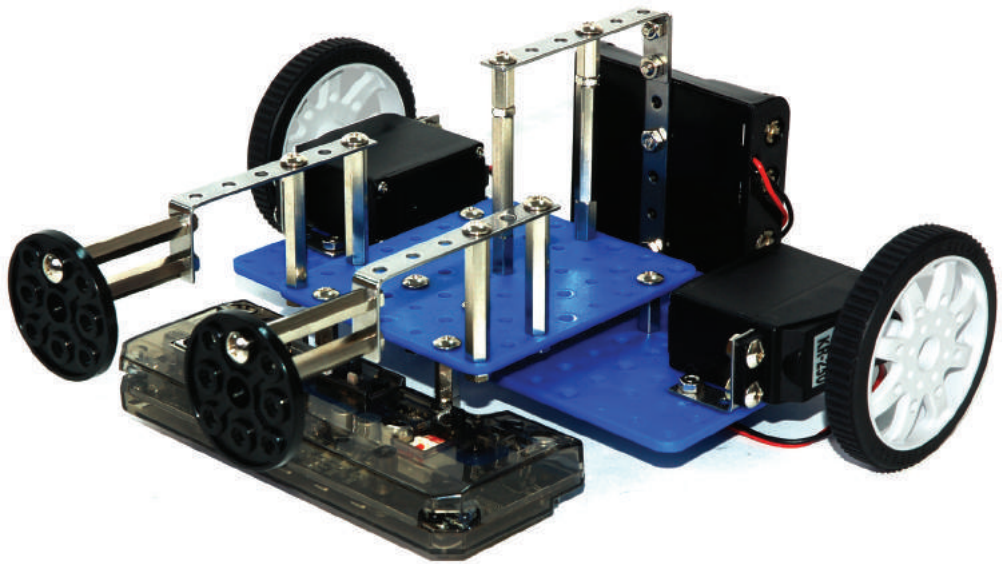


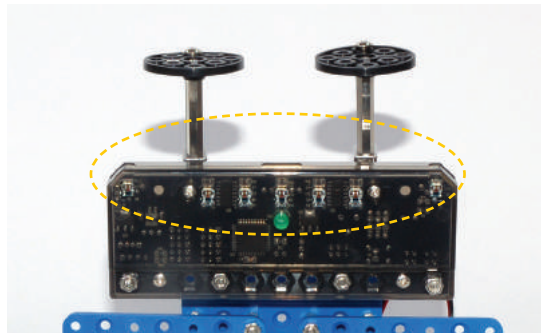
## 2. Pushing Robot



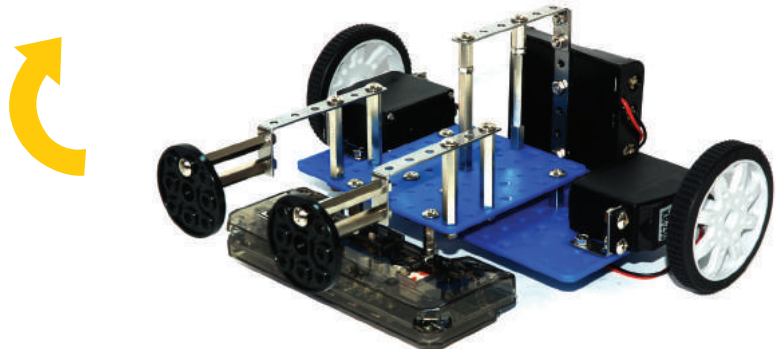
# Introduction and how it works



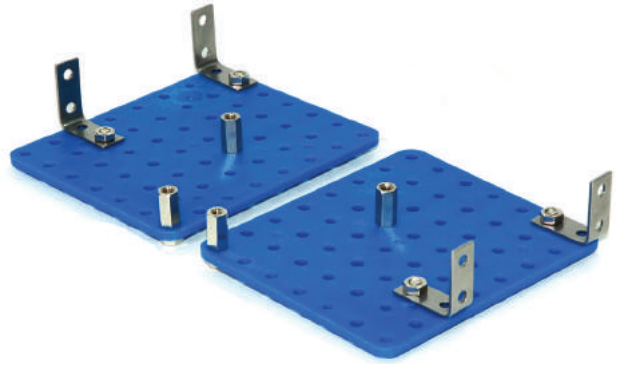
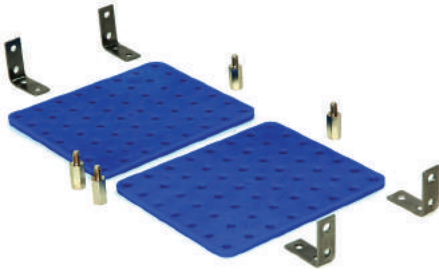
This two-wheel drive robot moves forward by using 2 DC motors. While the robot is moving forward, 7 infrared sensors that are on the back of the smart