



# INSTRUCTION MANUAL

(To read imperatively before use. Adjustments required during the first flight)

**14+**

**THANK YOU FOR PURCHASING BIONIC BIRD**

***The first Bionic Bird !***

## Technical Specifications

### **Bird**

- Ultra light bird, weight 9.2 g.
- Powerful main motor (1.2 watt output) with aluminum heat sink.
- Electronic protection against overheating.
- 1:36 Reducer (patented) ultra-compact and lightweight (0.3 g).
- Precise power control (128 steps).
- Adjustable tail angle for slow or fast flights (indoor/outdoor).
- Sharp and immediate steering control by wing distortion (patented) for aerial stunts.
- Impressive gliding due to its very low ratio weight/wing area (3.42 g/dm<sup>2</sup>).
- On-board hybrid lithium polymer battery, 50 mAh (1.6 g).
- Full battery protection against short circuit, overload and complete discharge, for a longer life.
- Up to 6 min flight at full speed, 7.5 min max for normal flight, or a distance of 1.8 km.

### **Egg – Stand-alone charger**

- 36 grams, 57 x 45 mm.
- Hybrid lithium polymer battery (800 mAh) included.
- Total capacity of the egg: 10 full flights, or 75 minutes of flying time.
- Short charging time of the Bird, only 12 minutes thanks to a proprietary smart charging cycle "Turbo Charge®".
- The bird charges on the egg on which it connects automatically by retractable magnetic contacts.
- Charging time of the egg: 90 minutes.
- Egg auto power-off after 12 minutes (battery saving).

## **Application The Flying App:**

- Compatibility: Check compatibility with systems and devices on [www.mybionicbird.com](http://www.mybionicbird.com), which will be updated continuously.
- Range: 100m
- Protocol: Bluetooth
- Multiplayer system with Bluetooth connection, ability for several players in one place. No limitations.
- User Interface: 2 modes easy/expert.
- Expert: touch control for both throttle and steering. Right and left hand modes.
- Easy: touch throttle control, steering control by tilting the phone.
- Sensors used: magnetometer, accelerometer.
- Configurable sensitivity.
- Spring back effect on throttle can be activated or not.
- Battery level of the bird and strength of the BT signal.
- Interactive Sound.
- Immersive sound environment.

## **Dimensions & performance:**

Bird length: 17 cm

Bird wingspan: 33 cm

Bird weight: 9.20 g

Bird controls: Power (altitude) and steering

Egg – Stand-alone charger: LiPo Battery capacity 800 mAh

Onboard accumulator: LiPO 50 mAh, 20 C- 1100 mA

Autonomy of the bird in normal flight: 7.5 min

Egg Autonomy: 10 loads / 75 minute flight

Charging time of the bird: 12 min

Charging time of the egg by USB: 90 minutes

Auto power off of the egg after: 5 minutes

Range control of the bird in flight: 100 m

Protocol: Bluetooth 4

Engine rotation speed (no load): 53,000 rpm

Engine rotation speed (full load): 35,000 rpm

Wings flapping frequency max: 18 Hz

Wings flapping amplitude: 55 °

Ratio weight/wing area: 3.42 g/dm<sup>2</sup>

Max wing thrust: 10 g

Required Level: Beginner

*This product is warranted against defects in material and workmanship under normal use for thirty (30) days from the date of purchase (Keep your purchase receipt).*

*For any questions regarding this product, please contact our customer service by email:*

**[contact@mybionicbird.com](mailto:contact@mybionicbird.com)**

*You can find video instructions at: [www.mybionicbird.com](http://www.mybionicbird.com).*

**WARNING:**

*This product complies with the following standard and complies with FCC part 15 (2008); R&TTE 2008 (EN300440-2, EN301489-1, EN301489-3); DEEE (WEEE) directive 2002/96/EC.*

**FCC ID: 2ADQDBB1**

*This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:*

- 1- This device may not cause harmful interference, and*
- 2- This device must accept any interference received, including interference that may cause undesired operation.*

**WARNING:** *Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

**FCC NOTE:** *This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.*

*This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.*

*However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- \* Reorient or relocate the receiving antenna.*
- \* Increase the separation between the equipment and receiver.*
- \* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- \* Consult the dealer or an experienced radio/TV technician for help.*



***Users should keep and retain this manual for future reference.***

*Keep the packaging since it contains important information.*

*Keep name and address.*

**SAFETY PRECAUTIONS:**

*Not suitable for children under 36 months, small parts may be swallowed.*

*Do not play next to an animal or a person.*

*Do not use near electrical lines or during a storm.*

*Do not fly Bionic Bird near electrical lines, trees, buildings and any other obstacles.*

*Keep away from water.*

*Never fly or follow Bionic Bird in the streets.*

*Keep away Bionic Bird from face and eye.*

*Never put your fingers close to Bionic Bird when it moves.*

*Always use the egg charger included in this equipment.*

*Always place the Bionic Bird on the "OFF" position when not flying.*

**BATTERY CAUTIONS:**

Works with 2 rechargeable LI-PO (lithium-polymer) battery (included).

