



LINE TRACKING ROBOT

LIGHTING SENSOR ROBOT KIT

Assembly and Instruction Manual

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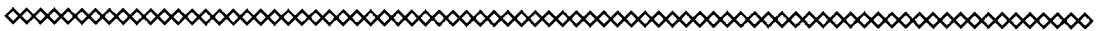
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LINE TRACKING ROBOT

21-890

1 Product Introduction:

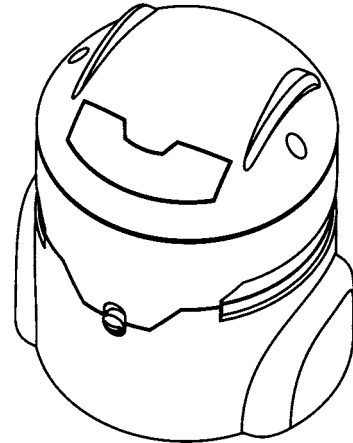
Line Tracking Robot will follow a black line on white ground by using 2 photo interrupters as its eyes.

The 2 photo interrupters will distinguish black and white by projecting infrared rays.

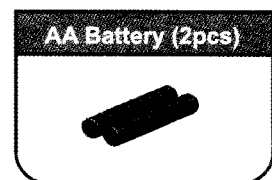
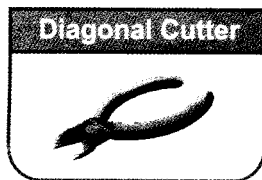
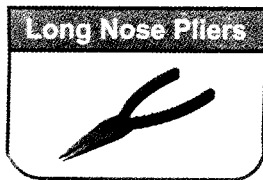
Power source:

Voltage / Electrical / Mechanical:

1.5 V " AA " x 2 (not included)



2 Tools You May Need:



3 Mechanical Parts List:

P1	Motor	Qty
		1

P2	Motor	Qty
		1

P3	Pinion Gear 10T	Qty
		2

P4	Face Gear 36T/14T	Qty
		2 (White)


P5	Gear 36T/14T	Qty
		2 (Green)


P6	Gear 36T/14T	Qty
		2 (Red)


P7	Round Shaft With Gear 36T/0T	Qty
		2 (White)


P8	Post	Qty
		2


P9	Round Shaft	Qty
		1 (2x40)


P10	Eyelet
	Qty
	4


P11	Tapping Screw
	Qty
	8 (2.6x14)


P12	Tapping Screw With Washer
	Qty
	2 (2.6x6)


P13	Tapping Screw
	Qty
	9 (2.3x7)

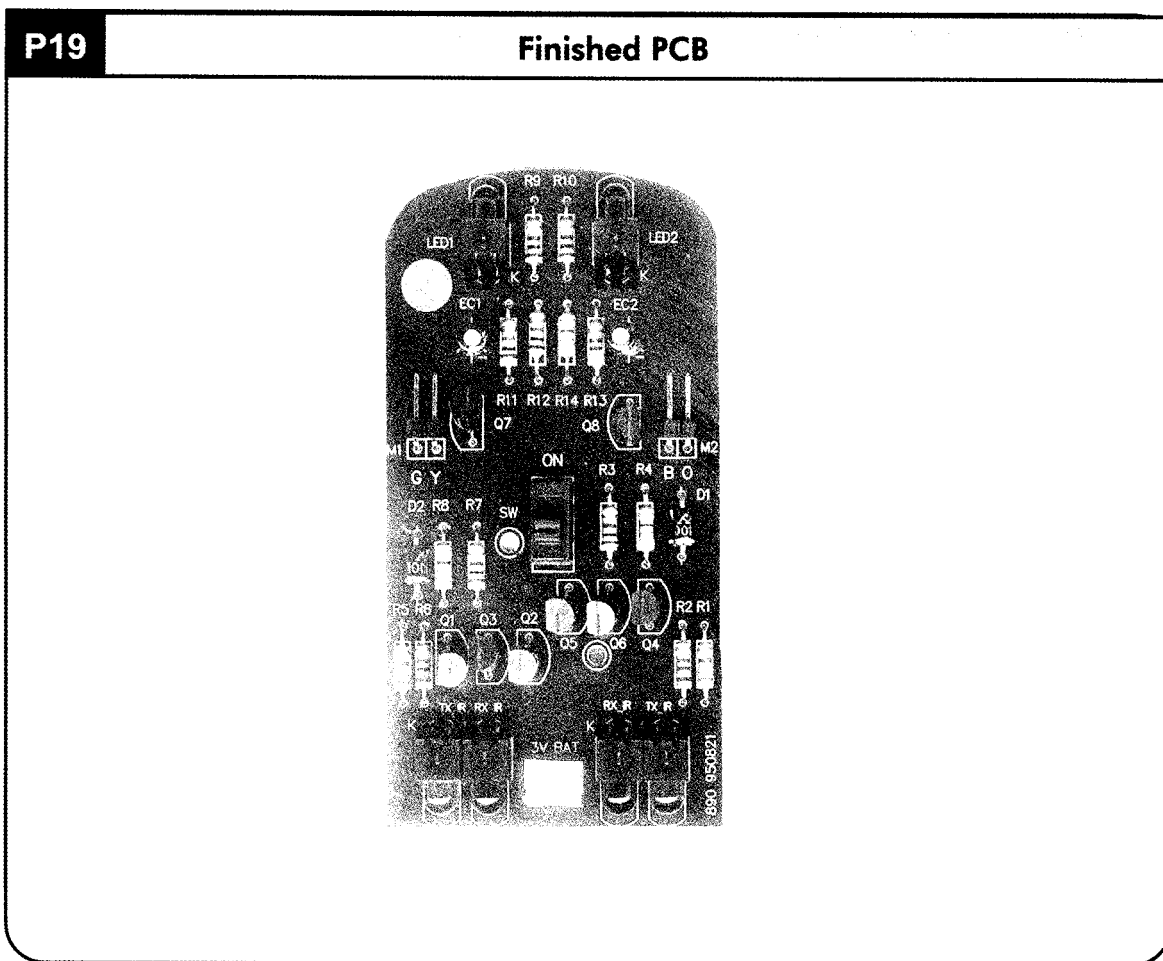
P14	Tapping Screw
	Qty
	1 (2.6x7)

