

# Salt Water

FUEL CELL Engine Car KIT



GREEN ENERGY 



## Assembly & Instruction

# Manual

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# Salt Water Fuel Cell Engine Car KIT



This is a concept of an environmentally and friendly fuel cell engine car kit. The kit will teach children about new forms of clean energy. Be amazed that just by adding a few drops of salt water the car's engine will start to run as if by magic. See how a V8 engine runs. There are other exciting activities to explore.

## GREEN ENERGY

All materials used in this kit are environmentally safe and clean, no toxic substances or disposal concerns.

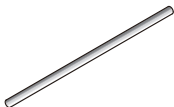
### Tools You May Need



Cup



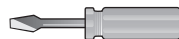
Salt



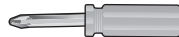
Stick



Diagonal Cutter

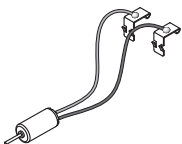


⊖ Screwdriver




⊕ Screwdriver

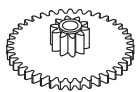
### Mechanical Parts List

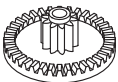

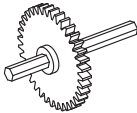
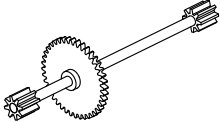
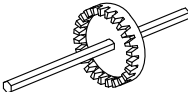

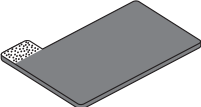
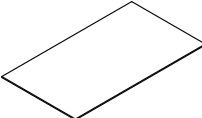
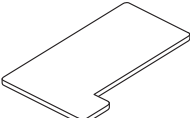
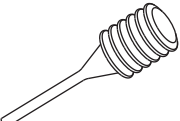
P1	Motor With Connectors	QTY
		1



Don't connect the wires to the mains.

P2	Pinion Gear (Yellow)	QTY
		1

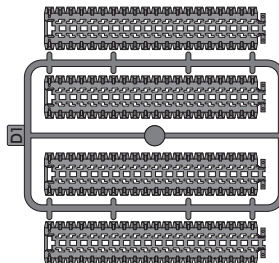
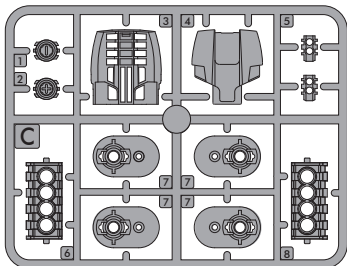
P3	Gear (Yellow)	QTY
		1

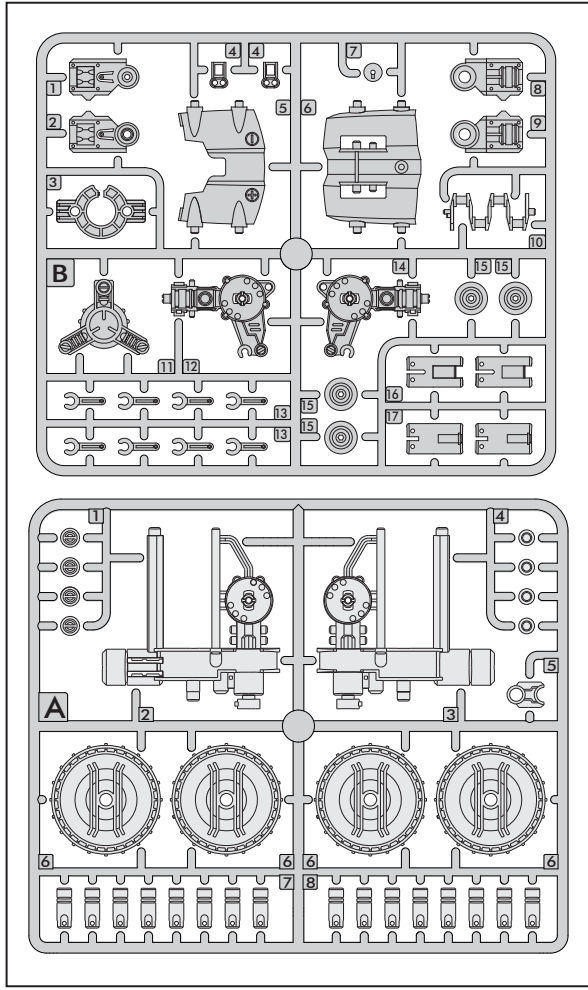
<b>P4</b> Gear(Red)		QTY	1
<b>P5</b> Round Shaft		QTY	1
<b>P6</b> Gear With Shaft		QTY	1
<b>P7</b> Gear Shaft W/Pinions		QTY	1
<b>P8</b> Crown Gear With Shaft		QTY	2
<b>P9</b> Tapping Screw		QTY	1
<b>P10</b> Air Cathode(Black)		QTY	1
<b>P11</b> Nonwoven Fabric	 (Spare part: 1pc)	QTY	1
<b>P12</b> Magnesium Sheet	 (Spare parts: 2pcs)	QTY	1
<b>P13</b> Plastic Dropper		QTY	1



## Plastic Parts

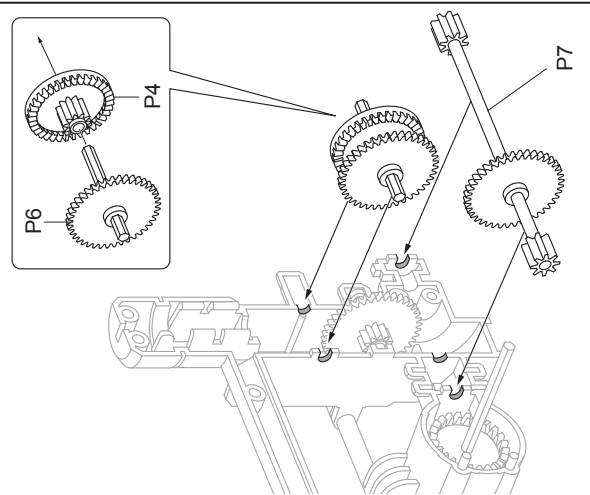
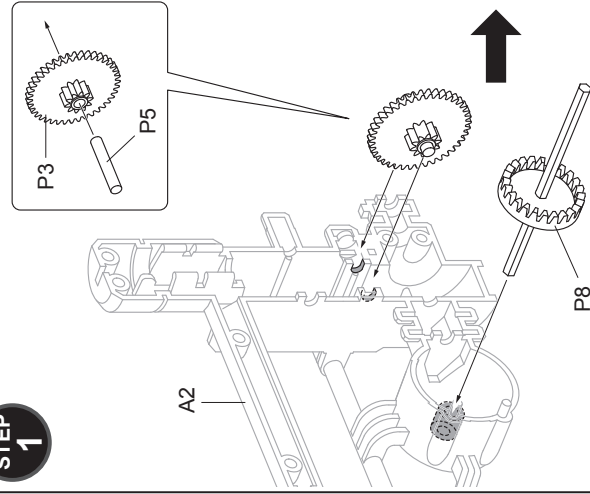
Cut the plastic parts when they are required . Do not cut them in advance.