board detect the condition of the floor. When there is no floor anymore, the robot backs up or moves to the side. As it follows these principles, it never falls off a step or the edge of a table.



Detection by sensors on the bottom of the Smart Controller



1

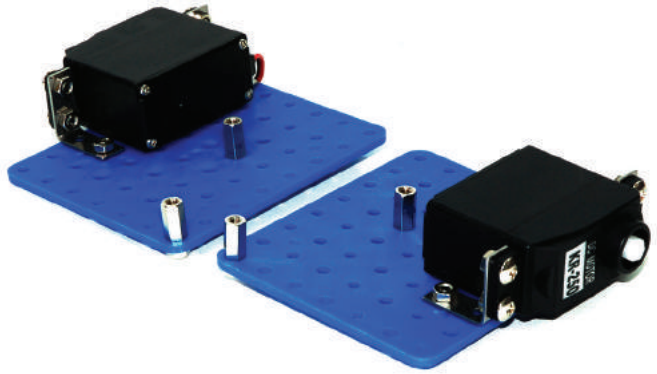


X 4



X 8

2



X 8

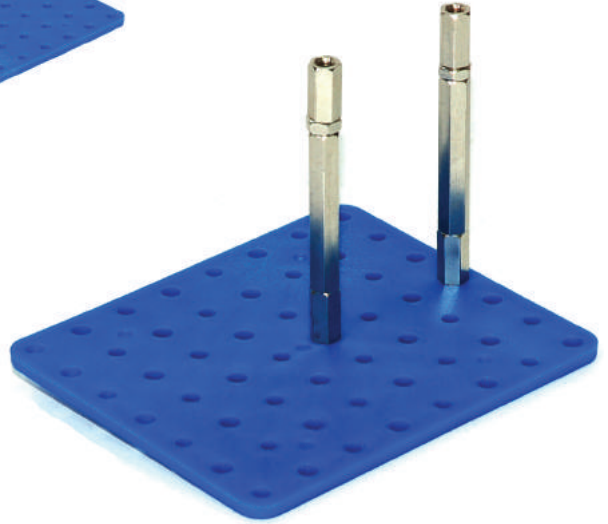
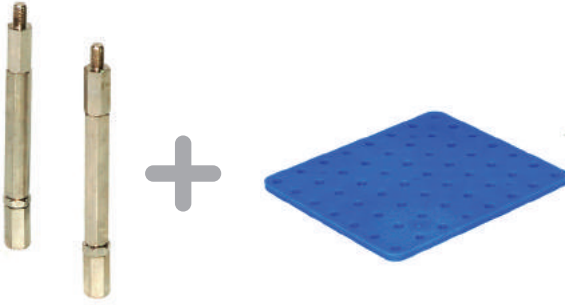


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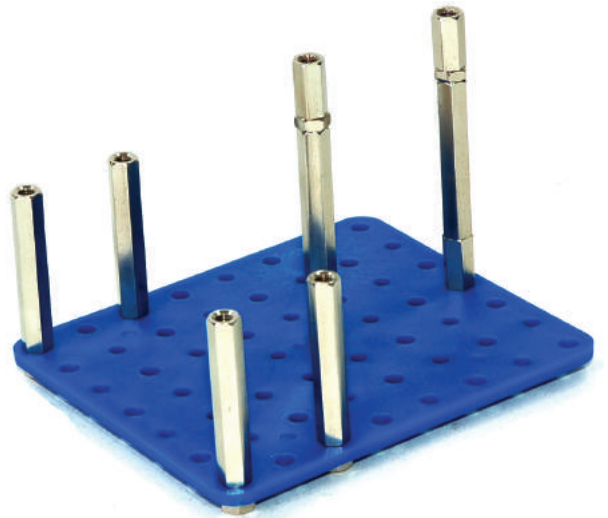
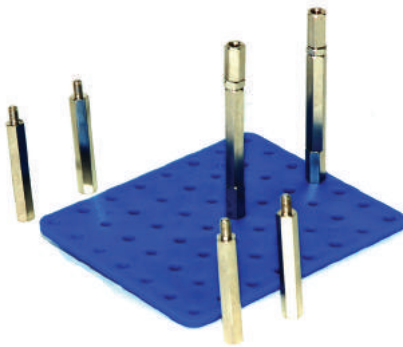
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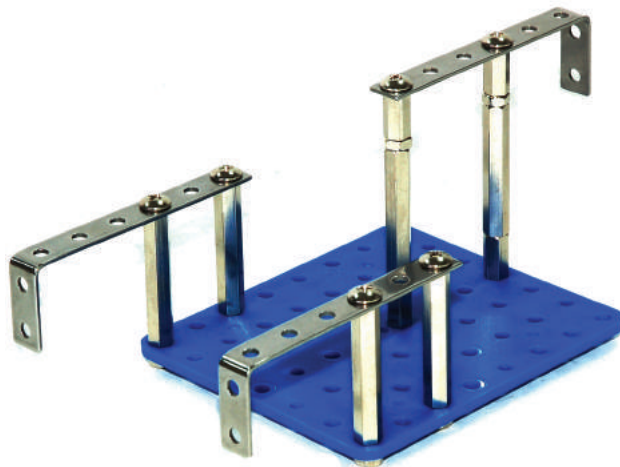
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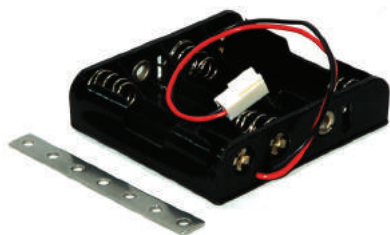


