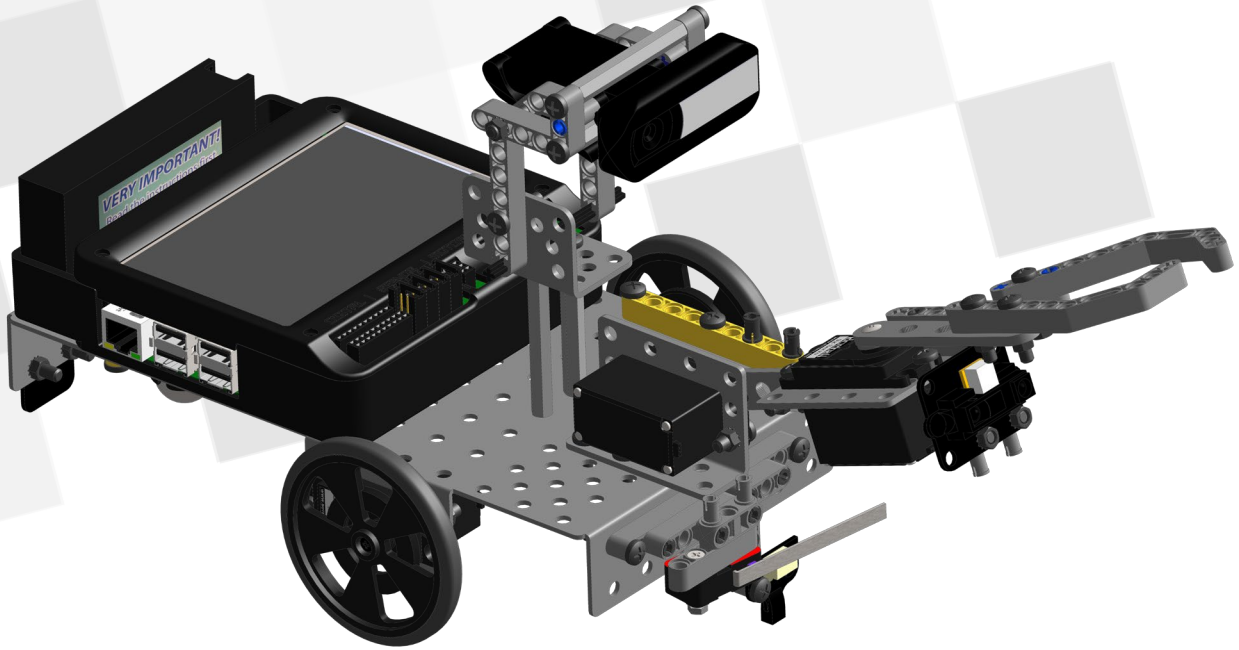
KIPR Robot
Wombat Controller Robot

Please go ahead and follow the slides to complete the assembly of your robot



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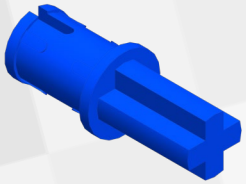
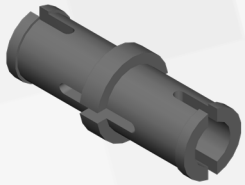
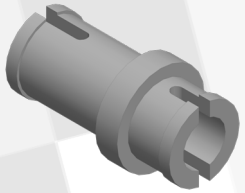


Axel Pin

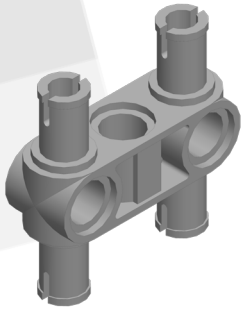


Pin

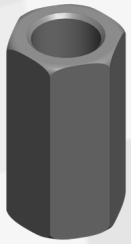
1.5 Pin



¾ Pin



H Pin

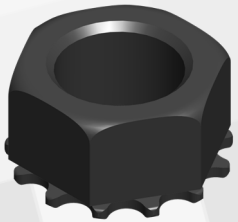


0.5” Standoff

1” Standoff

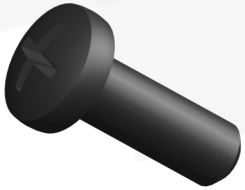
2” Standoff

3” Standoff



Nut

0.25” Bolt



0.5” Bolt

0.75” Bolt

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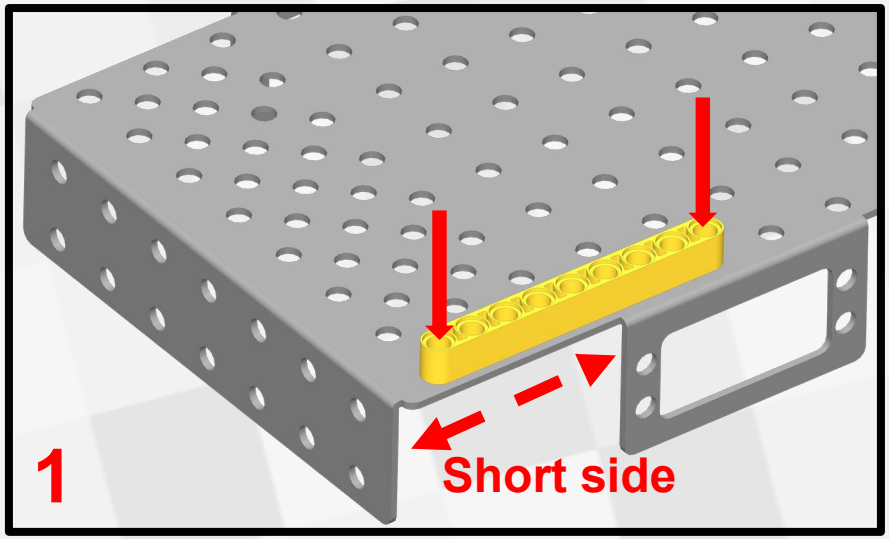
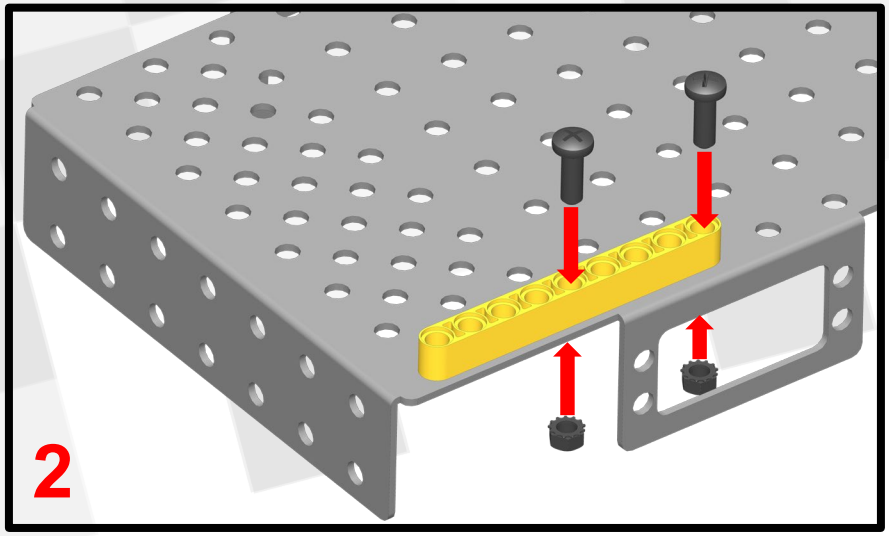
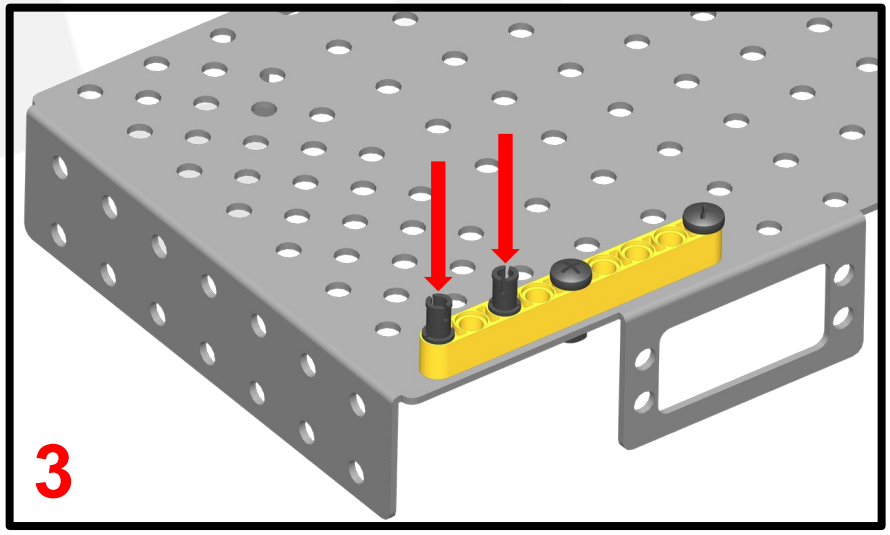


1. Line up a 1x9 Lego Liftarm on the short end of the chassis as shown.
2. Attach the piece to the chassis with two medium bolts and two nuts.
3. Add two black Lego pins to the end of the 1x9 Liftarm as shown.





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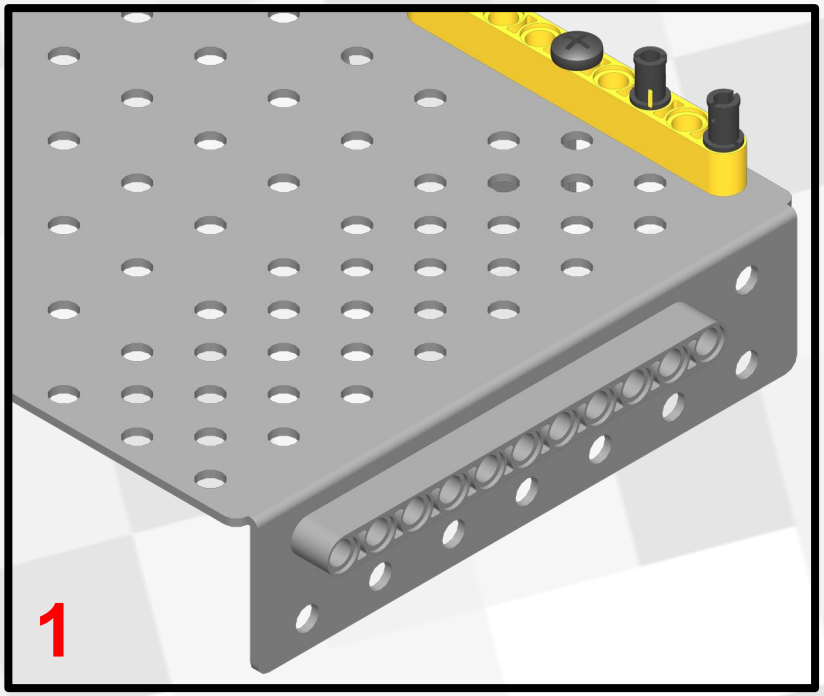

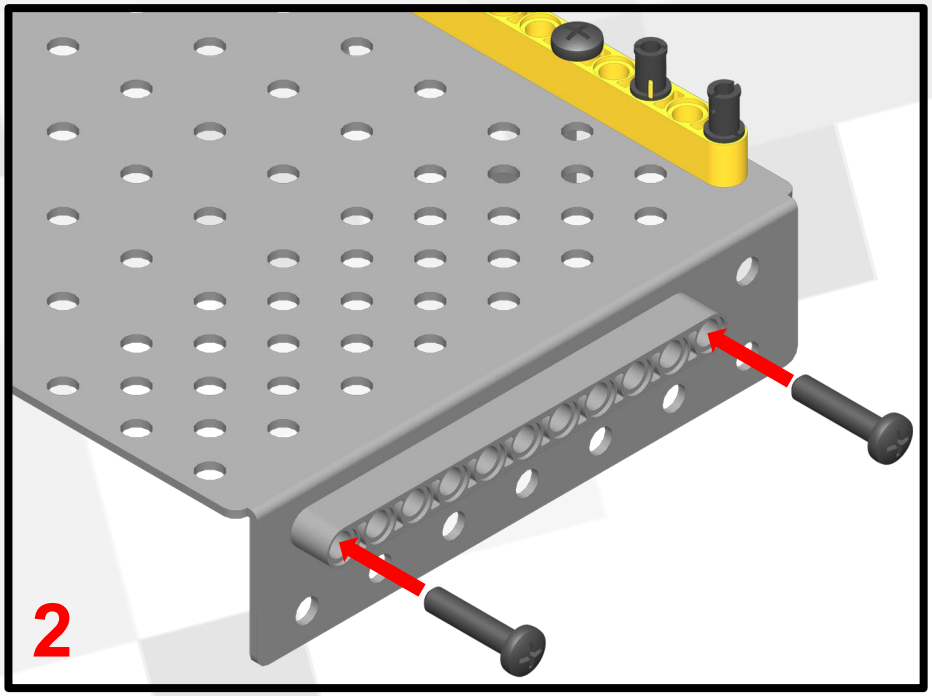

1. Line up a 1x11 Lego Liftarm on the short end of the chassis as shown.
2. Attach the piece to the chassis with two medium bolts and two nuts.

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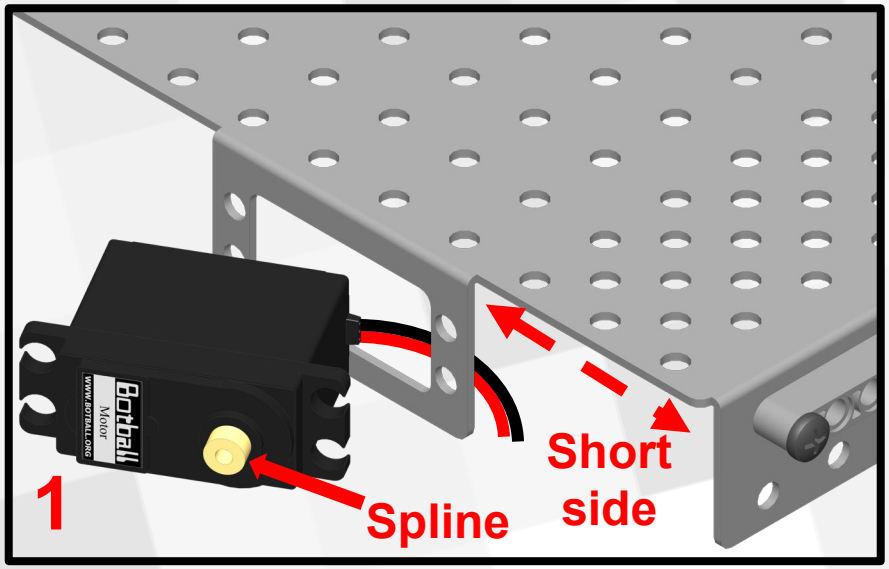
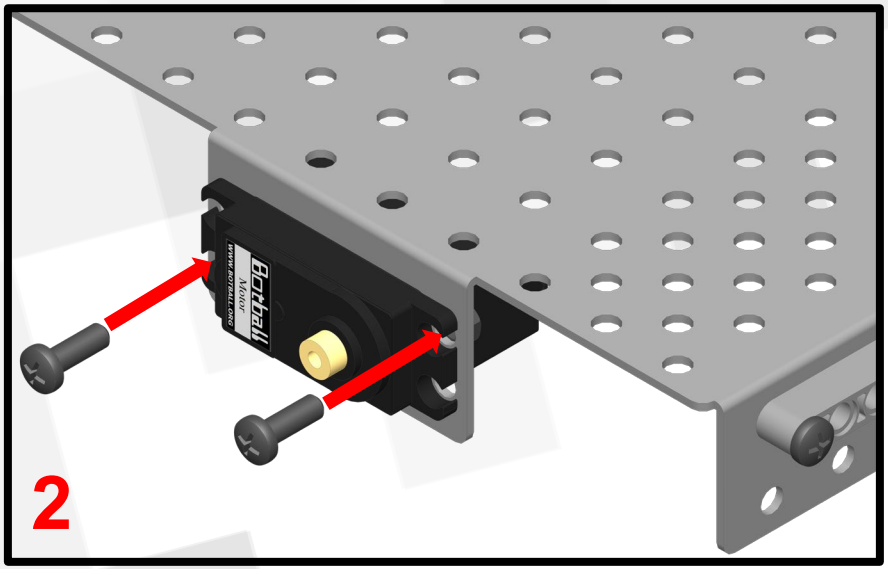
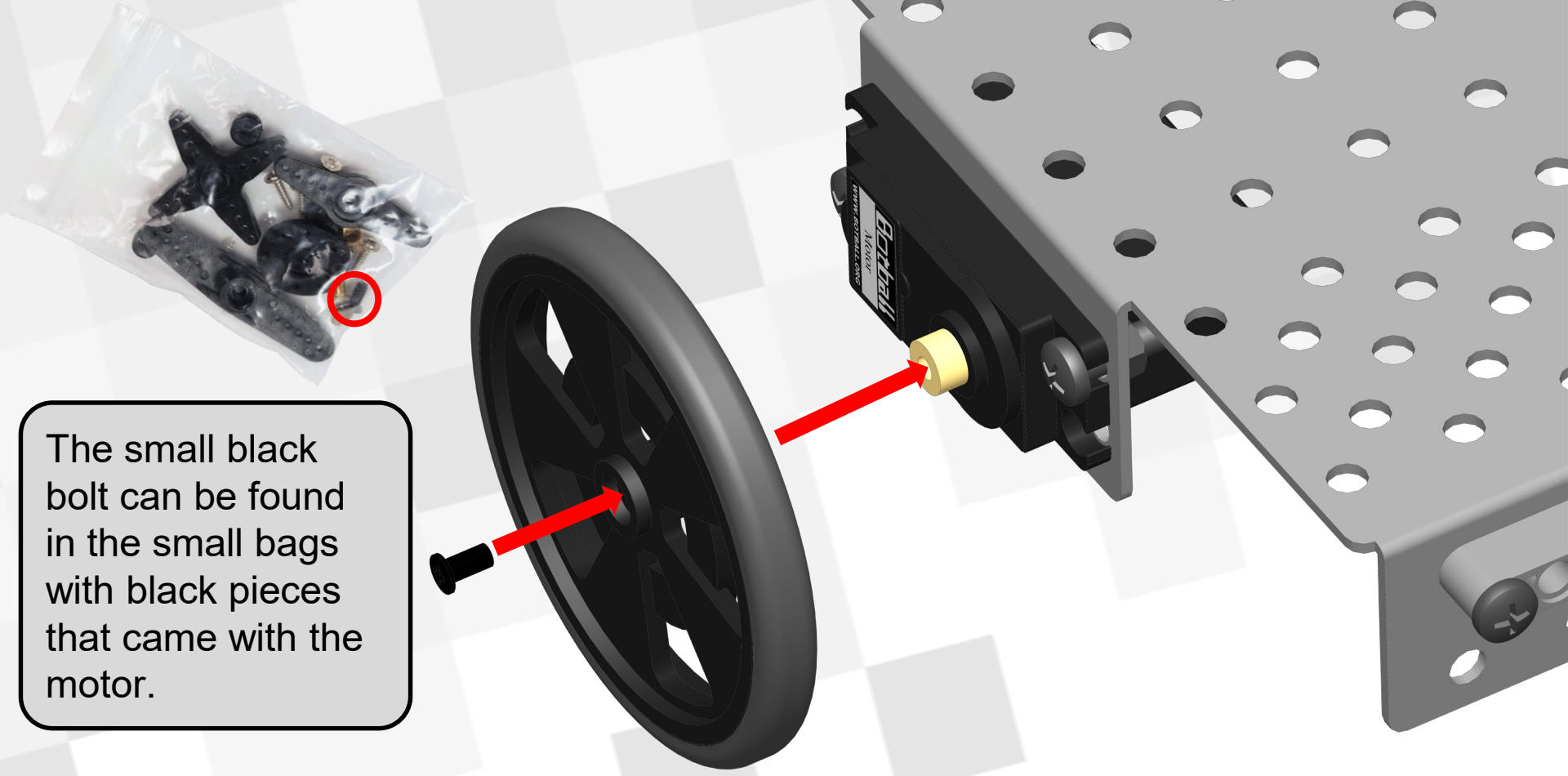




1. Line up a motor with the wire end going in first and the spline of the motor on the same side as the short end of the chassis.
2. Attach the motor to the chassis with two regular bolts and two nuts.



