



# *J-3 Cub BL Instruction Manual*



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10601



**Charge-and-Fly™ Park Flyer**

Wingspan: 37.25 in (946mm)  
Overall Length: 26.75 in (680mm)  
Weight: 15 oz (425 g)  
Motor: PKZ370 Outrunner brushless motor, 1500Kv  
FM Radio System: ZX10 3 proportional channels

# J-3 Cub Instruction Manual

Congratulations on your purchase of the ParkZone® J-3 Cub BL. Your J-3 Cub BL has come with everything needed to get you in the air—all in one box! You will only need to attach the wing and landing gear, as well as charge the battery prior to flight.

We at ParkZone are committed to giving you the most enjoyable flight experience possible. In order to have a safe and successful flight, we ask that you do not fly until you have read these instructions thoroughly.

The ParkZone J-3 Cub BL comes with a fully proportional 3-channel FM radio system, providing full control of throttle, elevator and rudder. If you are not experienced at flying one of HobbyZone's 3-channel aircraft, or any other 3-channel radio controlled aircraft, we recommend that you do not fly this aircraft. If you still choose to fly, you will need to seek the help of an

experienced radio control pilot during your first several flights.

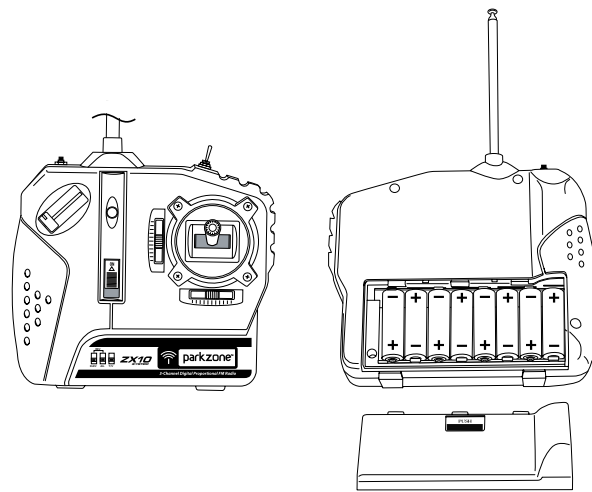
**Crash damage is not covered under the warranty.** Your ParkZone J-3 Cub BL is equipped with the exclusive ZX10 radio system which utilizes 10-bit, 1024-step processing for high-fidelity control. It uses a 6-channel FM receiver with industry-standard 3-wire servos, along with X-Port™ capability for maximum expandability and reusability.

The ZX10 system also features dual rates, allowing you to fly how you feel most comfortable. Low rate limits the travel of the control surfaces and offers smooth and relaxing flight. High rate allows for full control at all times for those craving the maximum performance of their aircraft.

## Step 1

### Transmitter

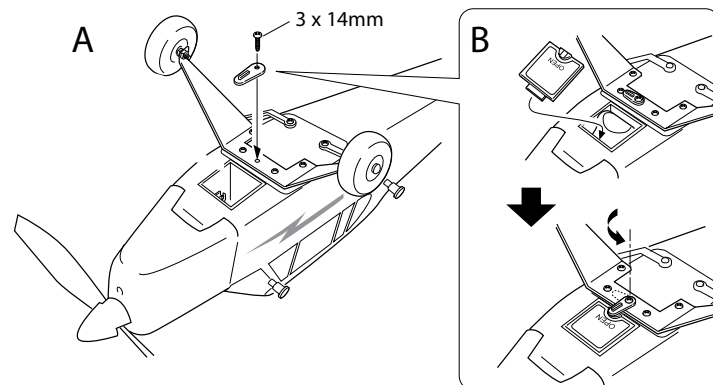
1. Insert 8 new "AA" batteries (supplied) into the transmitter, observing proper polarity.
2. Turn the switch on to ensure the batteries have been installed correctly. Once this is confirmed, turn the radio off.



## Step 2

### Installation of Landing Gear

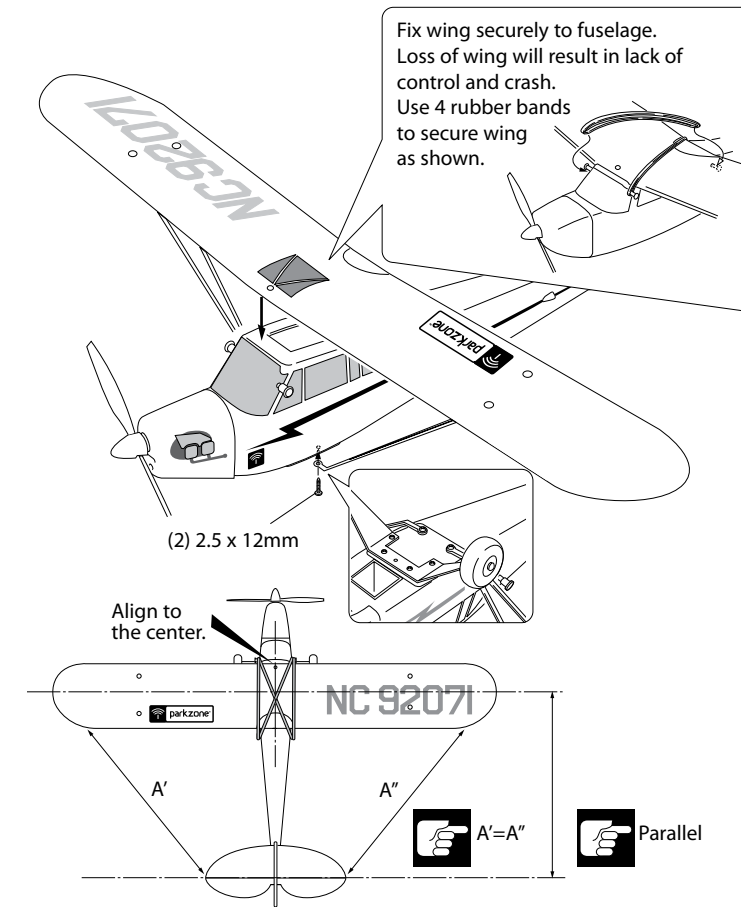
1. Locate the landing gear and the included screws from within packaging.
2. Using a Phillips screwdriver, attach the landing gear to the fuselage as shown.



