a little epoxy and apply this to the captive nuts to help hold them in place.



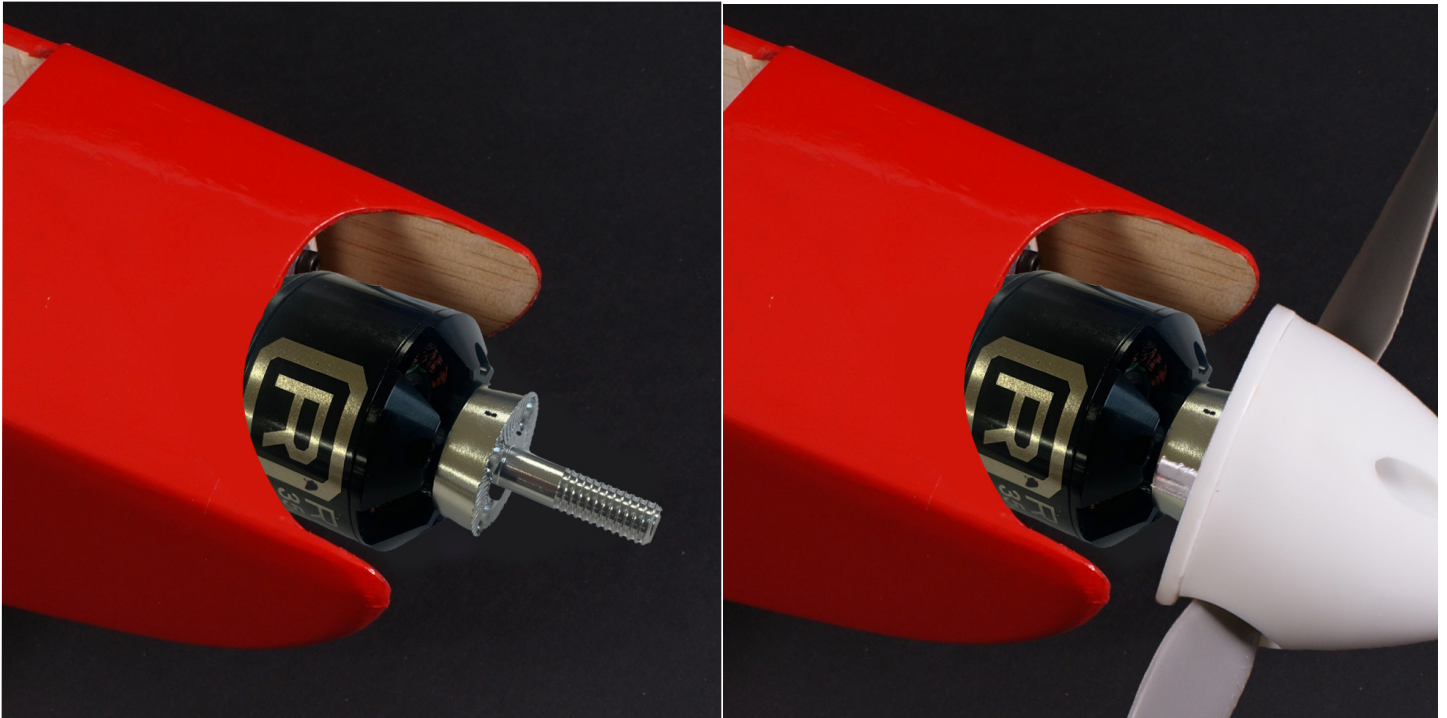
2. Next you need to drill 4 access holes so that you fit the motor mount to the front of the model. These need to be just big enough to get your 4mm allen key through.

3. Now you can secure the assembly to the front bulkhead of the model using the supplied m4x14mm cap head bolts and washers. Once mounted you can then fit your motor. The wires should pass down under the motor and in to the fuselage and connect to your speed controller.



Building Your Max-Trainer

5. With you motor in place you can now fit your propeller and spinner making sure everything is free to rotate and does not foul on any part of the aircraft.



