

# ORION

## ROBOTICS

Odyssey  
Assembly Guide

**Introduction**

All our brackets are made in the USA. They are fabricated using a large in house industrial laser. We anodized all our brackets to prevent corrosion and to give them that shiny new robot look. Anodizing also keeps the brackets looking better longer.

**Servos**

The Orion Robotics robots are built around a special robotics servo developed in house. These new servos give us greater control and the ability to further push the envelope of what these robots can do. In addition the custom servos allow us to better control cost.

**Tools**

There are some basic tools you will need to get started. A good set of Phillips screw drivers and small pliers. Typically needle nosed pliers work best.

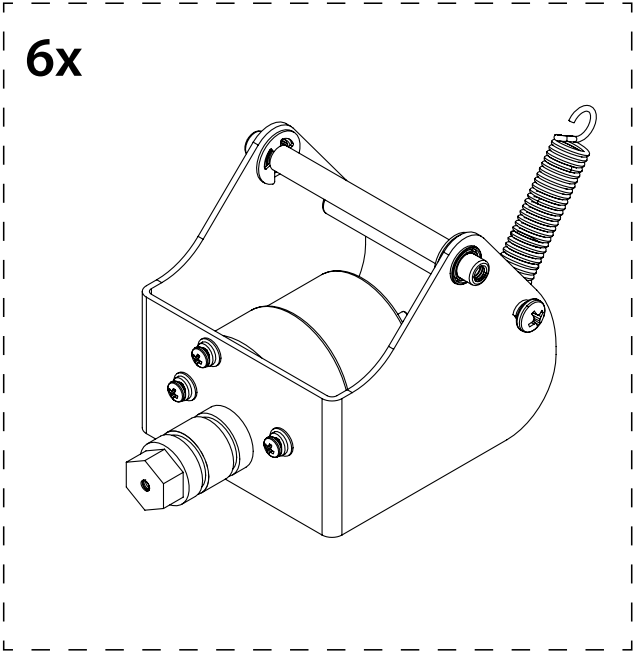
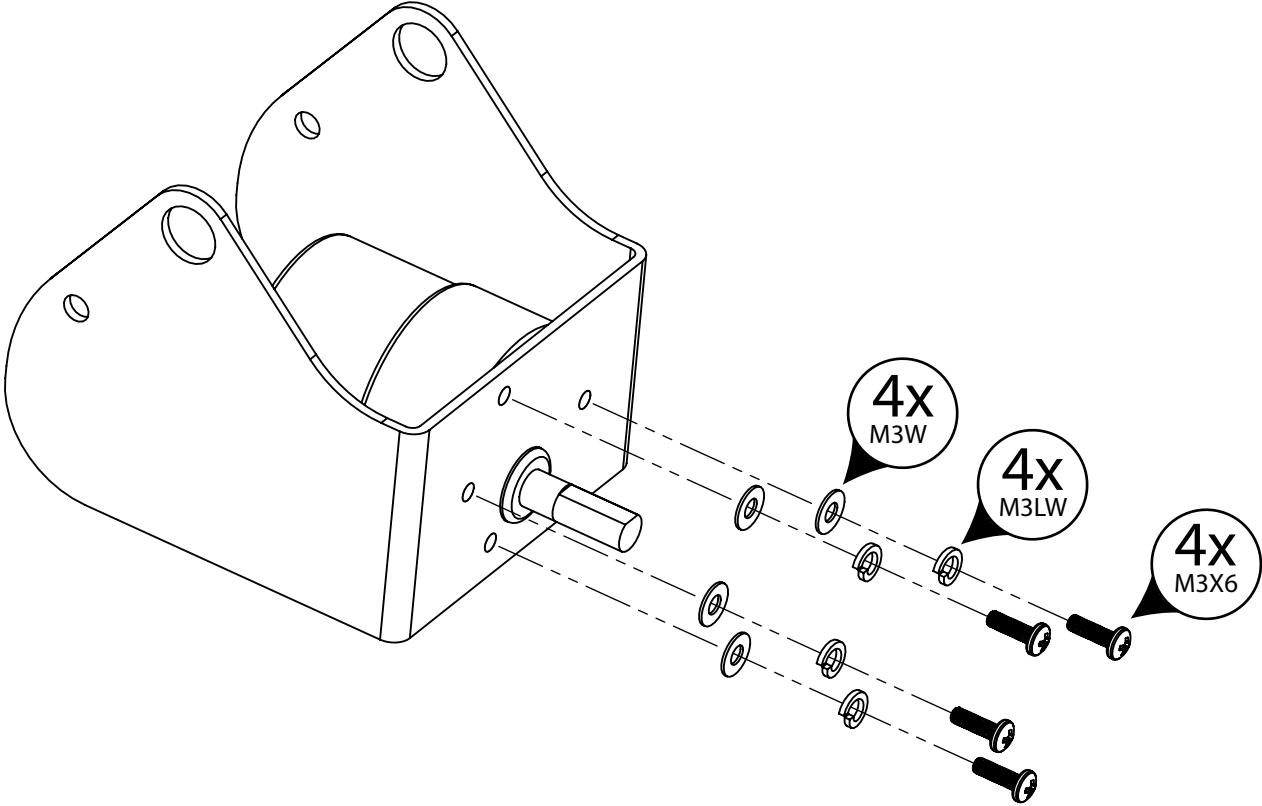
**Safety**

When working with robots some basic safety rules should be followed:

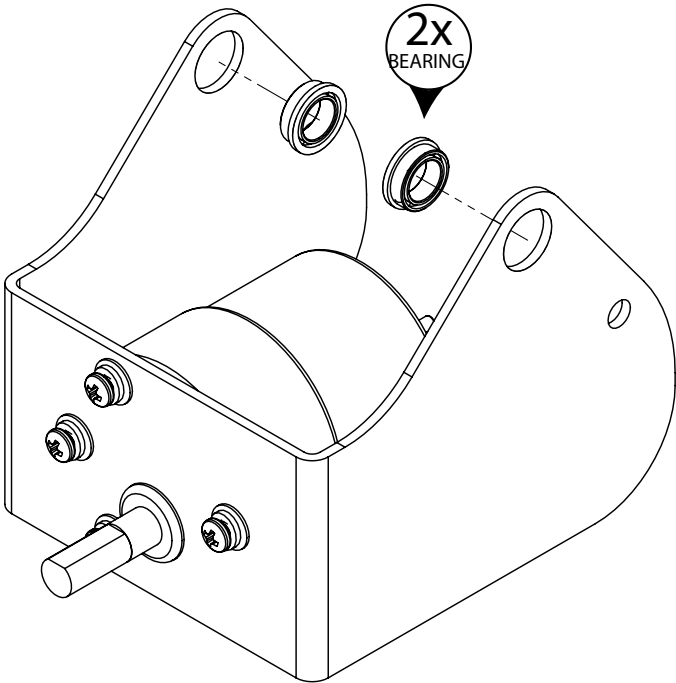
1. Eye protection should be worn at all times.
2. Some bracket edges can be sharp and can easily cut you.
3. The robots are powered from Lion batteries with high discharge rates. If shorted or incorrectly connected the can easily cause fire or other damaged.
4. When working with the robots there are several pinch points. Be aware as this will hurt.
5. Don't be in a rush when assembly your robots. Injury or damaged parts can easily result. Take your time and double check each step.

