

13. When the water starts to come out, remove your finger. The water will be pumped from one cup to the other.
 14. You can make a water jet function instead of pumping water. Remove the short tube and add the water jet head (part P) instead. Fill a plastic drinks bottle from home with water and attach the pump to the bottle.
 15. The water jet will reach between 1.5 and 2 meters. Before operating the water jet, take the Hydrant Robot outdoors. Do not aim the jet at people or animals. Press the button to operate the pump. Block the water jet head with your finger to initiate the pump as in step 12.
 16. When the water starts to come out, remove your finger. The jet will carry on flowing until the bottle is empty. Refill the bottle and remove the water jet head to see what difference this makes to the jet of water. You can also try pumping water from a swimming pool so there will be an unlimited supply of water for the Hydrant Robot. (Caution: do not place the Hydrant Robot in the water.)

E. HOW DOES IT WORK?

The electric motor turns the gear on its shaft and this turns the larger gear at a slower speed. The shaft on the gear interacts with the piston. This mechanism turns the circular motion of the gear into linear motion of the piston. When the piston moves up it draws water into the cylinder from the long tube. When the piston moves down it pushes the water in the cylinder to the outlet. This is repeated many times each second, creating a steady stream of water.

F. TROUBLESHOOTING

- If the motor does not run: make sure you are using fresh batteries and that the wires are connected properly (see step 2).
- If the pump does not pump water: check that the teeth on the gear wheels are interlocking. Also remember to put your finger over the outlet each time you start the pump. Make sure the tube or water jet head is fitted tightly onto the water cylinder.

G. FUN FACTS

• This Hydrant Robot is based on a fire hydrant that's found in the streets in some countries. Fire services get water from hydrants when they are fighting fires nearby. • The hoses on fire trucks attach to the outlets on hydrant and carry water to the pumps in the trucks. • Real fire hydrants don't have pumps inside. Water comes out of them because of water pressure in the underground pipes that supply them. • Fireboats used for fighting fires alongside rivers have powerful pumps that spray water through nozzles. The pumps can fire up to 40,000 litres of water per minute at a fire (that's enough to fill 20,000 big pop bottles a minute). • Steam-powered pumps with pistons and cylinders like this water jet were once used to pump water from deep mines to prevent flooding underground. • Motorised water pumps normally use spinning wheels with vanes to force water along pipes.

