

13. Add the moving eye to each of the claws (parts L and M), then add the claws to the front of the body. Also attach the rear legs (parts P and Q) to the rear of the body.

14. Operation: Insert a 1.5V AAA battery into the battery holder, making sure the flat end of the battery rests against the spring in the holder. Add the battery cover and secure it with a screw. Adult supervision is required.

15. If the Sun is out, slide the switch to solar-powered mode and twist the solar panel to face the Sun. The Hybrid Crab Robot will operate under solar power.

16. Switch to battery powered by sliding the switch to battery mode where sunlight is not available. When the robot is not in use, move the switch to solar-powered mode to power off.

E. TROUBLESHOOTING

If the crab does not move in solar-powered mode or battery mode:

- Check that you have made the correct connections on the terminal blocks (see section D, step 7).
- Check that the bare metal on all the wires is in contact with the metal terminals.
- If the gears do not have enough lubrication, apply cooking oil or lotion to help the system run smoothly. Friction between the gear wheels will affect the performance of the motor.

If the motor does not run in solar-powered mode:

- The sunlight may not be strong enough. Adjust the angle of the panel so that it directly faces the sun.
- Check that the gears are lubricated.

If the motor does not run in battery mode:

- Check that you have a fresh battery and that the battery is inserted into the battery holder the correct way round.
- Check that the gears are lubricated.

F. HOW IT WORKS

The solar panel turns light energy from the Sun into electricity. This electricity, or electricity from the battery, powers the motor. Inside the robot's body, gears transfer the movement of motor to the wheels on the front and back of the body, and also reduce the speed of turning between the motor and the wheels. The leg mechanisms turn the rotation of the wheels into side to side movement of legs. The legs move in turn, which makes the robot walk sideways.

G. FUN FACTS

- The word 'hybrid' means a mixture of two forms of power. The Hybrid Crab Robot uses a mixture of solar power and battery power. A hybrid car uses a mixture of engine and battery power.
- Solar-powered cars are not powerful enough for everyday driving, but experimental cars have travelled 3,000 kilometres in special races.
- Crabs have ten legs. The rear pair of legs is designed for swimming and the front pair has claws that the crab uses to catch and eat prey.
- Crabs can walk forwards and backwards, but they find it easiest to walk sideways.
- Walking robots with four or more legs, like the Hybrid Crab Robot, are very stable because one leg can be lifted at a time without the robot falling over.

HYBRID CRABOT

PLEASE SCAN THE QR CODE TO VIEW MULTI-LANGUAGE INSTRUCTIONS



FR. Veuillez scanner le code QR pour afficher les instructions multilingues pour ce kit. DE. Bitte scannen den QR-Code, um die mehrsprachige Anleitung für dieses Set anzusehen. NL. Scan de QR-code om de instructies voor deze set in verschillende talen te bekijken. IT. Scansiona il codice QR per visualizzare le istruzioni multi-lingue per questo kit. ES. Escanee el código QR para ver instrucciones en varios idiomas para este kit. JA. QRコードをスキャンして、本キットの多言語説明書をご覧ください。

WARNING:
CHOKING HAZARD - Small parts.
Not for children under 3 years.

TO PARENTS: PLEASE READ THROUGH THESE INSTRUCTIONS BEFORE PROVIDING GUIDANCE TO YOUR CHILDREN.