# STEP

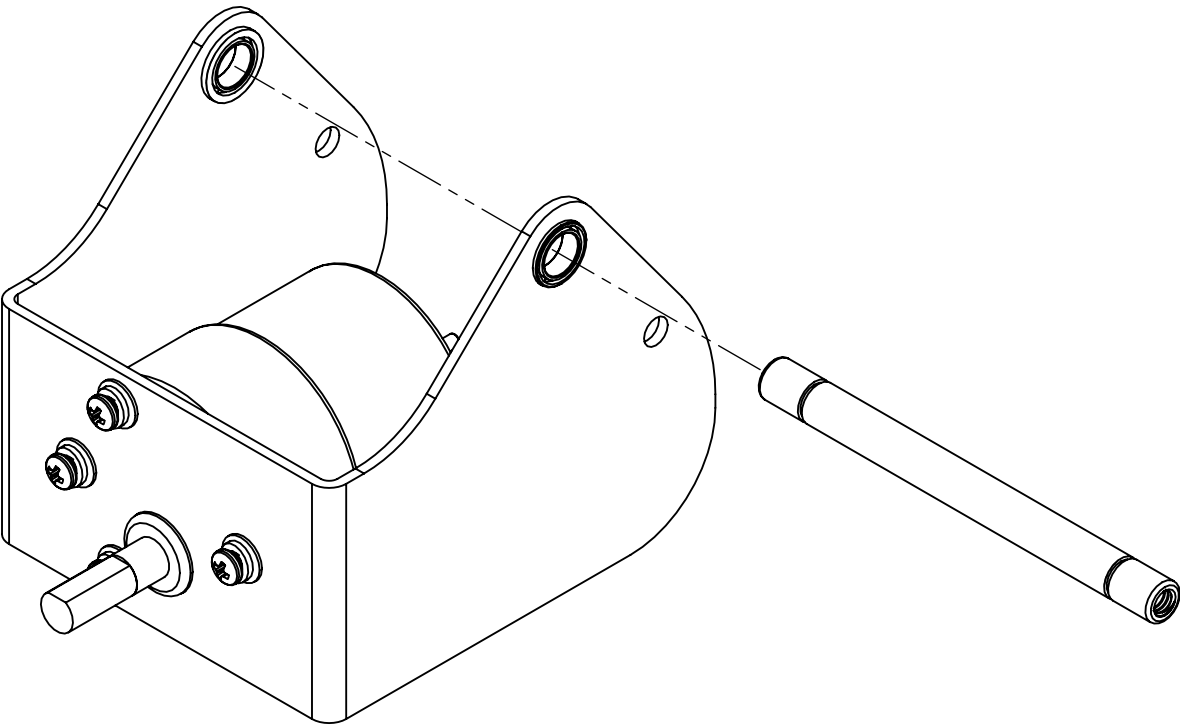
# 1



# STEP 2

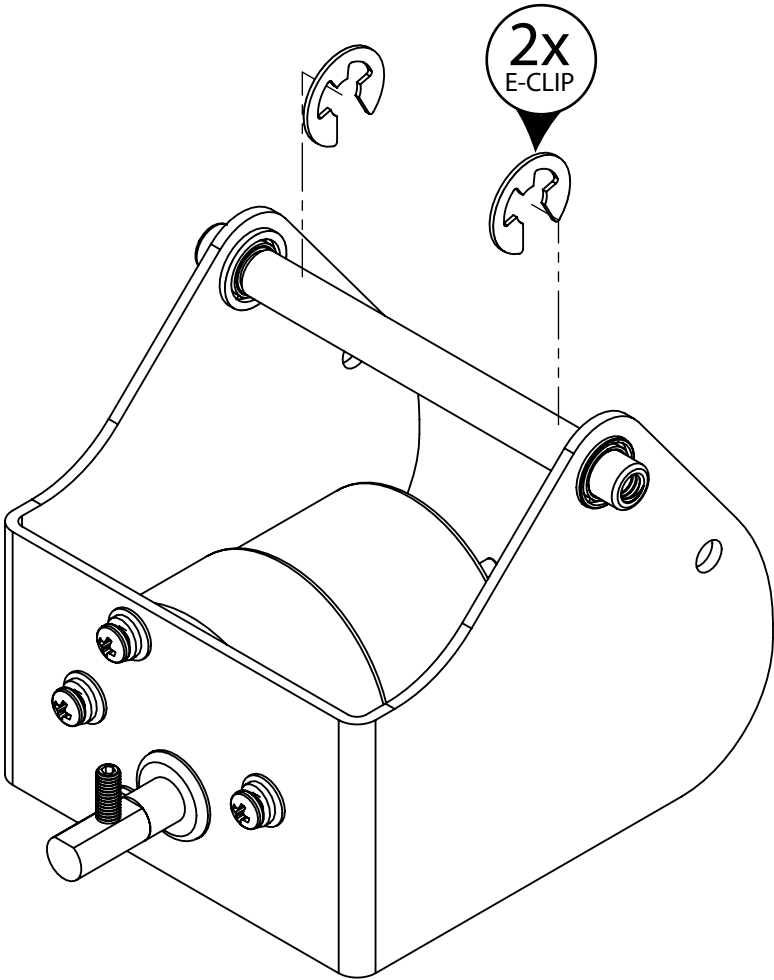


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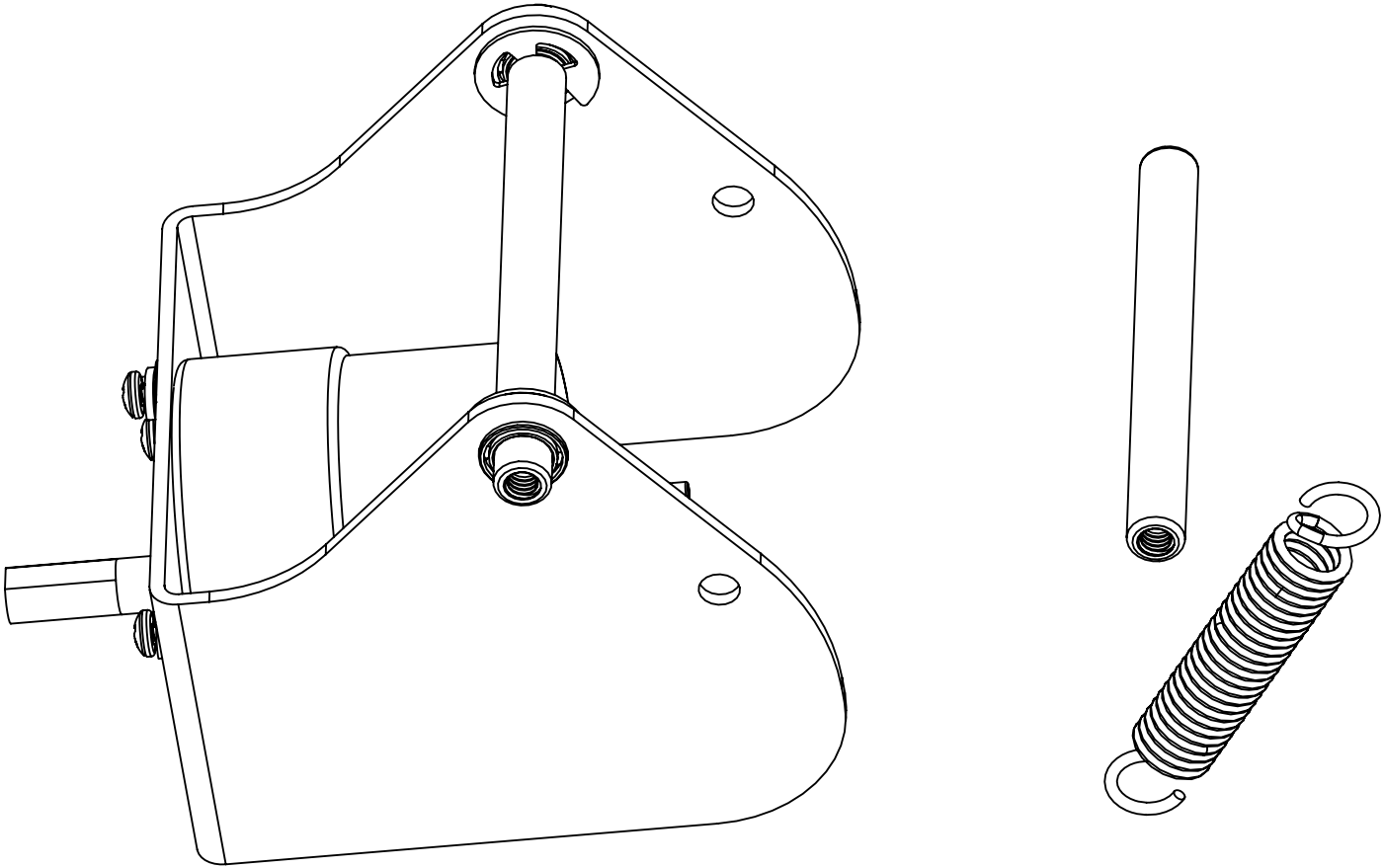


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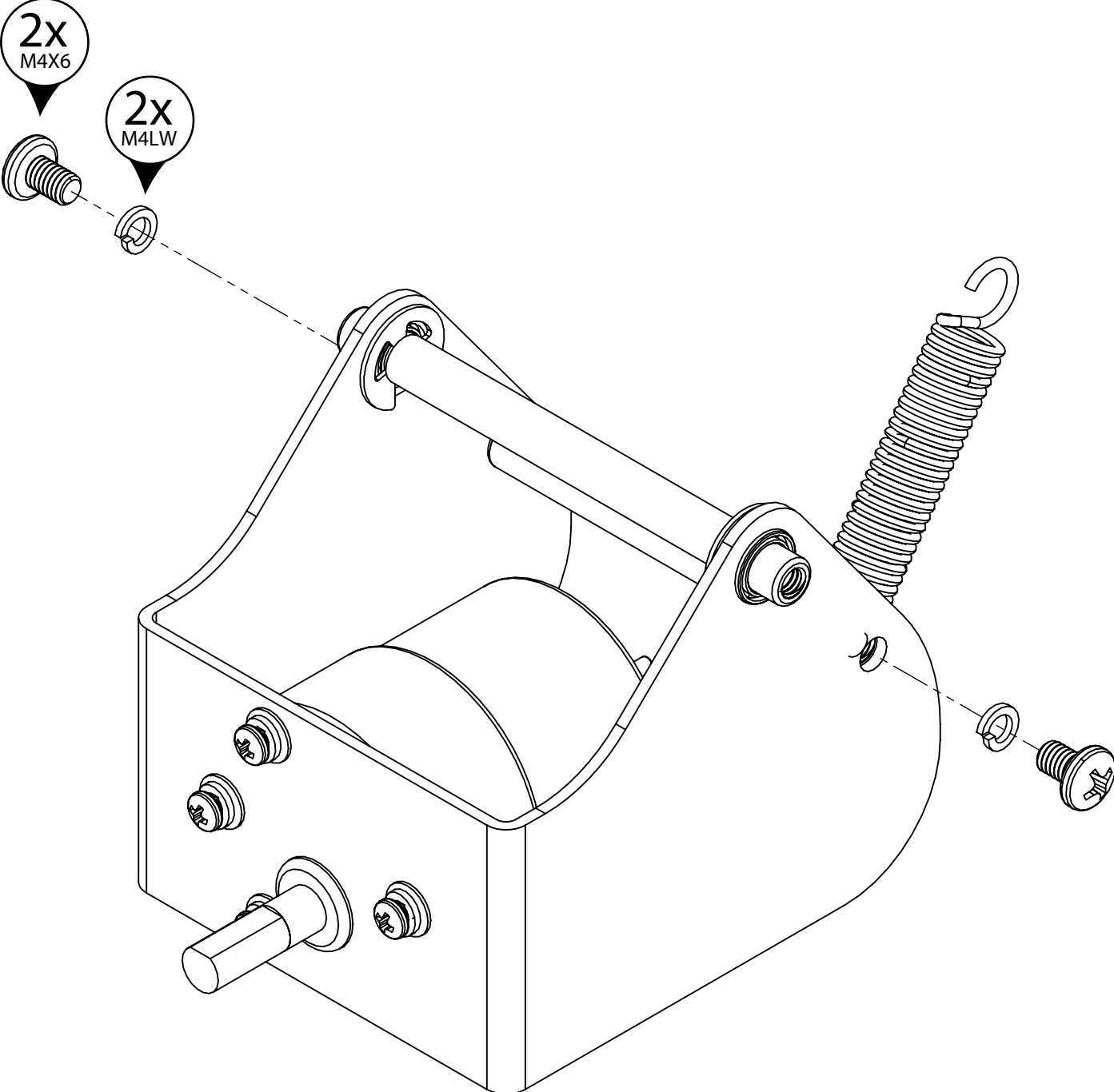
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# STEP 5



