

**【PROGRAM THE ESC】**

Easily programmed with the "SET" button.

**Programmable Items List**

Programmable Items	Programmable Value					
	Option1	Option2	Option3	Option4	Option5	Option6
Running Mode	Forward with Brake	Forward and Reverse	Forward/Reverse with Brake			
Reverse Force	20%	40%	60%	80%	100%	
Brake Force	25%	50%	75%	100%		
Drag brake force	0%	10%	20%	40%	70%	100%
Neutral range	3%	6%	9%	12%		
Start mode	Very fast	fast	normal	slow		
Timing	0°	5°	10°	15°	20°	
Battery voltage protection	Ni-xx no protection	Li-xx 2.8V/cell	Li-xx 3.0V/cell	Li-xx 3.2V/cell	Li-xx 3.4V/cell	
Over-heat protection	90°	110°	No protection			
Protection mode	lower power	Cut off the main power immediately				

Remark: The highlighted are the default parameters.

**Explanation for each programmable item.**

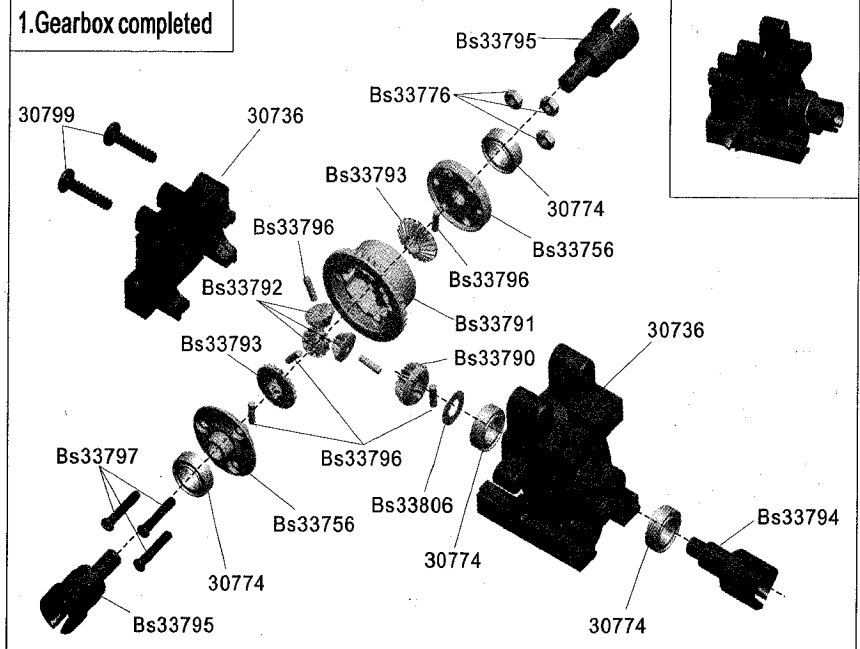
- Running mode: With "Forward with Brake" mode, the car can go forward and brake, but cannot go backward, this mode is suitable for competition; "Forward/Reverse" mode, the car only can go forward and backward, no brake, this mode is usually used for the Rock Crawler. "Forward/Reverse with Brake" mode, which is suitable for daily training. When move the throttle stick from forward zone to backward zone for the first time (The 1st "click"), the ESC begins to brake the motor, the motor speeds down but it is still running, not completely stopped, so the backward action is NOT happened immediately. When the throttle stick is moved to the backward zone again (The 2nd "click"), if the motor speed is slowed down to zero (i.e. stopped), the backward action will happen. The "Double-Click" method can prevent mistaken reversing action when the brake function is frequently used in steering. By the way, in the process of brake or reverse, if the throttle stick is moved to forward zone, the motor will run forward at once.
- Reverse Force: Sets how much power will be applied in the reverse direction. Different value makes different reverse speed.
- Brake Force: The ESC provides proportional brake function. The brake force is related to the position of the throttle stick. Maximum brake force refers to the force when the throttle stick is located at the top point of the backward zone. A very large brake force can shorten the brake time, but it may damage the gears.
- Drag Brake Force: It's a slight force which caused to motor when the throttle stick move to the neutral position. It is used to slowdown the glide speed.
- Throttle Neutral Range: It's the range when the throttle stick is in the neutral position but no output.
- Start Mode: It refers to the start force of ESC, you can choose different start mode according to the road condition, the tyre's ability to grip, and etc.
- Timing: The "timing" item is usable for sensorless brushless motors. There are many differences among structures and parameters of different brushless motors, so a fixed timing ESC is difficult to compatible with all brushless motors. It is necessary to make the timing value programmable. Please select the most suitable timing value according to the motor you are just using. Generally, higher timing value brings out higher power output, but the whole efficiency of the system will be slightly lower down.
- Low Voltage Cut-Off: The function prevents the lithium battery pack from over discharging. It's designed for prolonging its service life. Here, we suggest use the higher voltage protection value.
- Over-Heat Protection: If the function is activated, the output power will be cut-off when the temperature of the ESC is higher than a factory-preset value, and the Green LED will flash. While motor will emit 1 "beep-" tone every 2 seconds. It can recover the output after the temperature down.
- Protection mode: these two method is designed for the lipo battery achieving at the voltage protection value. If choosing cut off main power immediately, the voltage achieve at the protection value, ESC no output. While if choosing lower power, the voltage achieve the protection value, ESC will still have a 20% power output, the car can return back slowly, but be sure to change the battery.

