

**DRAGANFLY**  
INNOVATIONS INC.

**THE Summit  
FLYING SAUCER**



**INSTRUCTION  
MANUAL**

# 8 Ft. Remote Controlled Flying Saucer

## ITEMS TO BE PURCHASED SEPERATELY:

- Helium Gas (minimum 20 cubic feet) available at Department stores, Party stores, or Welding Supply stores.
- Helium gas regulator for filling (can be rented or purchased).

## ITEMS INCLUDED:

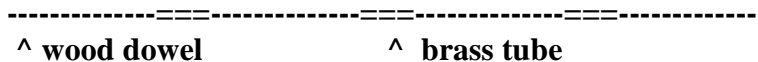
Check the parts provided to insure that all necessary components have arrived in this package:

- 8 foot Saucer instructions and transmitter manual
- 8 foot Saucer bag
- Assembled Gondola:
  - 6-channel radio receiver
  - 4 motors, with propellers
  - Light Kit (optional)
  - Business card shooter (optional)
  - Wireless video camera with receiver and power supplies (optional)  
**(Please refer to your “EyeCam” instruction manual before operating)**
  - 8.4 volt 1300 mAH Lithium Polymer battery
- 6 channel Radio Transmitter with antenna and 9.6v nicad battery pack (installed in transmitter)
- AC 2 cell Lithium Polymer Charger (Must get adapter in UK)
- Putty (for ballast)
- 36” balloon (attach string and double sided tape to recover a stranded saucer from the ceiling)
- 13 pieces of 1/4” brass tube (to attach dowels together)
- 17 pieces of 1/4” wooden dowels (1 extra)

- Patch repair kit.

## FLYING SAUCER ASSEMBLY

- **Start by laying the 8 foot saucer envelope on a clean flat surface.** Note: The top of the flying saucer does not have any pockets for wires and should be facing the floor.
- **Once the saucer envelope is laid out we need to install the wiring harness,** There are 4 motors on a summit and each have color coded wiring. The front of the envelope can be determined by locating the fill plug which is the back of the envelope. The Red wire is used to control the Front motor and the yellow is used to control the rear motor. For the side motors you have to remember that the envelope is lying on its top so the sides are going to be reversed. The right side (when envelope is top down) will be the green wire and the blue wire will be the left side. To help install the wiring it is recommend that you use a couple of the dowels to help pull the wire through. **On a new purchase the wiring harness is already installed**
- **Assemble the doweling.** 12 of the doweling have a 2" brass tube glued to one end and 4 don't, take 3 dowel's with tubes and 1 without and assemble as shown below. Repeat 4 times. If you find that the dowel is loose on the brass tube, tape can be used on the dowel to make a tighter fit. It is recommend to have a snug fit.



- **Installing the doweling.** The doweling is installed around the circumference of the envelope. Take the 4 long dowels that you assembled and install in the dowel pockets.
- **Installing the Motors.** As discussed earlier the wiring is color coded, as are the motors. Match the motor's to the harness to find there location. The front and rear motors will have the props facing down (remember the envelope is topside down during assembly so face motor's up). The side motors will have the props facing the rear of the envelope. Now install the doweling into the motor mounts. Try to keep the same amount of doweling going into the motor mount (around 1.5 inches from each dowel in mount). **You will notice that the dowels are not tight around the circumference of the saucer.** This is normal because you must allow expansion room for the helium gas. The lengths of the dowels given to you are lengths that work in the factory geographical area of 1650 feet above sea level. If you are at sea level, you may substitute for longer dowel and if you are at a higher altitude, you may shorten the dowels so you can increase the volume of helium.
- **Install gondola.** Place the plastic gondola in the center of the flying saucer envelope, position mounting cord through hole in gondola, attach cord lock.

- **Install the battery** in the gondola. **Warning! Battery should be disconnected when saucer is not in use.**
- **Slide the cord lock up the mounting cord until gondola is snug to the balloon.** Note: Once the envelope is filled with helium, you may have to loosen the cord lock so that the gondola does not compress the balloon.

## FILL FLYING SAUCER

Fill the envelope with helium gas through the filler valve until the bag is almost firm **WITHOUT** over stressing the bag seams. If you do not use a regulator on your helium tank, you must be careful how fast the helium comes out. It is good to practice opening the valve(s) before starting to fill the saucer. It becomes more critical when the saucer is just about full, that you turn the valve the right way and that you can reduce the flow to just a trickle. Adjust lengths of the wooden dowels to give enough gas volume in the saucer bag to provide the necessary lift. Shorten one dowel one inch at a time. Adjust the envelope so there is equal looseness around the perimeter and add more helium. Stop when you have sufficient lift.

