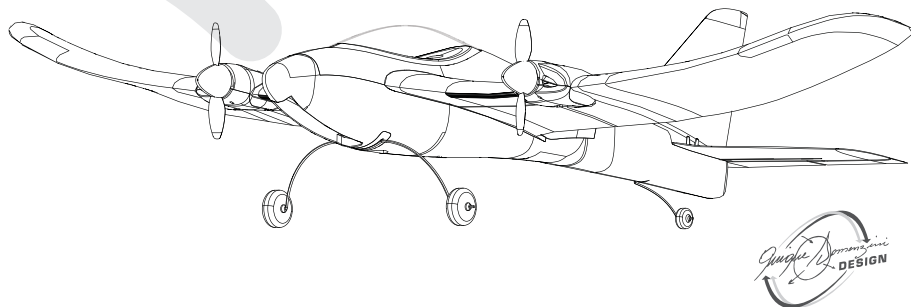


# DUET™

Instruction Manual • Bedienungsanleitung • Manuel d'utilisation • Manuale di Istruzioni



**RTF**  
READY-TO-FLY

hobbyzone®

## NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up-to-date product literature, visit [www.horizonhobby.com](http://www.horizonhobby.com) and click on the support tab for this product.

## Meaning of Special Language:

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

**NOTICE:** Procedures, which if not properly followed, create a possibility of physical property damage AND little or no possibility of injury.

**CAUTION:** Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

**WARNING:** Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

 **WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, Inc. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

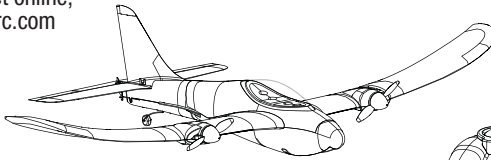
**Age Recommendation: Not for children under 14 years. This is not a toy.**

## Safety Precautions and Warnings

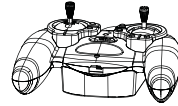
- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. Moisture causes damage to electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.
- Always keep aircraft in sight and under control.
- Always use fully charged batteries.
- Always keep the transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly.
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Always ensure failsafe is properly set before flying.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

## Included in the Box

To register your product online,  
go to [www.hobbyzonerc.com](http://www.hobbyzonerc.com)



Ultra Micro Duet Aircraft



Transmitter with  
Built-in Charger



AA Alkaline  
Batteries (4)

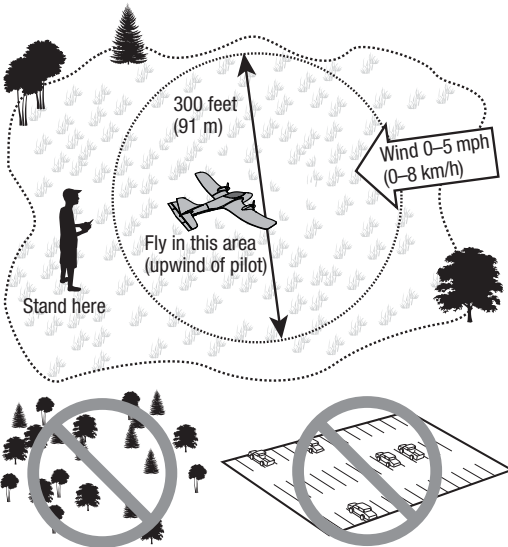


Landing Gear



150 mAh 3.7V  
Li-Po Battery

## Flying Tips



- Consult local laws and ordinances before choosing a location to fly your aircraft.
- Fly your aircraft outside in no greater than light winds.
- For indoor flight, fly the aircraft inside in a large gymnasium
- Keep your aircraft in plain sight and up wind. Do not exceed the 300 foot (91 m) radio range. If the connection is lost, the motors will power off and the aircraft will descend. Leave your transmitter powered on and move closer to your aircraft to regain control.
- Always avoid flying near houses, trees, wires and buildings.
- Always avoid flying in areas where there are many people, such as busy parks, schoolyards or soccer fields.