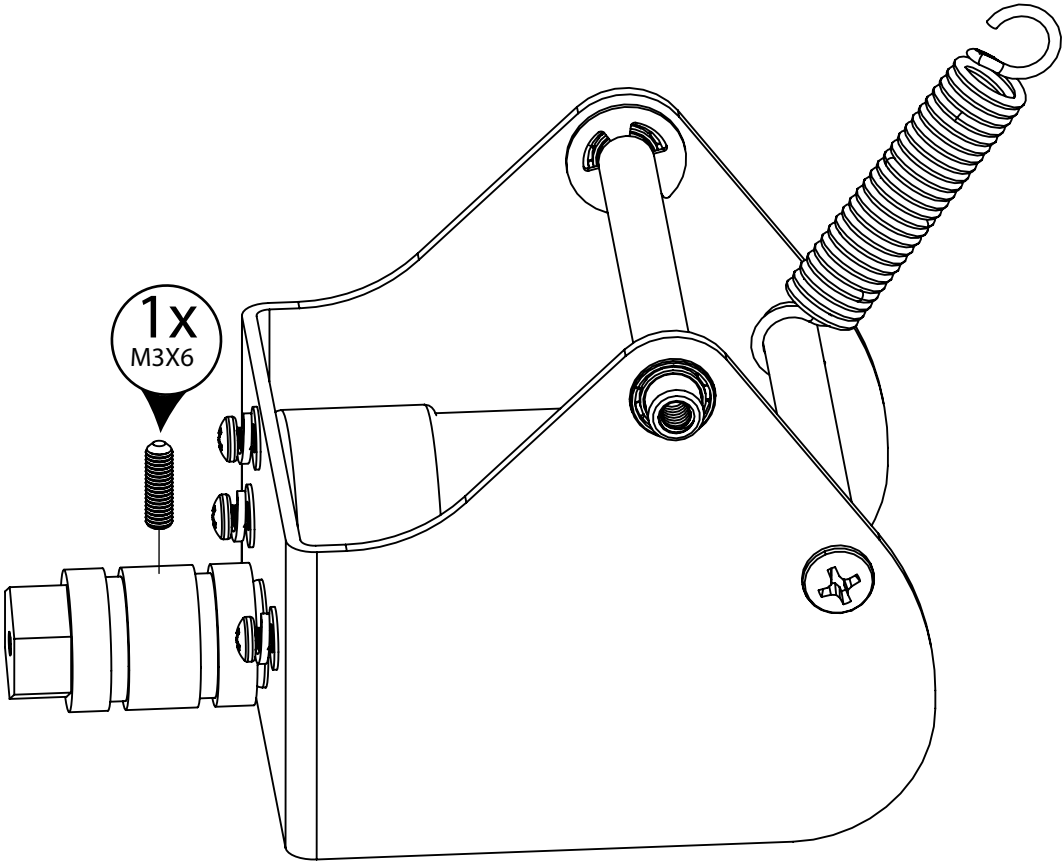
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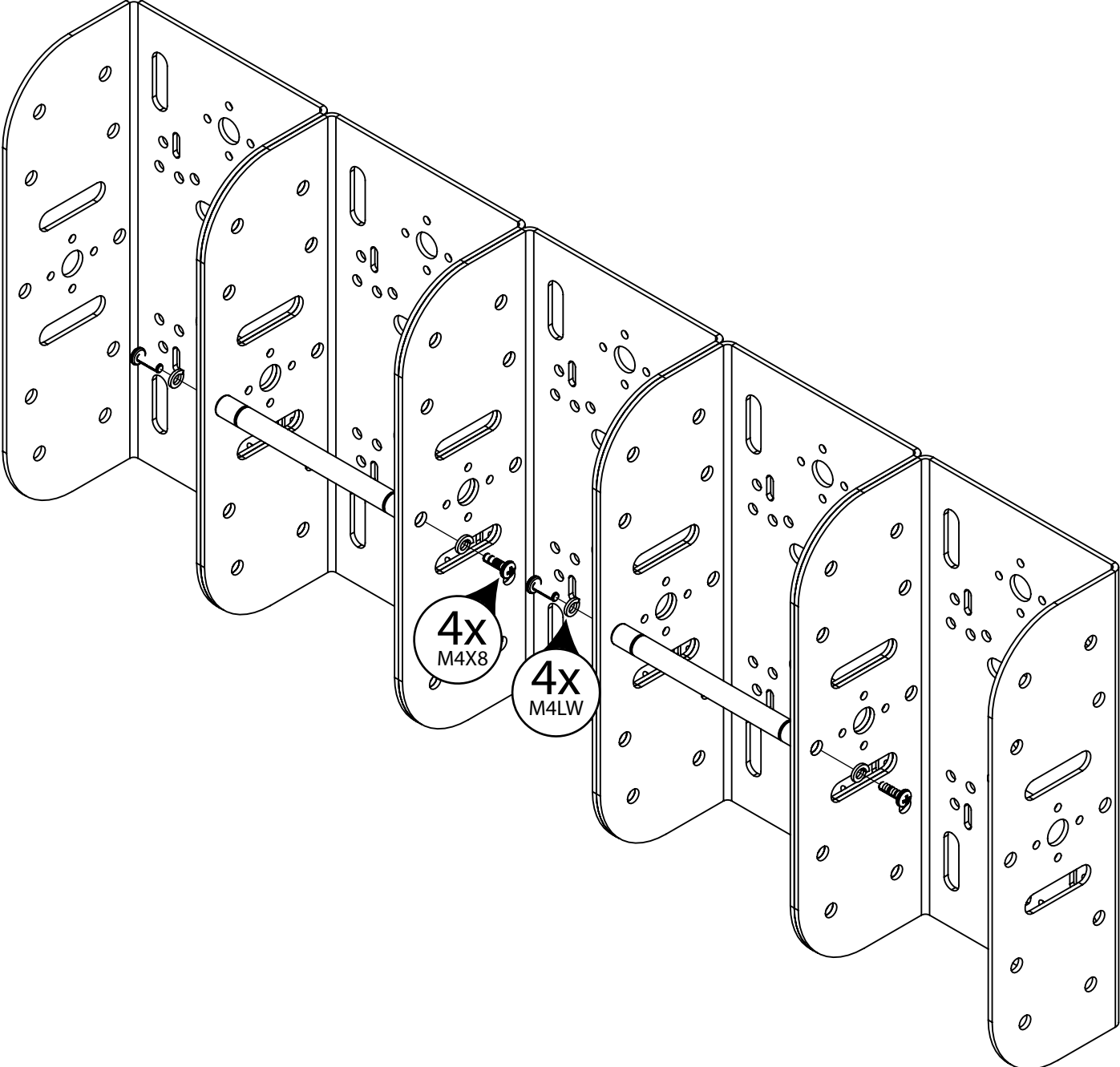


