

MÃO NA MASSA

Robô Relógio

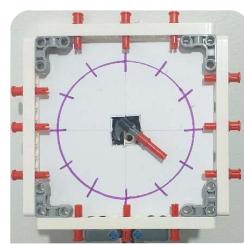
Agora que conhecemos as variações das engrenagens, seus tipos e sua influência na força e velocidade de um motor quando variamos as combinações, vamos realizar a montagem de um relógio. Formem grupos e sigam as etapas do passo a passo.

Como sugestão, para melhor compreensão da atividade, desenhem com um transferidor uma circunferência em um papel de gramatura maior (com dimensões iguais às do relógio) e raio da circunferência de 4,5 cm.

Robô Relógio



© Acervo Edilene



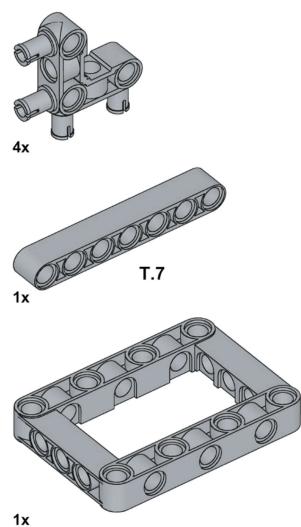
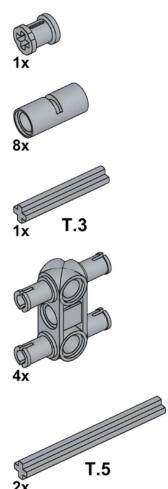
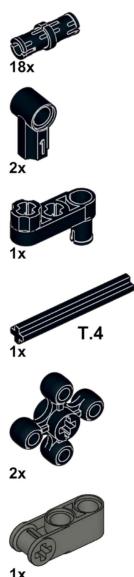
© Samuel Vecchia de Castro Leite, 2021

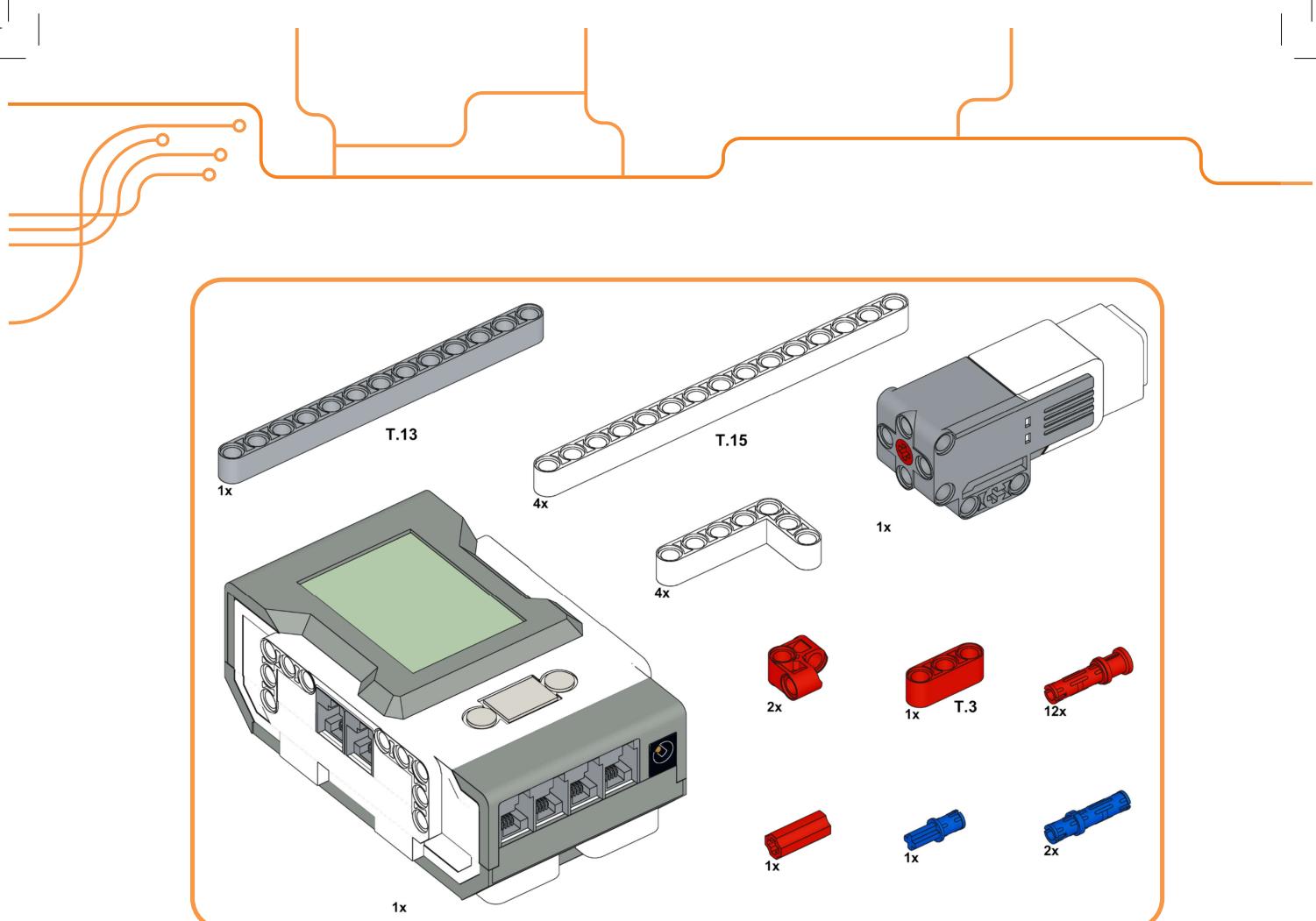
Sugestão para o desenho da circunferência no Projeto Relógio

MANUAL PASSO A PASSO

MONTAGEM

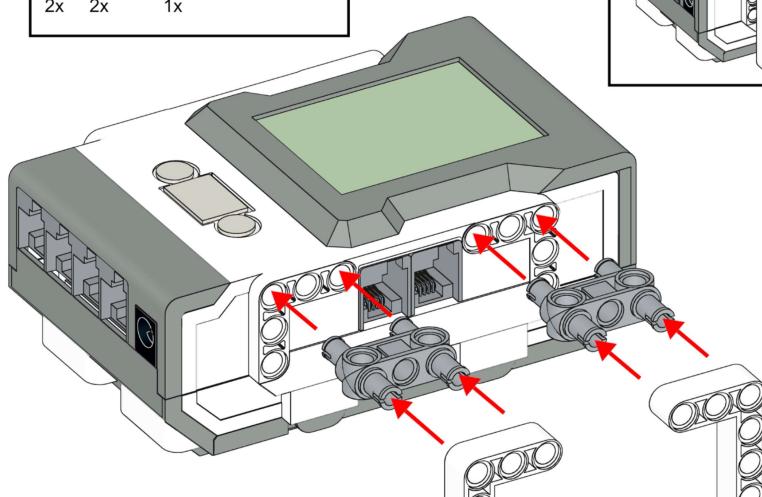
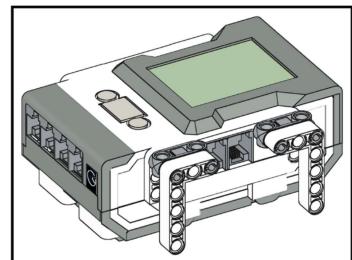
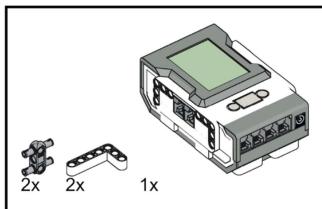
Antes de começar, faça um checklist das peças de que precisará para montar seu Robô Relógio.