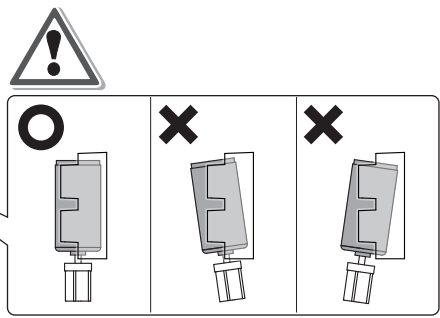
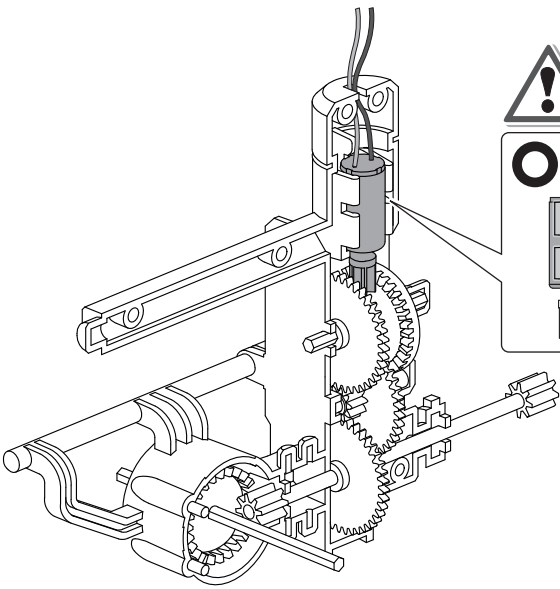
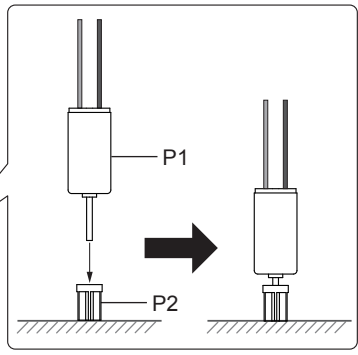
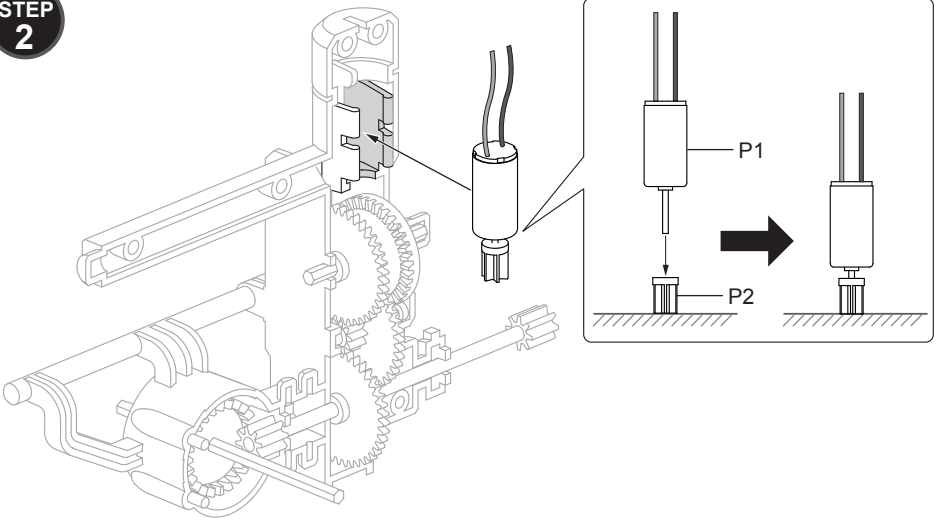