6



X 6

7

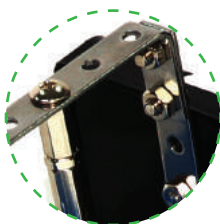


X 2



X 2

8

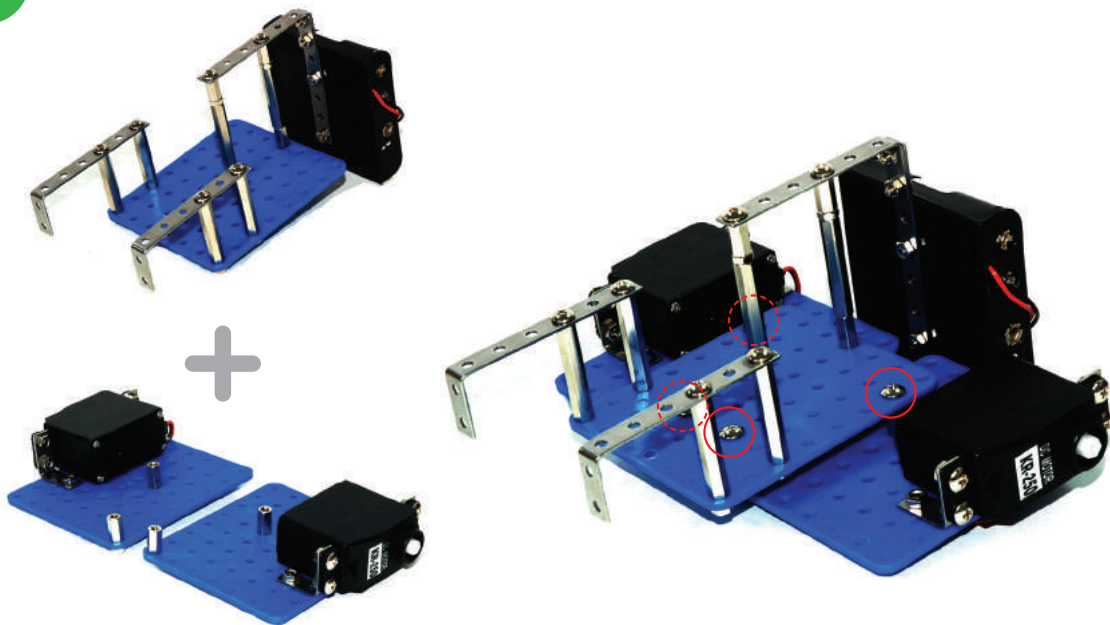


X 2



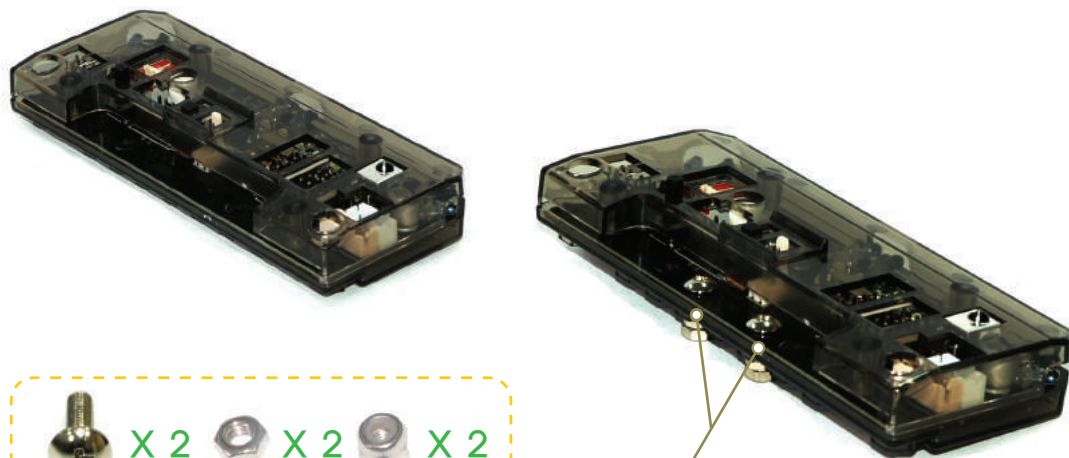
X 2

9



 X 4

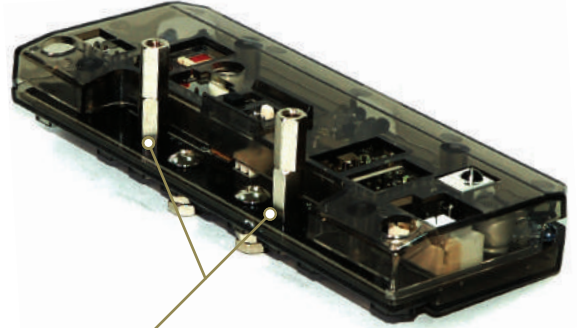
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