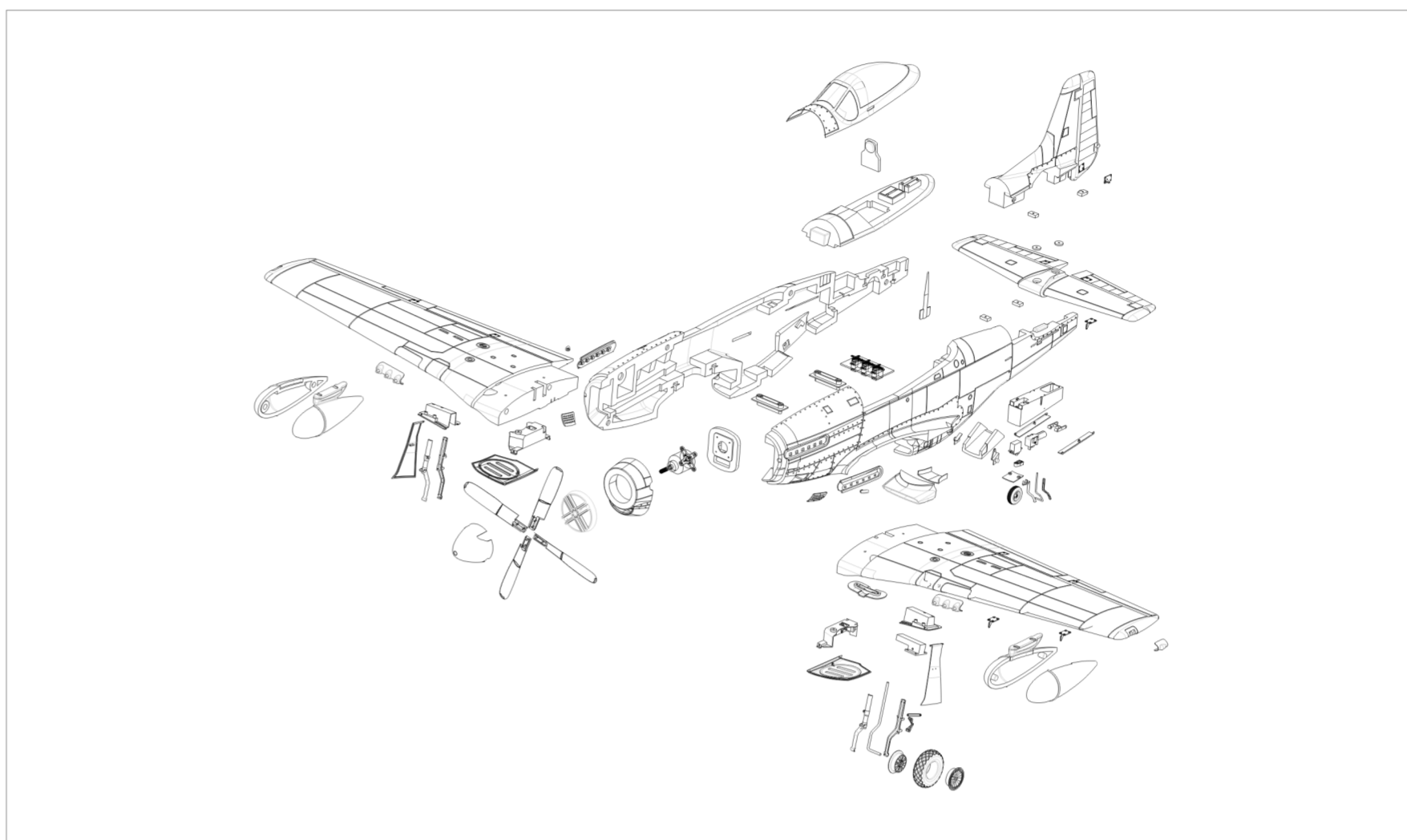


WINGSPAN : 1450mm (57.09 inches)
LENGTH : 1258mm (49.53 inches)
WEIGHT : 1850g (65.25 oz)
BATTERY : 14.8V Lithium Polymer Battery
POWER SYSTEM: Outrunner Brushless Motor
RC SYSTEM : 6 Channel