6. Fit the battery straps in to the battery tray. Cut a slot to fit the speed-controller under the battery tray.
7. If you want additional cooling to the battery you can remove the covering film under the battery tray. We did not need to do this on our prototype models.

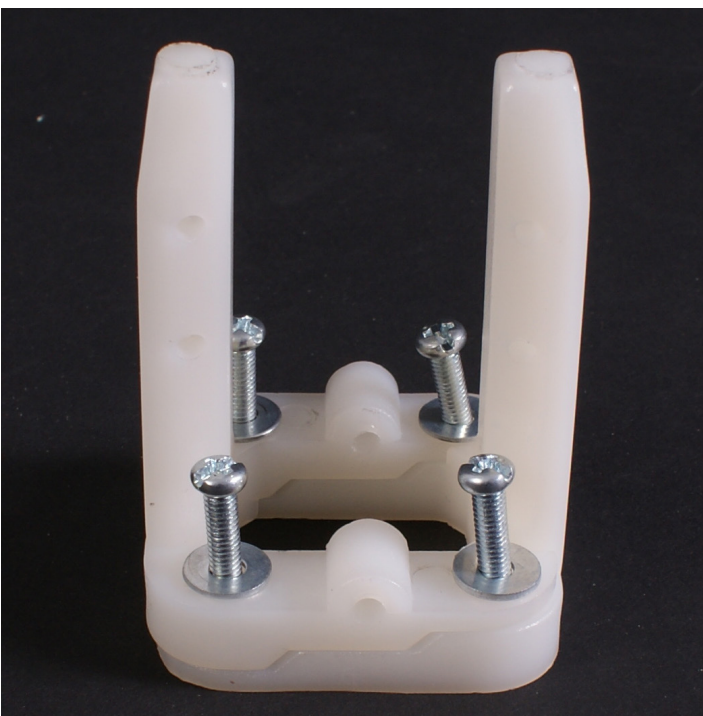


Building Your Max-Trainer

1. For the IC version you will first have to remove the top pre lasered wooden panel to give access to the motor bay. Peel the covering back and using a sharp modelling knife or Drexel cut away the top section of wood following the pre lasered line. Once you have removed this section of wood you can re stick down the film using a covering iron or travel iron. At this stage you can also cover all the exposed edges of wood in the engine bay with 5 minute epoxy to help fuel proof the area. Also remove the film covering from the oil drain hole under where the motor fits.



2. Loosely install the motor mount using the M4 x 25mm Philips head bolts and washer. The mount is adjustable in width to suit various engines. Sit your engine on the mount and mount happy with the width tighten up the bulk head bolts.



Building Your Max-Trainer

3. You now need to fit your spinner and prop to the engine. Make sure it is fitted correctly and is tight, it is advisable to make sure the prop is balanced before you fit it.



4. Assemble the fuel tank. Cut the fuel tube to 60-65mm and fit the brass clunk and then gently bend the vent and pressure tubes as shown in the photo. Push the assemble clunk on to the feed pipe. Fit the bung assembly in to the tank making sure the vent/pressure pipes are pointing up and the clunk is free to move around in side the tank and is not being restricted. Tighten the screw and fit 3 lengths of pipe approximately 150mm long to the outlets.