## Mechanical Assembly

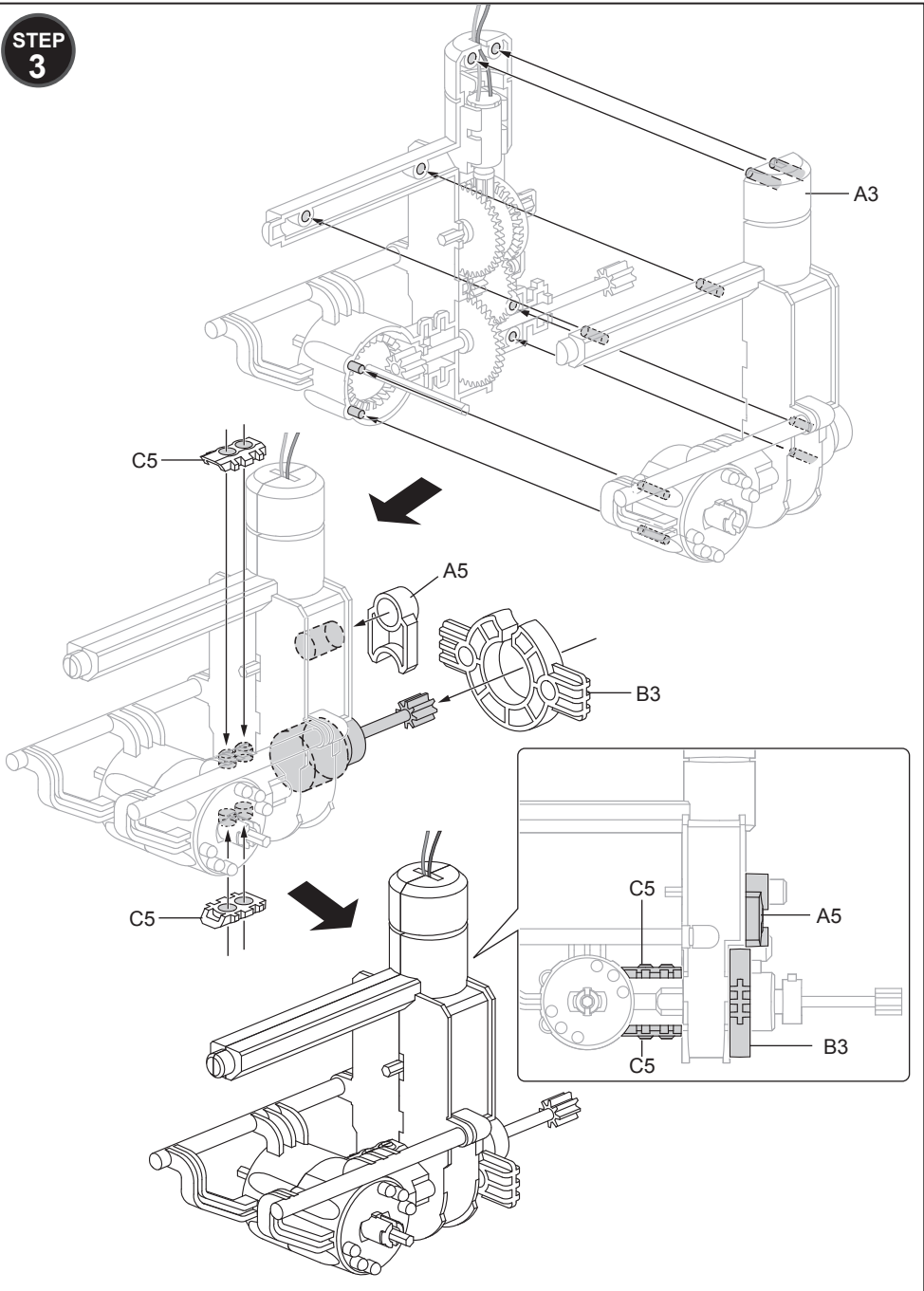
**STEP 1**



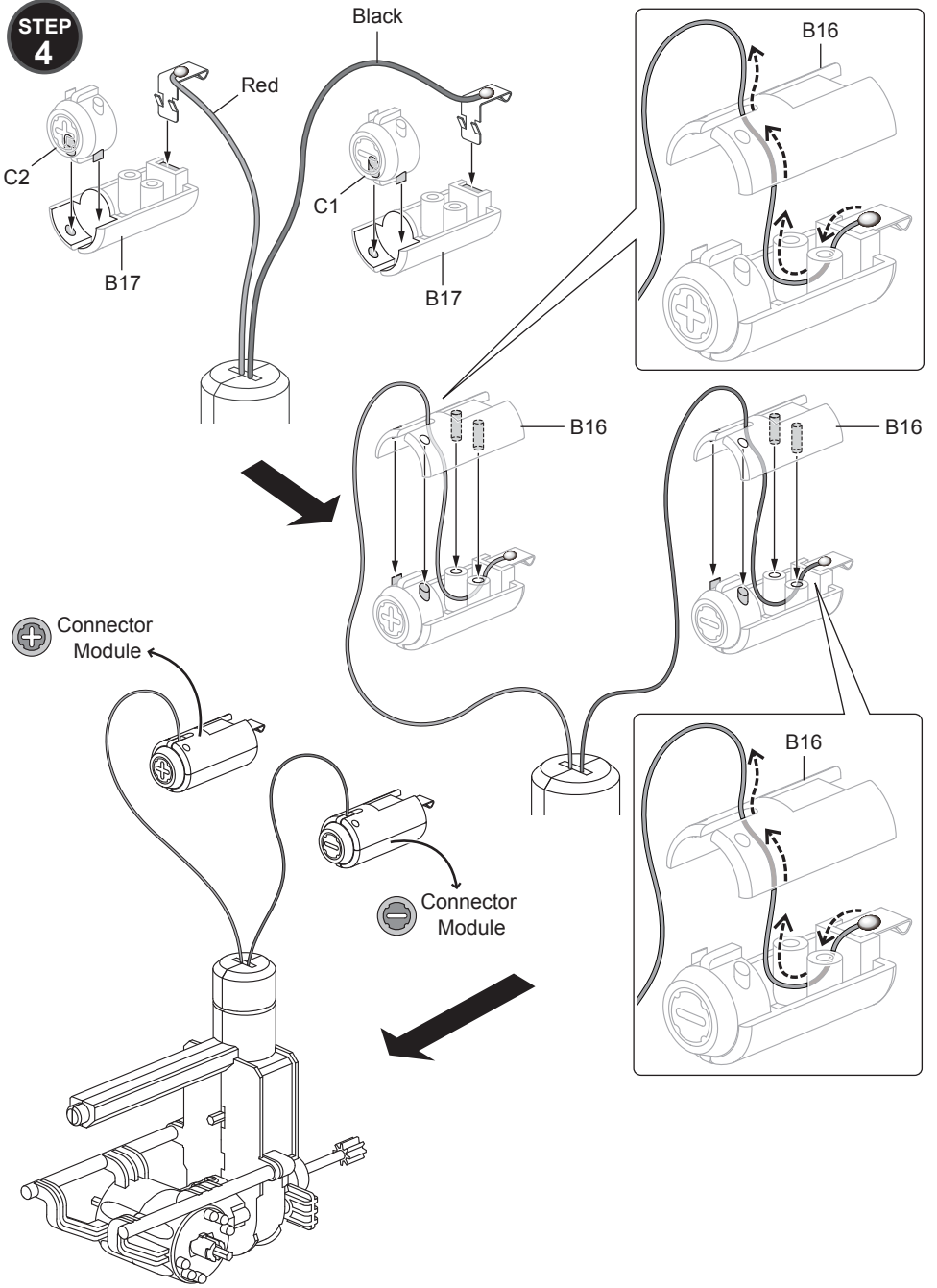
**STEP**  
**2**



**STEP**  
**3**

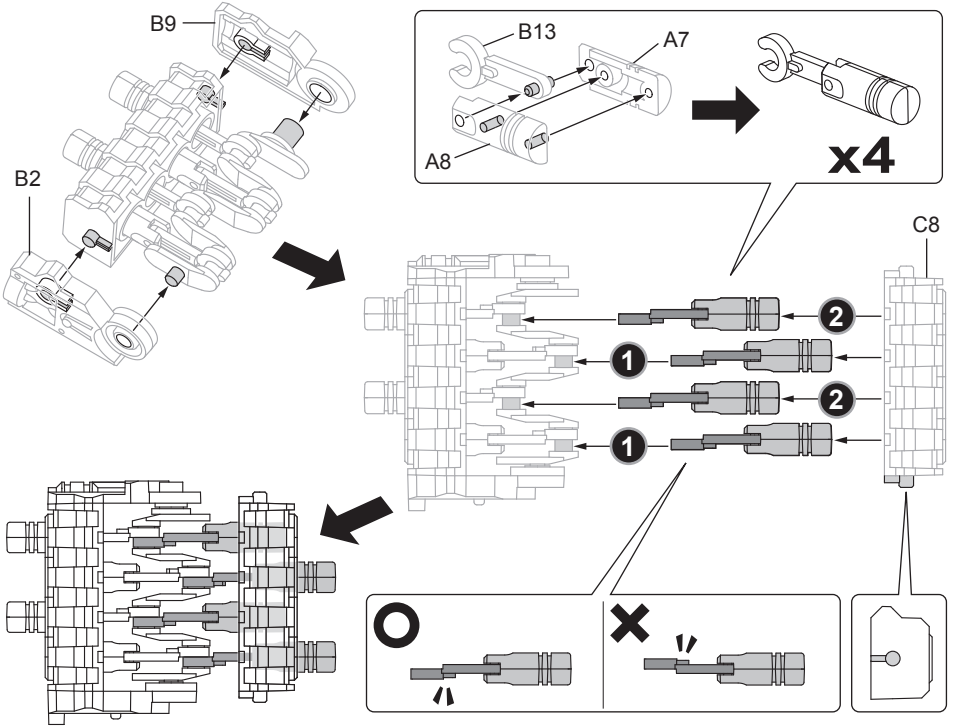
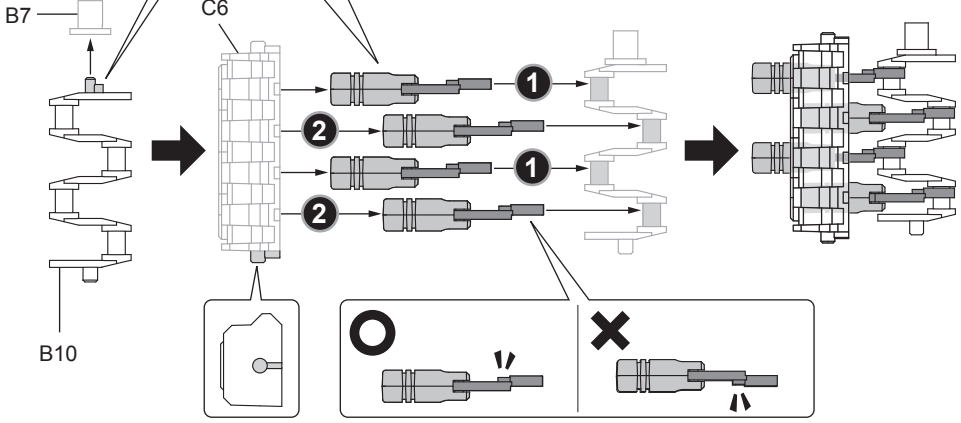


**STEP 4**

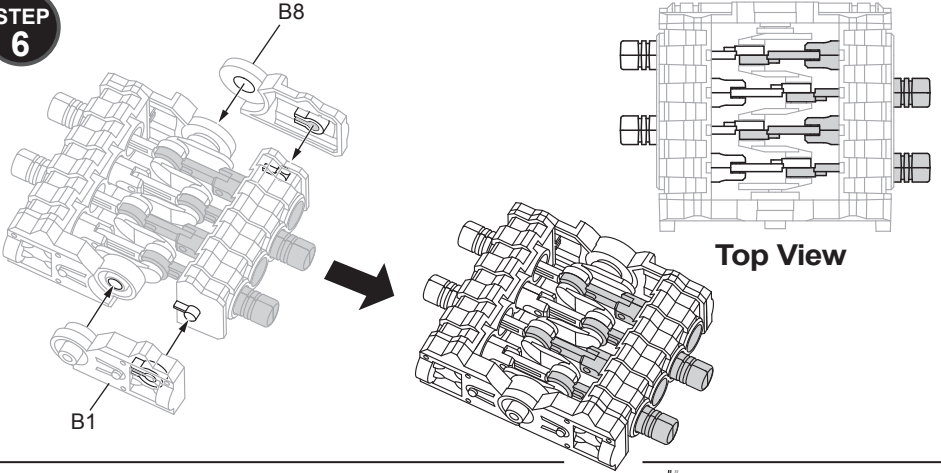




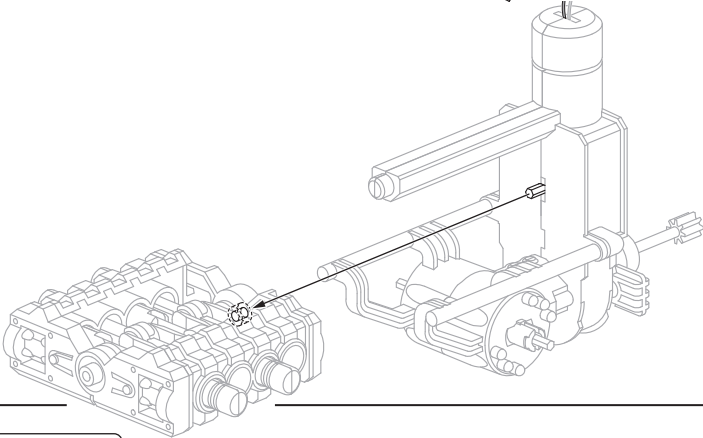
**STEP 5**



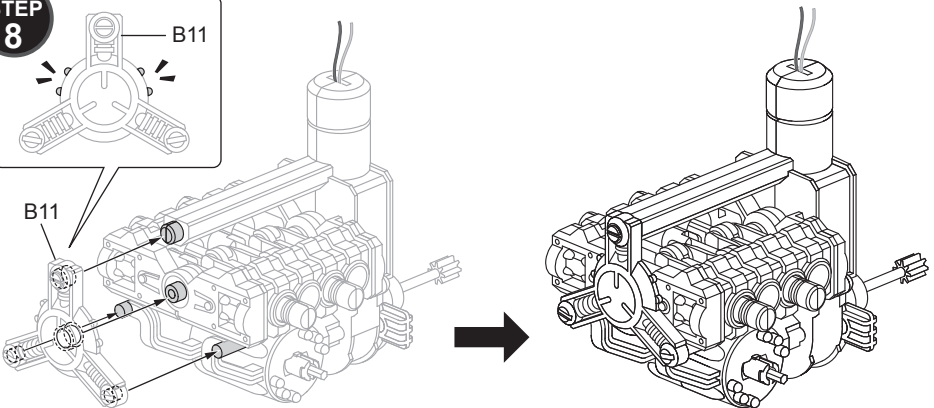
**STEP 6**



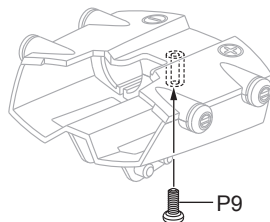
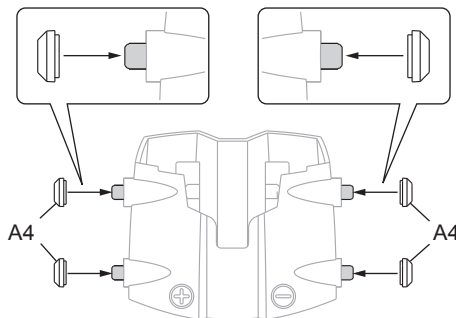
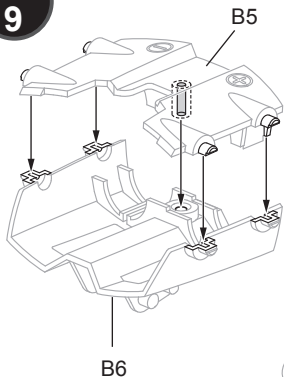
**STEP 7**