## Step 3

### Attaching the Wing

1. Locate wing, wing struts and rubberbands.
2. Locate wing strut screws.
3. Place wing on top of fuselage so that it is centered.
4. Attach wing struts with the mounting screws as shown. There should be the same amount of slack in each strut once this is completed.
5. Once you are satisfied the wing is properly centered and the struts are properly attached, complete the attachment of the wing with the included rubber bands. Stretch two of the rubber bands from the front to the rear attach points. Stretch the next two diagonally across the middle. Confirm the wing is securely attached.
6. Make sure that prior to each flight the wing is properly centered onto the fuselage. If the wing is not centered properly, it is impossible to have correct flight.



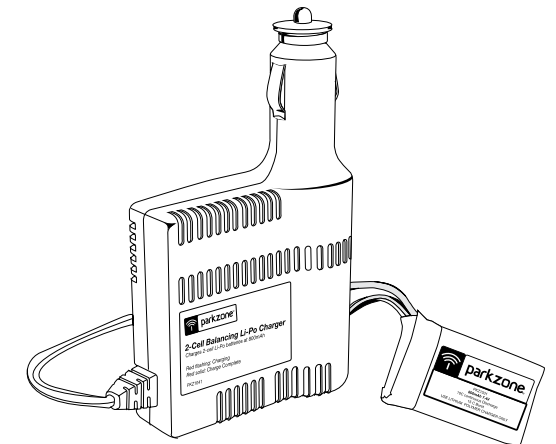
## Step 4

### Charging the Aircraft Battery

This charger uses unique circuitry that ensures an accurate charge every time and protects your Li-Po batteries from the dangers of over-charging. This charger continually monitors the battery and automatically stops charging when the battery is fully charged. The balance charger will help avoid damaging Li-Po cells.

#### DC Li-Po Balancing Charger Features:

- Charges 2-cell lithium polymer battery packs
- LED charge status indicator
- LED cell balance indicator
- Cigarette lighter input cord



BATTERY CAPACITY	MAX. CHARGE RATE	CHARGE TIME
800mAh 7.4V 2S Li-Po	.8 amps	60 minutes

Note: Charge times are estimates only for a fully discharged battery pack. Actual charge times may vary.

## Step 4 *continued*

You must charge the included Li-Po battery pack with a Li-Po specific charger only (such as the included charger). Never leave the battery and charger unattended during the charge process. Failure to follow the instructions properly could result in a fire. When charging, make certain the battery is on a heat-resistant surface.

### Charging the Aircraft Battery:

1. The 12V DC 2S Li-Po balancing charger provides a charge current of .8 amps. The typical charge time for the included 7.4V 800mAh Li-Po is approximately 40 minutes to 1 hour.
2. Locate the safety charge lead on the battery pack. Connect the battery pack to the charger. (Charge through balance lead on battery pack.)
3. Connect the charger to the 12V power outlet in your automobile. Please note that some 12V outlets require your vehicle to be running for the outlet to be operational. It is

recommended to consult your vehicle's owner's manual if you are unsure. The LED will continually blink while the battery charges. It is not recommended to charge batteries while the vehicle is in motion.

4. Charging is finished when the LED indicator glows steadily.

Note: Damage to the charger and battery will occur if you exceed the maximum charge rate recommended.

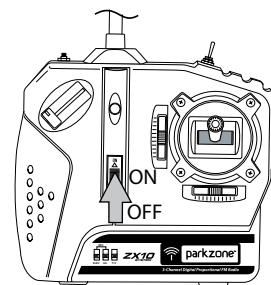
## Step 5

### Motor Test

1. Make sure the throttle slider is in the "off" position.
2. Turn on the transmitter.
3. Remove the battery door from bottom of the fuselage. (See image B in Step 2 on page 2.)
4. Plug the flight battery into the red lead inside the fuselage.
5. Secure the battery inside the fuselage cavity and replace the battery door.
6. Your J-3 Cub BL has a built-in throttle-arming feature which needs to "see" the throttle slider in the Off position before it will spin the propeller. (CAUTION: Make sure that you, as well as loose clothing and hair, are away from propeller at all times!) Advance the throttle forward and the propeller should spin at a high speed. The throttle-arming feature will need to be activated each time the battery is plugged into the airplane.

7. When finished with the motor test, continue to Tail Control Test on the next page.

Note: It is important to always turn on the transmitter prior to plugging in the flight battery. Plugging in the flight battery first may cause undesired operation due to interference, potentially resulting in damage to the aircraft or injury.



### Adult Supervision Required

WARNING: Keep everything clear of the propeller and hold the plane securely. A moving propeller can cause severe injury.