P15	Wheel
	Qty
	2

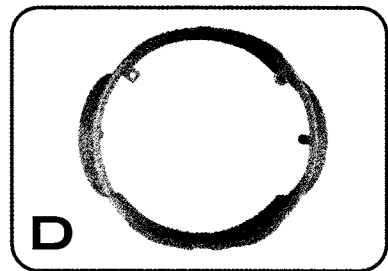
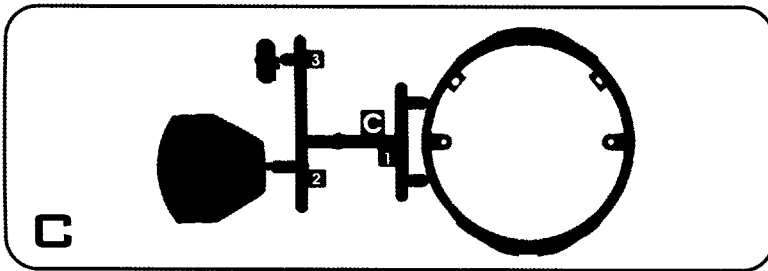
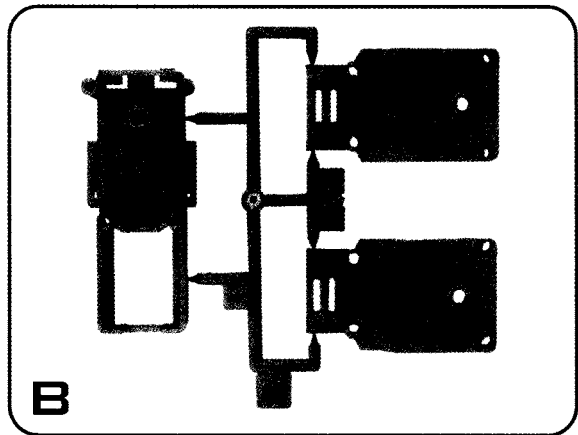
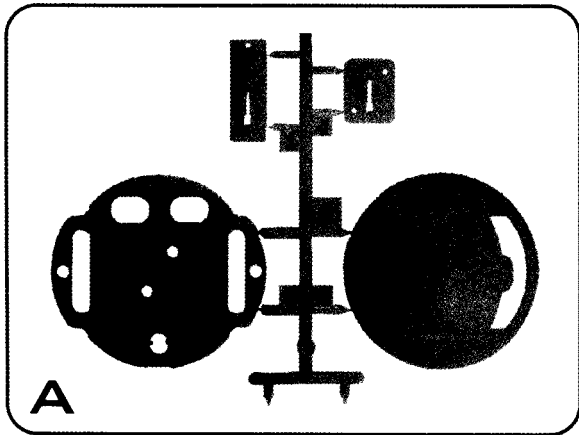
P16	Tire
	Qty
	2