**•Program the ESC with Set button.**

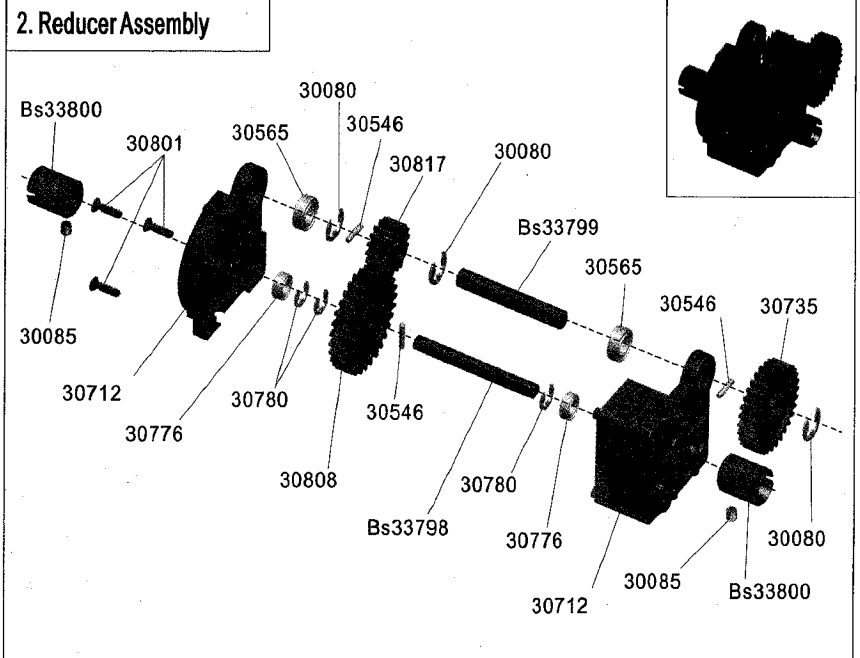
First hold the "SET" key, switch on the ESC, motor will sound a "beep" prompt tone.

- Hold SET key for 3 seconds, it sounds 2 long tones (Di--, Du--), while red and green LED flash 2 times at the same time (★→, ★→), then release the key and wait for 0.8 seconds to enter into the programmable item mode.