## Preflight Checklist

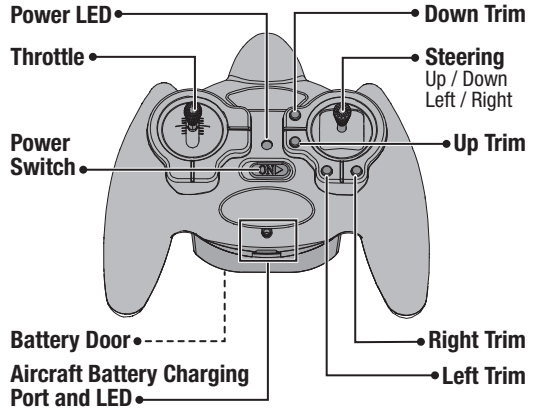
✓	
	1. Find a safe and open area.
	2. Charge flight battery.
	3. Install flight battery in aircraft.
	4. Perform Control Direction Test.

✓	
	5. Plan flight for flying field conditions.
	6. Set a flight timer for <b>5 minutes</b> .
	7. Have fun!

## Transmitter

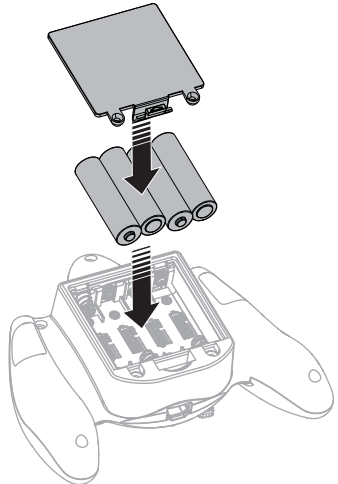
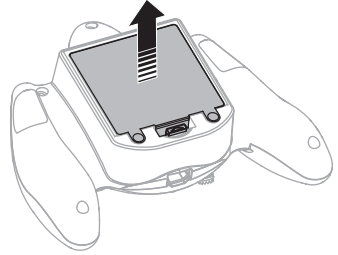
### Low Battery Alarm

When the battery voltage drops too low, an alarm sounds and the LED flashes. The batteries must be replaced immediately. If this happens while flying, land your aircraft as soon and as safely as possible.



## Transmitter Batteries Installation

Remove the battery cover, install the four included batteries (noting proper polarity) and reinstall the battery cover.



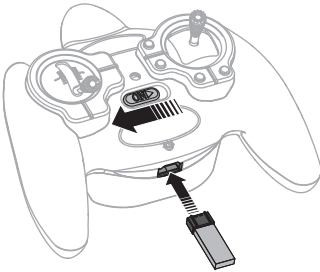
## Charging Warnings

The Duet transmitter has been designed to safely charge the included Li-Po battery.

**CAUTION:** All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury and/or property damage.

- By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.
- Always transport or temporarily store the battery in a temperature range of 40–120° F. Do not store the battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- Always inspect the battery before charging. Never charge damaged batteries.
- **ONLY USE A CHARGER SPECIFICALLY DESIGNED TO CHARGE LI-PO BATTERIES.** Failure to charge the battery with a compatible charger may cause a fire resulting in personal injury and/or property damage.
- Never discharge Li-Po cells to below 3V under load.
- Never cover warning labels with hook and loop strips.
- Never leave charging batteries unattended.

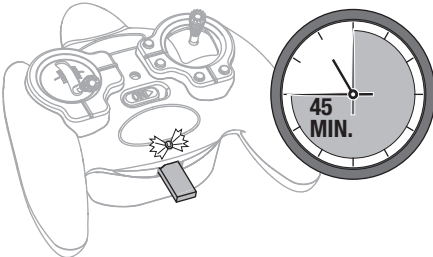
## Charging the Flight Battery



Always charge the aircraft battery before flying.

**CAUTION:** Do not store the Li-Po battery in the charger. Doing so could over-discharge the Li-Po battery.

If the flight battery charging takes longer than 45 minutes AND the charge LED remains solid, replace the transmitter batteries.