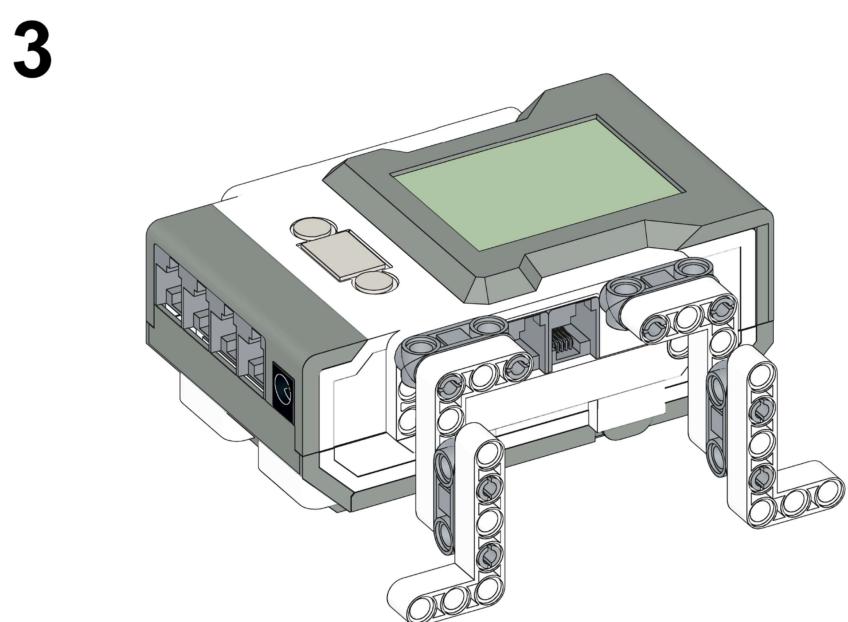
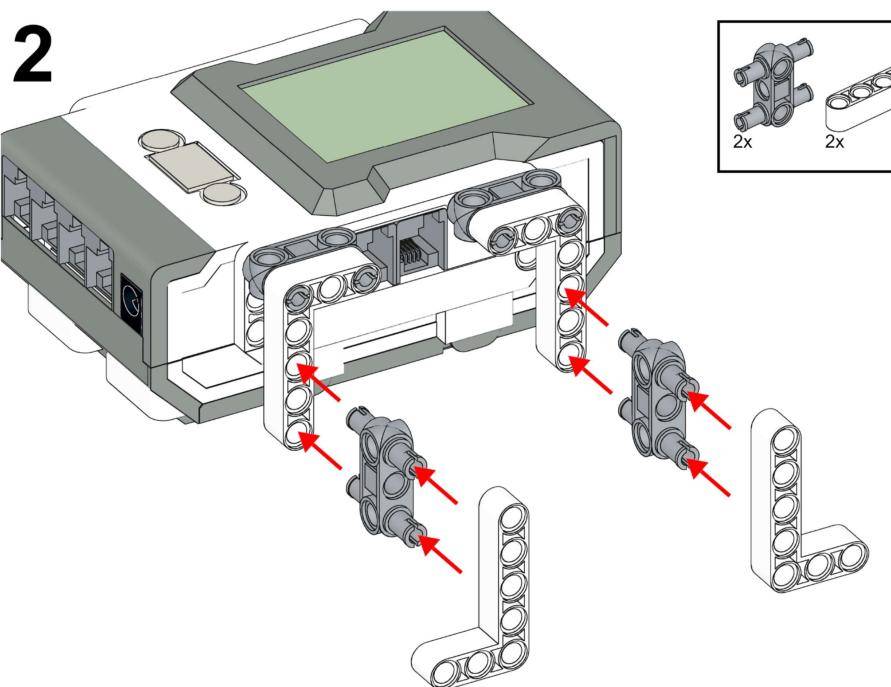
A seguir, acompanhe o passo a passo da montagem do Robô Relógio.

