

MAKO Jet

INSTRUCTION MANUAL

How to
Attack The Sky!

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Get Ready For A Jet-Powered Experience Like No Other

At **Shark Jaw Toys**, we're committed to breaking through the barriers of traditional aircraft design and providing you with revolutionary flight performance – and the explosive action of the **MAKO Jet** is no exception.

To ensure safe and successful piloting, we recommend that you thoroughly read **all** of the **MAKO JET INSTRUCTION MANUAL** before flying your aircraft.

Your **MAKO Jet** comes complete with everything you need to **"Attack the Sky."** There is nothing to assemble. You will only need to charge the battery and do a preflight inspection before takeoff.

Your 2g/c radio control system gives you precision control and stunning aerobatic capabilities. Importantly, if you are not familiar with flying radio-controlled aircraft, we recommend you seek the guidance of an experienced radio control pilot during your beginning flights.

PLEASE NOTE: Crash damage is not covered under the warranty.

The **Academy of Model Aeronautics** welcomes you to the exciting world of Radio Control (RC) model aviation. As the world's largest sport aviation organization, we invite you to visit our website and see the tremendous variety of aircraft and events that are open to you, along with a wealth of helpful information and tips. We also hope you will consider becoming a member of the AMA and join the thousands of enthusiasts with access to our club-supported flying sites all over the country.

Just go to www.modelaircraft.org and click on the "Join The AMA Now!" tab.

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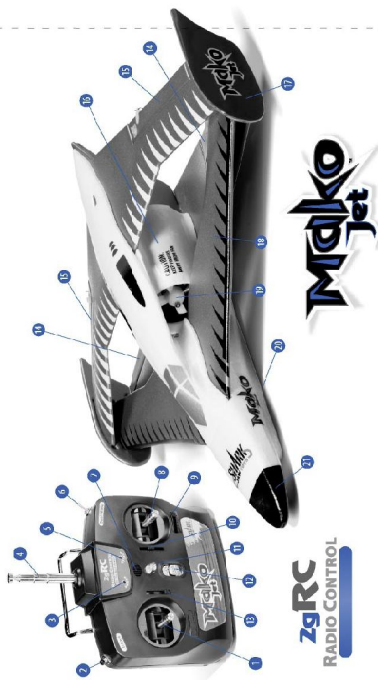
2gRC Radio Control Batteries

1. Insert eight (8) AA (Double A) batteries (not included) into the transmitter while taking careful note of proper polarity, clearly marked in the transmitter's battery compartment.
2. Turn switch on to ensure the batteries have been installed correctly. When this is confirmed, turn radio off.

Charging the Aircraft Battery

Battery Capacity: 11.1V, 1100 mAh, Lithium Polymer
Typical Charge Time: One hour

1. Read the warnings and directions very carefully.
 2. Following the guidelines, connect the battery pack to the charger.
- NOTE: The lithium polymer battery included with this plane can be recharged 30-40 times. Thereafter it should be disposed of safely.



- | | | |
|--------------------------------|--------------------|----------------------|
| 1 Thrust Stick | 13 Throttle Trim | 19 Ducted Fan Unit |
| 2 Attack Button (Thrust Boost) | 14 Internal Wing | 20 Entry Compartment |
| 3 Power LED | 15 Elevator Trim | 21 High-Inject Nose |
| 4 Antenna | 16 Elevator Trim | |
| 5 Attack Button Engaged LED | 17 Neck Strap-Hook | |
| 6 Dual Rate Switch | 18 Power Switch | |

SAFETY NOTES

To help ensure a safe charge every time, you **MUST** read the following safety instructions and warnings before handling, charging or using the Li-Po battery pack. Lithium Polymer batteries are significantly more volatile than the alkaline, Ni-Cd or Ni-MH batteries used in RC applications. Mishandling of Li-Po batteries can result in fire. By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.

If you cannot comply with the safe handling of Polymer cells, then do not use them.

If you do not understand the characteristics of Polymer cells or assemblies, then do not use them.