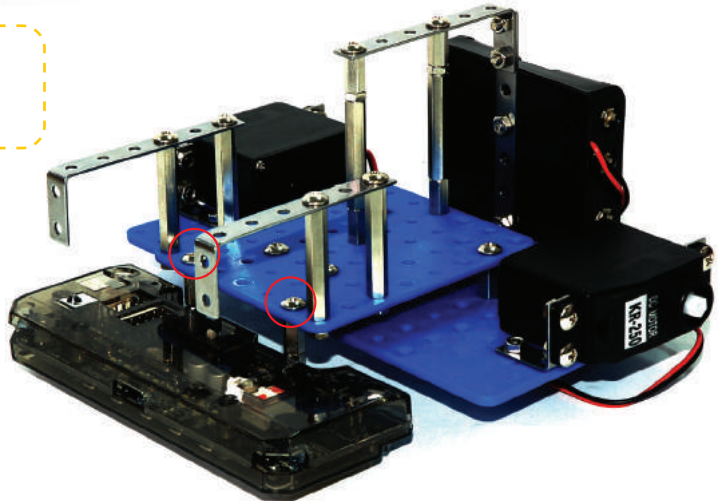
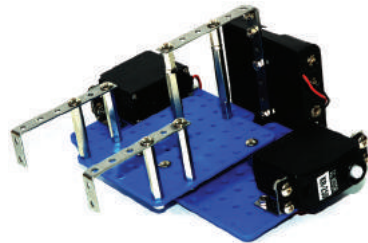
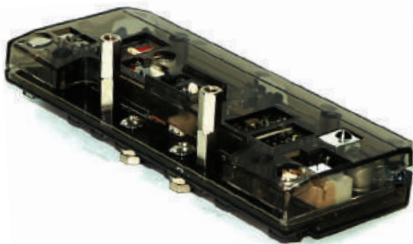
 X 2  X 2  X 2



11



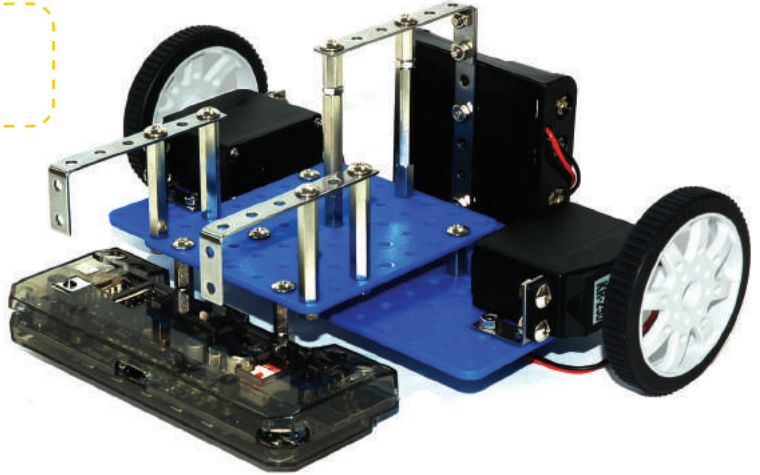
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13