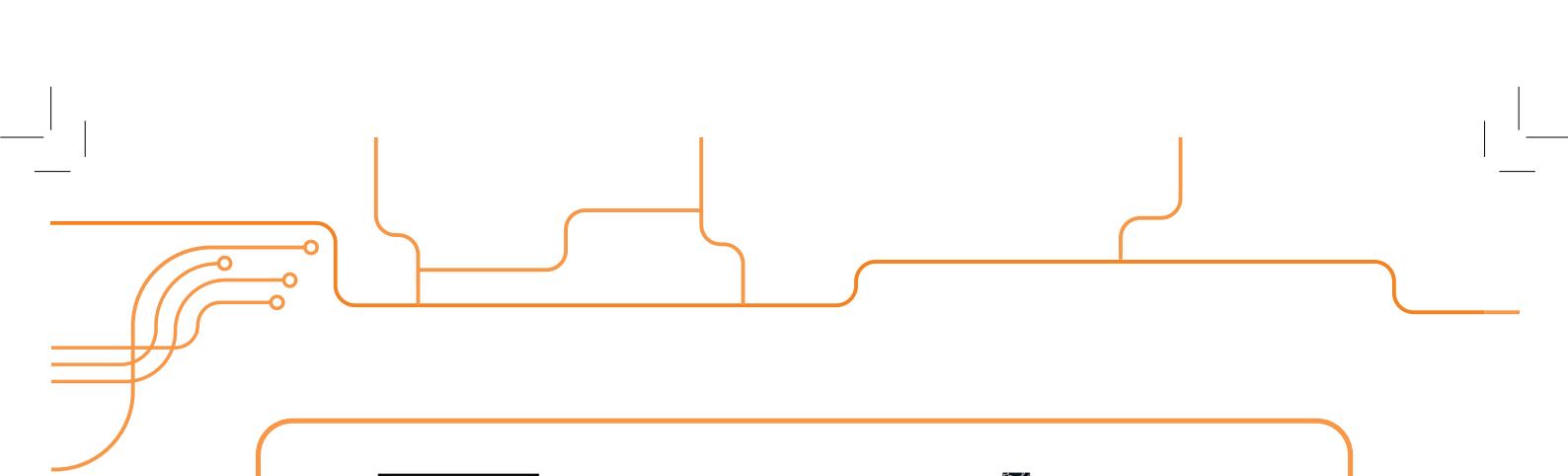
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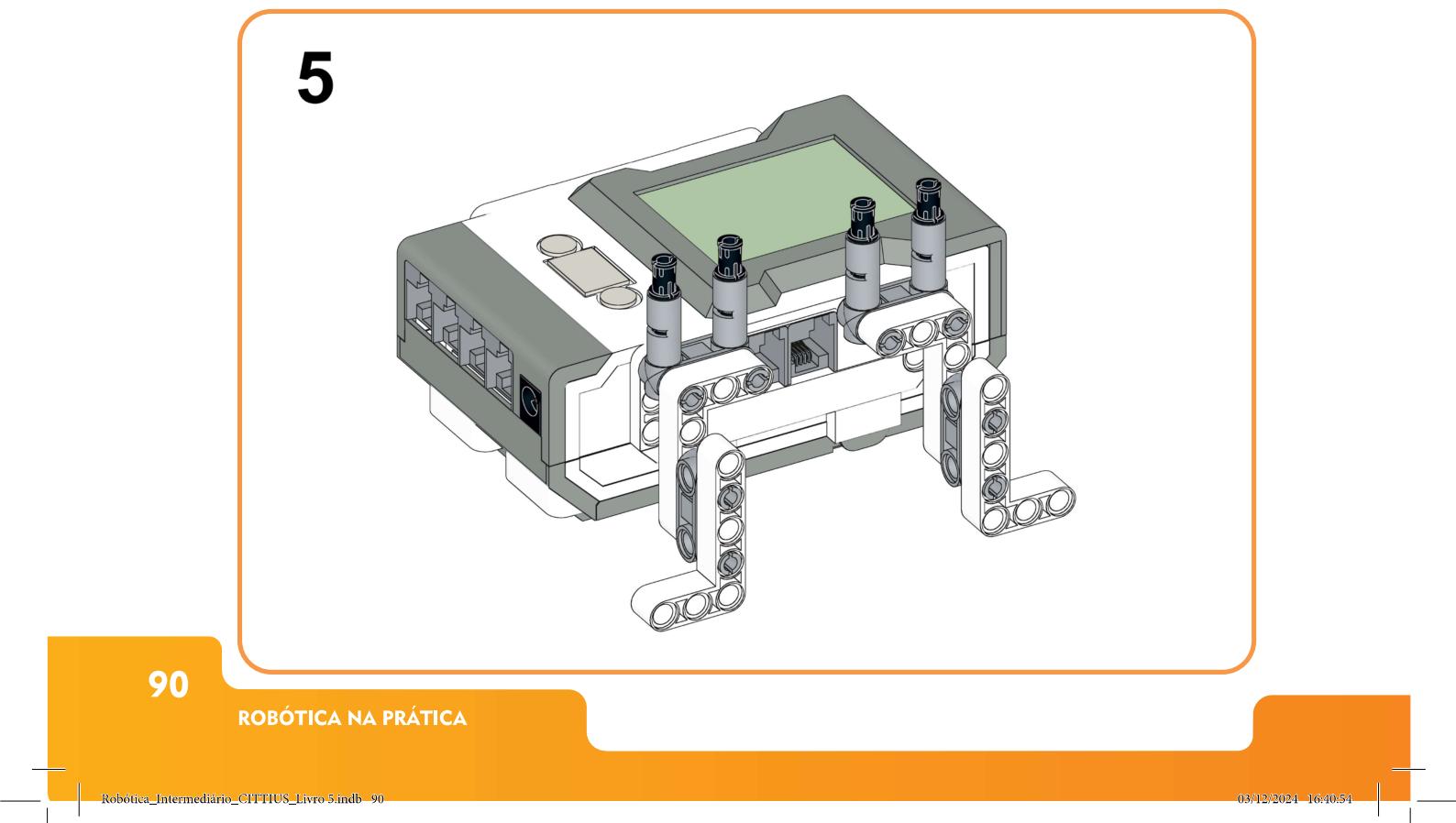
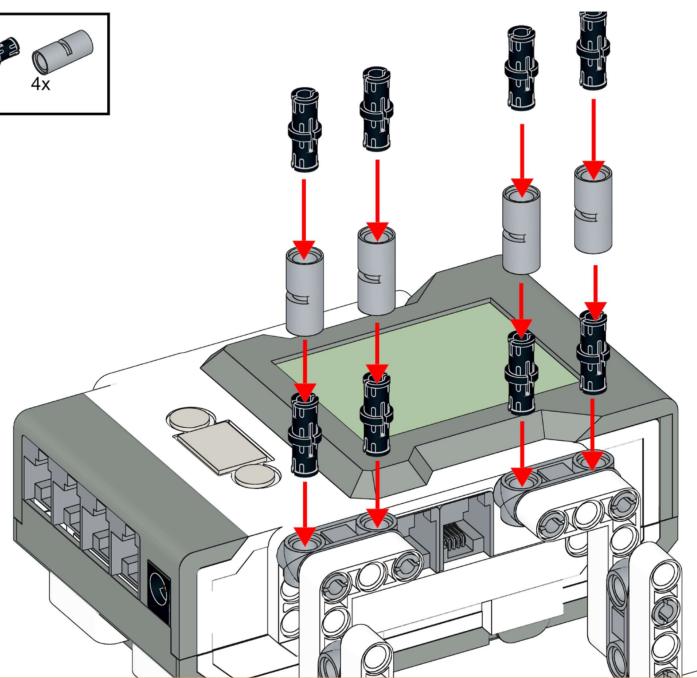
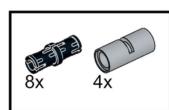
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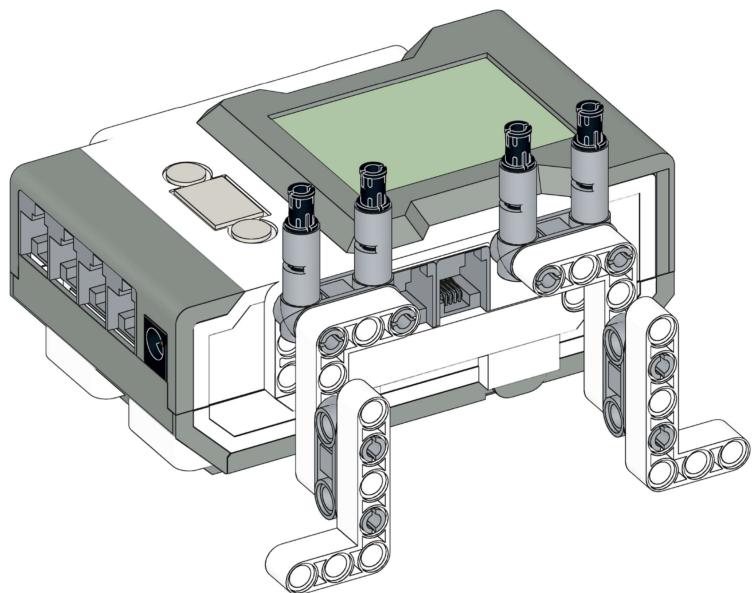




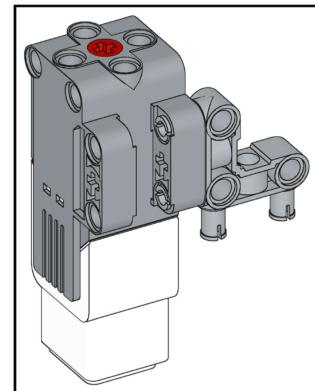
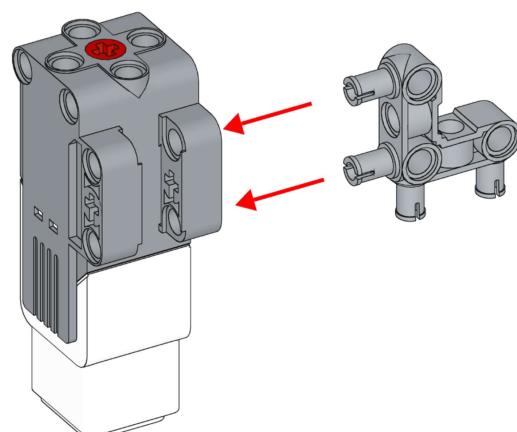
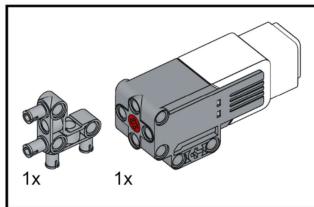
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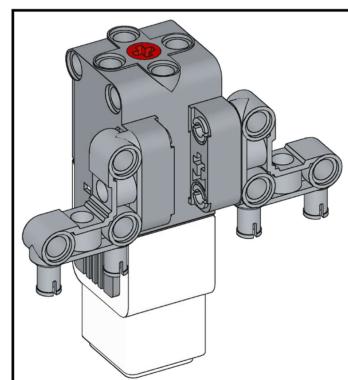
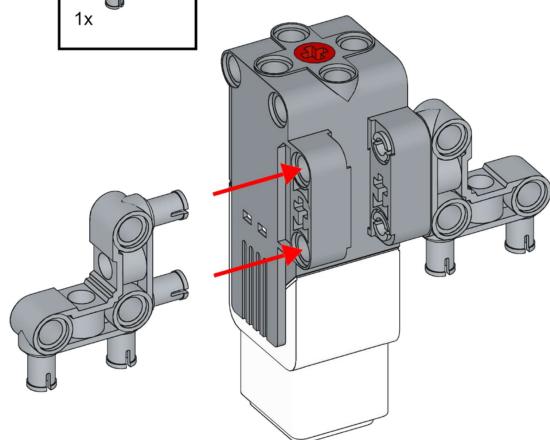
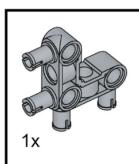
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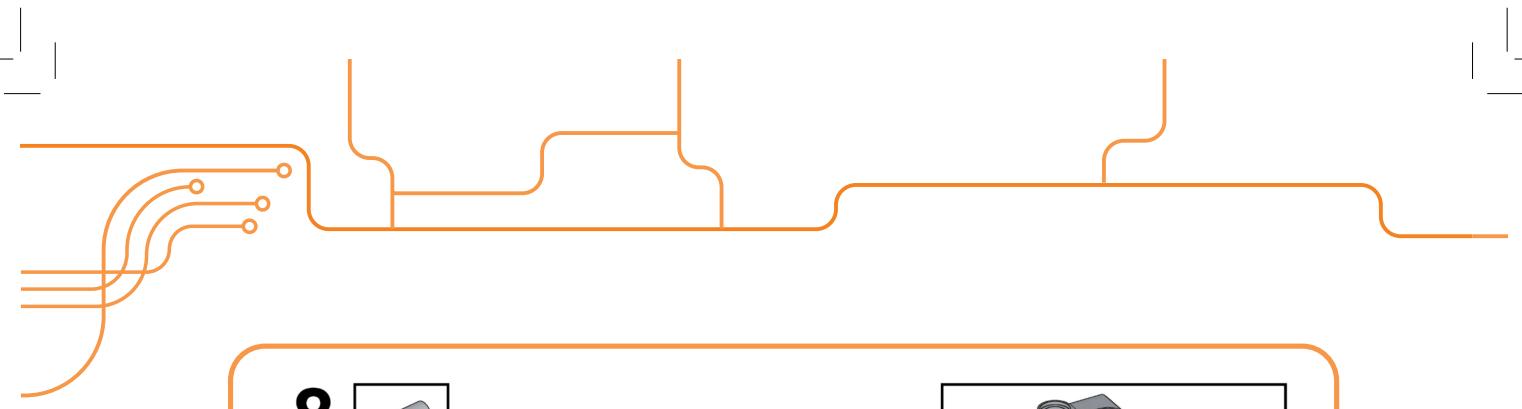