SAFE CHARGING

- Lithium Polymer cells have very strict charging requirements. Always charge Lithium Polymer cells or packs with recommended CTR (Protective Control Module) or great damage may occur.
- Always use charger specifically approved for Lithium Polymer cells or packs.
- Always test your charger to assure it is functioning properly.
- Always charge your Lithium Polymer cells or packs outdoors and in a fire-proof container.
- Always store Lithium Polymer cells or packs in a fire-proof container.
- Always have sand or dry fire extinguisher handy in the event of fire.
- Always keep any battery out of the reach of children.
- Always handle Lithium Polymer cells and packs with great care.
- Always purchase a factory-authorized built pack instead of building your own.
- Always observe the correct polarity when connecting cells or packs to charger or application.
- Always seek medical attention if electrolyte gets in your eyes (flush with cold water immediately).
- Always scrub with soap and water if electrolyte comes in contact with your skin.
- Never charge Lithium Polymer cells or packs unattended.
- Never charge Lithium Polymer beyond factory specifications.
- Never charge Lithium Polymer in your car, home or garage or where other physical damage can occur.
- Never charge Lithium Polymer while in the application, as the hot pack may ignite certain materials.
- Never charge Lithium Polymer on flammable materials such as wood, foam or plastic.
- Never extinguish a Lithium Polymer fire with water.
- Never disassemble a Lithium Polymer cell or pack (see "Damaged" notes below).
- Never short circuit Lithium Polymer cells or packs.
- Never use a Lithium Polymer cell or pack that has been damaged (see "Damaged" notes below).
- Never put loose cells with uncovered terminals in your socket, pin, hot, desk drawer, etc.
- Never keep cells or packs in temperatures that exceed 60°C (140°F).
- Never exceed the factory's maximum allowed discharge rates.
- Never combine different cell sizes or capacities together in the same pack.

DAMAGED CELLS OR PACKS

In the event your cells or packs were involved in a crash:

- Totally inspect the cells, wire leads and connections for possible short circuit. If there is any doubt, completely cut all wires from the cells and pack. If any cells are dented or deformed, do not use the pack again, ever. Follow disposal notes below.

DISPOSAL OF CELLS OR PACKS

- Discharge all cells individually to recommended cut-off voltage of 3.0 volts per cell.
- Caution! Cells may be warm or hot as usual during this discharge process. After cooling, puncture small hole in cells and immerse in salt water for several hours. Apply tape over one terminal and dispose of in trash.

Motor Test

1. Move the throttle slider **1** to the **OFF** position. **PK 3.3**
2. Turn on transmitter. **PK 3.2**
3. Remove battery compartment cover (hatch) **20** from bottom of fuselage.
4. Plug the aircraft battery into the socket in the battery compartment.
5. Secure battery inside of battery compartment and secure hatch to fuselage.

Elevon Test

WARNING Keep everything clear of the ducted fan intakes and propeller blades located on top and bottom near mid fuselage before beginning the control test. In this event you accidentally turn on the motor.

Your **MAKO Jet** is equipped with two sets of elevons located on the upper and lower trailing edges of both **air** (saw) airfoils, providing excellent directional control. To test the elevons and be certain that they function properly, follow the steps listed below:

1. Turn on the transmitter. **PK 3.2**
2. Install and plug in a fully charged aircraft battery. With the stick **1** at neutral and trim levers centered, **2** the elevons should be in the neutral position, aligned straight with the trailing edges of both air airfoils. If this is not the case, gradually move the trim levers until the back tips of the elevons align straight with the trailing edges of the airfoils.
3. Hold the aircraft with wings level so that you have a centered, straight-on view of the tail.
4. Move the elevon stick **2** on the transmitter fully to the right until it stops. The elevons should be pointing upward on the right side and downward on the left side.
5. Move the elevon stick fully to the left until it stops. The elevons should be pointing upward on the left side and downward on the right side.
6. Move the elevon stick fully to the back until it stops. The elevons should be pointing upward equally on both sides.
7. Move the elevon stick fully to the front until it stops. The elevons should be pointing downward equally on both sides.
8. If you detect any problems with the control surfaces responding to the transmitter inputs during the test, do not fly your **MAKO Jet**. Call Shark Jaw Product Support staff at **888-492-8697**.

Dual Rate Flight Control

The transmitter has a switch located on the top that allows the operator to change the amount of "throw," or travel, of the elevon surfaces. This affects the rate at which steering maneuvers can be made.

The switch is pre-set in the factory at the **NOVICE** mode position. The **NOVICE** rate setting should be used when first learning to fly the **MAKO Jet**, and while becoming more familiar with properly controlling the aircraft.

For more advanced pilots, the **EXPERT** rate setting can be used to increase the amount of control surface deflection for faster turn, climb and dive rates. The **EXPERT** setting is used for more extreme flight control and extreme aerobatic maneuvering.

IMPORTANT: Keep in mind that it is easier to crash the aircraft when using the **EXPERT** rate setting. Only use the **EXPERT** rate setting when you have gained confidence in your abilities to consistently maintain control of the aircraft in all possible attitudes.

NOTE: You may switch flight modes during flight, but it is important to remember that this should be done only at high altitudes, above 50 feet.