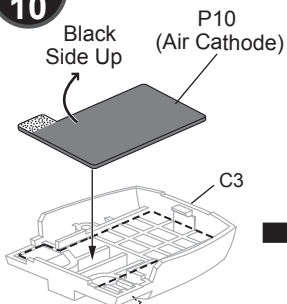
**STEP 8**



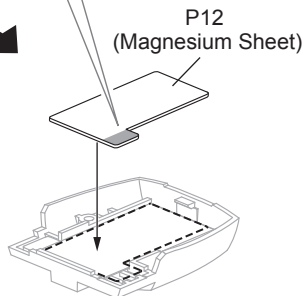
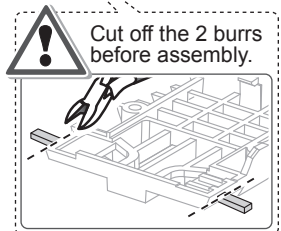
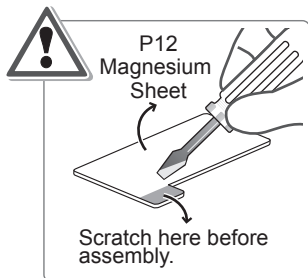
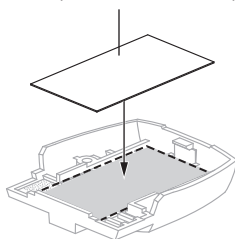
**STEP 9**



**STEP 10**

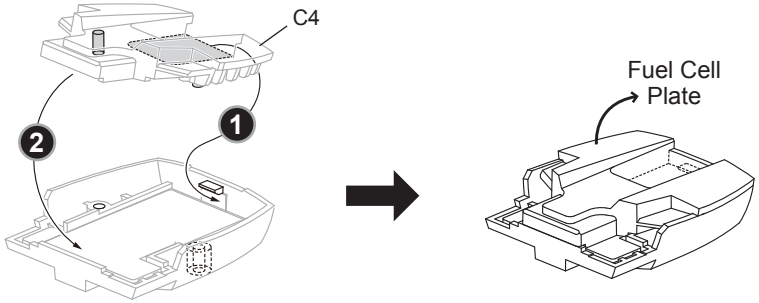


P11 (Nonwoven Fabric)