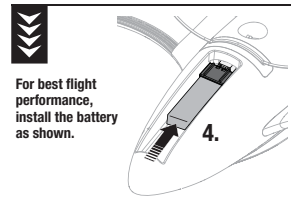
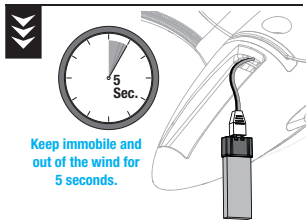
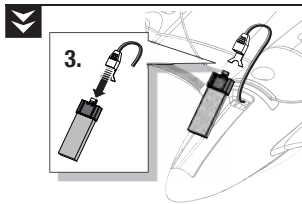
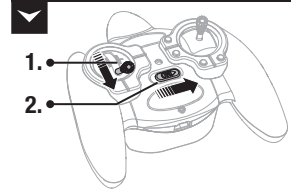
<b>CHARGING</b> (Solid Red).....	
<b>READY</b> (Blinking 20 sec. intervals) .....	
<b>MAX CHARGE</b> (off) .....	

## Installing the Flight Battery

Keep the aircraft and transmitter away from large metal objects, wireless sources or other transmitters while installing the battery.

**⚠ CAUTION:** Always disconnect the Li-Po flight battery from the aircraft receiver when not flying to avoid over-discharging the battery. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

**⚠ CAUTION:** Always keep hands away from the propellers. Virtual Instructor™ stabilization will turn propellers in response to any aircraft movement.

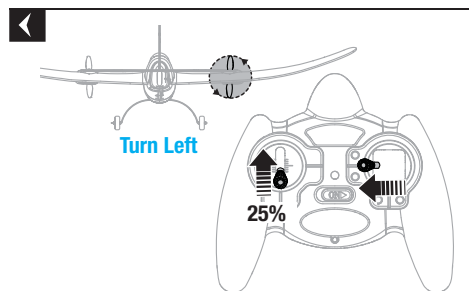
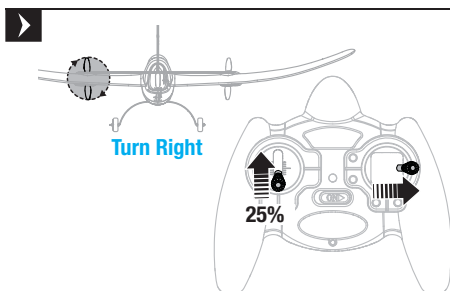
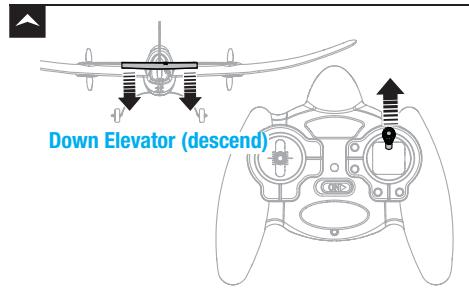
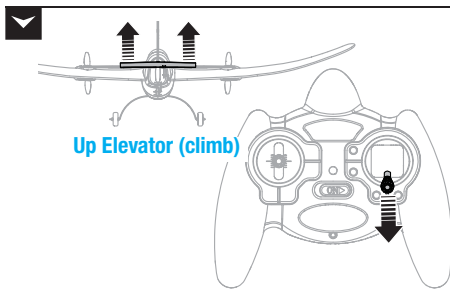


## Control Direction Test

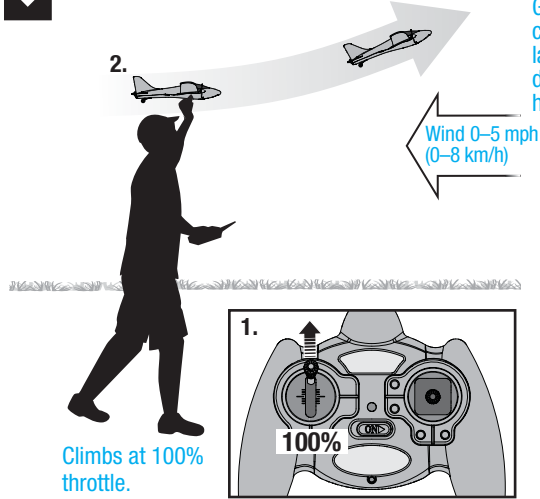
1. Face the aircraft away from you.
2. Restrain the aircraft so it does not escape your control while you are testing your transmitter controls.
3. Move the sticks on the transmitter to ensure the aircraft responds as shown.

Refer to the Binding instructions and Troubleshooting Guide in this manual for more information.

