H·KING

14

BAT 1

AN UNBELIEVABLE SPEED MACHINE

Instruction Manual

Specification:

- Length: 730mm
- Width: 500mm
- Height: 1000mm
- Sail Area: 0.15m²
- Weight: 692g (w/o battery & receiver)

Thank you for purchasing your HobbyKing Bat-1 Model Land Yacht. We hope you enjoy assembling and sailing it as we did creating it. Designed by Robert Weber, an experienced full size land yacht pilot and passionate modeler.

RC model land sailing is one of the few remaining hobbies which can be enjoyed by anybody age 8~80 without having a degree in science. The Bat-1 land yacht is a simple, low parts count, high performance model. Much thought and attention went into creating this simple model, and maximizing the the fun factor. Less time spent on setup, more time enjoying this model in the elements.

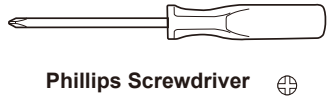
HobbyKing models follow an extensive design, development, and testing process to bring reliable and user friendly products to the masses. They undergo extensive quality control checks at the factory.

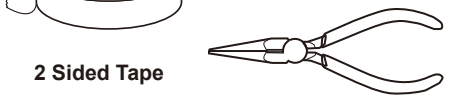
Please read this instruction manual thoroughly before assembling and sailing this model. It is not a toy and if mistreated has the potential to inflict bodily injury or damage property. It is your responsibility to complete final assembly, setup, and routine pre-sail checks. Always make sure to check for any loose screws or parts, and that the frame is free from damage that may cause failure in use. HobbyKing is not responsible for any injury or property damage inflicted due to negligence in assembly or maintenance.

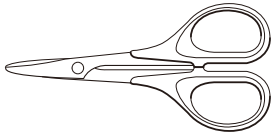
Warnings

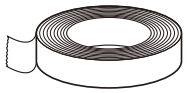
- Select your sailing area carefully. Always choose an open space that is unobstructed from trees, buildings, and away from crowded areas. Avoid sailing in areas with roads, or close proximity to traffic.
- Do not sail this model in poor weather including high winds, low visibility, rain, or thunderstorms.
- Never attempt to catch this model whilst in motion. Even a slow moving model can cause harm to yourself or others.
- This model is recommended for children no younger than 14 years old. All children should always be supervised by a capable and responsible adult when operating this model.
- Always unplug your model battery when not in use. Do not leave the battery installed in the model when not in use.
- Before sailing always turn ON your transmitter first, then connect your on board battery to the model.
- Always exercise caution when charging batteries. Follow the recommended charging instructions from your battery manufacturer, and use a charger with charging parameters that match your battery type.