One inside the egg and one inside the bird. They cannot be extracted or replaced.

Rechargeable batteries are only to be charged by an adult.

Respect the correct polarity (-) or (+)

The supply terminals are not to be short-circuited.

Only use the battery charger provided with the box to charge the LI-PO battery of your product, either the USB cable to the egg, and the egg to the BIONIC BIRD.

**DEEE:**

When this appliance is out of use, please remove all batteries and dispose of them separately. Bring electrical appliances to the local collecting points for waste electrical and electronic equipment. Do not throw in domestic refuse.

**WARNING :**

CHOKING HAZARD- Small Parts  
Not for children under 3 years.

# INSTRUCTION MANUAL

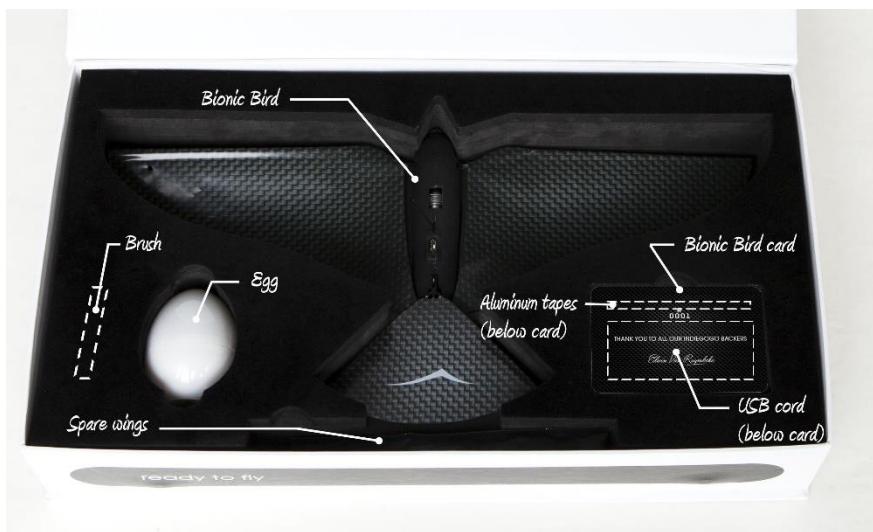
## MANUFACTURER NOTES:

\*The suitcase packing must be kept and used to store and carry the product in good conditions. This will increase product lifespan a lot. Before to put the bird into the box, use the app to adjust wing position. NEVER TRY TO MOVE WINGS MANUALLY!

\*This product was tested for a lifespan of hundreds of cycles in flight; however it remains a high technology product that should be handled with care when not flying. Avoid seizing it by the wings or tail, place it carefully and gently on the charging slot, proceed gently also when replacing wings.

\*It is strongly recommended not to let children handle the bird, or pick it up from the ground after a flight. On the other hand, according to their aptitude, they can certainly try to control it in the air, under adult monitoring. Or simply enjoy watching BIONIC BIRD flying!

## I - UNPACKING YOUR BIONIC BIRD



Check your product is complete as described above.

## II - INSTALLING THE APPLICATION ON YOUR SMARTPHONE

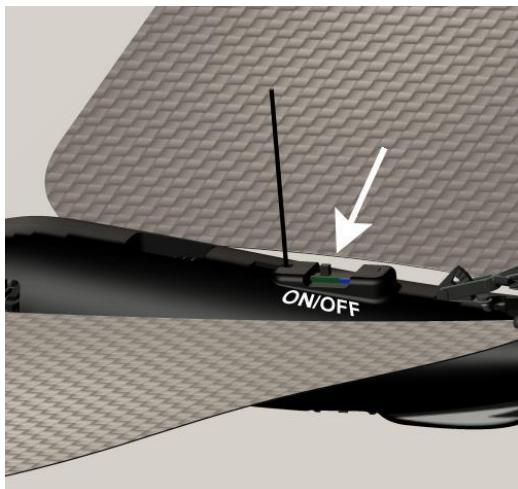
Visit the app store using your smartphone and search for "The Flying App" or "Bionic Bird". Then, install The Flying App on your device.

