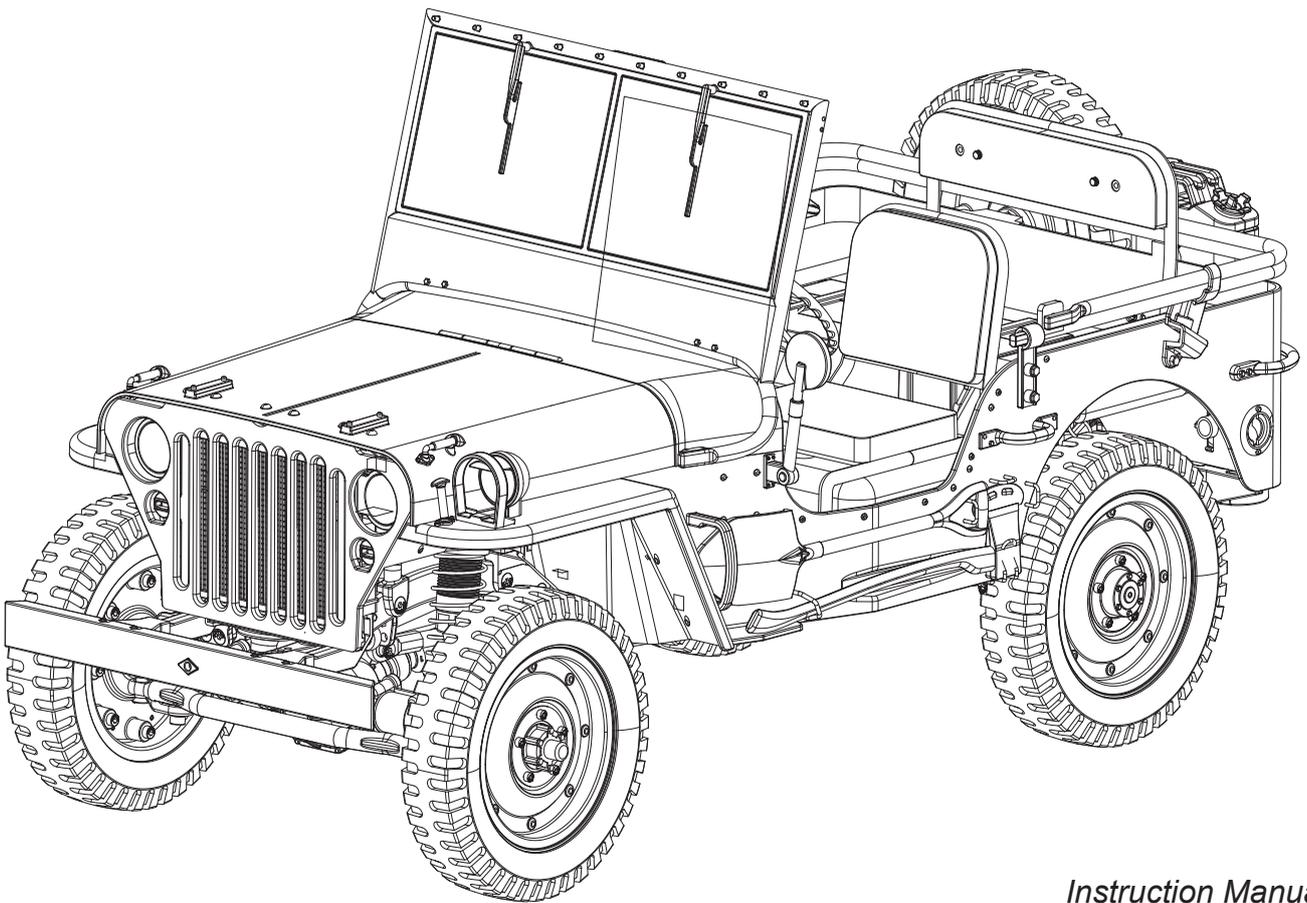


RO HOBBY

1:6 1941 MB SCALER



PNP version does not include transmitter and receiver .

Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
操作手册

PARAMETERS

Length:530.5mm
Width: 258mm

Height:270mm
Wheelbase: 324mm

Ground clearance: 39.5mm
Approach angle: 58°

Departure angle: 22°
Breakover angle: 36°

TABLE OF CONTENTS

Safety precautions	3
Radio system manual	4
ESC system manual	8
Vehicle setup	12
Lifting and retracting the windshield	13
Opening the hood	13
Setting up the canvas bracket	14
Operating the vehicle	14
Front and rear wheel assembly	53
Front axle assembly	54
Oil shock absorbers assembly	55
Main gear box assembly	55
Rear axle assembly	56
Transmission gear box assembly	57
Car body assembly 1	58
Car body assembly 2	59
Car body assembly 3	60
Chassis exploded-view	61
General list of accessories (I)	62
General list of accessories (II)	63

SAFETY PRECAUTIONS

Introduction

This model is a sophisticated hobby product and not a toy. It must be operated using caution and common sense. Beginners should seek the advice of experienced hobbyists to ensure that the model is properly built, run and maintained.

Some mechanical knowledge and ability is expected of the hobbyist, as failure to operate and maintain this model may result in property damage, serious injury or even death.

This model is not intended for use by children without proper adult supervision.

Please follow the instructions and all posted warnings within this manual in order to properly assemble, setup, use and maintain this model.

Safety, precautions and warnings

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is necessary to always keep a safe distance in all directions around your model, as this will help to avoid collisions or injury.

