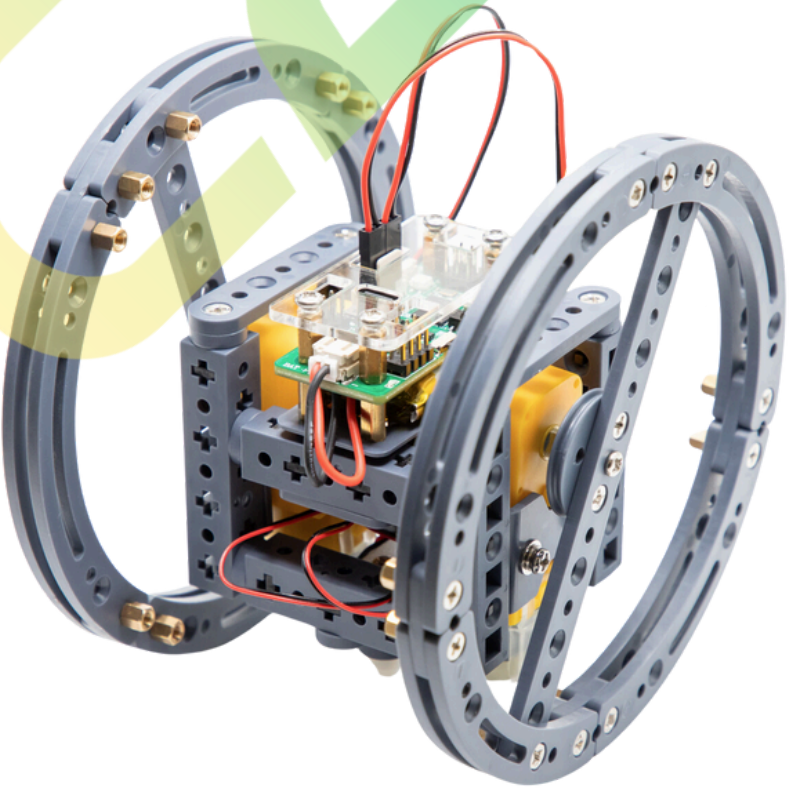
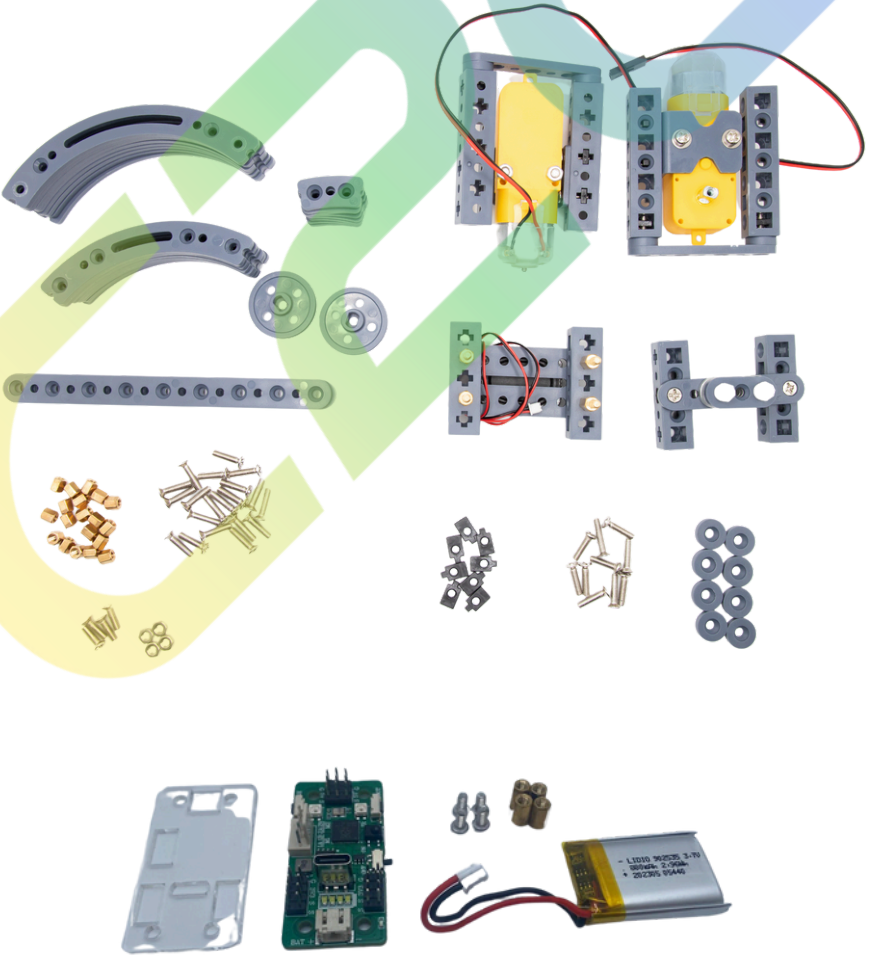
C2G