## Step 6

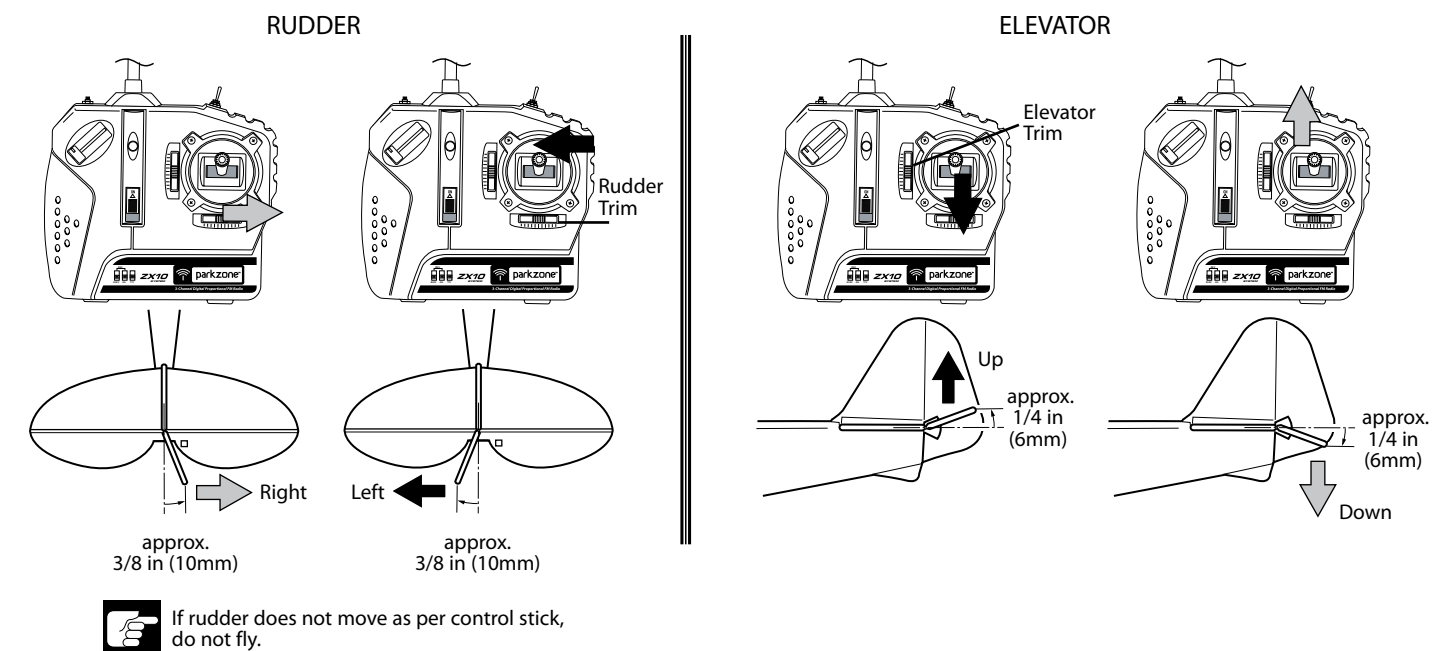
### Tail Control Test

Warning: Keep everything clear of the propeller before starting the control test in the event that you accidentally turn on the motor.

1. Be certain that the throttle slider is in the "Off" position. Make certain both trim levers are centered.
2. Move the stick from side to side. The rudder should move per your transmitter input.
3. Move the stick full forward. When this is done, the elevator control surface should move down (as shown).
4. Pull the stick back and the elevator control surface should move upward (as shown).
5. If your airplane is not responding correctly to the transmitter input, do not fly! Some correction is needed. Call the Horizon Product Support Group at 1-877-504-0233.

6. When the test is complete, be sure to disconnect the flight battery first, then turn off the transmitter. This should be done each time you turn off the airplane.

Note: It is very important to make sure that the control surfaces (rudder and elevator) are at 0 degrees when the transmitter control stick and trim levers are centered.



## Step 7

### Making Adjustments to the Control Surfaces

1. Any changes necessary to bring both the rudder and elevator to neutral (zero degrees) when the transmitter stick is centered should be possible using the trim levers.
2. If you find this is not the case, do not fly until this has been corrected.

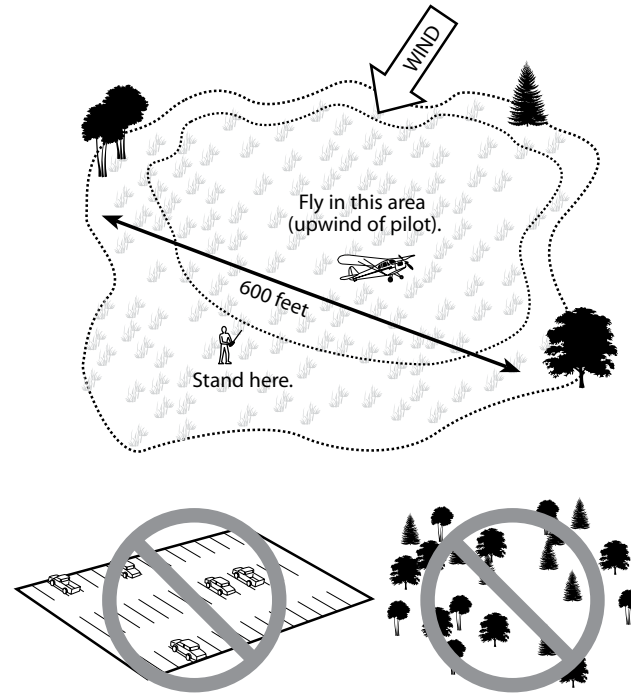
3. If corrections are needed, you may have to adjust the length of the pushrod by removing the clevis from the control surface horn and turning the plastic clevis as necessary.

If you have any questions regarding this, please contact the Horizon Product Support Group at 1-877-504-0233.

## Step 8

### Choose a Large, Open Flying Site

- A large, open grassy field is required to fly your J-3 Cub BL. The J-3 Cub BL flies about 15–20 mph, so it covers ground fast. The bigger the field, the better.
- It is essential to have a minimum of 300 feet of clear space in all directions from the pilot. Ignoring this direction, could result in a fly-away plane.
- Make certain that you do not fly near trees, buildings, or other areas that can restrict your view or interfere with your flying.
- Always keep the plane upwind from you to avoid flyaways. This is essential.



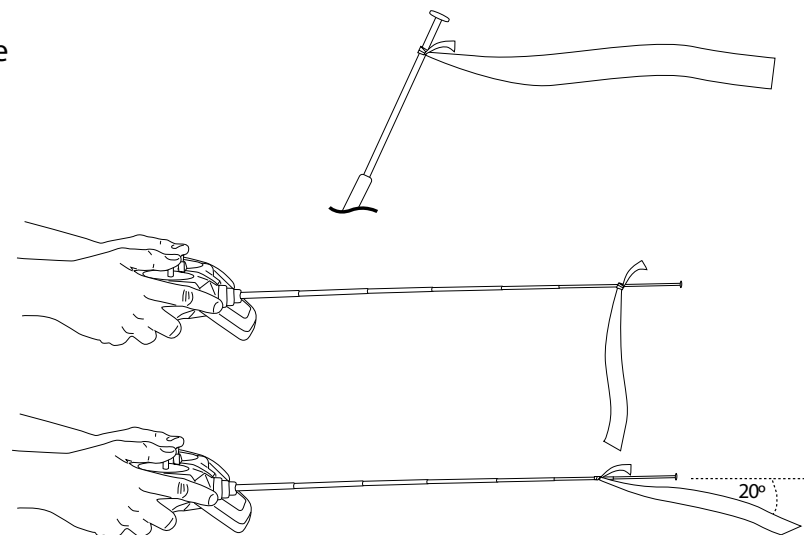
## Step 9

### Choose a Calm Day

You want to fly! However, you need to make sure that you fly in the conditions that will allow you to have the best success. This is when there is little to no wind (less than 7 mph).

#### To check wind conditions:

1. Tie the included red ribbon to the transmitter antenna.
2. Hold the transmitter antenna so that it is parallel to the ground and note how much the ribbon moves in the wind. If the ribbon hangs down, conditions are right to fly. However, if the angle between the antenna and the ribbon is less than 20 degrees, it is too windy to fly.