Before launching the application make sure your Bluetooth is activated.

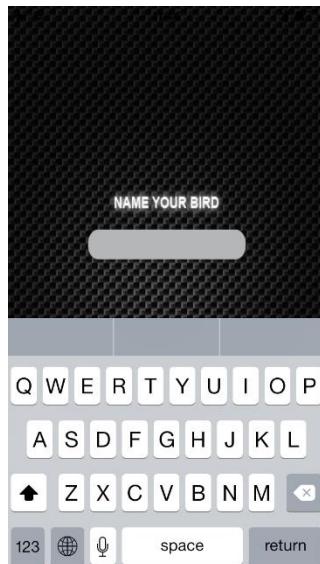
**NB: For optimal and safe use, disable your Wi-Fi and call reception, and adjust your power saving options to restrict your phone from sleeping to ensure The Flying App isn't interrupted during your flight!**

**The language used by the app is automatically adjusted to the language of your OS. French/English (for all other languages).**

### III - APPLICATION OPERATION

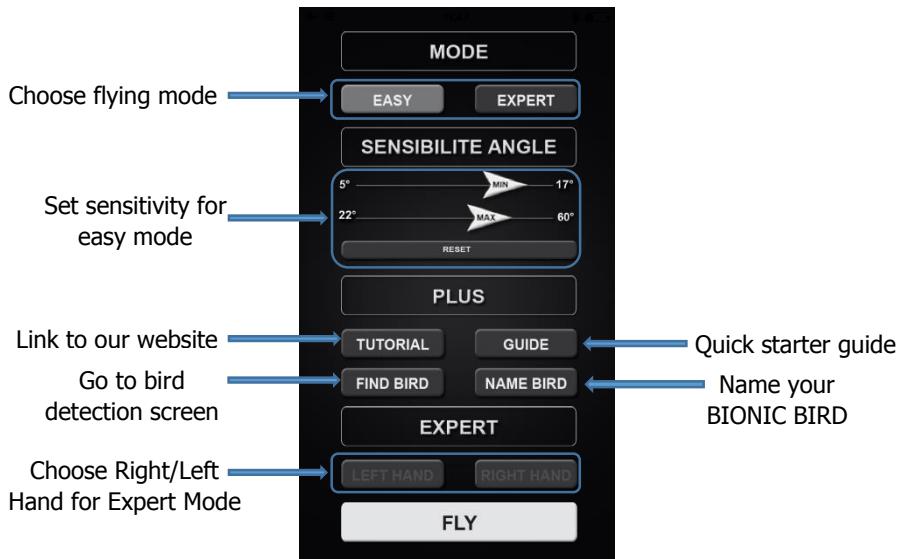


**Bird detection:** You must launch the app first, the screen “Searching bird” above will appear, then quickly switch BIONIC BIRD ON. The bird will be detected immediately.



If this is the first time you use it, another screen appears to name your BIONIC BIRD. Next time, it will be recognized automatically with its name, and this screen will be skipped.

NB: The bird detection process lasts a maximum of 18 seconds. If your bird isn't detected during this time, the "NEST" screen will appear. Make sure your bird is switched off before using the "connection" button to access the bird detection screen and restart the detection process. Turn on your bird after the detection has begun.



### "NEST" screen and settings:

The NEST is the configuration screen for the application. Setting options include:

- Flight MODE selection:

EXPERT: Classic radio control interface with throttle control cursor and two directional cursors for left and right turns. You can choose between controls optimized for left or right handed pilots.

EASY: "Motion control" interface where only the throttle is controlled with a cursor and changes of direction are controlled by tilting the smartphone. The tilt control sensitivity can be adjusted.

The minimum tilt angle for changing the flight direction is 12° by default (RESET button). This tolerance prevents you from triggering a turn if you don't hold your smartphone perfectly flat.

The maximum tilt angle for changing the flight direction is 30° by default. The range of the tilt angle controls the movement of the rudder between 0 – 100%

- Links to the BIONIC BIRD website with more information and videos including this manual.
- A quick start-up GUIDE with condensed information.
- Return to the CONNECTION screen to give your bird a NAME.

To finish, launch the flight interface by pressing the "FLY" button.