Student Instruction Manual

Dynamo

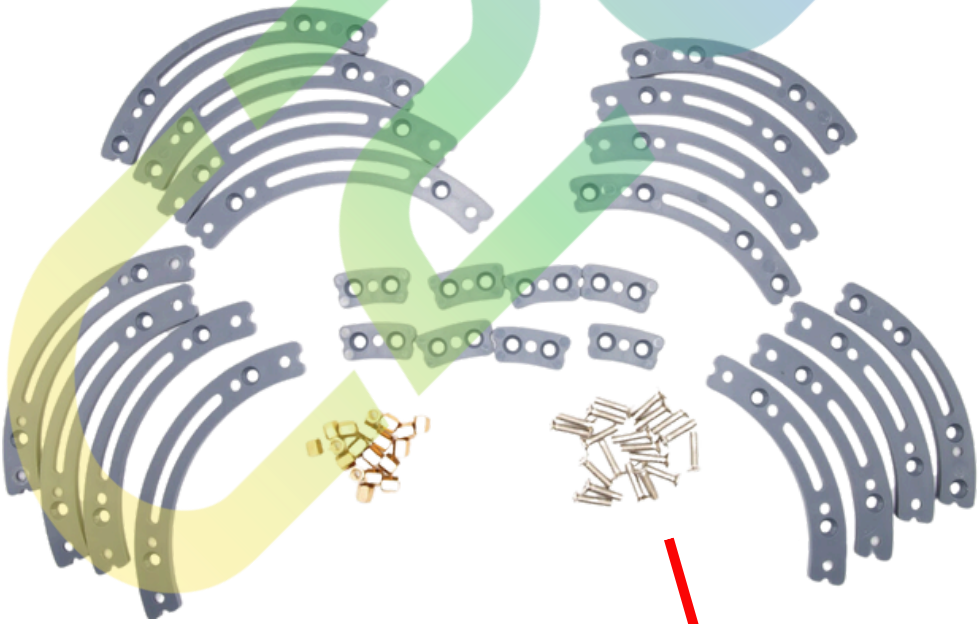


Check for all Dynamo parts:



Step 1: Building Wheels

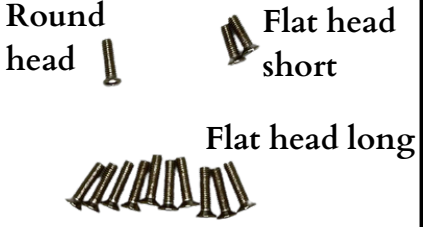
These will be the pieces you need to create your two wheels.



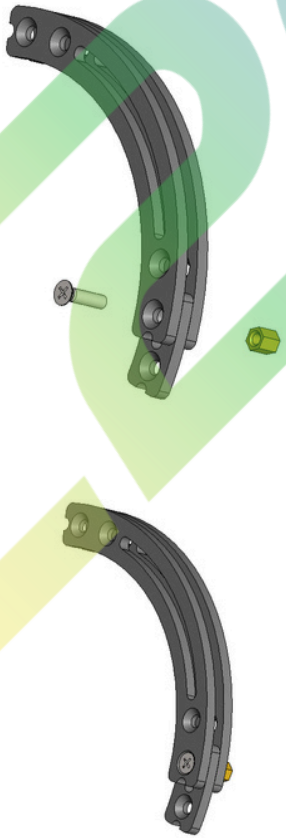
Ensure you have the following parts:

- 8 long pieces
- 8 medium pieces
- 8 small pieces
- Screws
- Brass spacers

Separate and organize your screws:



First, start by grabbing two long curved bricks.



Attach them by dropping a screw (long flat head) through the top and securing it with a brass spacer on the backside.

Next, grab two curved bricks and sandwich the connector to make a semi-circle.

Repeat the previous steps until the entire wheel is built, forming a complete circle.

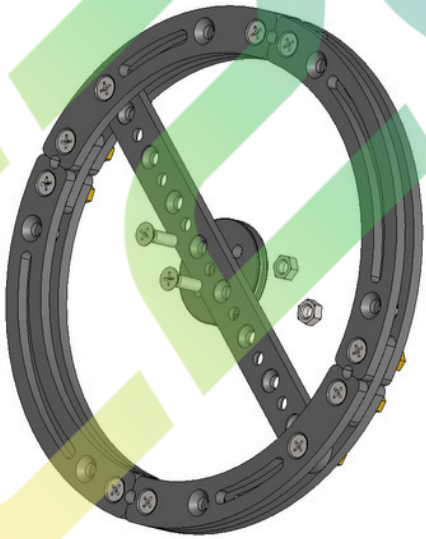
Step 1: Attaching Wheel Rims

Place the long bar across the diameter of the circle.

Using counter sunk screws and brass spacers secure the bar on each side.

Step 2: Attaching Wheel Rims

Secure the circular center piece using two counter-sunk screws and two M3 nuts.



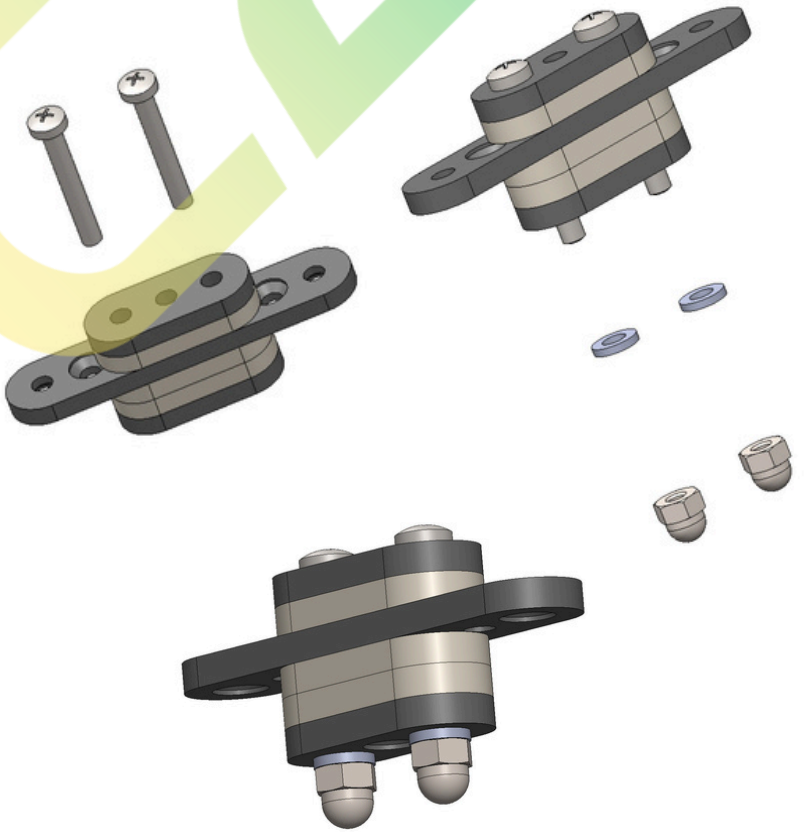
Step 3: Build Second Wheel

Repeat steps 1 and 2 with your remaining pieces and end with two complete wheels.