The small black bolt can be found in the small bags with black pieces that came with the motor.

1. With a screwdriver, slightly enlarge the hole in the wheel where the small black bolt will be inserted.
2. Attach the wheel to the spline of the motor with the small black bolt.
3. Repeat this and previous slide on other side of chassis.

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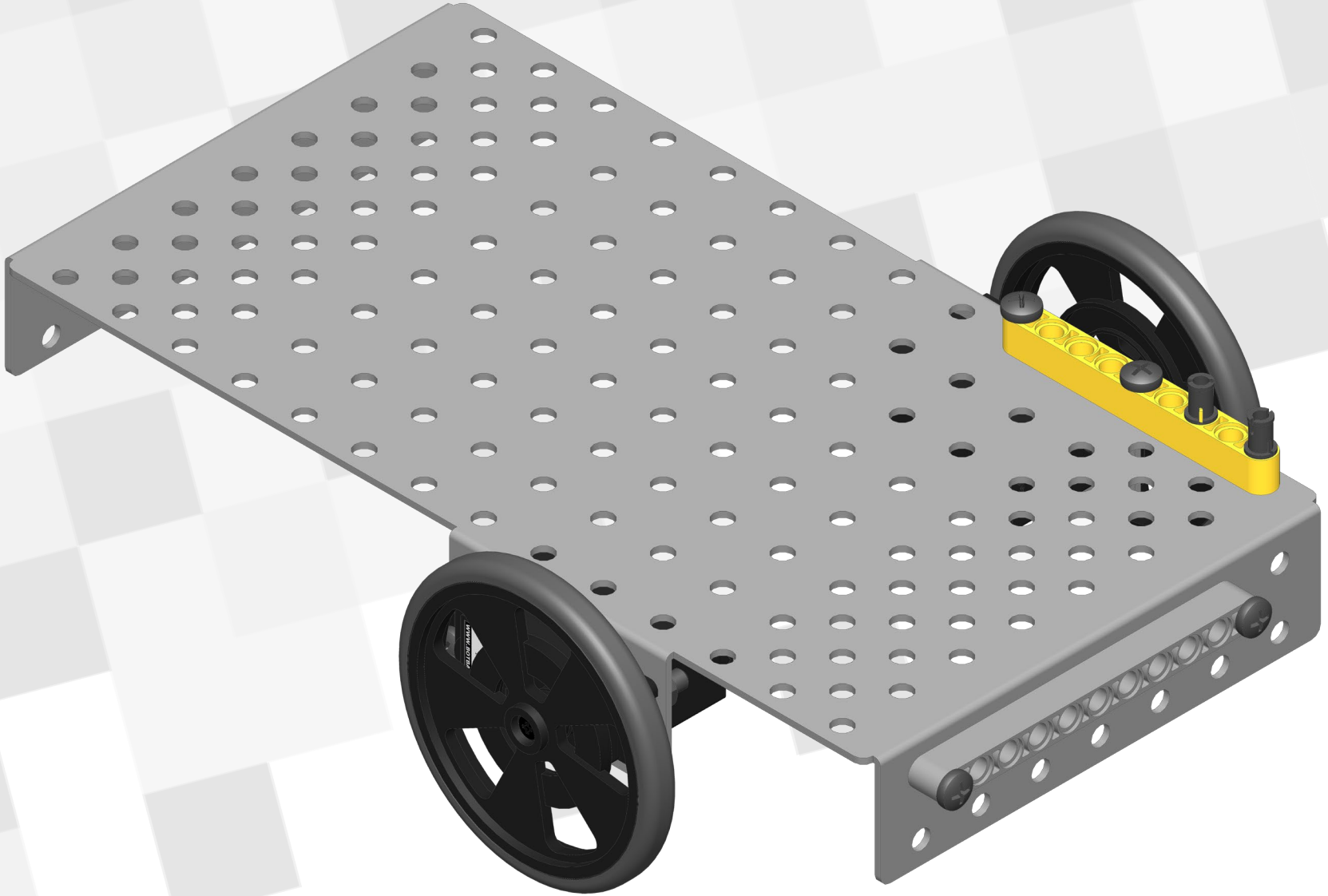

Your chassis should look like this now.

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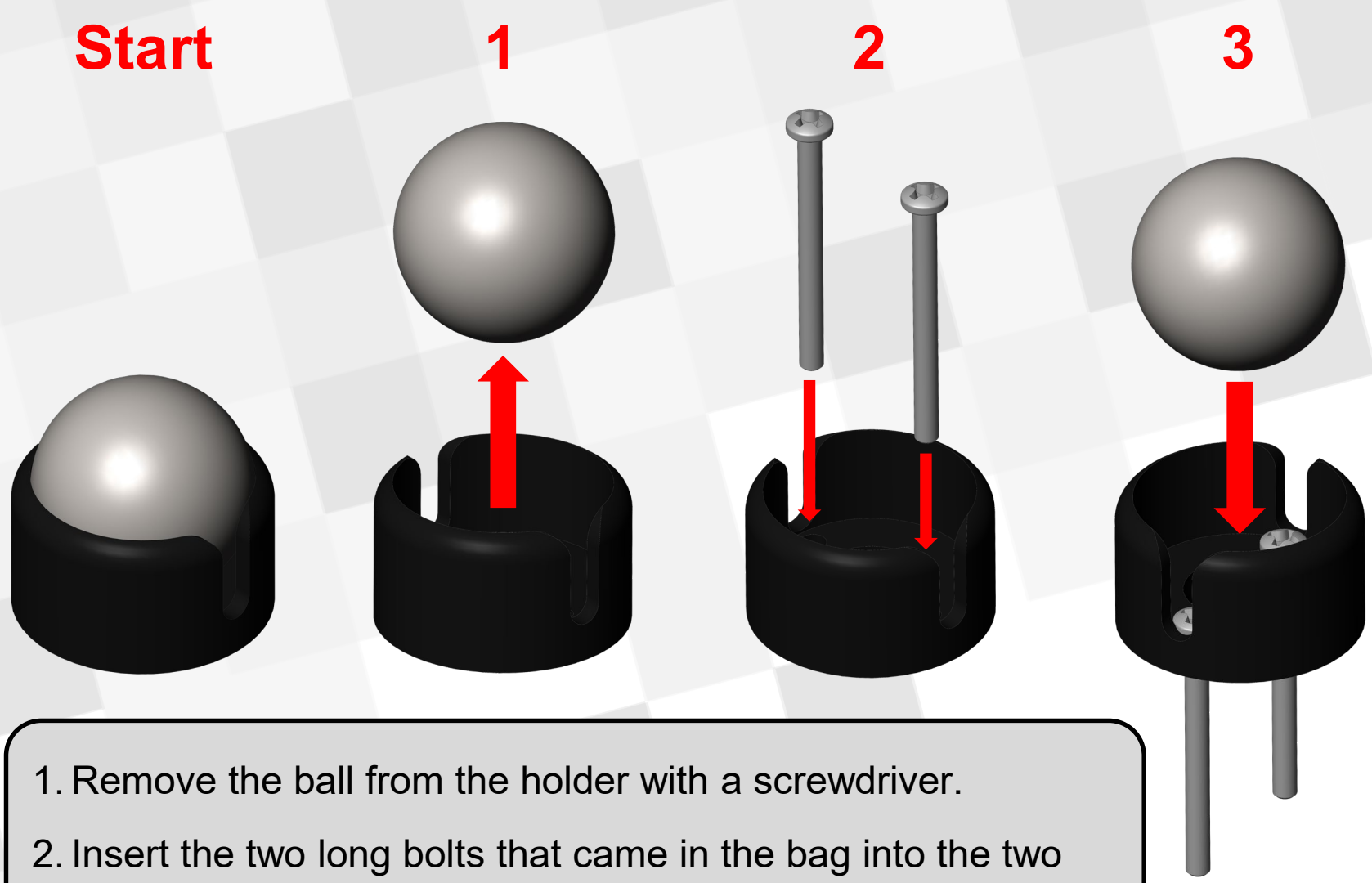

1. Remove the ball from the holder with a screwdriver.
2. Insert the two long bolts that came in the bag into the two small holes on the inside of the holder.
3. Replace the ball in the holder. This helps keep the bolts in while you are putting things together.

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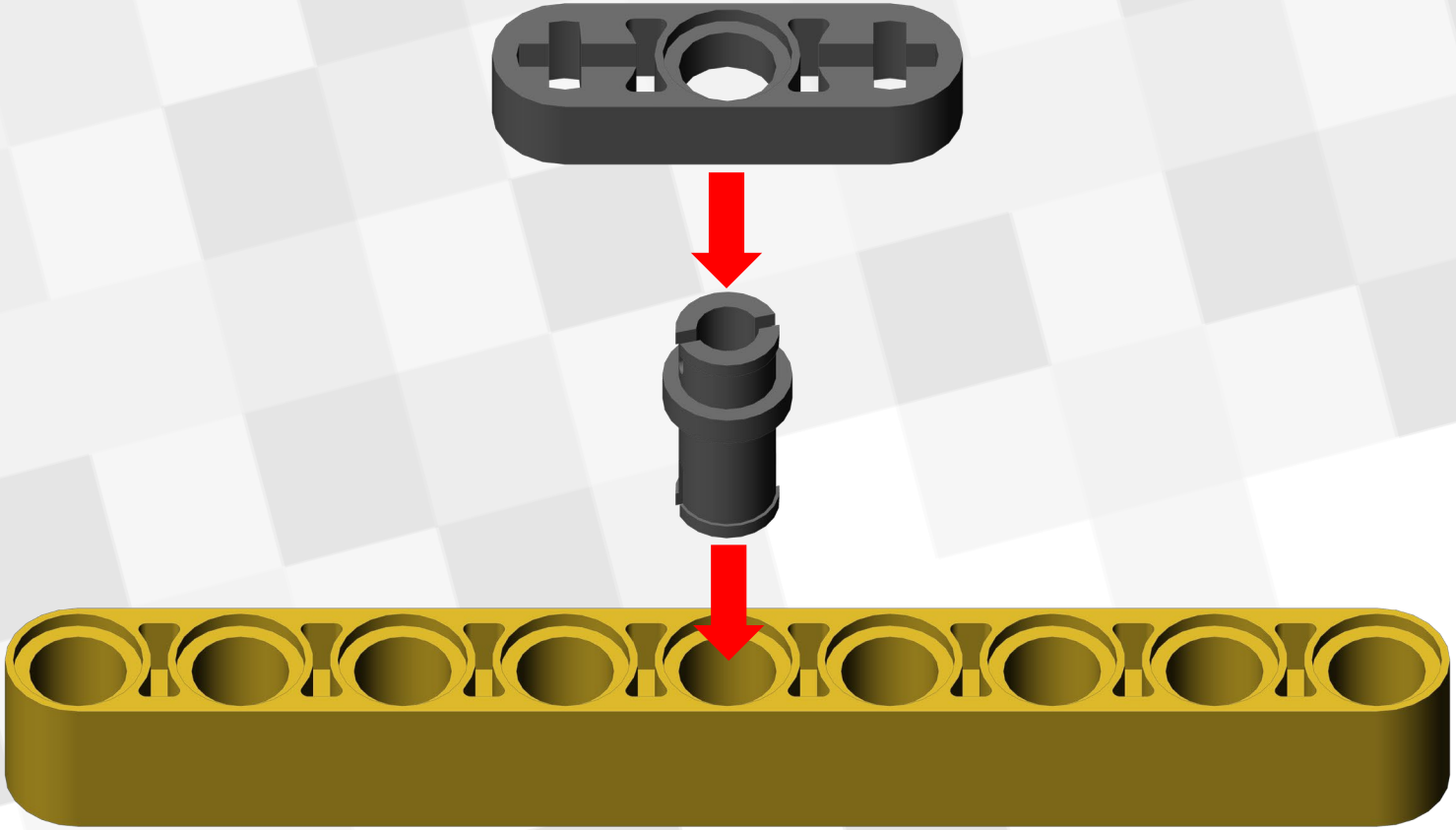

1. Take a 1x9 Liftarm, a ¾ Pin and a Thin 1x3 Liftarm.
2. Attach the Thin 1x3 Liftarm to the 1x9 Liftarm using the ¾ Pin as shown above.

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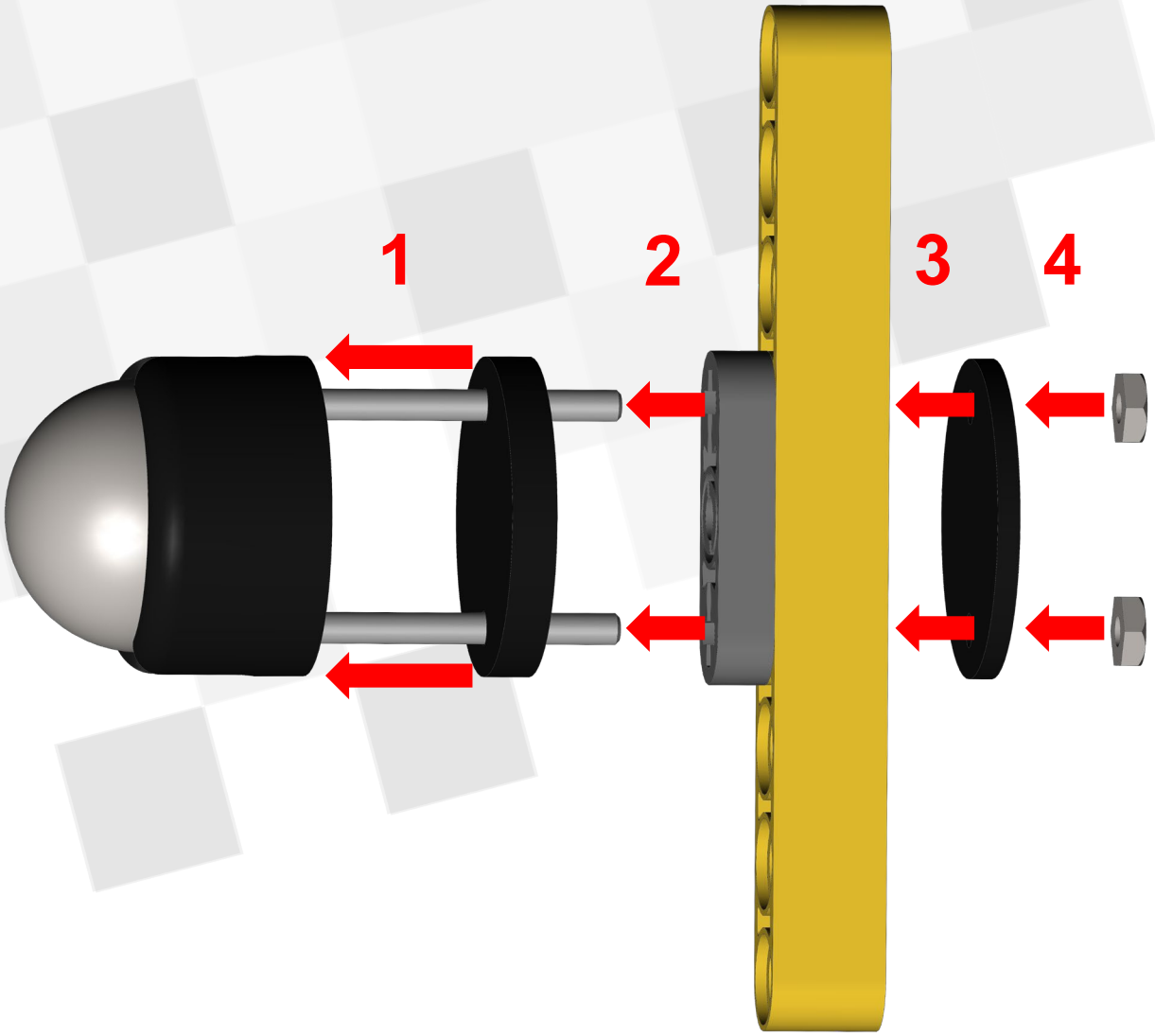
Get the small nuts and Thick and Thin Spacers out from the Caster bag.

1. Slide the Thick Spacer onto the Caster Bolts.
2. Slide the screws through the holes in the Lego.
3. Slide the Thin Spacer onto the bolts.
4. Secure all these pieces with the two small nuts.



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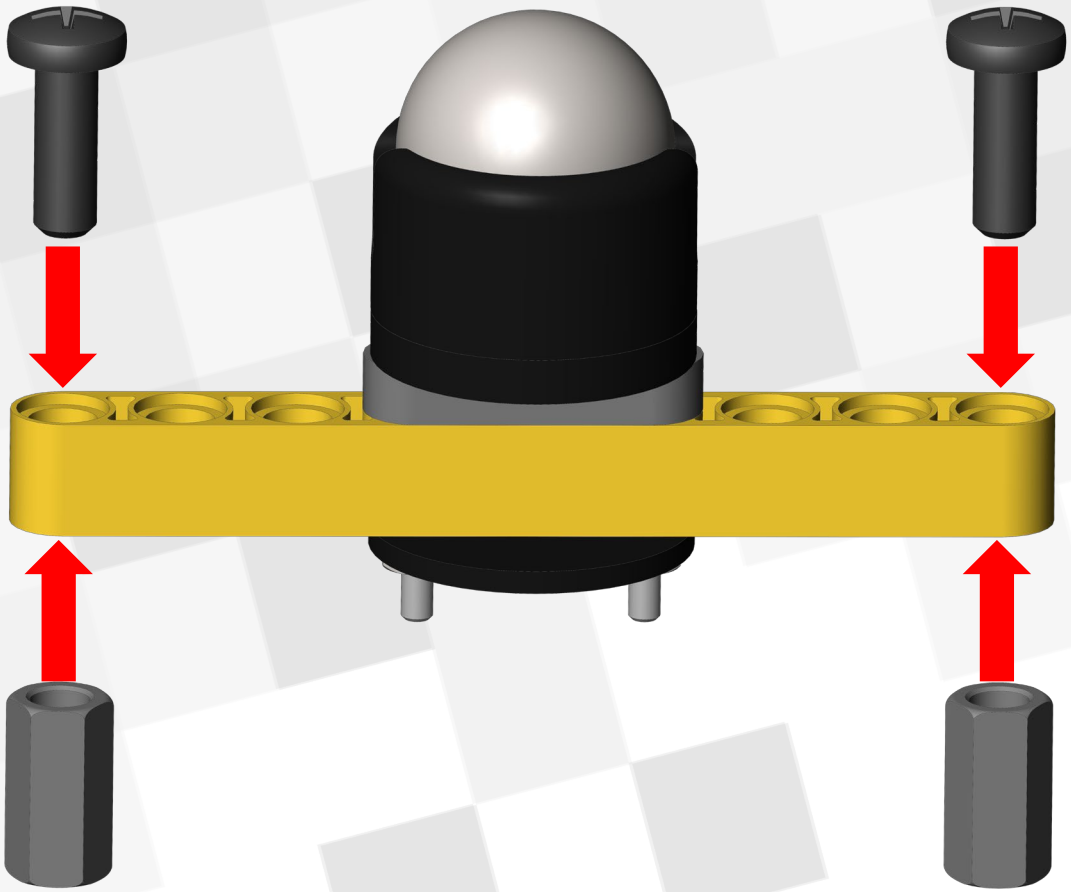

Attach two ½” Standoffs to the ends of the Lego piece as shown and attach with two medium bolts.