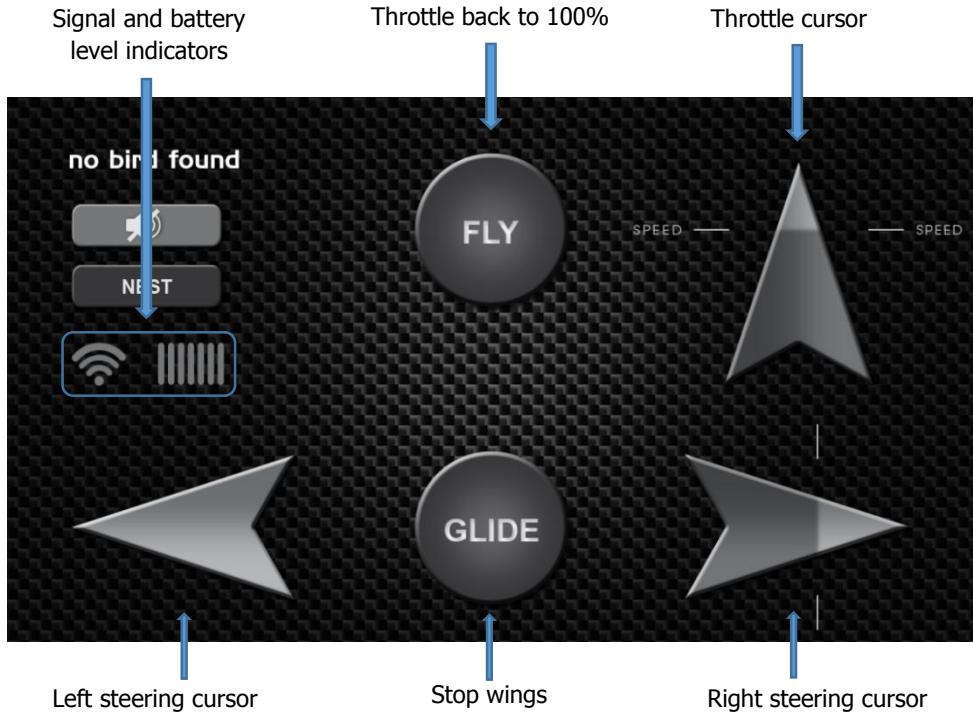
**EASY flight mode:** Using this mode, hold your smartphone with one hand, controlling the throttle cursor with your thumb, and tilting your device to control the flight direction.

**Direction:** The direction of a turn (right/left) and its angle is controlled by the tilt angle of the smartphone. The transparent arrow appears when the turn is active and its opacity indicates the angle of the turn. Tilt sensitivity can be altered in the “NEST”.

**Throttle control:** This controls the power of the flapping of the wings and therefore the speed at which the bird gains altitude. When CRUISE CONTROL is inactive, the cursor returns to zero as soon as you lift your finger (it springs back) and the bird begins to glide. You need to place your finger on the cursor to execute a go around at your desired level. When CRUISE CONTROL is active, the cursor can be released and the throttle level will remain at the speed at which it's set. You can freely control the bird at a constant speed by tilting your smartphone without worrying about the screen. To close the throttle, simply touch the screen anywhere below the throttle cursor. To resume full throttle, touch the screen anywhere above the throttle cursor.

**Attention:** In this scenario, there may be a lag when stopping the bird so ensure the bird has adequate space, free from risks.

**Attention:** Not touching the screen for extended periods can activate your smartphone's standby screen if the power saving controls haven't been changed. This can occur during flight.



**EXPERT flight mode:** Using this mode, hold your smartphone in the horizontal position using both hands and manipulate the controls using your thumbs.

Typically for a right-handed person, the right thumb controls the speed and right turns while the left thumb controls left turns. For a left-handed person, the controls are reversed and can be changed by selecting the "left-handed" option in the NEST.

The sensitive areas on your screen are larger than the cursors, making it easy to find the controls without looking at the screen.

The throttle is controlled by CRUISE CONTROL (preventing the throttle from springing back to zero) which allows you to set your speed and move your thumb to the direction control without altering the throttle.

The two buttons in the center of the screen allow you to instantly trigger a glide during the flight, and execute a go around before touching the ground. They're both very easy to find without looking at the screen.

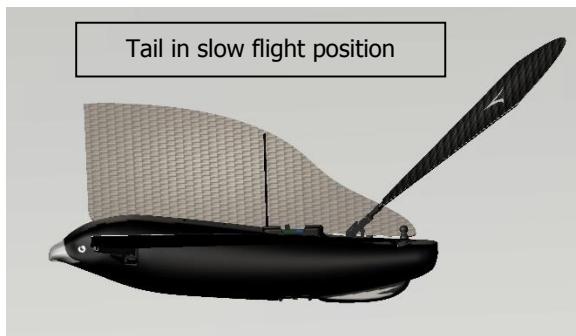
### Conditions of use:

Indoor use doesn't require any conditions except a room big enough to fly around without obstacle. Outdoor use requires adapted weather conditions, ideally no wind at all (recommended for beginner, and compulsory to balance wings, see below), and no rain. For an experienced user, wind up to 8 mph is acceptable, if it's steady. So it's better to choose an open area, far from trees or buildings, which could create whirlwinds. Avoid flying near a road, or water, where it could fall by accident.