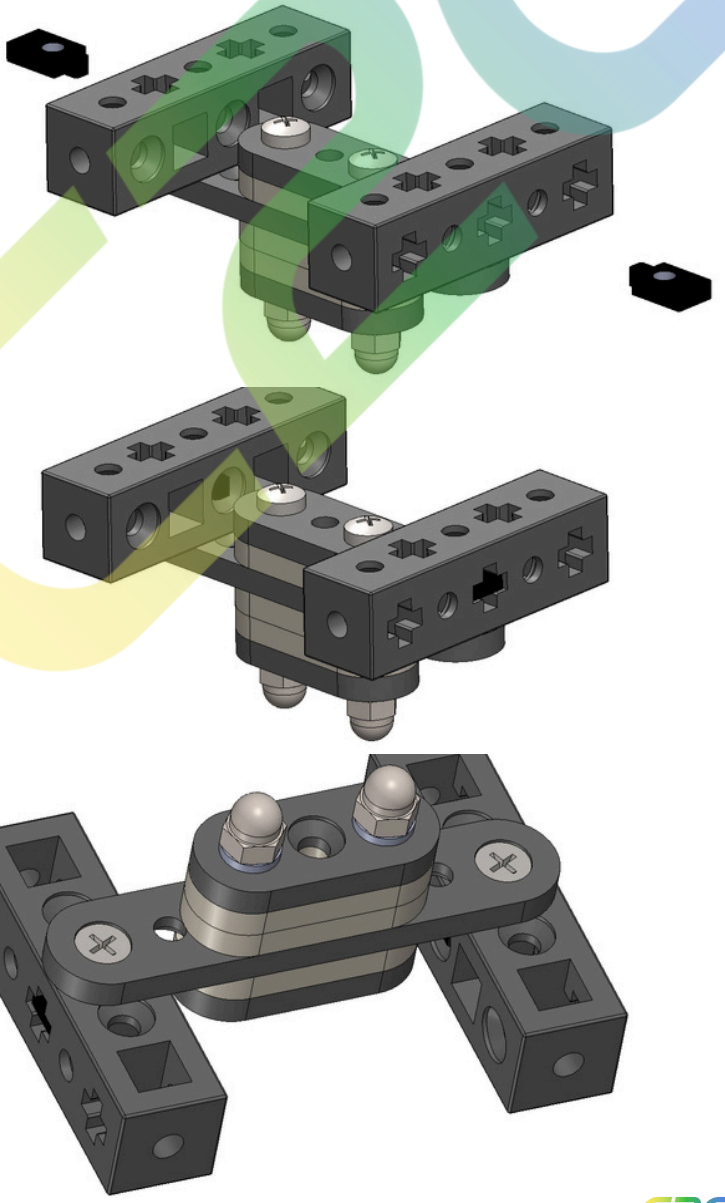
Step 5: Chassis

Start with the Weight (Bag D).

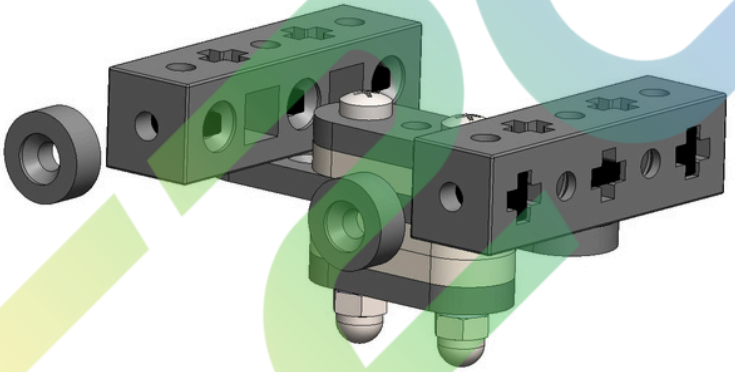
Sort your materials in this layout, stack them together in this same order from top to bottom, and fasten with the long screws at the top and caps at the bottom.



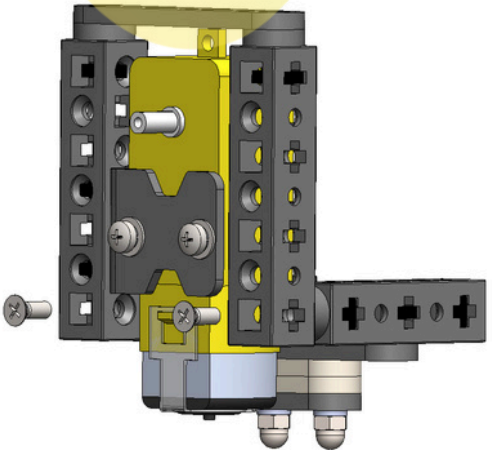
Insert a black spacer to the middle cross from the bad D blocks horizontally.
Fasten them with the two short screws.

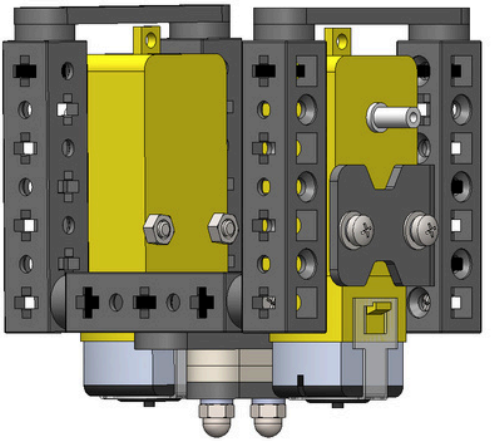


Place a spacer against the blocks. It will sit between the motor mount and block.

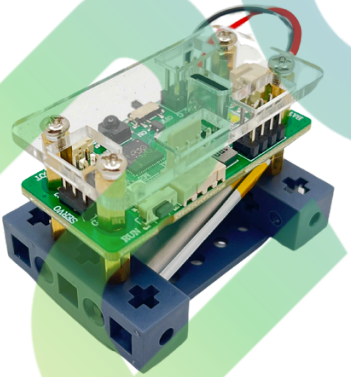


Fasten the DC motor mounts to the weight assembly using the 3M counter-sunk screws. Repeat for the other motor mount.

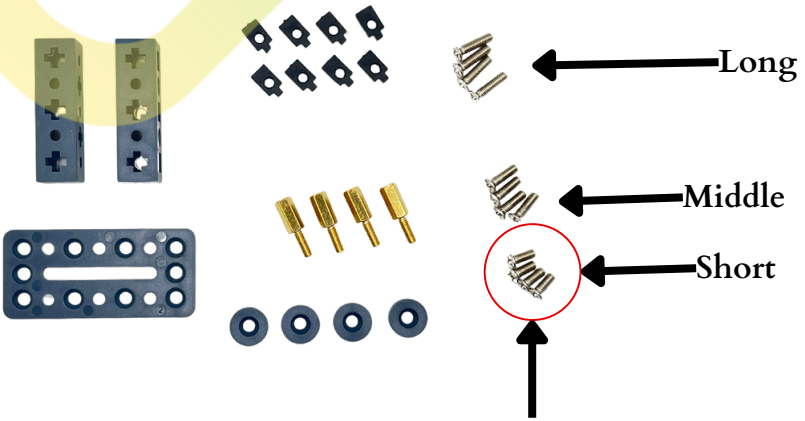




Step 4: C2G Mini Holder



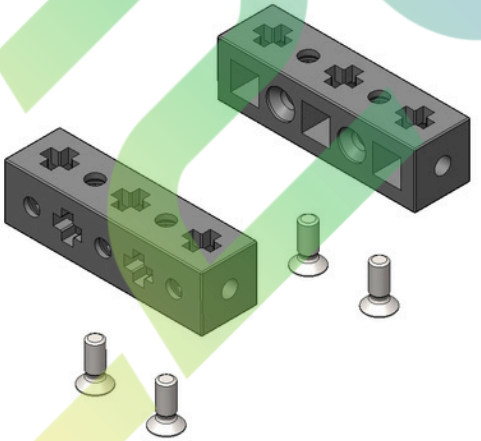
First, lay out your materials from Bag C.



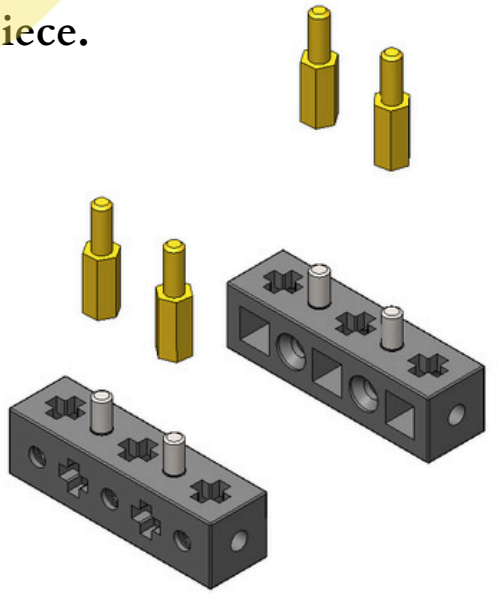
Start with the <u>shortest</u> screws first.

Set the block pieces up in this orientation.

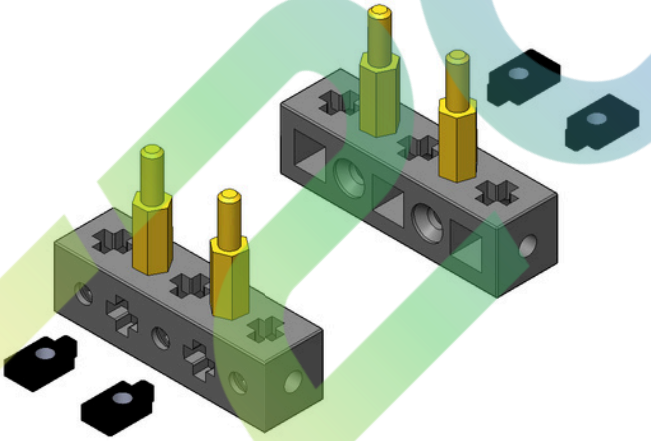
Take two of the short screws and push them through the square shaped holes.



Take two spacers and fasten them onto the block piece.

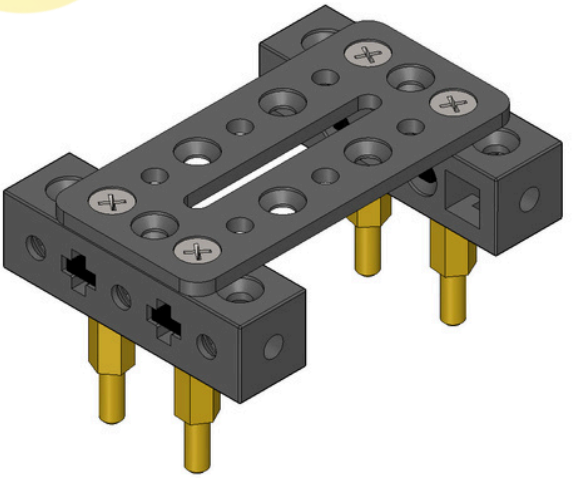


Take two black inserts for each block and slot them in horizontally.

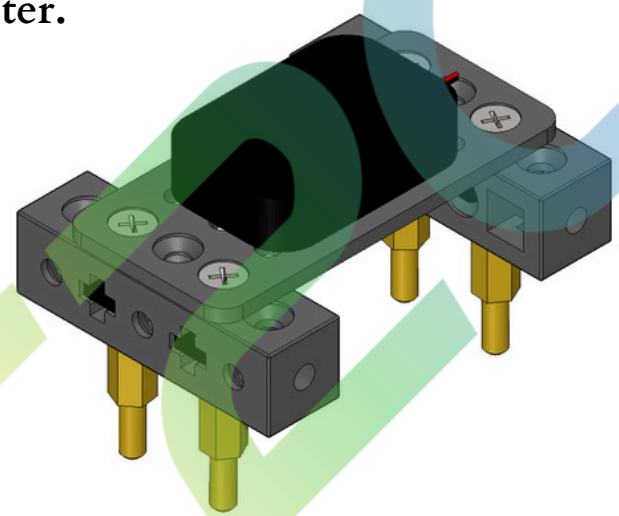


Find the four middle length screws.

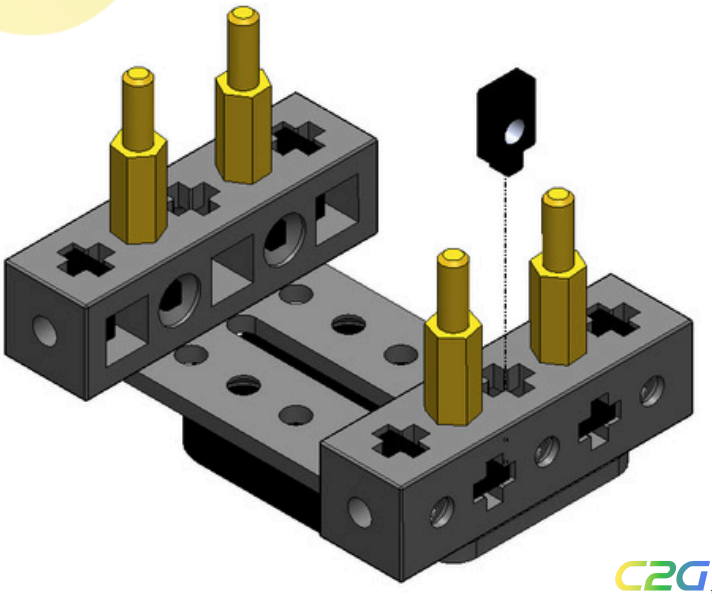
Attach the plate to the assembled bricks.



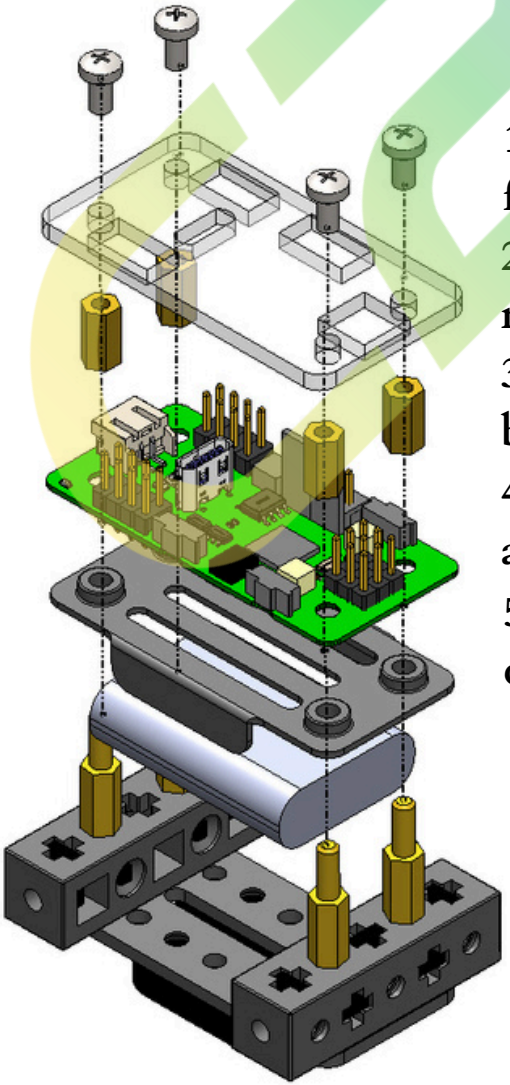
Next using bag C+ and G attach the MP3 Adapter.



Flip the section and insert one black insert it the center plus of the brick horizontally.



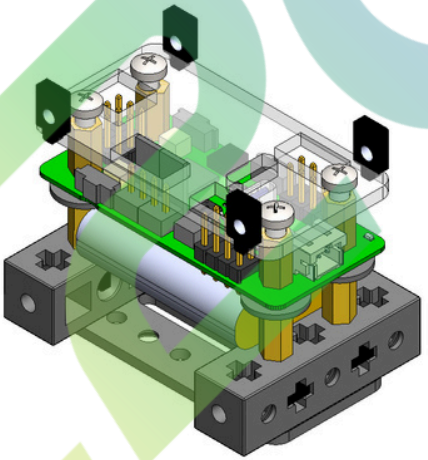
Using your C2G mini box, assemble the microcontroller on top of the holder. Complete the following steps starting with number one on the bottom.



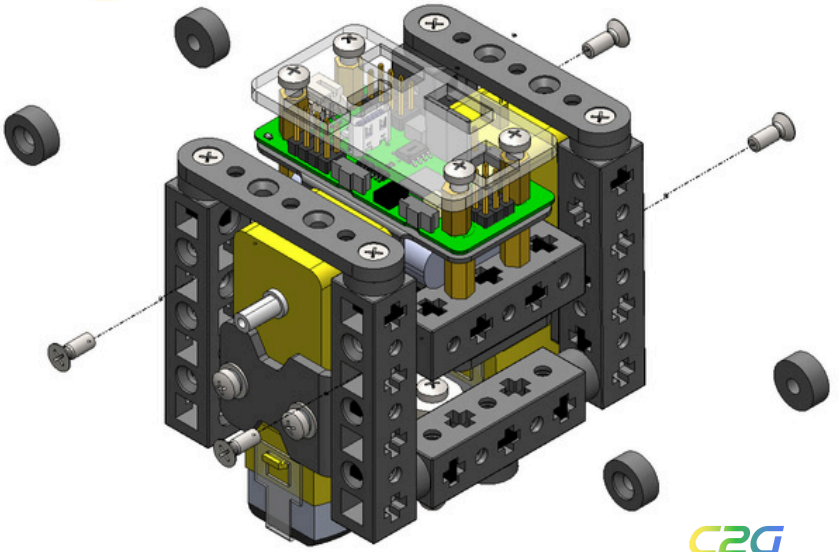
1.The battery goes on first.
2.Then stack the microcontroller.
3.Then screw on the four brass spacers.
4.Peel and line up the acrylic board.
5.Screw in all four corners to secure.

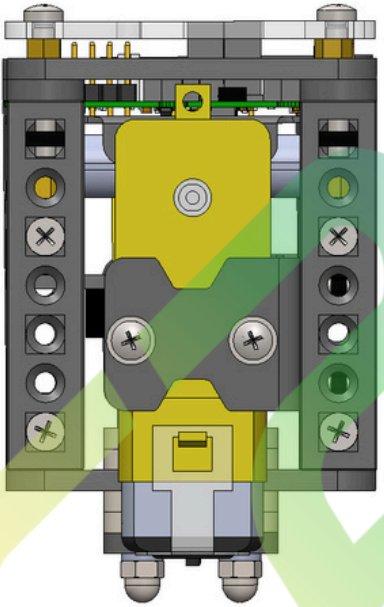
Step 6: Attaching the Microcontroller

Insert four black spacers into all four corner crosses (+) vertically.

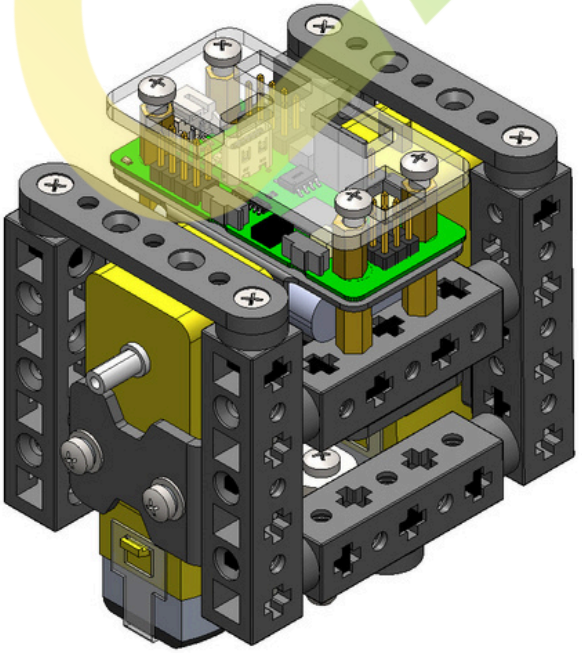


Insert circular spacers between motor mounts and microcontroller, secure with counter-sunk screws.Repeat for all corners.





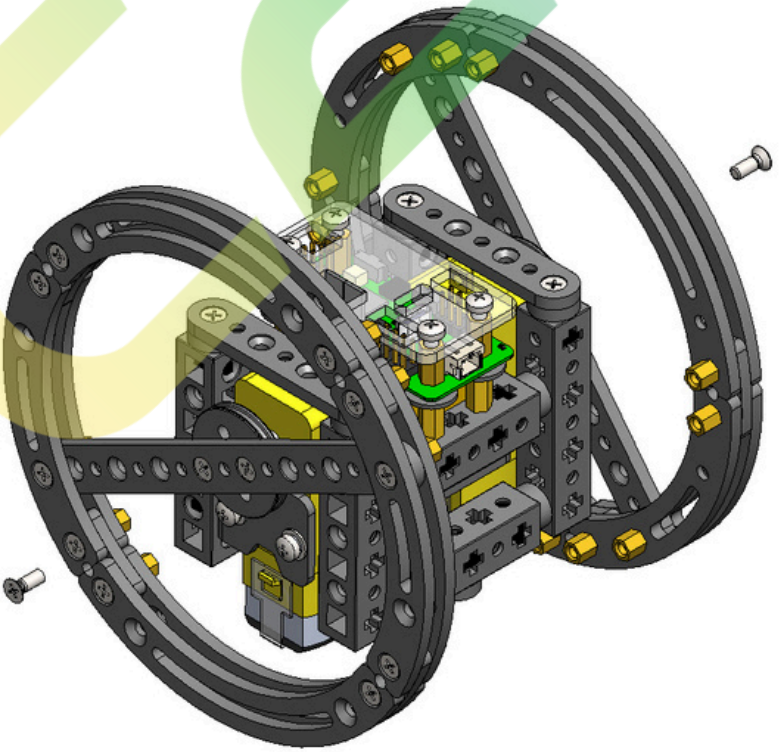
Ensure the screws are inserted and lined-up with the second square hole on the vertical motor mount bricks



Final body assembly should appear as so.