1. Gearbox completed



2. Reducer Assembly



































**Mini Big Red Spare Parts List**

30079-E ringφ 2.3*0.4-10pcs sku:118B-30079	30080-E ringφ4-10pcs sku:118B-30080	30083-M3 nylon lock nut-10pcs sku:110BS-30083	30085-M3*3 socket cap screw-10pcs sku:118B-30085	30097-BT2.6*6 BH screw-10pcs sku:110BS-30097	30098-BT3*8 BH screw-10pcs sku:9249000001
30104-BM3*12 BH screw-10pcs sku:249000259	30105-BM3*15BH screw-10pcs sku:249000260	30106-BT2*8 BH screw-10pcs sku:9249000074	30546-pinφ 1.5*7.5-10pcs sku:118B-30546	30556-BT2*6 BH screw-10pcs sku:118B-30556	30565-ball bearing φ9*φ5*3- 4pcs sku:118B-30565
30702-servo saver assembly-1pcs sku:110BS-30702	30710-front upper susp.arm(L&R) sku:110BS-30710	30712-transmission bulkheads 1set sku: 9249000136	30713-front upper susp.arm(L&R)-4pcs sku:110BS-30713	30730-balls(for front upper sus. Arm)-2pcs sku:110BS-30730	30735-spur gear 30T-1pcs sku: 9249000140
30736-gearbox housing 1set1pcs sku:110BS-30736	30742-ball end 2/rear tie rod 2pcs sku:110BS-30742	30754-pin forFront upper arm- 2pcs sku: 110BS-30754	30755-pin forFront lower arm- 2pcs sku: 110BS-30755	30772-front upper sus.arm holder1pcs sku:110BS-30772	30773-ball bearing φ8*φ4*3- 8pcs sku: 110BS-30773
30774-ball bearing φ6*φ10*3- 8pcs sku:110BS-30774	30776-ball bearing φ7*φ 4*2.5-4pcs sku: 110BS-30776	30780-E ring φ 3*0.4mm-10pcs sku:110BS-30780	30781-clip A-10pcs sku:110BS-30781	30782-steeringlink rodφ4*3- 8pcs sku: 110BS-30782	30791-TPF2.6*6 FH screw-10pcs sku:110BS-30791
30797-BM3*10 BH screw-10pcs sku:110BS-30797	30798-TPF2.6*10 FH screw-10pcs sku:110BS-30798	30799-BT2.6*12 BH screw-10pcs sku: 110BS-30799	30801-TPF2*8 FH screw-10pcs sku: 110BS-30801	30808-gear 35T-1pcs sku: 9249000172	30809-ball head Sp5.8-10pcs sku: 110BS-30809
30810-ball head M2*Sp4-10pcs sku:110BS-30810	30811-ball head M3*Sp4.7-10pcs sku: 110BS-30811	30817-spur gear 17T-1pcs sku: 9249000194	30832-pinφ 1.5*7mm-10pcs sku:110BS-30832	30838-BM2.5*6 BH screw-10pcs sku: 9249000007	30847-BM2.5*10 BH screw-10pcs sku: 9249000182



















**Mini Big Red Spare Parts List**

30995-ISO2.5*8 FH screw-10pcs sku: 9249000203	32121-sus.arm holder sku:110BS-32121	32726-shockwash erφ3.2*φ 7.0*0.5 sku:110BS-30726	32909-BM4*15BH screw(headφ7) sku: 249000324	32916-BM3*22 BH screw-10pcs sku: 9249000011	32928-M2.5 nylon lock nut-10pcs sku:249000331
33000-BM2.5*13 BH screw-10pcs sku:249000362	33156-ISO3*8(black one)FH screw sku: 9249000014	33162-BM2*14 BH screw-10pcs sku: 118B-33162	33166-BM3*8 BH screw-10pcs sku: 118B-33166	33188-M3*7 hex head cap screw-10pcs sku:249000568	33489-clip A,φ 1.0-10pcs sku:9249000802-0
BS33750-rear tie rod-2pcs sku:9249000930-0	BS33751-ball stud.1-4pcs sku:9249000931-0	BS33752-ball stud.2-4pcs sku:9249000932-0	BS33753-ball stud.3-4pcs sku:9249000933-0	BS33754-lower susp.arm set sku:9249000934-0	BS33755-front steering knuckle arms(L&R), bearing holder sku:9249000935-0
BS33760-differential gear housing sku:9249000936-0	BS33767-Front C Hub carrier(L&R) sku:9249000937-0	BS33768-shock lower(F&R) sku:9249000938-0	BS33769-front lower susp. arm holder sku:9249000939-0	BS33780-ball joint housing for servo sku:9249000940-0	BS33764- BM3* 23.5 BH screw sku:9249000944-0
BS33761-shock spacer-2pcs sku:9249000941-0	BS33762-bumper set sku:9249000942-0	BS33763-body support-4pcs sku:9249000943-0	BS33765-battery case-1pcs sku:9249000945-0	BS33766-wheelle bar set sku:9249000946-0	BS33767-chassis set sku:9249000947-0
BS33768-wheel 2pcs sku:9249000948-0	BS33769-air filter cover,roll cage sku:9249000949-0	BS33770-gear case 1pcs sku:9249000950-0	BS33771-wheel hub 4pcs sku:9249000951-0	BS33772-tyre(L&R) sku:9249000952-0	BS33773-inner sponge 2pcs sku:9249000953-0
BS33774-glued tyre set(L&R) sku:9249000954-0	BS33775-M2.5*20L socket cap screw sku:9249000955-0	BS33776-nut M2-10pcs sku:9249000956-0	BS33777-front drive shaft-2pcs sku:9249000957-0	BS33778-rear dogbone-2pcs sku:9249000958-0	BS33779-front drive shaft-1pcs sku:9249000959-0