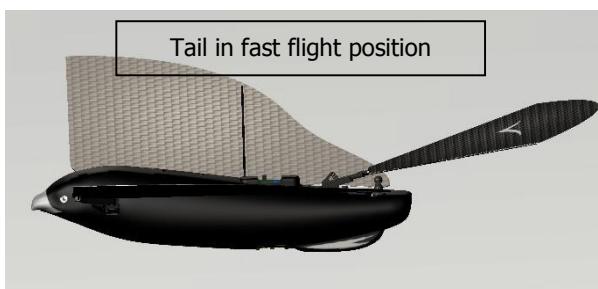
### Adjusting the tail

The tail angle is adjustable (5 notches), making possible to adjust the speed of BIONIC BIRD.

To change the notch, just push or pull on the base of the tail.



\* For indoor flights, in a confined space, or for slow flights: set the tail in a high position (choose the notch n° 3, starting from the bottom, among the 5 possible positions). The notches 4 and 5 are not recommended at begin.



\* For outdoor flights, in a big space or for fast flights: adjust the tail in a low position (using the notch 1 or 2). Notch 2 is recommended for beginners. Notch 1 is for best performance but requires a bit of practice, and wings adjustment (see below).

**NB:** When picking up the bird after landing, always check that the tail hasn't moved to another notch. If so, set it back again.

## **Flying BIONIC BIRD**

- \* Launching: Push the throttle stick  $\frac{3}{4}$  of the way up. Always point BIONIC BIRD facing the wind, launch the bird from your hand with a gentle horizontal toss. Let it gain some altitude before trying any turns. If it flies downward, you can try with the tail one notch higher.
- \* Gliding flight: To make BIONIC BIRD glide: gain altitude, reduce speed and get the bird flying straight, then cut the throttle.
- \* Out of range: If BIONIC BIRD flies out of range of the transmitter, just get closer to the bird and it will connect again immediately.
- \* Emergency landing: If you need to land BIONIC BIRD quickly (in a risky situation), turn right or left to maximum and cut throttle, then release the direction stick. BIONIC BIRD will nosedive towards the ground. Generally, doing tight turns will cause BIONIC BIRD to descend. It is a good way to control its flight.

**WARNING:** do not keep the direction stick at maximum on one side for a long time, even when the bird is not flying because it could cause the steering micro-motor to overheat.

\* End of flight: When BIONIC BIRD flight becomes less powerful it is time to recharge it (see above). When the LiPO battery inside bird is 95% empty the power to the wings will be cut and the bird will glide down to the ground.

\* Battery power off: It may happen sometimes at the end of the flight, that the battery voltage become too low, and it powers off automatically (bird LED is OFF), although the switch is still ON.

No problem, when you put the bird back on charge, it will be reactivated.

## **First flight - Adjusting the wings**

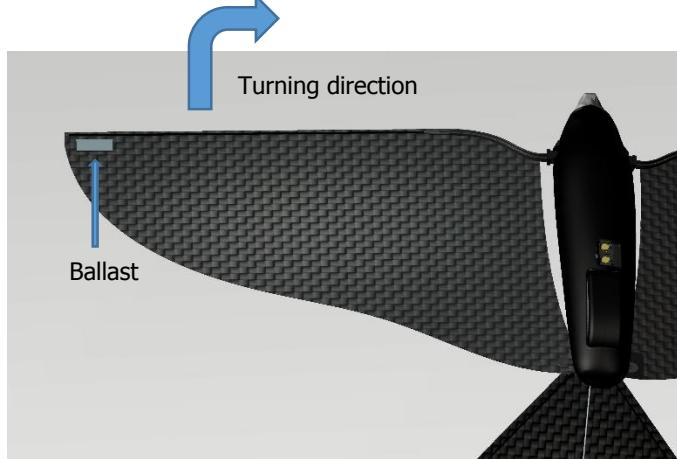
From the very first flight, it is essential to check the wings balance, to adjust it if needed. To do this, it needs to fly outdoor without any wind, and set the tail in flat position (notch 1).