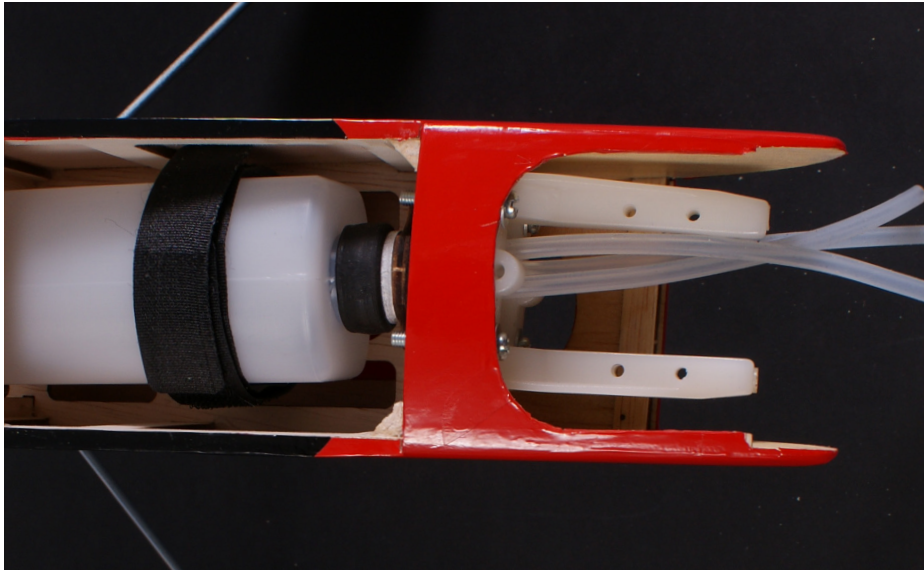


5. Lift the cabin from behind the mount to reveal the fuel tank bay. You can cut a slot into to the fuel tank bay for your receiver battery to go under the fuel tank. Push the battery all the way forward and pack around the battery with foam to hold it in place.

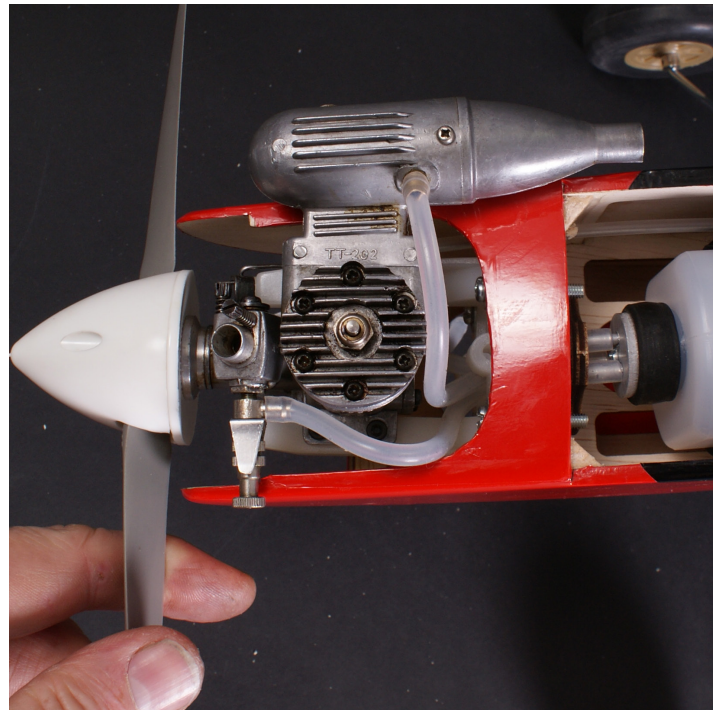


Building Your Max-Trainer

6. Install the fuel tank in to the fuselage and thread the pipes through to the engine bay. Secure the fuel tank in to the bay using the Velcro strap.