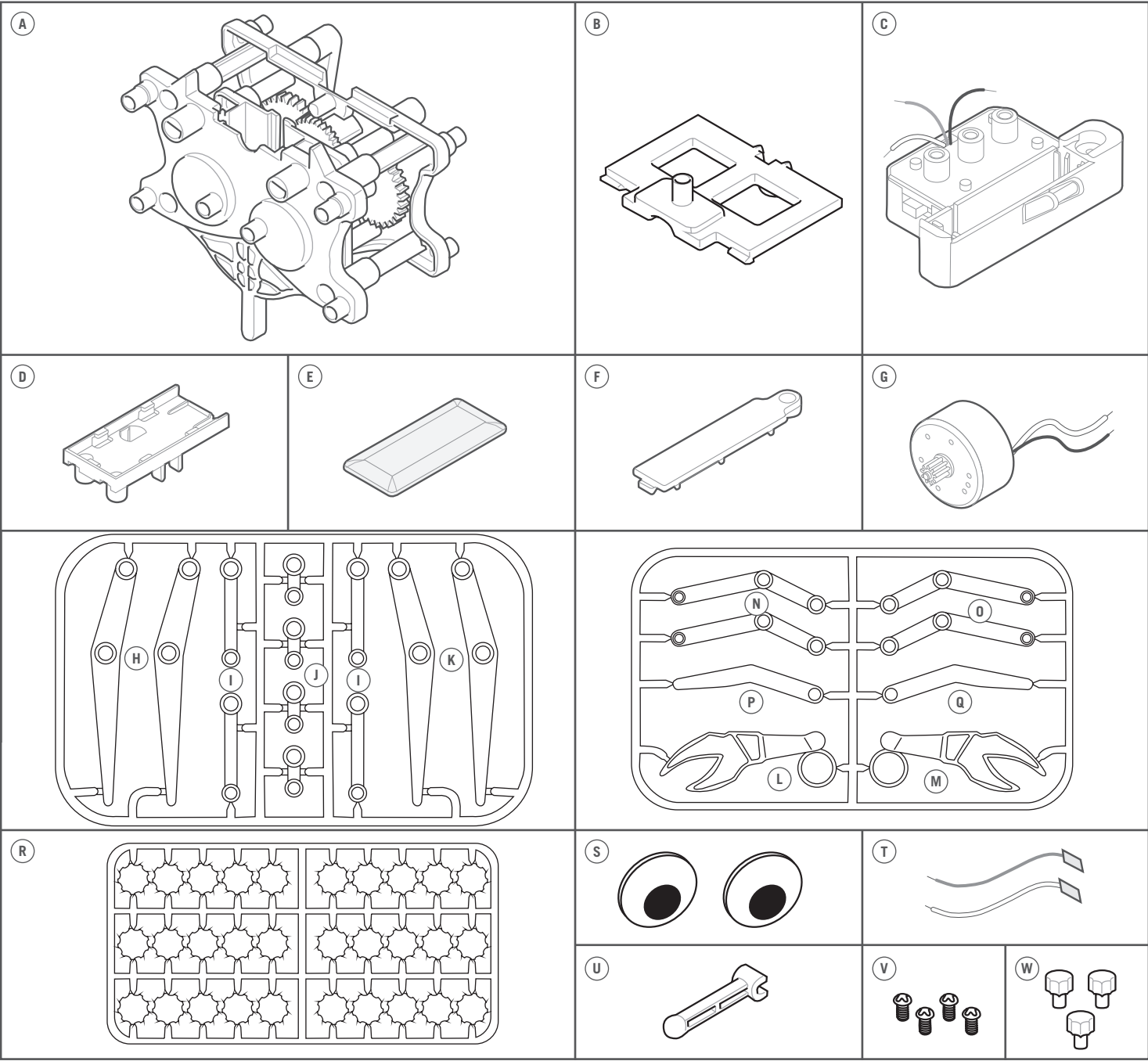
A. SAFETY MESSAGES

1. Please read through all the instructions and keep them since they contain important information.
2. Adult assistance and supervision are required.
3. This kit is intended for children 5 years or older.
4. This kit and its finished product contain small parts which may cause choking if misused. Keep away from children under 3 years old.
5. To prevent possible short circuits, never touch the contacts inside the battery case with any metal.
6. Only install batteries after the kit is assembled. Adult supervision is required.