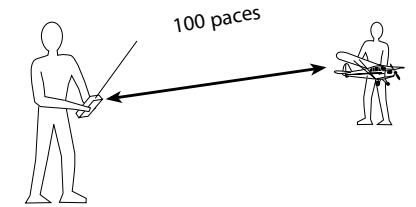
## Step 10

### Range Test

You will need two people to perform the range test: one to hold the plane and the other to give the transmitter input.

Warning: The person holding the plane should hold it in a way so the propeller does not come into contact with anything loose on their clothing or body.

1. One person holds the transmitter, while the other person walks 100 paces away with the airplane.
2. Be sure the throttle slider is in the "Off" position.



## Step 11

### Seek Assistance from an Experienced Radio Control Pilot

VERY IMPORTANT: The 3-channel control system is designed for the experienced radio control pilot and is not intended for the first-time flier. It is best to have HobbyZone® Zone 2 experience. First-time pilots of the ParkZone® J-3 Cub BL should seek the assistance of an experienced RC flier until the additional third channel, pitch control, has been competently mastered. Crash damage is not covered under the warranty.

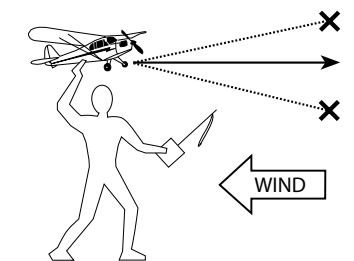
Important: Initial flights should always be done with the airplane in low rate.

## Step 12

### Hand Launching the J-3 Cub BL

1. Make certain that the aircraft battery is fully charged.
2. Turn on the transmitter.
3. Plug in the aircraft battery.
4. Arm the motor, and test the motor and controls.
5. While holding the transmitter in one hand, push the throttle slider to full on (up) with thumb.
6. Take a couple of steps back and launch directly into the wind. Keep the wings level. Use medium force; do not throw it up or down. Point it level (parallel) with the ground when releasing.

7. Keep steering into the wind and hold at full throttle in a slight climb until you have reached an altitude of at least 50 feet.
8. When you have reached this altitude, it is safe to steer in the desired direction.



## Step 13

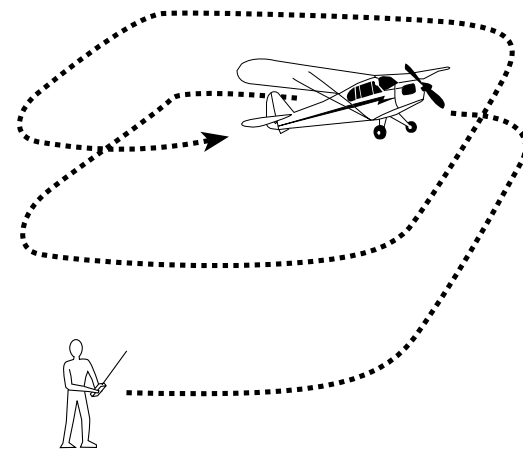
### Runway Takeoff

1. Prior to attempting a runway takeoff, you should have had several successful flights of hand-launching the J-3 Cub BL.
2. Make certain the aircraft battery is fully charged.
3. Turn on the transmitter.
4. Plug in the aircraft battery.
5. Stand behind the J-3 Cub BL and take note of the wind so that you can take off directly into it. Make certain you are on smooth asphalt or concrete.
6. Apply full throttle and adjust the stick so that you keep your J-3 Cub BL headed directly into the wind.
7. If the battery is fully charged, you should be able to lift off the ground in approximately 30–40 feet. As you notice the back of the plane beginning to lift a bit off the ground, apply some “up” elevator by pulling back on the stick. Do not give too much “up” elevator, or you can cause the airplane to enter into a stall.

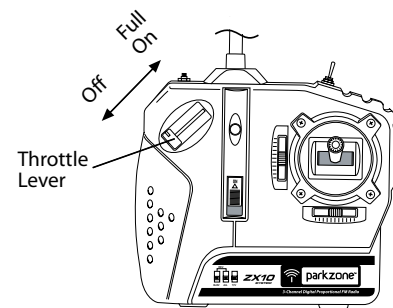
## Step 14

### Flying

1. After launching, your J-3 Cub BL will climb at full throttle. Keep the throttle full on until you have reached an altitude of about 50 feet. At this same time, make sure that you are continuing to keep the airplane directed into the wind.
2. Make right and left adjustments as necessary to keep the plane headed directly into the wind. After you have reached 50 feet of altitude, you can begin to make directional changes that you desire.
3. Remember—control range is 2,500 feet. Do not allow the plane to get too far away from you. When the plane is further in the air it is harder to see and the winds are stronger as well.
4. Always keep the plane upwind from you. This way, the airplane will not be carried away from you by the wind.
5. Flying in too much wind is by far the number one reason for those who are inexperienced to crash or have flyaways.
6. Avoid holding the stick full right or left for more than two seconds, as this will cause the plane to enter a spiral and could threaten your J-3 Cub BL.
7. Do not try to climb too fast by pulling all the way back on the stick (up elevator), or your plane may enter into a stall. Instead, climb by giving small amounts of elevator.
8. Damage/bends to the wings or tail can greatly affect flight control. Replace the damaged parts immediately.



NOTE: With the throttle stick set at low or off (gliding), the plane will not turn as fast as when the throttle is set on high.



## Step 14 continued

### Sharp Turns

In order to make a sharper turn, move the stick in the desired direction and add some up elevator (pull back on stick). The plane will make a sharper banking turn.

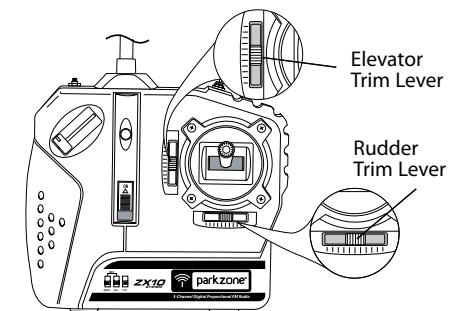
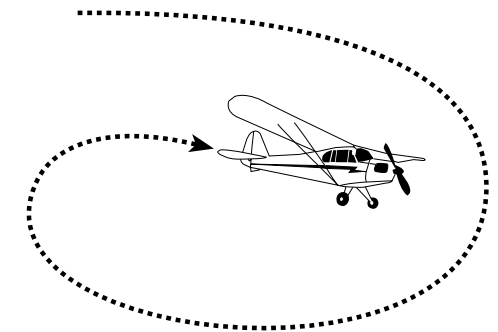
Note: With the throttle slider set at low or off (gliding), the plane will not turn as fast as when you are flying at or near full throttle.