If while flying, you notice the following unbalanced flight:

- Immediately when launched, the bird turns to one side and go directly to the ground (big unsteadiness).
- The direction stick is in the middle position but the bird turn left or right in small circles.
- It seems that the bird turns more easily to one side than to the other.

Then you will have to trim the wings.

A bag with small pieces of aluminium tape (ballast) is supplied with your BIONIC BIRD. You must ballast opposite wings to the turning side you observed (in other words, the tape must be stuck on the end of the wings which on the external of the turning).



If the bird tends to turn to the right, add some weight to the left wing: Take one of the aluminium tape piece and stick it near the tip of the right wing, below the wing, as shown on the picture.

If the bird tends to turn to the left, add the tape on the right wing same way.

Try flying the bird again, and if necessary, add another tape upon first one. Repeat process until you get a straight flight or a slight turn to the other side than observed first. Your BIONIC BIRD is now balanced and its performance is optimized.

**NB:** - BIONIC BIRD is pre-balanced in factory, there may be some tape already stuck on one wing. If a wing already have too much ballast, choose to remove a tape on this wing rather than adding one on the opposite wing.

- Flying with tail set in a high position may require a different wing adjustment. In order to fly the bird with tail in high position in a confined space and keep a precise control, it is recommended to do a very precise wing adjustment with the tail in that position.

### **Battery protection:**

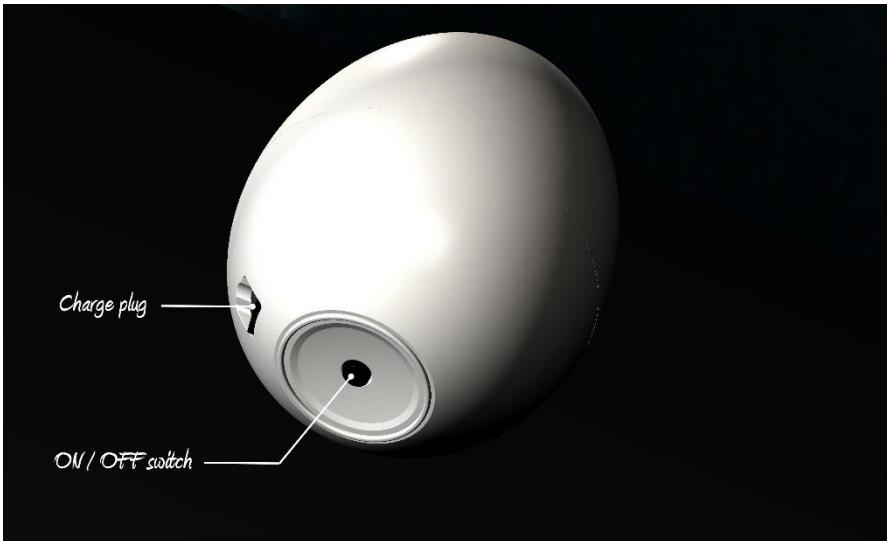
The electronic protection on the LI-PO battery prevents it from irreversible damage. It operates (by cutting off the power) in the following 2 cases:

- A short-circuit
- When the battery discharges below 2.5 Volts.

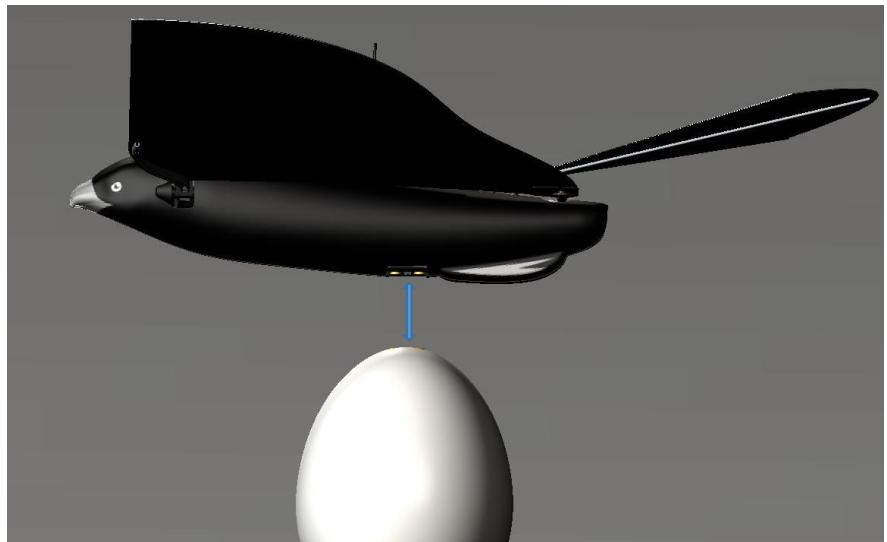
This happens inevitably when you forget to switch off your BIONIC BIRD, and the battery keeps on discharging slowly for hours. Then, the body LED will switch off (even though the power switch is still ON). You just need to charge BIONIC BIRD again to reactivate the battery. During charge, the bird LED will start lighting again).