B. USE OF BATTERIES

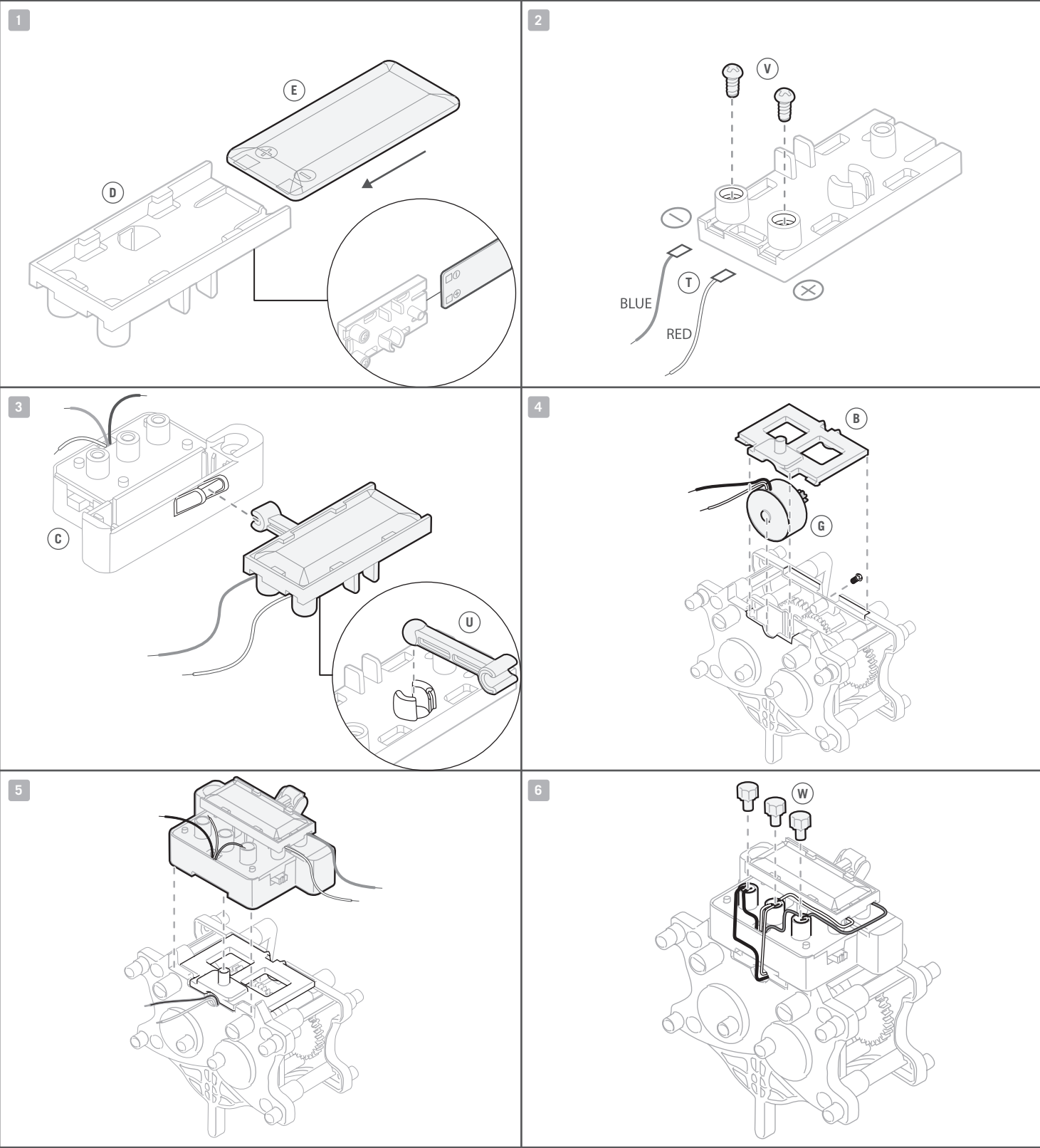
1. Requires one 1.5V AAA batteries (not included).
2. For best results, always use fresh battery.
3. Make sure you insert the battery with the correct polarities.
4. Remove the battery from the kit when not in use.
5. Replace exhausted battery straight away to avoid possible damage to the kit.
6. Rechargeable batteries must be removed from the kit before recharging.
7. Rechargeable batteries must be recharged under adult supervision.
8. Make sure that the supply terminals in the battery case are not short circuited.
9. Do not attempt to recharge non-rechargeable batteries.