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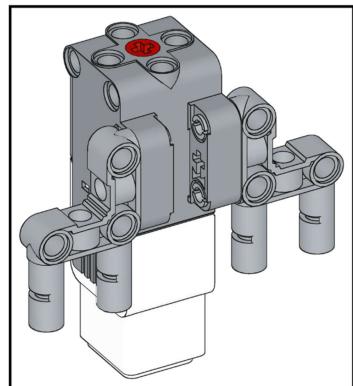
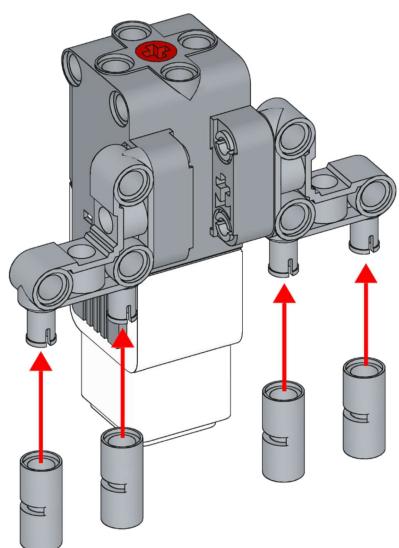
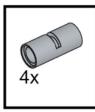


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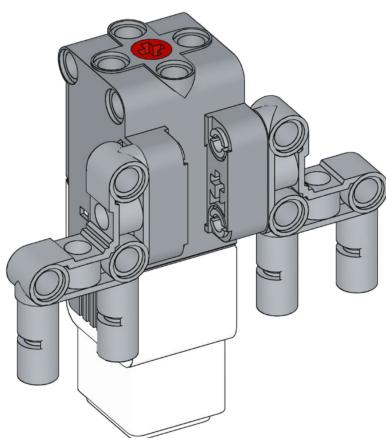