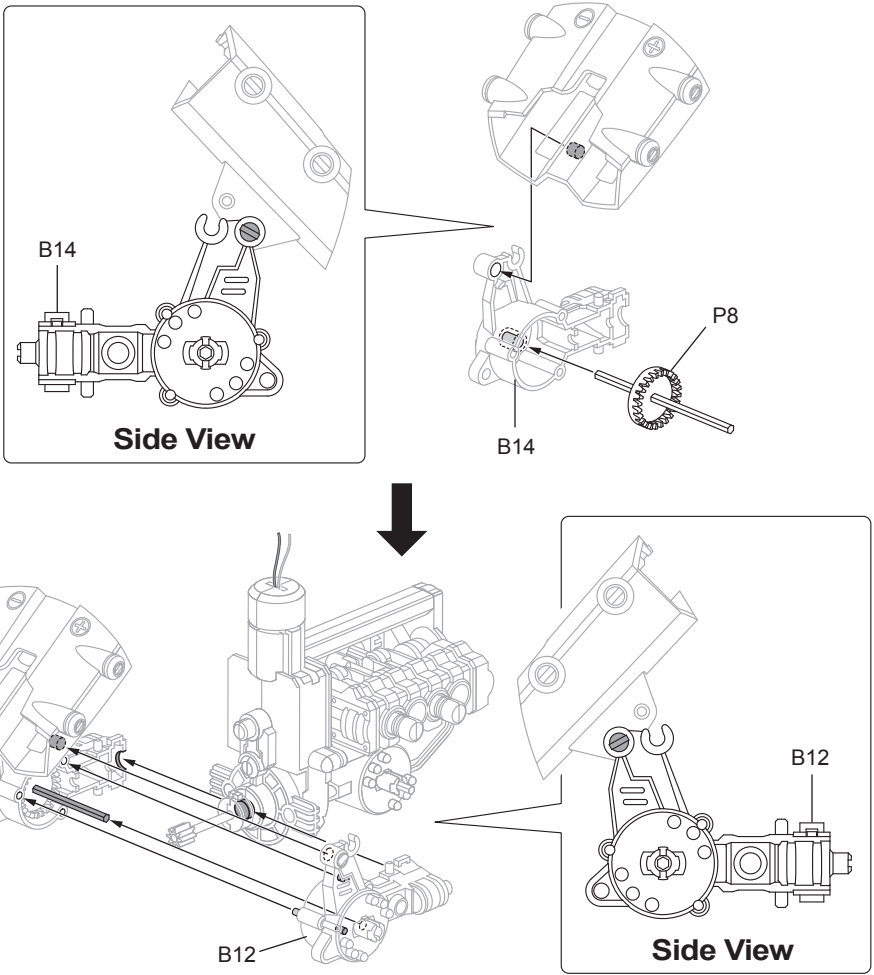


**Make sure the P10,P11,P12 placed in correct sequence and position.**

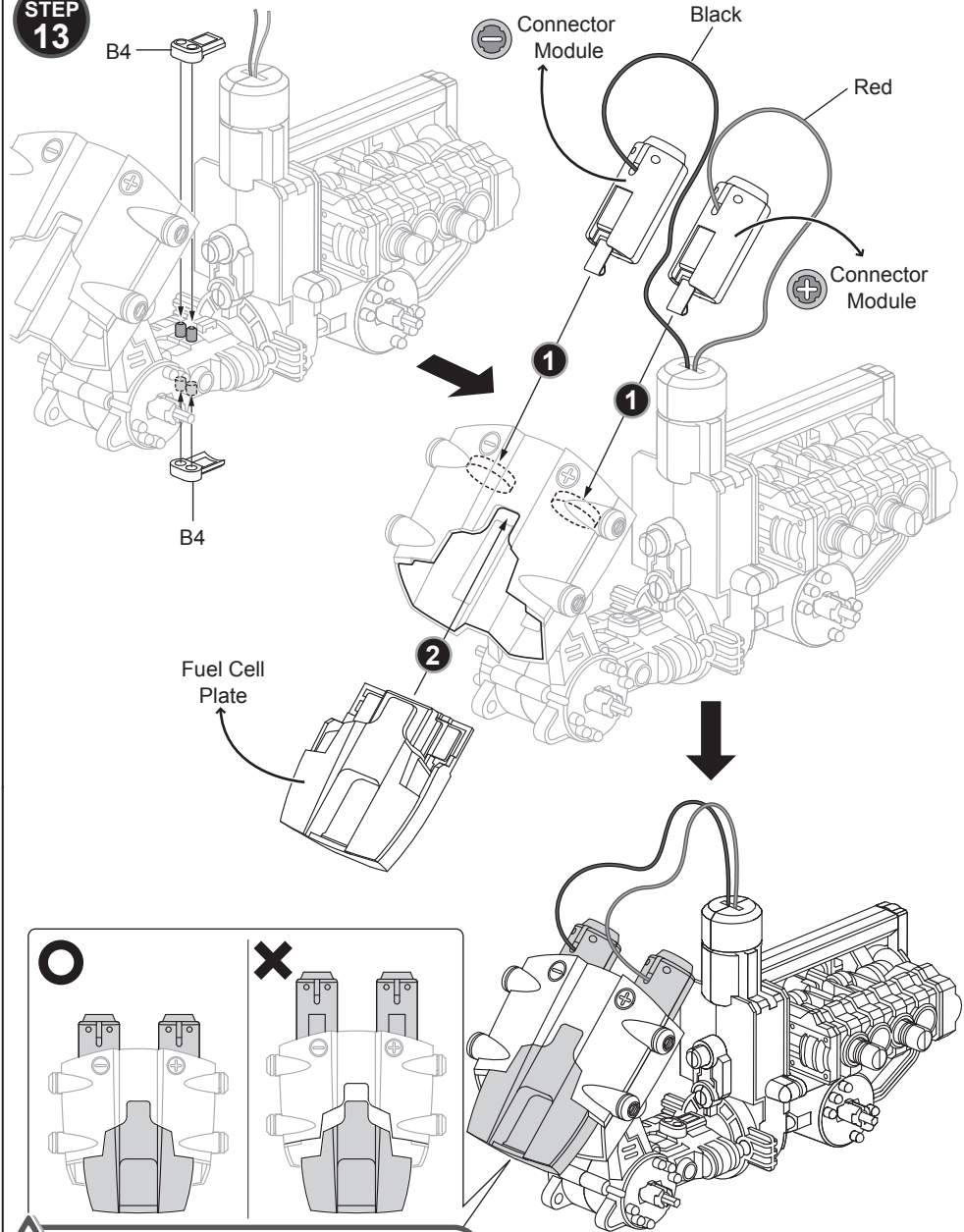
**STEP  
11**



**STEP  
12**

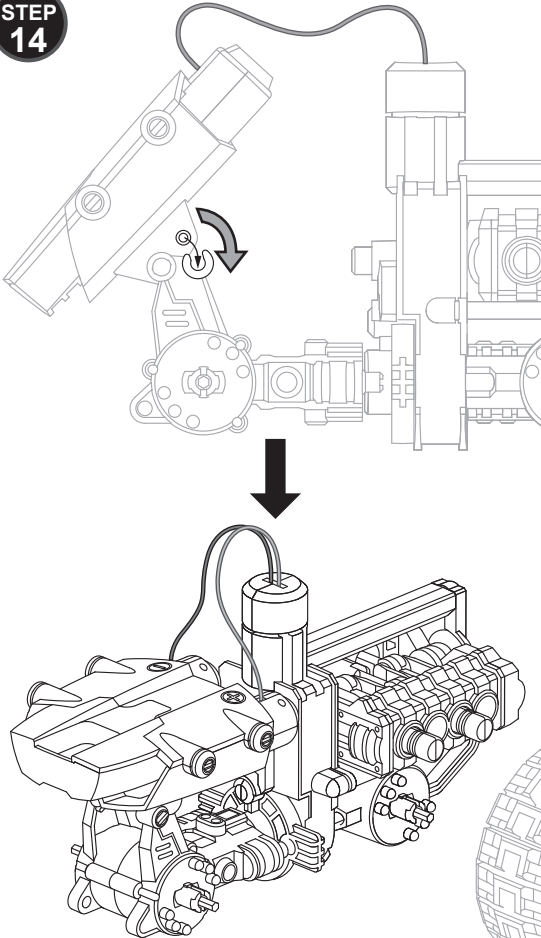


**STEP 13**

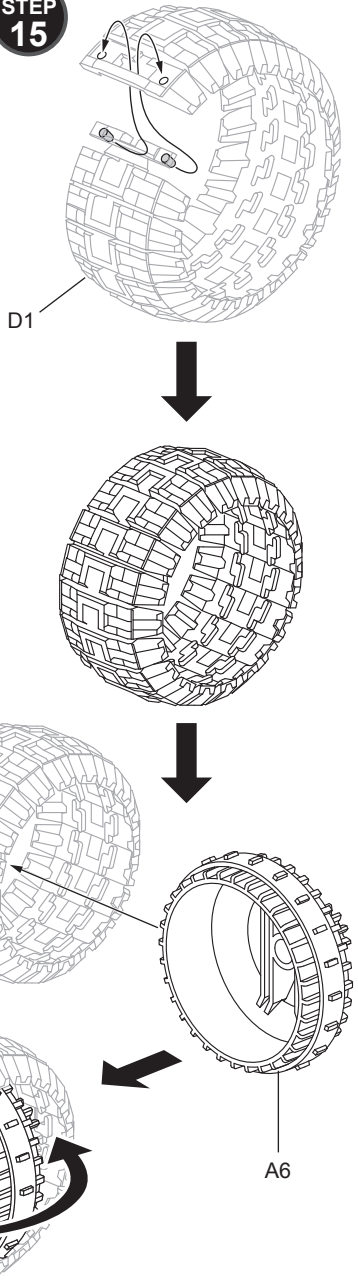


**!** Be sure to insert fuel cell plate and connector module to the end.

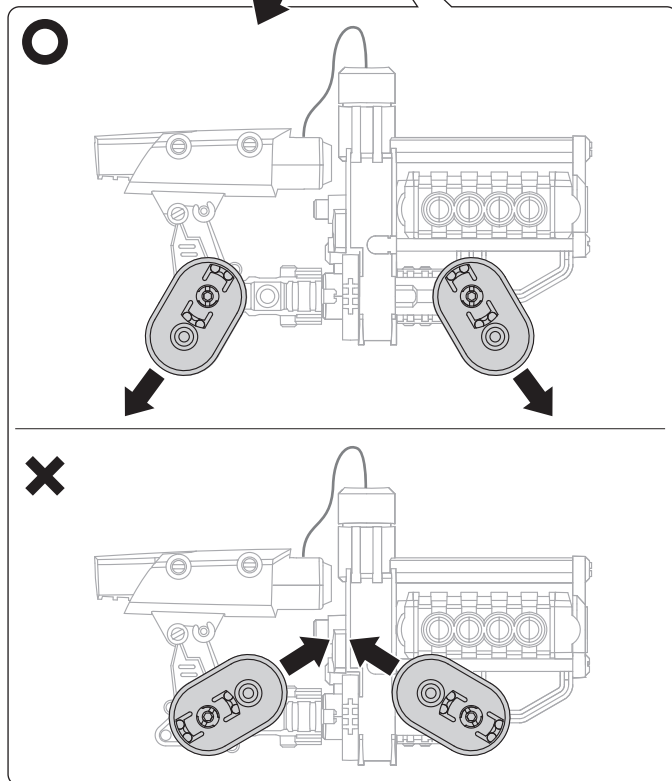
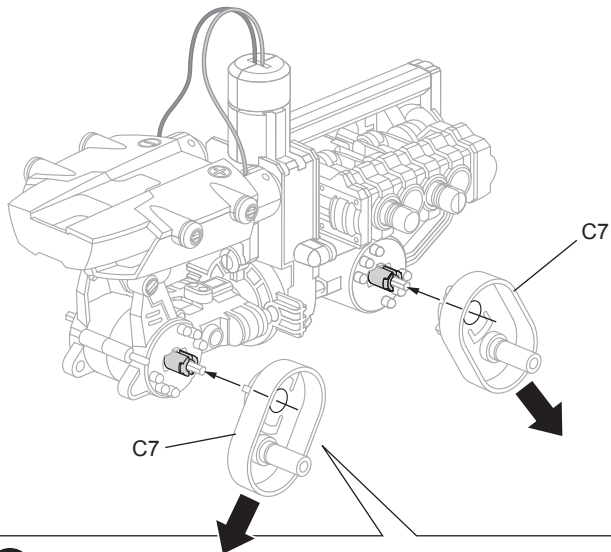
**STEP 14**



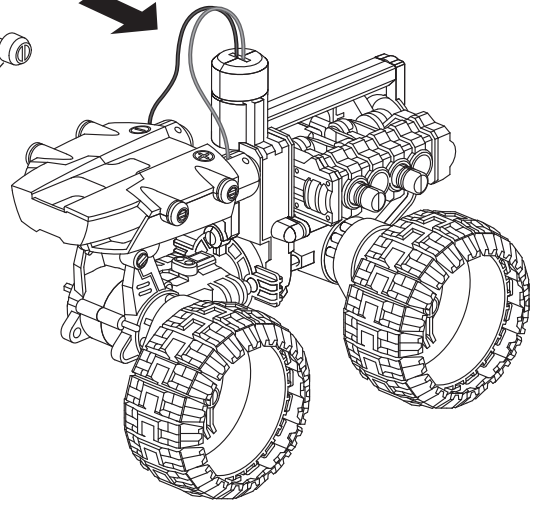
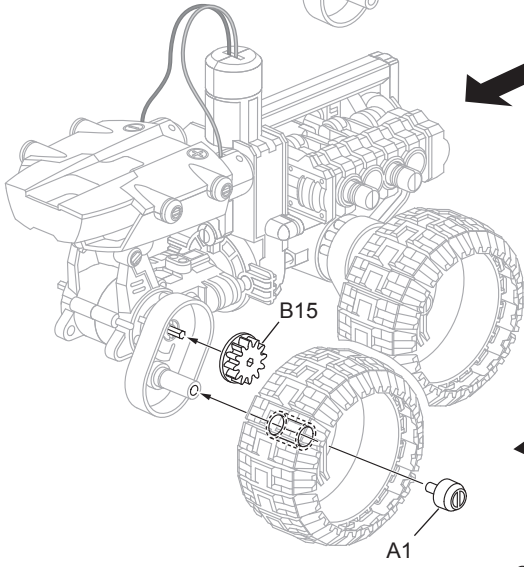
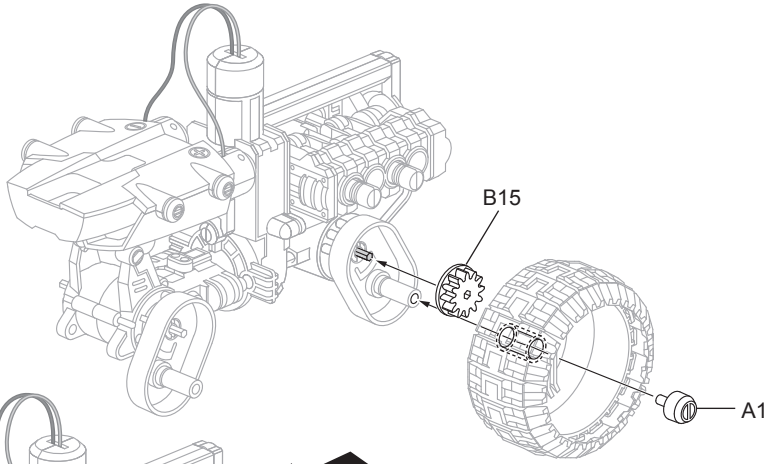
**STEP 15**