If you need more assistance, contact the appropriate Horizon Hobby Product Support department.



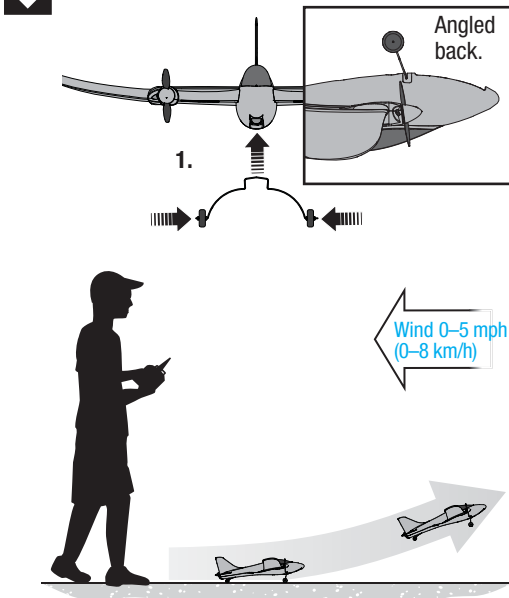
## Takeoff



Climbs at 100% throttle.

## Hand Launch

Get help to hand launch your aircraft so you can concentrate on flying. If you must hand launch the aircraft alone, hold the model in your dominant hand and the transmitter in your other hand.

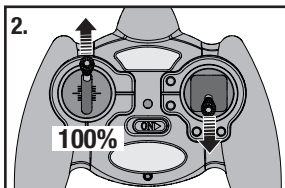


## Ground Launch

Install the landing gear as shown.

- Takeoff from a hard and level runway.
- Turn the aircraft only after it is high off the ground.

Gently pull back on the elevator stick to lift off of the ground.

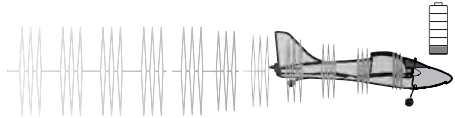
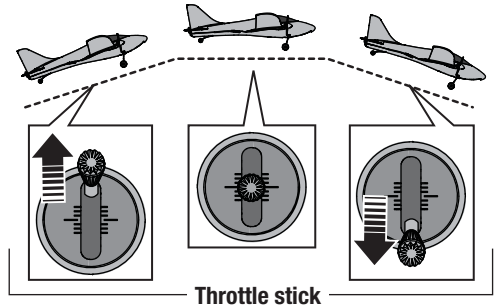


## Flying

- Set a flight timer for **5 minutes**
- **Always make deliberate and steady control stick movements for smooth control of your aircraft.**

**Qo))** VIRTUAL INSTRUCTOR™ If you feel you are losing control, release the right (steering) stick to allow the aircraft to slowly return to level flight.

- When you notice that the aircraft no longer climbs while under full power or the motors begin to pulse, immediately land the aircraft and recharge the battery.



## Adjusting Trim in Flight

Familiarize yourself with your transmitter's controls and the aircraft's response before flying by performing the recommended Control Direction Test. Press the trim buttons on your transmitter to adjust how the aircraft flies.

If the aircraft's nose drifts while the steering stick is at neutral (centered) and the throttle is at 50%, press the trim buttons:

- Upper button to stop up drift
- Lower button to stop down drift
- Left button to stop right drift
- Right button to stop left drift

If you press a trim button until no beep sounds and the aircraft does not fly straight and level, land and manually adjust the trim as described below.

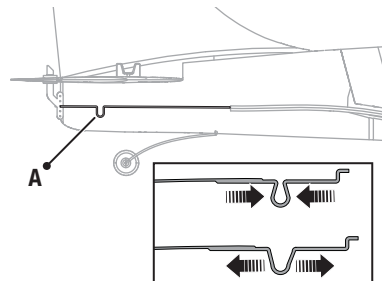
Direction of Drift	Button to Correct

## Manually Adjusting Trim

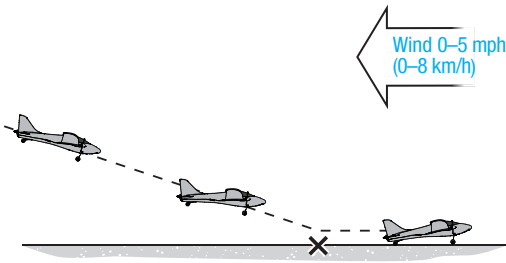
Press the trim buttons to return to center (3 beeps will sound), then use a pair of pliers to carefully bend the metal connector (A):

- Narrow if the aircraft's nose drifts up.
- Widen if the aircraft's nose drifts down.

