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Icon RC Wala Electric Floatplane

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Icon RC Inc. is a California-based model aircraft distributing company who is now offering a line of ready-to-fly, foam constructed, electric-powered RC models. The subject of this review is their "WALA", an electric powered RC twin float plane that is capable of taking off and landing from lakes, ponds, etc. It can also be flown as a land based aircraft with a conventional tail wheel configuration

Photo 1

The WALA has 260 square inches of wing area, a wing span of 45 inches, weighs approximately 20 ounces and consumes about 150 watts electric power input. Floating in the water, the WALA has a scale-like, very attractive appearance. The 23-inch long twin floats are just perfect for this size aircraft.

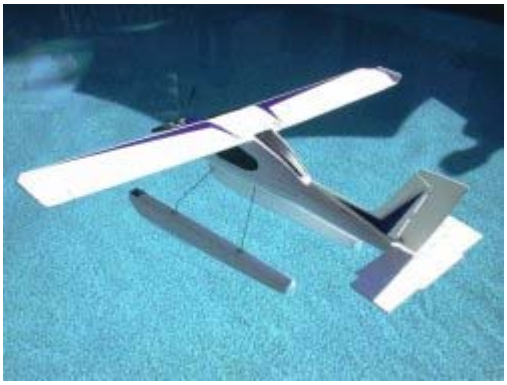


Photo 2 **Photo 3**

The WALA is essentially a Ready-To-Fly (RTF) aircraft. It is advertised as 99% RTF, because there are a few required final assembly steps. Everything you need for your first flight is provided, including the aircraft structure, electric motor, Electronic Speed Controller (ESC) with a Battery Eliminator Circuit (BEC) that allows the motor battery to power the on-board radio system. Also included are a Li-Poly battery pack, battery charger and a complete RC system that includes a transmitter, receiver and three servos. Normal control functions include aileron, elevator, rudder and motor throttle trough the ESC.

Photo 4

The foam airframe parts looks like this.

The wing comes in two panels that must be joined, but the aileron servo is already installed. Likewise, the elevator and vertical fin must be attached to the fuselage. Little work is involved since even the control surface hinges and control horns are factory installed. The brushless motor comes already mounted with the ESC installed. Both the elevator and rudder servos are factory installed with the control rods in place. A vacuum formed plastic cowl, the twin floats and a landing gear/wheels set complete the package.

Icon RC provides a 3 cell Li-Poly battery pack rated at 1100 mAh capacity that weighs 3.2 ounces and is claimed to be 10C load capable. Also included is a wall-plug transformer type charger that operates from 115 VAC and has an output of 12 volts at 1 amp current.

Photo 5

This is a very basic charger that is not adjustable in any way. It is intended to charge this specific battery pack and it can do that in less than an hour.

Photo 6

The Li-Poly battery pack, as supplied, comes with a red plastic JST connector (*Ed. Note: The small red connector*) along with a special cable that brings out separate connections for each of the three cells and terminates these connections in a multi-pin node connector. This connector enables you to balance charge the battery (charge each cell separately) but that technique can't be accomplished with the supplied charger.

Photo 7

You will also notice in photo 7 above that I substituted a pair of APP (aka Sermos) connectors for the JST. The reason for this is that the JST is somewhat limited in current capability. As such, with the expected 13 amp motor current in this case, I opted for the heavier duty connectors. A mating half of the APP connectors was likewise substituted on the ESC power input.

Photo 7A

Since the battery did have a node connector I inquired if Icon RC might offer a balance type charger that accepts the special battery connector. The answer is that they do and it is specifically the GWS GWCHG004 (C3-LP Li-PO charger).

Photo 7B

If you decide to go this route you will have to purchase this particular charger as an optional item. I strongly suggest you do that. You will notice that on the end of this charger there are two output connectors. One handles two cell batteries, while the other three cell packs.

Output current can be adjusted from zero up to 1.0 Amp. In this application, with the 1100 mAh rated battery you would set this charger to the maximum 1.0 Amp (or 1000 mA) charge rate

A fully depleted battery should be completely recharged in about an hour. This charger can be operated from your 12-volt car battery at the flying field or from 115 VAC using an optional AC adapter.