C. CONTENTS

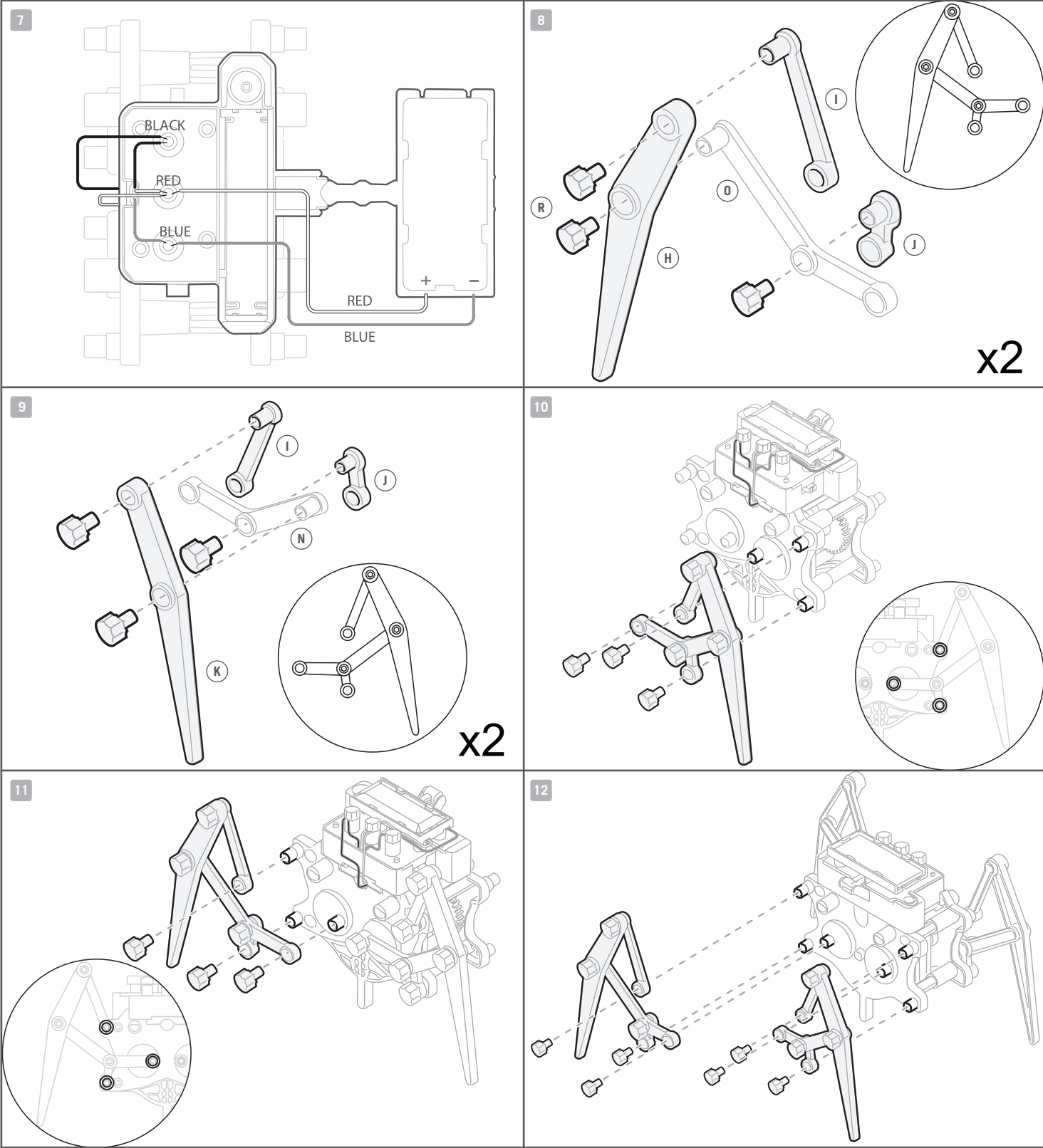


Part A: Robot body, Part B: Motor cover, Part C: Battery holder, Part D: Solar panel holder, Part E: Solar panel, Part F: Battery cover, Part G: Motor, Part H: Right leg x 2, Part I: Long linkage x 4, Part J: Short linkage x 4, Part K: Left leg x 2, Part L: Left claw, Part M: Right claw, Part N: Left linkage x 2, Part O: Right linkage x 2, Part P: Left rear leg, Part Q: Right rear leg, Part R: Peg x 30, Part S: Moving eye x 2, Part T: Pair of wires, Part U: Support arm, Part V: Screw x 4, and Part W: Terminal cap x 3. Also required but not included in the kit: 1 x 1.5-volt AAA battery, a small crosshead screwdriver.

D. INSTRUCTIONS



1. Slide the solar panel (part E) onto the solar panel holder (part D). Make sure the +/- connections on the bottom of the solar panel line up with the markings on the base as shown.
2. Insert the red wire into the positive terminal and the blue wire into the negative terminal. Secure in place with a screw (part V).
3. Clip the solar panel holder onto the top joint of the support arm (part U). Clip the support arm onto the battery holder (part C).
4. Install the motor (part G) in the robot body (part A). Add the motor cover (part B) and secure it with a screw.
5. Slot the battery holder into the top of the main body.
6. Insert the bare ends of both black wires into the left-hand terminal and secure them with a terminal cap (part T). Repeat with the three red wires in the centre terminal and the two blue wires in the right-hand terminal.



7. Check your robot against the diagram to make sure your connections are correct.
8. Assemble a right leg as shown. Slot together a right leg (part H), a right linkage (part O), long linkage (part I) and short linkage (part J). Add three pegs (part R) to secure the joints. Repeat this step to make another leg for the back.
9. Assemble a left leg as shown. Slot together a left leg (part K), a left linkage (part N), long linkage and short linkage. Add three pegs to secure the joints. Repeat this step to make another leg for the back.
10. Clip one of the assembled left legs onto the front of the robot body and secure it with three pegs.
11. Clip one of the assembled right legs onto the front of the robot body and secure it with three pegs.
12. Repeat step 11 and 12 to attach the remaining two legs to the back of the body.

QUESTION AND COMMENTS

We treasure you as a customer and your satisfaction with this product is important to us. In case you have any comments or questions, or you find any parts of this kit missing or defective, please do not hesitate to contact our distributor in your country, whose address is printed on the package. You are also welcome to contact our marketing support team at Email: infodesk@4M-IND.com, Fax (852) 25911566, Tel (852) 28936241, Web site: WWW.4M-IND.COM