Tools Required

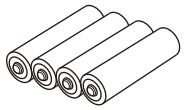


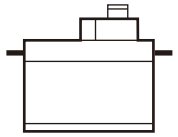


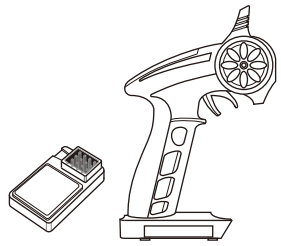




Required Items

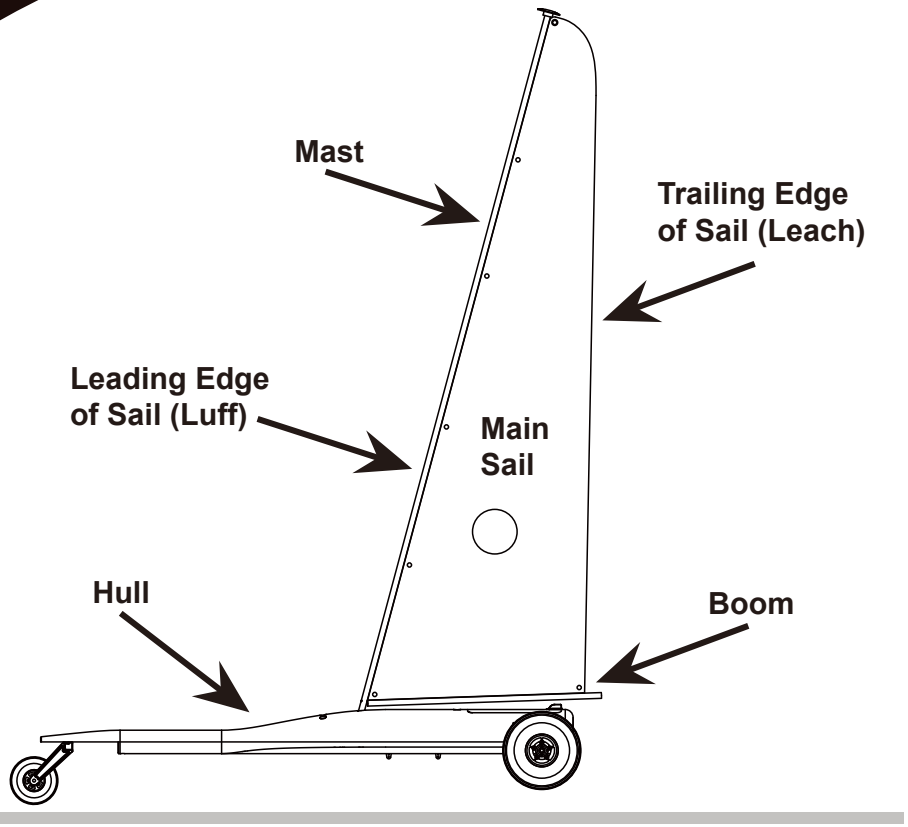


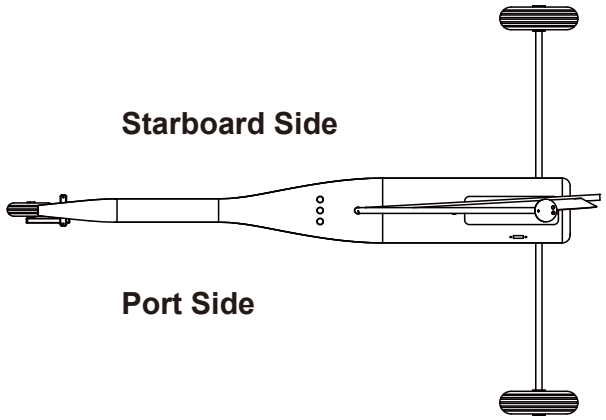




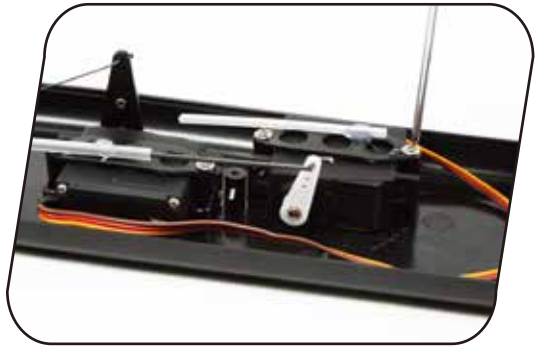
Contents

1. Hull
2. Rear wheels * 2
3. Rear axle with nuts
4. Two piece mast
5. Sail with attached boom
6. Hardware Pack



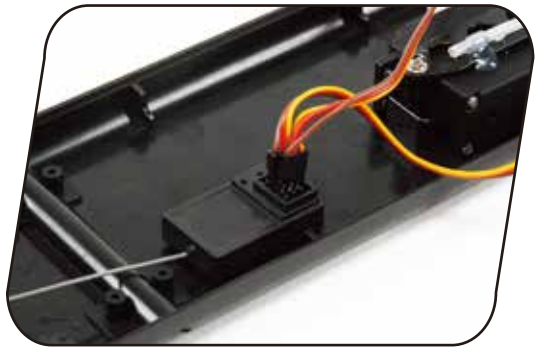


Assembly



1. Attach steering control rod to steering servo and mount in aft mount position. Sail servo should be in the front position. Both servos should have their output shaft towards the front of the Bat-1