Photo 8

A very capable RC transmitter, operating on 72 MHz FM, is supplied with the WALA. It has four channel functions and standard trim levers for all channels.

Photo 8A

On the lower right side of the front panel are a series of switches that provide for dual rate control (to single pre-set positions), mixing control for CH-1 and Ch-2 if flying with elevon control and servo reversing switches for all four channel functions.

Photo 8B

The transmitter is powered by eight AA size alkaline battery cells which are not supplied. You could use rechargeable Ni-Cd or NiMH cells because a charging jack is located on the right side of the transmitter's case. Batteries are accessible from a removable hatch cover on the rear of the transmitter.

Photo 9

The FM RC receiver is mounted on the inside wall of the fuselage. Both the elevator and rudder servos are factory installed with their respective wire control rods attached.

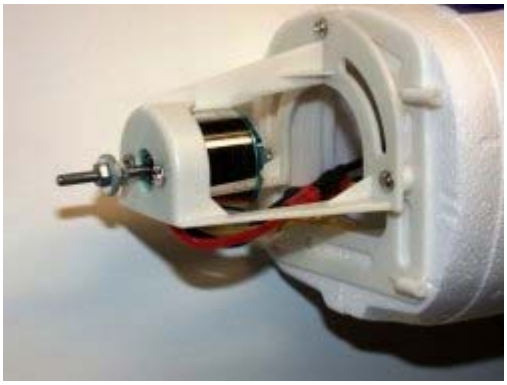


Photo 10

A brushless outrunner motor is supplied factory installed on a plastic radial mount. This motor is capable of power inputs level in excess of 150 watts (13 Amps current at a nominal 11 volts).

Photo 10A

A vacuum formed cowl comes with the WALA. It thoughtfully has adequate air intake and outlet openings to allow air to pass over the motor for cooling purposes. This cowl is held in place with four small screws.

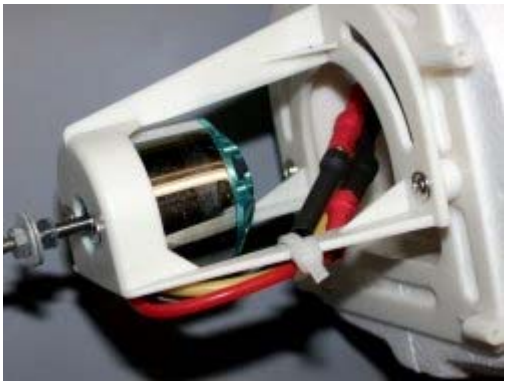


Photo 10B

Because the outer casing of the outrunner motor rotates it is important that the three wires don't rub against the case. In this instance I used a nylon tie to hold the wires off to one side and clear of the revolving motor case.

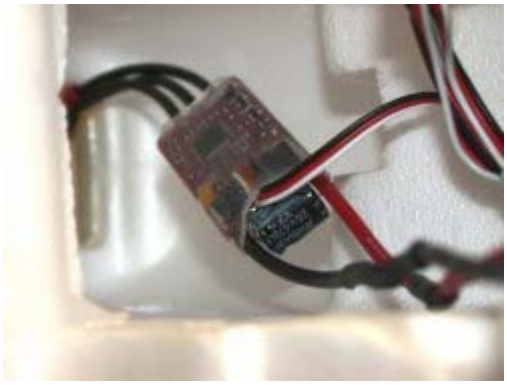
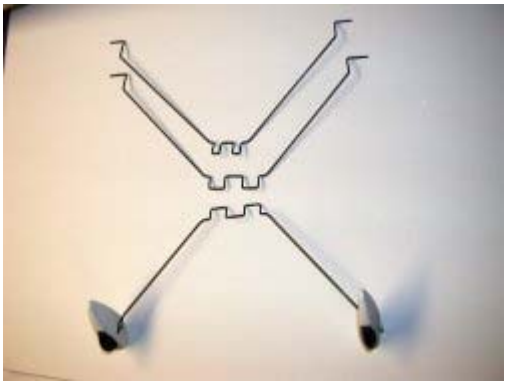


Photo 11

A brushless motor ESC with a BEC that permits operation from a single battery comes already installed in the WALA. It is rated at 18 Amps motor current which is more than enough for this application.