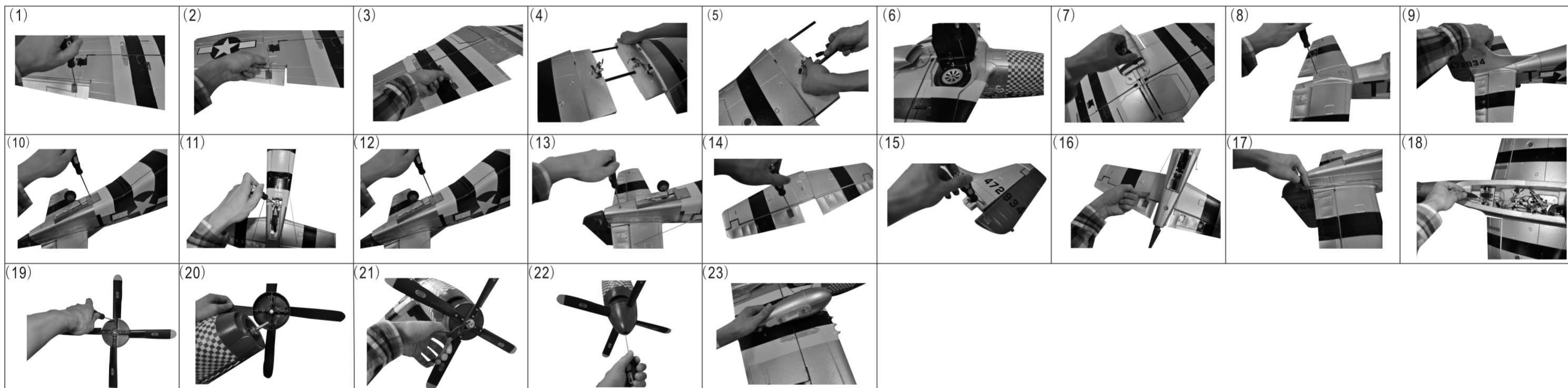
DIRECTIONS FOR ASSEMBLY AND ADJUSTMENT

Part List

95A701-01 	95A701-02 	95A701-03 	95A701-04 	95A701-05
95A701-06 	95A701-07 	95A701-08 	95A701-09 	
95A701-10 	95A701-11 	95A701-12 	95A701-13 	
95A701-14 	95A701-15 	95A701-16 	95A701-17 	95A701-18
95A701-19 	95A701-20 	95A701-21 	95A701-22 	95A701-23
95A701-24 	95A701-25 	95A701-26 	95A701-27 	95A701-28
95A701-32 				