P17	Steel Ball
	Qty
	1

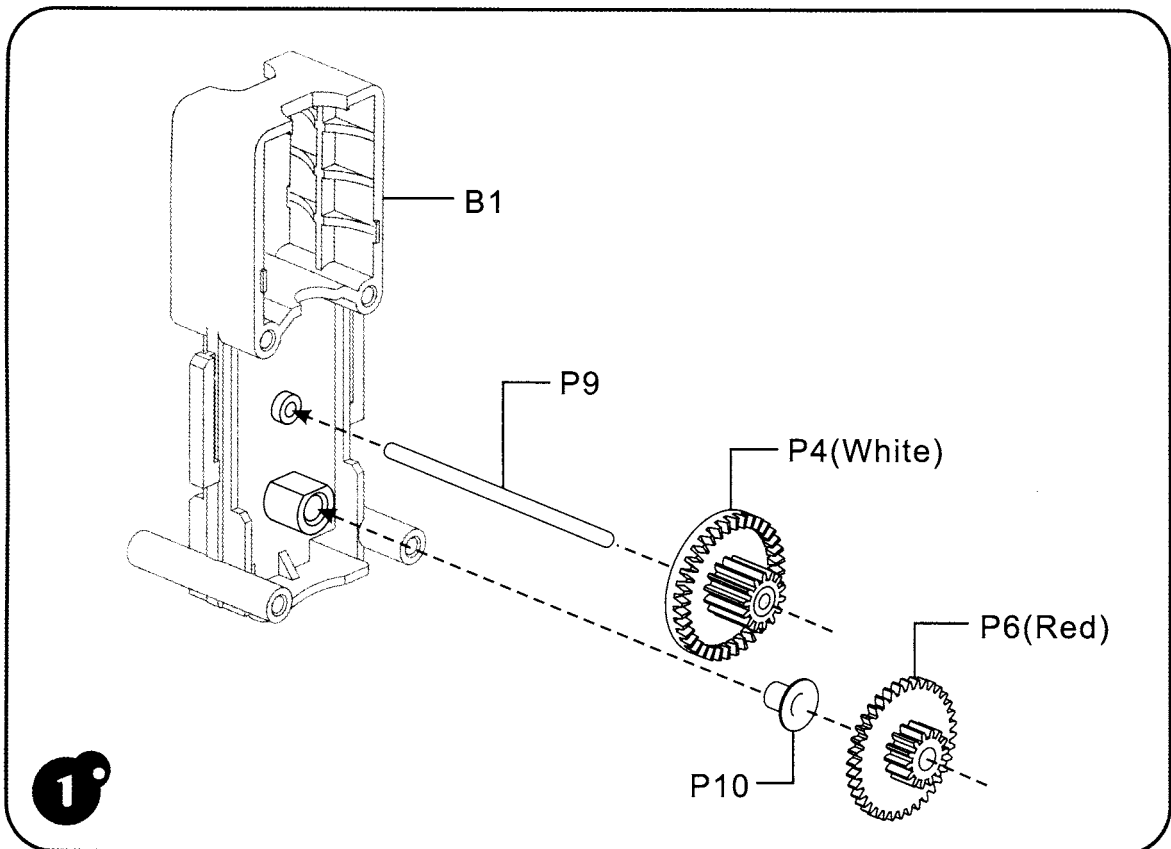
P18	Battery Holder
	Qty
	1

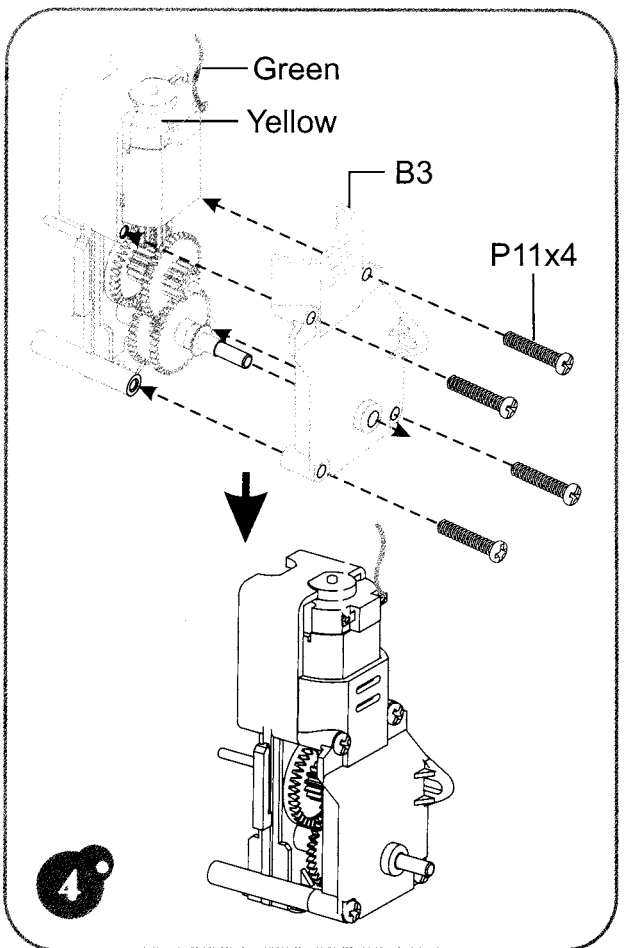
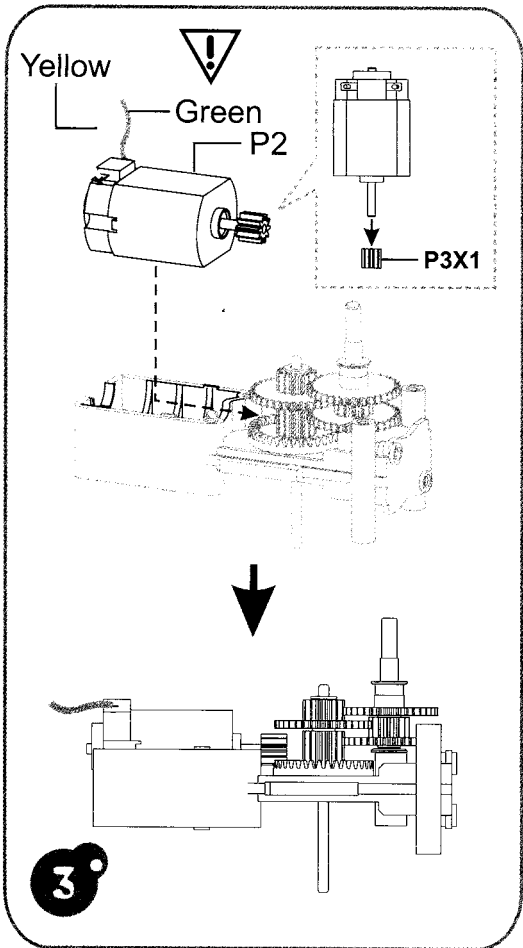
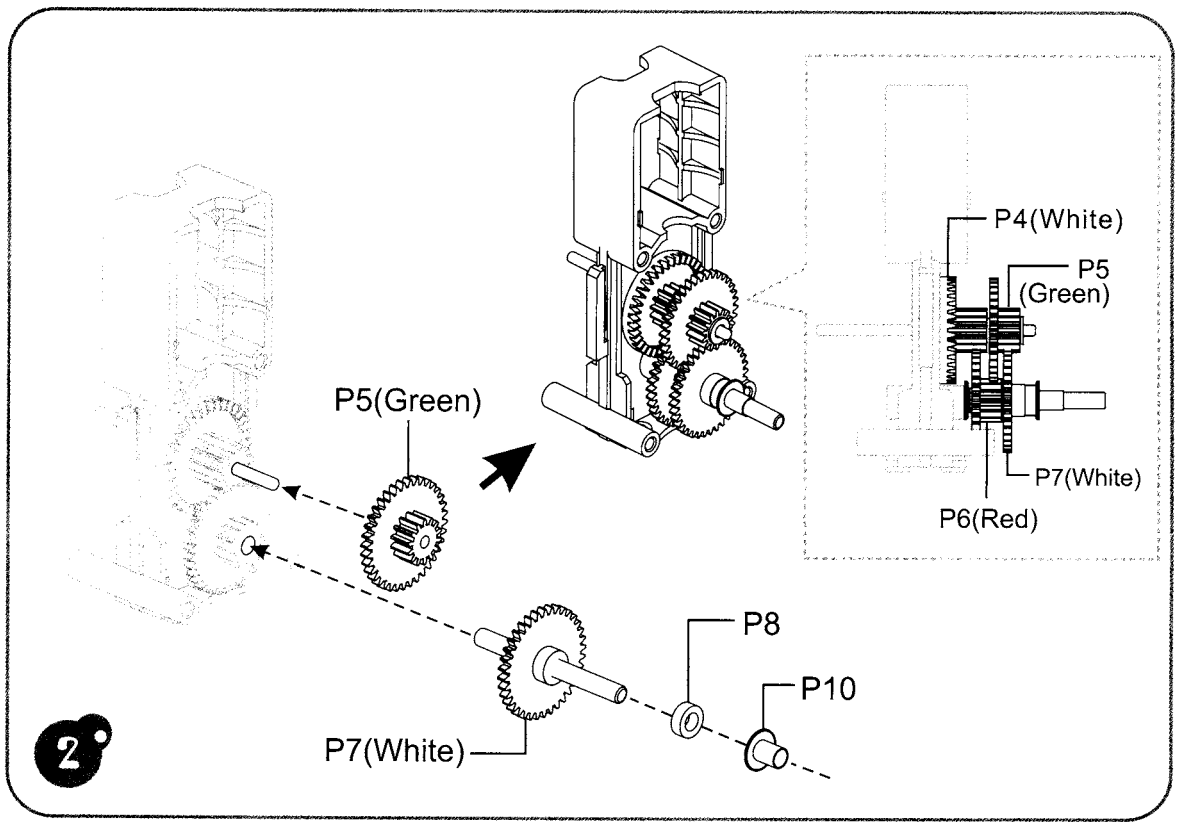