- Always operate your model in an open area away from cars, traffic, or people.
- Never operate your model with low transmitter batteries.
- Carefully follow the directions and warnings for this product and any optional support equipments (chargers, rechargeable battery packs, etc.) that you use.
- Keep all parts, chemical solvents, oils and electrical components out of the reach of children.
- Moisture may cause damage to electronic components over time. Ensure that all electronic components, even waterproof components, are fully dried out after every run. Never run your model in salt-water.

CE compliance information for the european union

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use.

UK	DE	DK	BG	SE	GZ	ES	NL	SK	HU	RO	FR	PT
FI	EE	LV	LT	PL	AT	CY	SI	GR	MT	IT	IE	LU

Declaration of Conformity

Products: 2.4GHz Controller

Equipment Class: 2

The objects of declaration described above are in conformity with the requirements of the specifications listed below.

Item Name : 2.4GHz Controller

The RED Directive 2014/53/EU

EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

EN 300 328 V2.1.1:2016

EN 301 489-1 V2.1.1:2017

EN 301 489-17 V3.1.1:2017

FCC ID 2ARE7-91805

Statement - This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and,
2. this device may not cause harmful interference, and including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Warning:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. And should be operated with minimum distance of 20 cm between the antenna & your body.

RADIO SYSTEM INSTRUCTION MANUAL

Please read this manual carefully prior to using. We are not responsible for any intentional damage or improper use. If you require any additional information or have any questions about the product or its use, please contact us via (www.fmsmodel.com).

This product is not a toy! (14+) Recommended for ages 14 and up. Adult supervision required for ages under 18 years old. Contains small parts, keep out of reach of children 3 years of age and younger.

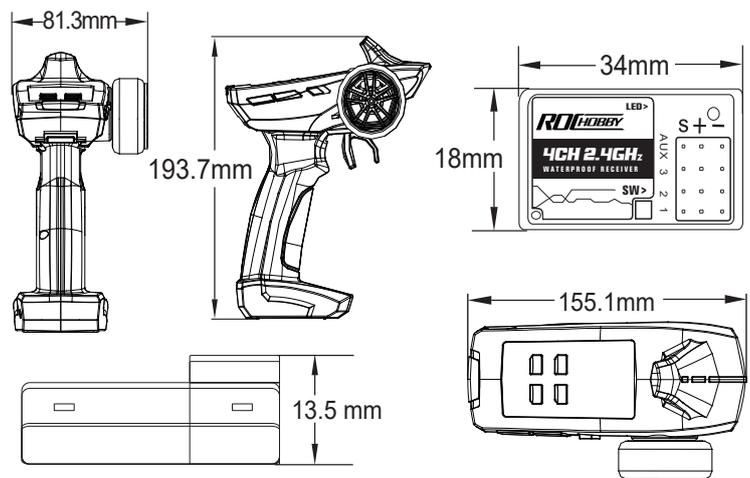


Your model is equipped with an advanced 2.4GHz radio system. This system uses a frequency hopping spread spectrum technology that allows for minimal interference operation.

Prior to operating your new radio system, please take a few minutes to familiarize yourself with the various features and functionality of the system by reading this instruction manual thoroughly.

Specifications

Model		TX
Configuration		Pistol grip
Frequency Band		2.4 GHz
Frequency Range		2405.0~2478.0
Output Power		0.0054Watts
Channels		4CH
Battery		AA x4
Dimensions	Length(mm)	155.10
	Height(mm)	193.70
	Width(mm)	81.30

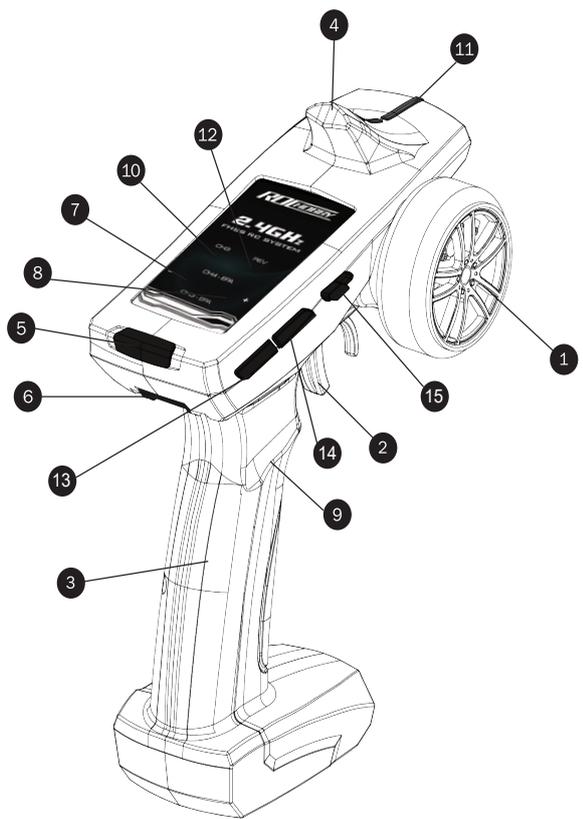


Warranty

The ROCHOBBY 4 channel radio system is guaranteed to be free from defects in materials and workmanship within 30 days of the purchase of the product. If the product has been mishandled, abused, used incorrectly or used for an application other than its intended purpose- ROCHOBBY is not liable for any loss or damage, whether direct or indirect, incidental or consequential, or from any special situatuon, arising from the use, misuse, or abuse of this product.