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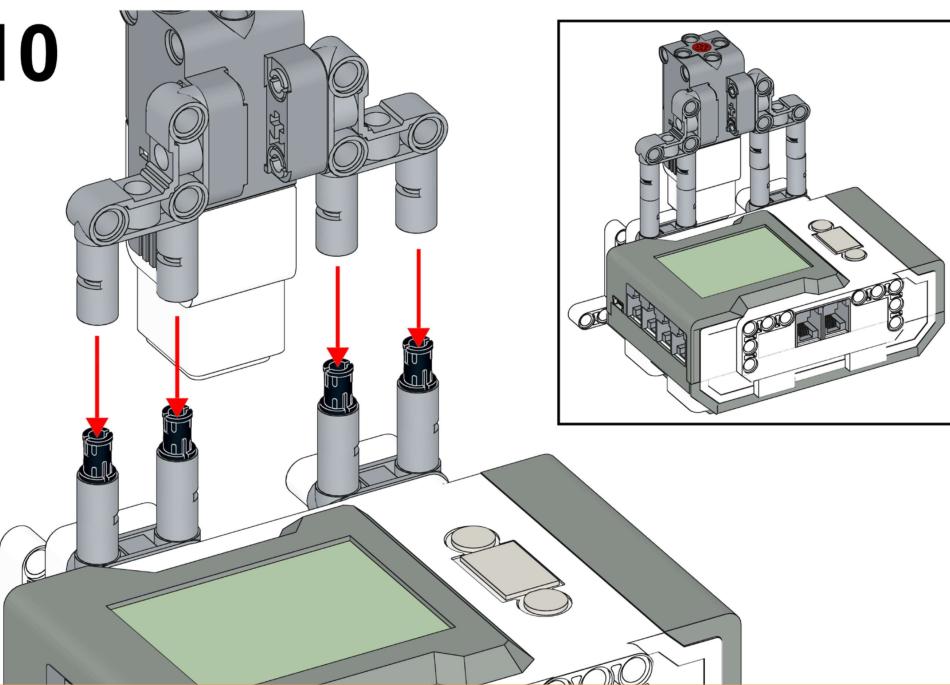
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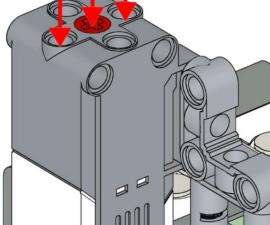
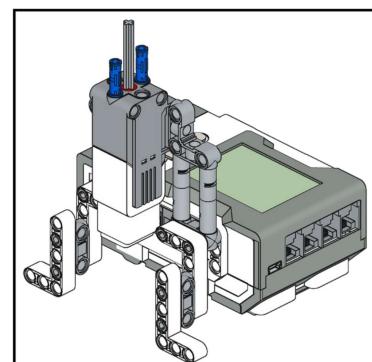
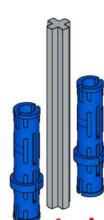
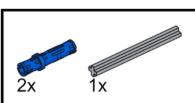
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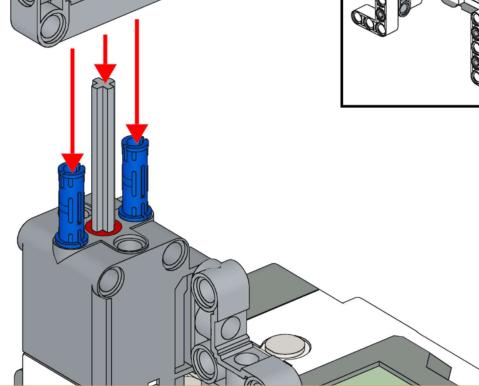
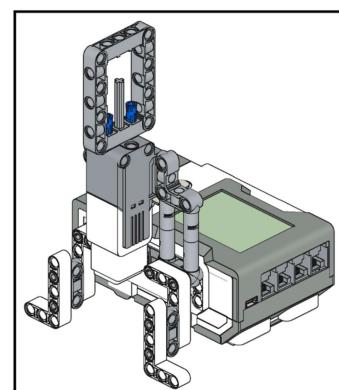
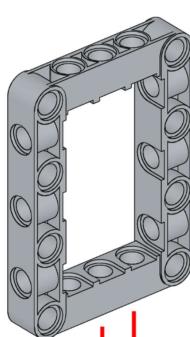
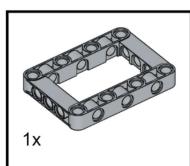
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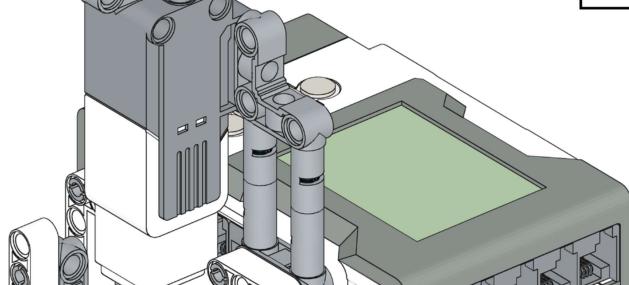
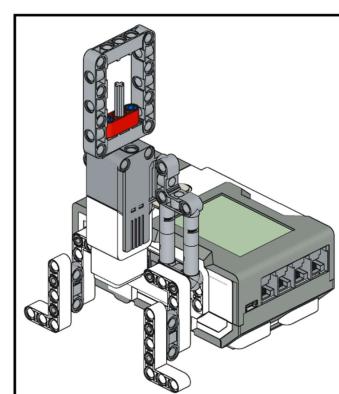
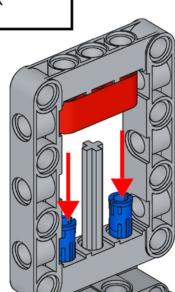
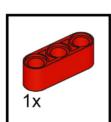
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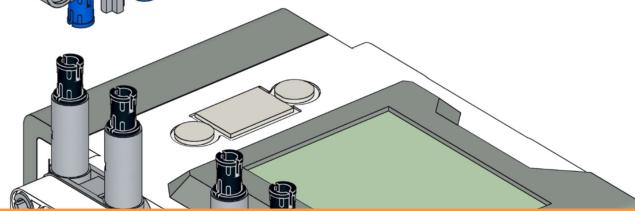
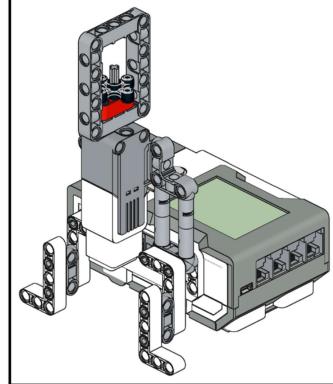
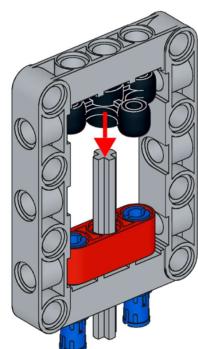
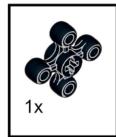
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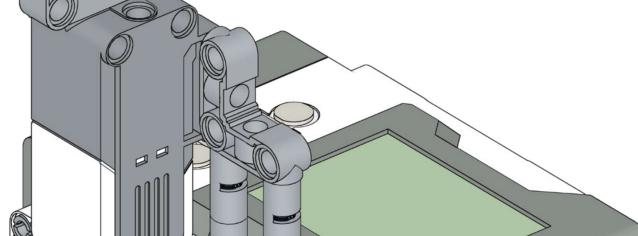
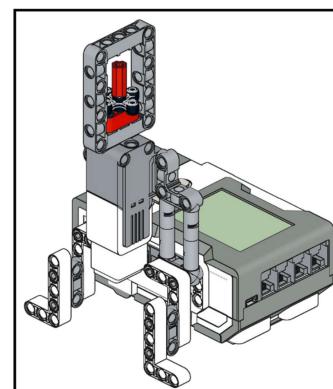
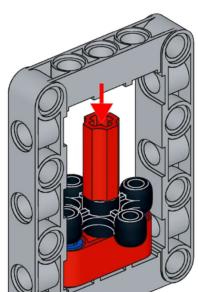
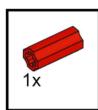
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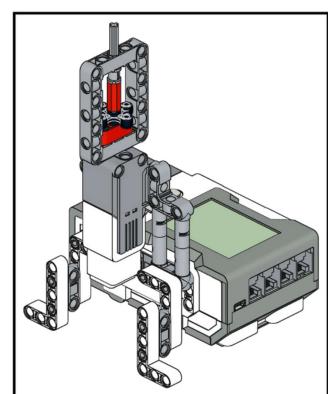
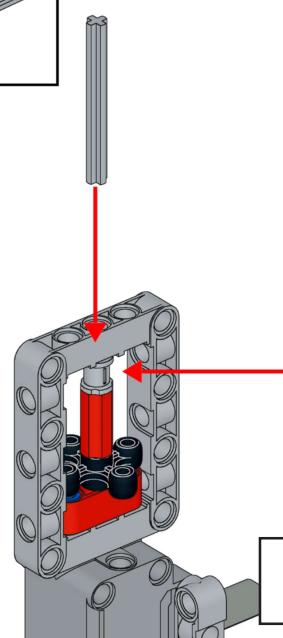
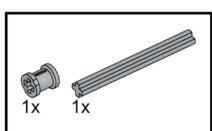
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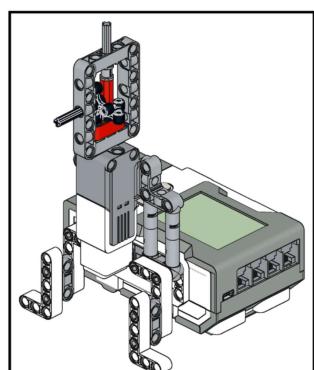
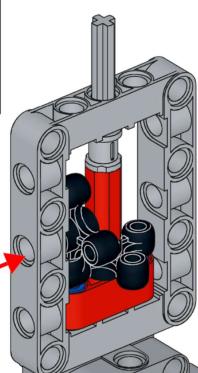
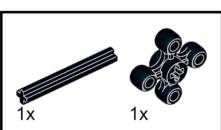


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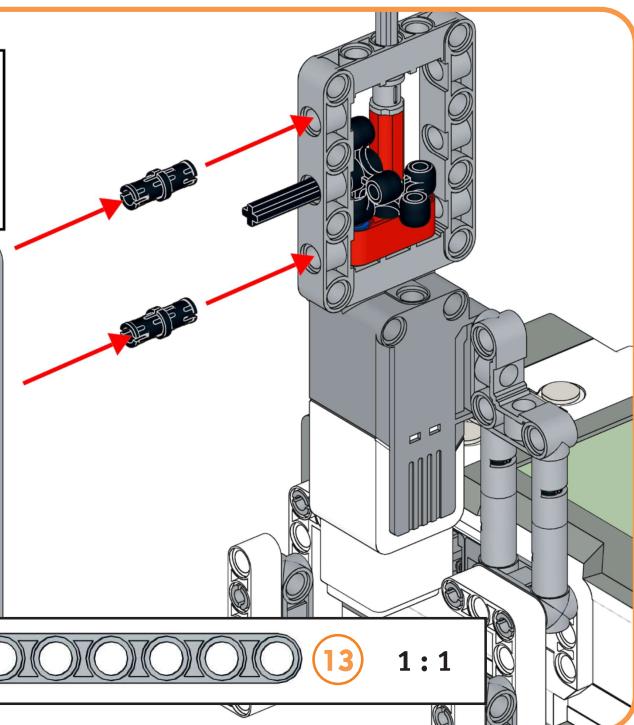
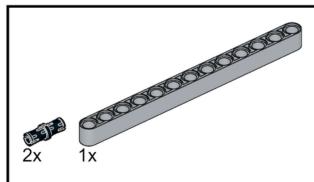
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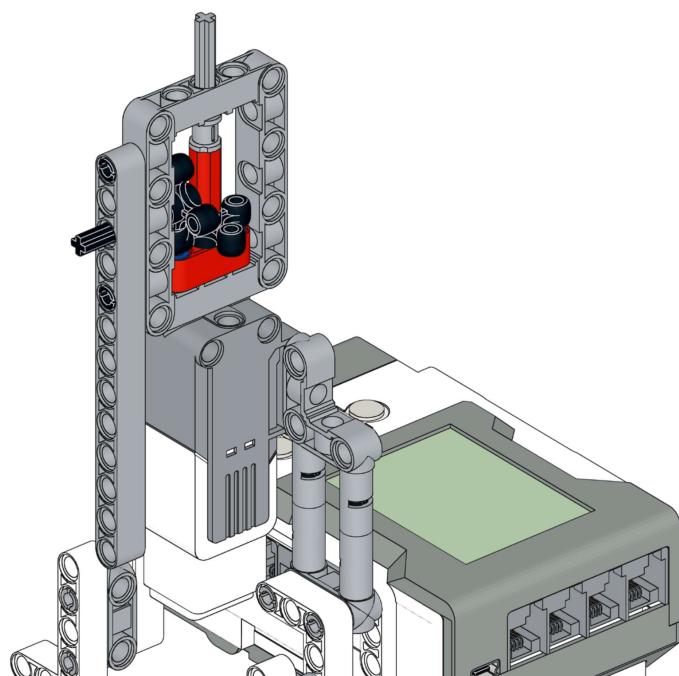