Your First Flight

Choose a Large, Open Grassy Field

To ensure safe flying, you should select a large, open grassy field that is free of obstructions for at least 500 feet in all directions from the spot you choose to stand while piloting your aircraft. **PIC 1**

The **MAKO Jet** is capable of reaching speeds up to 80 MPH and can quickly go out of the radio range without your undivided attention. The maximum range of the radio transmitter is 900 feet, but it is important to always remain alert and keep the **MAKO Jet** well within radio range by ensuring it does not exceed a distance over 500 feet away from you in any direction. This will give you added time to safely steer the aircraft toward your ground position should the battery be nearing the end of its charge. **PIC 1**

NOTE: As the battery charge gets weaker, the range of control operability is diminished proportionally.

IMPORTANT: Make certain that you do not fly near bystanders, trees, buildings, automobiles, telephone wires, animals or any other object that can interfere with flight or obstruct your view of the aircraft. Always maintain a clear line of sight with the **MAKO Jet** throughout each flight.

Choose Calm Days When Learning to Fly

For your initial flights, please choose calm days. Your best choice for optimum performance and safety is to fly on completely still days with no wind at all. A mild, steady breeze that maintains stable direction is acceptable.

How to Check Wind Conditions:

1. Determine the direction of the wind by tying a ribbon onto the transmitter antenna **4** or simply release a few grass clippings from above your head and observe how the wind blows them. Take note of the direction of the wind. **PIC 2**
2. If the ribbon or grass clippings are blown or scattered about in different directions, making it difficult to determine a particular wind direction, the wind may be too gusty or changeable and you should wait until conditions settle and the wind direction can be positively determined.

Wind Velocity and the Advanced MAKO Jet Capabilities

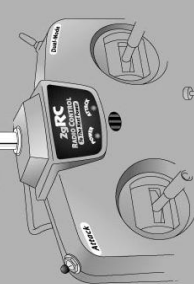
The unique **MAKO Jet** design and airfoil arrangement provides exceptionally good stability and ease of pilot control during flight. The **MAKO Jet** is also capable of flying in considerably higher wind speeds compared to conventionally designed aircraft of its same size, weight, and thrust classification.

Amazingly, the **MAKO Jet** has been successfully flight tested in wind speeds in excess of 40 knots and can recover more easily from crosswind gusts than less stable designs.

PIC 1



PIC 2



PIC 3



PIC 4

30 yards

Range Test

NOTE: Unless you are a thoroughly experienced and highly skilled pilot, we DO NOT recommend that you attempt to fly the **MAKO Jet** on windy days, despite its impressive capabilities to slice through winds that would typically ground other conventional aircraft.

Flying in excessive wind speeds will accelerate consumption of battery charge, shorten flight time and presents a much greater challenge to launching and maintaining proper flight control.

Range Test

Two people are required to perform the range test; one person to hold the plane and the other to apply input to the radio transmitter.

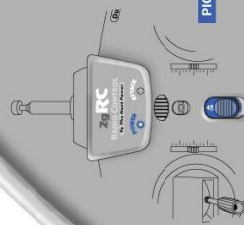
WARNING The person holding the airplane must at all times be certain that the propeller **19** does not contact any part of their body or clothing. Long hair should be tied, pinned back or tucked under a cap to prevent the hair from accidentally entering the ducted fan intakes and becoming entangled in the propeller.

1. Be sure the throttle **1** is in the OFF position. **PIC 3**
2. Keeping the transmitter antenna down, turn the transmitter ON. **PIC 5** Plug the aircraft battery into the socket inside the battery compartment and secure the hatch cover to the fuselage. **PIC 6**
3. The person holding the transmitter should walk a minimum of 30 paces away from the person holding the plane. **PIC 4**
4. Move the controls on the transmitter smoothly to see if there is any interference. While the transmitter controls are moved, the other person observes the airplane's elevator control surfaces **15** to make sure they operate correctly. Do not turn on the throttle! **PIC 7**
5. Walk back, then check throttle while the aircraft is held firmly. When the throttle is advanced, the propeller **19** should immediately spin.
6. While the throttle is running, move the controls again to ensure there is no interference between the running motor and the control surfaces.

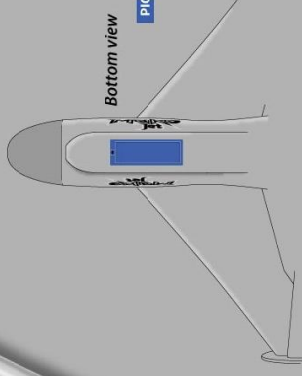
7. Afterburner Attack Button **2** Test this special feature by pressing the button located on the top of transmitter. You will feel immediate extra thrust that will help you perform amazing aerobatics as you gain experience as a pilot.

8. Now you are ready to fly. If any interference occurs during the test, first try a different location (park, field) before calling for a replacement. Be advised that some areas will have unavoidable interference due to hospitals, CB antennas, TV stations, radio stations and similar sources of radio transmissions.

PIC 5



PIC 6



PIC 7