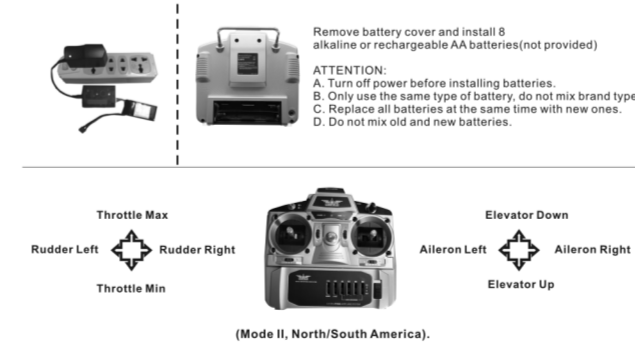
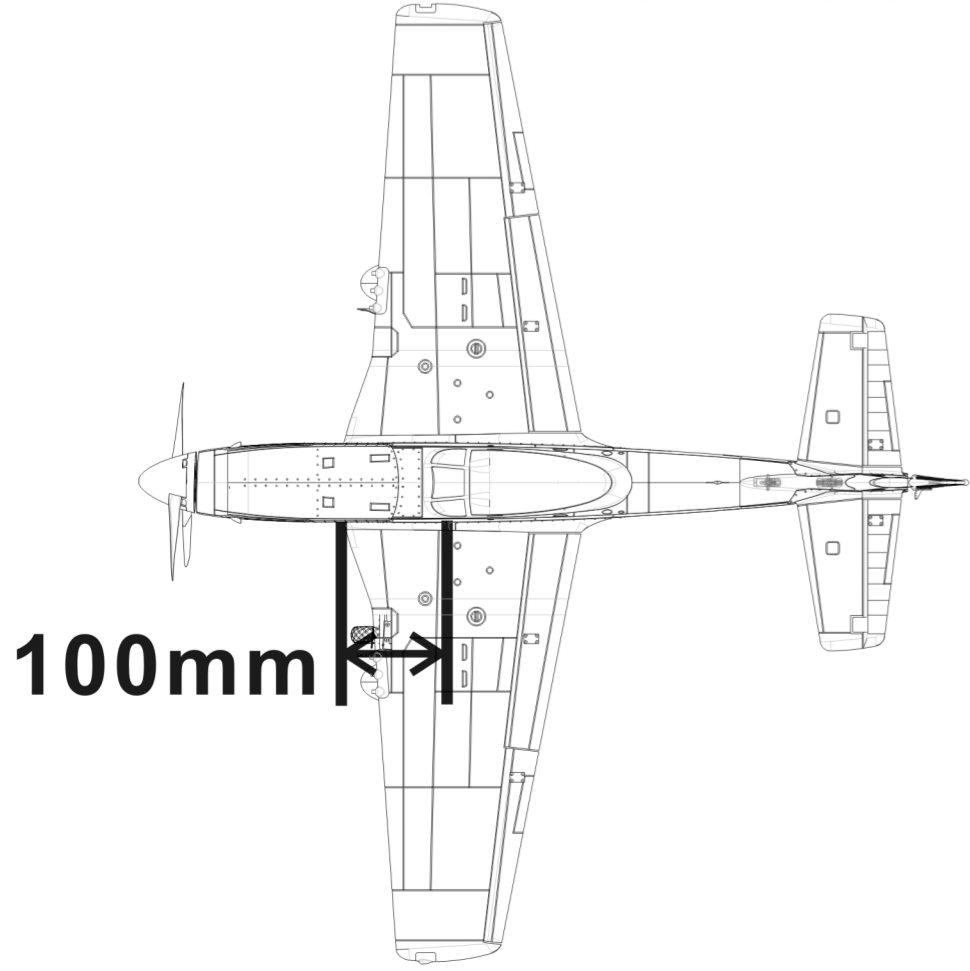


ASSEMBLY:



- (1)(2)(3) Install the linkage connectors and connect the linkage rods on the main wings.
- (4) Insert the supporting rod into the right main wing.
- (5) Connect the Y-Cable between the main wings.
- (6)(7) Secure the main wings with screw **PM4*40** and **PM4*60**.
- (8) Secure the tail wing onto the fuselage with screw **PM3*45**.
- (9) Install the vertical wing onto the tail wing.
- (10) Open the front part of the tail landing gear cover.
- (11) Secure the vertical wing with screws **PM3*25**.
- (12) Close the front part of the tail landing gear cover.
- (13) Secure the tail wing onto the fuselage with screw **PM3*40**.
- (14)(15) Install the linkage connectors.
- (16)(17) Connect the linkage rods.
- (18) Adjust the linkage connectors for the rudder and elevator.
- (19) Secure the propellers onto the plate with screw **PA2.5*15**.
- (20)(21) Secure the plate.
- (22) Secure the spinner with screw **PM4*40**.
- (23) Install the bomb onto the main wings.

CENTER OF GRAVITY



Remove battery cover and install 8 alkaline or rechargeable AA batteries (not provided)

ATTENTION:
 A. Turn off power before installing batteries.
 B. Only use the same type of battery, do not mix brand type.
 C. Replace all batteries at the same time with new ones.
 D. Do not mix old and new batteries.

Charge the Li-Po battery pack
 The battery should be fully charged in 2 hours. Disconnect the battery from the charger when the indicator light on the charger turns from red to green. Do not charge the battery unattended at all time.