2. Attach servo arm extension with the main sheet line to the sail control servo.



3. Mount receiver offset to the right side of the body behind the steering servo with double sided foam tape.

A land yacht is not a sail boat on wheels. There is never a situation where a land yacht will travel straight down wind (Running before the wind). Running a land yacht straight down wind is used to slow the yacht down. Therefore a 90 degree boom angle to the hull is not necessary. In most cases you will not sheet out more than the center position of the trigger on your transmitter. Since a land yacht travels several times the actual wind velocity the apparent wind is always in an angle coming from the front of the yacht.

In other words the land yacht runs off of the lift of an airfoil (the sail) instead of the force (push) of the wind. This also means that you can save a model from capsizing (tipping over) by quickly turning down wind, yes DOWN WIND, while sheeting out (releasing the trigger) at the same time.

Sailing the Bat-1

Find an open area, like parking lot or school yard. During the cold season, beach parking lots are usually wide open with a steady onshore breeze. Look for obstructions, like buildings, trees or cars, which could interfere with a steady flow of wind Often it feels like obstructions on the ground have magnets in it which seem to pull on models. Parking lot bumpers and cement pillars are not very forgiving The bigger and flatter the area the better. 100ft x 100ft (30m x 30m) is a good start Tennis courts without the net are a good example. Try not to start out at wind velocities over 8-10 MPH A good way to practice is to put two markers about 60-80 feet apart on a reach/reach course. (90 degrees to wind direction) Light weight soccer cones are a good example for markers. If you hit them they get pushed away instead of damaging your model. Position yourself to one cone. Race the model from cone to cone, making sure the upwind turn is close to you, this way you don't have to walk too far when you stall the model Straight into the wind Always take the turns wide to keep up the boat speed Also practice to run the model in straight lines and use the main sheet control as little as possible. First time pilots tend to make erratic maneuvers.....Not good for winning races

Since a Land Yacht is not a sail boat on wheels, as mentioned before, you therefore will not get the model going facing straight down wind in most cases. Once you feel comfortable with the controls set up triangle, or upwind /downwind courses Good practice is achieved running a figure 8 course, as long as there is only one boat on the course.

Don't forget to turn on the receiver, before releasing the model, you may not be able to catch it. It is easy to learn the basics about Land Sailing and after a short time you think you did it all your life. The nice part is, we walk on the surface we sail on.

For the advanced land sailor, please read on in the "Run, don't pinch" section.

Happy Land Sailing

Operating Notes from the Designer

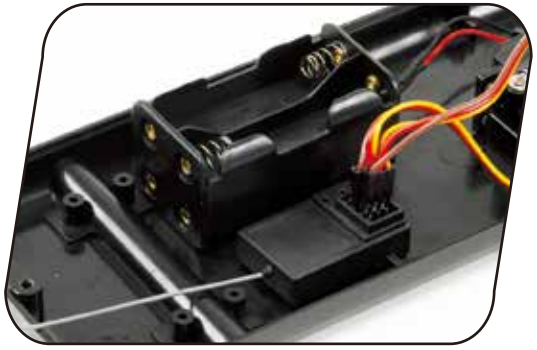
You are approaching the up wind marker and getting ready to make a turn leaving the marker at your port (left) side. Remember you are not pinching so the marker is way off to your left. Since you are up high enough you gradually fall off to the left and lightly(!) ease off on your main sheet to allow a little pocket in your sail/mast

At one point the actual wind will be at a 90 Degree angle to your boat which most likely will cause the starboard rear wheel to lift off the ground. Now don't panic! Depending on the wind velocity this will be a gradual hike and hang on to your main sheet. As you fall off further the centrifugal force of the turn will force the windward wheel back down causing a sling-shot effect accelerating the boat to give you enough apparent wind to continue on a downwind tack with a close hauled rig.