**STEP  
16**

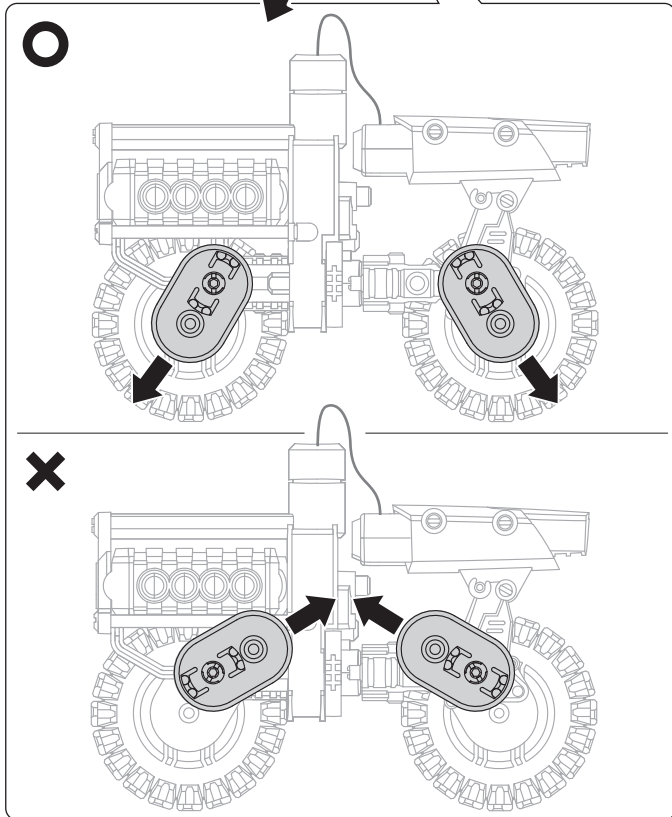
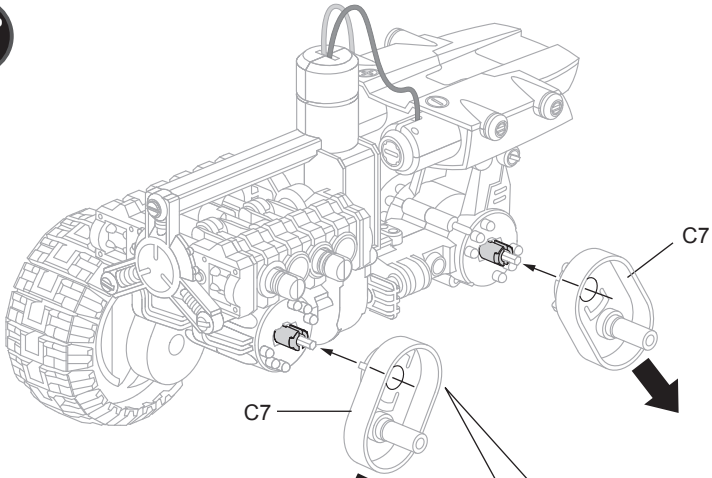


**STEP  
17**

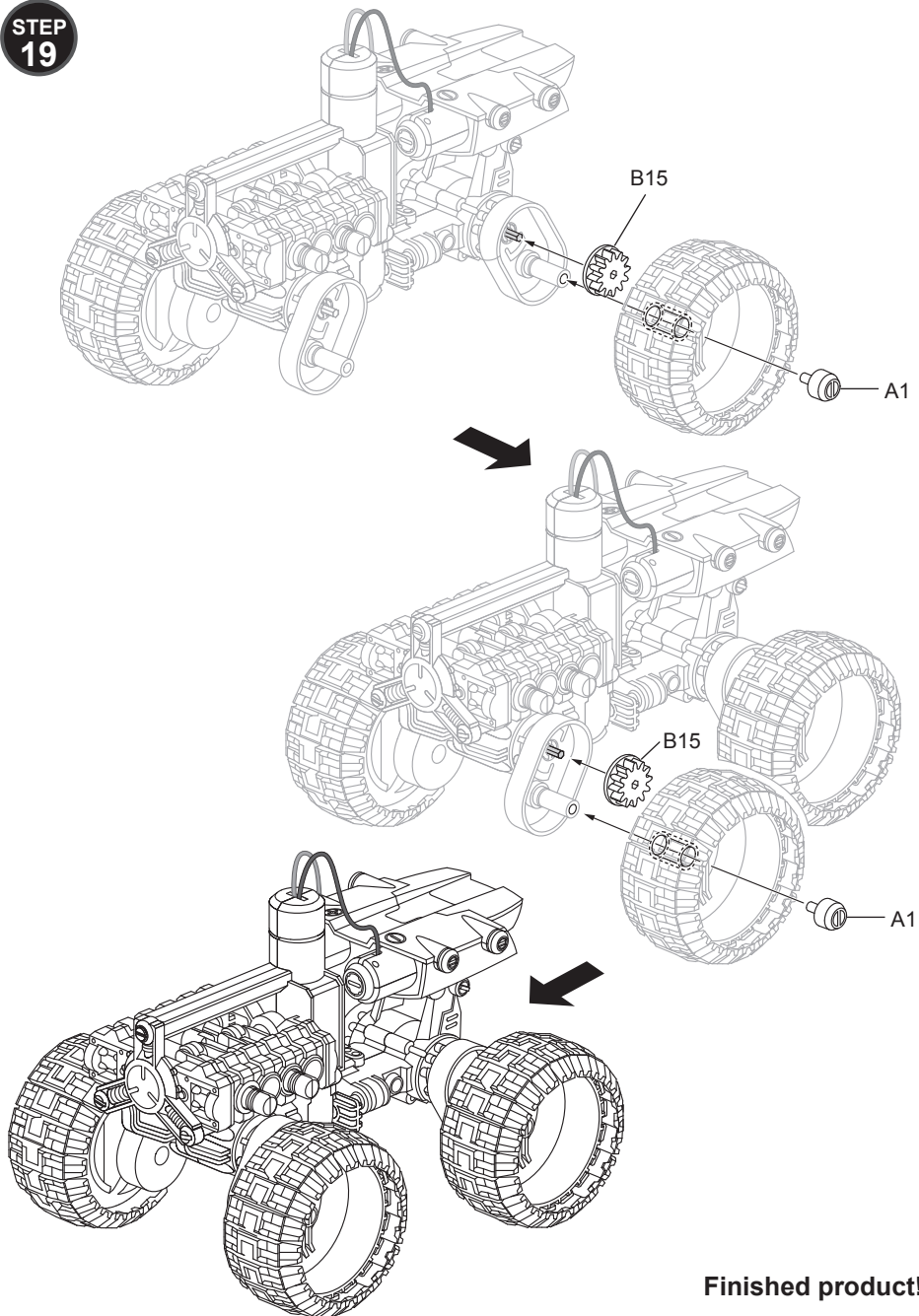




**STEP  
18**



**STEP  
19**



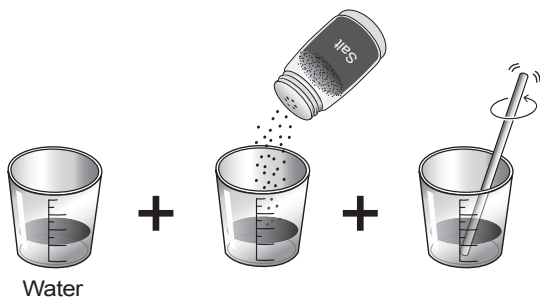
## How It Works

- After a period of time the salt water will be exhausted (about 15 minutes), the car will begin to get slower or stop. Add a few more drops of salt water to start it again (as in fig 3)
- Each Magnesium sheet can work for 4 hours continuously, then it will become fragmented. Replace the sheet with a new one to energize the car. The kit includes 3 refills.
- All materials used in this kit are environmentally safe and clean, no toxic substances or disposal concerns.