Lithium Polymer (LiPo) Battery Warnings

- Never charge a lithium polymer battery with a charger designed for NiCd, NiMH, or any other type of battery chemistry. Use only charger designed for LiPo battery.
- Do not leave LiPo battery unattended during charging.
- Do not overcharge the battery.
- Always place the battery on a heat resistant surface alone when charging.
- Always put the LiPo battery inside a charging protection container while charging.
- Do not allow LiPo cells to overheat at any time. Cells which reach greater than 140 Fahrenheit (60°C) will usually become damaged and will catch fire.
- Do not allow LiPo cells on or near combustible materials including paper, plastic, carpets, vinyl, leather, and wood, inside an RC model or full size automobile.
- Do not over discharge LiPo, doing so will damage the battery.
- Do not expose LiPo cell to water or moisture at any time.
- Do not store battery near open flame or heater.
- Do not assemble LiPo cells or pre-assembled packs together with other LiPo cells or packs.
- Always store LiPo battery in a secure location away from children.
- Always remove the LiPo battery if model is involved in any kind of crash. Carefully inspect the battery and connectors for even the smallest damage. **CAUTION:** cells may be hot!
- Do not allow the electrolyte to get into eyes or on skin. Wash affected areas immediately if they come into contact with electrolyte. Do not alter or modify connectors or wires of a LiPo battery pack.
- Always inspect the condition of the battery before charging and operating.
- Do not have contact with a leaky/damaged battery directly.
- Do not charge battery out of recommended temperature range (0°C-45°C)

WARNINGS

- The product is not intended for those under 14 years of age without proper adult supervision. The product is not a toy. It is a precision machine requiring proper assembly and setup to avoid accidents and it is the responsibility of the owner to operate this product in a safe manner as it can cause serious personal injury and damage to property due to carelessness or misuse.
- When operating/flying, always be aware of the spinning rotors. Be careful not to let them come close to your body, other people or loose clothing. Keep your hands, fingers and any articles of clothing away from the rotors.
- Do not attempt to disassemble or modify any of the product components without the assistance of an experienced RC user.
- Only use the correct type of battery to operate. Using any wrong type of battery will damage the product and possibly make it dangerous to operate.
- The motor(s) may get hot during use. Always allow 10-15 minutes between each flight for the motor to cool down. This will prolong the life of your product.
- Choose an appropriate operating site consisting of flat, smooth ground, and clear open field. Do not operate near buildings, high voltage cable lines, or trees to ensure safety operation. Operate in safe area only, away from other people. RC models are prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, pilot error, and radio interference. Pilots are responsible for their actions and damage or injury occurring during the operation.
- Do not operate in inclement weather, such as rain, wind, snow and darkness.
- The product is composed of precision electrical components. It is critical to keep the product away from moisture and other contaminants. Do not allow them to get wet. Electrical damage may occur that could affect safe operation.
- After each use, always allow the battery to cool down before recharging. When charging the battery pack, do not overcharge! If batteries get hot during charging, discontinue charging immediately and disconnect the battery from the charger. Never leave battery unattended while charging. If you are unsure of how to charge this battery, please seek the advice of experienced RC users. Never let children charge the battery without adult supervision.
- Always turn on the transmitter before connecting the battery on the model. When turning off the model, always disconnect the battery first, and then turn off the transmitter. If the order is reversed, the model may become uncontrollable and cause serious damage.
- If you are in trouble of your ability to operate the model, we strongly recommend that you seek assistance from experienced RC users or join your local model flying club to gain the required knowledge and skill. As the manufacturer and distributor, we assume no liability for the use of this product.
- Before turning on your model and transmitter, please check to make sure no one else is operating under the same frequency. Frequency interference can cause your model, or other's models to crash. The guidance provided by experienced RC users will be valuable for the assembly, tuning, trimming, and actual first flight.
- Never allow batteries to run low or you might lose control of the model.
- You should complete a successful pre-flight check of your radio equipment and model prior to each flight.
- Plastic is very susceptible to damage or deformation due to extreme heat and cold climate. Do not store the model near any source of heat such as oven or heater. Store the model indoors, in a climate-controlled, room temperature environment.

Thanks for purchasing our Electronic Speed Controller (ESC). High power system for RC model is very dangerous, please read this manual carefully. In that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product. Any claims arising from the operating, failure or malfunctioning etc. will be denied. We assume no liability for personal injury, property damage or consequential damages resulting from our product or our workmanship. As far as is legally permitted, the obligation to compensation is limited to the invoice amount of the affected product.

