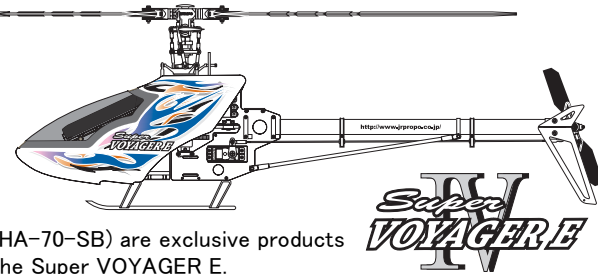


Thank you for purchasing this JR product.

Please find enclosed a brushless motor (exclusively for the JR SUPER VOYAGER E 4-cell helicopter) and Speed Controller. The Speed Controller has been designed to be extremely simple to set up. However prior to use please read this manual and other instruction manuals for related products (such as the helicopter, battery, etc.) to allow enjoyable and safe flying without accidents.

Specifications

Brushless motor NHM-30-10BL	Speed Controller NHA-70-SB
■ Out-runner design	■ Switching BEC
■ KV value 900rpm/v	■ Heat sink
■ Outer diameter 37mm	■ Cont. current value 70A
■ Full length 48mm	■ Weight 77g
■ Shaft diameter 5mm	



Hacker The brushless motor (NHM-30-10BL) and Speed Controller (NHA-70-SB) are exclusive products jointly developed with the German corporation 'HACKER' for the Super VOYAGER E.

● Battery requirements (not included):

Lithium polymer battery, 4 cell (14.8V), capable of 20C or higher discharge (nominal capacity: 3,300 mAh).
Dimensions: up to 155mm x 45mm x 30mm

In order to prevent accidents while using this product, the symbols shown on the right are used to indicate appropriate precautionary notices. Their meanings are as described on the right. Read these notices carefully prior to proceeding with assembly. Soldering is required during assembly of this product. Use a soldering tool designed for electronic components. Note that damage may result from excessive heat application.

*The product specifications and this manual are subject to change without prior notice due to improvement.

【1】Precautions for Handling

WARNING

- The Product is exclusively designed for Super VOYAGER E (4-cell). Do not use it for any other applications.
- Connect each wire properly (if the connectors disconnect during flight, you will lose control of your helicopter, resulting in great danger).
- Prior to turning on the transmitter, be sure to confirm that your frequency band is free (if someone else is using the same band, you will lose control of your helicopter due to interference).
- Do not fly your helicopter in the rain or snow, near puddles, or in a thunderstorm (it could go out of control and crash due to an electric malfunction).
- When you cannot make proper judgment regarding operation (such as being tired, ill, or under the influence of medicine or alcohol) do not fly your helicopter.
- Connect the battery only at the time of flight (if its switch is turned on by mistake your helicopter may go out of control, or cause a fire).
- Be careful to avoid a burn or fire while soldering.

CAUTION

- Be extremely careful not to make an error with the polarities of the speed controller, battery and motor wires during assembly (the devices will be damaged).
- Be sure to use our original (or specified) parts such as the transmitter, receiver, servos and other optional parts. If the Product is used in combination with other manufacturers products it could be damaged and we will take no responsibility for any resultant problems or accidents.
- Turn on the power switches in order of the transmitter and then speed controller, and then the other way around when turning them off (if this order is reversed, the receiver may pick up noise, causing your helicopter to go out of control).
- After a flight, do not touch the speed controller, motor or battery while they are hot.
- Never disassemble or modify the product. It will be damaged.

WARNING

Neglect of this precautionary notice is very likely to result in death or serious injury to the user, or damage to property.

CAUTION

Neglect of this precautionary notice is not likely to result in death or serious injury to the user, but may result in wounds or damage to property.

WARNING

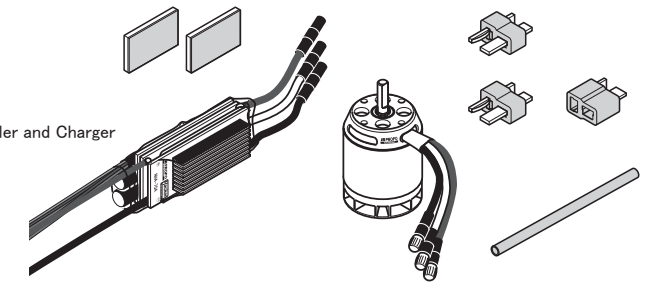
Never confuse the male and female connectors, and their positive and negative positions. When connecting to the battery, care should be taken not to short-circuit.