RADIO SYSTEM INSTRUCTION MANUAL

Function operation introduction

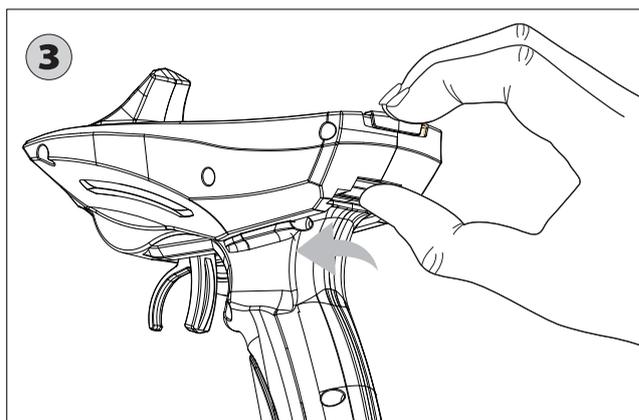
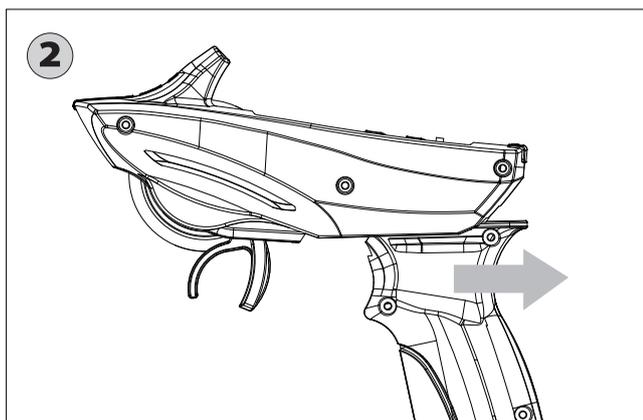
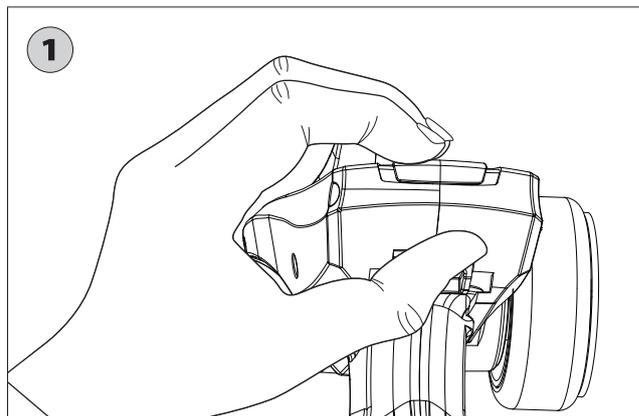


- 1. Steering Wheel: Controls the steering function of the model.
- 2. Throttle Trigger: Controls forward / reverse / brake motion(designed to be operated with index finger).
- 3. Hand Grip: For holding the transmitter.
- 4. Antenna:Transmits signal to the receiver located in the vehicle.
- 5. Power switch:Turns the transmitter ON / OFF.

- 6. Handle release latch.
- 7. CH3-EPA+/-
- 8. CH4-EPA+/-
- 9. Battery compartment: Houses [4] AA batteries
- 10. Channel 3 key.
- 11. LED.
- 12. Reverse:
 - 1: Turn and hold the steering wheel to the left or right while simultaneously pressing the REV button. An audible note is emitted and the steering channel will be reversed.
 - 2: Push or pull the throttle trigger to its maximum position while simultaneously pressing the REV button. An audible note is emitted and the throttle channel will be reversed.
 - 3: Press CH3 and REV simultaneously. An audible note is emitted and CH3 will be reversed.
- 13. ST DR/ST TRIM: Please turn the wheel to left or right with Max angle, and press ST-TRIM+ or ST-TRIM-, then adjust the angle of ST.
- 14. TH DR/ TH TRIM: Please pull or push the throttle to its maximum position, then press the TH-TRIM+ or TH-TRIM - button to adjust the maximum output of the throttle channel.
When adjusting the trim, the transmitter will emit an audible note for every click of trim. When the trim has been centered, the transmitter will emit two audible notes.
When adjusting the dual rates, an audible note will be emitted with every click of the dual rate. Two notes signify the dual rate is at its maximum or minimum.
- 15. Channel 4 key.

Removing or replacing the handle

1. Pull the handle release latch.
2. Pull back on the handle to release the handle from the transmitter itself.
3. To replace the handle, pull back on the handle release latch and push the handle back onto the transmitter.



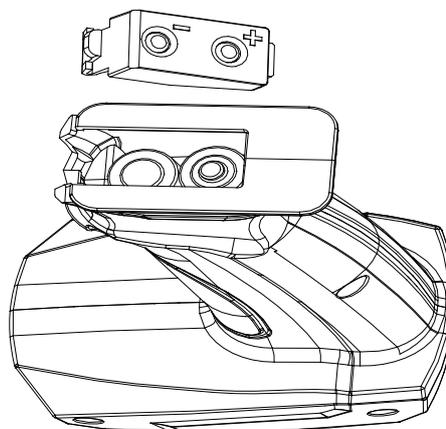
Battery installation

This transmitter accepts alkaline or NiMH AA batteries. There is a built in low voltage warning where when the voltage is lower than 4.5V +/- 0.2, the buzzer will sound continuously and the LED will flash. This is to remind the user to change the batteries for fresh units.