### Rudder Trim

If the model wants to constantly turn one direction, use the trim lever to correct (see drawing). Your J-3 Cub BL should fly straight with the control stick at neutral.

### Elevator Trim

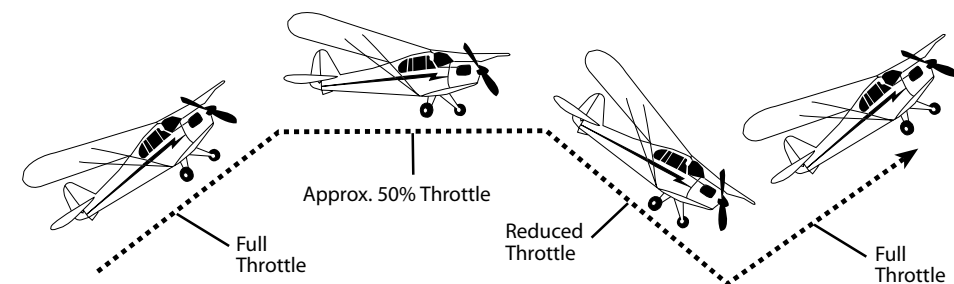
If your J-3 Cub BL wants to go up or down, use the trim lever located at the left of the stick to correct (see drawing). The model should fly straight with the control stick at neutral and should have a steady, shallow climb at full throttle.



## Step 15

### Throttle Adjustment

1. Climb to an altitude of 100 feet or more with full throttle.
2. To achieve and maintain a level “cruising” altitude, reduce the power by moving the throttle slider down to approximately 50% of full-on. The throttle slider is proportional, so you can add or reduce throttle in small increments as needed to maintain the altitude that you desire.
3. To reduce altitude, reduce throttle.
4. To increase altitude, increase throttle.



## Step 16

### Using Elevator

Your J-3 Cub BL is equipped with a third channel for elevator (pitch control). Pulling back on the stick provides up elevator. This allows for shorter takeoffs, better flares for landing, better climb rates, and more effective turns. However, pulling too far back on the elevator to climb too quickly will cause the airplane to enter a stall (make the nose of the plane come down).

To avoid crashing from a stall, always maintain enough altitude to recover.

Just after a stall has occurred, the nose of the airplane will fall and the plane will look like it is diving. To pull out of a stall, simply pull back slowly on the stick (partial up elevator) once your J-3 Cub BL has built up airspeed. Remember, pulling back too quickly or for too long will once again cause the airplane to enter a stall. Effectively avoiding and recovering from stalls requires experience. Always seek the help of an experienced radio control pilot if you are not familiar with pitch control. Failure to do so, could result in a crash and significant damage to your airplane.

## Step 17

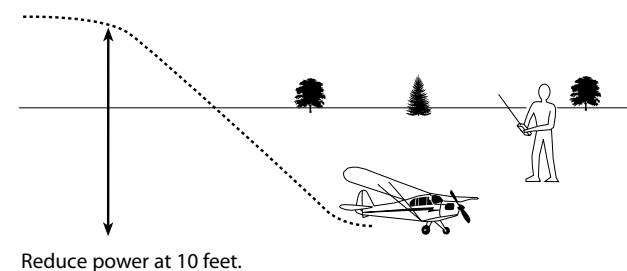
### Landing Your J-3 Cub BL

When you begin to notice that your J-3 Cub BL no longer climbs well under full power (normally after approximately 15 minutes), the battery is getting low and it is time to land. Bring in your J-3 Cub BL directly into the wind and toward the desired landing spot. Gradually reduce throttle (as well as giving a small amount of down elevator if you choose) to reach an altitude of approximately 10 feet. At this point, reduce even more throttle and your J-3 Cub BL should glide in softly for a landing.

Note: Your J-3 Cub BL should be landed on a smooth surface (such as asphalt or concrete) so that the landing gear can work effectively. You can land in short grass, but it is less ideal.

Expert Tip: As you get better and more experienced at flying, try adding a bit of “up” elevator just prior to landing to “flare” the plane. With some practice, your landings should become smooth and on target.

**WARNING:** Do not attempt to catch the airplane or injury may occur. Remember, there is a spinning propeller on the front of the plane that can cause injury! Also, remember to cut power to the motor right before you land to prevent damage to the propeller.



## Step 18

### Aerobatic Flight

Your J-3 Cub BL comes out of the box with the controls set for softer responses and at the outer holes of the control surfaces. However, once you get used to the flight characteristics and want to perform more aerobatic maneuvers, you can change the amount of throw that is permitted by moving to the inner holes of the control horns.

After making any adjustments, always turn on the transmitter and center the transmitter trim levers, making sure the control surfaces are adjusted evenly.

Note: By making these changes, the controls will be much more responsive. But this makes the airplane much less forgiving and easier to stall. Remember, crash damage is not covered under the warranty.

## Step 19

### Repairing Minor Damage

If you happen to crash and part of the tail or wing breaks, it can be repaired by using packing tape to cover the missing pieces. However, if damage is severe, or if the wings and/or tail are bent, replace the damaged parts prior to flying again. See this manual for a complete list of replacement parts for your J-3 Cub BL.

## Success Tips

1. Don't fly in winds over 7 mph! First-time pilots should get help from an experienced radio control pilot during first flights.
2. Choose your flying field carefully—grass and soft ground with 600-foot diameter of open space is optimal for flying and will lengthen the life of the J-3 Cub BL. Make sure there are no obstacles that will get in your way when flying, such as trees or buildings. Make sure you do not fly where there are pedestrians who could be hurt by the airplane.
3. Remember that holding the stick full over for too long can cause the airplane to spiral dive and crash. At the very first sign of the J-3 Cub BL beginning to spiral down, immediately release the stick and give the opposite turn control to the spiral, then pull back on the elevator gently to level flight and level the wings.
4. Don't attempt to fly or do maneuvers beyond your flying abilities without seeking the assistance of an experienced pilot.
5. If you're gliding with the motor off, allow the J-3 Cub BL more area for turns.
6. Position yourself at your flying field to keep the sun at your back and out of your eyes. Wear sunglasses on bright days.
7. Keep the J-3 Cub BL upwind, especially on windier days, to prevent it from “flying away.” The wind is normally stronger at higher altitudes than it is on the ground.
8. Keep your plane in front of you so you don't have to turn in circles as you fly. Try to avoid flying directly overhead.