CAUTION

Route the wires away from the receiver's antenna cord and crystal as much as possible. (high-frequency noise may cause malfunctioning)

【2】Components

- Brushless motor NHM-30-10BL × 1
- Speed Controller NHA-70-SB × 1
- Battery connector (male) × 2 * For Speed controller and Charger
- Battery connector (female) × 1
- Insulating (heat shrinkable) tube × 1
- Double-sided tape × 2
- Instruction manual (this manual) × 1



*Prior to attaching the components to the helicopter please check for any missing items.

Repair parts

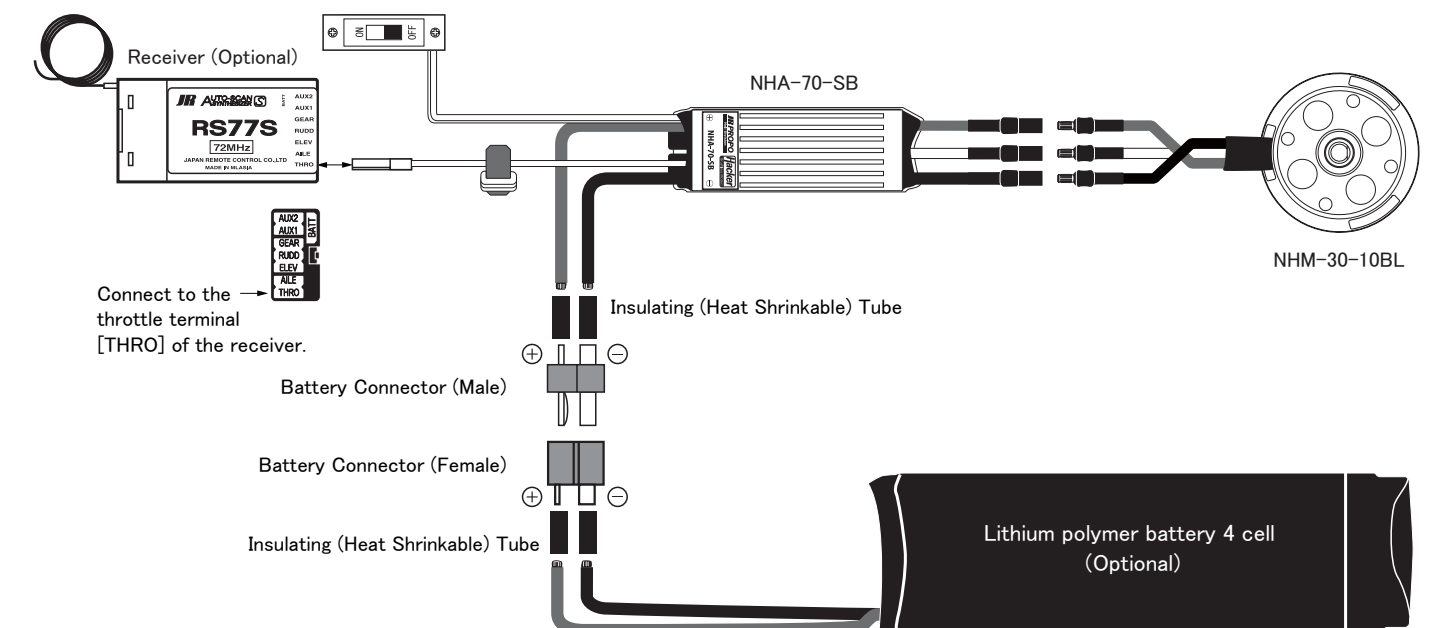
No. 87022 Battery connector set (one each battery connector male and female, and insulating tube)

*The motor and speed controller are not sold individually.

【3】Attaching Method

- ① Solder the connectors for connecting the speed controller to the battery (see the connection diagram below).
The male connector is used for the speed controller, and the female one for the battery.
The black wire of the speed controller is to be connected to the "negative" (-) side of the connector. Divide the insulating tube (heat shrinkable) equally into four pieces and put the wires through them prior to soldering.
- ② Attach the motor to the helicopter body.
See the Assembly Manual for Super VOYAGER E.
■ "5-1. Assembling the Motor and the Motor Mount" on Page 32
■ "5-2. Attaching the Motor" on Page 33
- ③ Attach the Speed Controller to the helicopter body.
See the Assembly Manual for Super VOYAGER E.
■ "6-1. Attaching the Speed Controller" on Page 39
- ④ With reference to the connection diagram below, connect the wires.
*Only connect the battery immediately prior to a flight.
When connecting the speed controller and motor, match the wire colors.