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

HYDRANT ROBOT

PLEASE SCAN THE QR CODE TO VIEW MULTI-LANGUAGE INSTRUCTIONS

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

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

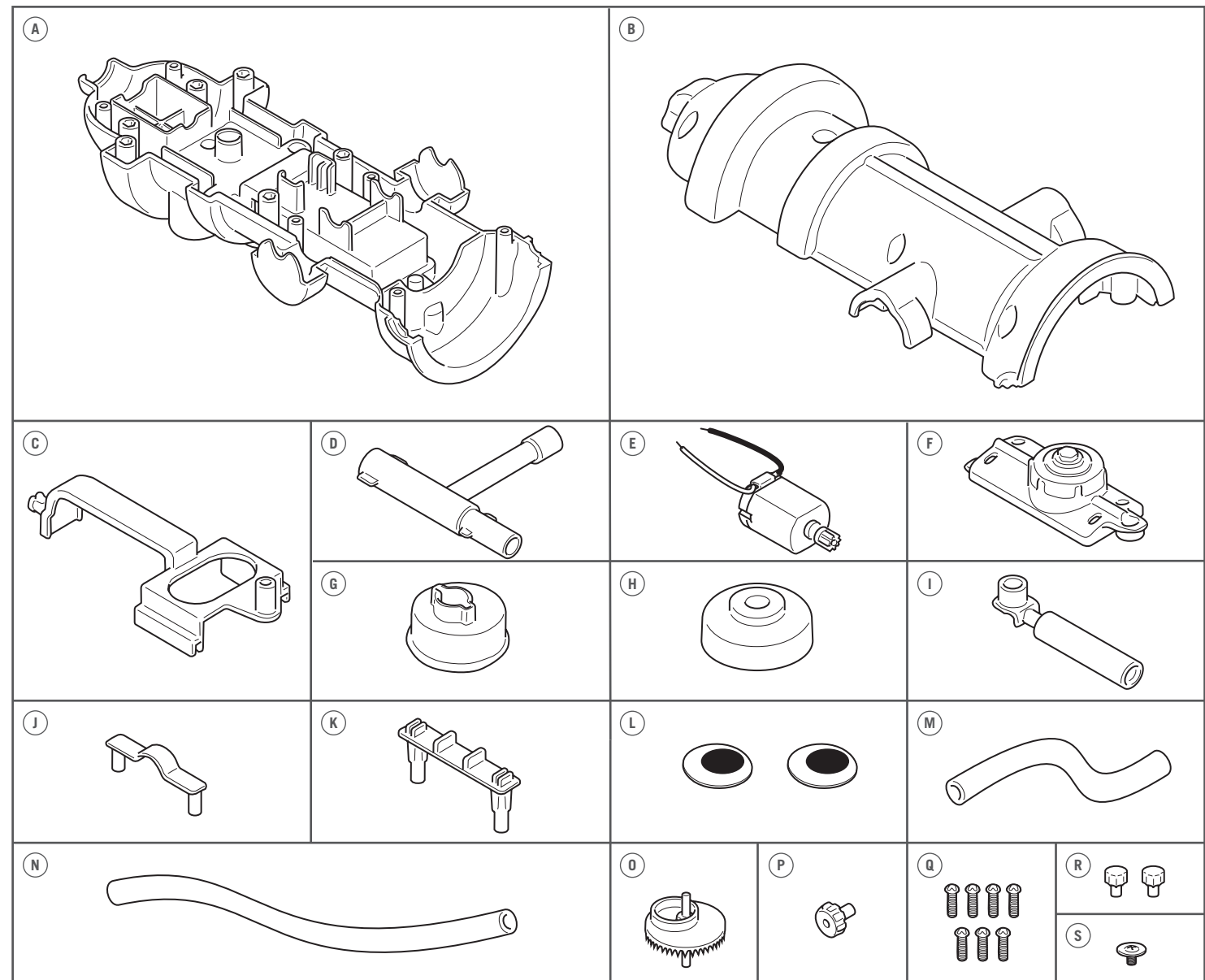
A. SAFETY MESSAGES

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 8 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