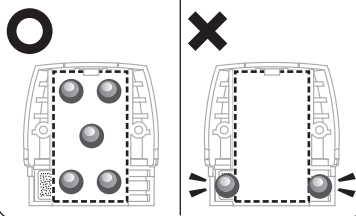


**Please pay full attention to the below mentioned before use!**

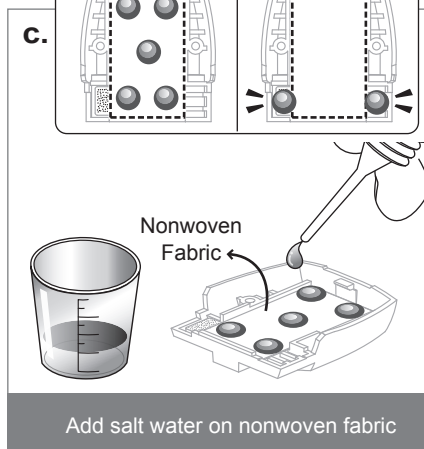
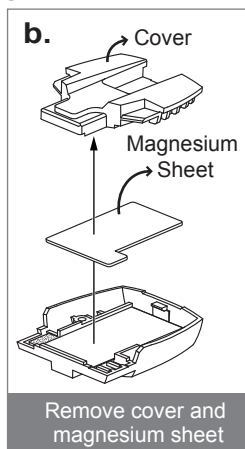
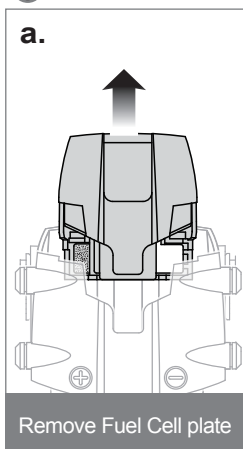
- 1 How to make salt water solution:** Add salt to tap water or distilled water at ratio of **1(salt) : 5(water)**. Any percentage ratio from 20% to 99% salt water is workable although the 20% will be the most efficient.

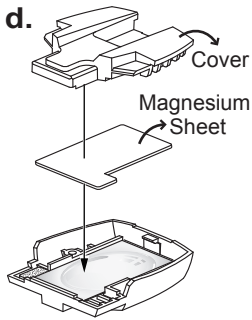


**Do not add salt water outside nonwoven fabric as shown below.**

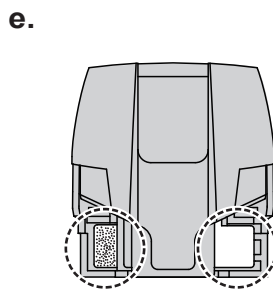


- 2 How to fill the engine car with salt water:**

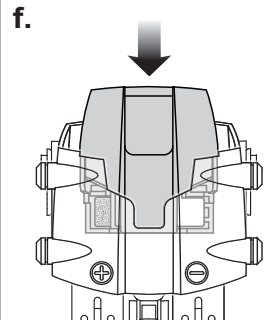




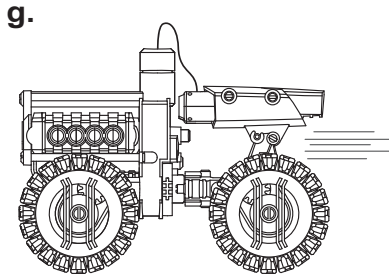
Reassemble cover and magnesium sheet



Make sure the polarity of the connector dry without salt water

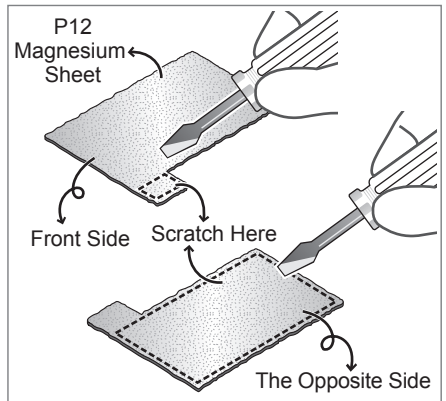
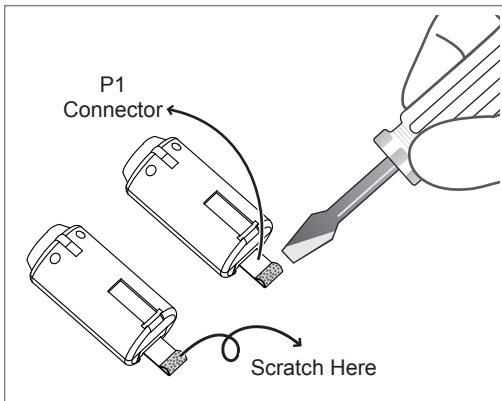


Insert Fuel Cell plate

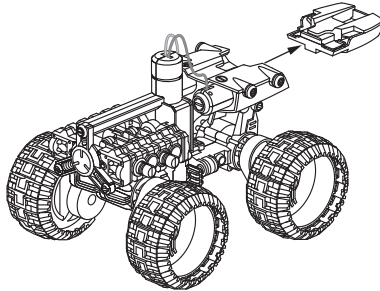


Run your car now

**3 How to refill the salt water :** When the engine car starts getting slower or stops, reapply a few drops of salt water with the applicator into the position as shown **2 C**. And scratch oxide from the battery connectors and also magnesium sheet by slotted screwdriver before reuse. See below figures:

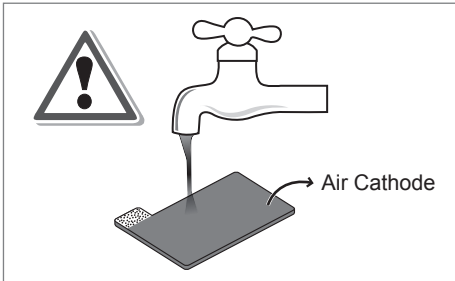


**4 How to stop the car :** Remove Fuel Cell plate to stop your car as shown below:



**5 How to maintain Fuel Cell plate :** It is necessary to clean Fuel Cell plate every time when not in use.

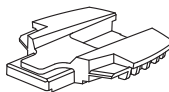
**5-1** Gently rinse air cathode under tap water, don't hand rub the surface to ensure the quality of air cathode.



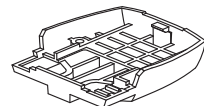
**5-2** Flush the parts shown below and hand rub the surface. Make sure that there is no salt residue. Dry all parts separately.



1.Nonwoven Fabric

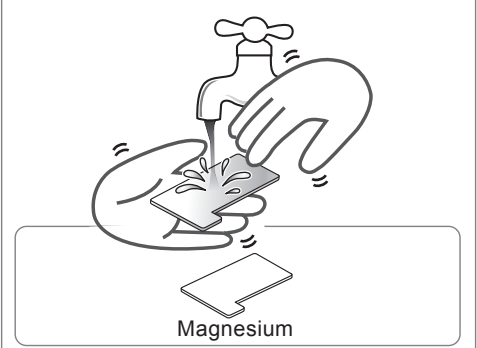


2.Cover

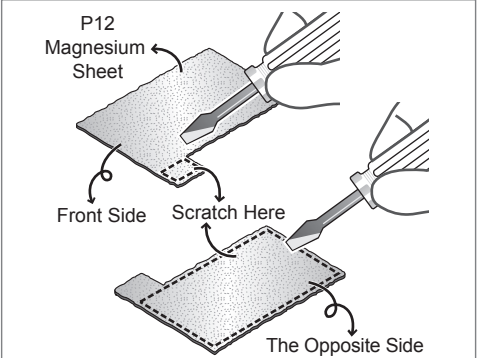


3.Bottom Base

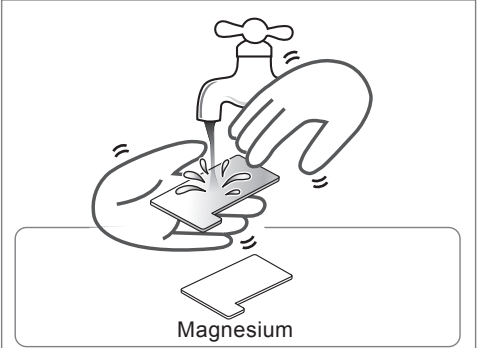
**5-3 Flush and scratch the oxidization of the magnesium sheet as shown below:**



Gently rinse magnesium sheet



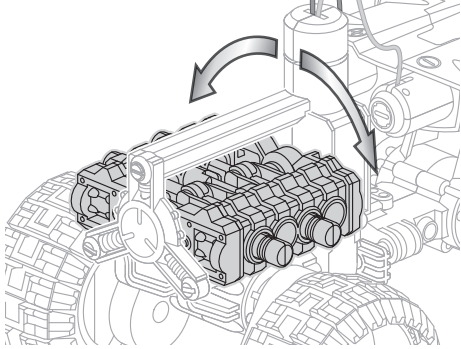
Scratch the oxidization of the magnesium sheet