<<Connection Diagram>>



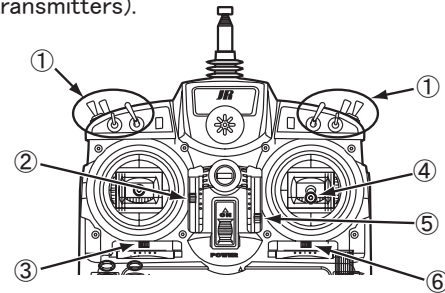
【4】 Setting Procedure

Once the components are attached to the helicopter carry out "Overall Basic Adjustment after Assembly" on Pages 44 through 52 of the assembly manual for Super VOYAGER E. When making each adjustment, be sure to follow the procedures below while proceeding with the work. Do not connect the speed controller to the battery yet.
 *Be sure to charge the battery completely according to the accompanying manual.

Initial Setting of the Transmitter:
 Prior to turning on the transmitter always be sure it is set to 'normal mode' (idle up not activated).

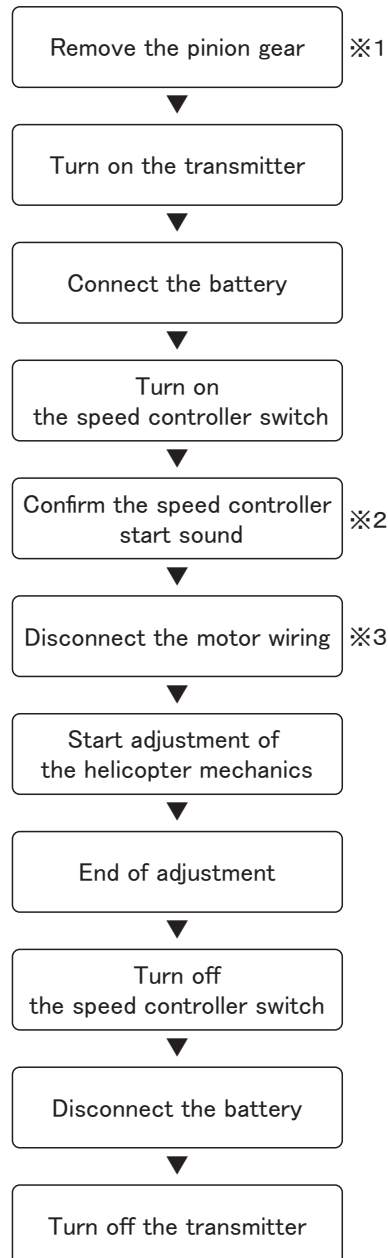
- Set the throttle channel's operating angle (travel adjust, ATV, etc.) to +/-100%.
- Set the throttle channel's reverse direction to 'normal' (or 'reverse' for Futaba transmitters).
- Activate the throttle curve function in the transmitter if required.

- ① Shift all the switches/levers away from you (some switches are of the multistage type – set all of them to the furthest position away from you).
- ②③⑥ Set the elevator, rudder and aileron trims to the intermediate positions.
- ④⑤ Set the throttle stick and the throttle trim to the slowest position (stick held down).



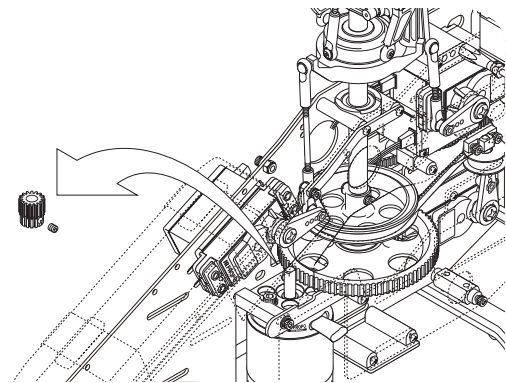
Once initial setting of the transmitter is completed, follow the instructions below.

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※1 For detaching and reattaching the pinion gear, see the Assembly Manual for Super VOYAGER E.
 ■ "5-1. Assembling the Motor and the Motor Mount" on Page 32
 ■ "5-2. Attaching the Motor" on Page 33

⚠ WARNING
 When adjusting the helicopter mechanics, ensure that the motor does not run. Erroneous operation could activate the motor (and main rotor) abruptly, injuring you or damage to the helicopter or property.