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BS33780-rear drive shaft-1pcs sku:9249000960-0	BS33781-steering linkage rod-2pcs sku:9249000961-0	BS33782-motor mount 1pcs sku:9249000962-0	BS33783-motor gear 1pcs sku:9249000963-0	BS33784-M2*8 socketed head cap screw sku:9249000964-0	BS33785-wheel shaft 2pcs sku:9249000965-0
					
BS33786-C hub pin 4pcs sku:9249000966-0	BS33787-king pin-4pcs sku:9249000967-0	BS33788-ball bearing $\phi 8 \times \phi 12 \times 3.5$ sku:9249000968-0	BS33789-BM2.5*3 BH screw-10pcs sku:9249000969-0	BS33790-driving gear-2pcs sku:9249000970-0	BS33791-driven gear-1pcs sku:9249000971-0
					
BS33792-differential gear (small one) sku:9249000972-0	BS33793-differential gear (big one) sku:9249000973-0	BS33794-main driving gear-1pcs sku:9249000974-0	BS33795-output shaft-2pcs sku:9249000975-0	BS33796 pin $1.6 \times 6.7 \text{mm}$ -10pcs sku:9249000976-0	BS33797-BM2*11 BH screw (head $\phi 3.2$ ) sku:9249000977-0
					
BS33798-spur gear shaft (long)- sku:9249000978-0	BS33799-spur gear shaft (short)- sku:9249000979-0	BS33800-reductor shaft sku:9249000980-0	BS33801-A2040 oil filled shock absorber set sku:9249000981-0	BS33802-nim Shock absorber for wheelbar sku:9249000982-0	BS33803-shock spring $\phi 13.4 \times \phi 1.38, 5(5n)$ -2pcs sku:9249000983-0
					
BS33804-shock spring for wheel bar $\phi 8.3 \times \phi 0.8 \times 35(6n)$ sku:9249000984-0	BS33805-ISO2.5*12 FH screw-10pcs sku:9249000985-0	BS33806-washer $\phi 4.1 \times \phi 8 \times 0.2$ -10pcs sku:9249000986-0	BSB0055P-printed PVC body sku:9249000987-0	B1112 2.36A brushless ESC sku:249000251	B1144-11T lamp sku:249000251
					
B1165-KV2800 brushless motor	B1170-17g servo w/metal gear				
					

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Hop up Parts					
30902-T-servo saver complete -1set sku: 2003110-30902	30910-front upper sus. arms L/R -1set sku: 2003110-30910	32823-sus. arm holder-titanium sku:249000266	BS33807-T -front shock tower sku:9249000989-0	BS33808-T -rear shock tower sku:9249000990-0	BS33809-T- front lower susp. arms mount sku:9249000991-0
					
BS33810-T -front upper susp. arms mount (titanium) sku:9249000992-0	BS33811-T-connecting plate for wheel bar sku:9249000993-0	BS33812-T -tow bar mount for wheel bar sku:9249000994-0	BS33813-T- L/R steering knuckle arms (titanium) sku:9249000995-0	BS33814-T- L/R C-hub (titanium) sku:9249000996-0	BS33815-T -alum. Shock absorber sku:9249000997-0
					
BS33816- front CVD complete-2pcs sku:9249000998-0	BS33817- rear CVD complete- 2pcs sku:9249000999-0	BS33818-T-wheel hub-4pcs sku:9249001000-0	BS33819- spur gear 30T-1pcs sku:9249001001-0	BS33820-T- front lower susp. arms L&R sku:9249001002-0	BS33821-T-rear lower susp. arms L&R sku:9249001003-0
					
BS33822-T-bearing mount sku:9249001004-0					