Photo 12 **Photo 13**

A variety of accessory items are included with the WALA. They include a tail wheel assembly when flying off land, two three-bladed 8 X 6 propellers, a spinner, aileron control rods, wing joiner and cement.



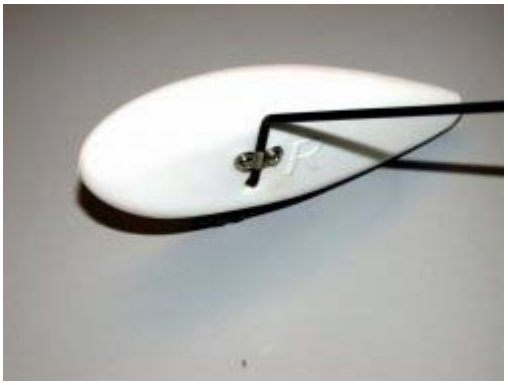


Photo 14 **Photo 15**

The top two wires in photo 14 are intended to mount the floats to the bottom of the fuselage. These wires are pre-bent and quite accurate. But recognize that there is one front and one rear wire. At the lower portion of the photo is the landing gear which comes with the wheels and pants already installed at the factory.

Photo 16

A small bottle of cement was provided. It appears to be like a white glue, but no mention is made in the instructions as to where and how to use it.

Photo 17

The instruction manual provided is naturally brief because there is little assembly required. A copy of this manual can be found on the Icon RC website (website). As mentioned there were no comments on the use of glue or cement. There was no mention of the center of gravity, or how to charge the battery nor the flying techniques necessary when flying off water. But this will be explained in this review.

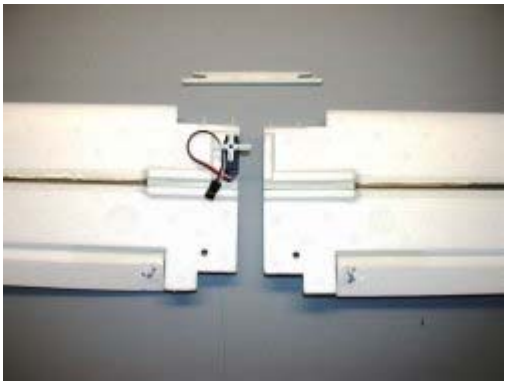


Photo 18

The wing comes in two halves. There is carbon fiber tape reinforcement placed along the length of the wing span on the underside, which is an excellent design feature.

Photo 19

The aileron servo is already mounted in place. You will note that a plastic junction box is provided at the inboard center area of each panel. This box accepts a plastic joiner that snaps into place.

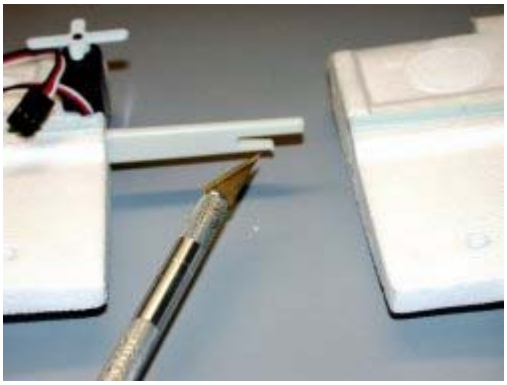


Photo 20

This joiner is inserted first into one half of the wing, then the other, with the two panels being slid together. Note that the hobby razor knife is pointing to the proper position of that center wing joiner. When you press the wing panels together you will hear a snapping sound. That means that the hook on the joiner has locked into the plastic wing box.

Photo 21

There is no mention of using glue or cement at this wing center section joint. Although cement was provided, I felt more comfortable using 5 minute epoxy cement at this joint. In photo 21, the wing was weighted down with two pairs of pliers so that the center joint was flush (no space) while the cement cured)

Photo 22

On the underside of the wing center section, I added more 5 minute epoxy cement to finish the wing panel joining process. Note the added cement in photo 22.