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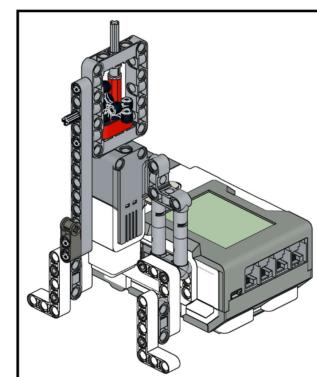
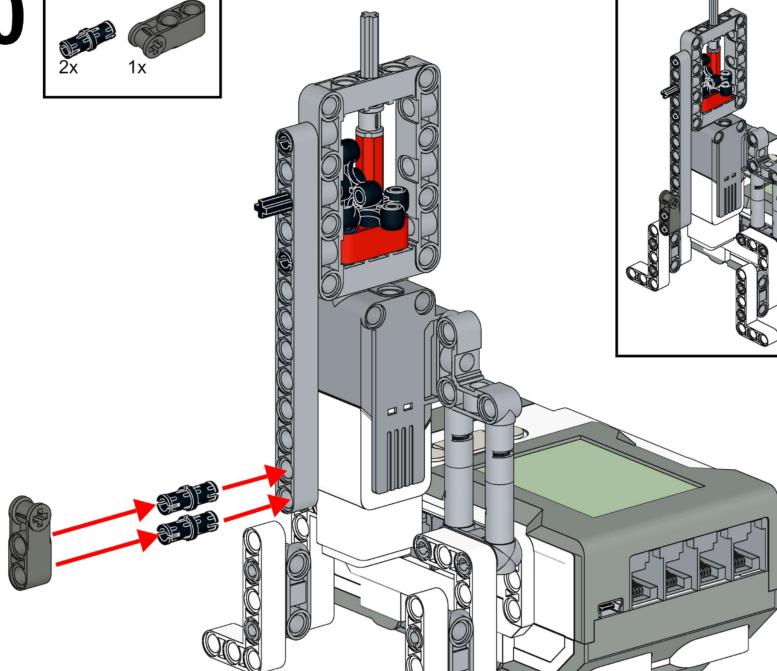
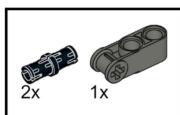
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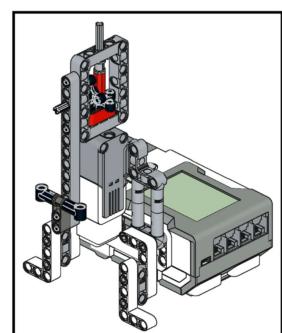
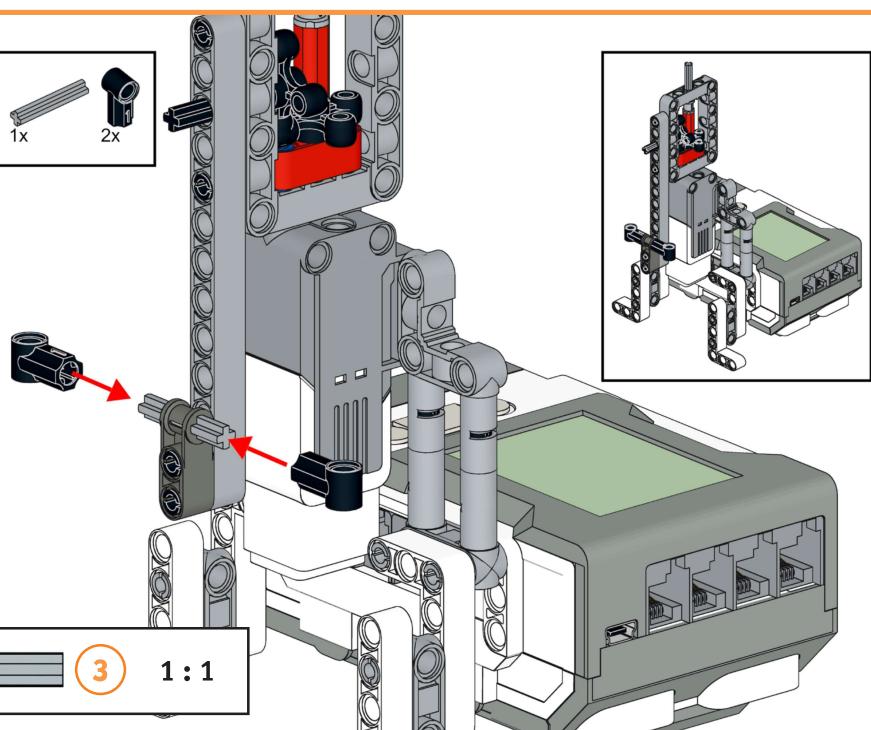
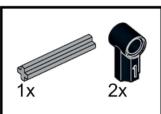
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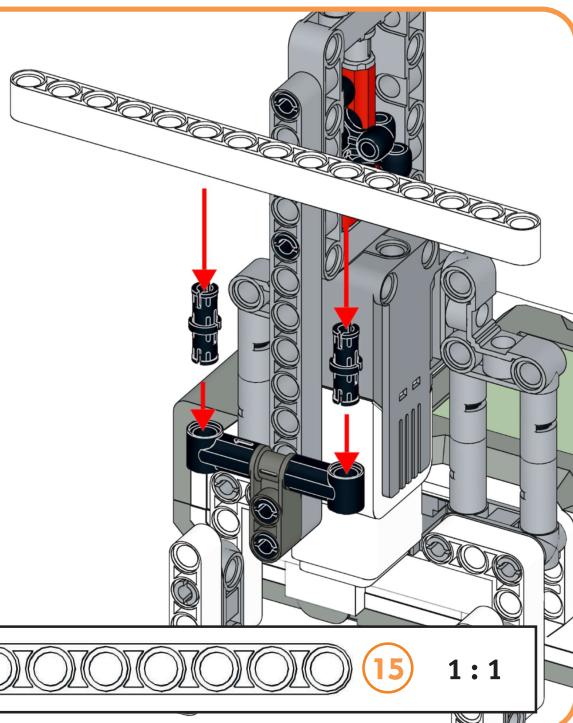
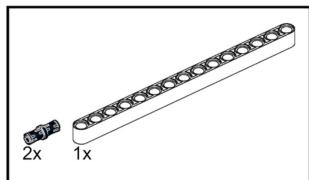
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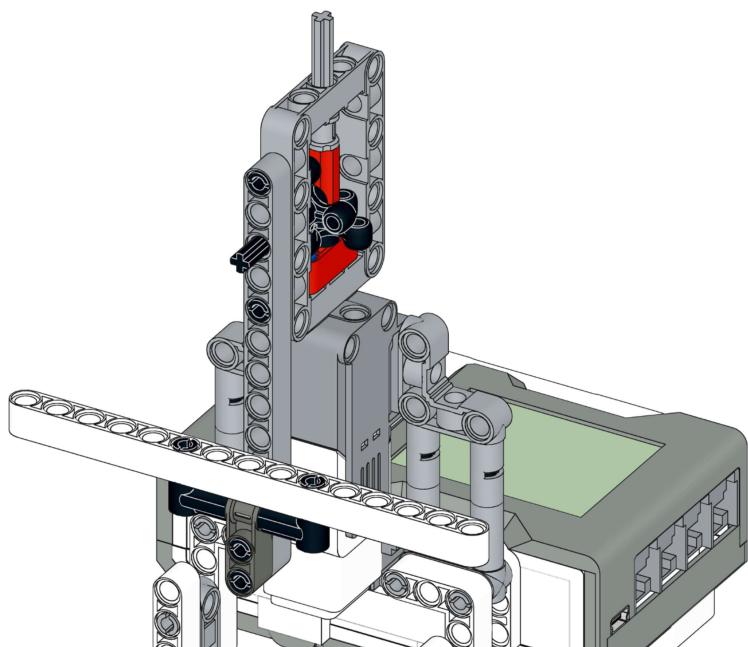
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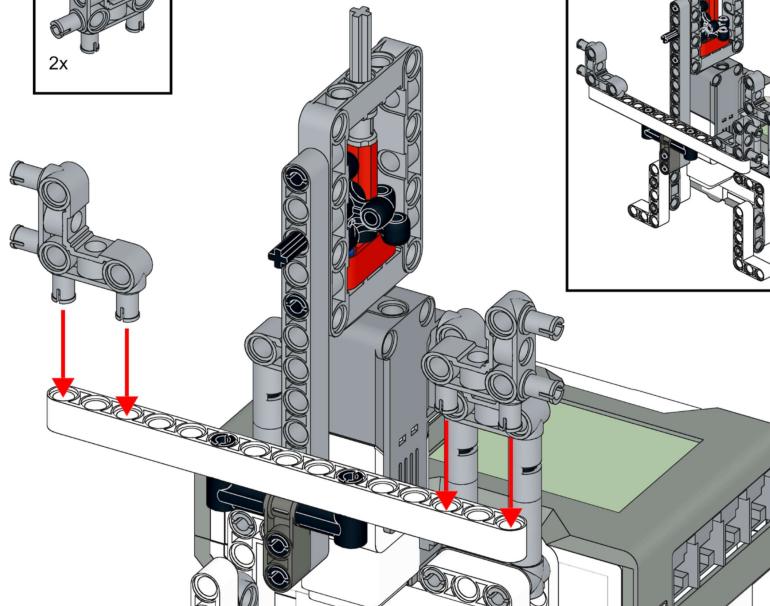
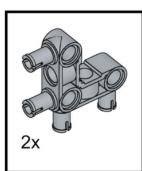