1. Remove the battery cover from the transmitter.
2. Insert four new AA batteries according to the polarity markings on the battery holder.
3. Reinstall the battery cover.

 Warning: do not attempt to charge non-rechargeable batteries, you may cause an explosion.

Warning: please don't reserve the battery, or it will burn out the PCB.



Channel connection

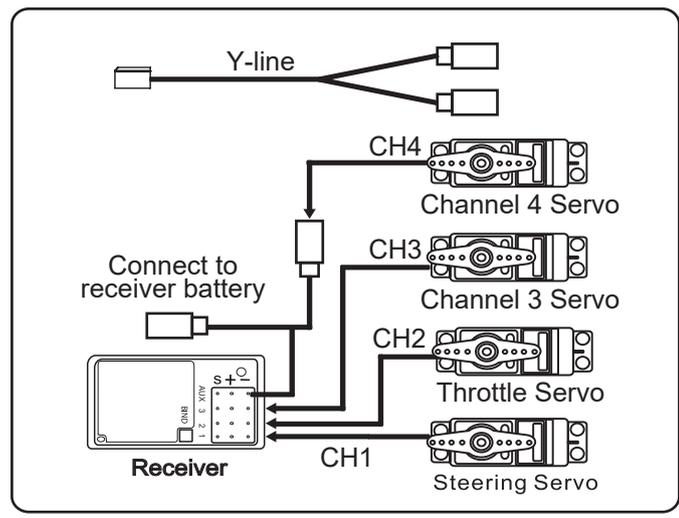
- Channel 1: Controlled by the wheel, connect to a servo for steering.
- Channel 2: Controlled by the trigger, connect to the ESC or a servo for throttle/brake.
- Channel 3: Controlled by the adjustment knob (0-100%) for optional use. This port can also be used to connect a transponder device used in racing.
- AUX (Channel 4): Controlled by button (ON/OFF) for optional use. This port is most commonly used for LED light kits. Use this port to connect an external battery for use with gas powered vehicles.

Receiver installation & connection

Installation

To achieve full operating range with your radio system it is critical that the receiver antenna be undamaged and installed properly. It should be installed with as much of the antenna as possible in a vertical position. The end of the antenna should be contained inside an antenna tube. When installing:

- Ensure there are no kinks in the antenna or antenna tube.
- Never fold the end of the antenna over the tube, this will reduce the operating range of the system and damage the antenna.
- Ensure the receiver is mounted securely or padded against hard impacts.



Pairing the transmitter & receiver

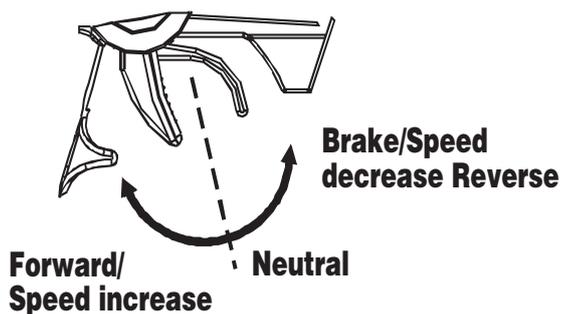
1. Turn on the receiver power. Press the SW switch. The receiver's LED should start flashing.
2. Turn on the transmitter.
3. When the LED on the receiver becomes solid, the binding process is completed.

Note: Radio systems installed in RTRs have already been paired. Only when installing a new transmitter or receiver is the above process necessary.

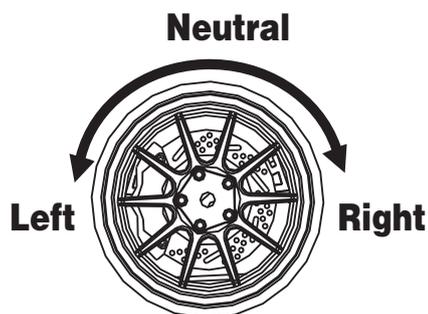


Operation

A. THROTTLE TRIGGER



B. STEERING WHEEL



1. Push the trigger forward to slow down or brake.
2. Pull the trigger backward to accelerate.

Fail safe function setting

Turn on the TX, keep the throttle at the fail safe point, press the SW button on the receiver for about 2 seconds. The LED should flash for 5 seconds, release the SW button and TH trigger, then turn off the TX.

General care

1. Always use clean, dry cloth or soft bristle brush to clean your equipment.
2. Never use chemical cleansers, as these could damage the sensitive electronics and plastics.

ESC SYSTEM MANUAL

Features

1. Waterproof and dust-proof for all weather operations.
2. Compact sizing with built in capacitor module.
3. Automatic throttle range calibration.
4. Multiple protections: Low voltage cut-off protection for Lipo or NiMH battery / Over-heat protection / Throttle signal loss protection.
5. Easily programmed with the jumpers.