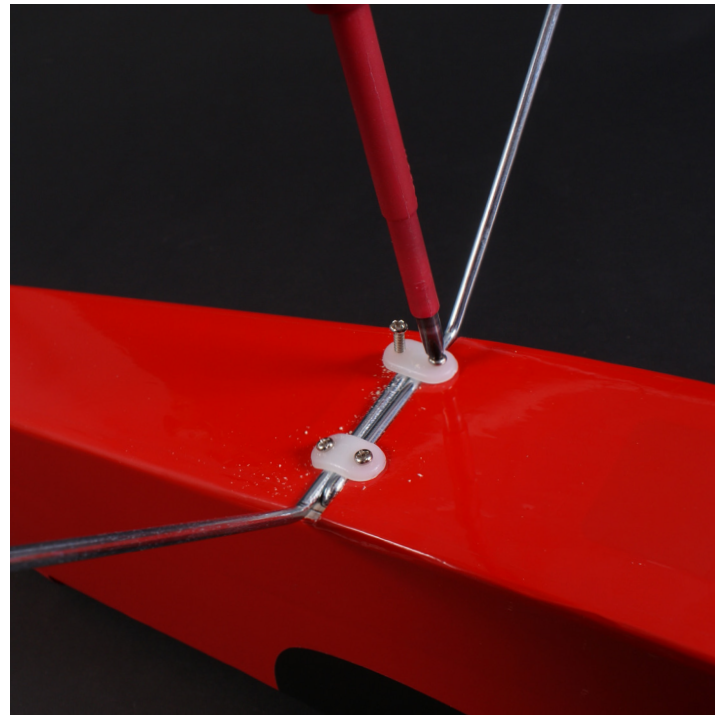


7. Using the M3 x 25mm Cap head bolts, washers and nylock nuts fit your engine to the mount. The engine will look offset and this is intentional to help make the model fly straight and level. Connect the feed line to the carburettor and then one of the vent pipes to the exhaust. The other will be used to fill the tank with fuel, this can be passed through the oil drain hole on the bottom of the fuselage, you will need a method of plugging this line when in use. All three of these tubes can be cut to length to keep everything tidy.



Building Your Max-Trainer

1. Install the landing main legs in to the bottom of the fuselage. Place the plastic saddle clamps in place evenly and pilot drill 4 x 2mm holes for the self tapping screws. Screw M3x10 self tapping screws through the saddle clamps in to the pilot holes and tighten firmly.



2. It is important to make sure the wheel spins freely on the axle so you may need to sand/file the axles until the wheel slides on easily. First install one of the collets followed by a wheel and then the final collet. Tighten the grub screws to hold the wheel in place making sure the wheel will still spin.



Building Your Max-Trainer

1. Fit the control horns to the fin, elevator and ailerons using the M2x12mm self tapping screws and plates.



2. All of the hinges on the rudder, tail plane and ailerons need glueing in to place. Slow or thick CA Glue is best for this as it gives you a little time to apply and then to slide them in to place.



Building Your Max-Trainer

3. When fitting the tail and fin the covering needs to be removed so the 5minute epoxy can set hard wood to wood. Slide the tail plane in to place making sure it is aligned and spaced correctly and mark the position on the film that needs to be removed using a pen on both the top and bottom. Slide the vertical fin in to place and mark the area of film that needs to be removed. Using a sharp knife remove the film approx 1mm inside of the line, this gives a better finish. Be careful not to cut in to the tail or the fin structure as this will weaken the surface. **Do not fit yet.**



Building Your Max-Trainer

4. Test fit the tail and make sure it is straight, remove and apply 5 minute epoxy to the tail slot on the fuselage and then slide the tail plane back in to place. Secure in place so that it is square and even, remove any excess glue and wait until the glue has fully set.