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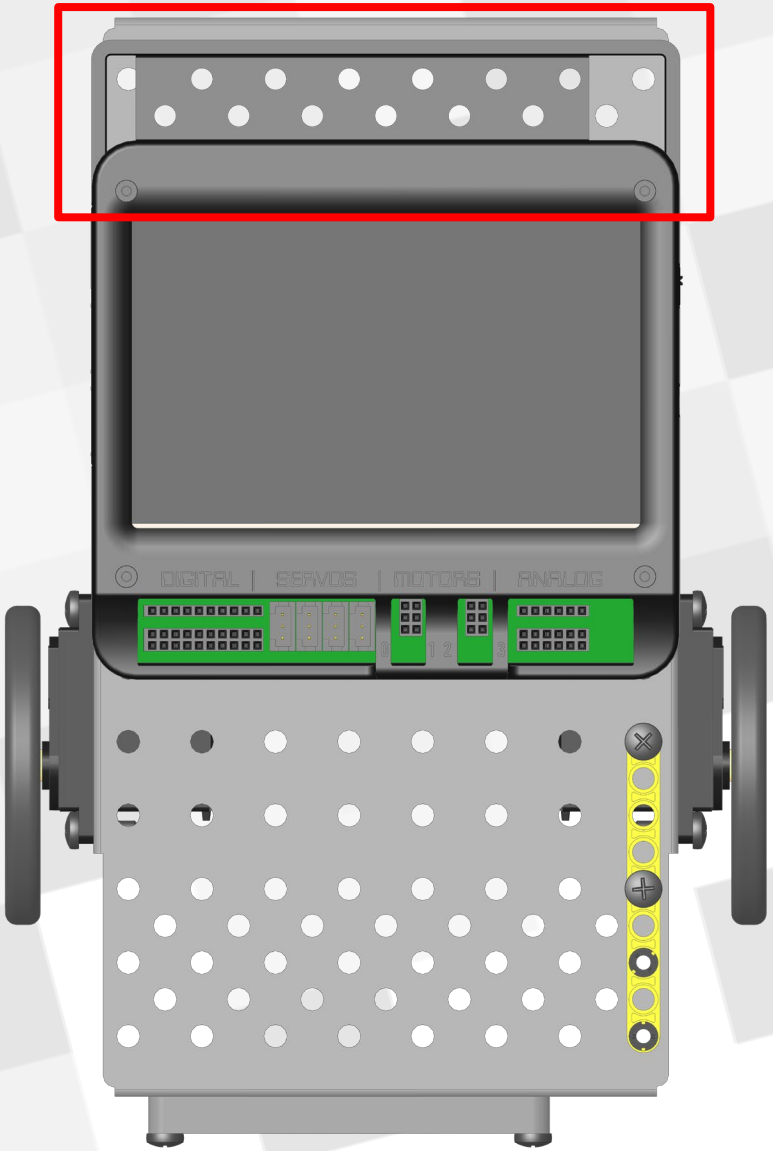

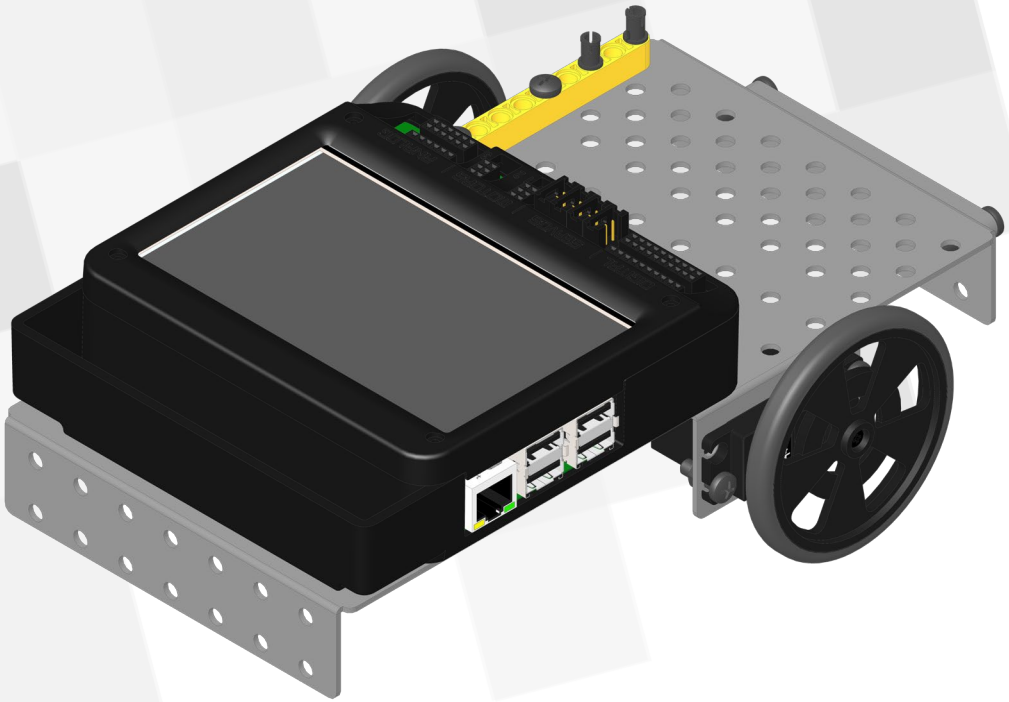

Line up the holes on the back of the Wombat with the holes on the back end of the chassis.

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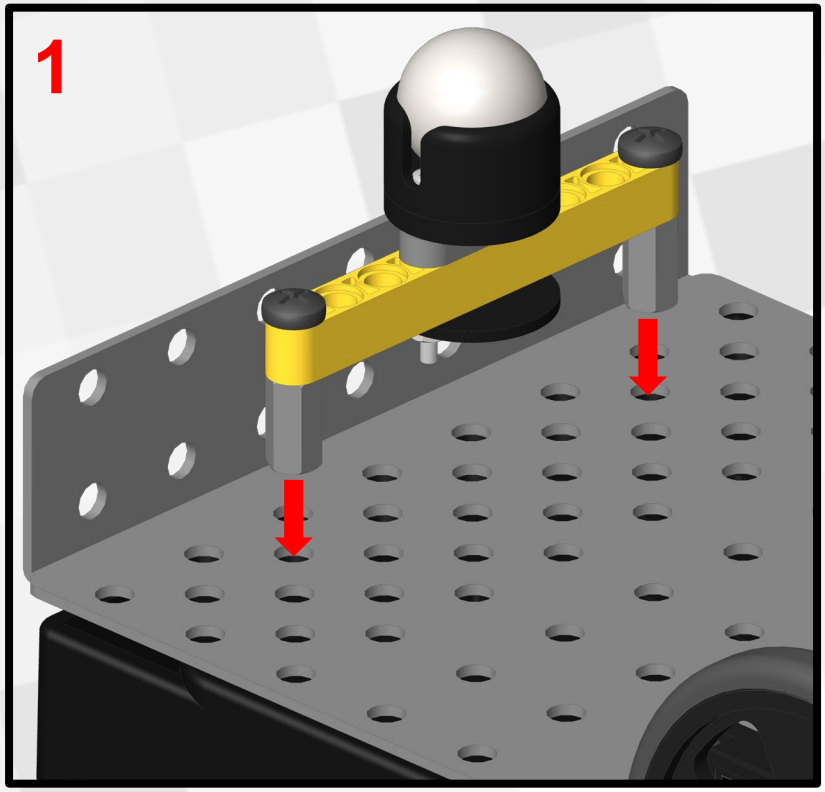

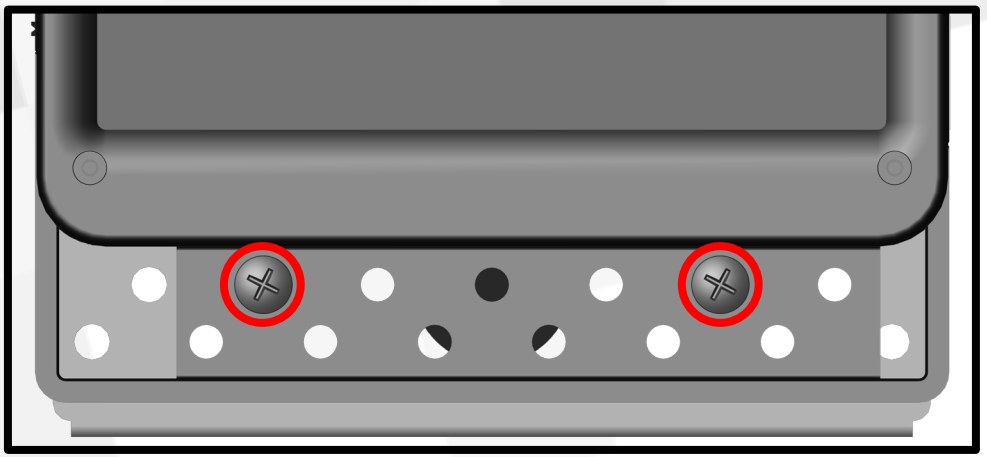

1. Line up the Caster Assembly with the holes on the back of the robot as shown.
2. Do this with the robot right side up, balanced on the Caster assembly.
3. Using two small bolts attach this to the Chassis.

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Slide the battery into the back slot of the Wombat case.

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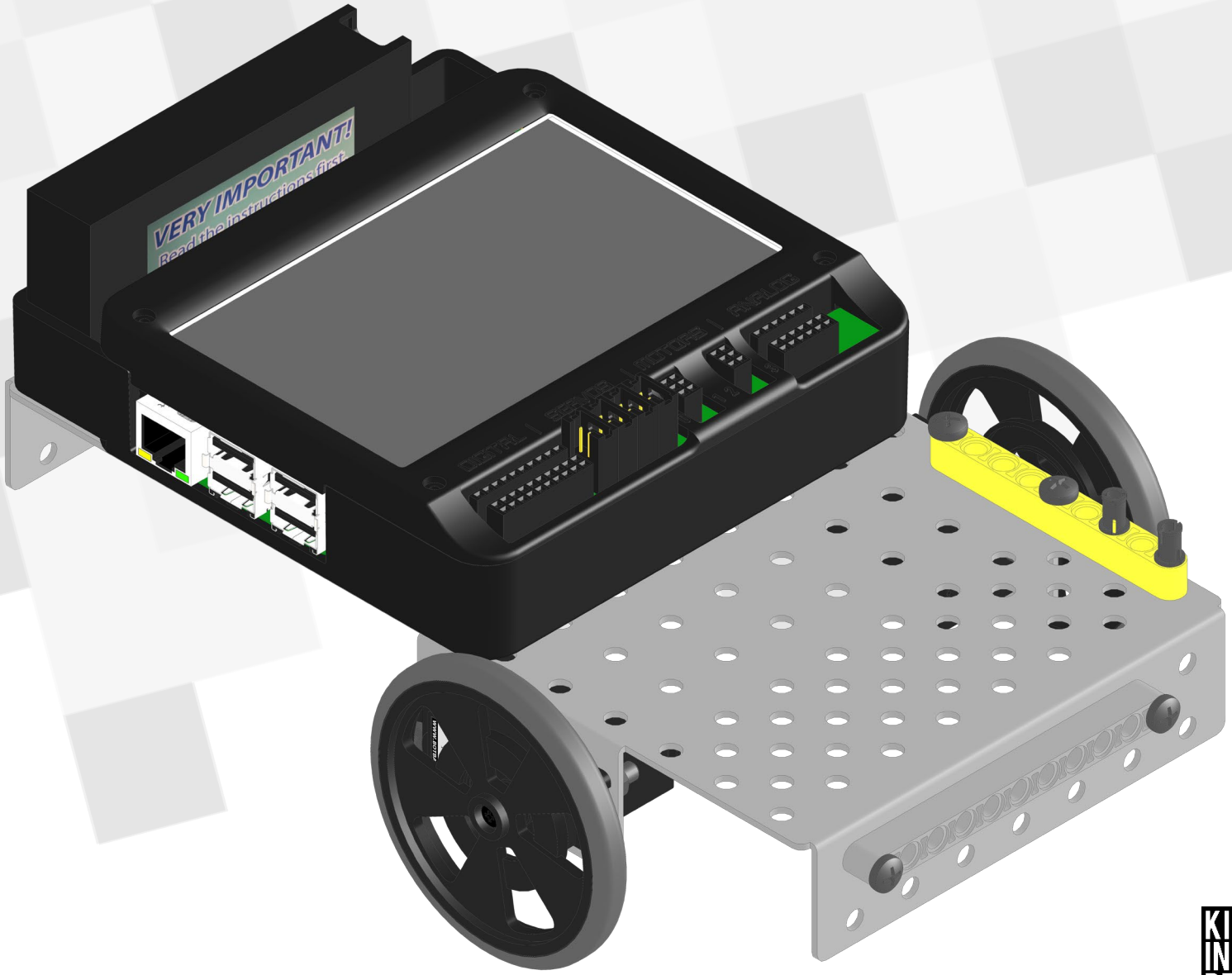
Basic Demobot Finished!



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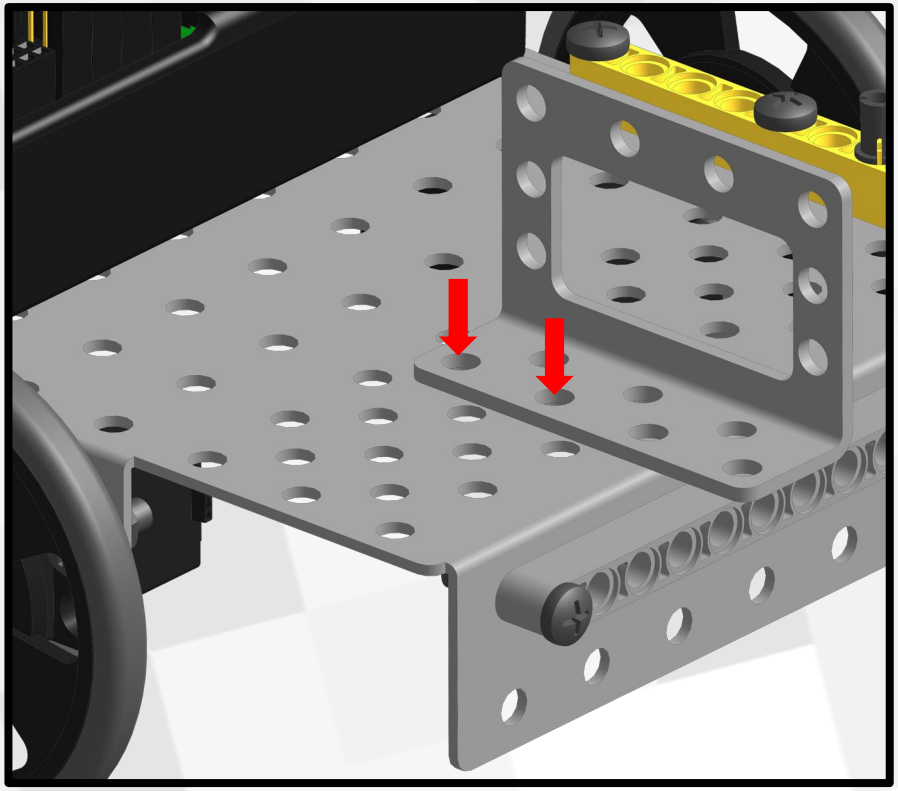

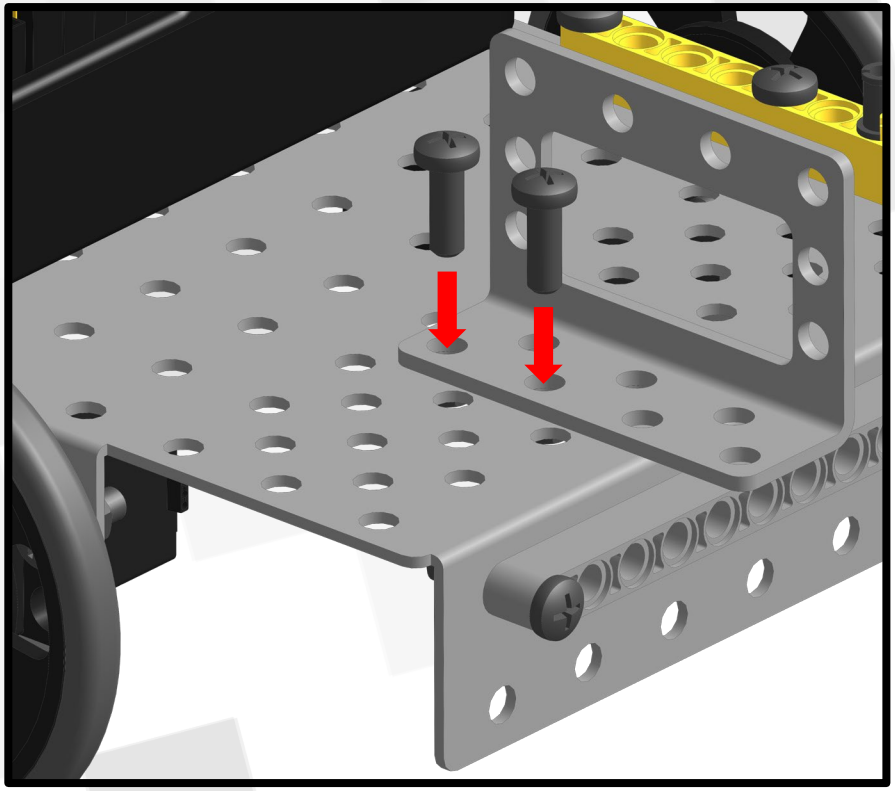

Line up a servo bracket as shown above then secure it to the Chassis with two medium bolts and two nuts.