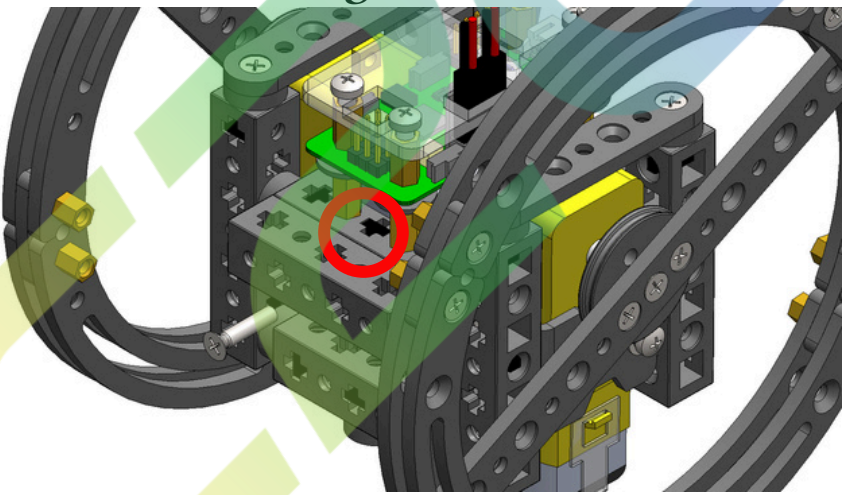
Step 7: Assembling Dynamo

Line up your motor axle to your wheel, use the last screw from the wheel assembly ag top secure the wheels to the chassis.

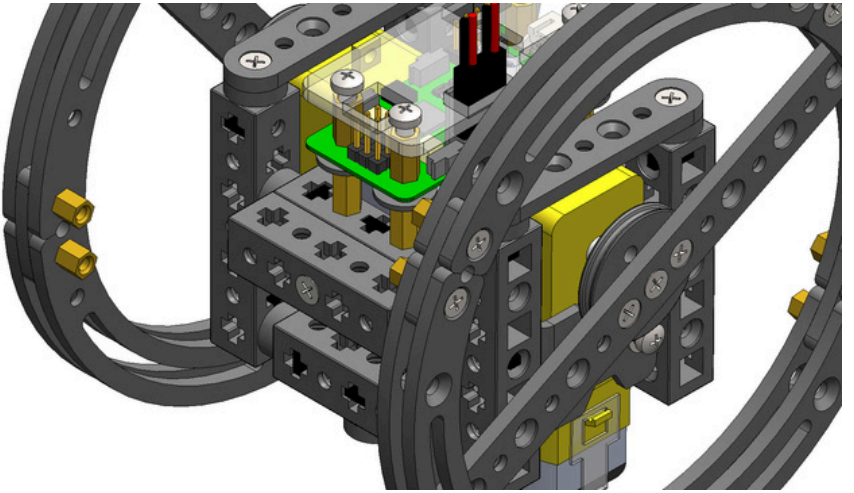


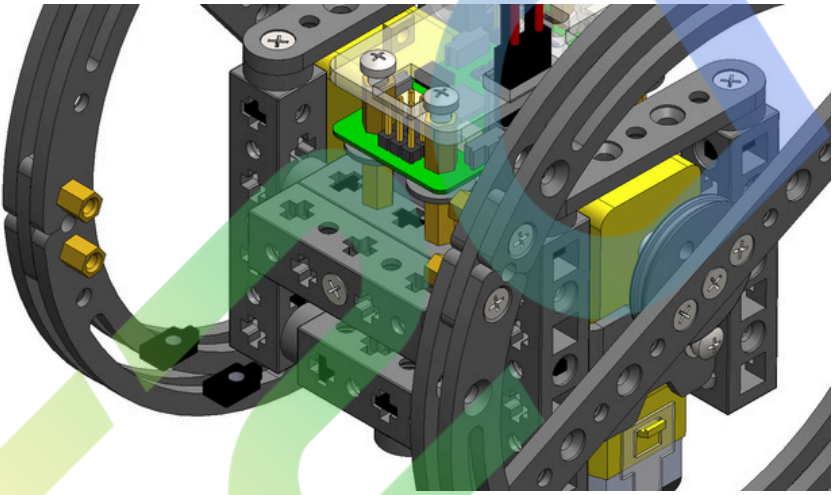
Step 8: Attaching speaker and Mp3 Adapter