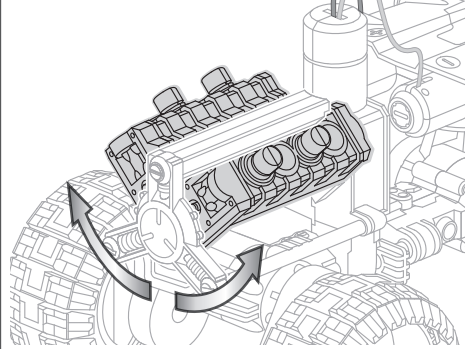
Gently rinse magnesium sheet and dry it

# How To Play

## <1> Transform from Flat engine to V engine.

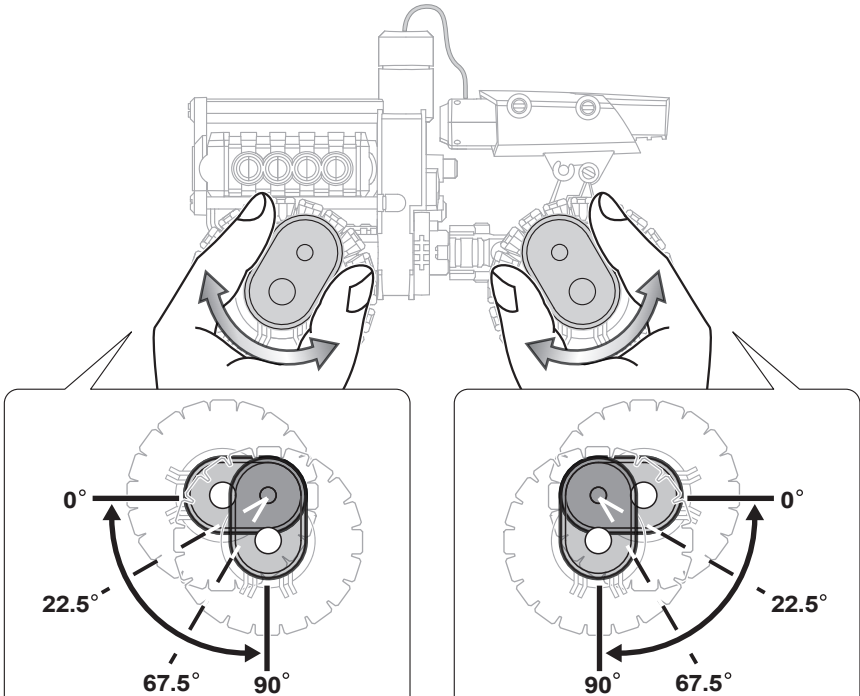


FLAT engine



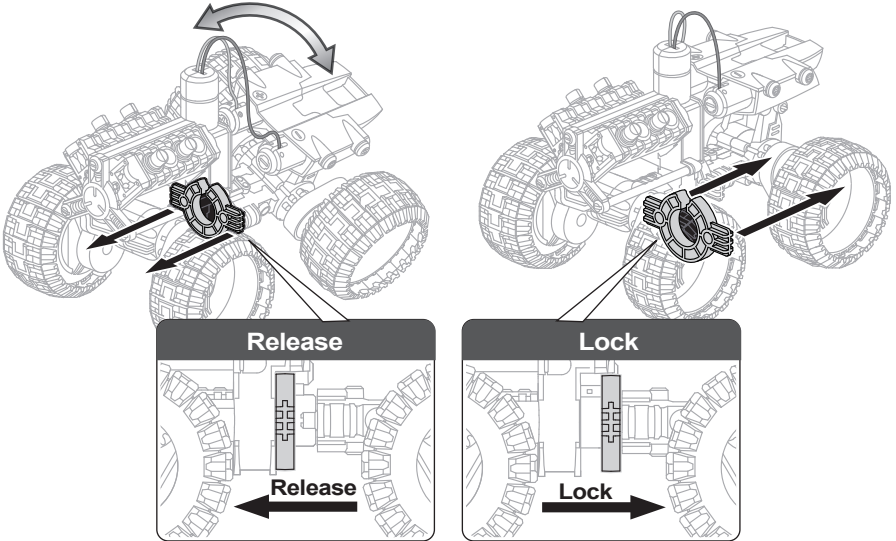
V engine

## <2> Adjust height of the wheels.

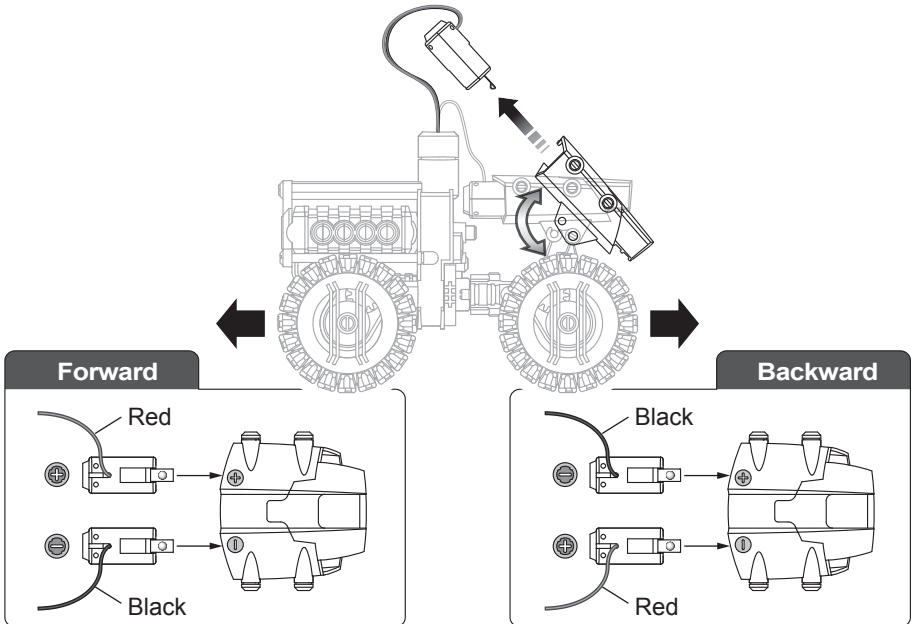


**Note:** Do not set the front wheels to '0' degree when the engine is in flat type, they may interfere with each other.

### <3> Lock or release the car body.



### <4> Run the car forward or backward.





# Trouble Shooting

**Check the steps below if car doesn't move after adding salt water.**

- 1 Make sure motor and gears are installed in right position.
- 2 Make sure each connector must be set in right position (Ref: **STEP 4**)
- 3 Make sure Fuel Cell plate and connector module are inserted entirely. (Ref: **STEP 13**)
- 4 Replace a new magnesium sheet if it is eroded as shown below.



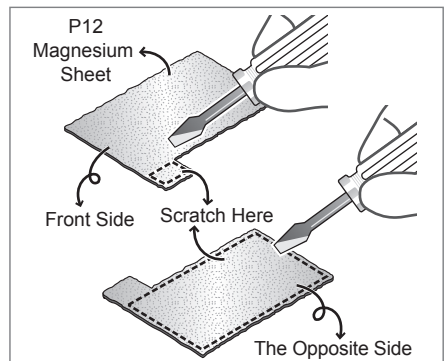
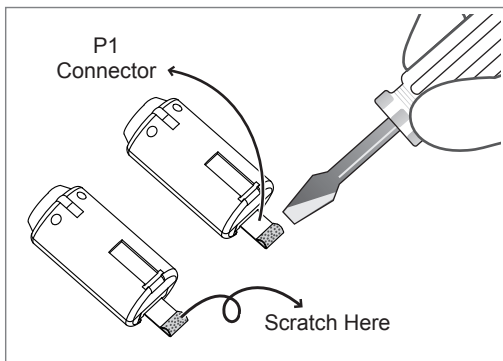
(New)



(Need to replace)



- 5 Make sure that the Fuel Cell plate is placed in the correct sequence and position: air cathode — nonwoven fabric — magnesium sheet. (Ref: **STEP 10**)
- 6 Make sure the air cathode black side is facing up. (Ref: **STEP 10**)
- 7 Nonwoven fabric is also used to isolate air cathode and magnesium sheet, make sure the 2 parts do not come into contact each other or it may cause short circuit. (Ref: **STEP 10**)
- 8 **Important** : If the fabric is totally dry, disassemble the Fuel Cell plate and add salt water as per figure **2 C**. Do not add salt water outside nonwoven fabric .
- 9 Make sure the polarity of the connector dry without salt water. (Ref: **2 e**)
- 10 **Important** : Salt water will easily cause oxidization, scratch oxide from the battery connectors and also magnesium sheet by slotted screwdriver before reuse.  
**See below figures:**









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