Specifications: (Note: The Skywalker-6A,12A,12AE, 30A,60A and 80A are only used for RTF applications)

Model	Cont. Current	Burst Current (>10s)	BEC Mode	BEC Output	BEC Output Capability				Battery Cell		Weight	Size L*W*H
					2S Lipo	3S Lipo	4S Lipo	6S Lipo	Lipo	NiMH		
Skywalker-6A	6A	8A	Linear	5V/0.8A	3 servos				2S	5-6 cells	5.5g	32*12*4.5
Skywalker-12A	12A	15A	Linear	5V/1A	3 servos	2 servos			2-3S	5-9 cells	9g	38*18*6
Skywalker-12AE	12A	15A	Linear	5V/2A	5 servos	4 servos			2-3S	5-9 cells	10g	38*18*7
Skywalker-20A	20A	25A	Linear	5V/2A	5 servos	4 servos			2-3S	5-9 cells	19g	42*25*8
Skywalker-30A	30A	40A	Linear	5V/2A	5 servos	4 servos			2-3S	5-9 cells	37g	68*25*8
Skywalker-40A	40A	55A	Linear	5V/3A	5 servos	4 servos			2-3S	5-9 cells	39g	68*25*8
Skywalker-40A-UBEC	40A	55A	Switch	5V/3A	5 servos	5 servos	5 servos		2-4S	5-12 cells	43g	65*25*12
Skywalker-60A-UBEC	60A	80A	Switch	5V/5A	8 servos	8 servos	6 servos	6 servos	2-6S	5-18 cells	63g	77*35*14
Skywalker-80A-UBEC	80A	100A	Switch	5V/5A	8 servos	8 servos	6 servos	6 servos	2-6S	5-18 cells	82g	86*38*12

Programmable Items: (The option written in bold font is the default setting)

1. Brake Setting: **Enabled** / Disabled
2. Battery Type: **Lipo** / NiMH
3. Low Voltage Protection Mode(Cut-Off Mode): **Soft Cut-Off (Gradually reduce the output power)** /Cut-Off (Immediately stop the output power)
4. Low Voltage Protection Threshold(Cut-Off Threshold): Low / **Medium** / High
 - 1) For lithium battery, the battery cell number is calculated automatically. Low / medium / high cutoff voltage for each cell is: 2.85V/3.15V/3.3V. For example: For a 3S Lipo, when "Medium" cutoff threshold is set, the cut-off voltage will be: 3.15*3=9.45V
 - 2) For NiMH battery, low / medium / high cutoff voltages are 0%/50%/65% of the startup voltage (i.e. the initial voltage of battery pack), and 0% means the low voltage cut-off function is disabled. For example: For a 6 cells NiMH battery, fully charged voltage is 1.44*6=8.64V, when "Medium" cut-off threshold is set, the cut-off voltage will be: 8.64*50%=4.32V.
5. Startup Mode: **Normal** /Soft /Super-Soft (300ms / 1.5s / 3s)
 Normal mode is suitable for fixed-wing aircraft. Soft or Super-soft modes are suitable for helicopters. The initial acceleration of the Soft and Super-Soft modes are slower, it takes 1.5 second for Soft startup or 3 seconds for Super-Soft startup from initial throttle advance to full throttle. If the throttle is completely closed (throttle stick moved to bottom position) and opened again (throttle stick moved to top position) within 3 seconds after the first startup, the re-startup will be temporarily changed to normal mode to get rid of the chance of a crash caused by slow throttle response. This special design is suitable for aerobatic flight when quick throttle response is needed.
6. Timing: **Low** / Medium / High,(3.75° /15° /26.25°)
 Usually, low timing is suitable for most motors. To get higher speed, High timing value can be chosen.

Begin To Use Your New ESC

IMPORTANT! Because different transmitter has different throttle range, please calibrate throttle range before flying.

Throttle range setting: (Throttle range should be reset whenever a new transmitter is being used)

Switch on the transmitter, move throttle stick to the top position	Connect battery pack to the ESC, and wait for about 2 seconds	The "Beep-Beep-" tone should be emitted, means the top point of throttle range has been confirmed	Move throttle stick to the bottom position, several "beep-" tones should be emitted to present the amount of battery cells	A long "Beep-" tone should be emitted, means the lowest point of throttle range has been correctly confirmed
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Normal startup procedure:

Move throttle stick to bottom position and then switch on transmitter.	Connect battery pack to ESC, special tone like "♪ 123" means power supply is OK	Several "beep-" tones should be emitted to present the amount of lithium battery cells	When self-test is finished, a long "beep-----" tone should be emitted	Move throttle stick upwards to go flying
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Protection Function

1. Start up failure protection: If the motor fails to start within 2 seconds of throttle application, the ESC will cut-off the output power. In this case, the throttle stick **MUST** be moved to the bottom again to restart the motor. (Such a situation happens in the following cases: The connection between ESC and motor is not reliable, the propeller or the motor is blocked, the gearbox is damaged, etc.)
2. Over-heat protection: When the temperature of the ESC is over about 110 Celsius degrees, the ESC will reduce the output power.
3. Throttle signal loss protection: The ESC will reduce the output power if throttle signal is lost for 1 second, further loss for 2 seconds will cause the output to be cut-off completely.