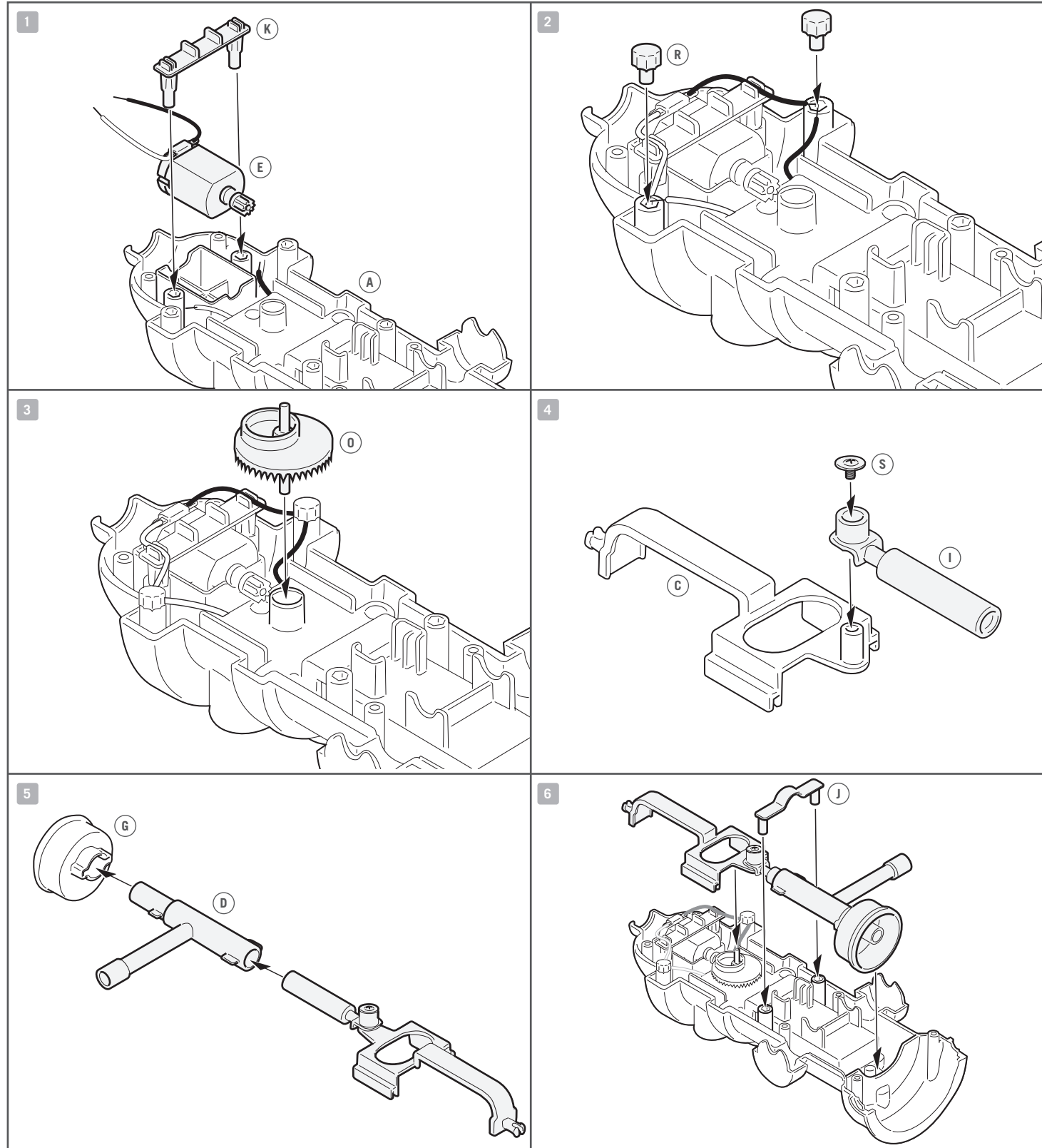
1. Requires two 1.5V AAA batteries (not included). 2. For best results, always use fresh batteries. 3. Make sure you insert the batteries with the correct polarities. 4. Remove the batteries from the kit when not in use. 5. Replace exhausted batteries straight away to avoid possible damage to the kit. 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. 10. Do not mix old and new batteries. 11. Do not mix alkaline, standard (carbon-zinc), or rechargeable batteries.