**WARNING:** if BIONIC BIRD doesn't light up, whatever the switch position, try to charge it. (Probably the battery protection system has been activated).

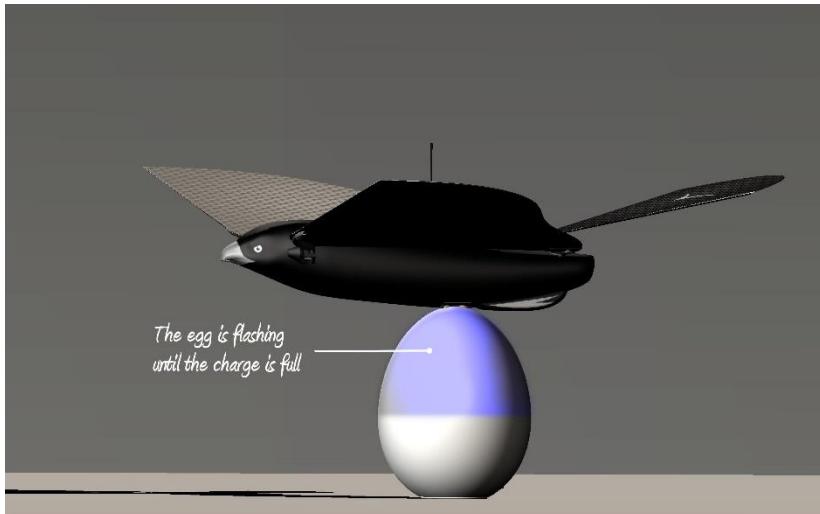
## V - CHARGING BIONIC BIRD



The first thing to do is to switch the egg ON, with the button located under its bottom. The bottom of the egg will lit blue. NB: If the egg doesn't lit, it may be discharged. You need to charge it again (see below).



To charge BIONIC BIRD, simply connect the magnetic contact points situated under the bird's body and the top of the egg. They magnetically connect to each other automatically and the bird will sit firmly on the egg.



The upper part of the egg will start to blink when it starts to charge. Charging takes around 12 minutes. The egg will stop blinking and remain lit when BIONIC BIRD is fully charged and ready to fly again.

Note: You don't have to worry about leaving BIONIC BIRD on the egg after it's finished charging. After five minutes of inactivity the egg will simply turn off automatically. It's advisable to turn off BIONIC BIRD beforehand to prevent its battery from slowly draining.

Also note:

- The egg's light can be difficult to see when outdoors in direct sunlight. It's easiest to check the light in a shadow to see whether BIONIC BIRD is charged.
- If charging doesn't start when the egg is lit, the contact points may need to be cleaned (see below).

**WARNING:** It is compulsory to use the egg supplied only to charge BIONIC BIRD. Any other charging device could damage the bird battery.

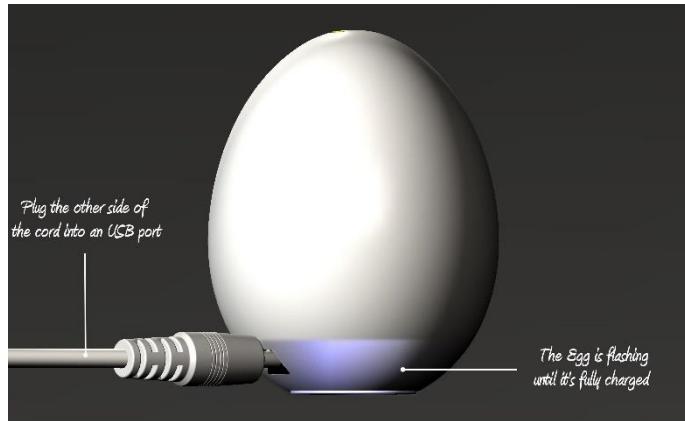
In order to protect the LI-PO battery inside your BIONIC BIRD, do not leave the bird totally discharged when you stop using it. Before to store it, remember to charge the bird a few minutes, and then to switch it OFF.

## **VI - CHARGING THE EGG**

### **Good to know:**

The egg has the role of a nomad charger for BIONIC BIRD. It includes a big capacity Li-PO battery that allows re-charging your bird up to 10 times, in complete autonomy, without the need of any other power supply. With the egg fully charged in your pocket, you will be able to play with BIONIC BIRD a whole afternoon at the park.