# Warnings and Safety

1. Read and follow this manual completely, observing all instructions and safety directions. Otherwise, serious injury and damage can occur. Think safety first.
2. Keep propeller away from body parts, even when it isn't spinning, as it could be turned on by accident. Beware of hair becoming entangled in the propeller, especially while launching the J-3 Cub BL.
3. Do not fly when it's too windy or you may lose control and crash, causing injury or damage. Never fly near people, vehicles, train tracks, buildings, power lines, water, hard surfaces or trees. Never allow any one to attempt to catch the airplane while it's in flight or serious injury can result.
4. Adult supervision is recommended for ages 14 and under.
5. Battery charging: Only use a battery charger intended for use with the flight battery. Never leave charger unattended while charging. This will help prevent overcharging. While charging, place the battery on a heat resistant surface. Do not lay it on carpet or upholstery while charging.
6. Never cut into the battery charger or airplane wires or serious injury can occur. Causing the battery to "short out" (crossing negative and positive bare wires) can cause fire, serious injury and damage.
7. Hold the plane securely, and keep all body parts away from the propeller when the flight battery is plugged in. When you finish flying the J-3 Cub BL, always unplug the battery before you turn off the transmitter.
8. Never fly on the same frequency as another RC vehicle in your area. The frequency of the J-3 Cub BL is shown on stickers on the back of the transmitter.

# Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Unit does not operate	<ol style="list-style-type: none"> <li>1. Transmitter "AA" batteries are depleted or installed incorrectly, indicated by a dim or unlit LED on transmitter or the low battery alarm.</li> <li>2. No electrical connection.</li> <li>3. Flight battery not charged.</li> <li>4. Crash has damaged the radio inside.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check polarity installation or replace with fresh "AA" batteries.</li> <li>2. Push connectors together until they "click."</li> <li>3. Charge battery fully.</li> <li>4. Replace the fuselage or receiver.</li> </ol>
Aircraft keeps turning in one direction	<ol style="list-style-type: none"> <li>1. Rudder or rudder trim are not adjusted correctly.</li> <li>2. Wing is not centered over the fuselage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust rudder and/or rudder trim.</li> <li>2. Center wing prior to each flight.</li> </ol>
Aircraft is difficult to control	<ol style="list-style-type: none"> <li>1. Wing or tail is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace damaged part.</li> </ol>
Aircraft will not climb	<ol style="list-style-type: none"> <li>1. Battery is not fully charged.</li> <li>2. Elevator trim may be incorrect.</li> </ol>	<ol style="list-style-type: none"> <li>1. Charge battery fully shortly before flying.</li> <li>2. Adjust elevator trim.</li> </ol>
Aircraft keeps pitching up steeply	<ol style="list-style-type: none"> <li>1. Wind is too gusty or strong.</li> </ol>	<ol style="list-style-type: none"> <li>1. Postpone flying until the wind calms down.</li> </ol>

## Programming the E-flite 10A Pro Brushless ESC

The E-flite® 10A Pro Brushless ESC controller has been designed for use in radio control aircraft and to support continuous currents of up to 10 amps when using 2-3 cell Li-Po battery packs and up to four sub-micro servos. Standard features include advance BEC and safe power arming along with programmable features such as low voltage cutoff, braking, timing, and throttle input range.

### Features:

- Up to 10 amps continuous current with proper air flow
- Programmable motor braking
- Safe power-arm mode prevents accidental starts
- Programmable low voltage cutoff with settings for 2-cell Li-Po (6V), 3-cell Li-Po (9V) or 70% of battery starting voltage
- Programmable throttle input range (1.1ms-1.9ms or Auto Select)
- Soft start
- Auto motor shut down if signal is lost or there is interference
- Programmable timing—2 user-selectable ranges for use with a large variety of brushless motors
- Pre-wired connectors—JST on battery input and 2mm female gold bullets on motor output leads

### Specifications:

- Continuous Current: 10A
- Max Burst Current: 12A (15 sec)
- Length: 30mm (1.2 in)
- Width: 17.5mm (.7 in)
- Height: 10mm (.4 in)
- Weight: 10 g (.35 oz)
- Cells: 2-3S Li-Po or 6-10 Ni-MH/Ni-Cd
- Battery Input Leads: 20 AWG with JST Connector
- Motor Output Leads: 20 AWG with 2mm Female Gold Bullet Connectors

\*\* Sub-Micro servos tested 4 at a time include E-flite S-60, and S-75, JR 241, and ParkZone® 3W servo. Some other brands of servos have significantly higher current draw. Digital sub-micro servos, micro, and mini-servos have higher current draw, use the 'standard servos' column. Always be sure to position the ESC for maximum airflow since cooling can significantly aid in the performance of the BEC.

### Servo Ratings with BEC Enabled:

Cell	High Torque Servos	Standard Servos	Sub-Micro Servos
6 - 8 NiCd/NiMH	3	4	4**
9 - 10 NiCd/NiMH	2	3	4**
2 Li-Po	3	4	4**
3 Li-Po	2	3	4**

Chart A

Before first use, please refer to Chart A for BEC usage and input voltage/cell count guidelines. You must follow these guidelines for safe operation. If you are using four servos with higher current draw, or more than four servos for a quad flap option (for example), you will need to disable the BEC. If you wish to disable the BEC, you must remove the red receiver wire lead and connector from the receiver lead housing, and then insulate it properly to prevent shorting.

When operating with the BEC disabled, E-flite recommends the use of a separate, high power, external, BEC (like the Ultimate BEC), or receiver pack and switch using the following items to ensure trouble-free operation:

1. Expert 720mAh Ni-MH 4.8V receiver battery (EXRB100), or similar
2. Expert Standard Switch (EXRA050), or similar

### PLEASE READ THESE INSTRUCTIONS IN THEIR ENTIRETY BEFORE USE

Before you connect your ESC and begin flying, take a moment to look it over. The input power side has a black (negative) and red (positive) wire along with a female JST Connector. The motor side has three, 2mm female gold bullet connectors.