Specifications

Model		WP-1060-BRUSHED
Cont. / Burst Current		Forward: 60A / 360A Backward: 30A / 180A
Input		2-3S Lipo, 5-9 Cells NiMH
Vehicles applicable		1:10 on-road, off-road Buggy, Truggy, SCT 1:10 Crawlers, Tank & Boat
Motor Limit	2S Lipo or 5-6 cells NiMH	540 or 550 size motor ≥ 8T or RPM <45000 @7.2V
	3S Lipo or 7-9 cells NiMH	540 or 550 size motor ≥13T or RPM <30000 @7.2V
Resistance		Fwd: 0.0008 Ohm, Bwd: 0.0016 Ohm
Built-in BEC		3A/6V (Switch mode BEC)
Dimension&Weight		36*30*18, 40g

ESC setup

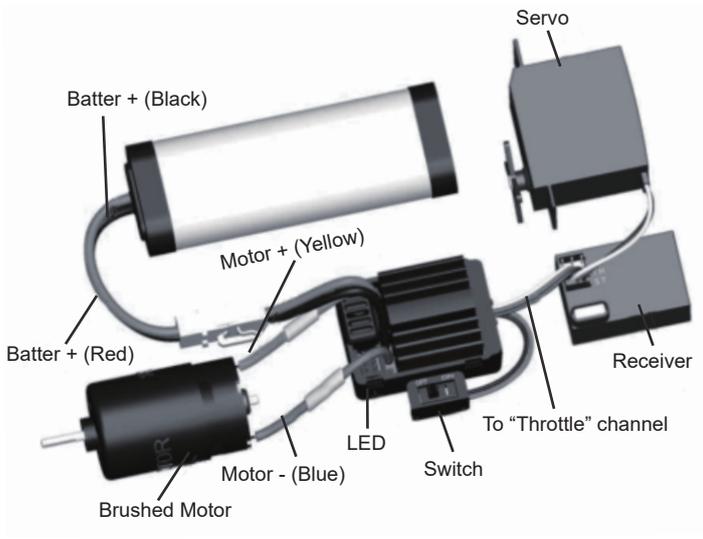
Attention: The incorrect polarity will damage the ESC immediately.

1. Connect the ESC, motor, receiver, battery and servo according to the following diagram

Ensure that the + and - wires of the ESC are connected to the battery pack.
 The control cable of the ESC is connected to the throttle channel of the ESC (Usually CH2).
 The motor + and motor - cables are connected to the motor in any order, if the motor runs in reverse, reverse the cables.

2. Set the Transmitter

Please set the "D/R", "EPA" and "ATL" to 100% for throttle channel (for transmitter without LCD, please turn the knobs to the maximum value), and set the "TRIM" of the throttle channel to 0 (for transmitter without LCD, please turn the TRIM knob to its neutral position).
 For Futaba TM and the similar transmitters, the direction of throttle channel shall be set to "REV", while other radio systems shall be set to "NOR". The "Fail Save" function of the radio system is strongly recommended to be activated. Please make sure that the motor can be stopped when the "Fail Save" happens.



3. Throttle Range Setting (Throttle Range Calibration)

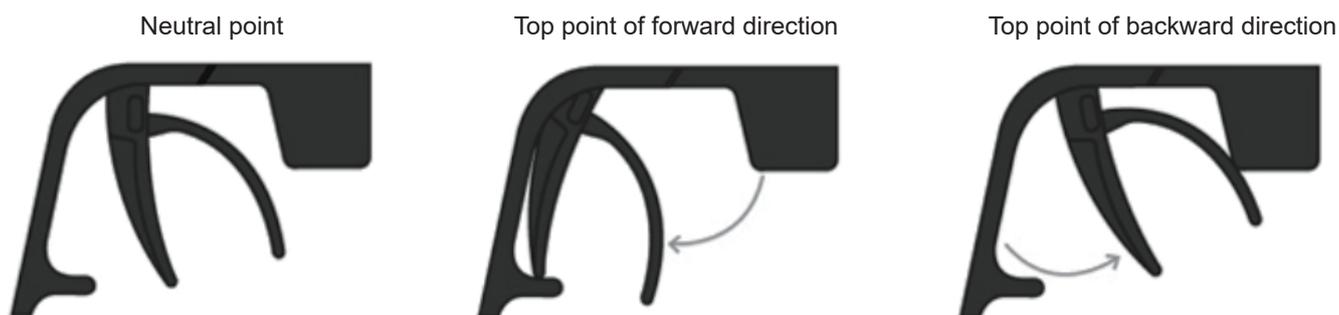
In order to make the ESC match the throttle range of different transmitters, the calibration of the ESC is necessary. To calibrate the ESC, please turn on the transmitter, keep throttle stick at its neutral position, wait for 3 seconds to let the ESC execute self-test and automatic throttle calibration. When the ESC is ready to run, a long beep sound is emitted from the motor.

Note: Please calibrate the throttle range again when using a new transmitter or changing the settings of the neutral position of throttle channel, D/R, ATV, ATL or EPA parameters, otherwise the ESC may not work properly.

Audible warnings and LED status

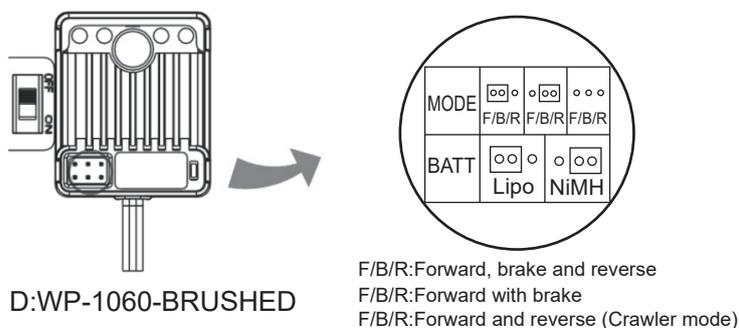
Beep meaning	LED Status
<ul style="list-style-type: none"> • 1 short beep: The battery is NiMH/NiCd • 2 short beeps: The battery is 2S Lipo • 3 short beeps: The battery is 3S Lipo • 4 short beeps: The battery is 4S Lipo • 1 long beep: Self-test and throttle calibration is OK, the ESC is ready to run 	<ul style="list-style-type: none"> • When the throttle stick is in neutral range, red LED is off • Forward, brake or reverse at partial throttle, red LED blinks • Forward, brake or reverse at full throttle, red LED is solid

Throttle stick position



Set the ESC

1. The ESC is programmed by the jumpers (Tweezers are recommended to plug and unplug the jumper).



Protection functions

1. Low voltage Cut-off (LVC) protection: If the voltage of battery pack is lower than the threshold for 2 seconds, the ESC will enter the protection mode.
When the car stops, the red LED blinks to indicate the low voltage cut-off protection has been activated.

Table A: LVC protection for WP-1060-BRUSHED

2S Lipo	3S Lipo
Output reduces 50% at 6.5V Output cuts off at 6.0V, cannot be recovered.	Output reduces 50% at 9.75V Output cuts off at 9.0V, cannot be recovered.

2. Over-heat protection: When the internal temperature of the ESC is higher than 100 Celsius degree or 212 Fahrenheit degree for 5 seconds, the ESC will reduce and cut off the output power.
When the car stops, the red LED blinks to indicate the over-heat protection has been activated. If the ESC cools down to 80 Celsius degree (176 Fahrenheit degree) the output power is recovered to normal state.
3. Throttle signal loss protection: The ESC will cut off the output power if the throttle signal has been lost for 0.1 second. The "Fail Save" function of the radio system is strongly recommended to be activated.

Troubleshooting

Fault	Possible Reason	Drivetrain fault Solution
After power on, motor doesn't function, no sound is emitted and LED is off.	The ESC isn't receiving enough voltage or the connection between the battery pack and ESC is broken.	Check the battery wires connection or replace the defective connectors.
	Switch is damaged.	Replace the switch.
After power on, motor doesn't function; red LED blinks.	Throttle signal is abnormal.	Check the throttle wire connection; make sure it is plugged into the throttle channel of the receiver.
	Automatic throttle calibration has failed.	Set the "TRIM" of throttle channel to 0 or turn the knob to its neutral position.
The model reverses when throttle is given (the motor runs in the opposite direction).	The wire connections between ESC and the motor need to be changed.	Swap two wire connections between the ESC and the motor.
The model does not reverse.	The jumper position is wrong.	Check the jumper and plug it to the correct position.
	The neutral point of throttle channel is changed or drifted.	Set the "TRIM" of throttle channel to 0 or turn the knob to its neutral position.
The model only reverses.	The direction of throttle channel is not correct.	Reset the direction of throttle channel from original "NOR" to "REV", or from original "REV" to "NOR".
The motor doesn't work, but the LED in the ESC works normally.	The connections between motor and ESC are broken.	Check the connections and replace the defective connectors.
	Motor is damaged.	Replace the motor.

Fault	Possible Reason	Drivetrain fault Solution
The motor suddenly stops running while in working state.	The throttle signal is lost.	Check the transmitter and the receiver. Check the throttle wire connection.
	Low voltage cut-off protection or Over-heat cut-off protection has been activated.	Replace the battery pack, or cool down the ESC.
The model cannot reach its maximum speed and the red LED does not become solid at full throttle.	The transmitter is improperly setup.	Check the settings. Set D/R, EPA, ATL to 100% or turn the knobs to maximum value. Set TRIM to 0 or turn the knob to its neutral position.
Motor is cogging when accelerated quickly.	The battery has limited discharge ability.	Use battery with better discharge ability.
	Motor RPM is too high, the gear ratio is too aggressive.	Use motor with lower RPM, or use smaller pinion to get softer gear ratio.
	Something wrong in the driving system of the car.	Check the drivetrain of the vehicle.

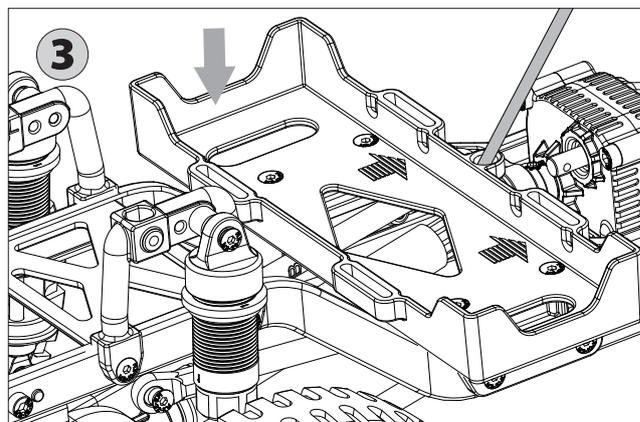
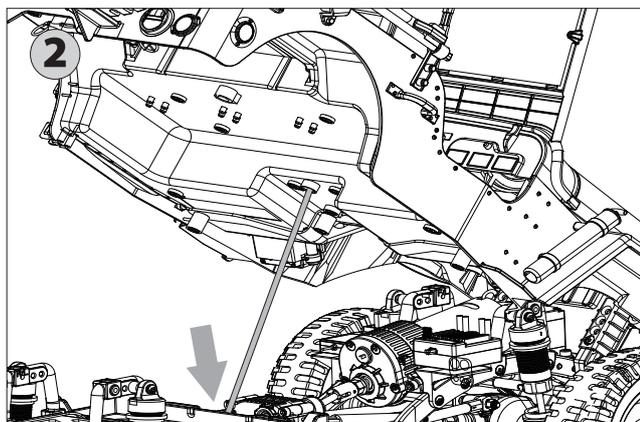
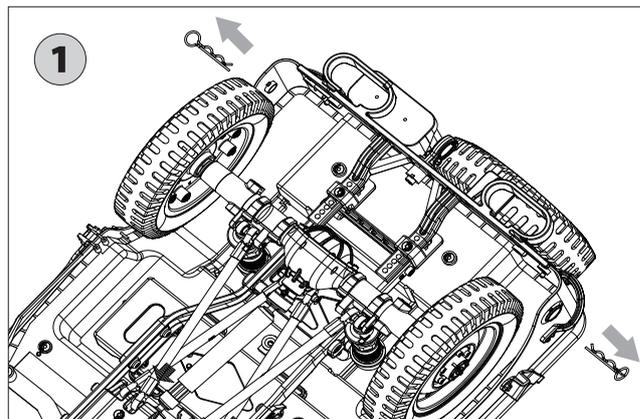
VEHICLE SETUP

Connecting the battery

STEP 1: Release the two body clips.

STEP 2: Lift the vehicle body and place the brace rod between the chassis and body.

STEP 3: Place the battery in the battery box then connect the battery plug (T-plug or XT60 plug).

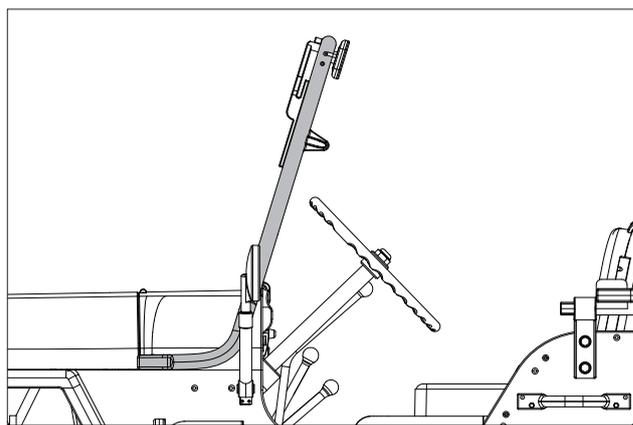
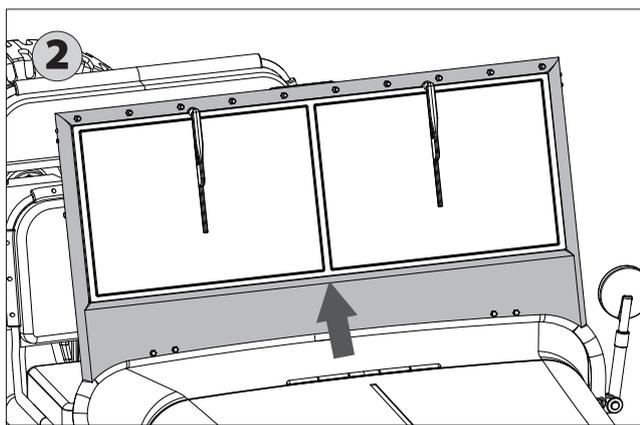
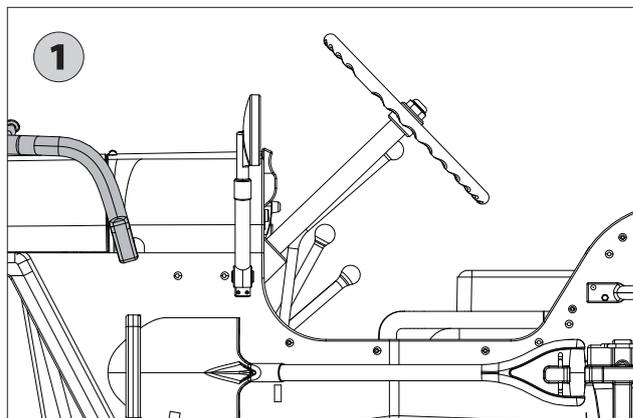


LIFTING AND RETRACTING THE WINDSHIELD

Step 1: Lift the windshield assembly.

Step 2: Gently press on the center of the windshield, the component will bend and lock onto the hood.