# STEP

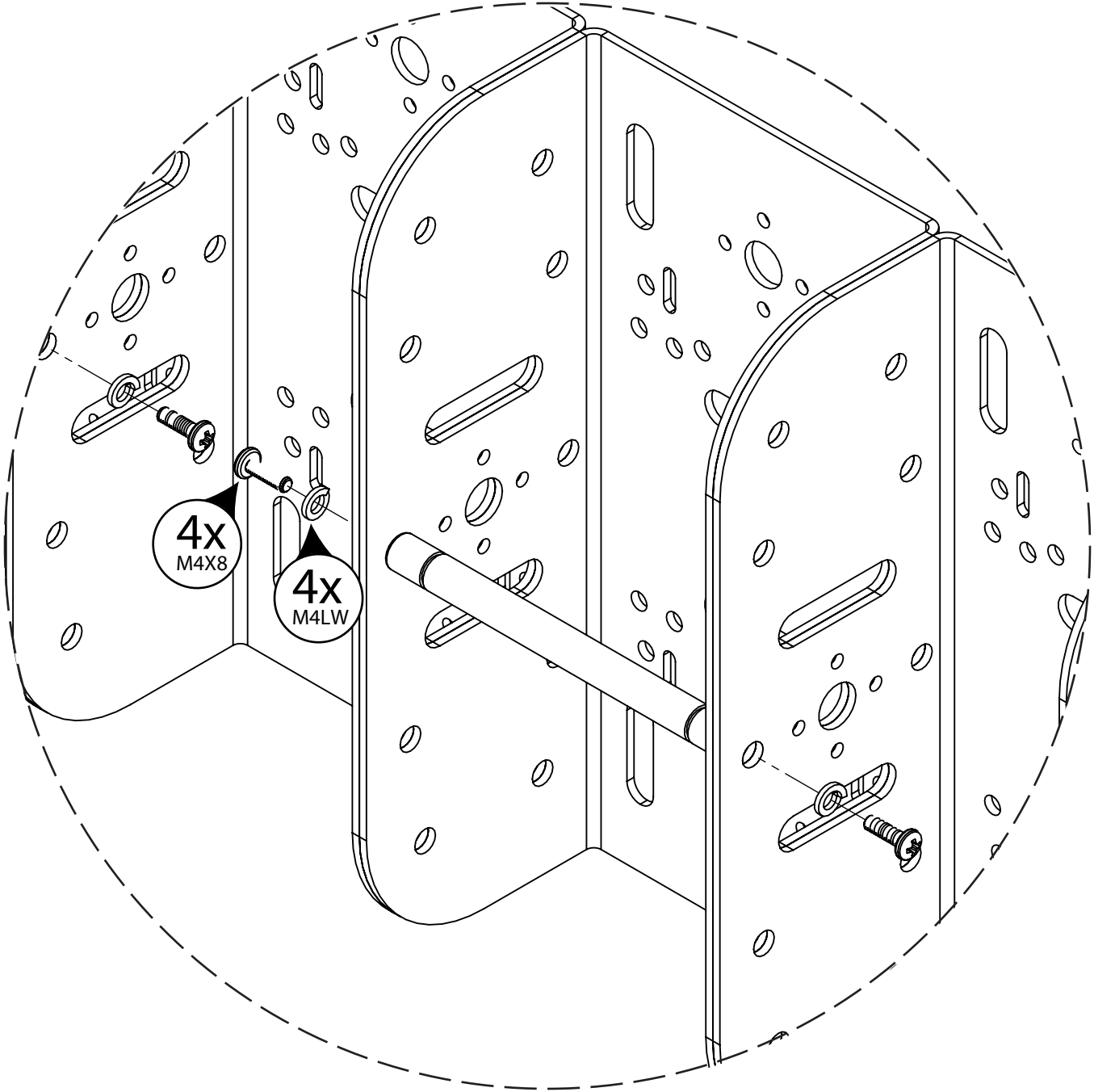
# 7



# STEP 8

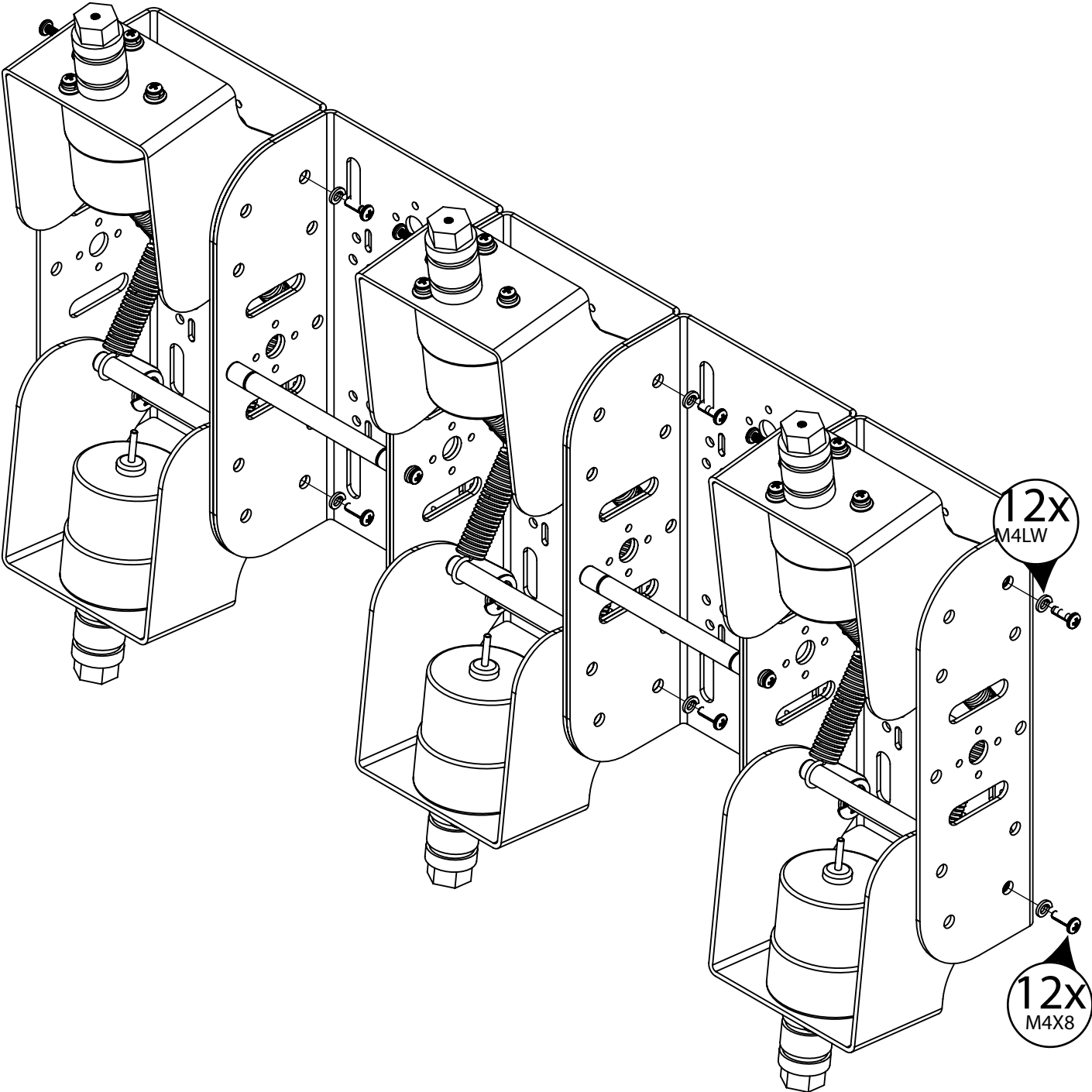


# STEP 9



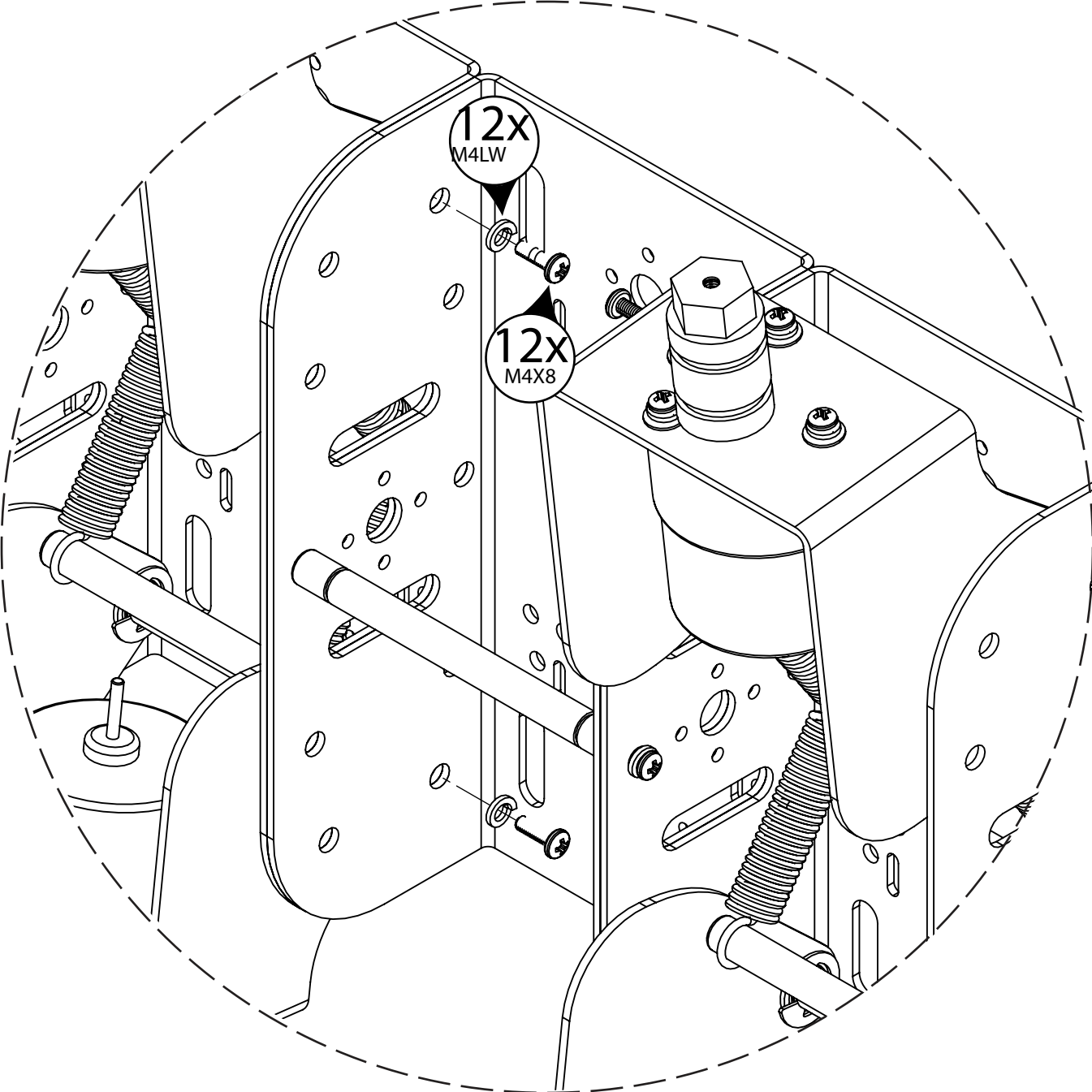
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# 10



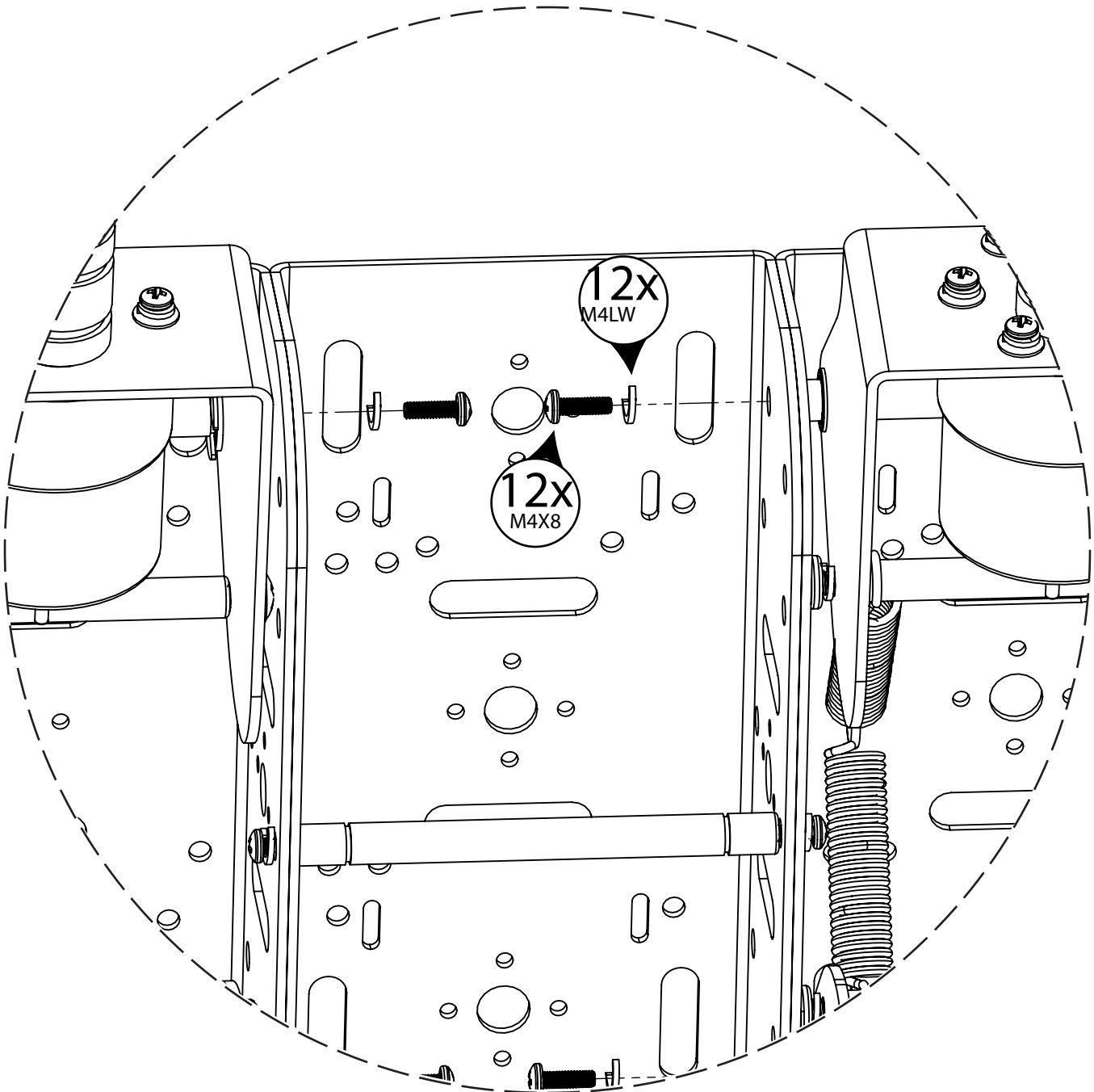
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# 11