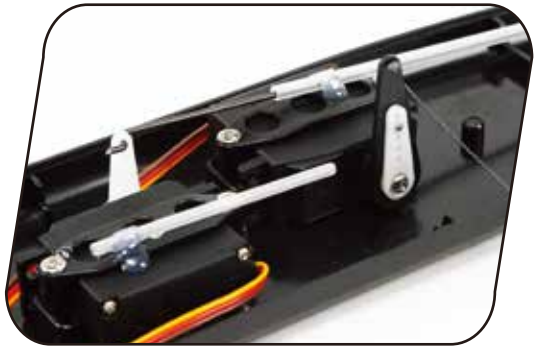
Close monitoring of your wind indicator in front of the mast is very helpful.

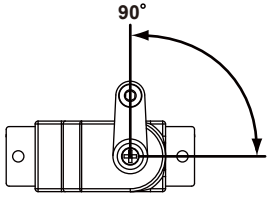
The other reason you accelerate up to 3 times the actual wind speed is that in the moment the windward wheel touches back on the ground you no longer have the drag of the actual wind "flying" only off the apparent wind

As I mentioned before there is a fine line to observe. If you fall off to much and go straight down wind you will eventually stall and stop, watching the other boats blast by, losing your hard earned position on the upwind leg. Should this happen, point your boat further up wind or gibe in time to keep your boat speed up. As you accelerate you gradually are able to point more downwind again.

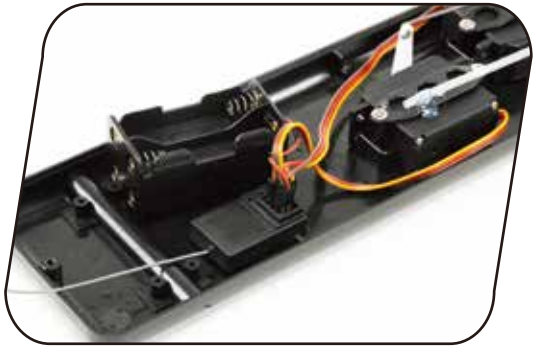


4. Insert 4 pieces AA battery into the holder and then attach next to receiver with double sided foam tape or velcro for easier access.

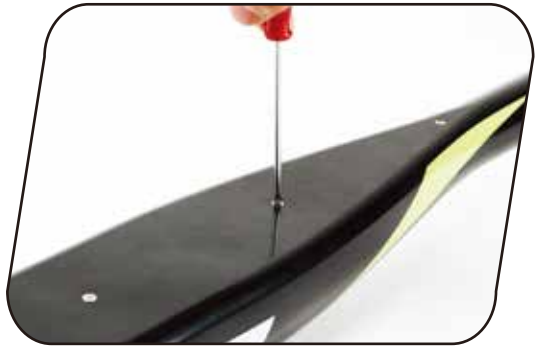




5. Make certain both servo arms are set to 90 degrees at neutral.



6. Connect On/Off switch to battery pack and receiver.



7. Join the top and bottom hull sections with 5 screws. Make sure the sections are properly aligned and that the mast step block is properly located.

8. Install front wheel, taking care not to compress the bearings. The wheel should spin freely.

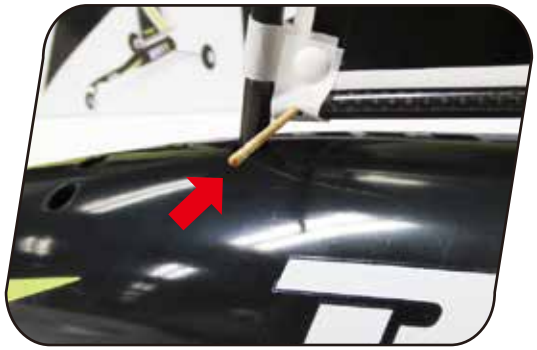
9. Connect steering rod clevis to steering arm. With servo in neutral, adjust the clevis in or out to set the front wheel parallel to the centerline.

10. Attach rear axel to hull, taking care to center it. Do not over tighten mounting screws.

11. Apply a drop of thin CA glue to connect the two mast sections.

12. Slide the sail to the mast, starting with the top loop.

13. Fasten top sail eyelet to skidplate with included cable tie. Leave sail attached to mast, even during storage to prevent wrinkles.