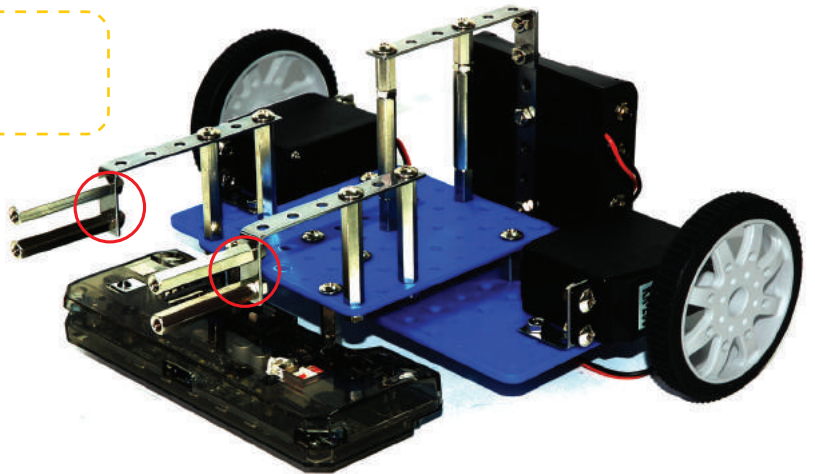
X 2



14



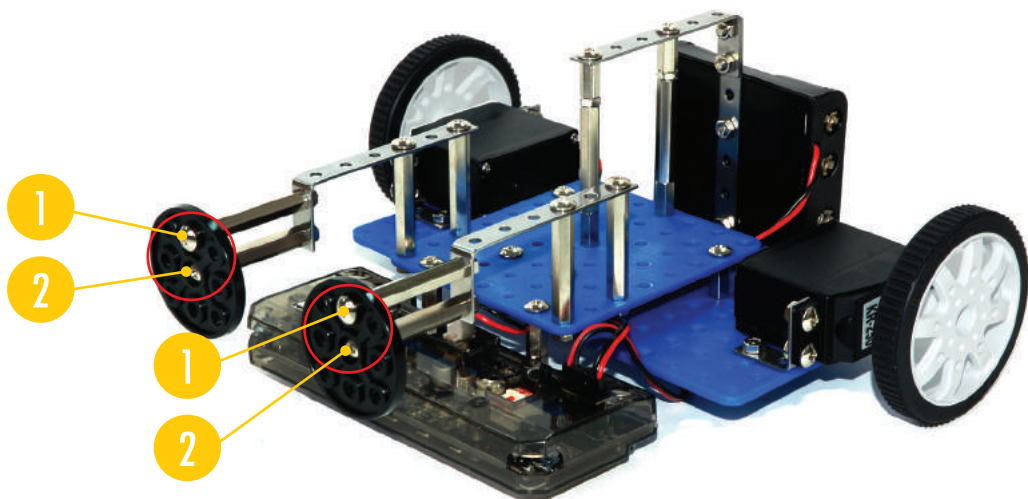
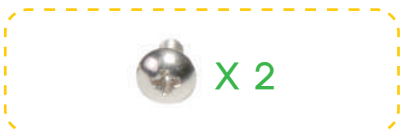
X 4

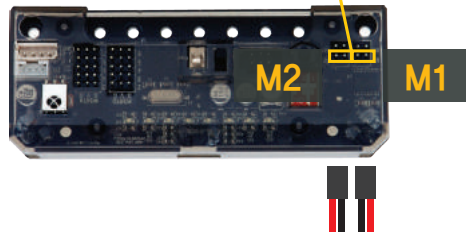
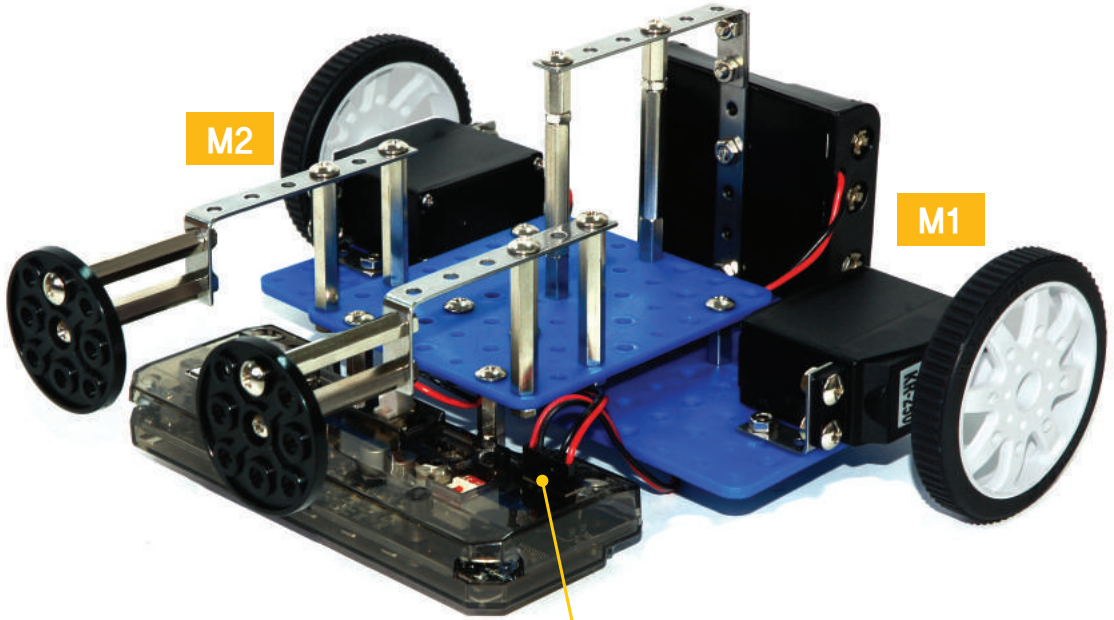