Short test flights and small bends may be needed.



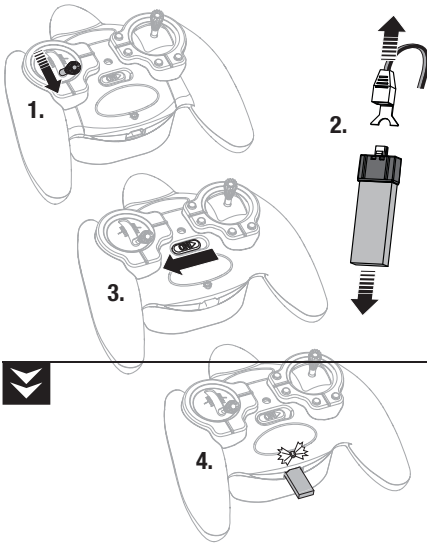




## Landing

Fly to your runway, keeping the aircraft pointed into the wind and the wings level. Bring the aircraft down by lowering the throttle to 25%. Near the ground, fully lower the throttle and pull back on the steering stick.

**⚠ CAUTION:** Never catch a flying aircraft in your hands. Doing so could cause personal injury and damage to the aircraft.



## After Flying

1. Lower the throttle stick completely and do not move the steering stick. Wait at least 5 seconds.
2. Disconnect and remove the battery from the aircraft. Keep hands away from the propellers.
3. Power off the transmitter.
4. Fully charge the aircraft battery.
5. Remove the battery after charging is complete.

**NOTICE:** When you are finished flying, never leave the aircraft in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the foam.

**NOTICE:** Always disconnect the battery from the aircraft before powering off the transmitter or injury and damage may result.

## Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft does not respond to the transmitter	No connection	Follow Binding Instructions. Follow "Installing the Flight Battery" instructions. Replace or recharge batteries
	Transmitter too near the aircraft or both are too near large metal objects, wireless sources or another transmitter during battery connection or Binding	Move to another location, with the transmitter more than 24 inches (60 cm) from the aircraft and attempt battery connection or Binding again
	Low or no power	Replace or recharge batteries and correctly connect the aircraft battery
Poor aircraft response to the transmitter	Poor radio connection	Replace or recharge batteries
	Poor control adjustment or damage to the aircraft	Adjust steering by using left or right trim buttons or land immediately and adjust, repair or replace parts
	Aircraft was moved during battery connection	Keep aircraft immobile during battery connection
Aircraft turns in one direction	Poor control adjustment or damage to the aircraft	Adjust steering by using the left or right trim buttons or land immediately and adjust, repair or replace parts
	Wind is too gusty or strong	Fly on a calmer day
Aircraft rises steeply at half throttle	Poor control adjustment or damage to the aircraft	Adjust by pressing the down trim button or land. Manually adjust trim.
	Aircraft battery is incorrectly installed	Install aircraft battery fully back
	Wind is too gusty or strong	Fly on a calmer day
Aircraft will not climb	Poor control adjustment or damage to the aircraft	Adjust by pressing the up trim button or land. Manually adjust trim.
	Propellers or spinners are loose or damaged	Land immediately and adjust, repair or replace parts
	Low or no power	Replace or recharge batteries
Aircraft is difficult to launch in the wind	Gusty or cross winds	Launch directly into the wind
Flight time is too short	Battery is not fully charged or is damaged	Recharge or replace the battery
	Propellers or spinners are loose or damaged	Land immediately and adjust, repair or replace parts
	Flying at full throttle during entire flight	Fly at just above half throttle to increase flying time
	Wind speed is too fast for safe flight	Fly on a calmer day
Aircraft vibrates	Propellers or spinners are loose or damaged	Land immediately and adjust, repair or replace parts