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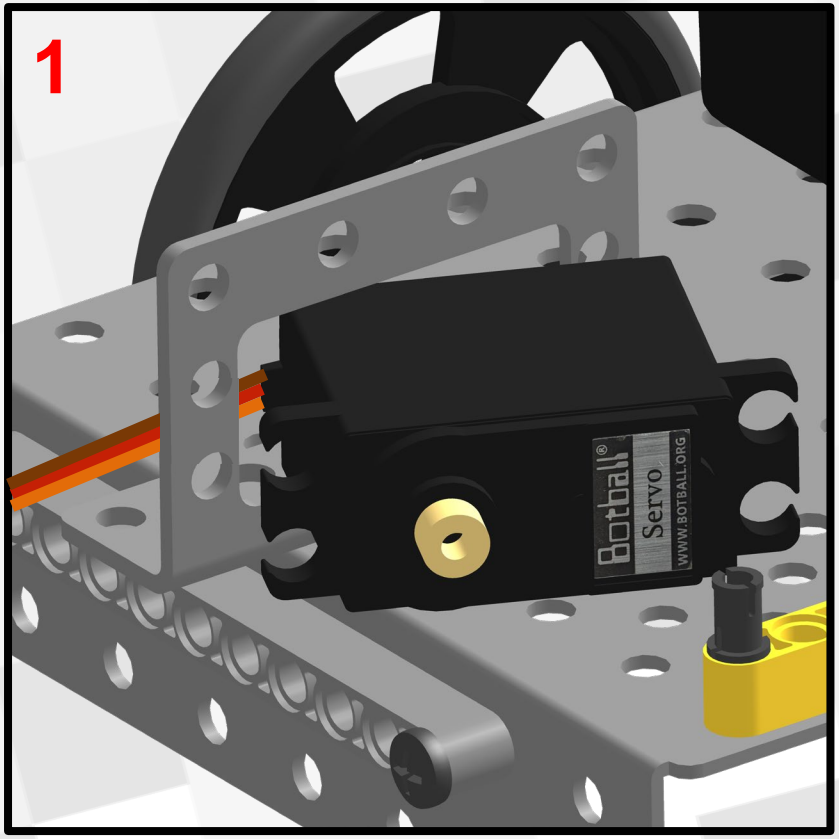

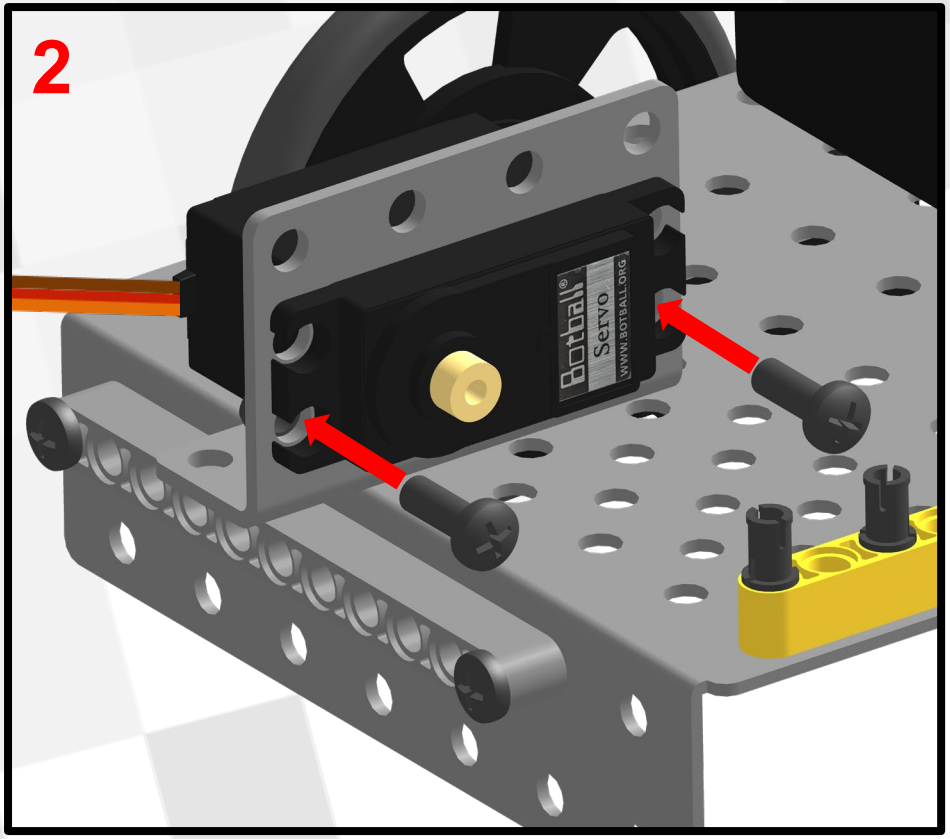

1. Slide a servo into the Servo Bracket, **wire end first**, with the spline towards the front of the robot.
2. Secure it to the Servo Bracket with two medium bolts and two nuts

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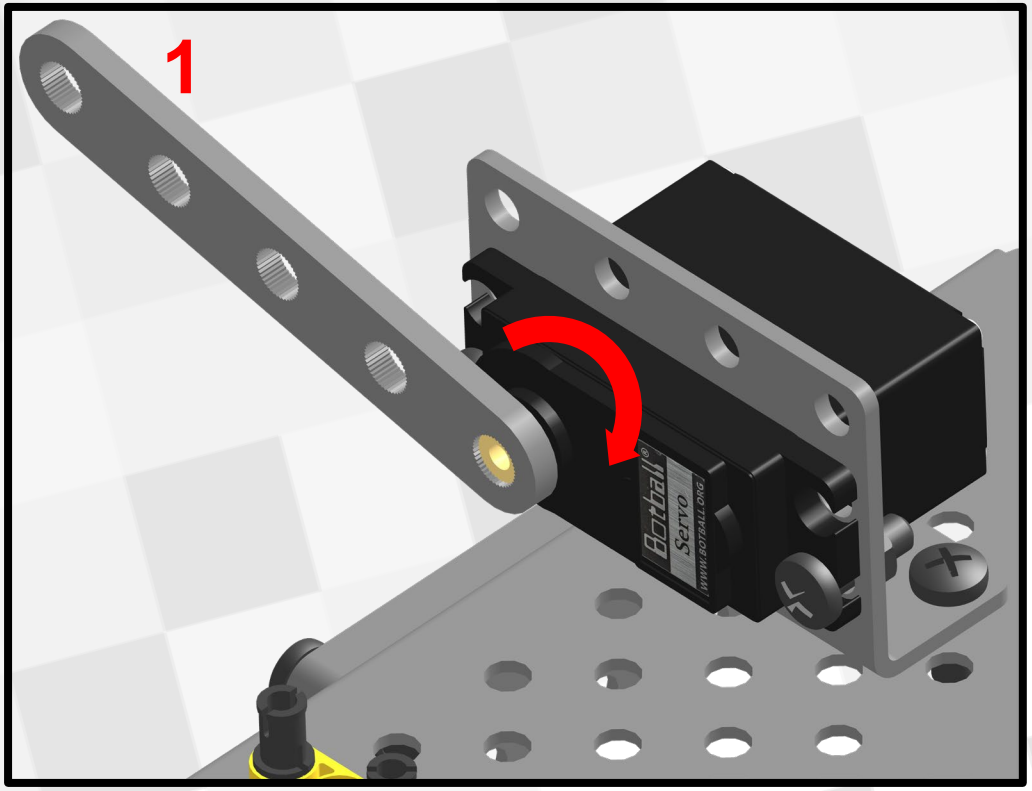

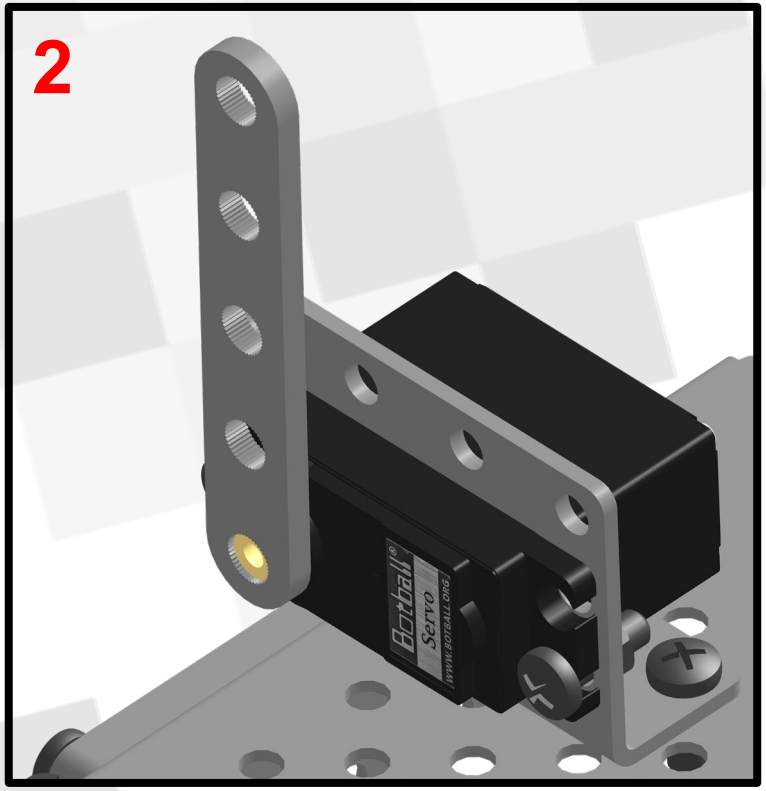

1. Place the 1x5 Servo Horn on the robot as shown.
2. Rotate the servo head with the 1x5 Servo Horn all the way towards the robot.
3. Repeat these steps until the servo can no longer turn.

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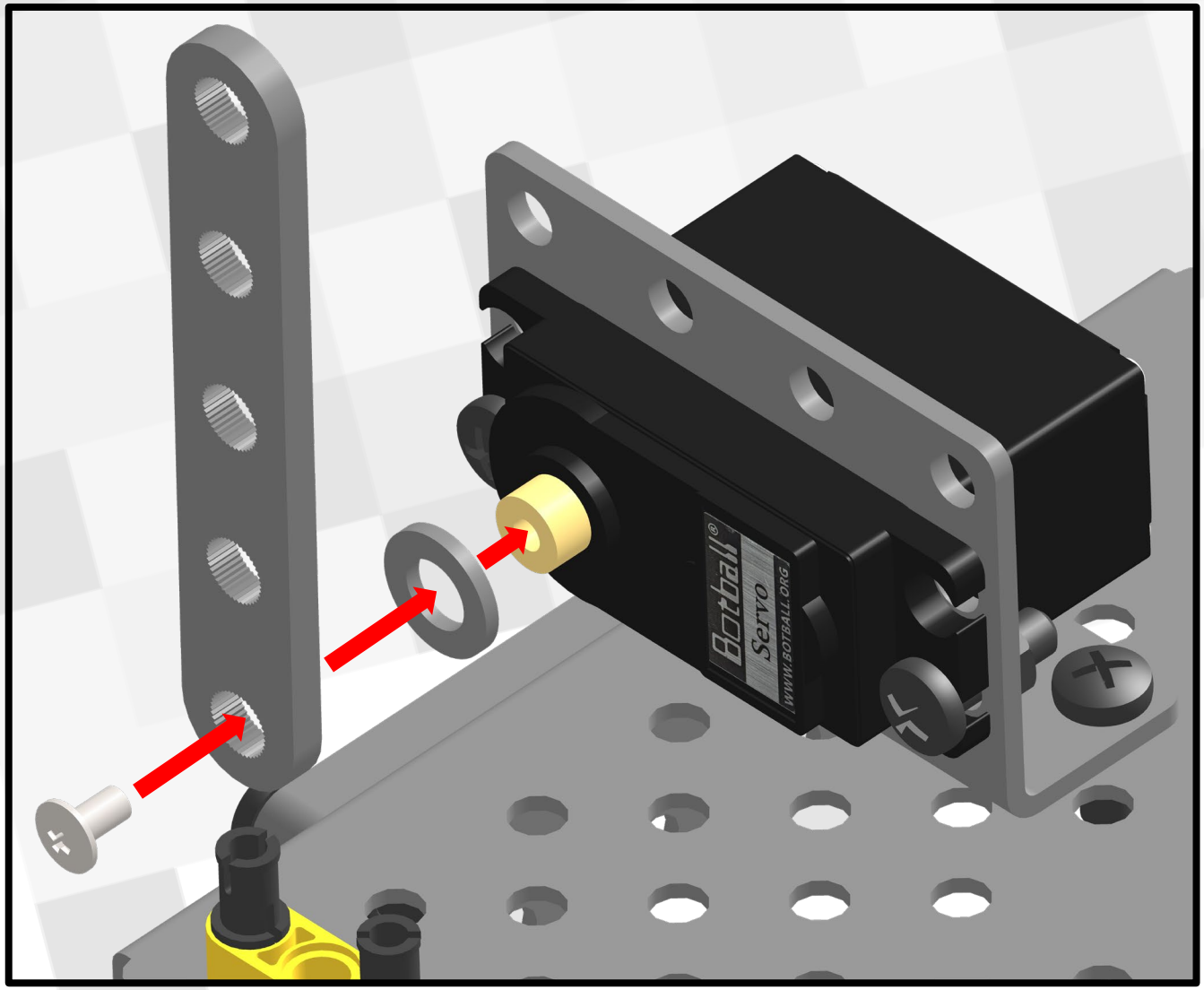

In the upright position Attach the 1x5 Servo Horn with a washer under it to the Servo with the small silver bolt that came in the bag with it.

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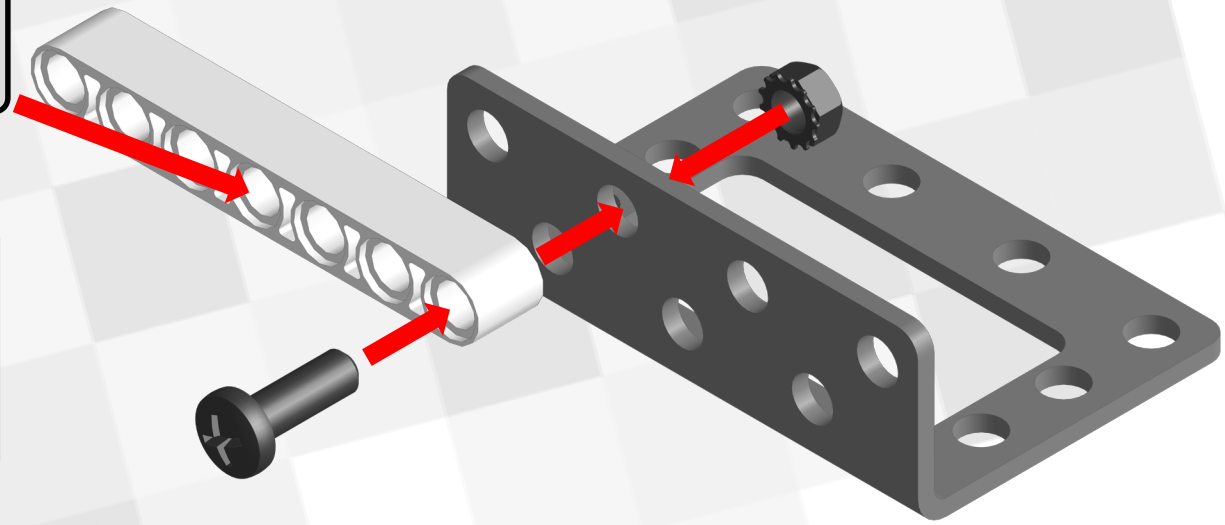
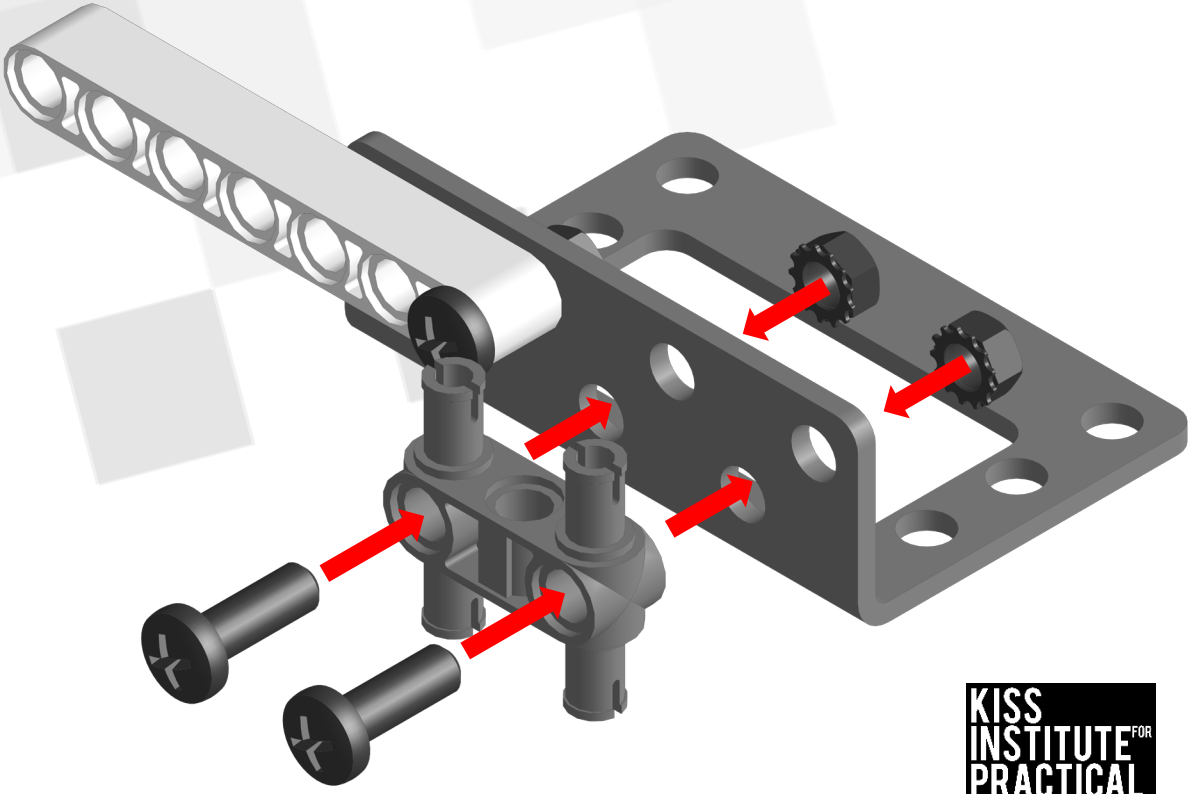
The other hole will be secured in a bit.