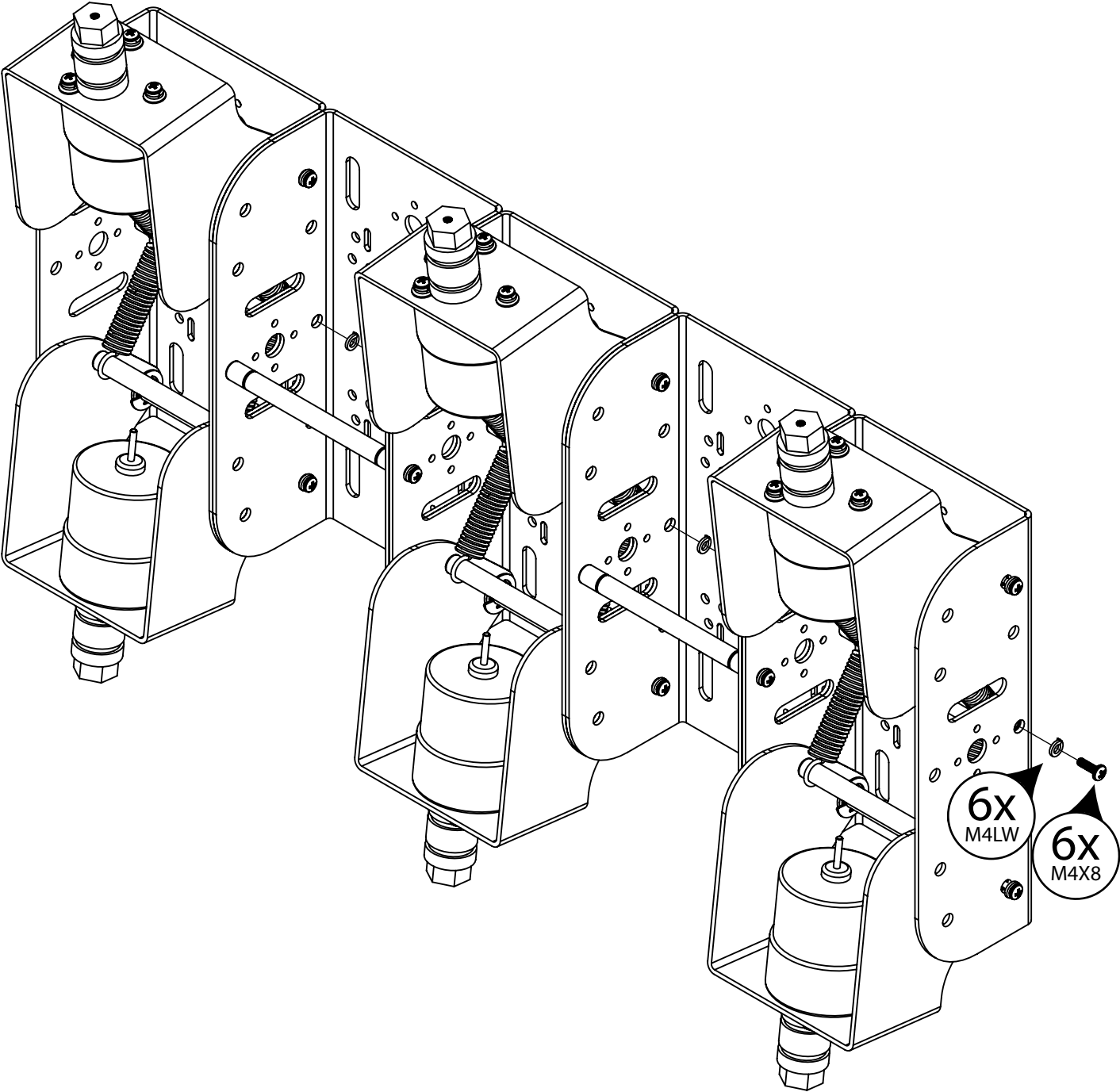
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# 12

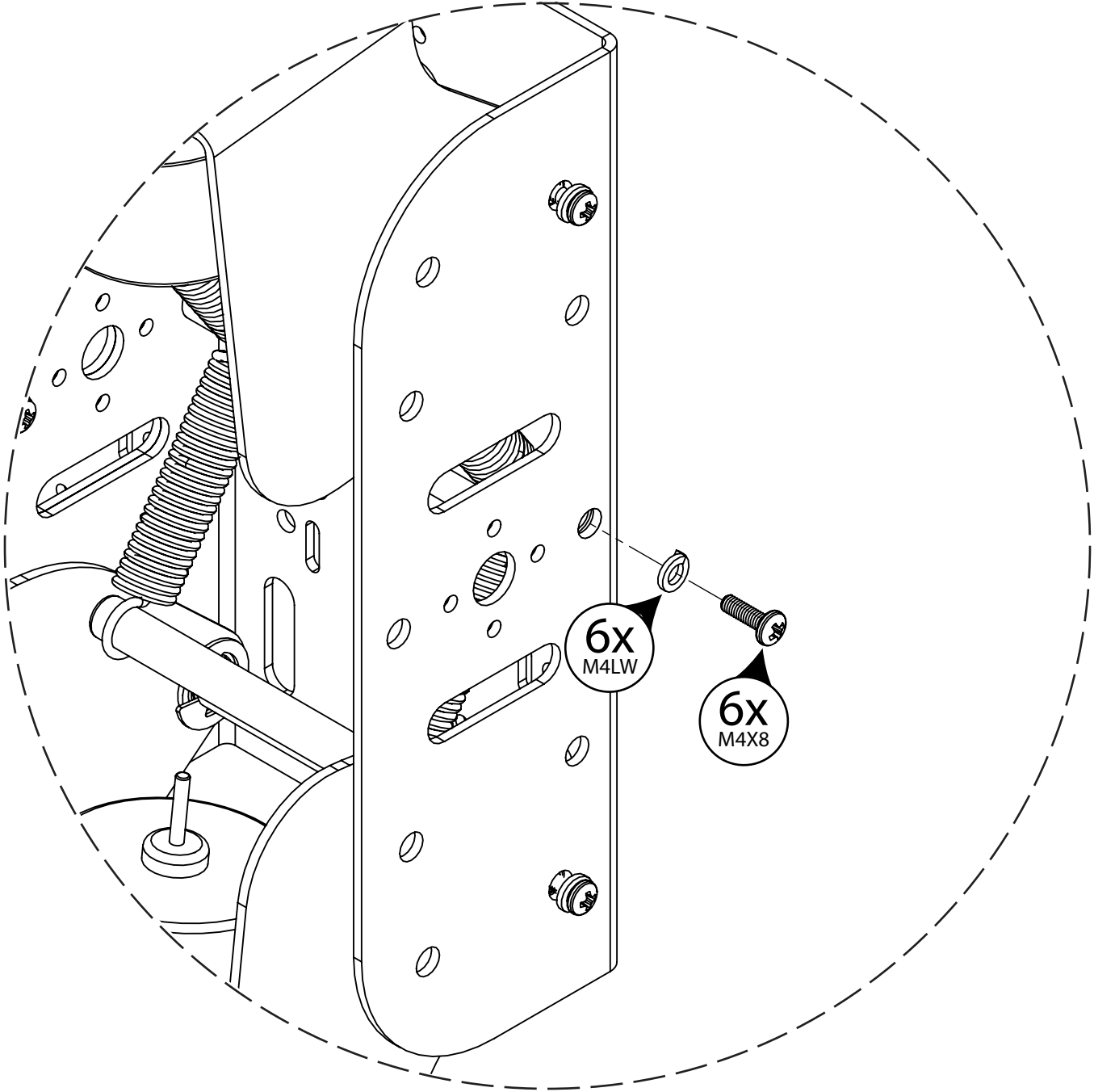


# STEP

# 13



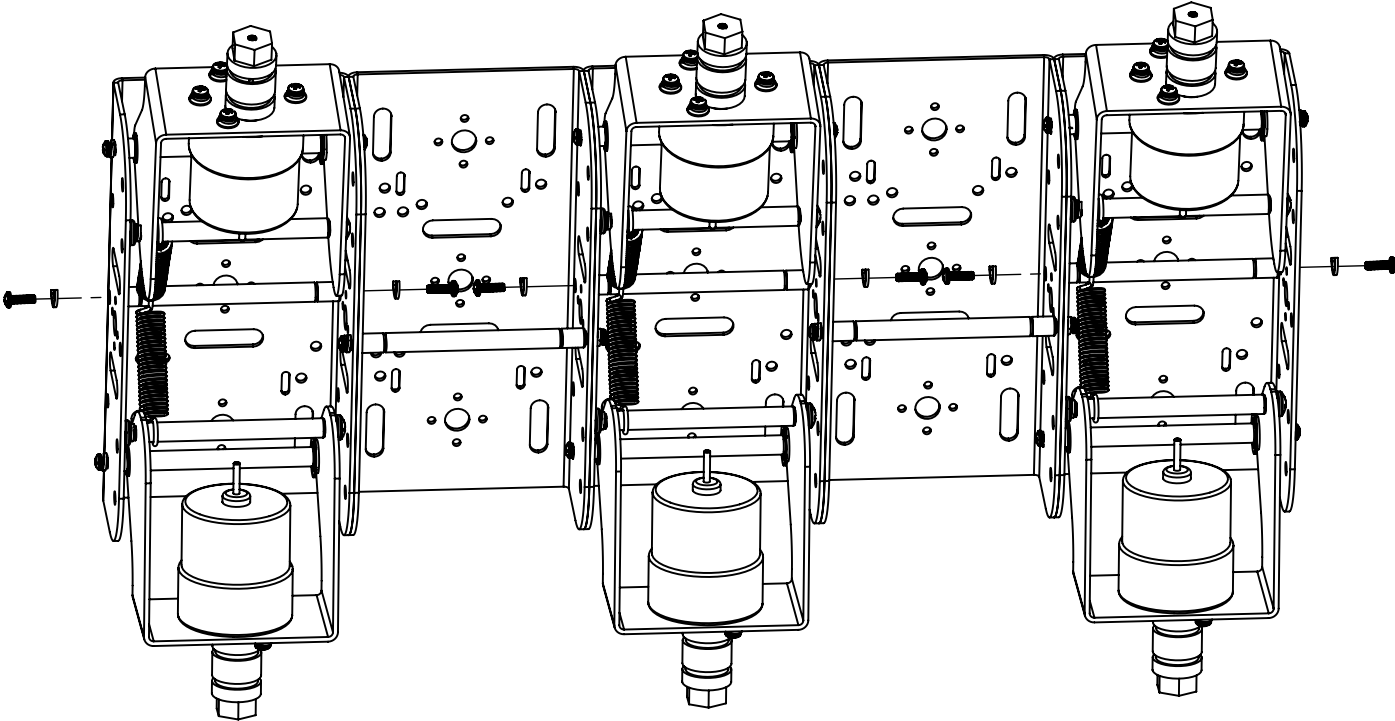
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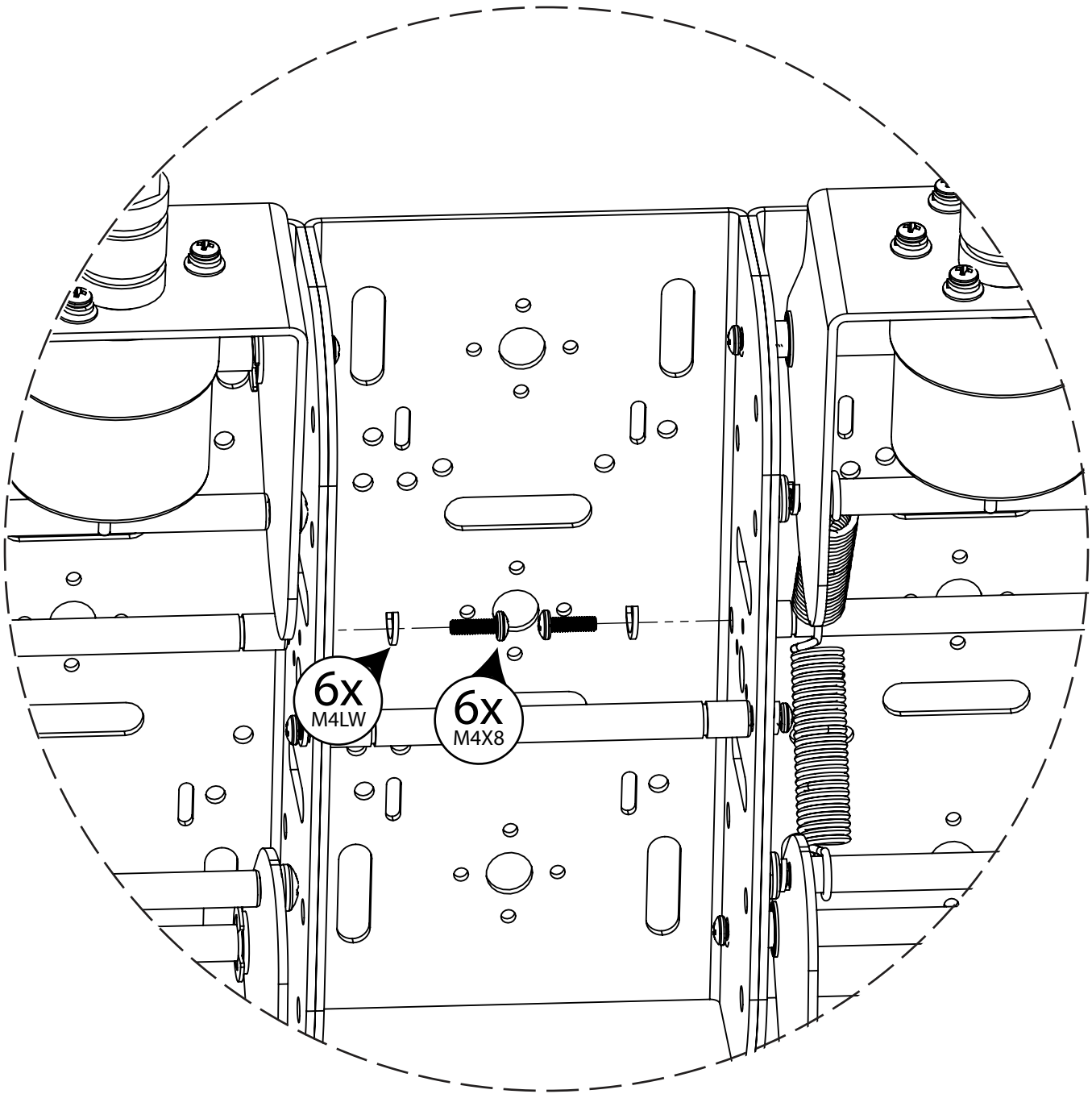
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# 15



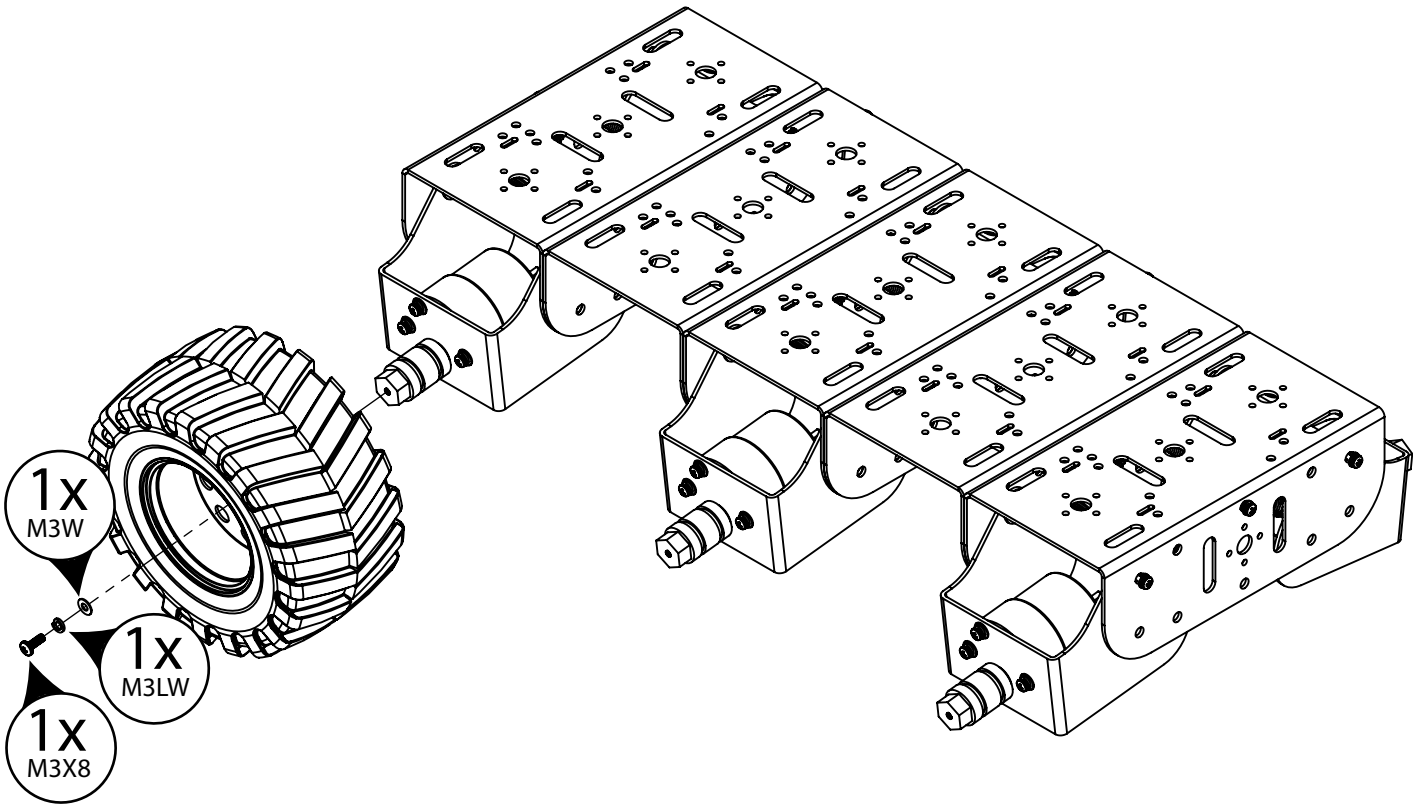
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# 16