C. CONTENTS

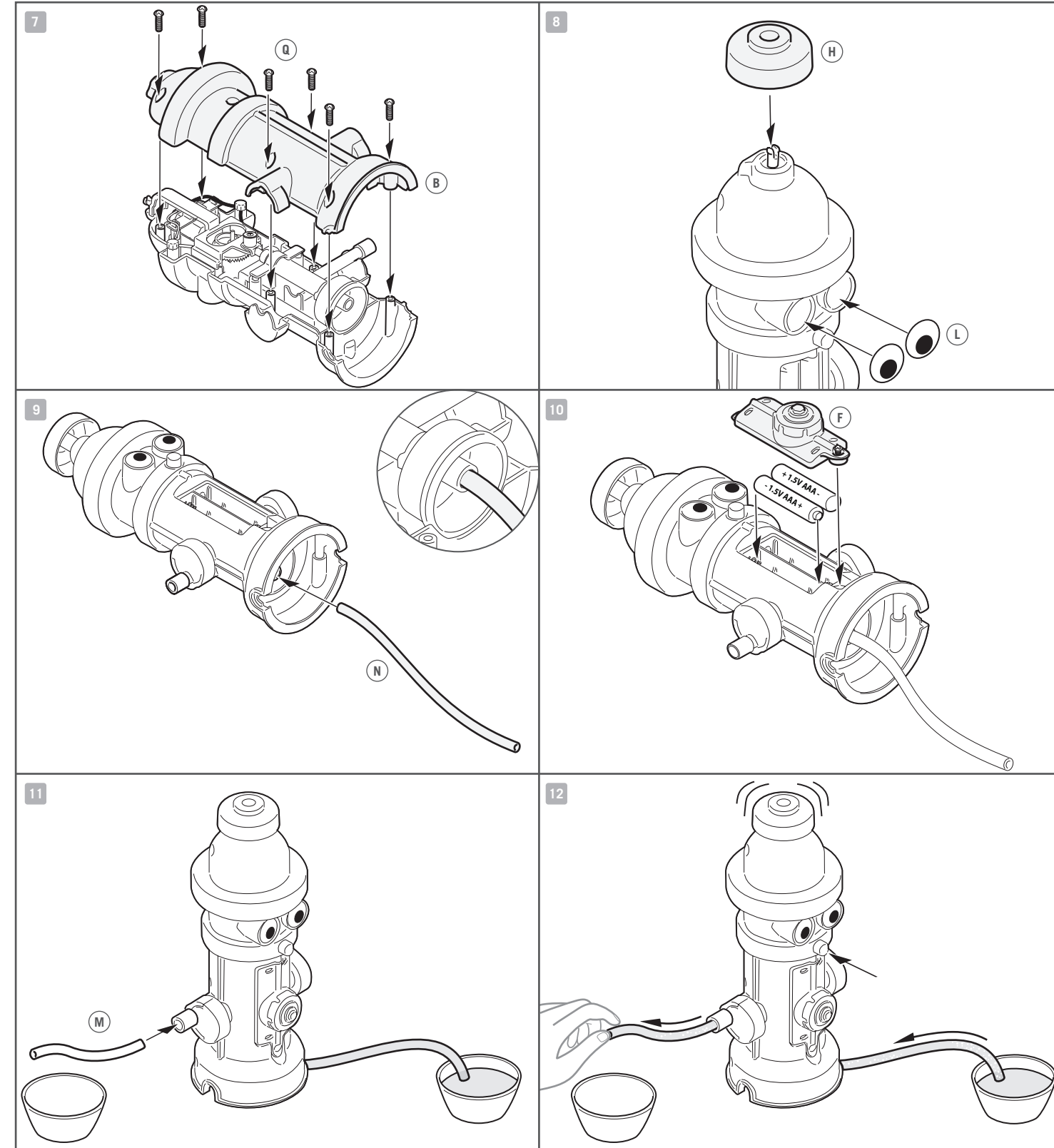


Part A: Case front, Part B: Case back, Part C: Slider, Part D: Water cylinder, Part E: Motor, Part F: Battery cover, Part G: Bottle cap, Part H: Top cover, Part I: Piston, Part J: Cylinder holder, Part K: Motor holder, Part L: Moving eyes, Part M: Short water tube, Part N: Long water tube, Part O: Gear with shaft, Part P: Water jet head, Part Q: Screws x 7, Part R: Pegs x 2, Part S: Washer screw. Also required but not included in the kit: 2 x 1.5V AAA batteries, a small crosshead screwdriver, a plastic drinks bottle and cups.

D. INSTRUCTIONS



1. Place the motor (part E) into the case front (part A) and secure it with the motor holder (part K).
2. Connect the wires as shown and secure them with pegs (part R). Clip the wire on the motor holder as shown.
3. Install the gear with shaft (part O) into the case, making sure that its teeth are interlocked with the teeth on the gear on the motor spindle.
4. Assemble the slider (part C) and piston (part I) as shown and secure them together with a washer screw (part S).
5. Slide the piston into the water cylinder (part D) and install the bottle cap (part G) onto the cylinder. Make sure the water cylinder is installed in the top of the bottle cap.
6. Install the cylinder and piston assembly into the case as shown and secure it with the cylinder holder (part J). Make sure that the slider fits into the cam on the gear.



7. Add the case back (part B) and secure it with six screws (part Q).
8. Add the top cover (part H) to the top of the case. Also add the moving eyes (part L).
9. Push the long water tube (part N) onto the bottom of the cylinder.
10. Insert the batteries. Add the battery cover (part F) and secure it with a screw.
11. Add the short water tube (part M) to the side of the cylinder. Find two cups and position them at the ends of the tubes as shown. Fill the cup at the end of the long tube with water. Clip the tube to the side of the robot if necessary.
12. Press the button to operate the pump. The motor will start to turn. Block the water outlet (the end of the short tube) with your finger to initiate the water pump. This will create a vacuum inside the cylinder, forcing the water to come up from the cup.