Trouble Shooting

Trouble	Possible Reason	Action
After power on, motor does not work, no sound is emitted	The connection between battery pack and ESC is not correct	Check the power connection. Replace the connector.
After power on, motor does not work, such an alert tone is emitted: "beep-beep-, beep-beep-,beep-beep-" (Every "beep-beep-" has a time interval of about 1 second)	Input voltage is abnormal, too high or too low.	Check the voltage of battery pack
After power on, motor does not work, such an alert tone is emitted: "beep-, beep-, beep- "(Every "beep-" has a time interval of about 2 seconds)	Throttle signal is irregular	Check the receiver and transmitter Check the cable of throttle channel
After power on, motor does not work, such an alert tone is emitted: "beep-, beep-, beep-" (Every "beep-" has a time interval of about 0.25 second)	The throttle stick is not in the bottom (lowest) position	Move the throttle stick to bottom position
After power on, motor does not work, a special tone "♪ 567i2" is emitted after 2 beep tone (beep-beep-)	Direction of the throttle channel is reversed, so the ESC has entered the program mode	Set the direction of throttle channel correctly
The motor runs in the opposite direction	The connection between ESC and the motor need to be changed.	Swap any two wire connections between ESC and motor

Program the ESC with your transmitter (4 Steps):

Note: Please make sure the throttle curve is set to 0 when the throttle stick is at bottom position and 100% for the top position.

1. Enter program mode
2. Select programmable items
3. Set item's value (Programmable value)
4. Exit program mode

1. Enter program mode

- 1) Switch on transmitter, move throttle stick to top position, connect the battery pack to ESC
- 2) Wait for 2 seconds, the motor should emit special tone like "beep-beep-"
- 3) Wait for another 5 seconds, special tone like "♪ 567i2" should be emitted, which means program mode is entered



2. Select programmable items:

After entering program mode, you will hear 8 tones in a loop with the following sequence. If you move the throttle stick to bottom within 3 seconds after one kind of tones, this item will be selected.

- | | | |
|---------------------------|--------------------|------------------|
| 1. "beep" | brake | (1 short tone) |
| 2. "beep-beep-" | battery type | (2 short tone) |
| 3. "beep-beep-beep-" | cutoff mode | (3 short tone) |
| 4. "beep-beep-beep-beep-" | cutoff threshold | (4 short tone) |
| 5. "beep-----" | startup mode | (1 long tone) |
| 6. "beep-----beep-" | timing | (1 long 1 short) |
| 7. "beep-----beep-beep-" | set all to default | (1 long 2 short) |
| 8. "beep-----beep-----" | exit | (2 long tone) |

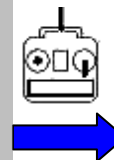
Note: 1 long "beep-----" = 5 short "beep-"



3. Set item value (Programmable value):

You will hear several tones in loop. Set the value matching to a tone by moving throttle stick to top when you hear the tone, then a special tone "♪ i5i5" emits, means the value is set and saved. (Keeping the throttle stick at top, you will go back to Step 2 and you can select other items; or moving the stick to bottom within 2 seconds will exit program mode directly)

Items	Tones		
	"beep-" 1 short tone	"beep-beep-" 2 short tones	"beep-beep-beep" 3 short tones
Brake	Off	On	
Battery type	Lipo	NiMH	
Cutoff mode	Soft-Cut	Cut-Off	
Cutoff threshold	Low	Medium	High
Start mode	Normal	Soft	Super soft
Timing	Low	Medium	High



4. Exit program mode

There are 2 ways to exit program mode:

1. In step 3, after special tone "♪ i5i5", please move throttle stick to the bottom position within 2 seconds.
2. In step 2, after tone "beep-----beep-----"(ie. The item #8), move throttle stick to bottom within 3 seconds.