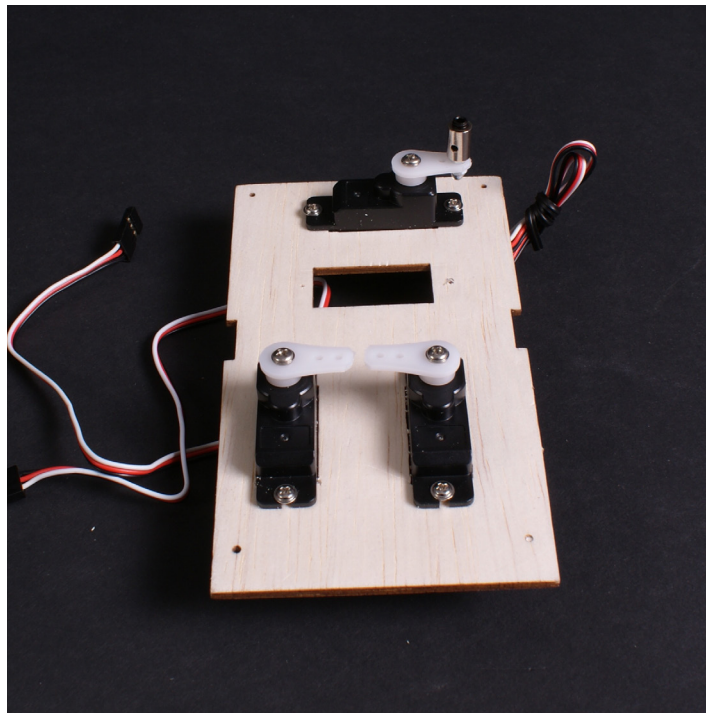


5. Put the tail wheel through the tail wheel bracket and glue with 5 minute epoxy in to the rudder. Once dry offer the fin to the slot in the fuselage and make sure it is square. Remove and apply 5 minute epoxy in to the slot and slide the fin in to place. Secure and wait until fully set before drilling 2 2mm pilot holes in to the fuselage to hold the tail wheel bracket in place. Screw on with 2 M3x10mm self tapping screws.