1. Attach the 1x7 Liftarm to a Servo Bracket as shown using a medium bolt and a nut.



2. Attach an H Lego piece to the bracket as shown using two medium bolts and two nuts.



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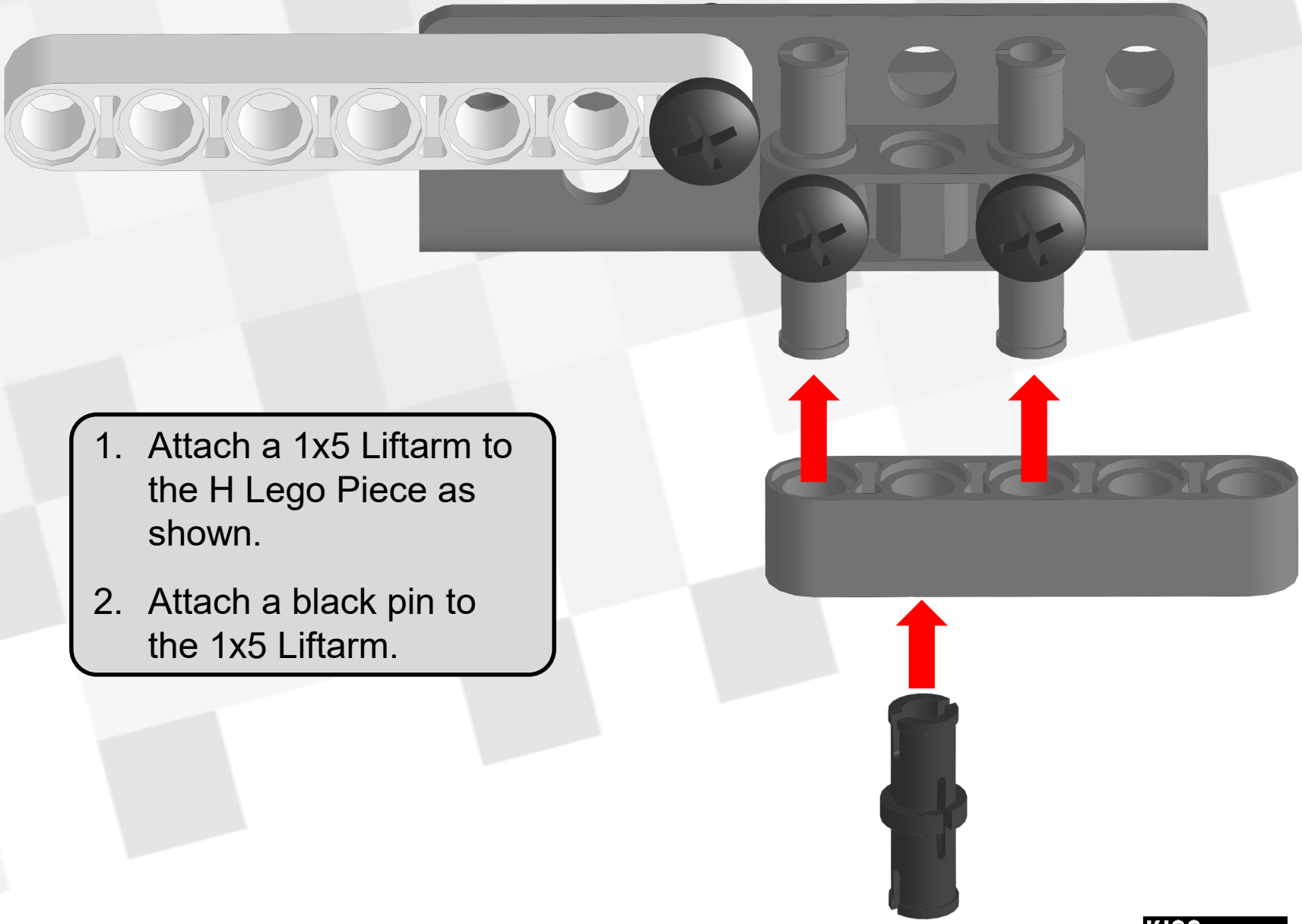
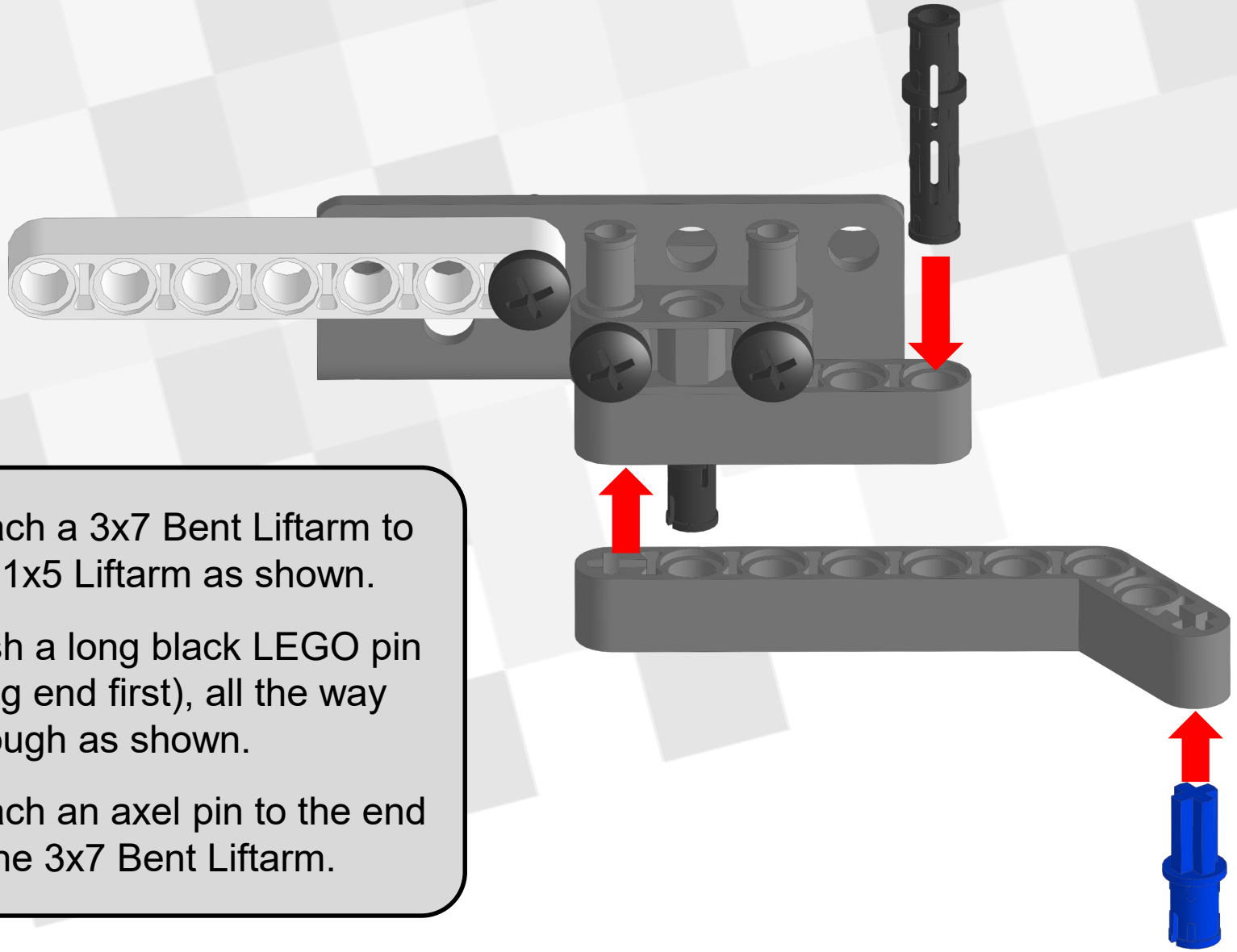


1. Attach a 1x5 Liftarm to the H Lego Piece as shown.
2. Attach a black pin to the 1x5 Liftarm.



1. Attach a 3x7 Bent Liftarm to the 1x5 Liftarm as shown.
2. Push a long black LEGO pin (long end first), all the way through as shown.
3. Attach an axel pin to the end of the 3x7 Bent Liftarm.

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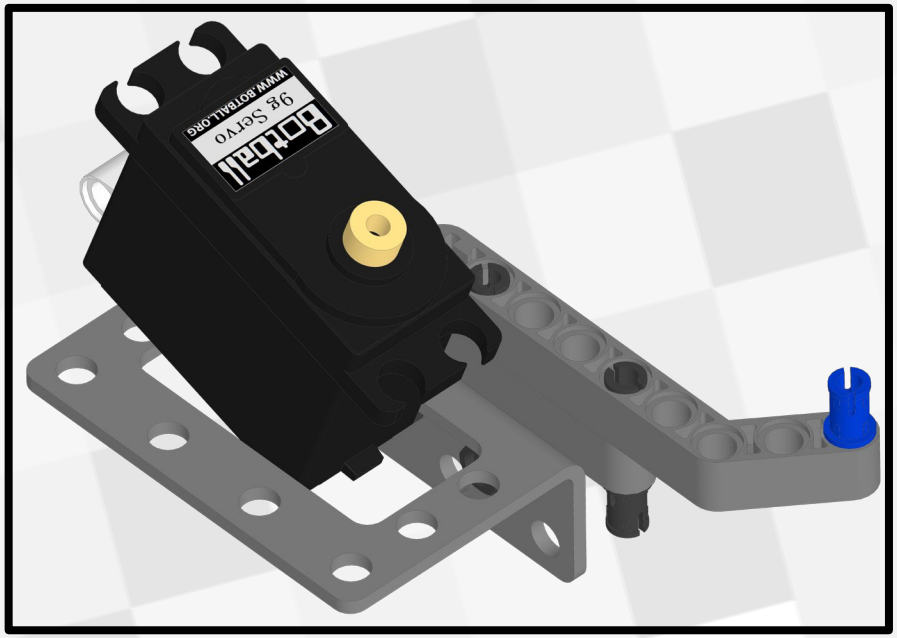

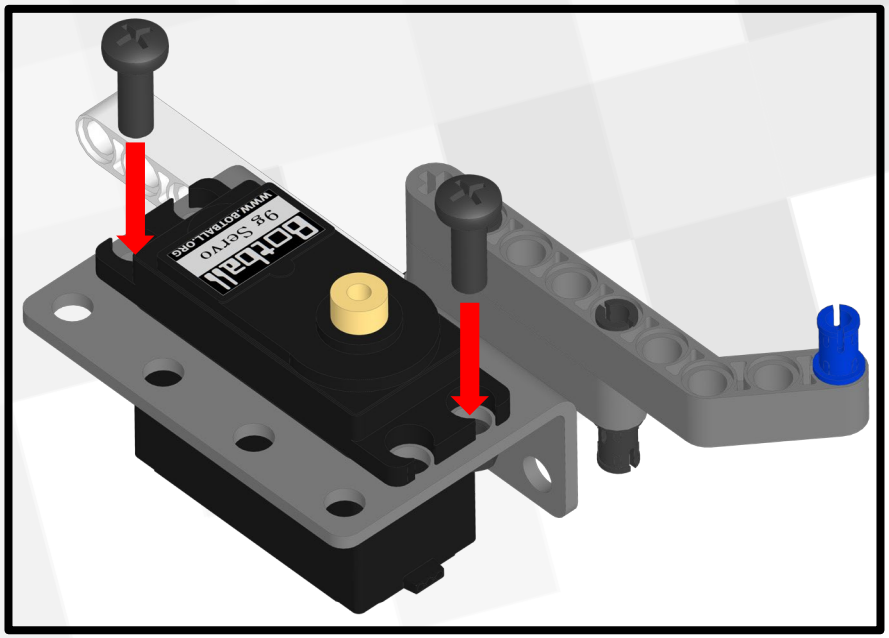

1. Slide a servo into the Servo Bracket, **wire end first**, with the spline towards the bent end of the 3x7 Bent Liftarm.
2. Secure it to the Servo Bracket with two medium bolts and two nuts.

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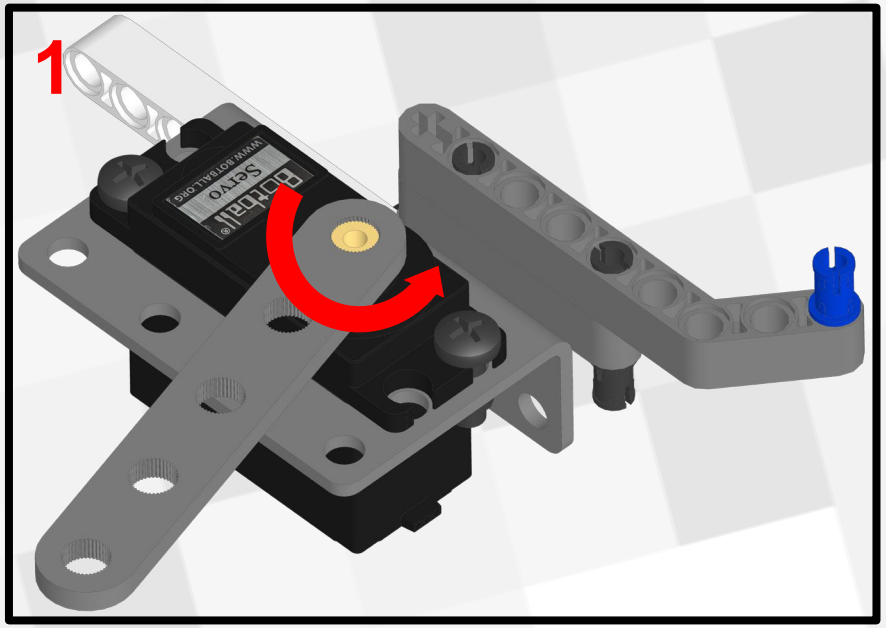
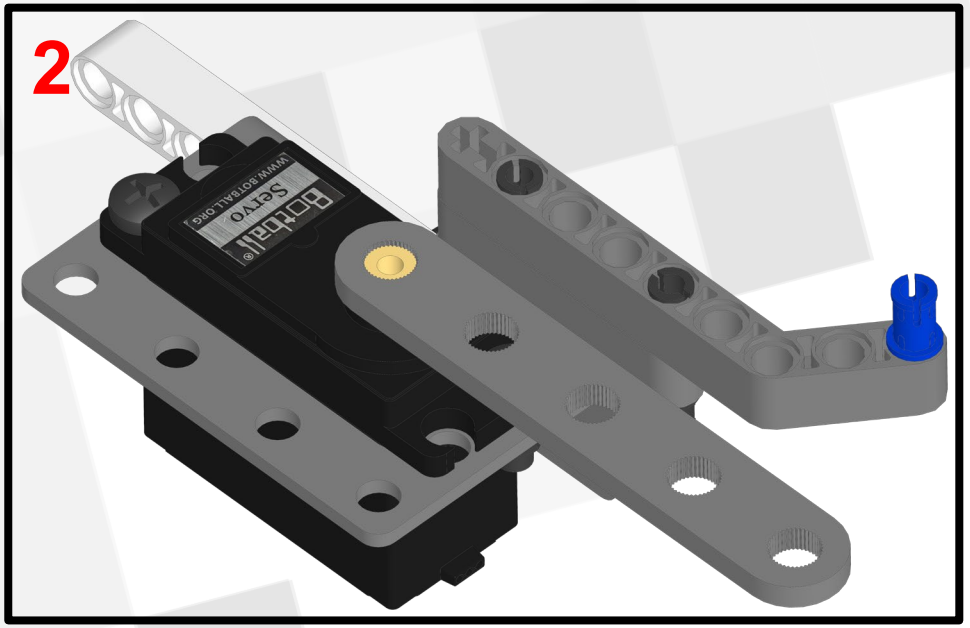
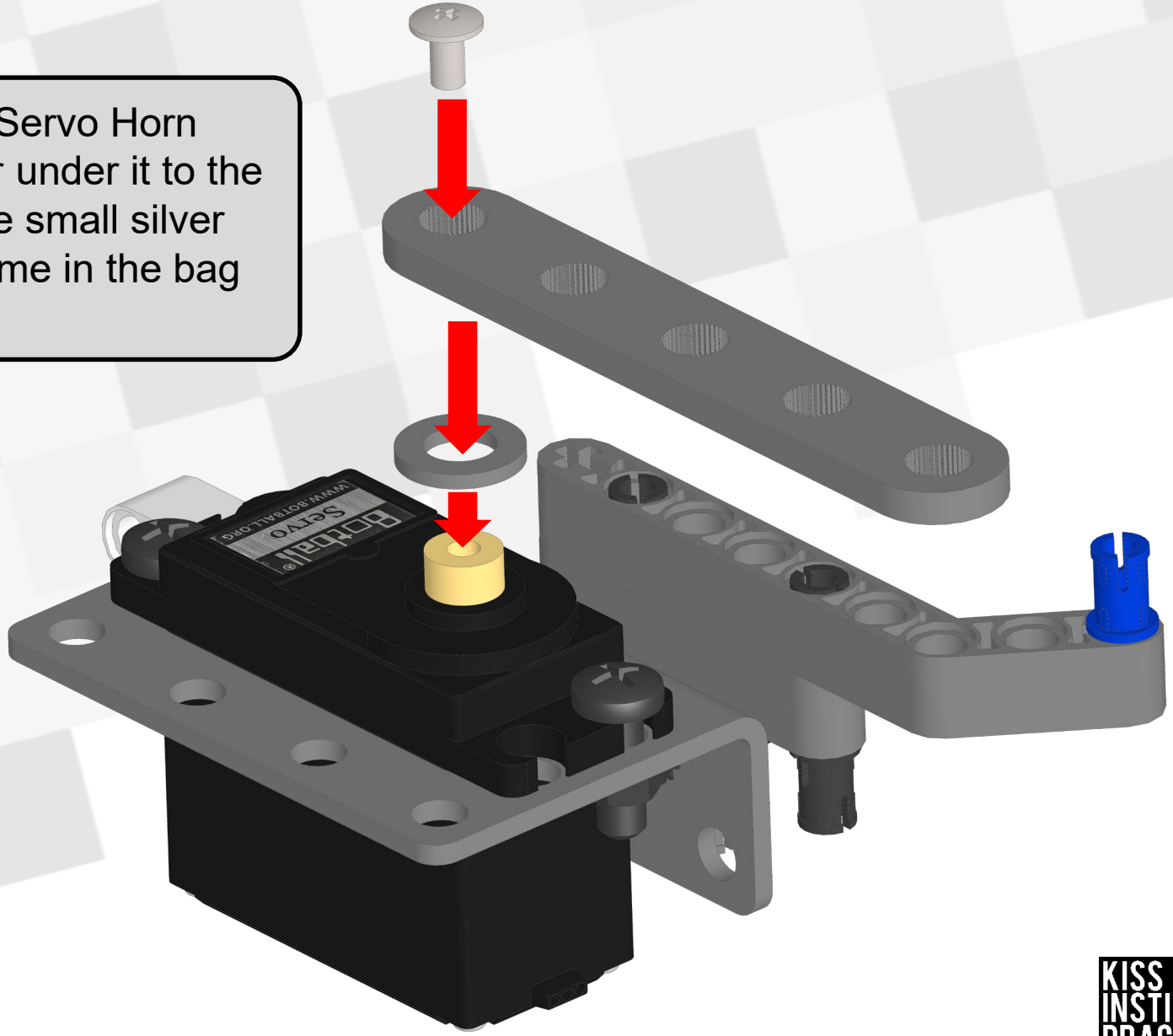




1. Place the 1x5 Servo Horn on the robot as shown.
2. Rotate the servo head with the 1x5 Servo Horn all the way towards the Lego piece.
3. Repeat these steps until the servo can no longer turn.

Attach a 1x5 Servo Horn with a washer under it to the Servo with the small silver screw that came in the bag with it.