Use bags C+ and G

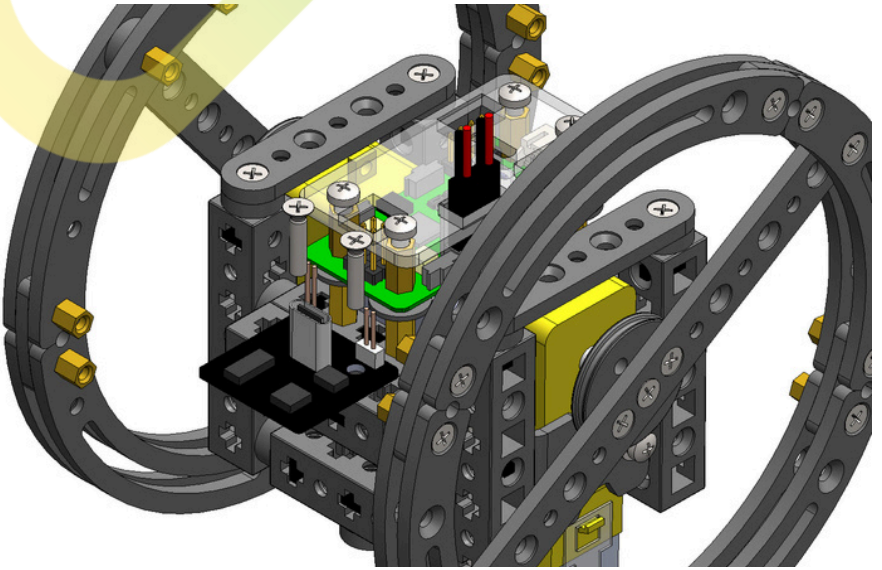


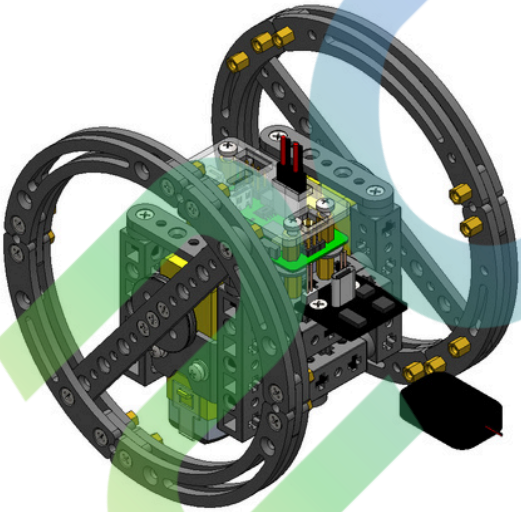
Grab the additional brick and longest counter sunk screw to secure via the center black insert



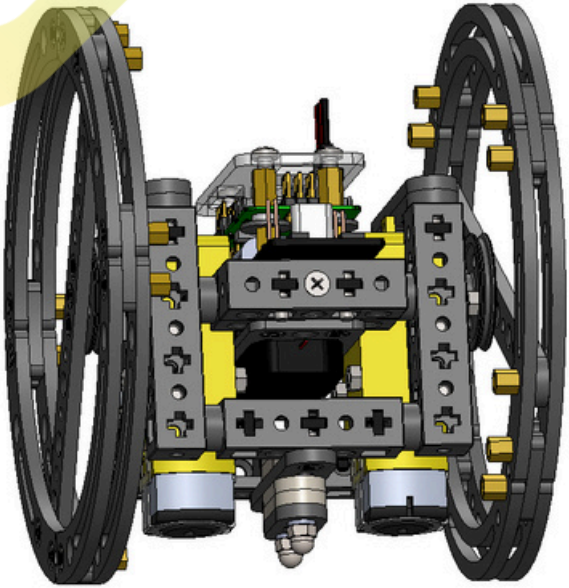


Insert two more black inserts and use the two shorter counter sunk screws to secure the MP3 adapter to the brick





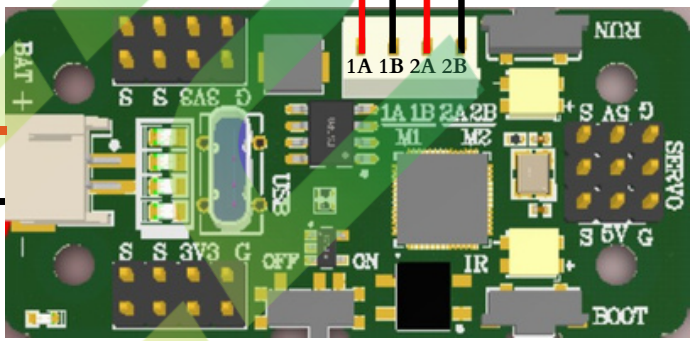
Grab the speaker from the bag, peel the paper revealing the adhesive side and stick it in the gap of the chassis on the bottom side of the microcontroller.



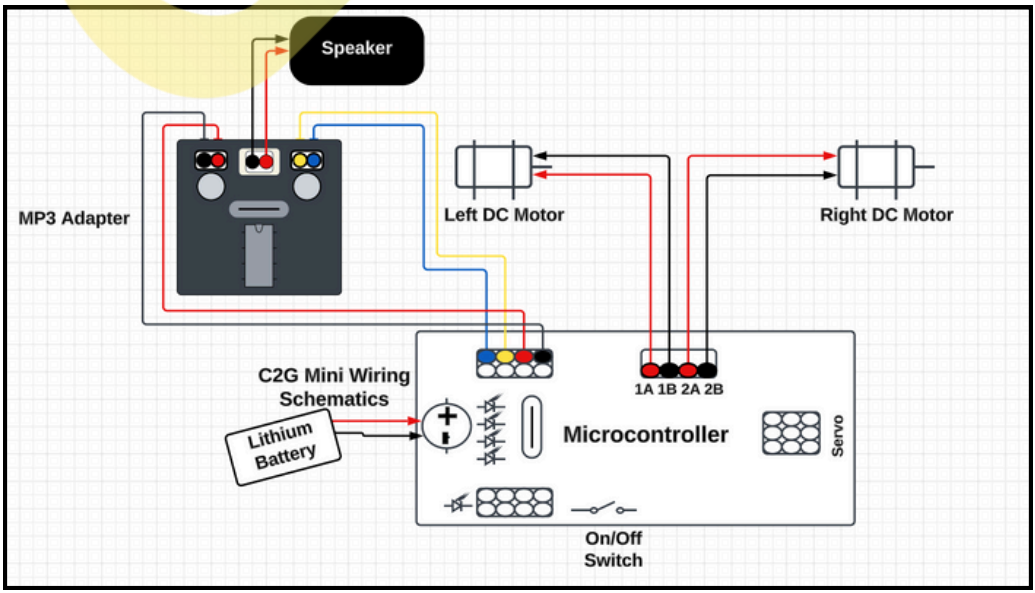
How to wire the robot?

1B: Black wire of left motor
1A: Red wire of left motor

2A: Red wire of right motor
2B: Black wire of right motor



Lithium Battery Wiring



Congratulations on completing the Dynamo build!