**WARNING!** Do not overfill the saucer. They are sized and designed to be loosely filled. The saucer expands with a rise in temperature. If you completely fill the saucer at a cold temperature and the room temperature rises, it will burst.

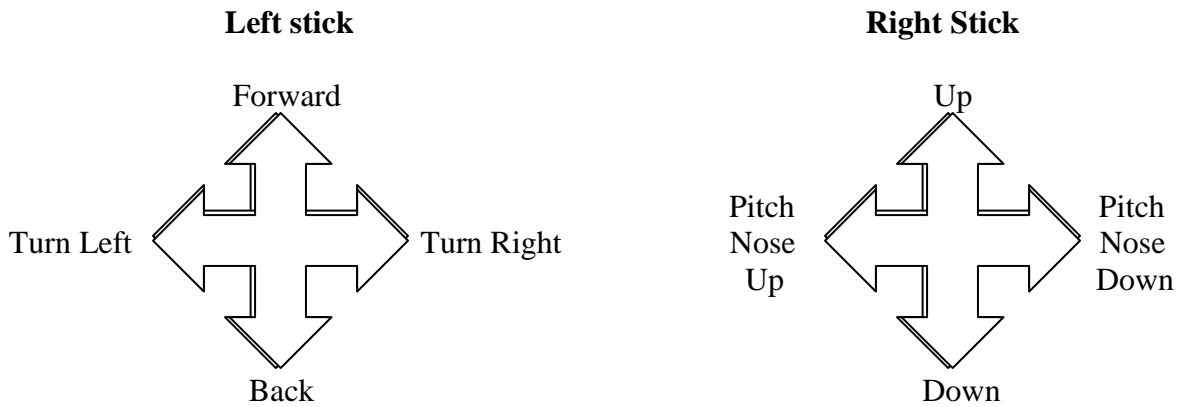
**Attach Ballast** (putty) to the outside edge on the top surface of the saucer bag so that the saucer floats horizontally neutral in the air (won't float up or down). Move the putty around the perimeter so that the saucer is level. **This is very important to fly properly.** The saucer should be neutrally buoyant and level for optimum performance.

**Turn on transmitter (first) & Gondola (second)** and adjust the radio trim settings so that the propellers are not turning with the two control sticks in the middle positions. Note: The trim is very sensitive in stopping the propeller from moving, this is normal!)

## SAUCER PERFORMANCE

1. The transmitter sticks control the direction and height of the saucer. **See Fig. 1A.**
  - The middle position of the left-hand stick is the off position of the motors. Move **up** for forward and **down** for reverse.
  - Push **up** the right stick to make the flying saucer rise, pull **down** to make the flying saucer descend.

- Push the left stick to the **right** to make the flying saucer turn to the right and push to the **left** to make the flying saucer turn to the left. The turning or spinning is achieved by electronic mixing. The left and right motors will increase or decrease RPM as required.
- Push the right stick to the right side to make the nose pitch **down**, or to the left to make the nose pitch **up**.



**Fig. 1A**

There is very little drag, so anticipate control responses and allow space to slow down. Elevation control with the up/down motors is sluggish because of the large surface area. The saucer will move up/down better when moving forwards or backwards.

Charge batteries when there is insufficient power to fly. Be sure to allow the battery pack to cool before recharging.

2. When you stop using the saucer, turn off the gondola, then the radio.
3. To permanently store the saucer remove all of the helium. Carefully open the filler valve and gently squeeze the helium out. To get the last bits out, lay the saucer on a flat, smooth, clean surface and gently roll or fold towards the filler valve.
4. The higher you fly in tall rooms, the warmer and lighter the saucer can get. The ceiling may also have fans turning or other sharp and destructive objects. If concerned, make the saucer slightly heavy.

**HINT! To retrieve a stuck or stranded saucer from the ceiling, attach a loop of two sided carpet tape to the top of the included 36" balloon, tie and string to it and allow it to rise up to the saucer and stick to it. Gently pull it down.**

5. The helium gas naturally escapes from the pores of the saucer over time. Add a little helium from time to time from a spare helium cylinder.
6. The saucer bag is a consumable. Use the included patch kit to repair small holes and tears. Once the balloon starts to lose helium quickly, it is time to replace it. Please contact Draganfly Innovations for replacement items.

## Optional Equipment

**Light Package.** There are 2 rings of LED lights on the gondola. They can be controlled by the variable switch on the transmitter, shown in Fig.1A. The variable knob will allow you to control the speed of the light rotation.

**Card Shooter.** The card shooter is designed to hold 20 to 30 business cards. It can be activated by a switch shown in Fig.1A. By flipping the switch forward it will power the card shooter allowing it to dispense your business cards. The card shooter has a potentiometer connected to it to allow for fine adjustment to stop servo creep.

**Wireless Video Camera.** Experience new dimensions in aerial surveillance with the Draganflyer Color Wireless Eyecam! Our Draganflyer Eyecam weighs in at just 1/3 oz and is one of the world's smallest color video cameras with built-in transmitter available. The Eyecam comes complete with color camera, transmitter, and receiver. More info can be found at [www.rctoys.com](http://www.rctoys.com)

## Charging

### Transmitter Charging

The initial charge on your system should be at least 24 hours to ensure a full charge. Subsequent charges should be at least 12 - 20 hour. To charge your batteries, first make sure your transmitter is off; then connect the wall charger outputs to the charging jack on the transmitter. Make sure the green (TX) light comes on. If it does not, check for

proper connection and/or power to the outlet. Be careful not to leave your transmitter or receiver battery on charge for more than 24 hours to prevent any damage to the battery or charger. Always charge your system before you go out to fly.

### **Lithium Charging**

Lithium-Polymer batteries are a revolution in battery technology. However, lithium batteries require special consideration and handling techniques due to their extremely high capacity.

- Use only chargers designed specifically for Lithium-Polymer batteries
- Never allow the battery to short circuit
- Do not leave Lithium-Polymer batteries charging unattended
- Do not charge batteries near flammable materials

If the Lithium-Polymer battery is damaged in a crash or appears to swell, discontinue use immediately and contact Draganfly Innovations technical support for assistance.

Charging procedures. Remove the lithium battery from the gondola. A 12V power supply will be needed to hook to the charger. Connect the 12VDC power to the INPUT DC-Jack. Next connect the lithium battery to the OUTPUT terminal. Select the amount of charge current. This will be determined by the size of battery that is included. For example if it's a 1300mAh battery charge it at 1.3A. Next select the cell count. This can be determined by the label on the lithium battery. Now press the "Start/Stop" button. The blue LED begins to flash. When the full LED (green) is solid ON, charge is complete. More information can be found in the User guide of the charger.

### **CAUTION FOR HANDLING THE SAUCER**

1. This product is to be used **ONLY** indoors.
2. Pointed objects damage the saucer. If the saucer frequently bumps into objects during flight, it will wear and helium gas will apt to leak, even though there does not appear to be a hole.
3. Operate the saucer skilfully so that it does not hit people.
4. Never let the saucer operate near anyone's face. It is very dangerous to fly it near their eyes, since the propellers are turning. If the saucer gets close to anyone's face, stop the propellers.
5. Keep the saucer away from heat sources, such as stoves, heat radiators, or light bulbs. Helium gas is inert but you will damage the balloon and/or electronics.

6. It is impossible to operate the saucer near an electric fan or some ventilation outlets due to moving air.
7. This saucer may conduct electricity, which may cause injury.
8. Use the saucer at less than 30 degrees Celsius room temperature. Do not store the saucer inflated in a place or inside a vehicle where the temperature could rise to more than 30 degrees Celsius. Before storing or transporting or if the temperature in the room rises and the saucer swell up to large, let some helium out by opening the filler valve.
9. Over time, air enters through the pores of the saucer bag causing the purity of the helium to be lowered and saucer may not float. Gently empty the gas from the saucer and refill with fresh helium.
10. The saucer may not float because of the height above sea level, temperature rise, bad weather (lower atmospheric pressure) or when the humidity rises. When the buoyancy is insufficient, reduce the ballast and signage area.
11. There can be much more than a 10 degree Celsius difference in the room temperature throughout the day. Though you may find the saucer looking deflated at times, as if plenty of helium gas has escaped, there is no problem if the buoyancy is not decreased. When the room temperature rises, the saucer will naturally get as big as before.
12. **Do not** run the motors full speed for prolonged periods of time (over 1 minute non-stop), as this will cause them to overheat. A small squirt of WD40 or similar product into the motors will remove any noise caused by oxidation. It is best to use the motors in short bursts. Once you have achieved momentum, only small motor corrections are necessary to maintain controlled flight.

**NOTE! The manufacturer and distributor of this model saucer assume no responsibility for accident or injuries encountered while operating this model. Use caution and common sense. The customer is wholly responsible for control and safety.**

**HAVE FUN BUT FLY SAFE!!!**