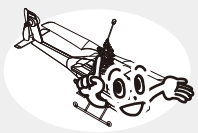
MINIUM

Minium CALIBER120 Type A

Quick Start Guide

KYOSHO THE FINEST RADIO CONTROL MODELS

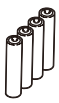


This guide explains how to prepare the model & transmitter for flight and how to reset the gyro, and also provides basic troubleshooting and explanation of throttle control for beginners to experts. For other instructions, please refer to the manual included with the model.

● Contents

1 Prepare Radio

1 Insert batteries into transmitter (Page 13)

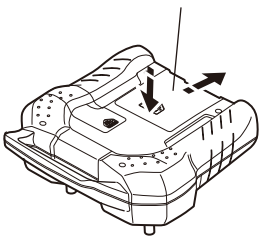


■ AA alkaline batteries x 4

► Oxyride batteries cannot be used.

► ⊕ ⊖ Insert batteries correctly

❶ Battery Cover



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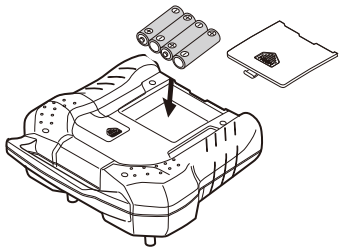

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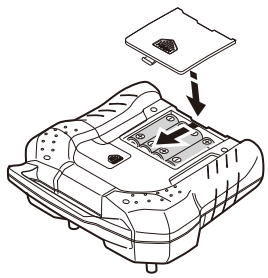


► KT20TF Series cannot switch between Mode 1 & Mode 2

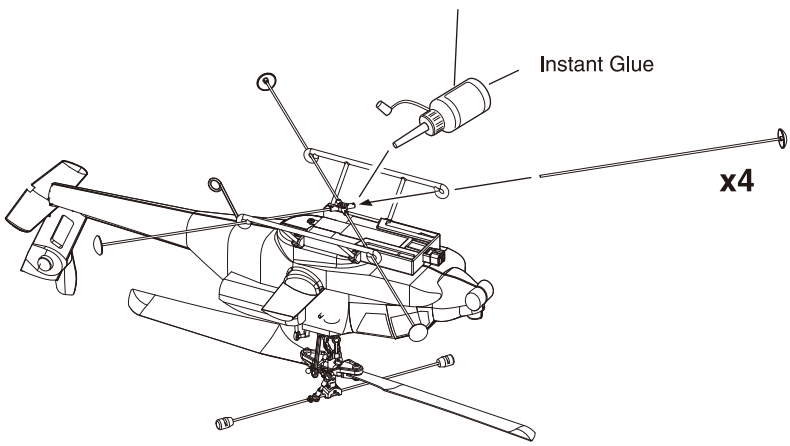
2 Prepare Helicopter 1

► Transmitter uses standby power even when switched off. Remove batteries when not in use.

1 Attaching the Training Safety Bar (Page 12)

► Until you get used to the throttle control, attaching the training safety bar is recommended for all users, from beginners to experts.

❶ ► Assemble and glue on the training safety bar



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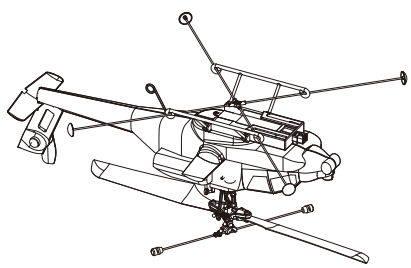
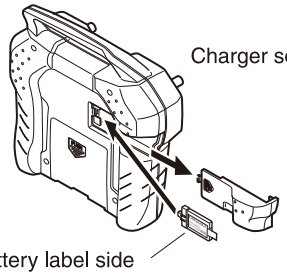


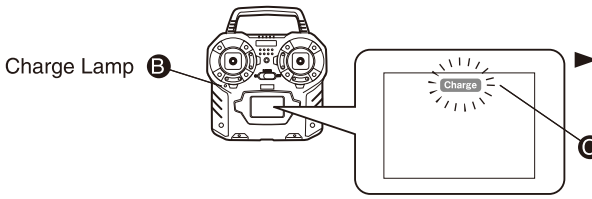
2 Prepare Helicopter 2

2 Charge the 3.7V-150mAh Lithium Polymer battery (Page 13)

❶



❷ When Charge Lamp goes out, charging is complete.



► C will be displayed only if the transmitter is turned ON.

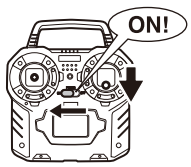
► Battery can be charged whether the transmitter is ON or OFF.

► The battery will not charge if the transmitter voltage is less than 5.0V or the 3.7V-150mAh lithium polymer battery is still more than 80% charged. (Recharge after use).

