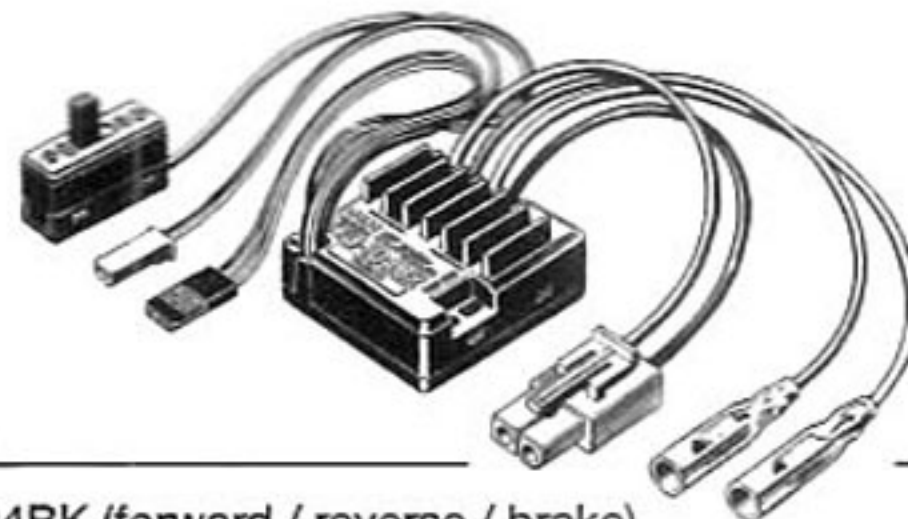


TEU-104BK

TAMIYA ELECTRONIC SPEED CONTROLLER



TEU-104BK is a forward / reverse running electronic speed controller featuring a high frequency wave drive system. Read this instruction manual carefully before operation. For safety pre-cautions, always follow the instructions provided. Improper operation may result in a serious accident.

★Never use electronic parts that prevent current flow, such as schottky diodes. They cause counter current when car is in reverse, which damages the electronic speed controller. Remove any such parts if already installed.

★Disconnect motor cables during set-up.

※Specifications are subject to change without notice.

Tamiya TEU-104BK (forward / reverse / brake)

★Compatible receiver: Receivers with BEC designated for ground vehicle R/C models.

●Control system : High frequency wave drive system

●Max. continuous current (FET spec) : Forward 60A

●Output: Forward 100%, Reverse 50%

●Input voltage: 6.6-7.2V

●Compatible motor : Electric motor for R/C cars

(Sport-Tuned Motor or motors more than 25T)