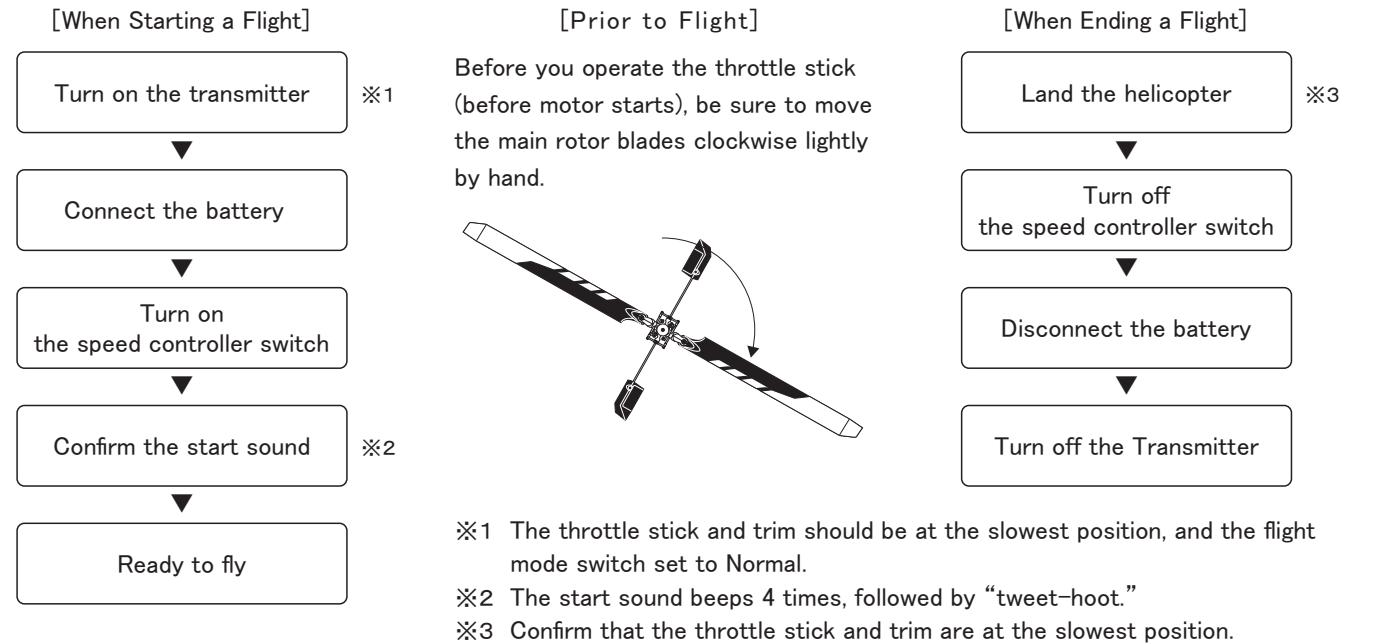
※2 The start sound beeps 4 times, followed by "tweet-hoot."
 [If the start sound is not heard]
 => Check initial setting of the transmitter.
 [If the start sound beeps in a different manner]
 => Check whether or not the battery meets the required specification and has been fully charged.

To check the start sound again, turn off the speed controller switch and disconnect the battery. Then, connect the battery again and turn on the speed controller switch (wait for 10 seconds or so before reconnecting the battery).

※3 If the speed controller start sound is normal, the motor will start running by increasing the throttle stick position on the transmitter. For your safety disconnect the wiring between the motor and the speed controller before starting "adjustment of the helicopter mechanics".

【5】 Flightdure

Now conduct a test flight. Carry out "Final Checks prior to Flight" on Page 53 of the assembly manual for Super VOYAGER E. Carry out "Re-setting after Test Flight" on Page 54 of the assembly manual for Super VOYAGER E if required. In order to ensure a safe flight, repeat a one minute or so warm-up flight and check the battery, speed controller and motor upon completion of the flight. If you notice any abnormalities such as the high temperature, swollen battery, etc., cancel your flight immediately and contact our distributor.



- ※1 The throttle stick and trim should be at the slowest position, and the flight mode switch set to Normal.
- ※2 The start sound beeps 4 times, followed by "tweet-hoot."
- ※3 Confirm that the throttle stick and trim are at the slowest position.

When the start sound is not heard or is abnormal, or when the main rotor (motor) does not start running by increasing the throttle stick position:

1. Check whether or not the throttle stick and trim of the transmitter are at the slowest position.
 2. Check whether or not the flight mode switch is at the 'normal' position.
 3. Check whether or not the wires are properly connected.
 4. Check whether or not the battery has been fully charged.
- * If none of the above tips fix the problem, inquire with our distributor.

When the test flight was successful

Read "Be Sure to Read Prior to Flight" on Pages 56 through 57 of the assembly manual for Super VOYAGER E, and observe the rules and manners to enjoy flying the radio control helicopter. The flight starting and ending procedures are the same as for the test flight. Avoid successive flights, using multiple batteries. The motor and the speed controller will overheat leading to lower output, malfunctioning, or failure.

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The product and information in this manual are subject to change without prior notice due to improvement.
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