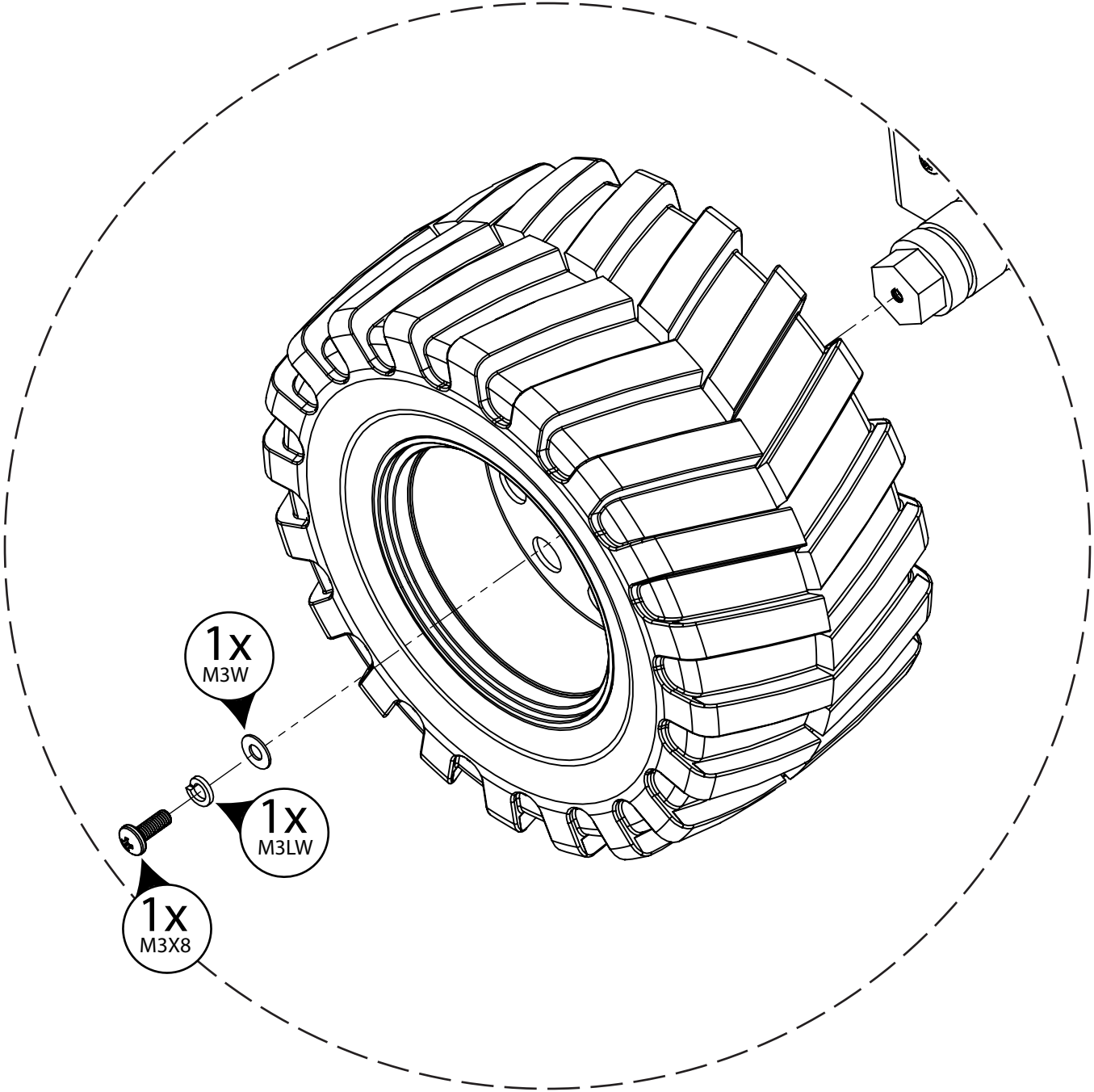
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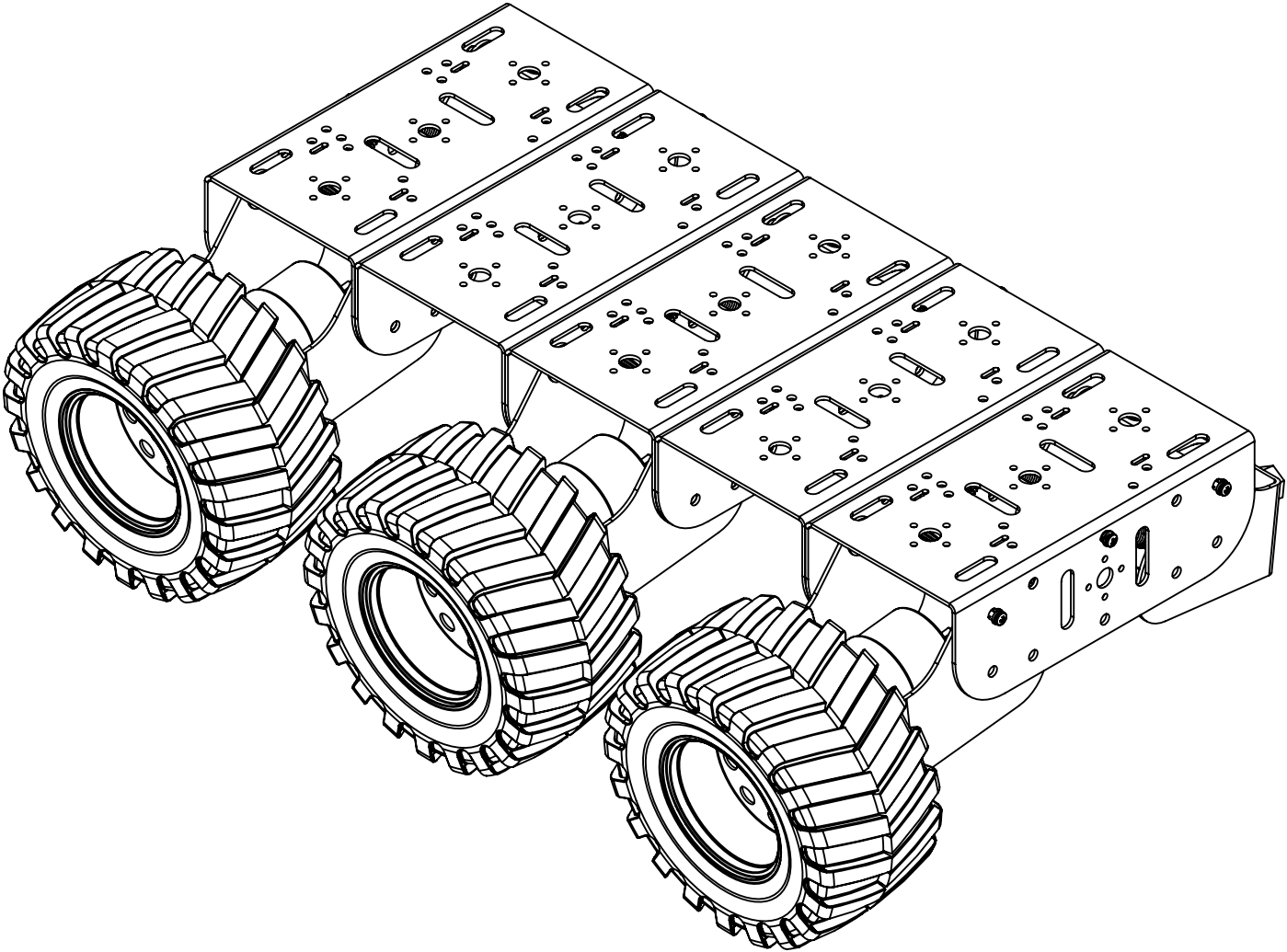
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# 18



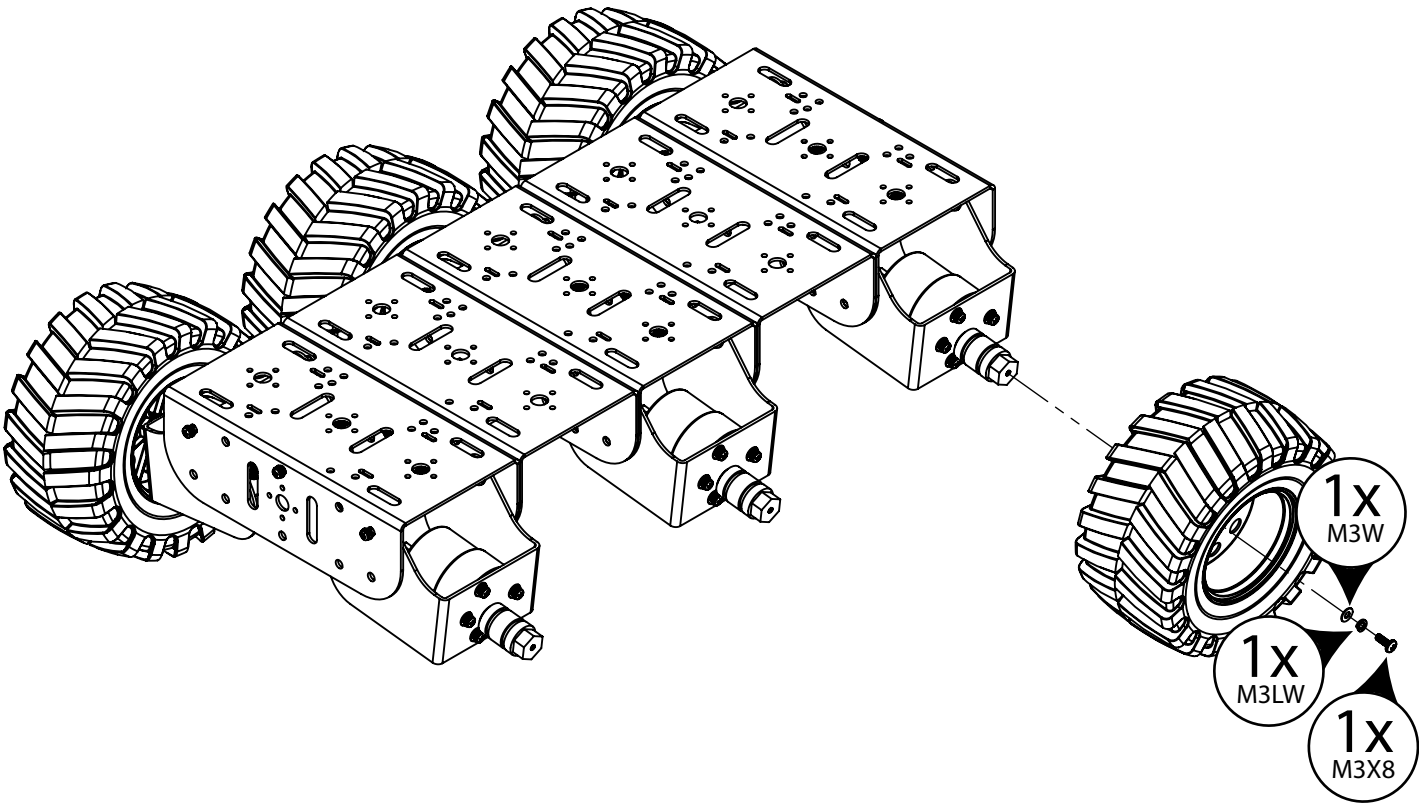
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# 19