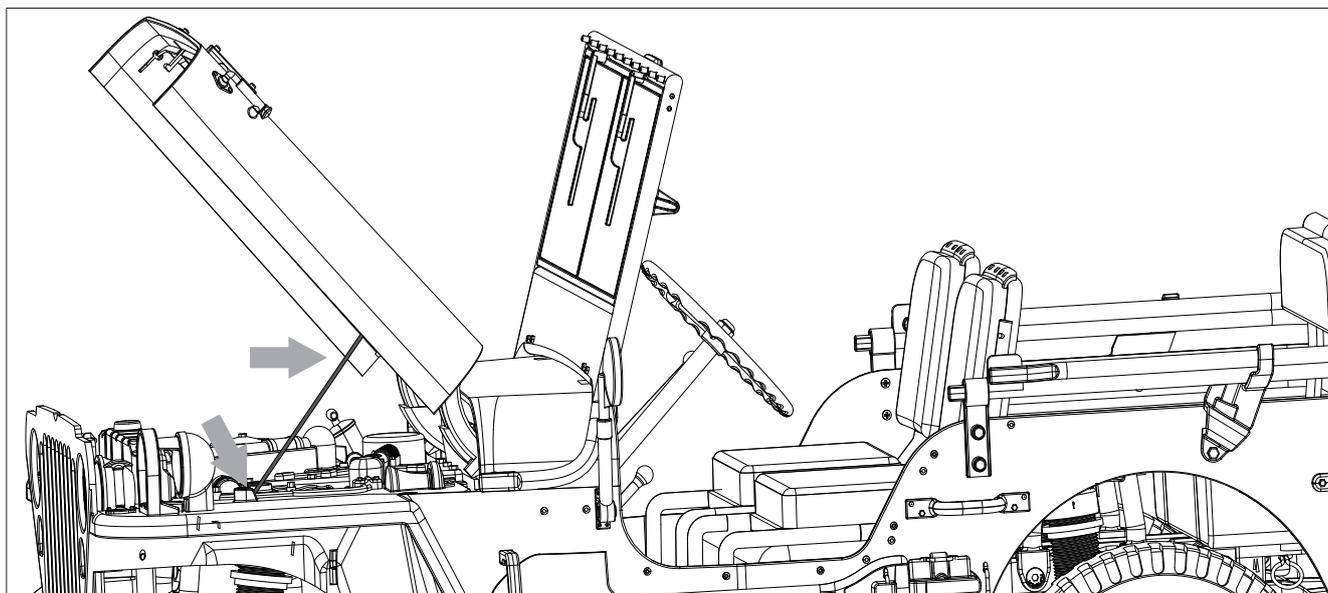
Pressing on the center of the windshield again will allow for the windshield to be retracted.



OPENING THE HOOD

Step 1: Lift the hood up.

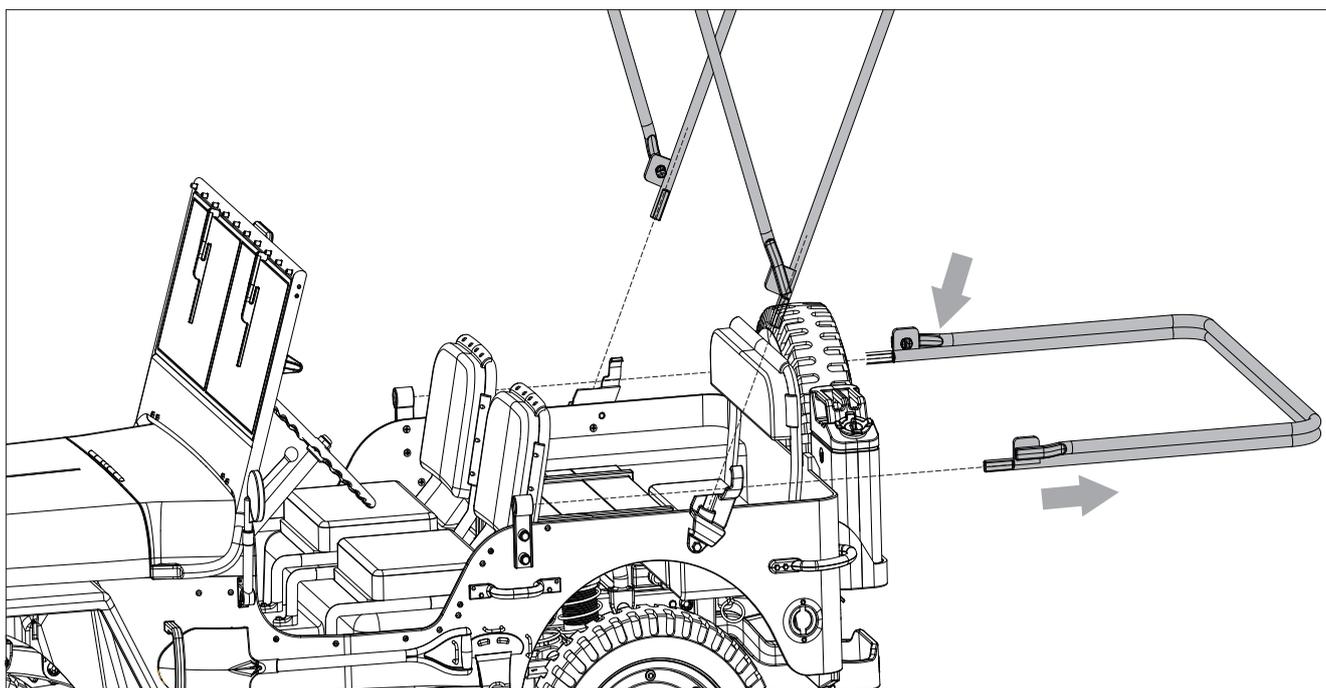
Step 2: Move the hood strut onto the engine compartment to keep the hood in place.



SETTING UP THE CANVAS BRACKET

Step1: Pull out the canvas bracket.

Step2: Insert the canvas bracket into the bracket mount.



OPERATING THE VEHICLE

Step 1: Turn on the transmitter- the status LED will turn blue and an audible tone will be emitted.

Step 2: Power on the vehicle by turning on the ESC switch. The front lights will illuminate and an audible sound will be emitted. After the receiver confirms that a transmitter signal has been received, it will emit another audible tone.

The above guidelines, must be installed the battery.

This vehicle is equipped with a slipper. If the vehicle loses transmission traction, please check the slipper tension and replace if necessary.

Spare parts C1067 SLIPPER PAD.