●Driving frequency : 1kHz

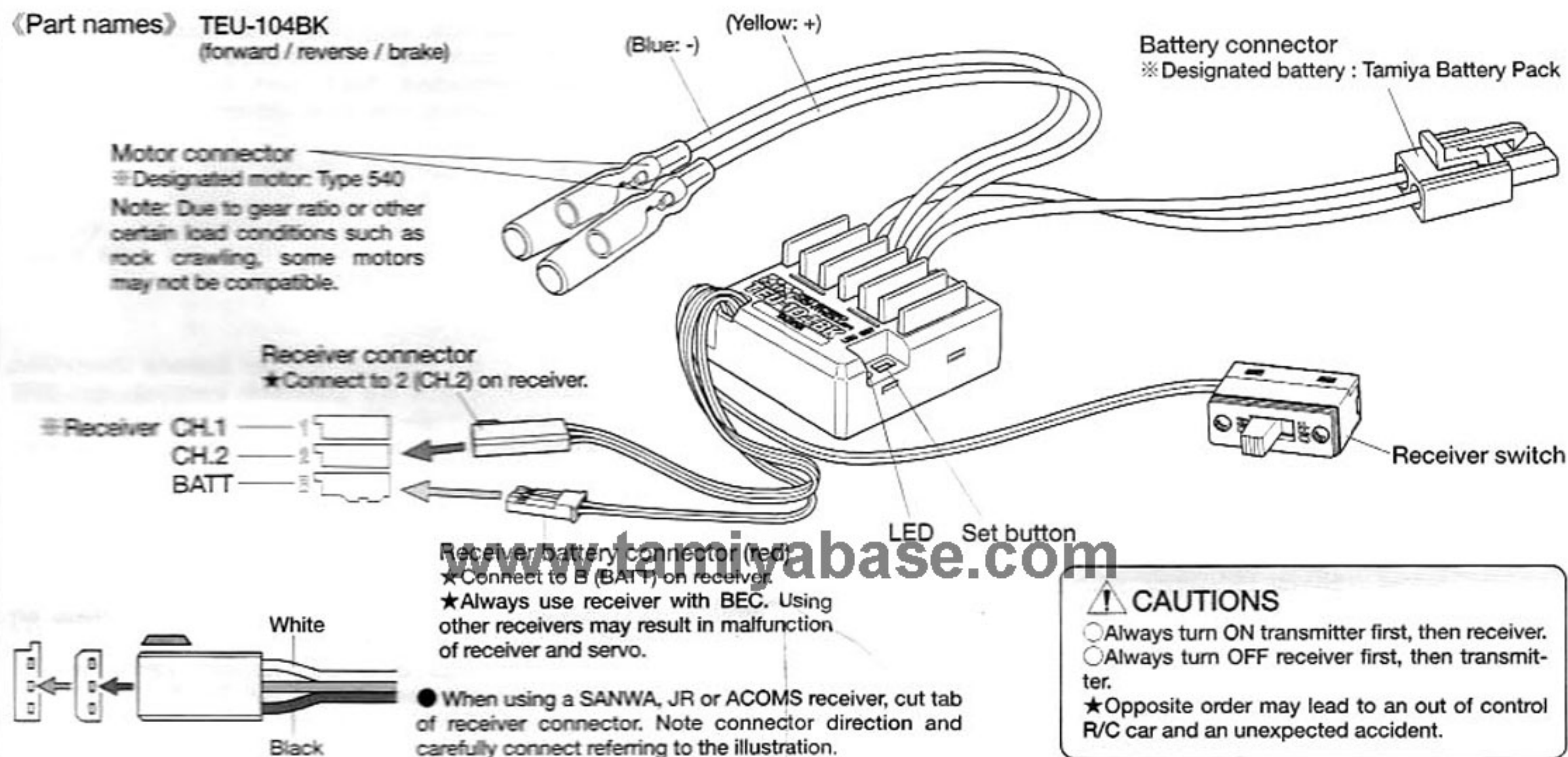
●Output voltage for receiver : 6.6-7.2V

●Dimensions : 39.4 x 36.5 x 15mm

●Weight : 47g

《Part names》 TEU-104BK

(forward / reverse / brake)



CAUTIONS

- Always turn ON transmitter first, then receiver.
- Always turn OFF receiver first, then transmitter.
- ★ Opposite order may lead to an out of control R/C car and an unexpected accident.

《Set-up》

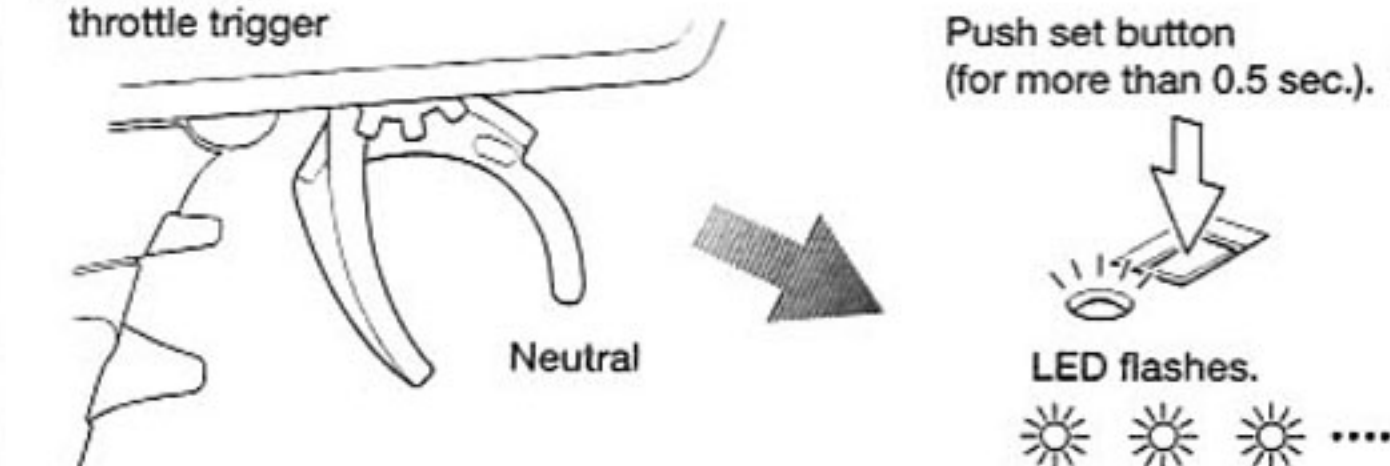
★When programming settings, disconnect motor cables.

- ① Refer to the instructions included with R/C model and securely connect cables. Turn on transmitter first, position throttle trim to neutral and reverse switch to normal.
★If your transmitter is capable of programmed settings such as ABS or acceleration function, turn off all settings.
☆Refer to the instructions included with transmitter for details.

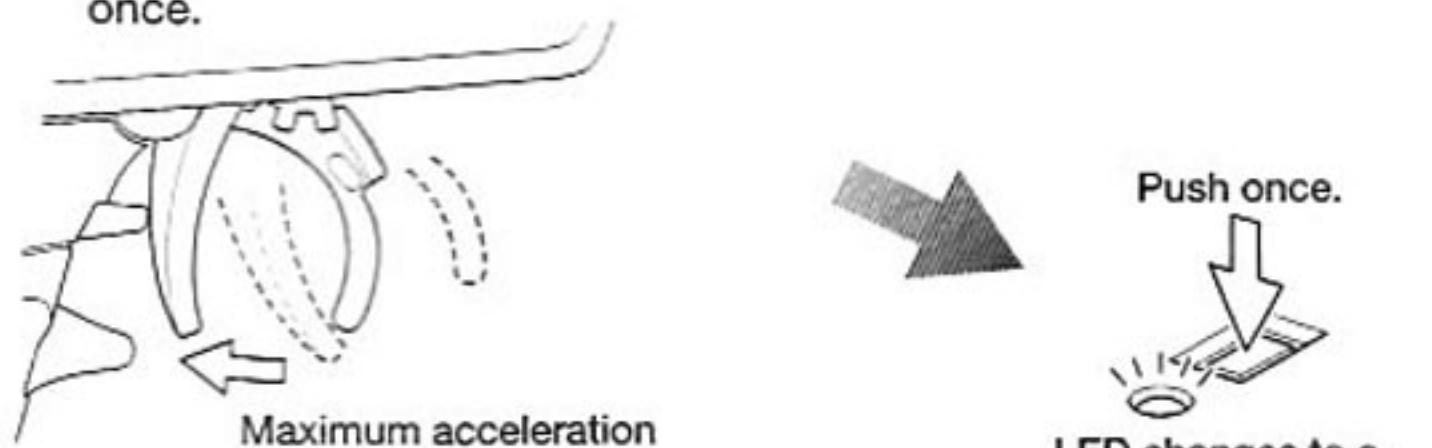
- ② Turn on receiver. When installing for the first time, LED light will flash red once.

- ③ Push set button once with throttle trigger in neutral.

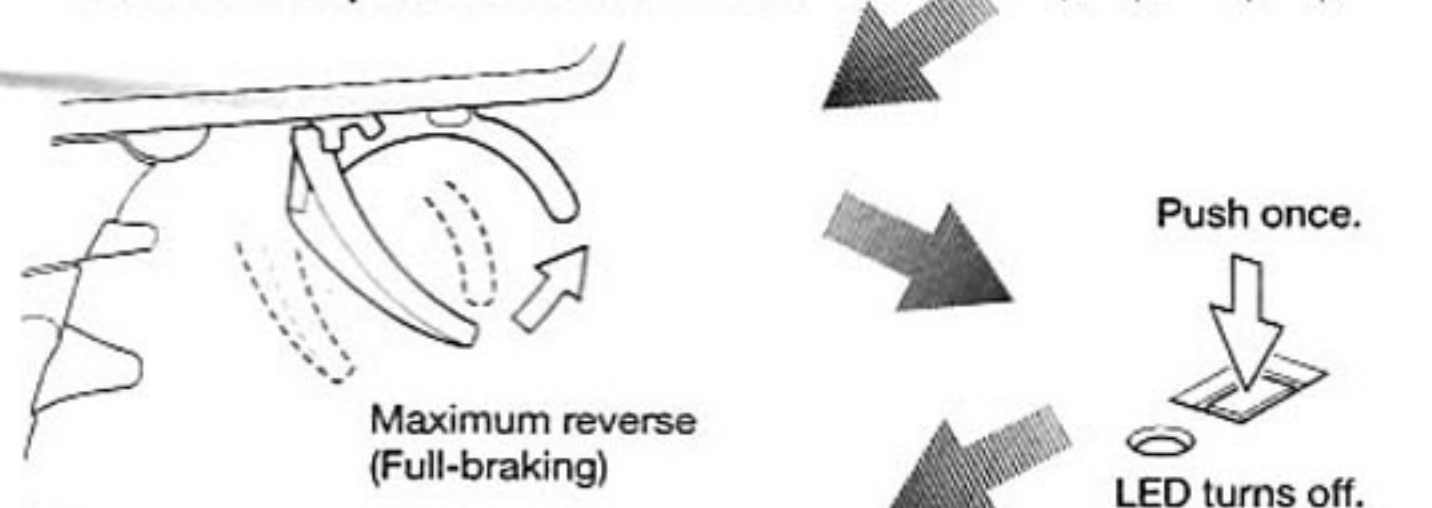
※Transmitter throttle trigger



- ④ Pull throttle trigger to maximum acceleration and push set button once.



- ⑤ Push throttle trigger to maximum reverse and push set button once.



- ⑥ Setting completed. (Standard settings)

★Throttle positioning must be set in this sequence and cannot be set individually.

★If power is turned off before completion, the new settings will be lost and old throttle positioning will remain.

★Until you correctly complete the current step, you cannot progress to the next one.

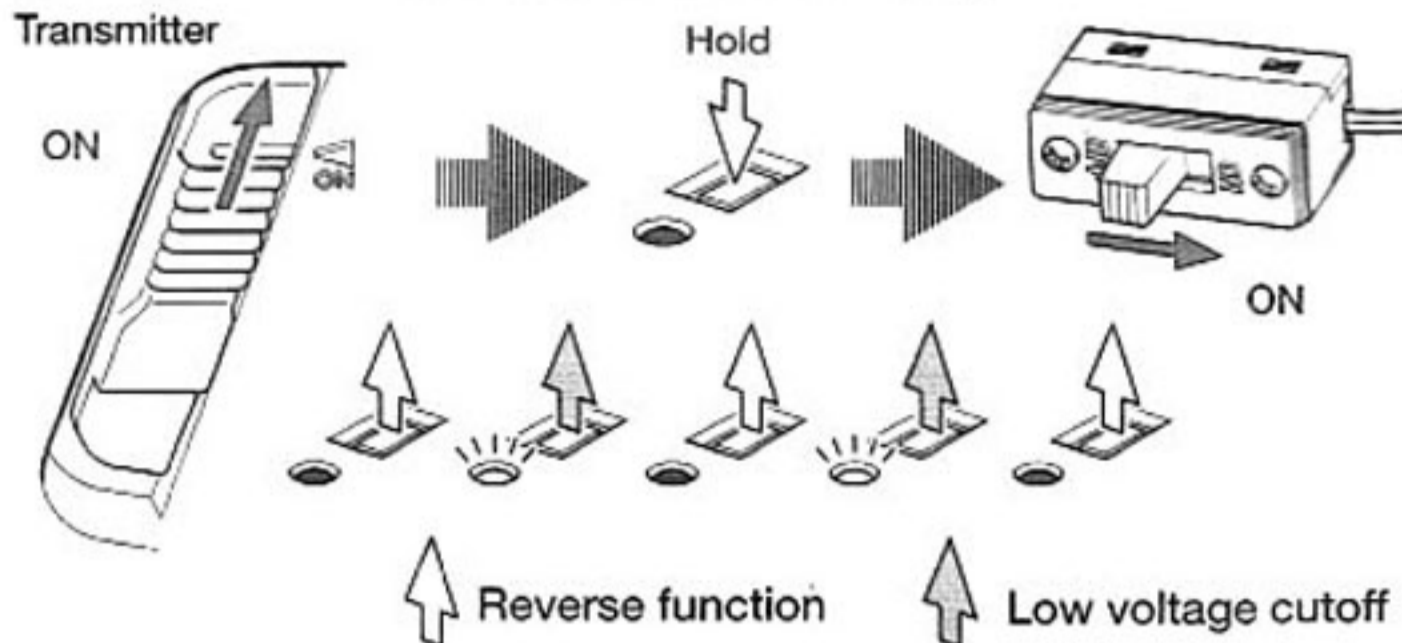
★You must go through set-up again when changing transmitters.

Turning reverse function off/Low voltage cutoff

★Turning reverse function off: For races that forbid driving in reverse, you can set it to have brake function only.

★Low voltage cutoff: Prevents batteries from damage due to over-discharging. Set low voltage cutoff when using LF batteries.

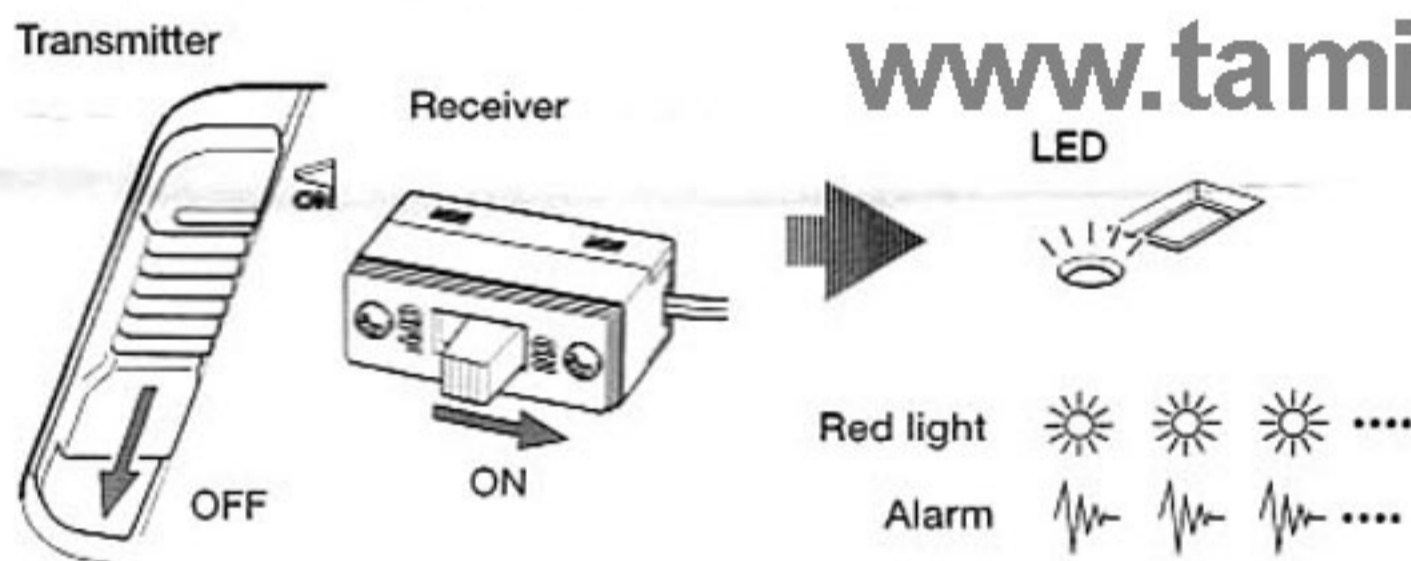
●Set up: The reverse function and low voltage cutoff are activated as factory default setting. To change the settings, first turn on transmitter, then turn on receiver while holding down the set button. LED will flash on/off alternately every 3 seconds. Release the set button while LED is off to turn reverse function off. Release the set button while LED is on to turn low voltage cutoff function off. Repeat each step to return to the factory default setting.



●Checking the settings: Settings can be checked through LED flashes and alarms when turning on the transmitter first, then receiver. Refer to the diagram below.

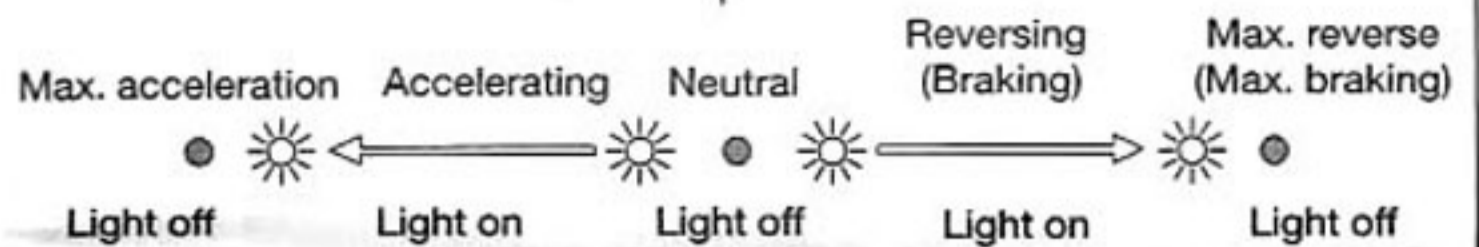
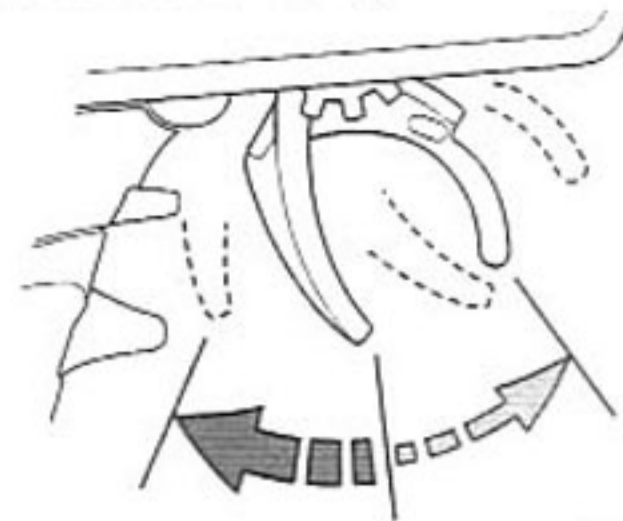
Reverse function	Low voltage cutoff	LED	Alarm
On	On		
Off	On		
On	Off		
Off	Off		

●If receiver is turned on while transmitter is off, LED will flash. If motor is connected an alarm will also sound.



Throttle operation and LED light

●If settings are correct, LED will turn off when trigger is in neutral, turn on when accelerating / reversing, and turn off when at maximum acceleration / reversing.



Tamiya TEU-104BK is equipped with two safety functions.

Heat protection mechanism : If ESC starts to overheat due to long use, power to motor is reduced, causing car to slow. If further overheating occurs, power to motor is stopped, preventing any damage. After cooling, the heat protection mechanism will automatically reset.

Overcurrent protection mechanism : When motor short circuits, power to motor is automatically stopped. Overcurrent protection mechanism will not reset automatically. After fixing the car, restart the transmitter and receiver.

《CAUTION》

●Check polarity (+/-) of battery before connecting. Incorrect connection could damage internal electronics of ESC.

●Do not repeatedly accelerate and reverse as it may cause motor and ESC to overheat.

●If ESC gets wet, immediately turn off, disconnect battery and allow to air dry.

《Installation》

●Putting receiver and receiver antenna near devices circulating large amounts of electrical current, such as ESC, motor, battery pack or cables, will lead to interference causing loss of control. Receiver and receiver antenna must not touch ESC, and antenna must not cross over with cables from ESC. Carbon or metal chassis may also transfer interference.

《Trouble shooting》

★Before sending your speed controller in for repair, check it again using the diagram below.

Symptom	Cause	Remedy
Motor does not work. No brake control.	<ul style="list-style-type: none"> ★Set-up error. ★Defective motor. ★Wiring problem. ★Defective speed controller. 	<ul style="list-style-type: none"> ●Perform set-up procedure again. ●Replace motor. ●Check wire and plugs. ●Contact your local Tamiya dealer.
Speed controller overheats. (Heat protection activated.)	<ul style="list-style-type: none"> ★Insufficient cooling. ★Drive train problems. ★Incorrect gear ratio. 	<ul style="list-style-type: none"> ●Create better ventilation by making cooling slits in the body. ●Check rotating parts on chassis. Reassemble if required. ●Use correct gear ratio.

⚠ WARNING

- This product is an electronic speed controller for land based R/C models. Do not use for any other purpose.
- Securely connect electronic speed controller and servo to receiver. Cables can become disconnected due to strong vibrations during use, resulting in loss of control.
- Make sure no one else in the area is using the same frequency as yours. Frequency interference can cause serious accidents.
- Stop operation if lightning or thunder occurs, as lightning may strike the transmitter antenna.
- Do not operate your R/C model in puddles or in rain. Interior electronics may get wet resulting in loss of control.
- To prevent fire or an out of control car, always remove or disconnect batteries after use.
- Keep transmitter, battery and R/C model away from small children to prevent possibility of personal injury, burns, intoxication, suffocation etc.

⚠ CAUTIONS

- Check polarity (+/-) of motor and battery before connecting. Incorrect connection could damage internal electronics.
- Avoid continuous operation. Battery connector may melt or become deformed by heat. To prevent burns, do not touch motor or electronic speed controller straight after use.
- Short circuits to cables will damage internal electronics and chassis.
- This product contains precision electronic parts that may be damaged by high impact, water or humidity.
- Do not disassemble or modify. Use designated parts only. Foreign parts may not be compatible causing damage to internal electronics.
- Do not operate R/C model on the street or in a crowded area.

★In case of a fault or malfunction, consult your local Tamiya agent / dealer.

TAMIYA

45041 TEU-104BK Electronic Speed Controller (11050862)