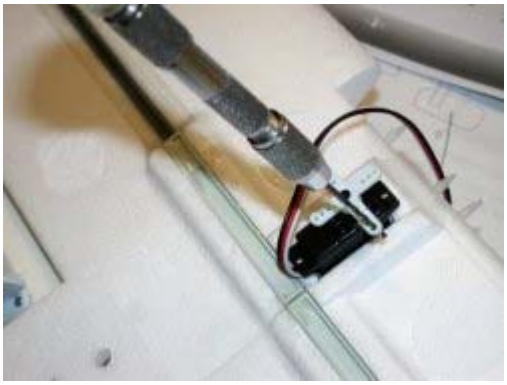


Photo 23

The holes in the servo output control arms were too small to accept the pins from the supplied clevises, so it was necessary to drill out the holes to make them larger in size. A small pin vise and a drill bit were used here.

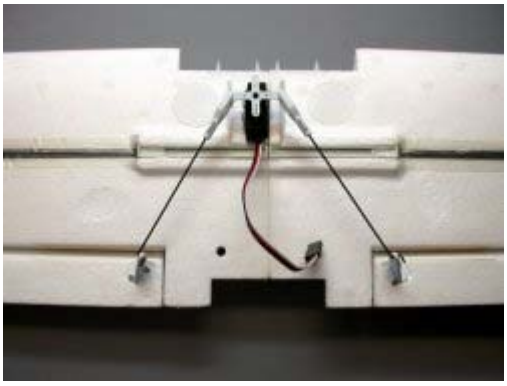


Photo 24

The final wing assembly step is to install the two aileron control rods between the servo output arm and the two control horns. Note that one control rod is slightly longer than the other.

Photo 25

The horizontal stabilizer is mounted at the rear of the fuselage using two small screws. The screws go in from the top and then into a factory installed plastic mount on the fuselage.

Photo 26

Although not called for in the instructions, I used my own cement in addition to the two screws to hold the stabilizer in place. The cement is GE Adhesive Caulk. Although initially white, it dries clear, is very strong and is perfect when used with foam surfaces.

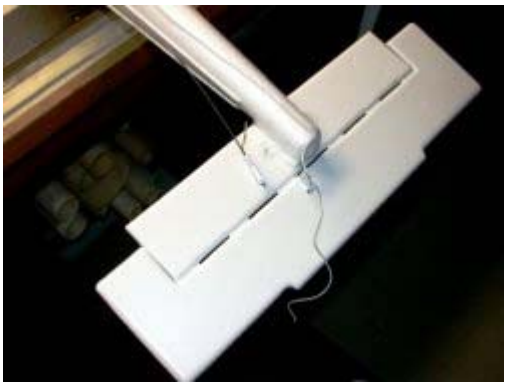


Photo 27

Here the stabilizer and its very large elevator are in place.

Photo 28

The vertical fin and rudder are inserted into a slot on top of the rear fuselage. Make sure when doing this that the rudder doesn't run against the top of the stab or elevator. The same adhesive caulk was used to cement the vertical fin in place.

Photo 29

The elevator clevis must first be adjusted and then inserted into the outside hole of the elevator control horn. It is not shown in the photo but I added some adhesive caulk to the inside of the clevis to prevent it from opening and slipping out of the control horn in flight.

Photo 30

Here the rudder clevis has also been installed to the rudder control horn (outside hole). Again adhesive was used on the clevis. Note the screws holding the stab in place.

Photo 31

The three-bladed propeller gets mounted to the motor shaft using a hex nut front and back along with a washer under the front nut. After doing that, the spinner adapter goes onto the motor shaft, and then the plastic spinner is held in place with a single screw in the center.

Photo 32

The spinner in place! You will notice in the flight photos that there is no spinner. My particular spinner wobbled quite a bit and caused some vibration, so despite the nice scale appearance, it was removed when flying the WALA.