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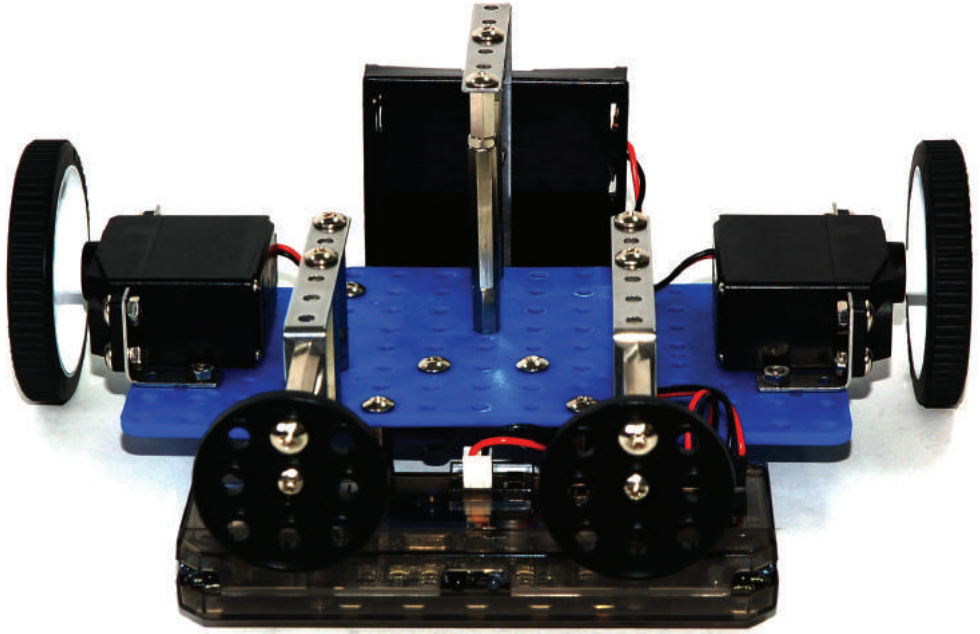


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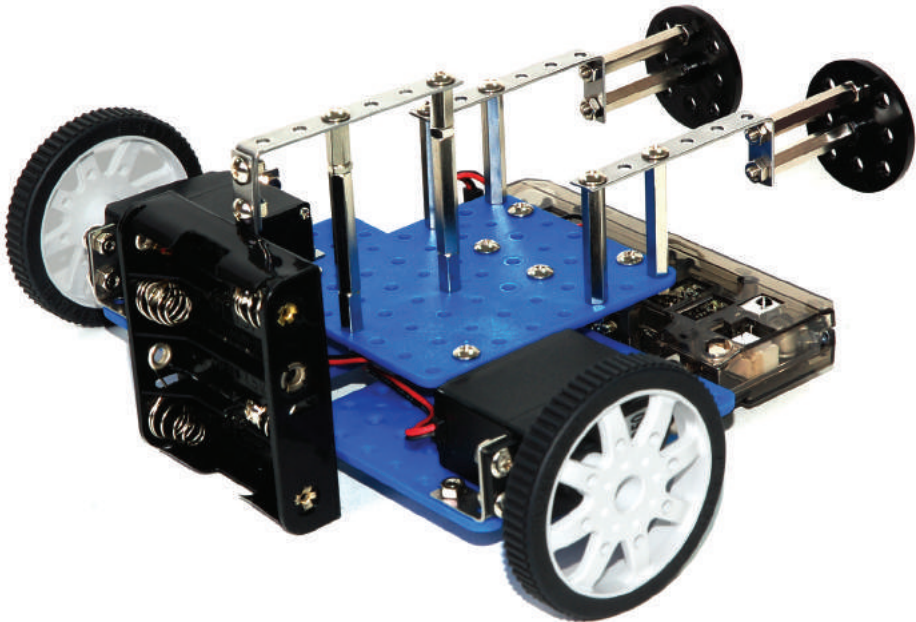