3 Prepare Flight

● Switch transmitter ON and connect the battery. (Page 17)

❶



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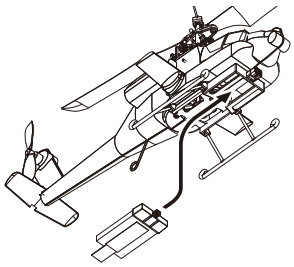
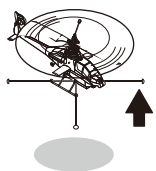


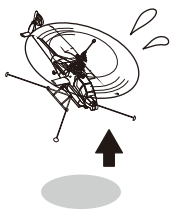
- About 7 seconds after battery has been connected, the gyro detects neutral and helicopter control and flight are possible. (Page 36).
- Try to get the helicopter ready for takeoff within the 7 seconds.



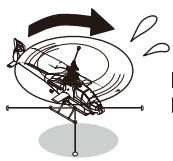
► Moving the helicopter while the gyro is finding neutral can cause the rudder neutral to deviate. In this case, follow the steps below in (4) and reset the gyro.

4 Reset the gyro

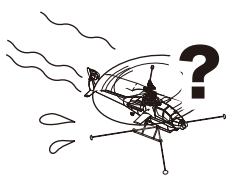
● In the following cases, reset the gyro. (Page 36)



If helicopter moves while finding neutral.



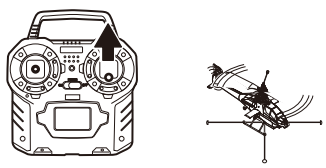
If tail is spinning before takeoff.



If rudder trim slips during flight.

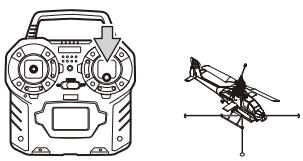
● Resetting the gyro

❶ Reset the helicopter on a flat surface



Lift the throttle stick slightly to slowly rorate the main and tail rotors.

❷



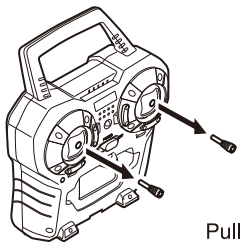
Move throttle sticks to neutral to stop rotation of main and tail rotors.
After 3 seconds, the gyro's neutral will be reset.

5 Throttle Control Tips

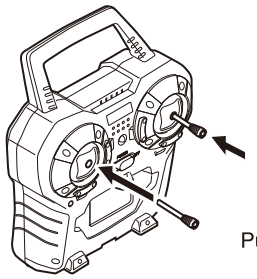
1 Control Sticks

(Page 37)

► By installing the long sticks included, more precise control is possible.



Pull sticks out

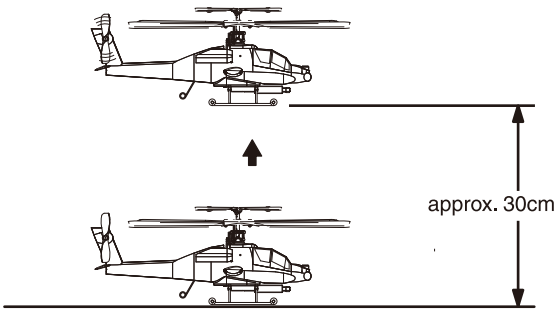


Push long sticks in

2 Take Off

(Page 31)

► Gradually increase main rotor speed until the helicopter starts to lean to the left. Then while increasing the throttle further, use the right aileron slightly and lift off and hold steady at about 50cm. (Use throttle control so the helicopter hangs in the air).



► Why 30cm?
The characteristics of fixed pitch mean main rotor speed governs the helicopter's ascent and descent. Even when trying to keep the helicopter low and stable for indoor flight, the helicopter can easily rise to about 1m. Practice throttle control at a low altitude until you get an improved sense of control.

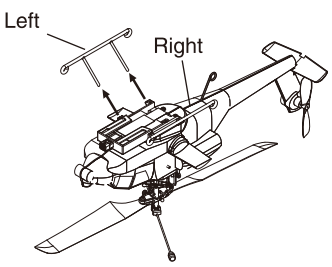
► Reduce throttle input slowly when hovering or landing.
► When above 30cm, adjust trims to increase stability.

► After flight, remove the 3.7V 150mAh lithium polymer battery and switch the transmitter OFF.
► Transmitter uses standby power even when switched off. Remove batteries when not in use.

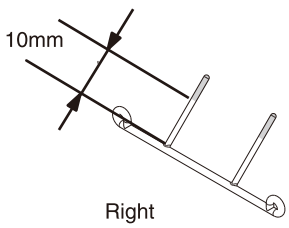
6 When Familiar with Controls

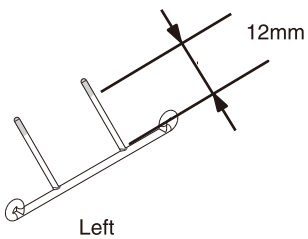
► Once familar with flight control, shorten the training skids. Leaving the left side longer makes takeoffs easier. Cut lengths as shown below.