14. Secure sail base to boom by inserting included toothpick through pre-drilled hole in boom.

15. Loop rubber band around screw head, insert rubber band through the eyelet, then loop around screw head again. This keeps proper tension on sail.

16. Slide the mast into the step block until it bottoms out. The mast should be angled backwards slightly.

17. Slide 1/2” main sheet tube with line through opening of the boom.

18. Turn On transmitter and receiver. Pulling the trigger all the way, slide 1/2” tube as tight as possible to the boom. Turn receiver Off.

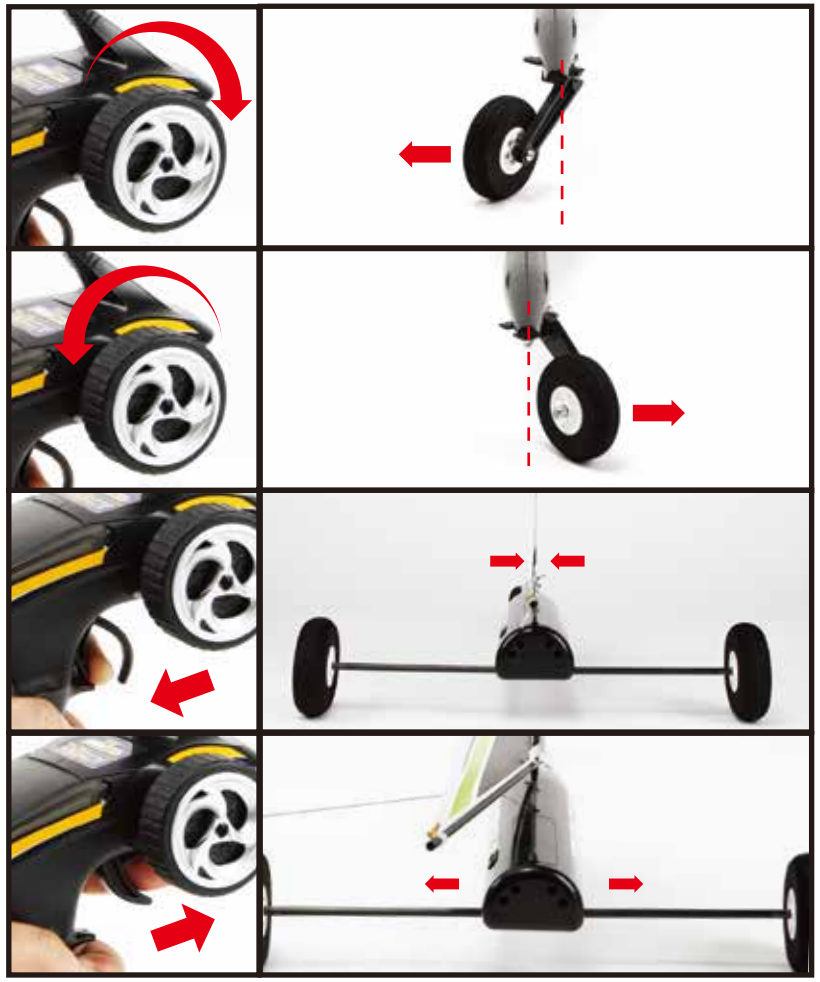
19. Mark end of main sheet line where it exits 1/2” tube.

19. With the transmitter on, push the trigger all the way forward, giving you excess slack in the main sheet line. Tie a double knot at the location you marked on the main sheet line. Test control setup by pulling the trigger all the way back again. The main sheet line should be taught, allowing little side to side movement of the boom.

20. Install rear wheels with 8mm nut. Do not over tighten bearings, wheels should spin freely.

Control Check

Before turning on your Bat-1, familiarize yourself with the transmitter. Use the chart below to confirm control direction. Failure to do so may result in loss of control of the model.



Suggested circuit while learning controls of Bat-1 Land Yacht