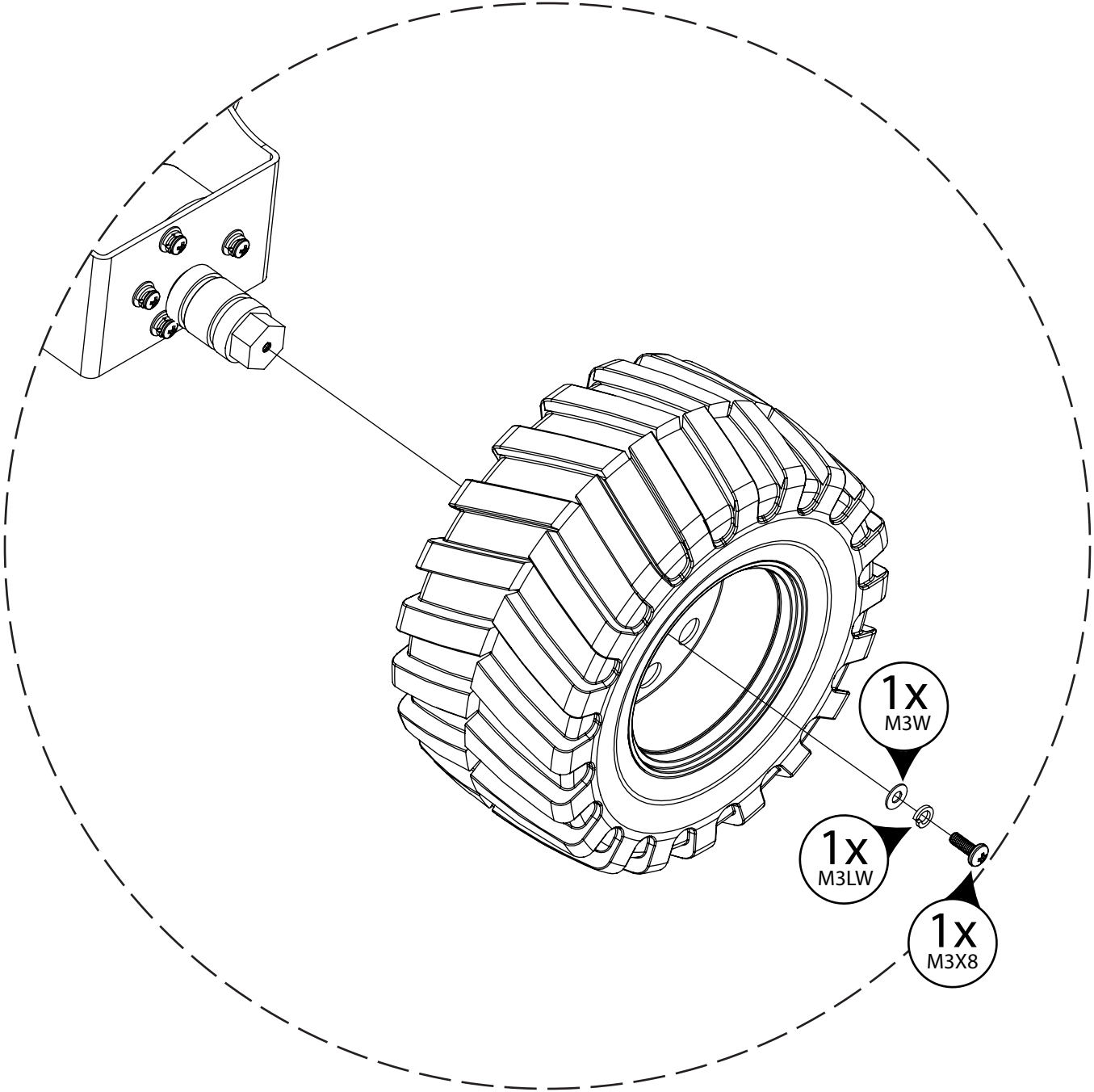
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# 20



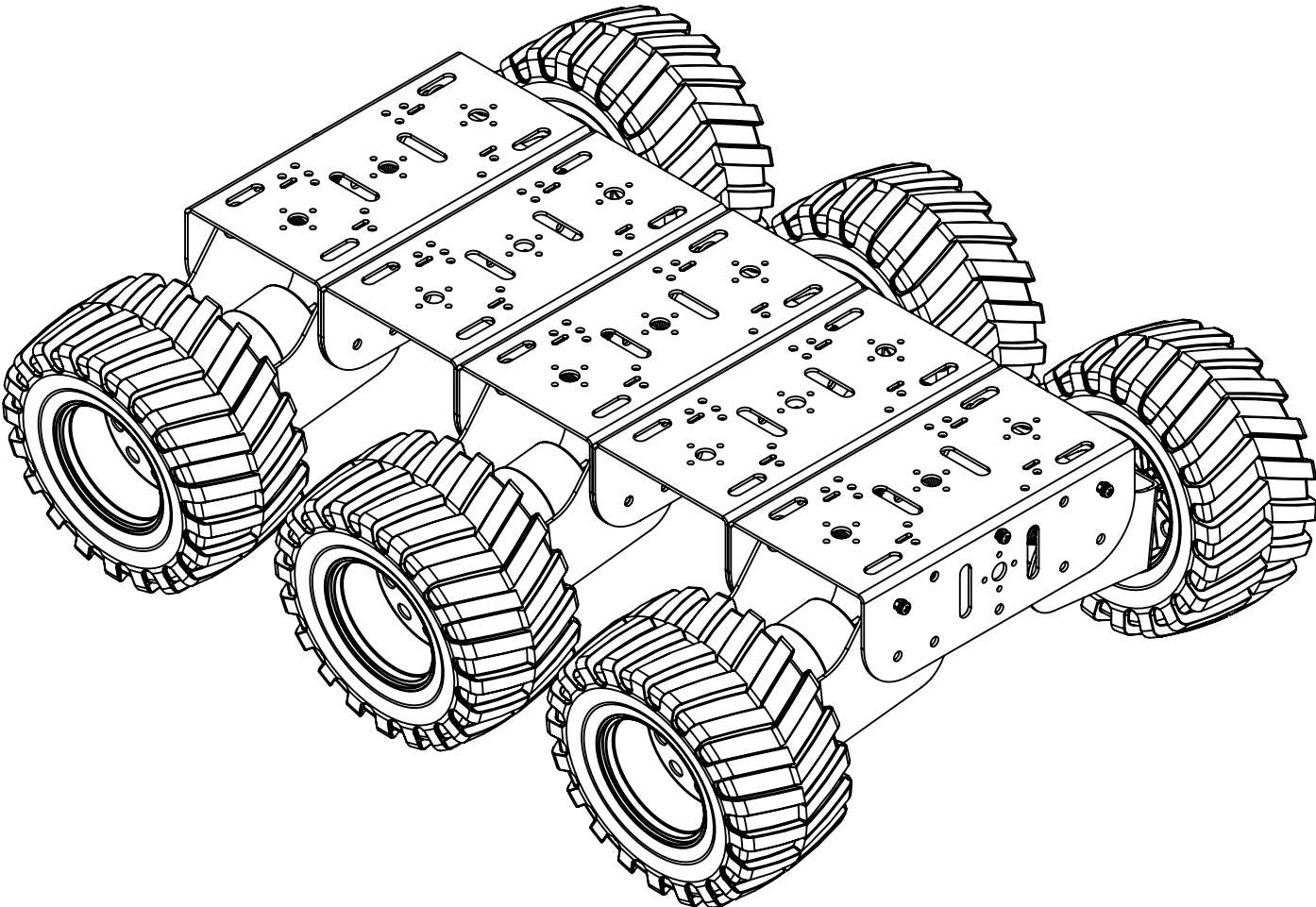
# STEP

# 21



# STEP

# 22

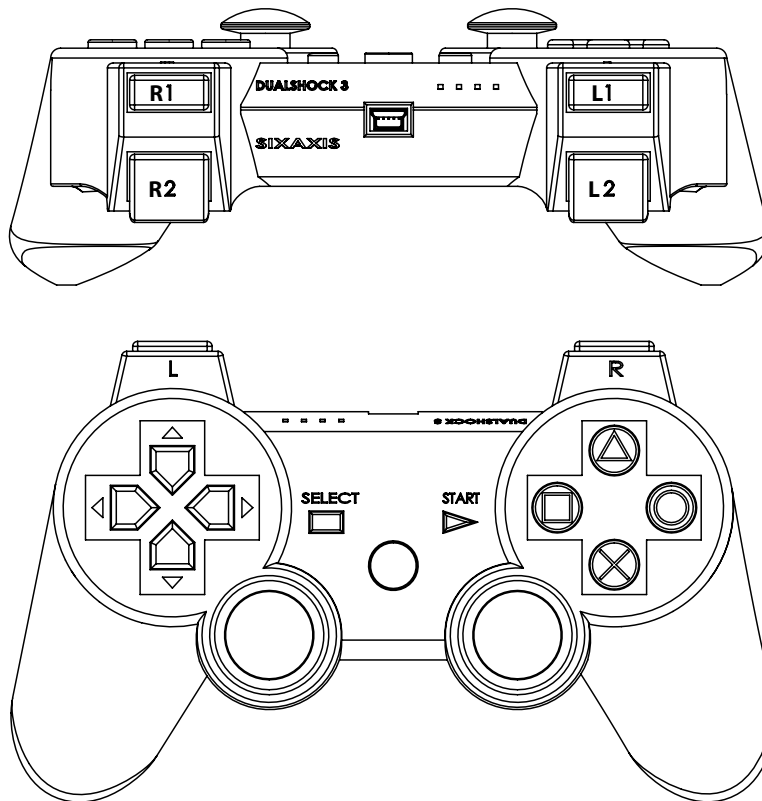




**Controller Functions**

The following tables defines each PS2 controller button function in the default Arduino program.

PS2 Button	Function	Notes
Right Joystick Up	Forward	
Right Joystick Down	Reverse	
Right Joystick Left	Turn Left	
Right Joystick Right	Turn Right	
Select	Activate/Deactivate	



## Wiring Table

From	To
Battery +	Vin
Battery -	GND
Right Motor +	Roboclaw M1+
Right Motor -	Roboclaw M1-
Left Motor +	Roboclaw M2+
Left Motor -	Roboclaw M2-
Roboclaw S1	P0
Roboclaw S2	P1
PS2 Controller	P6

**Warranty**

Orion Robotics warrants its products against defects in material and workmanship for a period of 90 days. If a defect is discovered, Orion Robotics will, at our discretion, repair, replace, or refund the purchase price of the product in question. Contact us at [support@orionrobotics.com](mailto:support@orionrobotics.com). No returns will be accepted without the proper authorization.

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**Discussion List**

A web based discussion board is maintained at <http://www.orionrobotics.com>.

**Technical Support**

Technical support is made available by sending an email to [support@orionrobotics.com](mailto:support@orionrobotics.com). All email will be answered within 48 hours. All general syntax and programming questions, unless deemed to be a software issue, will be referred to the on-line discussion forums.