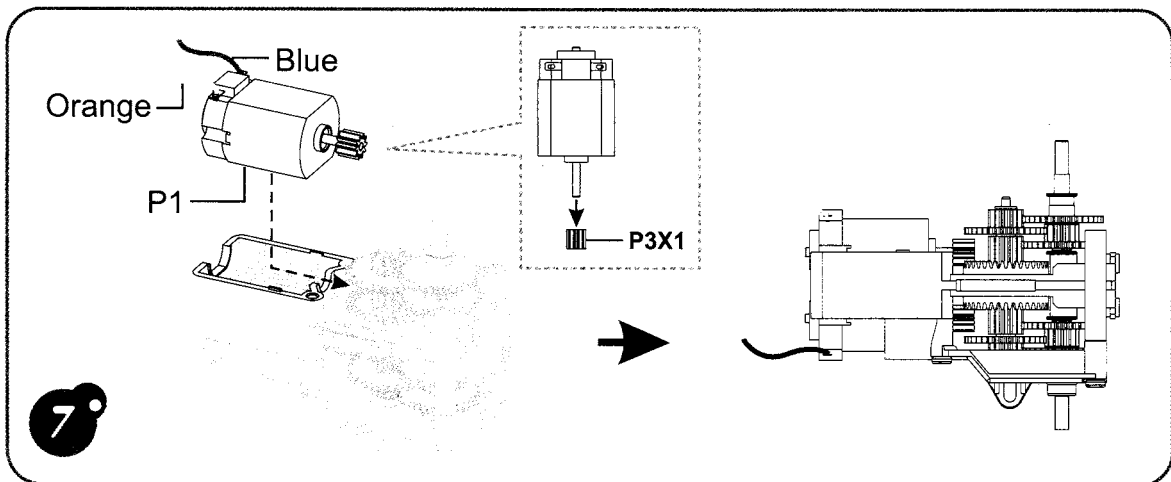
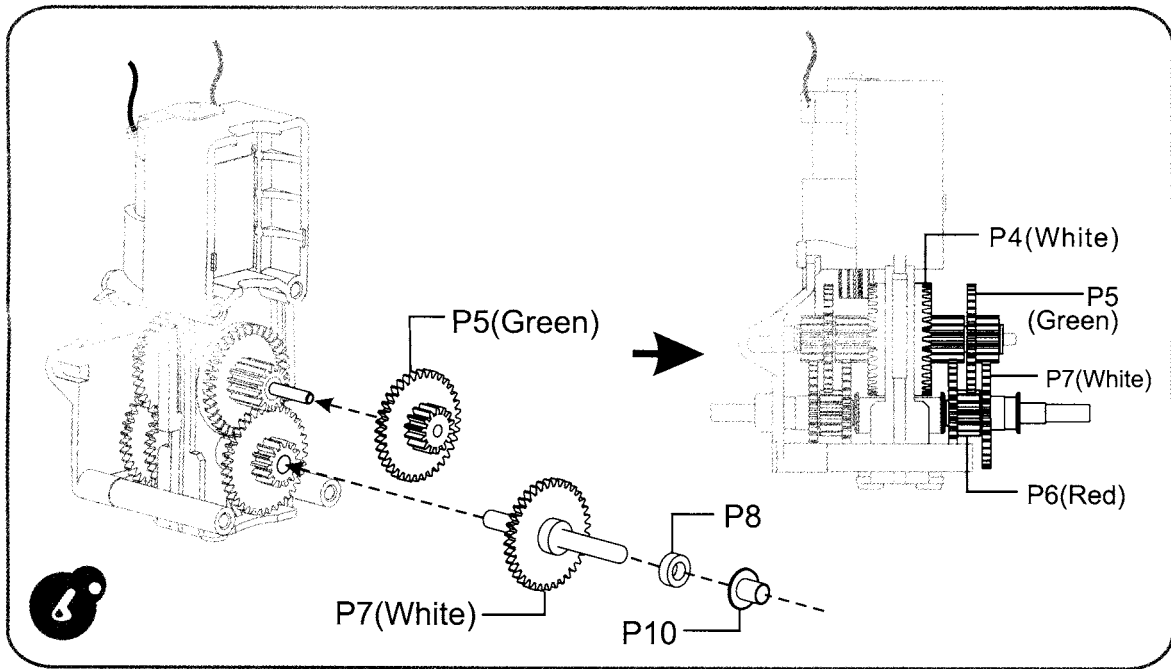
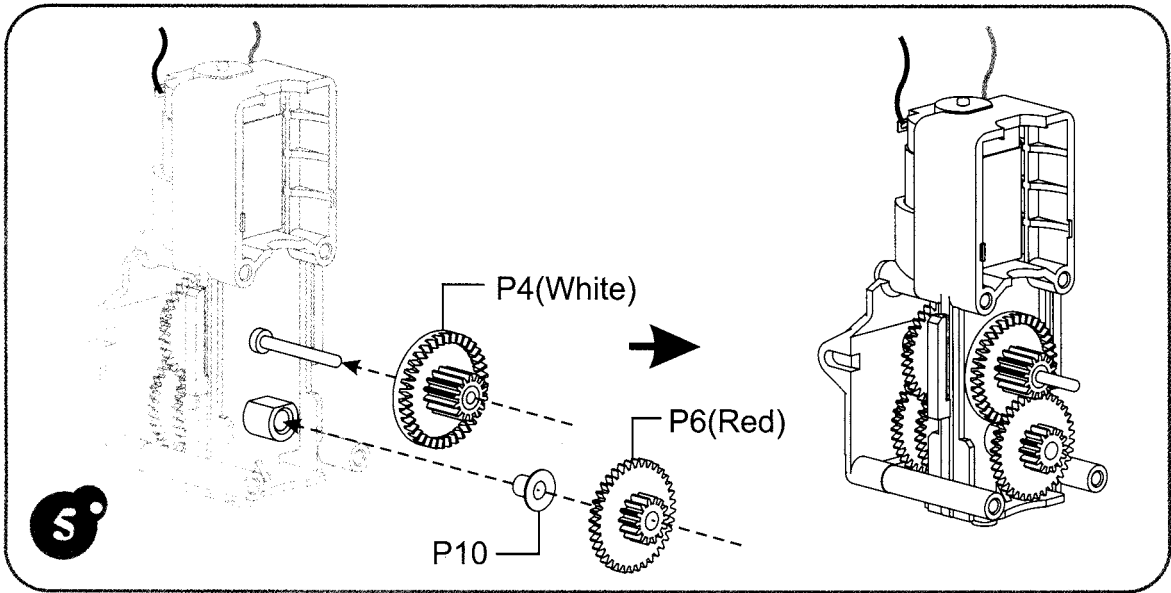
4 Plastic Parts:

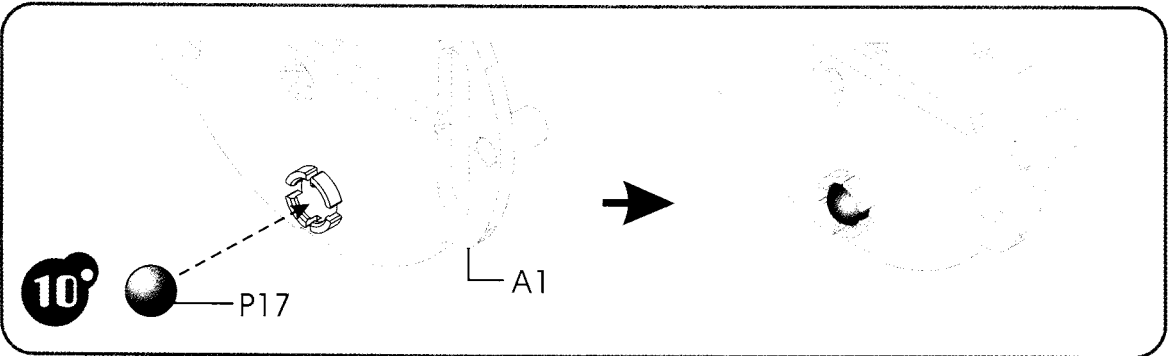
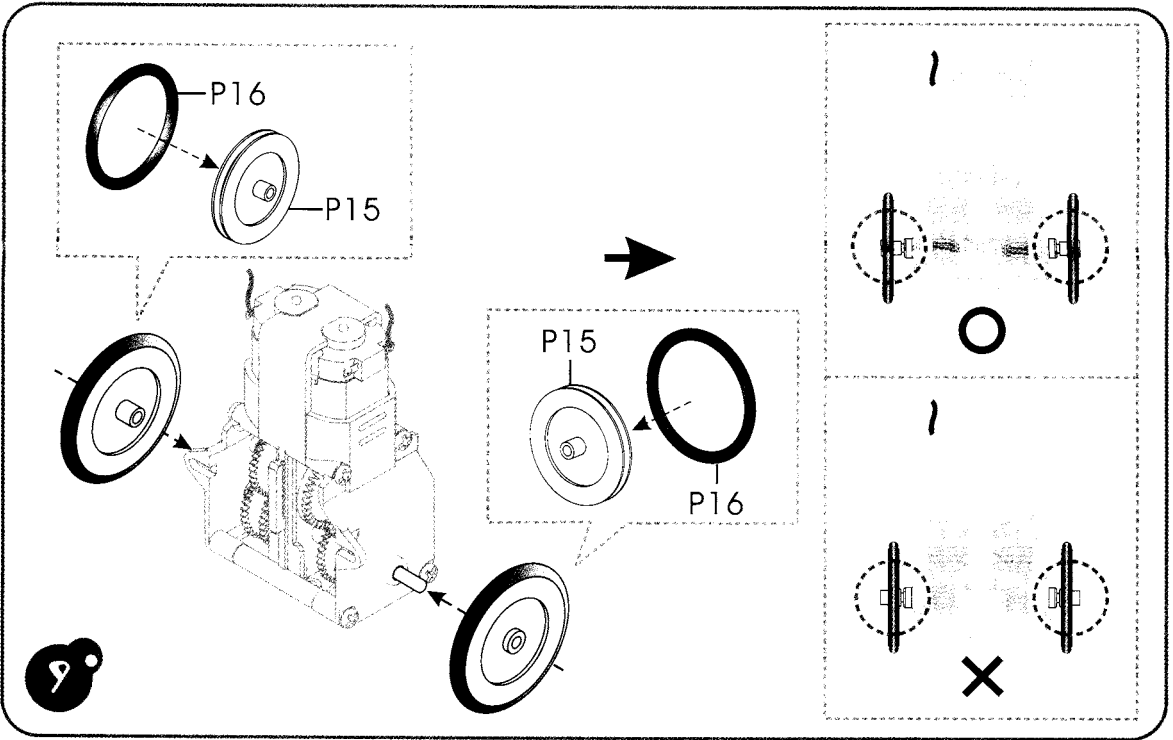
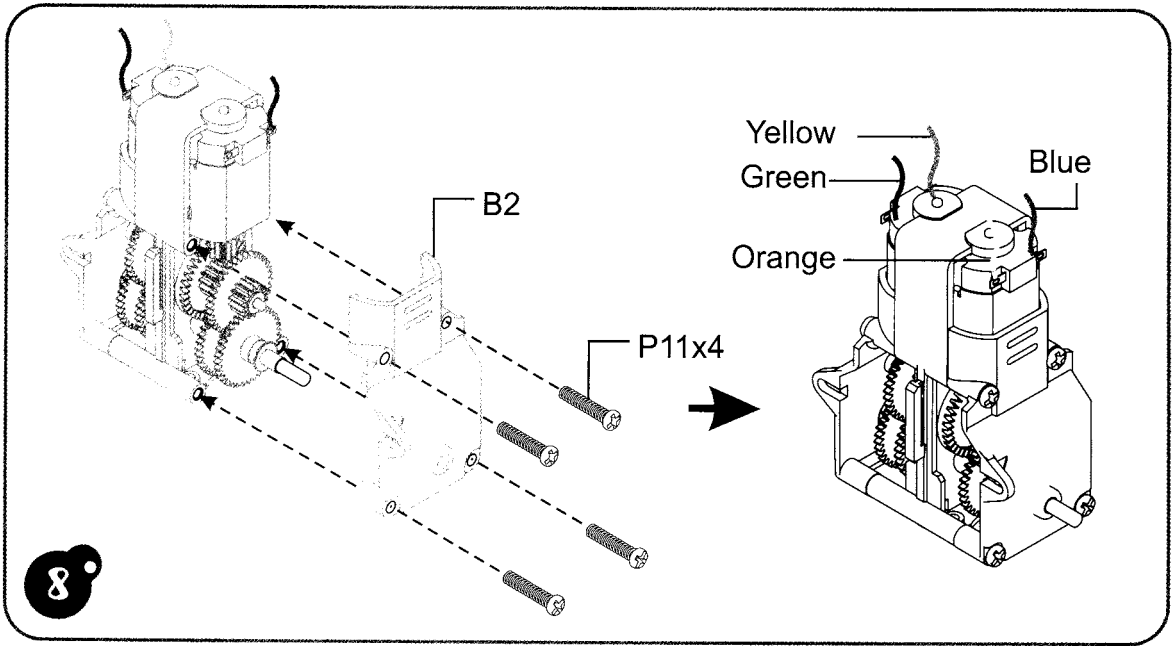