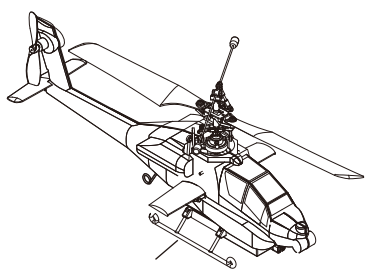
► Training safety bar (instruction manual P12) cannot be used after length of skids has been shortened.

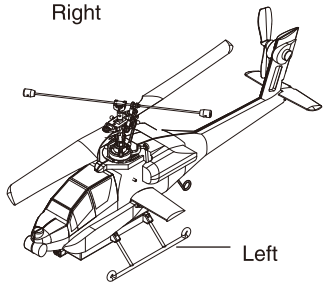


Pull off training skids.







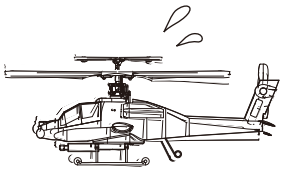


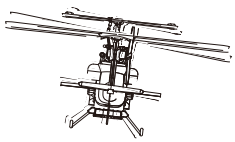
Attach skids after cutting to the above lengths.

7 If helicopter doesn't seem to be functioning properly.

► This section covers basic troublesheeting.
For more comprehensive troubleshooting. parts replacement and maintenance.
please refer to P39~50 of the main instruction manuals.

1 Vibration





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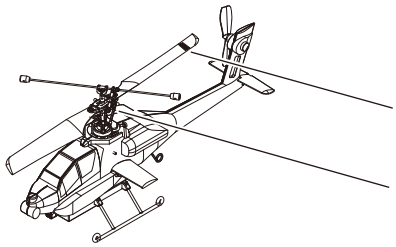
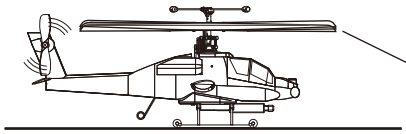
► Tracking is offline, vibration and helicopter is unstable. Requires tracking adjustment.



Attach red tracking tape here.

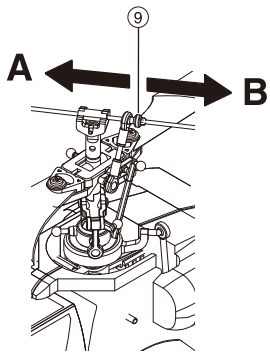
► Note position of lever.



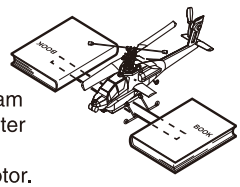
If main rotor with tracking tape is rotating up, slide ⑨ towards A (towards mast).
If it is low, slide ⑨ towards B (towards stabilizer).

► Apply 50~70% of throttle during tracking adjustment.

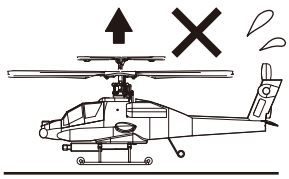
► Only slide a little at a time as the effect is significant.



► Hold skids down as per the diagram on the right to prevent the helicopter from lifting off.
Be careful of the spinning main rotor.



2 Helicopter suddenly loses height.



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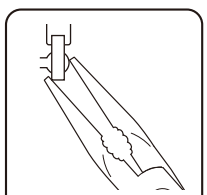
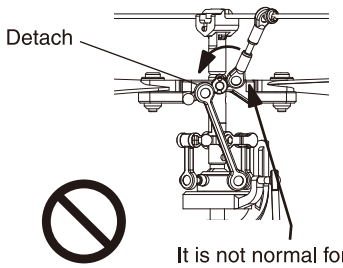
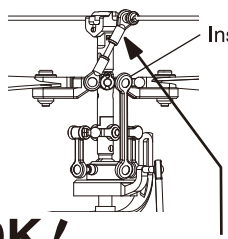
► Mixing lever can face the wrong way after the shock of a crash. Detach link, correct direction and re-attach.



Detaching links



It is not normal for the rod to drop to vertical.



Angle of rod is normal.

► In addition to motor life, motor performance can be affected by damage to the motor brushes in a crash.
(In this case, main motor replacement is required).
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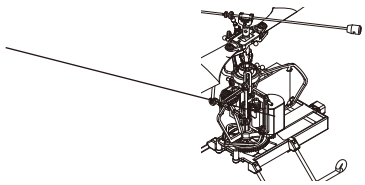
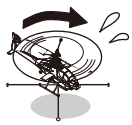


3 If tail is spinning before takeoff.



► Reset the gyro (→④)

► If tail continues to spin after gyro has been reset, the tail motor may be worn out.
(In this situation, replace the tail motor). (Page 47~48)