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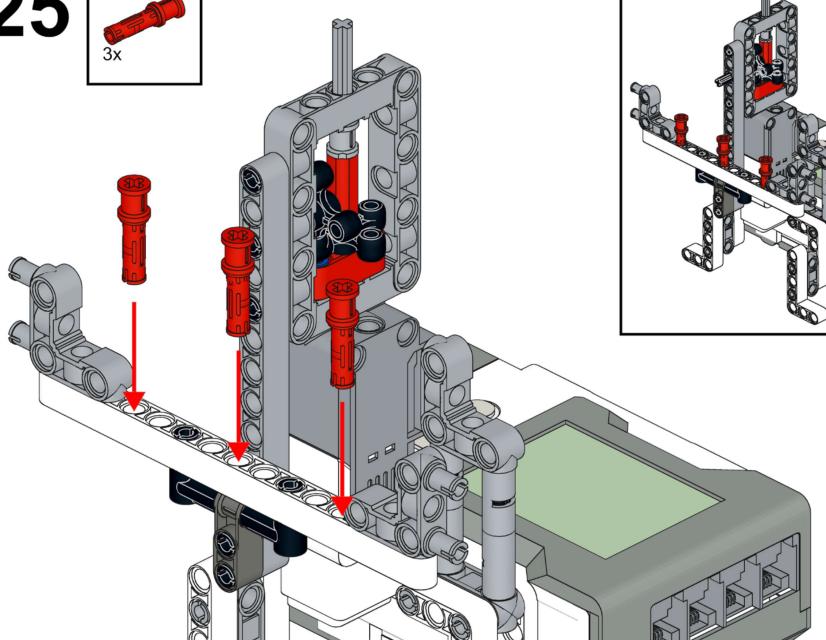
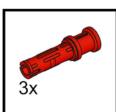
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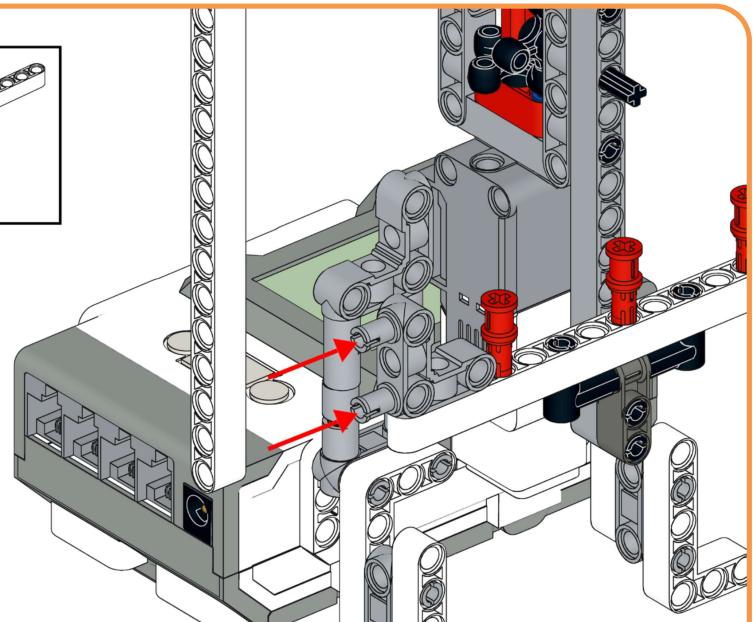
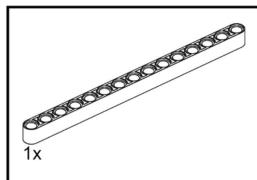
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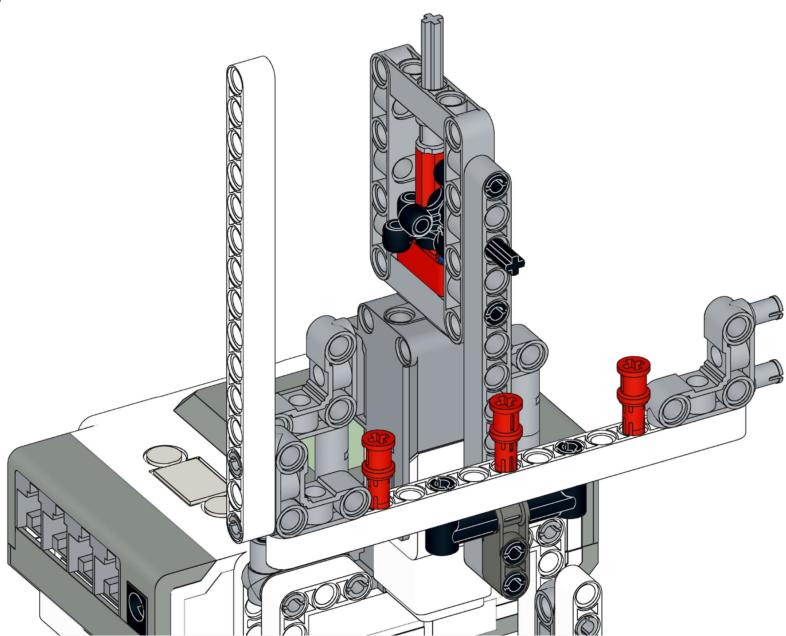
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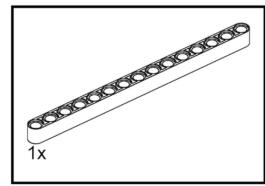
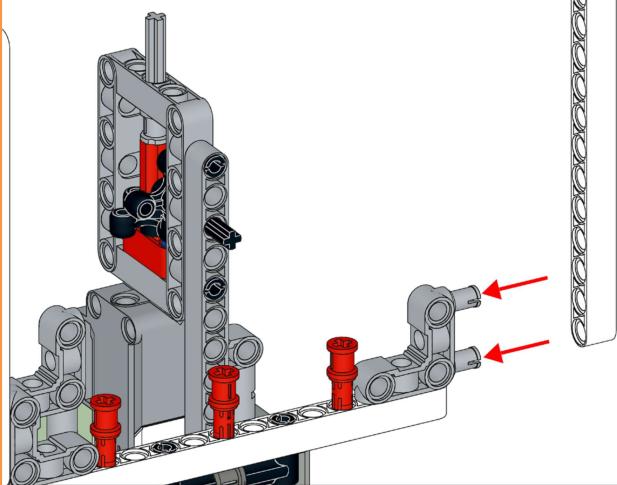
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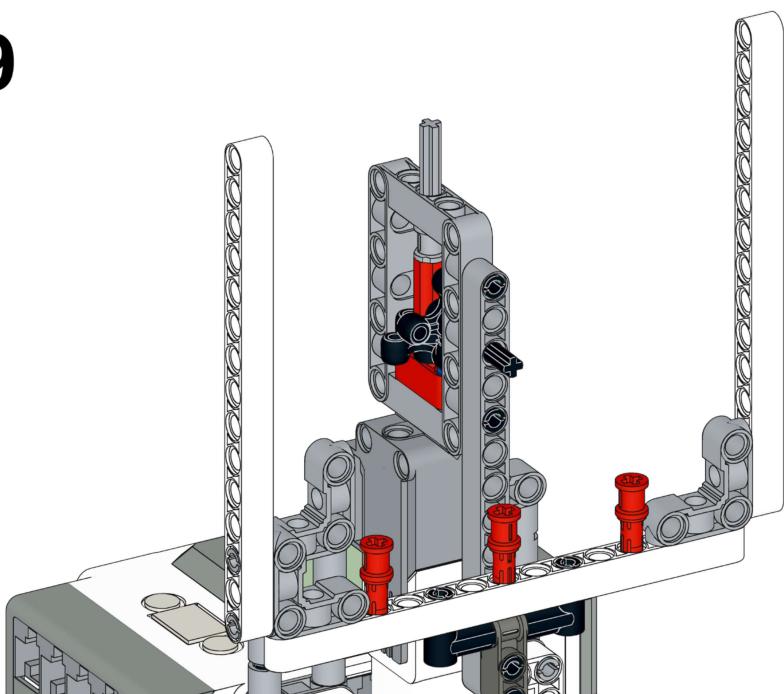