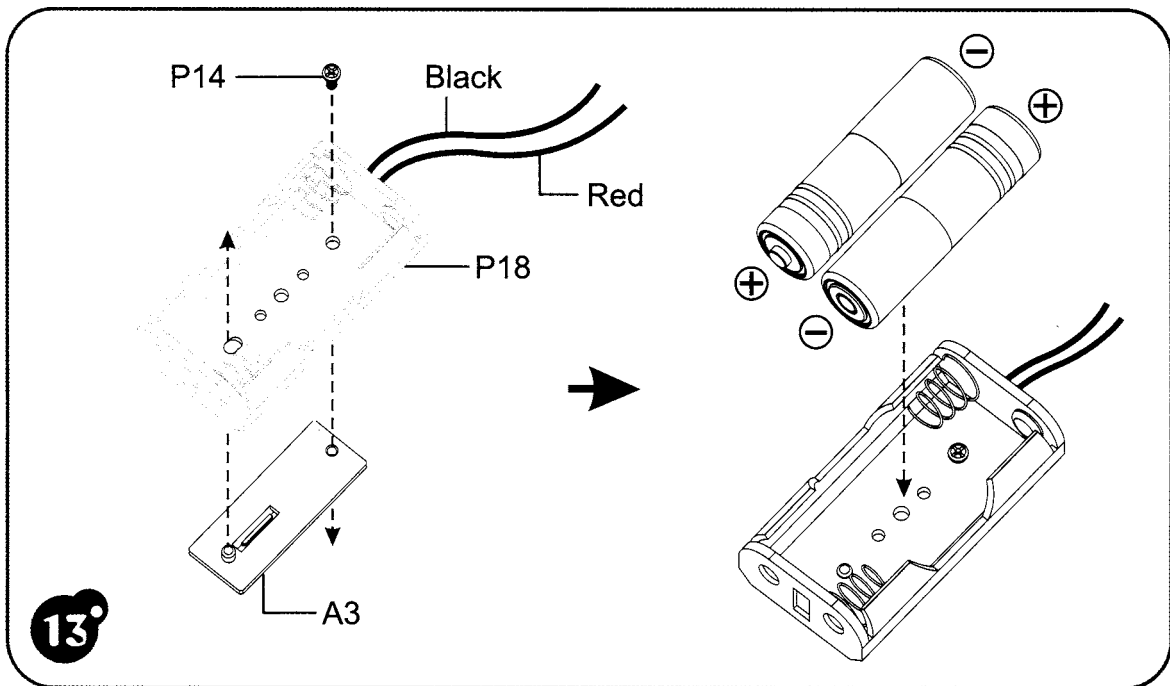
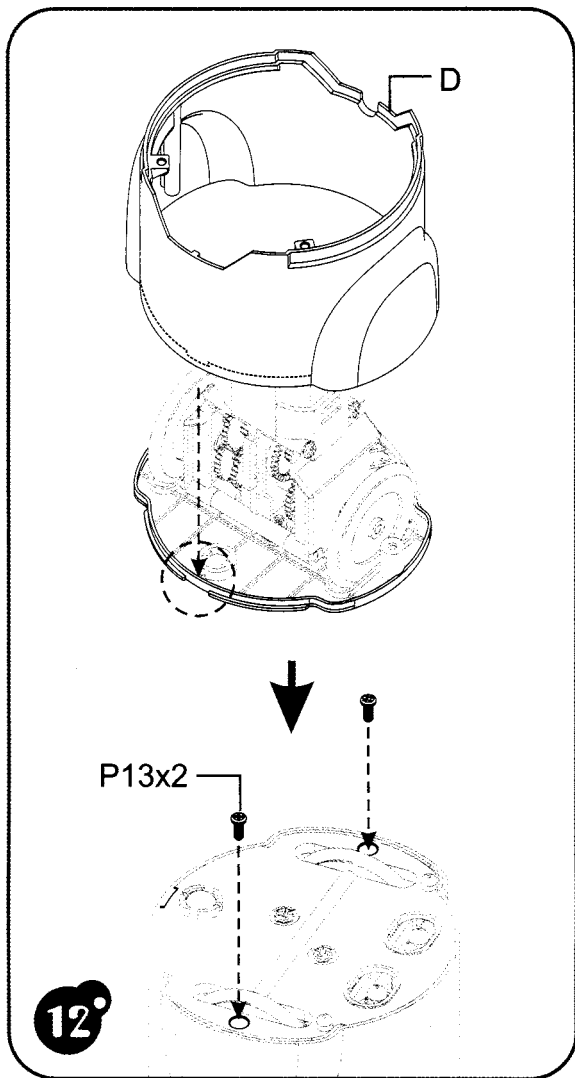
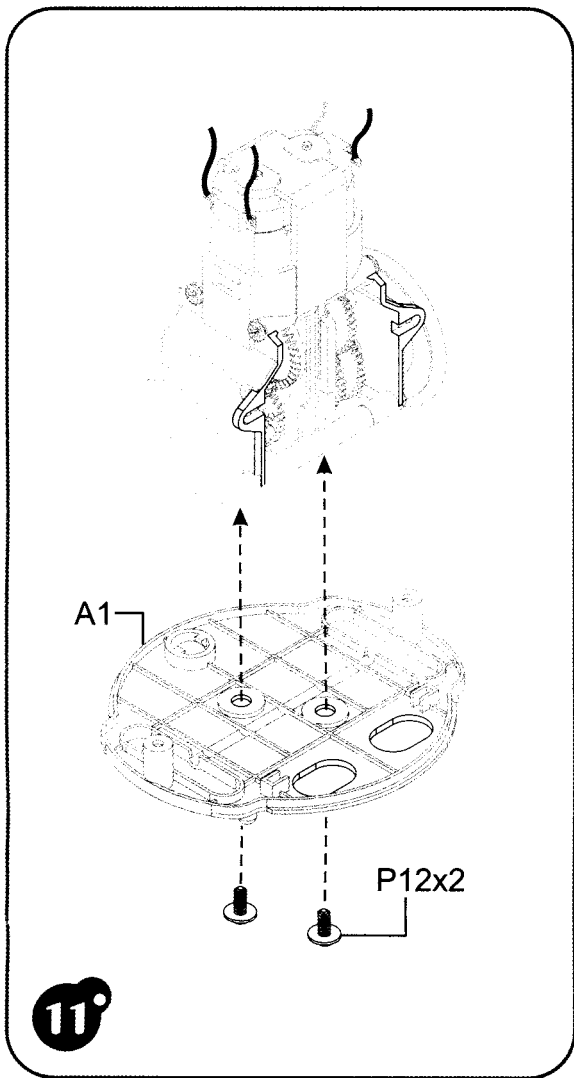
5 Mechanical Assembly:

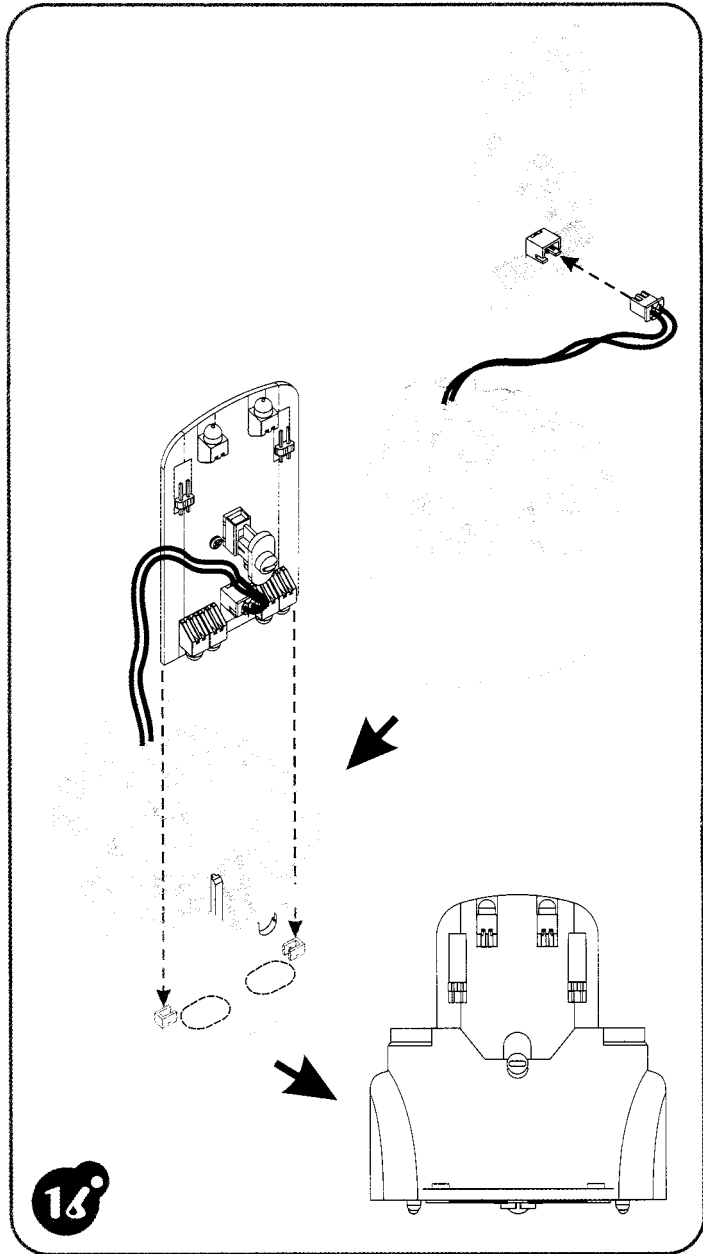
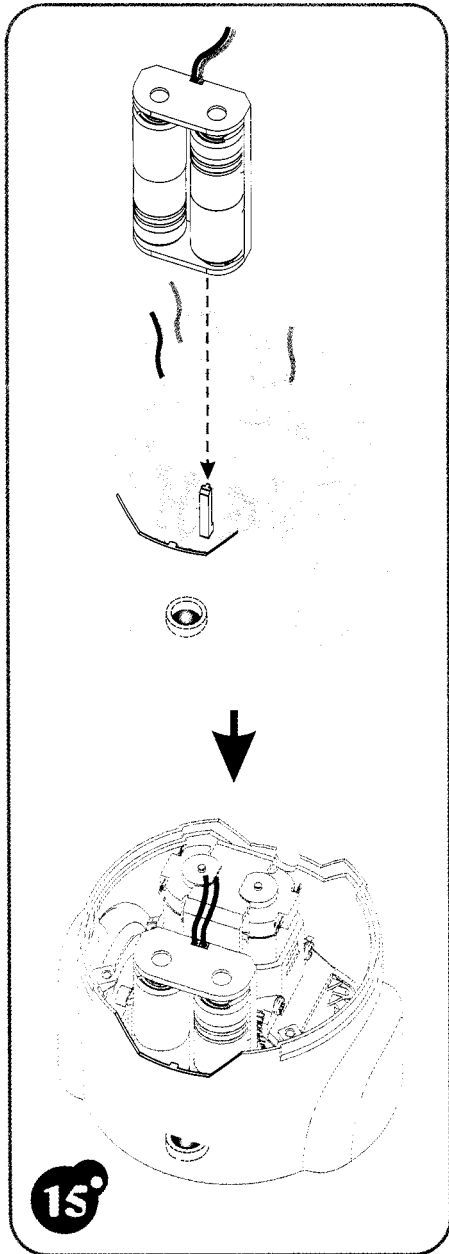
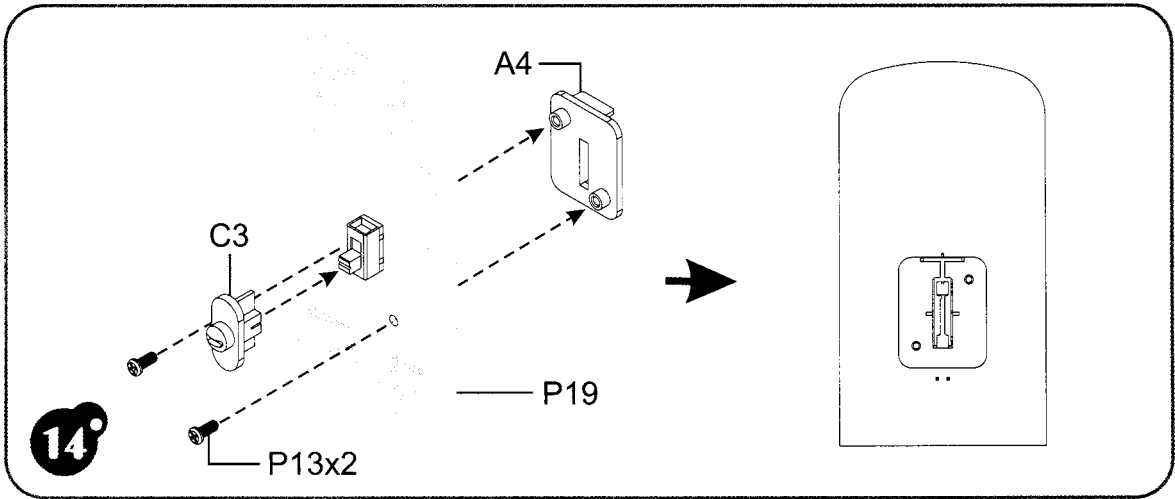


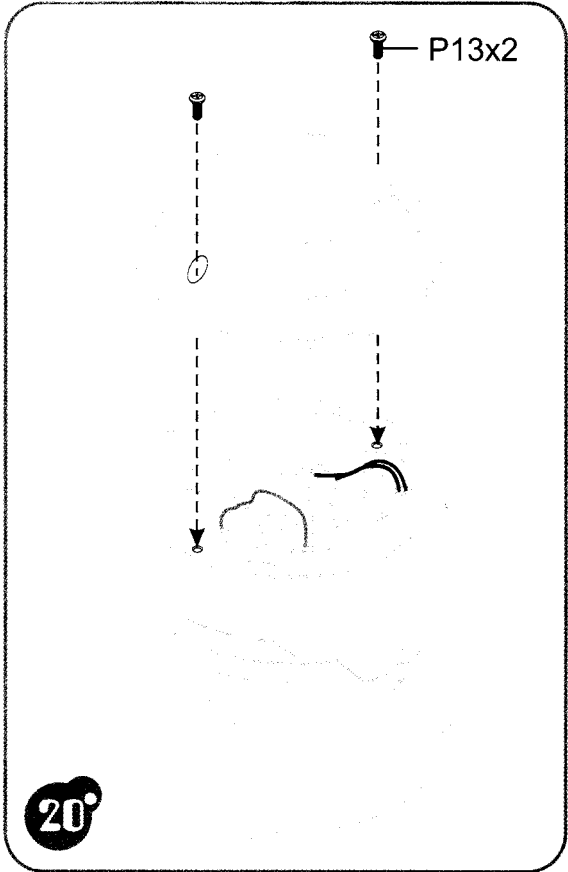
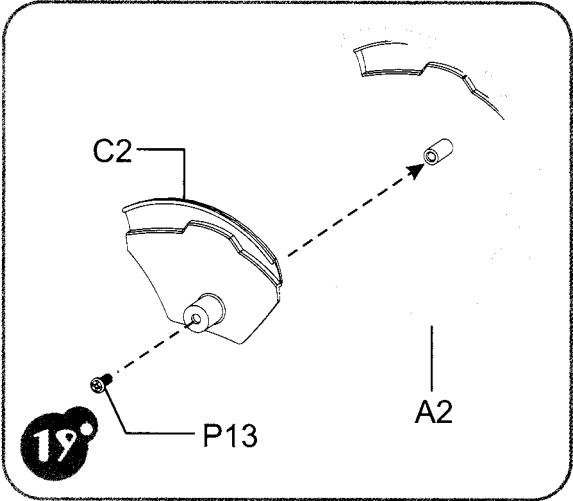
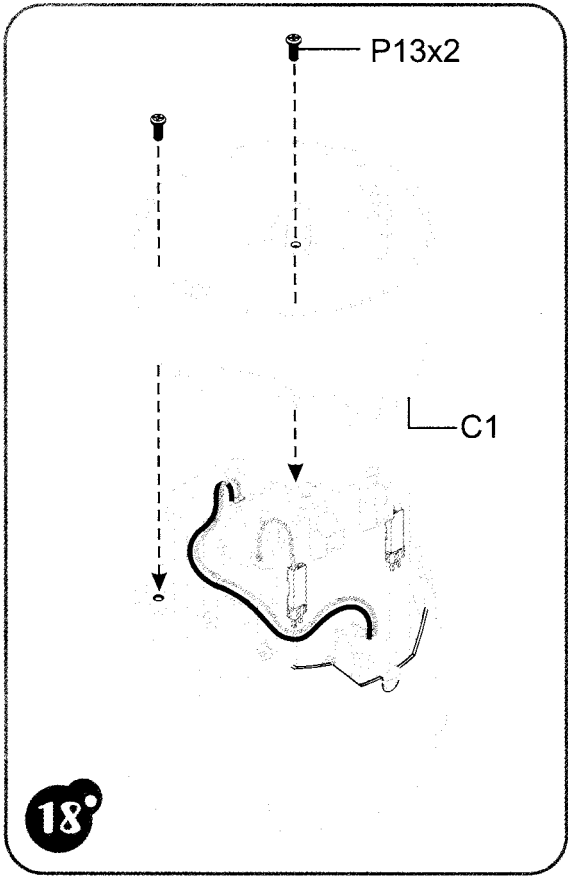
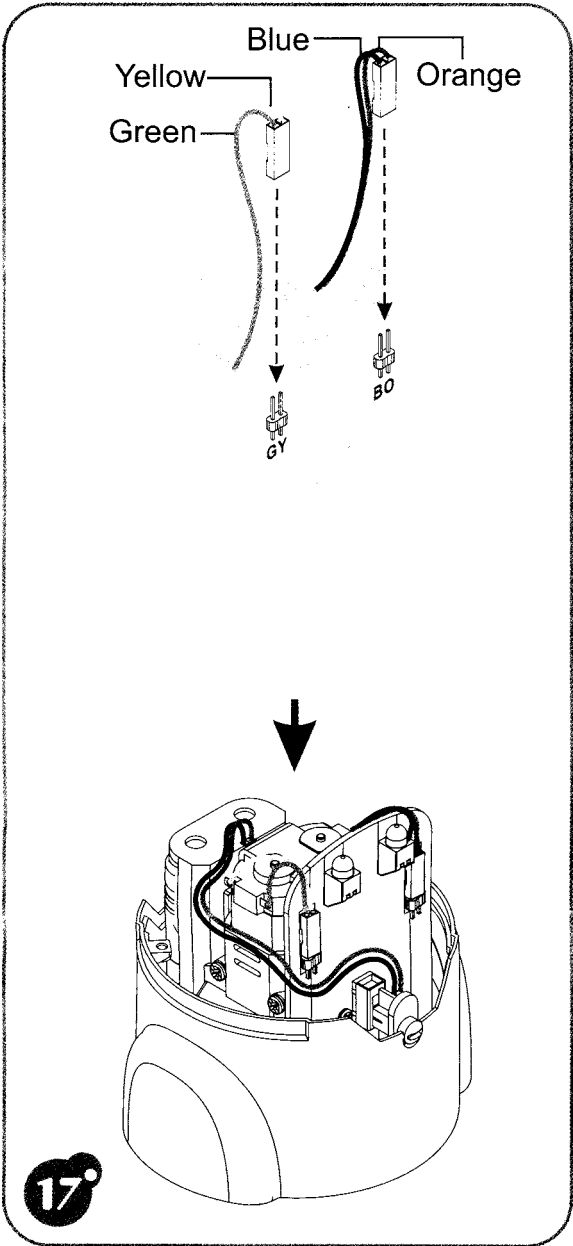