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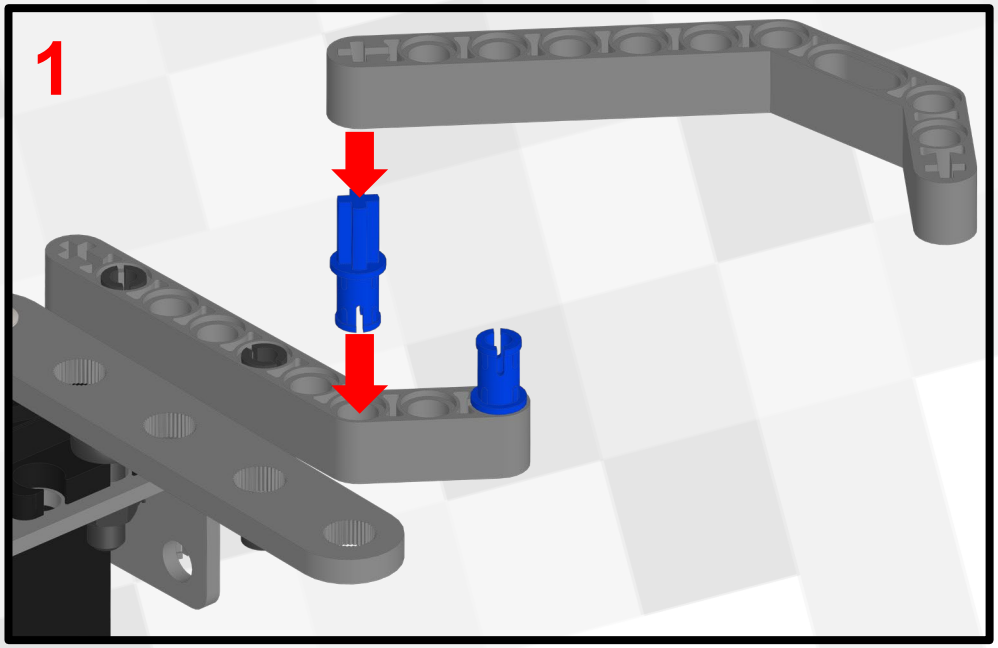

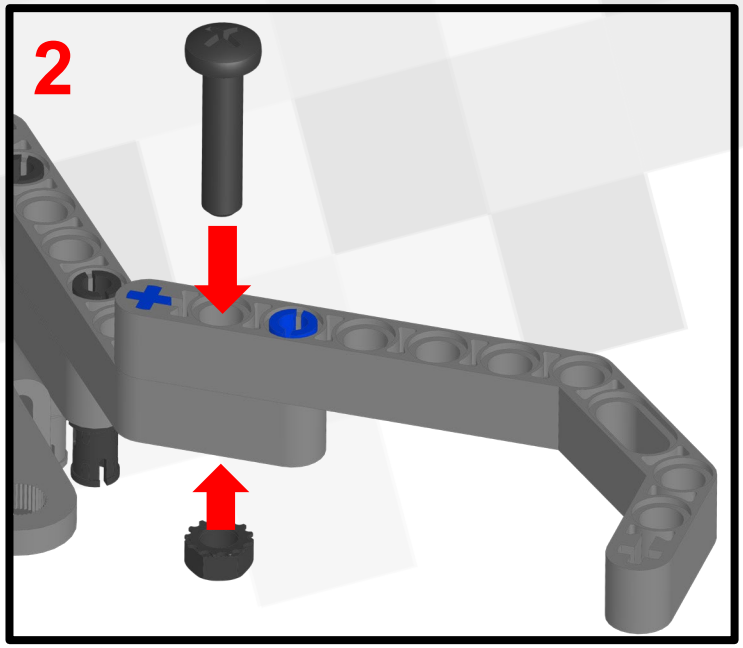

1. Attach a Claw Liftarm to the 3x7 Bent Liftarm using an axel pin as shown.
2. Secure the Lego pieces together using a large bolt and nut.

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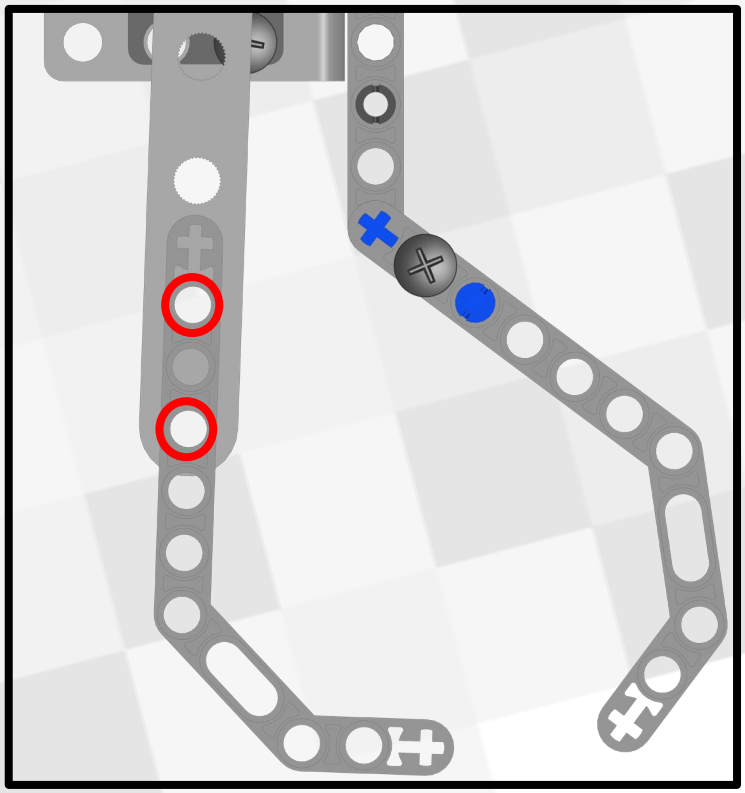

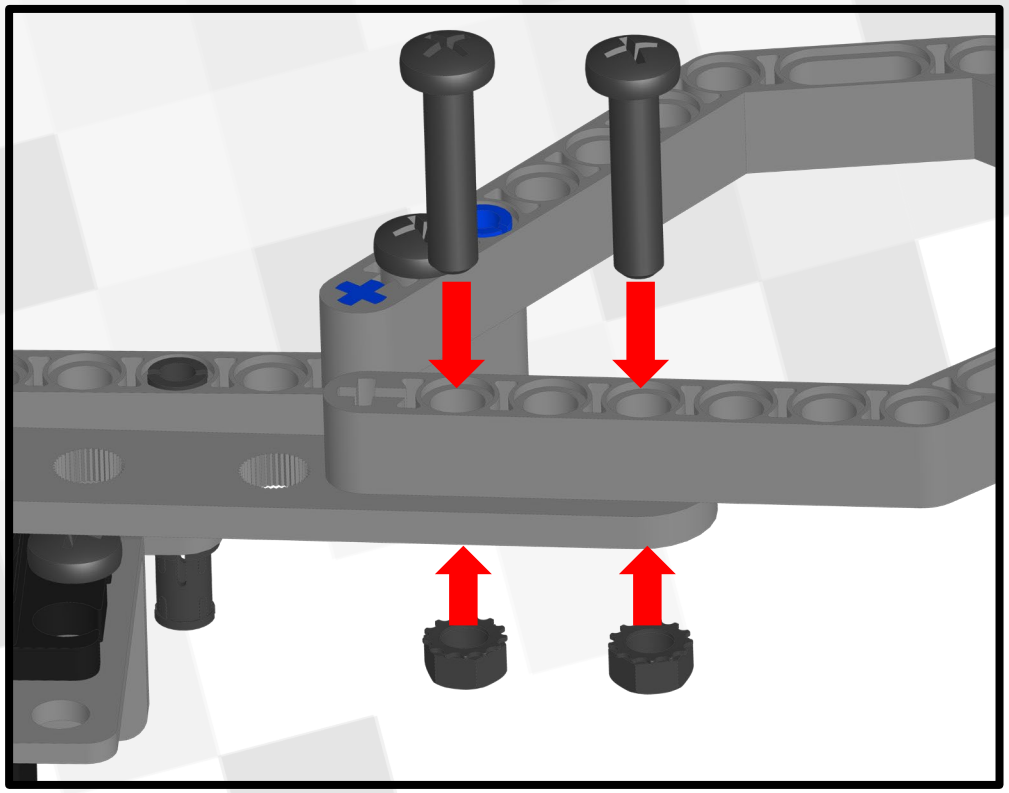

1. Line up a Claw Liftarm on the 1x5 Servo Horn as shown.
2. Secure it using two large bolts and nuts.

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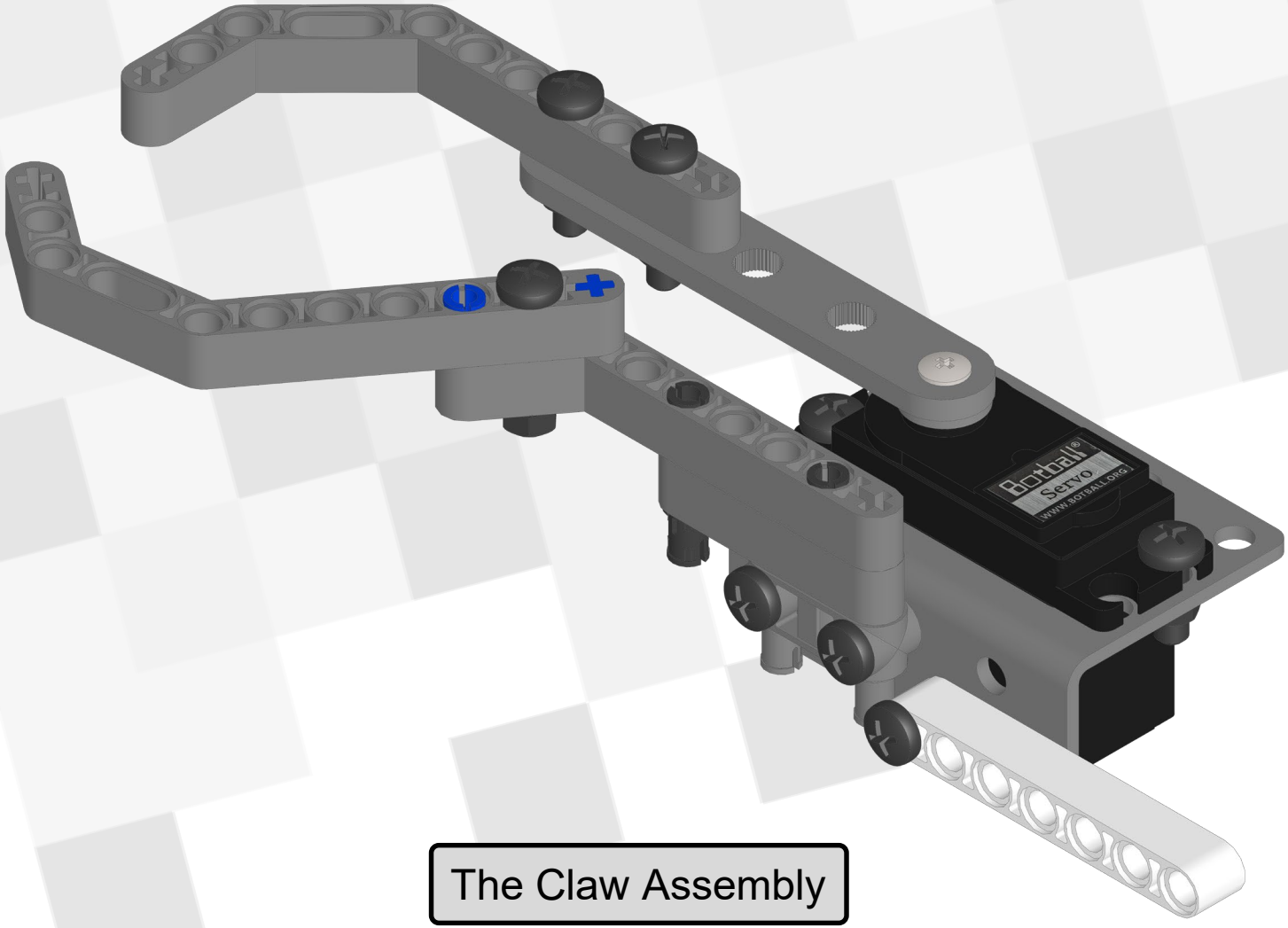

The Claw Assembly

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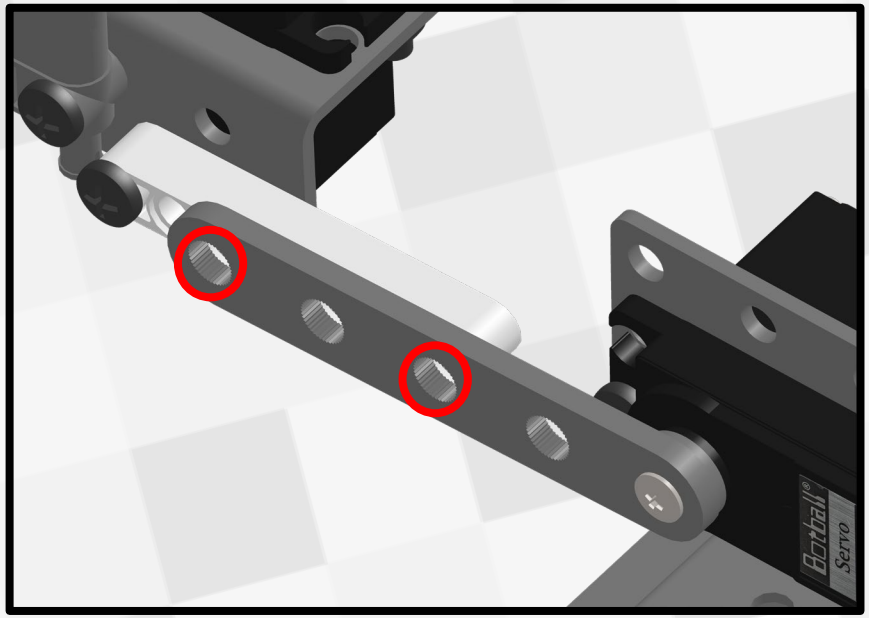

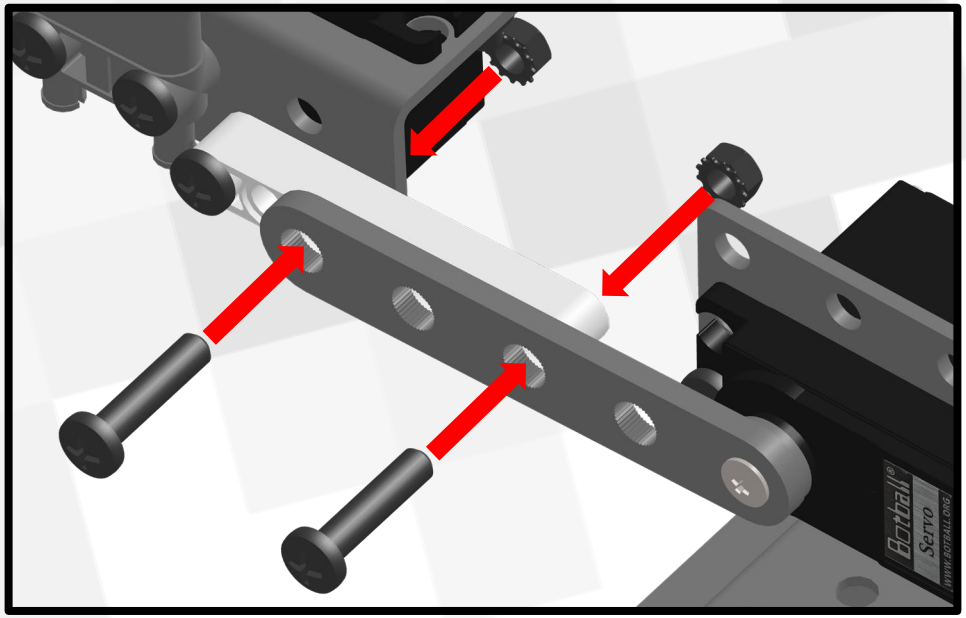

1. Line up 3 holes on the Arm 1x5 Servo Horn with the 1x7 Liftarm from the Claw Assembly.
2. Secure it using two large bolts and nuts. Make sure that the left one goes through the Claw Servo Bracket as well.

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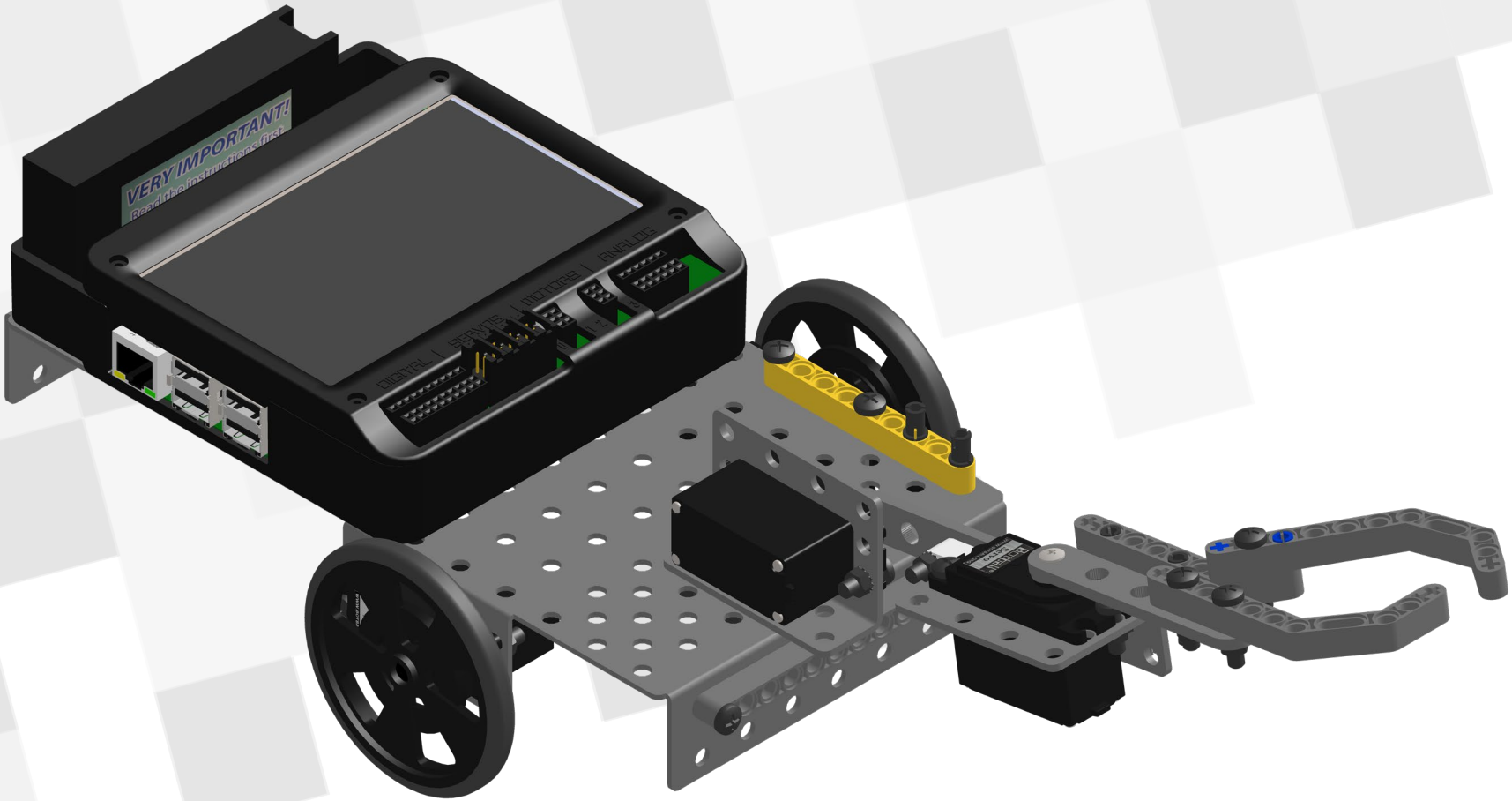
Servo Demobot Finished!



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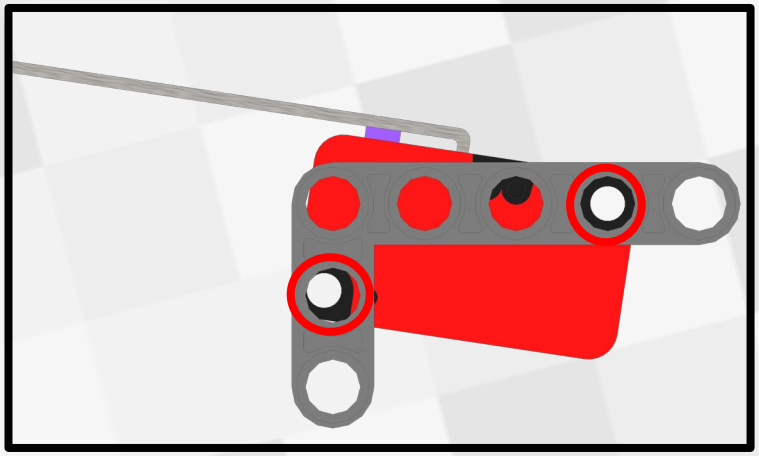
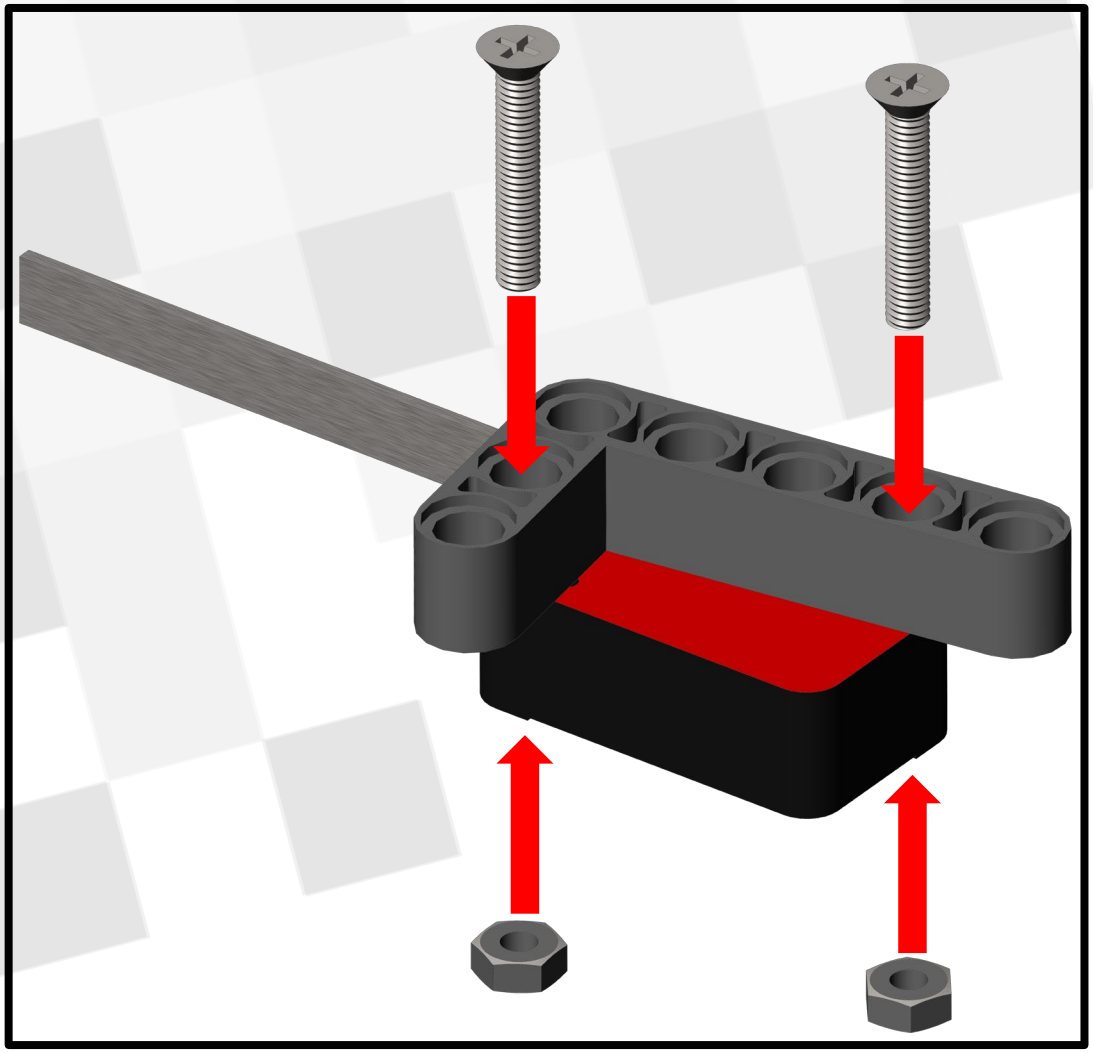


1. Line up the 3x5 Liftarm with the Lever Sensor as shown above.
2. Screw these two pieces together using the small long silver bolts and nuts. They should be in a small bag with some extra pieces.



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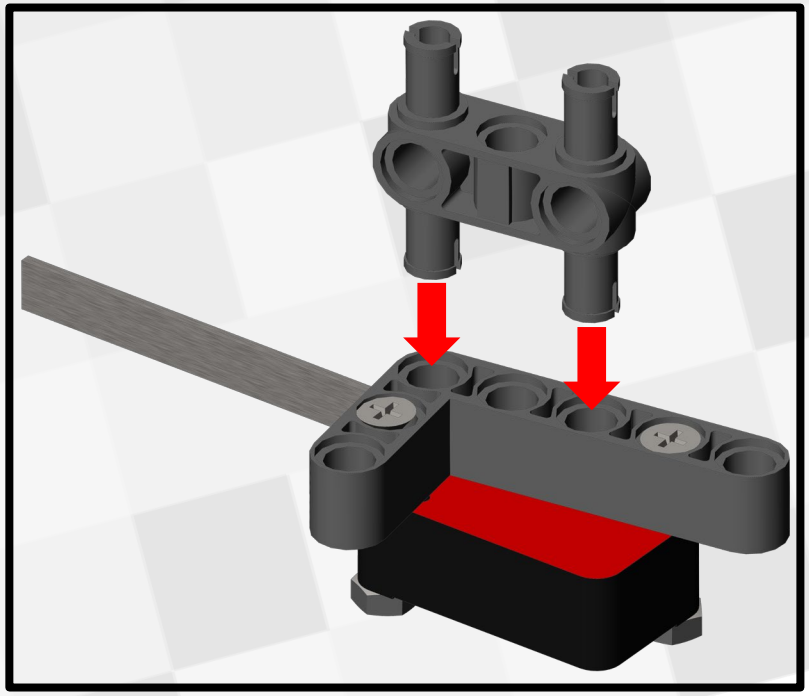
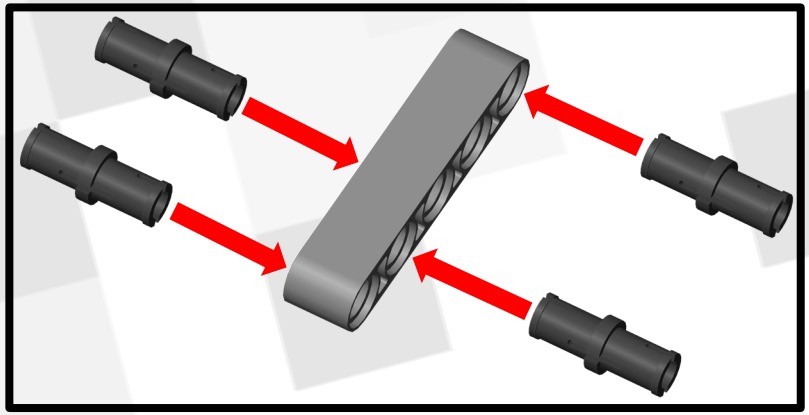
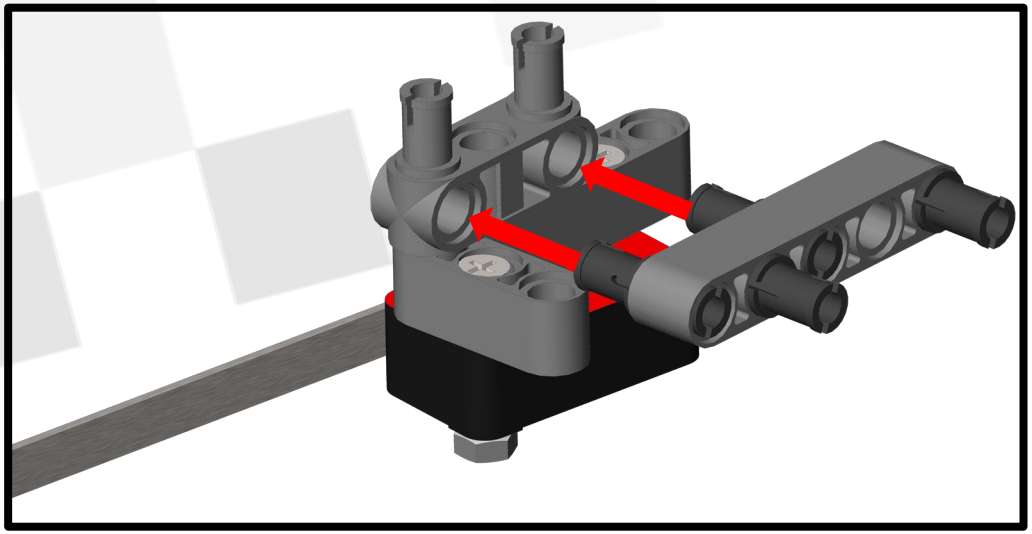


1. Attach the H Lego Piece to the 3x5 Liftarm as shown.
2. Attach a 1x5 Liftarm to the H Piece with two pins and then attach two pins to the 1x5 Liftarm as shown.





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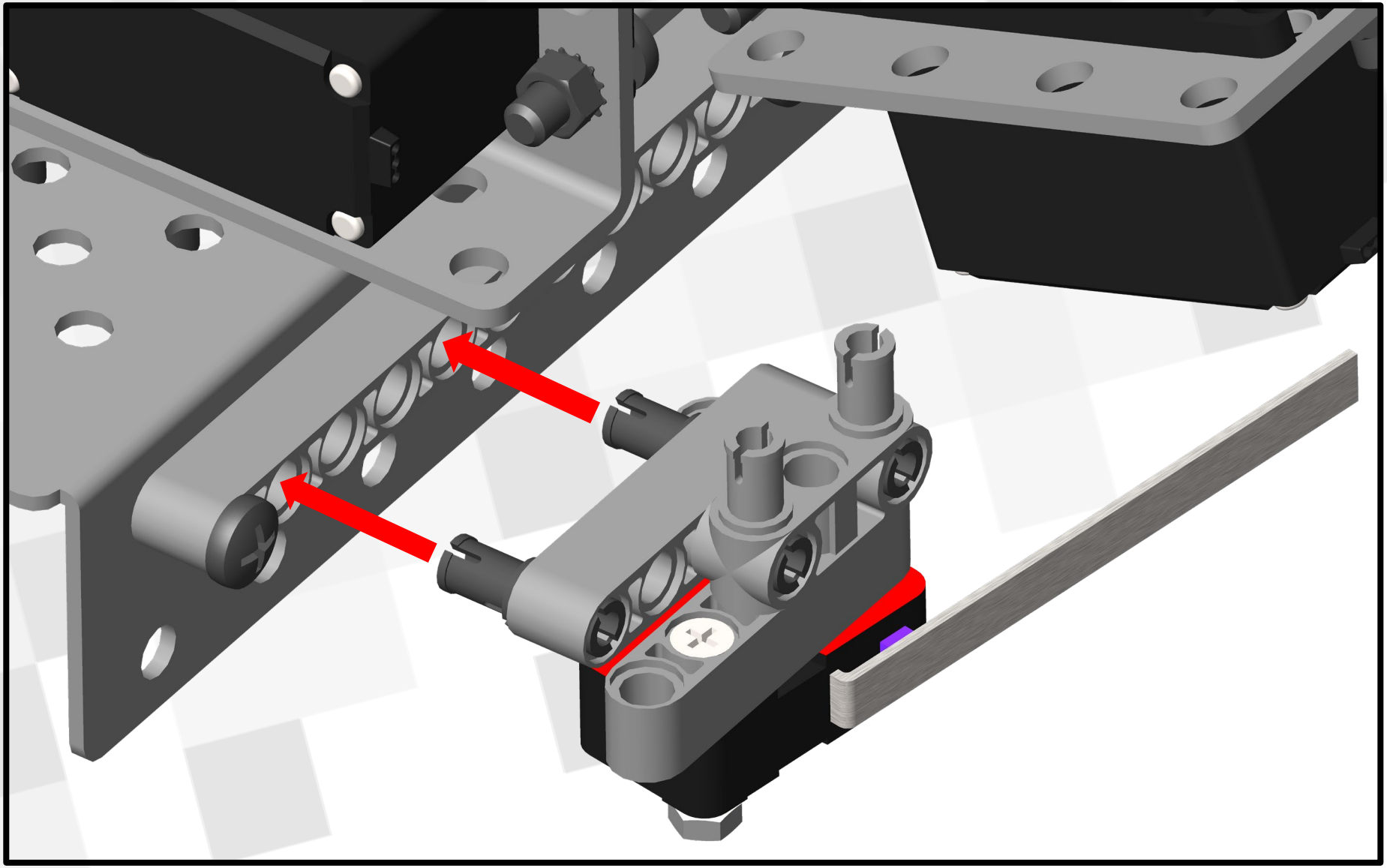

Attach the Lever Sensor Mount to the Chassis as shown.

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Attach the Large Touch Sensor Mount to the back of the Chassis as shown using two medium bolts and two nuts.

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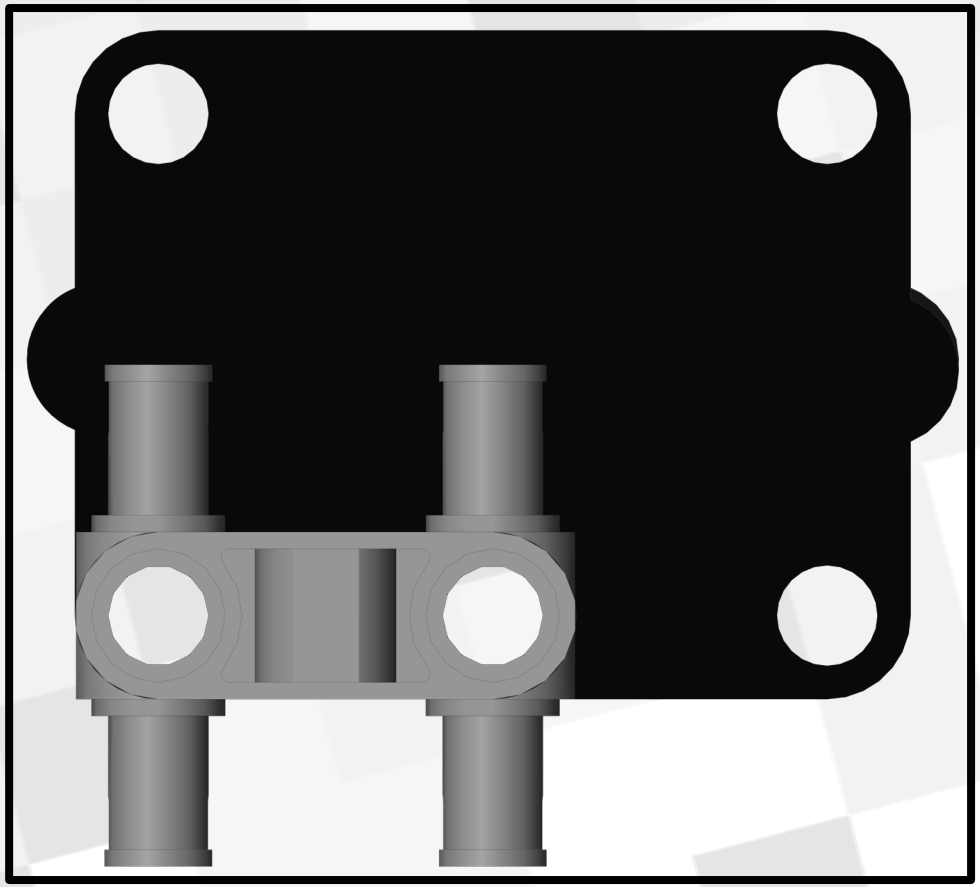

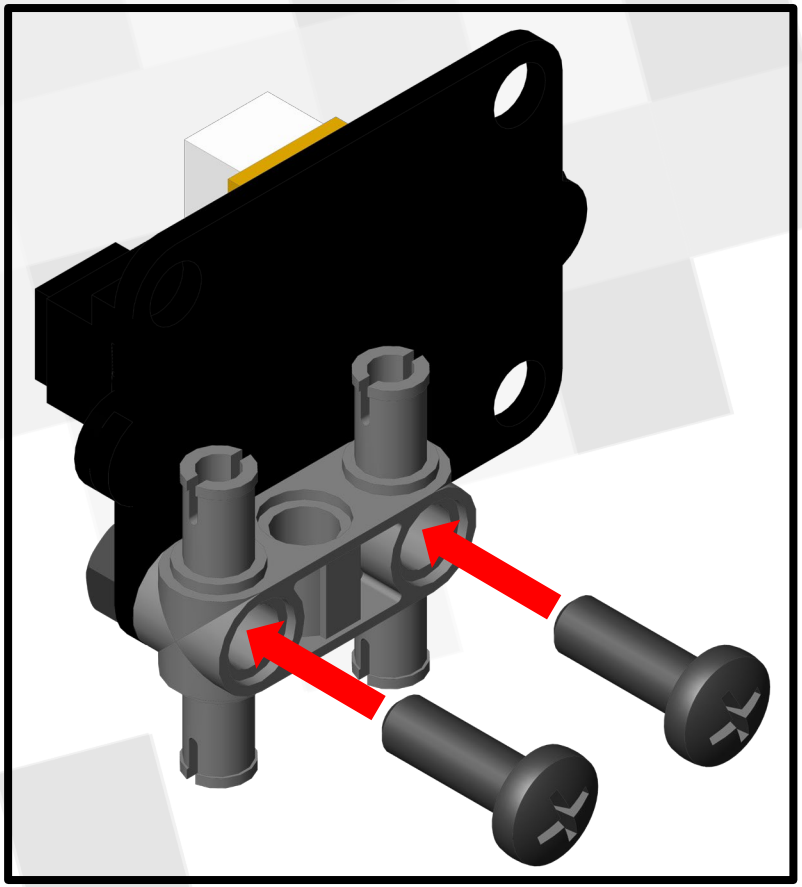

1. Line up a H Piece with the back of the Rangefinder Sensor as shown.
2. Secure it using two medium bolts and nuts.

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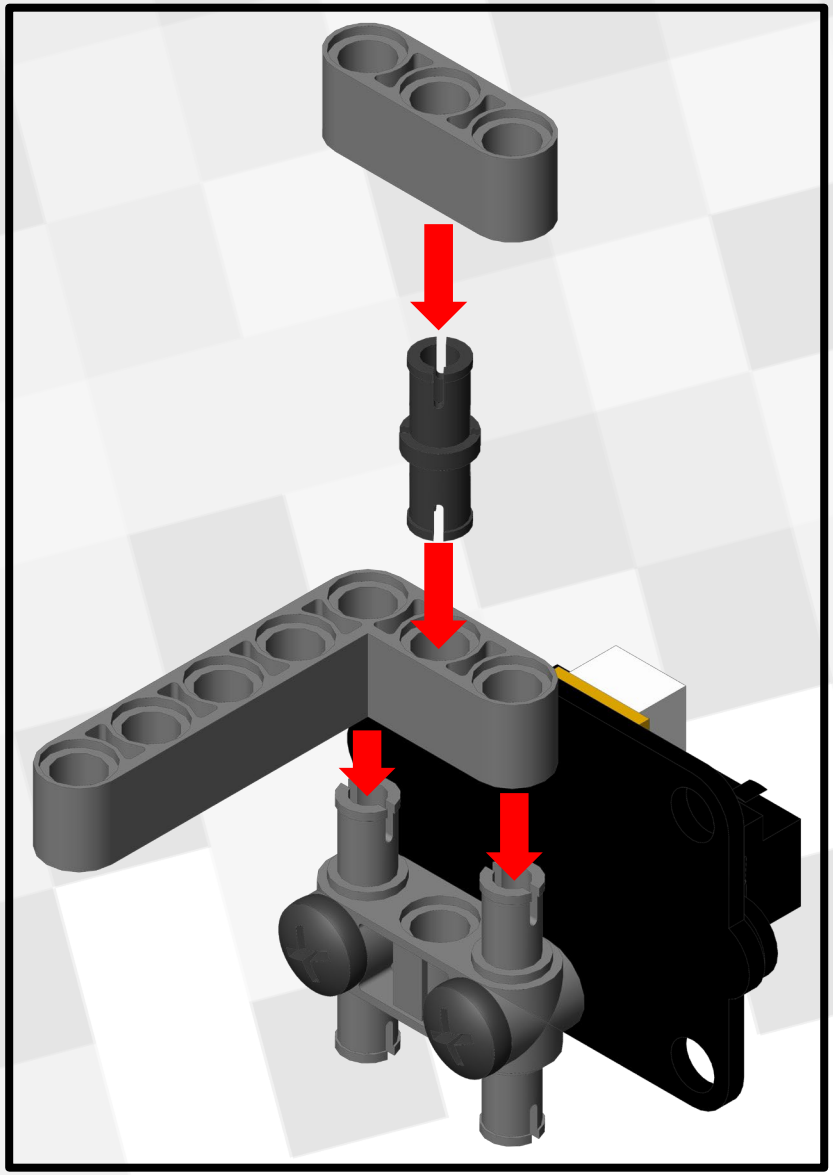
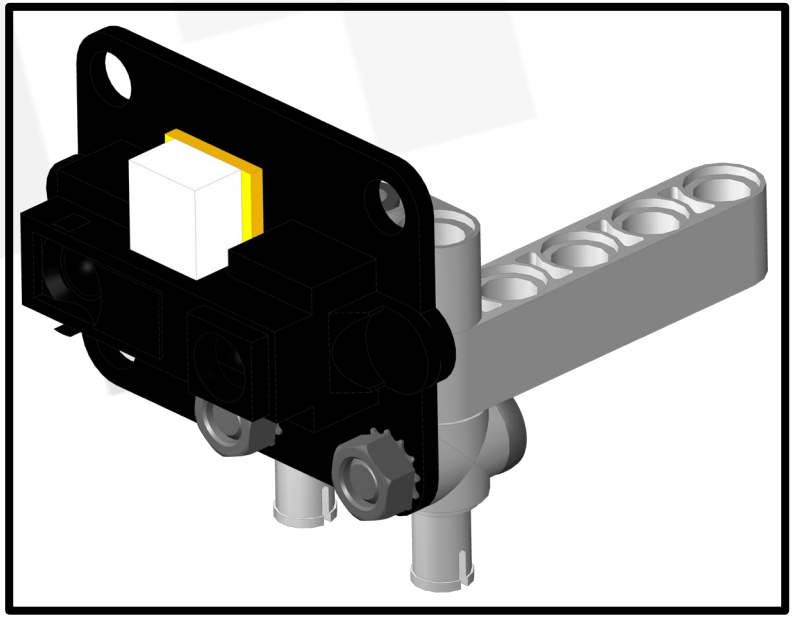
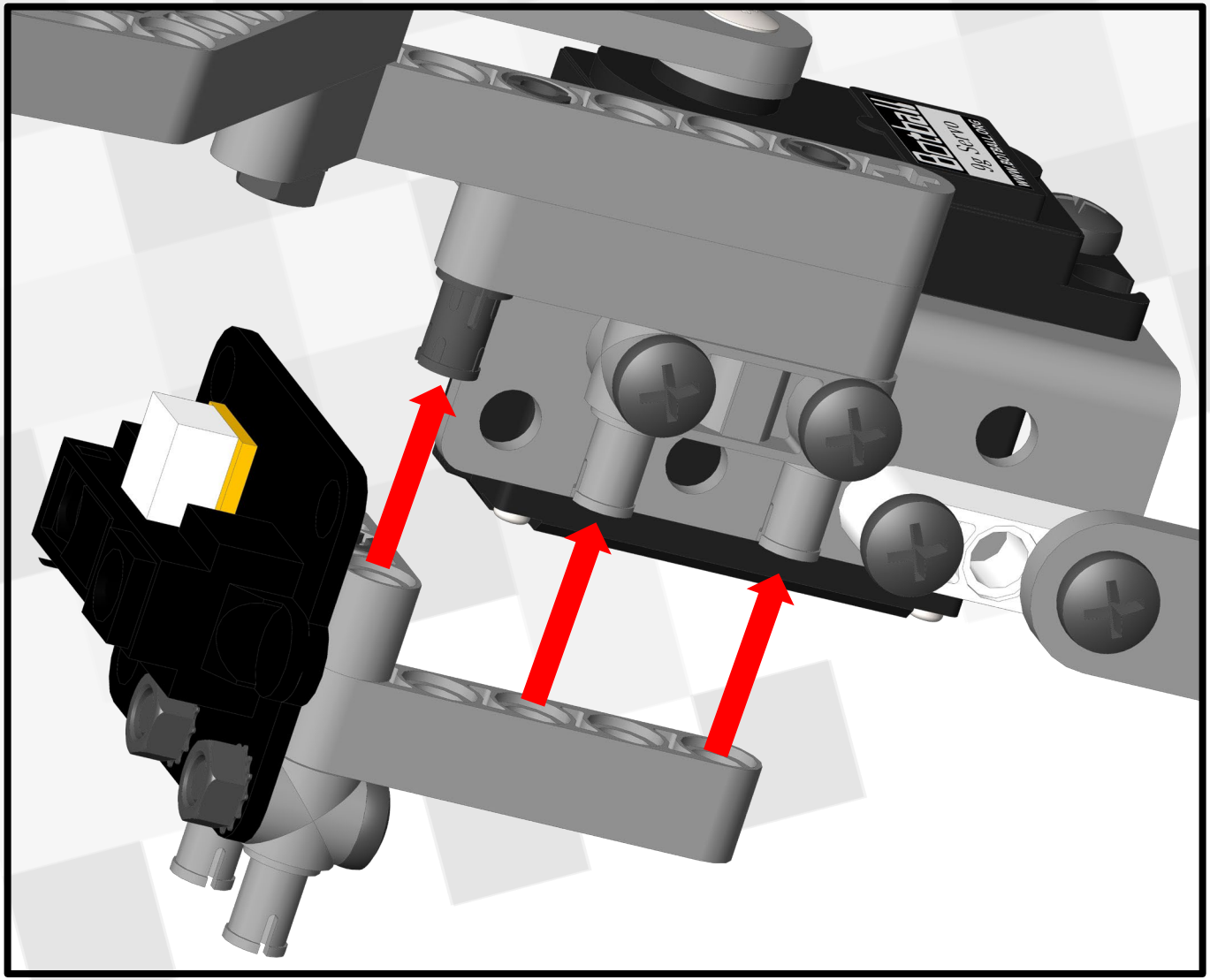


Attach a 3x5 Liftarm to the H piece then attach a 1x3 Liftarm with a pin to the 3x5 Liftarm as shown to the left.

The finished mount should look like the one below.





Attach the Rangefinder Sensor Mount to the Claw as shown above. You may need to slightly loosen bolts on Claw H Piece

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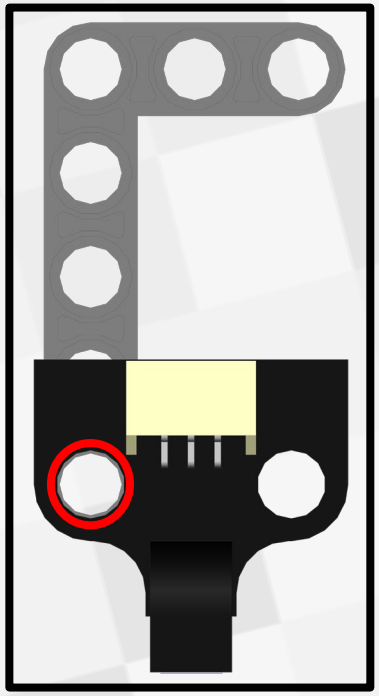

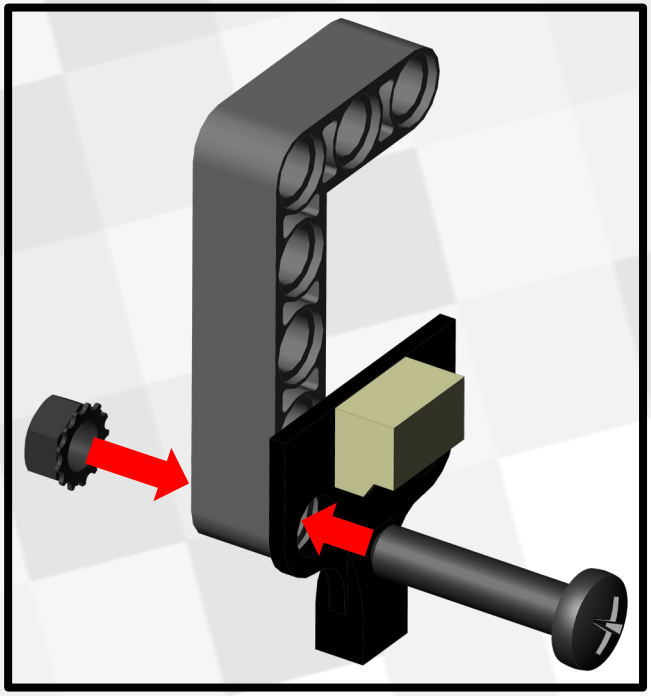

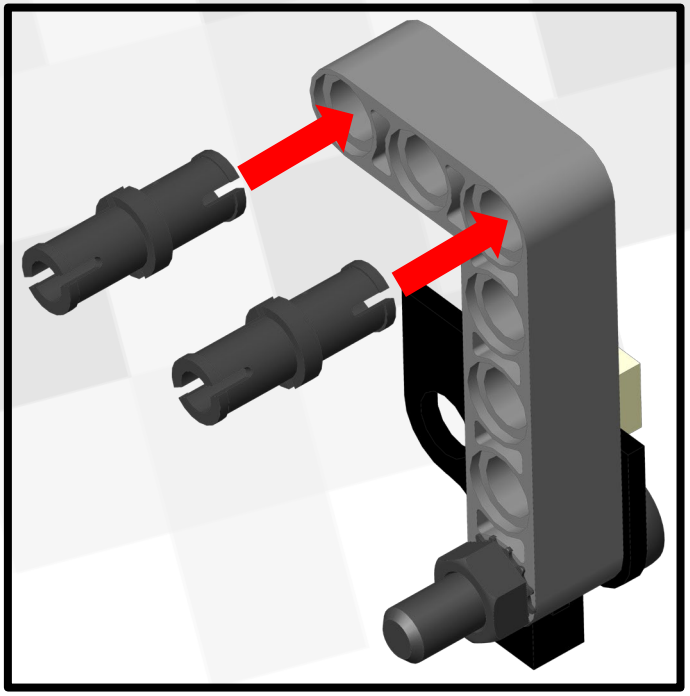

1. Line up an IR Sensor with the end of a 3x5 Liftarm as shown.
2. Secure it using a large bolt and nut.
3. Attach two pins to the 3x5 Liftarm as shown.

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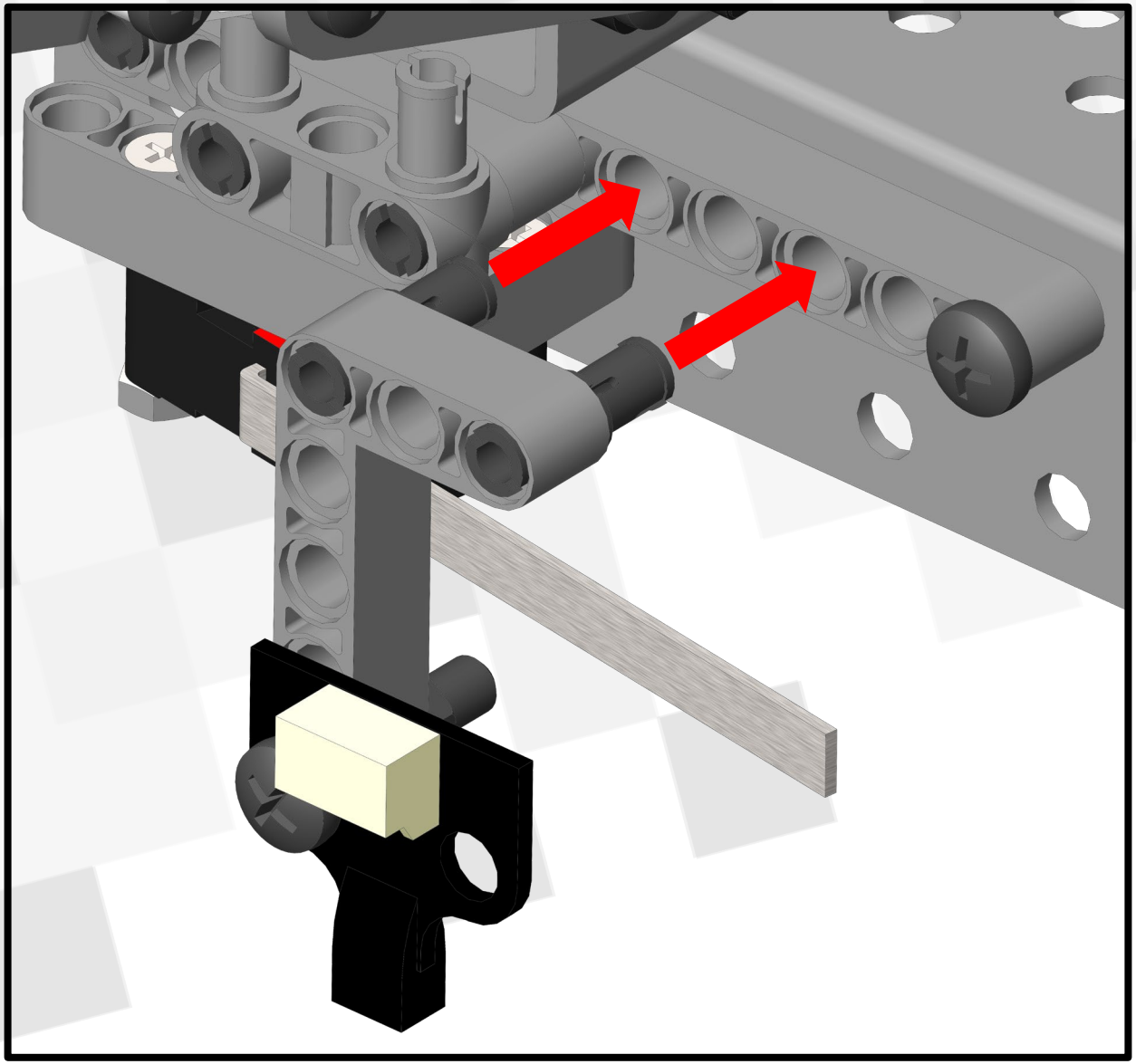

Attach the IR Sensor Mount to the Chassis as shown above. You will have to slide this around the lever sensor.

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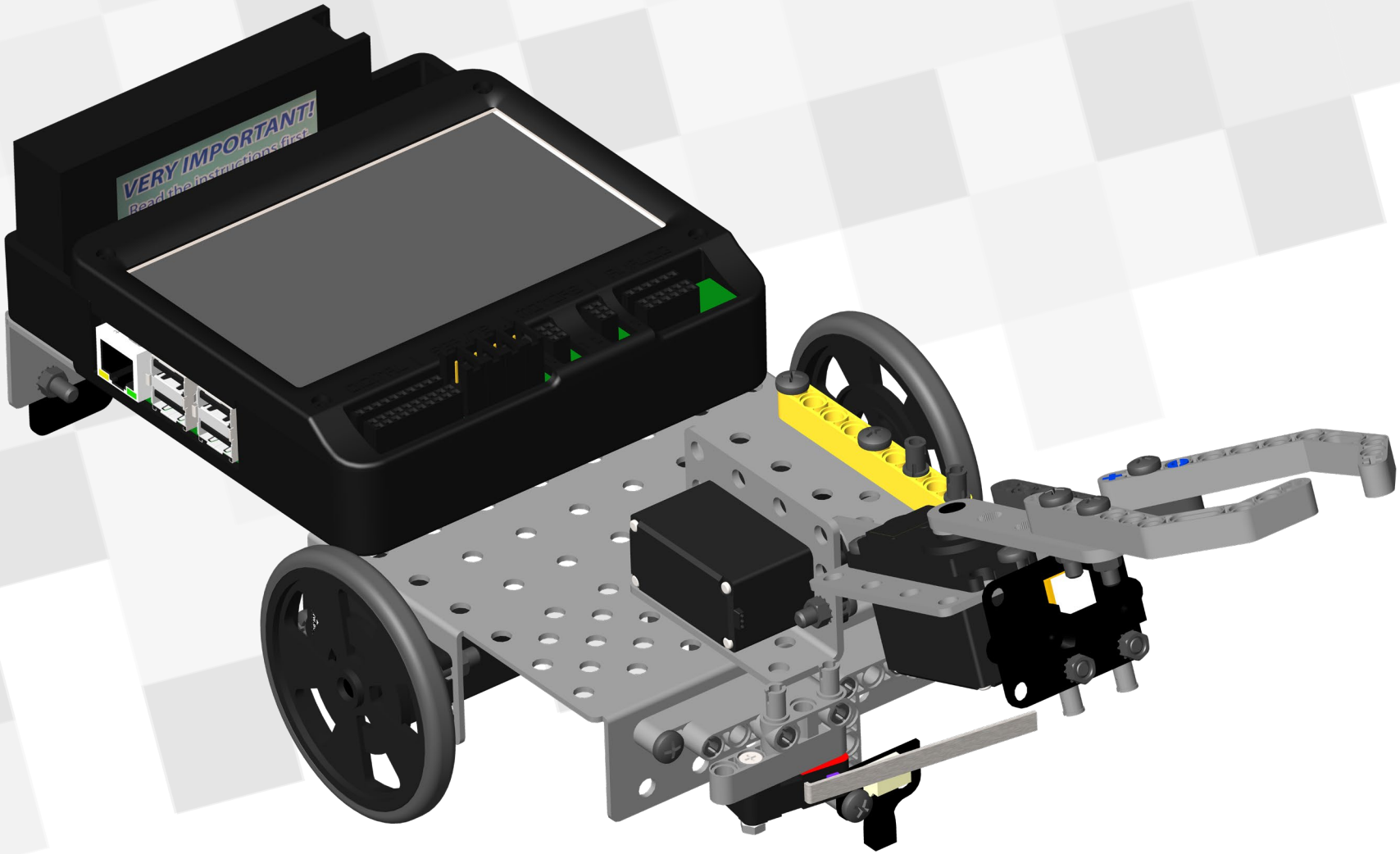
Sensor Demobot Finished!



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