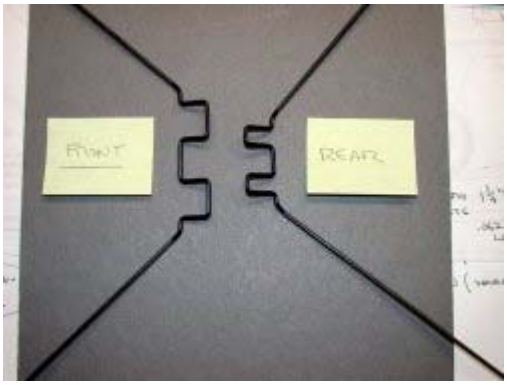


Photo 33

The next step is installing the twin Styrofoam floats to the underside of the fuselage. Note that there are two mounting wires and one is intended for the front position, while the other is for the rear position

Photo 34 **Photo 35**

I chose to use the supplied plastic retainer on the inboard side of the wire but opted for DuBro 3/32 inch wheel collars for the outside.

Photo 36

With the two float mounting wires attached to the floats, just press the wires into the two slots on the underside of the fuselage. Both wires are held in place with tiny plastic brackets and screws, making it easy to switch from water to land flying in a matter of minutes.

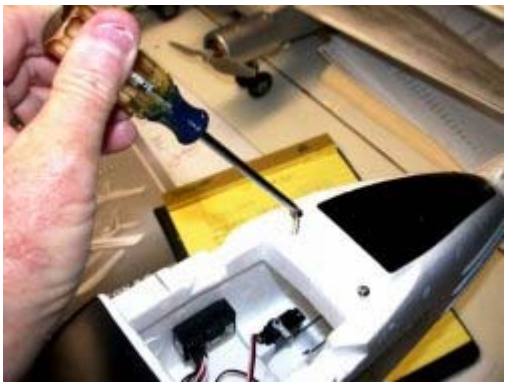


Photo 37

The wing is held to the fuselage with the help of two screws at the trailing edge

Photo 38

At the leading edge are plastic “spikes” that get inserted into a plastic strip mounted on the top of the fuselage.

Photo 39

Here the floats and wing are mounted in place. The generous air intake holes do a good job cooling both the motor and battery pack in flight.

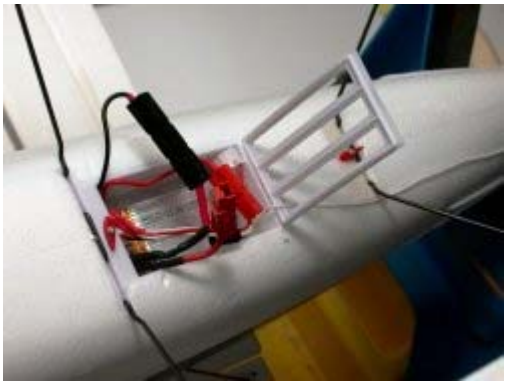


Photo 40

A battery compartment hatch cover is provided on the bottom of the fuselage located between the front and rear float mounting wires. With this arrangement, it is easy to access and remove the Li-Poly battery pack for charging purposes or replacement if you have another charged battery pack handy.

Photo 41

Although cross bracing wires weren't called for, I decided to add two lengths of .047 inch diameter wire. These two wires run from float to float, in the front and the rear. It prevents the two floats from moving inward or outward during water taxiing.

Photo 42 Photo 43

The center of gravity was not indicated in the instruction booklet. So I made his own calculation based on 25% back from the wing leading edge and found that the WALA was slightly tail heavy. As such, I added two 3/4 ounce lead weights (total of 1 1/2 ounces) to the top, front tip of both floats. These weights were attached temporarily with double sided tape and later were inserted into the float for more of a streamlining effect.

Photo 44

I marked the CG point that that was calculated on the side of the fuselage. It is exactly 1 1/2 inches back from the wing's leading edge.