The egg can be charged with the USB cord supplied in the box, on a computer USB port, or even using your smartphone charger if it comes with an USB plug and separated cord. Remember to re-charge the egg after any flying session, in order to keep always some energy available for your BIONIC BIRD.



To charge it, simply plug it in as indicated above. The egg will blink until it's fully charged in around 90 minutes. It's not necessary to fully charge the egg before charging the bird, but it's recommended to ensure the best amount of flight time. It's also possible to charge the bird while charging the egg.

The egg will automatically turn off after five minutes of inactivity to preserve energy.

## **VII - CLEANING THE CONTACT POINTS**

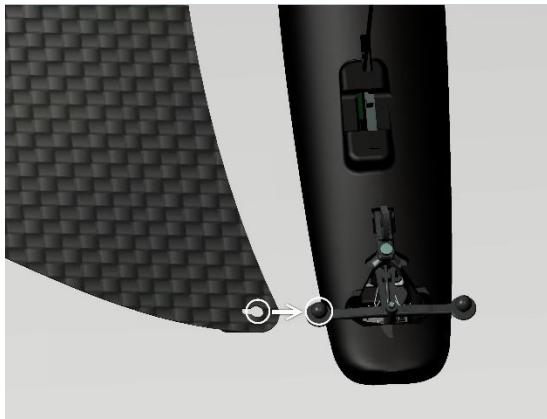
The magnetic contact points under the bird will tend to become covered in little particles of metal which cover the ground and are picked up over time when the bird lands. These particles are magnetically attached to the bird and accumulate over time. They need to be vigorously brushed off using the little brush supplied.

Brush off the metal particles from the contact points.

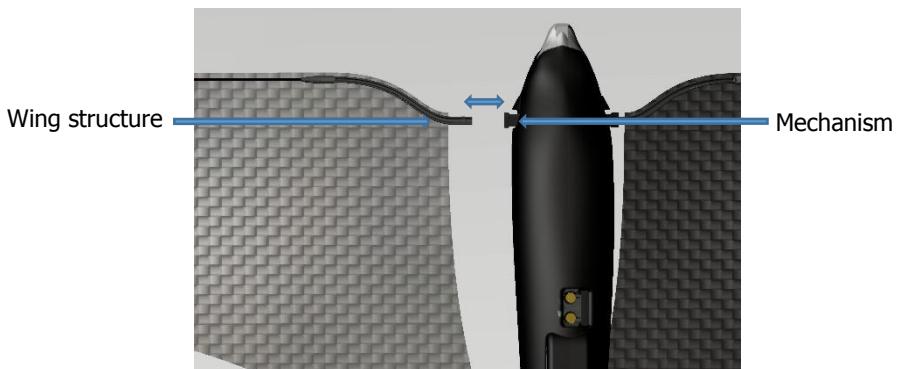


## **VII – WINGS REPLACEMENT**

If a wing is broken, you can replace it with the spare set of wings included in the box.



Lift the tail to the maximum notch. Pinch one side of the wing, at the back of the wing where the wing is clipped to the round knob, and take it off the knob.



Then detach the front of the wing: hold the wing structure firmly and pull it out so that it comes out the slot. It is not necessary to change both wings, when just one is broken. Choose the appropriate spare wing (left or right) corresponding to the one to be replaced. Proceed reverse way: Start by inserting the wing structure in the slot, you should feel a "click" which means that the wing is correctly inserted. Clip the back of the wing to the round knob, underneath the tail.

## **VIII – REPLACING OTHER PARTS**

If ever the foam body, the tail or other parts were destroyed, please feel free to contact our customer's service at: [sav@mybionicbird.com](mailto:sav@mybionicbird.com) to get replacement parts and instructions on how to replace them.

## **IMPORTANT NOTES ABOUT THE USE OF BIONIC BIRD:**

- It is strongly **recommended to charge** the bird at least at 50% of the battery capacity before to **store it** after use. Or the battery life will be shortened a lot.
- **At cold temperature**, the batteries are losing most of their power. It may happen that your BIONIC BIRD performance decrease. The egg may also take more time to charge it. It is advised to charge the bird indoor (warm temperature), then to go out for flying. Below 0°C (32 F), the wings may also unstick. It is advisable not to play in such low temperature.
- The motor and clockworks inside BIONIC BIRD are very efficient, with very tight tolerance. They need a training period during which they will get free of frictions. The maximum power and flying time will be reached after about ten flights.