The black and red wires with the female JST connector will connect to your power battery. The red wire connects to the red wire on your battery pack, the black wire to the black wire on your battery pack. If the wires are reversed, the ESC may be damaged. **YOU MUST ENSURE THAT YOU CONNECT THE BATTERY POLARITY PROPERLY TO PREVENT DAMAGE TO THE ESC.** Reversing polarity will void your warranty, so always double-check this connection. You may need to solder a male JST Connector (EFLA242) to the battery so it matches this speed control. The throttle lead connects to the throttle channel on your radio receiver.

**WARNING: For your safety, when checking the startup function of the ESC or making programming changes, please remove the propeller to prevent any potential injury. You should always treat the motor and propeller as live and dangerous, remembering that it could start at any time, and keep any body parts, clothing and tools clear of the propeller arc. NEVER LEAVE THE BATTERY CONNECTED WHEN NOT FLYING THE AIRCRAFT AND ALWAYS REMOVE THE BATTERY FROM THE MODEL BEFORE CHARGING AND WHEN FINISHED FLYING.**

When flying in hot weather, we recommend checking on the condition of the ESC, battery, and motor after each flight, and you may want to consider letting the electronic components cool to near ambient temperature between flights.

We also recommend throttle management when running near maximum levels of current draw. It is not recommended that you fly an entire flight at full throttle. If this is done, it is possible to cause permanent damage to your motor, battery, and ESC.

#### **Using Your 10-Amp Pro Brushless Controller:**

This controller is very simple to use, and for safety, will not arm the motor until the throttle stick has been held in the Idle/OFF position for more than 1 second. The controller will indicate the soft cutoff voltage setting every time you plug the battery in by first emitting a low, long tone, to show startup. You will then hear 2 (for 2-cell Li-Po) or 3 (for 3-cell Li-Po) medium length, mid tones to indicate the cell count (or 7 beeps if 70% Smart Cut is selected), helping you to confirm the setting before every flight.

#### **Connecting the ESC to the Motor:**

The three wires from your motor connect to the three female gold bullet connectors on the ESC. The order of connection to the motor is not important; you can plug any motor wire into any connector. If, when you test the system, the motor runs backwards you can simply unplug and switch any two of the motor wire plugs connected to the ESC.

#### **Mounting the ESC:**

Choose a location that has good airflow and offers good protection.

The plastic case area next to the small BEC heat sink is designed to accept Velcro® or 2-sided tape. Do not cover the heat sinks as this will greatly reduce their effectiveness.

Mount the ESC with a combination of Velcro®, 2-sided foam tape, and/or tie wraps.

#### **Starting Your Power System:**

1. Turn on your transmitter and ensure the position of the throttle stick is set to Idle/Off.
2. Plug in the flight pack to the controller and listen for the tones to indicate voltage cutoff.
3. After the controller has indicated the cell count, you will hear a series of 3 medium length rising tones to indicate the controller is armed, and ready to fly.
4. When you move the throttle stick upward, the motor will run. If you continue to move the throttle stick upward to Full throttle (high position), the motor will run faster. If you lower the throttle stick below the start-up position, the motor will stop running.
5. Check servo motion as part of your preflight check. It is very important you make sure linkages are free-moving with no binding.

#### **Entering the Programming Mode:**

1. With the battery disconnected from the controller, and the transmitter turned on, first move the throttle stick to full throttle (>1.7ms) position. Leave it in this position and then connect the battery to the controller.
2. Wait for 5 seconds, and the ESC will give two sets of fast ringing tones to indicate you have successfully entered the programming mode.
3. Once you hear these tones, move the stick to center (between 1.4 and 1.6ms), and the controller will beep 1 time; this indicates menu item 1.
4. The controller will now wait 5 seconds for you to make your selection; your programming options are either full throttle (>1.7ms), or idle (<1.3ms).

5. When you have made a valid selection the control will beep once with a lower tone, and you can move the stick back to center for the next menu item (2 beeps, 3 beeps and so on). If you do not make a selection within 5 seconds, the controller will move to the next menu item.

6. Please note that if you do not need to program every menu item, you can simply exit the programming mode after you have made the required selections. You can do this by moving the throttle stick straight to Idle, after making your selection, or leaving it in the Idle position if you made a no selection (for approximately 8 seconds), until you hear one set of 3 medium length rising tones that indicate the controller has armed the motor, or by simply unplugging the battery.

Remember, when in the programming mode:

**Full Throttle = Stick Up**  
**Idle = Stick Down**

The default settings (from the package) for your E-flite® 10-Amp Pro ESC are as follows:

- 3S (9V) auto cutoff for Li-Po
- Brake Off
- 4-pole and greater timing (outrunner or 6-pole motors)
- Throttle input range set to Auto Select Mode (1.2ms–1.8ms)

#### **Programming Menu 1 – Voltage Cutoff:**

Use this option to set the voltage at which the controller will shut down the motor to prevent damage to your battery, when it reaches the cutoff voltage. You will know that your battery pack has reached auto cutoff when you hear the motor “pulse” repeatedly.

1. 3S Li-Po voltage cutoff – Full Throttle
2. 2S Li-Po or Ni-Cd/Ni-MH voltage cutoff – Idle
3. 70% Smart Cut soft cutoff (See below for Smart Cut information)

*NOTE: To access the 70% Smart Cut option, leave the stick at full throttle for 7 seconds while in menu item 1, until 7 beeps are heard, then continue through the program normally. This option will activate the soft cutoff at 70% of startup voltage. For example, if your pack measures 10.0 volts at startup, then the soft cut will occur at 7.0 volts. The Smart Cut option will check the startup voltage every time*

*you plug the battery into the controller, so beware of using partially charged packs, as the system cannot protect your Li-Po batteries if you are using Smart Cut and connect a partially charged pack.*

You will know your battery pack has reached soft auto cutoff when you hear the motor “pulse” repeatedly. We recommend you land your model as soon as you hear the motor pulse (indicating the pack voltage has dropped to the cutoff voltage level) to prevent over-discharge of the Li-Po battery pack and to prevent sudden power loss.

#### **Programming Menu 2 – Braking:**

This option gives you the choice to have the ESC stop the propeller during flight (Brake on) or allow it to windmill (Brake off). Use the brake-on option for gliders.

1. Brake Off – Full Throttle (>1.7ms)
2. Brake On – Idle (<1.3ms)

#### **Programming Menu 3 – Timing:**

Please refer to your motor instructions and specifications for an indication of the number of poles.

1. 4-pole and greater motors timing mode – Full Throttle
2. 2-pole motors timing mode – Idle

#### **Programming Menu 4 – Throttle Input Range:**

This option is to allow for proper operation of the ESC with many different radios on the market. Most radios, and all the computer radios we have tested, work well with the auto-set option, but some radios have a wider output range, and may give a more linear response with the 1.1 to 1.9ms range. If you feel there is too much “dead” area in the stick movement near Full Throttle, try adjusting the end points in your radio, or change to the wider input range.

Be aware that if these settings are not correct, it may be impossible to arm the controller. If this happens, return the input range setting to the default auto learning setting.

The auto setting option learns the minimum position of your throttle (between 1.1 and 1.3ms) and stores this value at each startup, and then adds a value of 0.6ms for the full throttle setting.

1. Throttle Range 1.1ms to 1.9ms – Full Throttle
2. Auto Select – Idle



**Error Codes:**

The controller will beep continuously if the input voltage is below the cut voltage (beep...beep...beep) when the battery is connected. Check the voltage of the battery pack to see if it is correct, or the programmed cutoff setting if the input voltage is set incorrectly for the voltage of the pack being used.

If you have trouble arming the controller (and the throttle trim has been set to minimum), enter the programming mode and try the auto setting in Programming Menu 4 to see if it helps correct your problem. If it is a computer radio, you may alternatively increase your high and low throttle ATV (endpoint) percentages.

Some systems, including many Futaba\* systems, may require the throttle channel to be "reversed" for proper operation.

\* Futaba is a registered trademark of Futaba Denshi Kogyo Kabushiki Kaisha Corporation of Japan.

# Warranty

**Warranty Period:**

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

**Limited Warranty**

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. **REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER.** This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- **HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.**

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any goods by Purchaser must be approved in writing by Horizon before shipment.

**Damage Limits:**

**HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.** Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

**Law: These Terms are governed by Illinois law (without regard to conflict of law principals).**

**Safety Precautions:**

This is a sophisticated hobby Product and not a toy. 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. The Product 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 injury.

**Questions, Assistance, and Repairs:**

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to [productsupport@horizonhobby.com](mailto:productsupport@horizonhobby.com), or call 877.504.0233 toll free to speak to a service technician.

**Inspection or Repairs**

If this Product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. A Service Repair Request is available at [www.horizonhobby.com](http://www.horizonhobby.com) on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**Warranty Inspection and Repairs**

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

**Non-Warranty Repairs**

Should your repair not be covered by warranty the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will

be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly. Please note: non-warranty repair is only available on electronics and model engines.

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center  
4105 Fieldstone Road  
Champaign, Illinois 61822

All other Products requiring warranty inspection or repair should be shipped to the following address:

Horizon Product Support  
4105 Fieldstone Road  
Champaign, Illinois 61822

Please call 877-504-0233 with any questions or concerns regarding this product or warranty.

## Follow-up Procedures

If you are directed by our Product Support staff to return the airplane, please follow these instructions.

1. Unplug the battery from the airplane.
2. Pack the complete ParkZone® J-3 Cub BL (all components in the original box) and put into a sturdy shipping carton for protection.
3. Include your complete name and address information inside the carton, as well as clearly writing it on the outer label/return address area. Include detailed information explaining the nature of the problem(s) encountered.
4. Please date your correspondence and be sure your complete name, address and daytime phone number appear on this enclosure. Please include your original dated sales receipt.

Mail to the address below.  
Horizon Service Center  
Attn: ParkZone Dept.  
4105 Fieldstone Rd.  
Champaign, IL 61822

### Replacement Parts

Make sure that you keep your J-3 Cub BL in the air. Replacement parts are available at your local hobby store or from Horizon Hobby (www.horizonhobby.com). Please try your local retailer first. By supporting your local hobby store, they will have replacement parts in stock when you need them.

ITEM #	DESCRIPTION	RETAIL
PKZ4500	J-3 Cub BL RTF.....	199.99
PKZ1102	Decal Sheet: J-3 BL.....	4.99
PKZ1106	Landing Gear w/Tires: J-3 BL.....	5.99
PKZ1108	Wing Hold Down Rods w/Caps (2): J-3 BL.....	1.49
PKZ1110	Yellow Rubber Bands (4): J-3 BL.....	.99
PKZ1112	Battery Door w/Latch: J-3, J-3BL.....	1.79
PKZ4514	Firewall w/Screws: J-3, J-3 BL.....	1.79
PKZ4515	Instruction Manual: J-3 BL.....	.99
PKZ4516	370 Brushless Outrunner Motor, 1500Kv.....	35.99
PKZ1120	Standard Wing: J-3, J-3BL.....	19.99
PKZ1122	Wing Struts w/Screws: J-3, J-3BL.....	1.99
PKZ1124	Complete Tail w/Accessories: J-3, J-3BL.....	9.99
PKZ1126	Cowl: J-3, J-3 BL.....	1.99
PKZ1060	Mini Servo w/Arms.....	12.99
PKZ1771	Tx: CH 1, 26.995: J-3 BL, Spitfire.....	32.99
PKZ1772	Tx: CH 2, 27.045: J-3 BL, Spitfire.....	32.99
PKZ1773	Tx: CH 3, 27.095: J-3 BL, Spitfire.....	32.99
PKZ1774	Tx: CH 4, 27.145: J-3 BL, Spitfire.....	32.99
PKZ1775	Tx: CH 5, 27.195: J-3 BL, Spitfire.....	32.99
PKZ1776	Tx: CH 6, 27.255: J-3 BL, Spitfire.....	32.99
PKZ1751	Rx: CH 1, 26.995: J-3 BL, Spitfire.....	37.99
PKZ1752	Rx: CH 2, 27.045: J-3 BL, Spitfire.....	37.99
PKZ1753	Rx: CH 3, 27.095: J-3 BL, Spitfire.....	37.99
PKZ1754	Rx: CH 4, 27.145: J-3 BL, Spitfire.....	37.99
PKZ1755	Rx: CH 5, 27.195: J-3 BL, Spitfire.....	37.99
PKZ1756	Rx: CH 6, 27.255: J-3 BL, Spitfire.....	37.99
PKZ4567	Bare Fuselage: J-3 BL.....	14.99
PKZ1014	Hi-Pitch Prop (8.25x5.5): J-3 BL.....	3.99
PKZ1032	7.4V 2S 800mAh Li-Po.....	25.99
PKZ1041	2S DC Li-Po Charger.....	15.99
PKZ1013	Prop Adapter.....	5.99