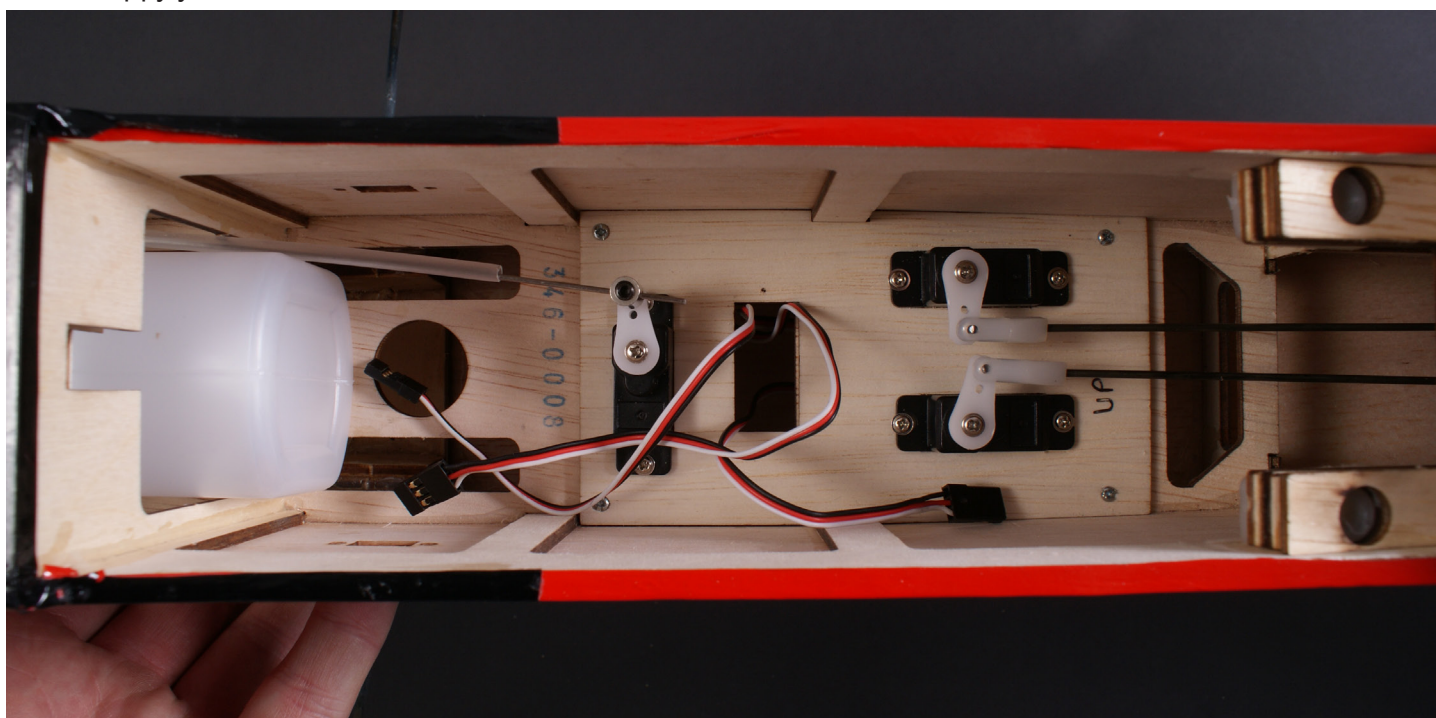


Building Your Max-Trainer

1. Rudder and elevator push-rods. Unscrew the metal quick links and slide the push-rods down the tubes in the fuselage so that they exit to the rear of the fuselage. Reinstall the metal quick links.
2. Install the servos of your choice, prototype used 17g Mighty Mini servos. If building electric version you don't need the throttle servo. Screw the servos in to the mount and then fit this in to the fuselage using the M2x12mm

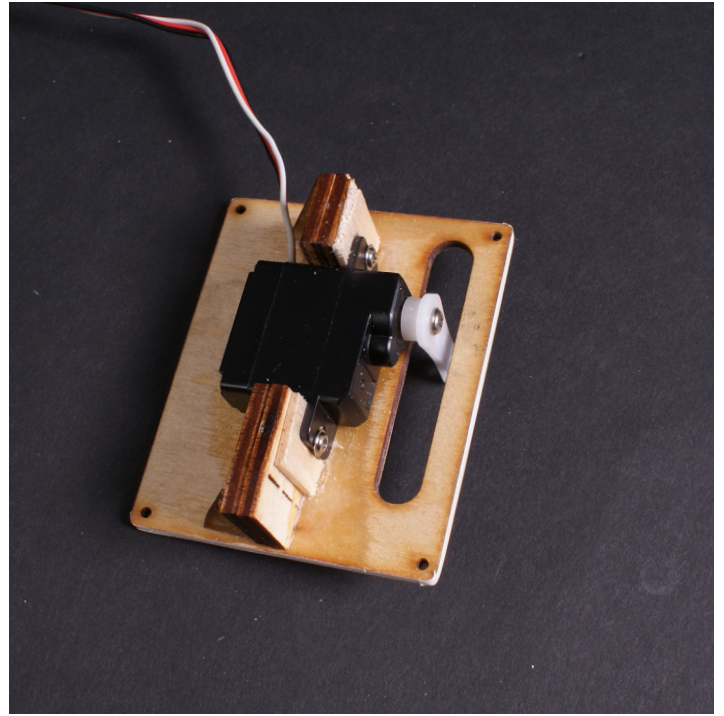


3. Centre all the servos and then connect the elevator and rudder push-rods to the servos and install. Once in position centre the elevator and rudder and then trim the push-rods to length leaving enough rod (8mm) to bend the end 90 degrees to go through the servo horn and secure with swing keeper, if needed you can adjust the quick links to get the control surface level.
4. **IC ONLY** Install the throttle control rod and connect to the carburettor. Trim the remaining rod to length to suit your servo and slide it through the rod stopper screwed to the servo horn. Adjust and tighten when happy you have full throttle control.