Front view



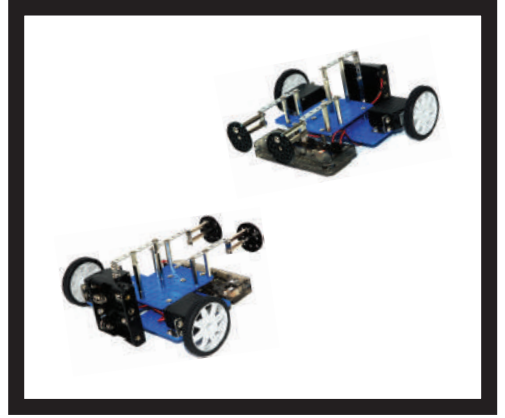
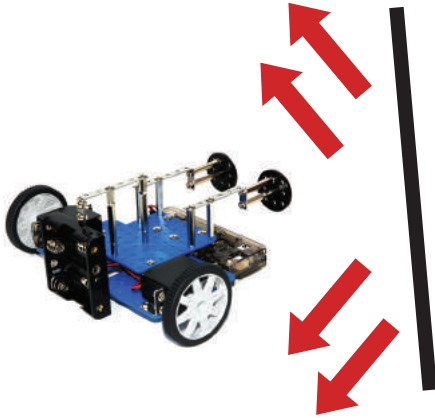
Back view



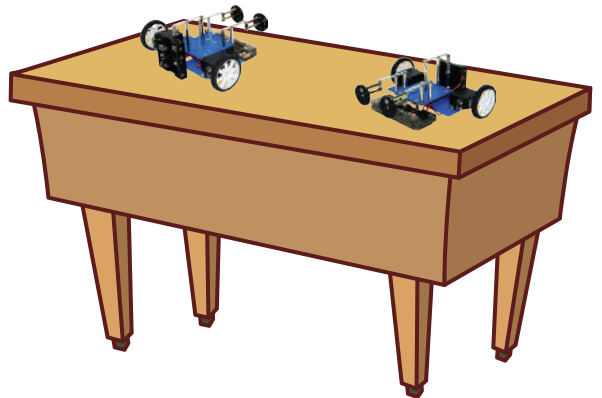
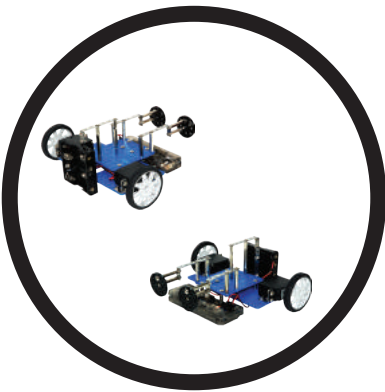
# Acting Module



The Pushing Robot uses the program mode 2 to operate.



The Pushing Robot avoids black lines on a white surface.



Not only black lines, it detects if the edge is near the robot or not.

# Play the Game!



1. This game is best to play when there are 3–4 robots participating. Game time is between 1 and 2 minutes.
2. Play the game on a flat desk that is surrounded by lines of black tape. If the desk is black also, then the robots may not move at all. (The robots detect any black color as the table edge)
3. Run the Pushing Robot Program right after a starting signal. The starting locations can be anywhere, but it is better to place the robots pointing towards the center of the desk.
4. The robot closest to the center when the game time ends is declared the winner.
5. Use a low desk, or the floor as the surface so that robots do not fall down and get broken.