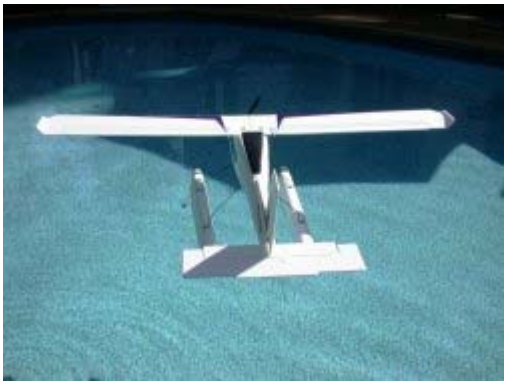


Photo 45 Photo 46

Photos 45 and 46 show the finished WALA resting in a pool to check on how well it floats. As you can see, the attitude is perfect. For such a small aircraft, it is truly a graceful looking model that should prove a pleasure flying off any lake or pond.

Photo 47

Again, a close up of the WALA's nose showing the smooth lines of the molded plastic cowl with good size air intake openings and exit air holes towards the rear. The three-bladed propeller proved perfect for this application and imparts a scale like appearance.

Photo 48 **Photo 49**

The first rise off water flights took place at the large Lake Ronkonkoma, located in central Long Island. The early morning session didn't quite provide the correct lighting for these photos, but it is obvious that the WALA is performing well.

Photo 50 **Photo 51**

With 150 Watts power input, the WALA is off the water in 20-30 feet. It literally jumps off the water! The strong power, combined with a large rudder, makes for easy steering on the water. As

such, no water rudder is necessary. Although initially 1 1/2 ounces of lead was added to the front tips of the floats it was found that 1 ounce (1/2 oz. at the tip of each float) was enough. After the first flight session, these two 1/2 ounce lead weights were inserted into slots cut in the top of each float and then cemented in place. So they are no longer visible.

Photo 52 **Photo 53**

In the air the WALA can do all of the basic aerobatic maneuvers with plenty of power to spare. Although the motor current is a high at 13 Amps, the WALA can fly with throttle settings as low as 1/4 to 3/8. This reduces the current considerably and provides for longer flight times. On one flight, I was close to 10 minutes when I landed. I put the battery on my CellPro charger and found that it still had 65% of capacity. So you will be able to extend flying time by throttling back.

Photo 54

Touch and goes were easy and fun! Although the cross bracing float wires were added prior to the first flight, it was the feeling from the several who flew the WALA, that these bracing wires probably weren't necessary. So the first time out the suggestion is to fly the WALA in the stock or original configuration without these added wires.

Final control throws worked out to --- ailerons 1/4 inch either side of neutral, elevator ----- 1/2 inch either side and rudder --- 3/4 inch either side of the neutral position. The brushless ESC provided smooth and linear motor speed controlling.

Photo 55 **Photo 56**

These final shots were taken on landing and taxiing back to the lake beach.

Photo 57

The Icon RC WALA proved an all around excellent flyer with equally excellent water flying characteristics. It is totally FUN TO FLY. The price, $190, is certainly reasonable considering the WALA is a true RTF amphibian complete with radio and all power equipment. Best of all it takes only an hour or so to get from kit box to the lake.

For more WALA information, go to: website

✈

Specifications

Manufacturer: ICON RC

Cost: $189.99
Radio: ICON 4-channel
Servos: 3 x ICON
Motor: 150 W Outrunner
Airfoil: Flat-Bottom

Length: 34 in.
Wingspan: 45 in.
Wing Area: 260 sq. in.
Wing Loading: 12.2 oz. /sq. ft.
Weight: 22 oz...

ESC: 18 A with BEC
Battery: 3-cell, 1100 mAh Li-Poly

Special Airframe Features: All foam construction; 99% RTF; Quick Assembly; 4 channel land/water operation.

Notable Positives
Fly from land or water
Excellent aerobatic abilities
Extremely fast assembly
Very good looks
Light flying weight
“Park flyer” type amphibian
Excellent power to weight ratio

Notable Negatives
Some gluing required
More detailed instructions needed

Electric Power Specifications

Prop: 3-blade 8 x 6 in. **Max RPM:** Not Reported
Max Watts: 150W **Power Loading:** 109 W/lb
Max Voltage: 11.1V **Motor Current:** 13 A
Motor Run Time: 5-15 min. depending on throttle settings