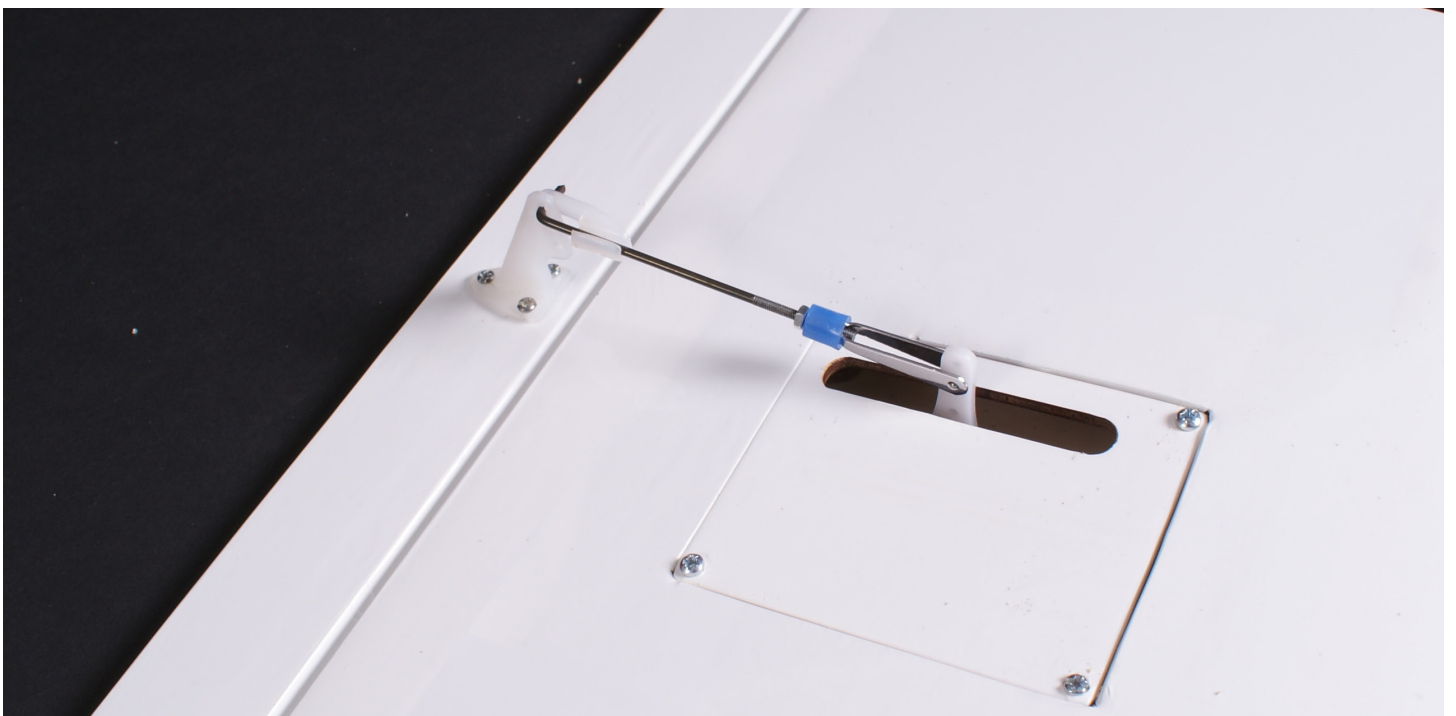


Building Your Max-Trainer

1. Take the servo trays out of the wings and adjust to suit your servos, our prototype used the Century 17g Mighty Mini servos with the 450mm leads. Fit the servos with the screws provided and make sure the servo horn is centred and the output arm lines up with the centre of the slot. Some makes of servos may need a little packing to get the output lined up.



2. Using the string provided pull the servo lead through the wing. You may need to use and servo extension lead depending on your servo.
3. Put the assembly back in to the wing and secure with 4 m2x12mm self tapping screws.
4. Make up the servo push-rod and fit using the swing keepers. Make sure the aileron is level when the servo is centred.
5. Repeat for both wing halves.



Building Your Max-Trainer

5. Join the 2 halves of the wing together using the metal tube spar, no glue is needed and this helps with storage and transport.
6. Secure the assemble wing to the fuselage using the Nylon thumbscrews provided.



Final Setup.

Centre of Gravity.

The C of G is set between 7 - 8cm from the leading edge of the wing. This can be adjusted to suit after initial flights. If you need to add nose weight do this under the motor mount as far forwards as possible

Control throws for first flight.

Aileron	8 mm each way
Elevator	8 mm each way
Rudder	12 mm each way

You can increase these to suit your flying style after initial test flight are done.

Happy Flying and Landings.

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