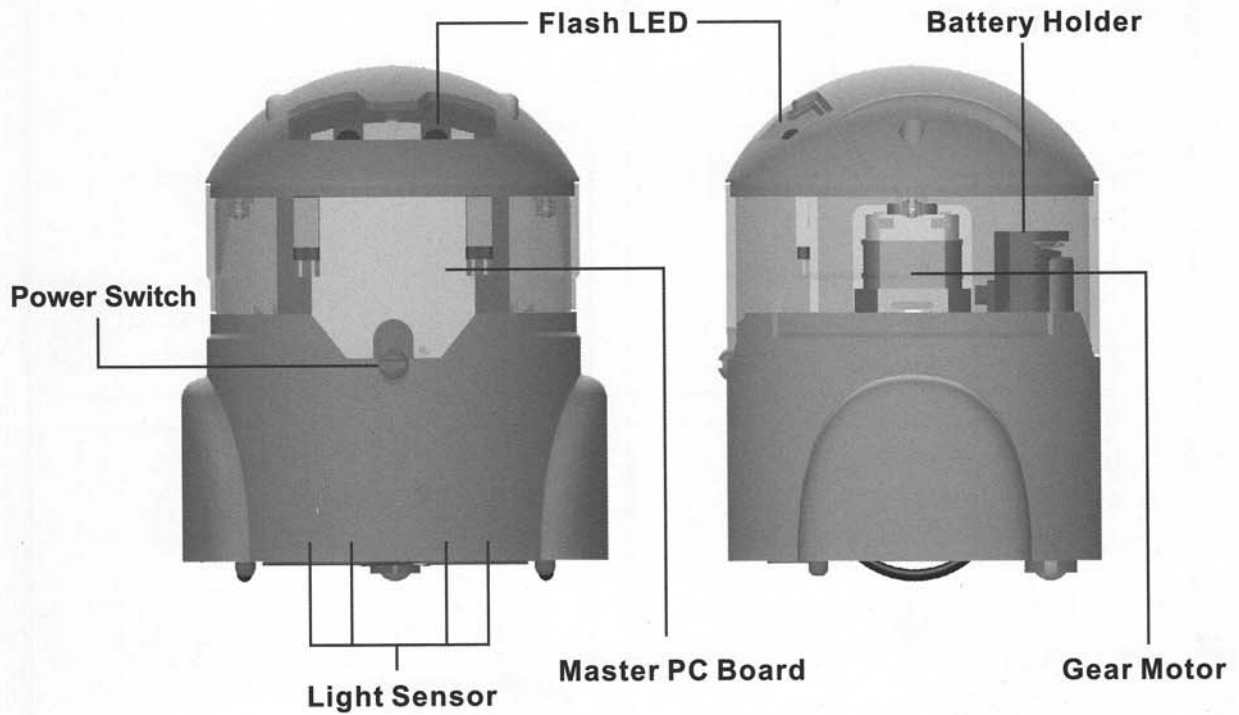












21° Finished Product

How It Works:

1. Using black electrical tape or thick black marker to create a route (width:18mm) on white ground.
2. Give your Robot an arcuate route, but the sharp angle (less than 90 degree) route is not suggested.
3. Switch power to 'ON' (upper position), Robot's eyes will start flashing.
4. Put your Line Tracking Robot on the route you designed, it will follow the black lines. Give it different route design and see what your Robot can do.



Trouble Shooting:

1.If the Robot don't move and eyes not flash:

- Check if the '3V BAT' terminal connects properly.(Refer Step 16)
- Ensure batteries are inserted with correct polarity.
- Check if the switch is at upper position.

2.If the Robot don't move but eyes flash:

- Check if the motor connectors "M1", "M2" connect properly.(Refer Step 17)
- Ensure the batteries are not low.

3.If the Robot don't follow the line:

- Ensure motor connectors "M1", M2" are not reversed.(Refer Step 17)
- Ensure wire color of motor are same as shown on PCB.(Refer Step 17)
- Check if PCB insert to the bottom of the case.(Refer Step 16)
- Make sure the ground is white or light color, also the width of the route is no less than 18mm.



Circuit Diagram:

