**TROUBLESHOOTING**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motors will not turn on</td>
<td>Plane not charged</td>
<td>Move the Motor Control Stick to middle position to reduce motor speed.</td>
</tr>
<tr>
<td>or operate</td>
<td>Plane was not set to 'OFF' during charging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tx / Charger was not set to 'OFF' during charging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tx Battery power is drained</td>
<td>Move the Motor Control Stick to middle position to reduce motor speed.</td>
</tr>
<tr>
<td></td>
<td>Tx has been left 'ON' longer than 2 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plane not turned 'ON'</td>
<td>Move the Motor Control Stick to middle position to reduce motor speed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plane is flying too high</td>
<td>Need to decrease power</td>
<td>Move the Motor Control Stick to middle position to reduce motor speed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plane is flying too low</td>
<td>Plane not fully charged</td>
<td>Charge plane for a complete charge cycle.</td>
</tr>
<tr>
<td></td>
<td>The six ‘AA’ batteries in the Tx / Charger need to be replaced</td>
<td>Charge plane for a complete charge cycle.</td>
</tr>
<tr>
<td></td>
<td>Need to increase power</td>
<td>Install new batteries.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Move the Motor Control Stick upward all the way.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plane will not turn</td>
<td>Tx / Charger is not turned ‘ON’</td>
<td>Set the Tx / Charger to the ‘ON’ position.</td>
</tr>
<tr>
<td></td>
<td>Tx / Charger antenna is not extended all the way, Flying in strong wind</td>
<td>Fully extend the antenna prior to flying.</td>
</tr>
<tr>
<td></td>
<td>You have exceeded the 2 minute Flight Optimizer period</td>
<td>Do not fly in adverse wind conditions or wind in excess of 5 mph (8 kph).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turn Tx ‘OFF’ then ‘ON’ again.</td>
</tr>
</tbody>
</table>

**EASY REPAIRS YOU CAN DO YOURSELF**

Plane parts are made of foam for impact strength and durability. Even so, some parts may break during a crash. Foam parts may easily be repaired using household tape and glue. Clear packing tape works well for most repairs, however, larger breaks may require glue and tape for best results. To make your own repairs, use 5 minute epoxy or household white glue (sold separately) and follow the steps below. While we don’t recommend you crash your plane, sometimes it happens. Simple home repairs will get you back in the air and flying in no time.

**REPAIRS TO WINGS AND TAIL**

- **Repair wing the same way.**
- **Apply glue to broken area.** Then put the 2 pieces together.
- **Balsa wing with clear tape.** Lay on top and bottom.

**REPLACING BROKEN PROPELLER**

- **Pull off broken propeller.**
- **Press new propeller onto shaft using only a 1/16" (1.5 mm) gap between propeller and fuselage.**

**THE TRANSMITTER (Tx) WITH BUILT-IN CHARGER**

(Requires 6 ‘AA’ Alkaline Batteries - Sold Separately)

- **Remove screw and back cover then insert 6 new ‘AA’ alkaline batteries in the correct polarity into Tx. Replace back cover and screw.**
- **Because the Tx is used for both charging and flying the plane, it is recommended that you replace the 6 ‘AA’ Tx batteries every fourth complete charge.**
- **Motor Control Stick Push and hold ‘UP’ to turn motor at full power. Push half way up to run motor at cruise speed. Release to stop motor.**
- **Switch ‘ON’ for flying, ‘OFF’ for charging.**

**IMPORTANT TIPS:**

This radio has been equipped with an auto shut-off circuit. Tx will automatically turn off Motor Control after 2 minutes of continuous flying. To reset the Motor Control, switch Tx ‘OFF’ then back ‘ON’. See ‘Flight Optimizer’ page for more details.
R/C USER INFORMATION
This radio system complies with Part 95 of the F.C.C. rules. Operation is subject to the following two conditions:
1) This radio system may not cause harmful interference,
2) This radio system must accept any interference received, including interference that may cause undesired operation.
Changes or modifications of any kind to the transmitter not expressly approved by Estes-Cox Corp. will void the user's authority to operate the transmitter.
Transmitter frequency can only be changed and the associated electronic circuitry tuned by Estes-Cox Corp. Changing frequency by the consumer will void the warranty and is a violation of F.C.C. regulations.
Do not cut or shorten the length of the transmitter or receiver antenna. Doing so greatly reduces the operational range of the radio system.
Refer to label on back of transmitter for operating frequency. Do not fly or operate more than one R/C plane or vehicle on the same frequency at a time. Operational interference may occur.

WARNING: TO AVOID INJURY AND PROPERTY DAMAGE:
- Warning: Do not use this product near water. Use in the rain increases the risk of electric shock.
- Do not reverse polarity while plugging into charger.
- Do not leave plane unattended during charging.
- Do not expose the plane or battery to high temperatures.
- Do not dispose of the plane or battery in a fire.

BATTERY AND CHARGING SAFETY:
This plane contains a non-removable, non-replaceable 3.7 Volt lithium-polymer (Li-Po) battery. Li-Po batteries are easily damaged and may cause fire or explode.
- Only use the transmitter/charger supplied to charge battery in plane.
- Never leave battery unattended while charging.
- Do not leave plane unattended during charging.
- Do not reverse the polarity of the transmitter/charger.
- If the plane's internal battery becomes hot, smells, or becomes damaged, do not use.
- If the plane is not in use, turn off the transmitter/charger.

90 DAY LIMITED WARRANTY
Do not return your plane to the store. Estes will repair or replace factory defects for 90 days from the date of purchase. This warranty specifically does not cover crash damage or abuse.
For fast courteous service, if you find a defect or a part is missing, please contact Estes Customer Service at www.estesrocks.com or call 1-800-525-7561.

![FLIGHT OPTIMIZER](image)
For the beginning R/C pilot, we recommend starting with short flights. Learning to fly in this manner is normal and each successive flight will help you learn how to better pilot the plane.
A Flight Optimizer has been programmed into the flight transmitter to give you more flights per charge.

The Flight Optimizer is designed to allow two full minutes (120 seconds) of throttle (motor) operation at a time. At first, maintaining flight for a full two minutes may be difficult. Keep practicing! Once you have achieved a full two minute flight the motor will turn off and the plane will begin to descend on its own. You now have two options:
The flight transmitter is not defective!
1) Allow the plane to land itself naturally. **NOTE:** You can still steer the plane even when the throttle has become inactive
2) Re-set the Flight Optimizer for another two minutes of operation by switching the transmitter ‘OFF’ and then ‘ON’ again.

(See ‘To re-set the Flight Optimizer’, below)

WE STRONGLY RECOMMEND THAT THE PILOT ALWAYS SWITCH THE TRANSMITTER ‘OFF’ THEN ‘ON’ PRIOR TO LAUNCHING THE PLANE AGAIN.

TO RE-SET THE FLIGHT OPTIMIZER
To re-set the Flight Optimizer, switch the transmitter ‘OFF’ and then ‘ON’ again. This will reset the Flight Optimizer for another 2 minutes of flight.

If the Flight Optimizer is not re-set between flights, only the balance of two minutes will remain for the next flight. To ensure a full two minutes is available for each flight, it is recommended that the pilot re-set the Flight Optimizer before each take-off.

As you become more proficient at flying, challenge yourself to see how many times you can extend your flight without landing!
**ESTES FLY-RITE™ STEERING TECHNOLOGY ADVANTAGES**

*Read Before Flying*

Estes wants to ensure that your flying experience is filled with successful flights. The cause of most crashes is pilot tendency to over-steer the airplane. To help the pilot avoid over-steering, the transmitter for this plane has been equipped with Fly-Rite™ Technology. Fly-Rite™ Technology stops the turn control signal to the plane should you hold the Turn Control Stick over for longer than 1.5 seconds making steering errors less likely. Here is how it works.

**USING STANDARD TOY GRADE TRANSMITTER WITHOUT FLY-RITE™ TECHNOLOGY**

If you hold the Turn Control Stick longer than 1.5 seconds you can easily get into a tight spiral turn resulting in a crash.

**USING ESTES TRANSMITTER WITH FLY-RITE™ TECHNOLOGY**

If you hold the Turn Control Stick longer than 1.5 seconds, Estes Fly-Rite™ Technology stops the turn signal making it nearly impossible to get into a tight spiral turn.

**IMPORTANT REMINDER:**

To stop the plane from turning, ‘TAP’ the Turn Control Stick in the opposite direction until the wings become level.

**ASSEMBLING THE PLANE**

1. Align the Wing under the Fuselage and snap into place.
2. Press propeller onto motor shaft. Leave a 1/16 in. (1.5 mm) gap between propeller and fuselage.

**IMPORTANT NOTICE:**

When the propeller is installed, it may appear that the motor shaft is bent or the motor is installed wrong – THEY ARE NOT! The motor is installed at an angle for better flight stability and performance. There is nothing wrong with the motor propeller or the plane. Attach the propeller as shown and have a great day of flying! Correct position of propeller when installed.

**CHARGING THE PLANE**

**CHARGING STEPS:**

1. Turn Plane and Tx switches ‘OFF’.
2. Open charging door on transmitter and extend the charge cord.
3. Plug charge cord into plane (DO NOT FORCE). Green LED on Tx will turn ‘ON’.
4. Charge plane until Green LED turns ‘OFF’.
5. Unplug charge cord from plane and store in Tx charge compartment.

**NOTE:**

During the charging cycle, heat will be dispersed through the transmitter vents. Never alter or cover vents.

**Plug fits only one way.**

**DO NOT FORCE OR PLUG IN BACKWARDS**

**Green LED comes ‘ON’ during Charge. Turns ‘OFF’ when Charge complete.**

**Switches ‘OFF’**

**DO NOT FORCE OR PLUG IN BACKWARDS**
FLYING YOUR PLANE

STEERING THE PLANE COMING TOWARD YOU
(Flying Part of Flying)

You have a couple of options:
1. Turn yourself so the radio antenna is pointing in the direction the plane is flying. (Imagine yourself in the cockpit of the plane).

OR
2. When the plane is flying toward you with the wing banked, "TAP" the Turn Control Stick in the direction of the low wing until the plane’s wing is level.

TO STOP TURNING, "TAP" Turn Control Stick in direction of lower wing.

To end the turn "TAP" the Turn Control Stick to the RIGHT just enough to level the wings and fly straight.

LANDING THE PLANE

To land, release the Motor Control Stick to begin descent. "TAP" the Turn Control Stick as needed (Left or Right) to steer the plane into the wind, and keep the wings level for landing.

Continues "TAP" the Turn Control Stick Left or Right to keep the wings level for final approach into the wind. "TAP" the Motor Control Stick as necessary to keep the plane on a gentle glide path until touch down.

CHOOSE A GOOD FLYING SITE:

Always Fly Over Soft Grassy Fields!

Do Not Fly In Parking Lots or Streets.

SAFETY PRECAUTIONS:
- Fly in open areas. Never fly near power lines, trees, houses or buildings.
- Do not fly in strong winds (8 mph).
- Keep hands, feet and clothing away from propellers.
- Turn off when not in use. Store aircraft in a covered area.

Flying Time:
- 2 minutes for beginners.
- Up to 6 minutes for experienced RC pilots.

SIGN LEFT TURN "TAP" Turn Control Stick LEFT.

IMPORTANT NOTE:
The Turn Control Stick has a Fly-Rite™ steering control feature that prevents over controlling the plane in a turn. If held Right or Left longer than 1.5 seconds the turning signal to the plane is stopped. To resume turning, release the Turn Control Stick and then resume "Tapping" the stick left or right to complete the turn.

STEERING YOUR PLANE

1. This RC Airplane DOES NOT need the Turn Control Stick to be continuously held right or left to turn. Steer this airplane by TAPPING (pressing & releasing) the Turn Control Stick. This transmitter is equipped with Fly-Rite™ Technology to prevent over-control of the plane. (See next page for more information on Fly-Rite™ Technology)

2. Only "TAP" the Turn Control Stick enough to bank the wing for a turn, then stop tapping. Once the wing is banked, the plane will continue to turn without added input from the Turn Control Stick.

3. "TAP" the Turn Control Stick in the opposite direction of the turn to level the wing out for straight flight. This RC airplane only flies straight when the wings are level.

If you get into too tight a turn and the plane begins to dive to the ground, release BOTH control sticks then either:
- A) Let the plane correct itself and resume flying by applying power or
- B) Let the plane land itself and start over.

NOTE: When operating the Transmitter, always have the antenna extended. DO NOT bend or break. When not in use, fully collapse the antenna.

NOTE: When operating the Transmitter, always have the antenna extended. DO NOT bend or break. When not in use, fully collapse the antenna.