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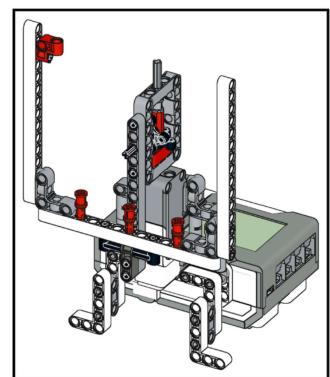
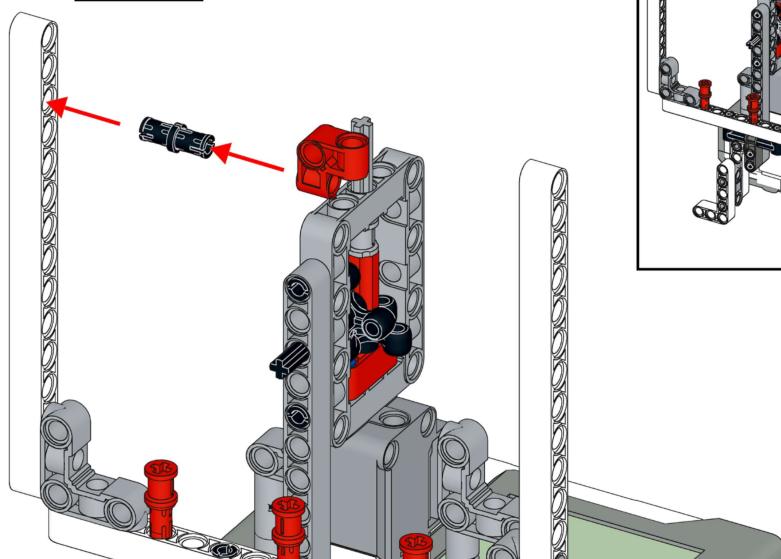
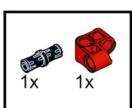
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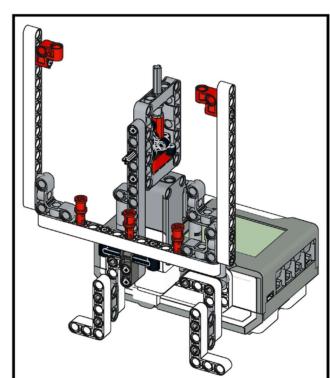
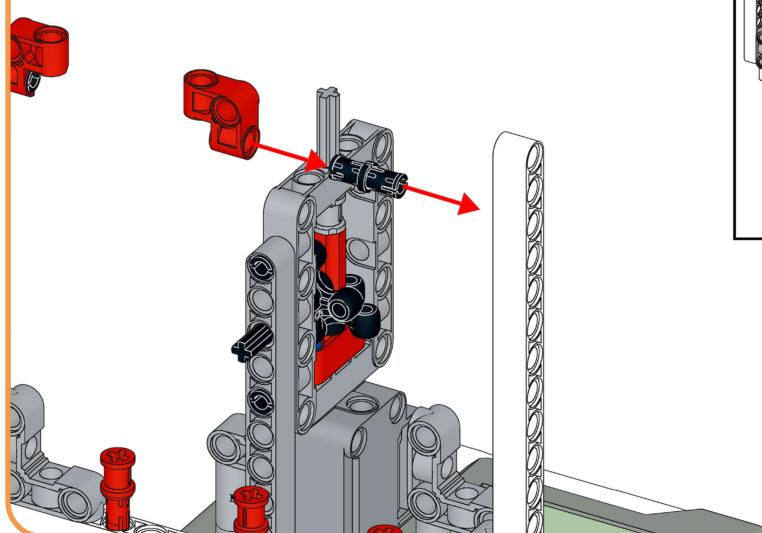
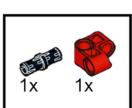
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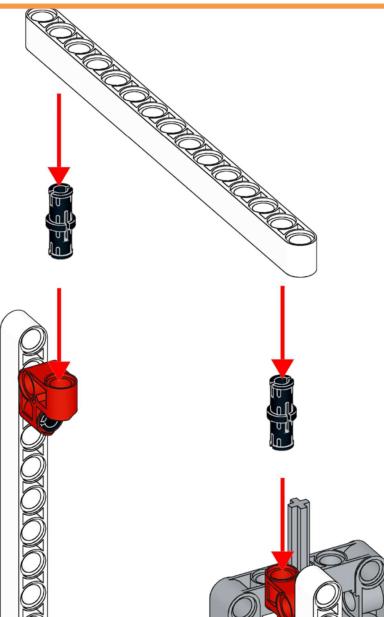
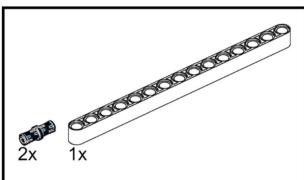
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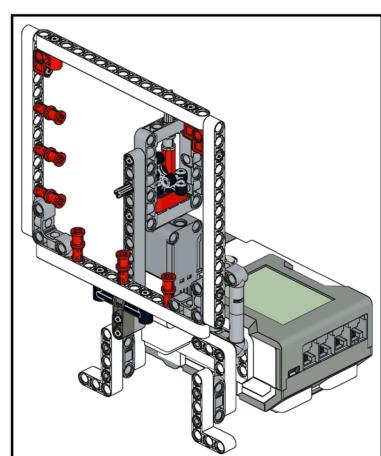
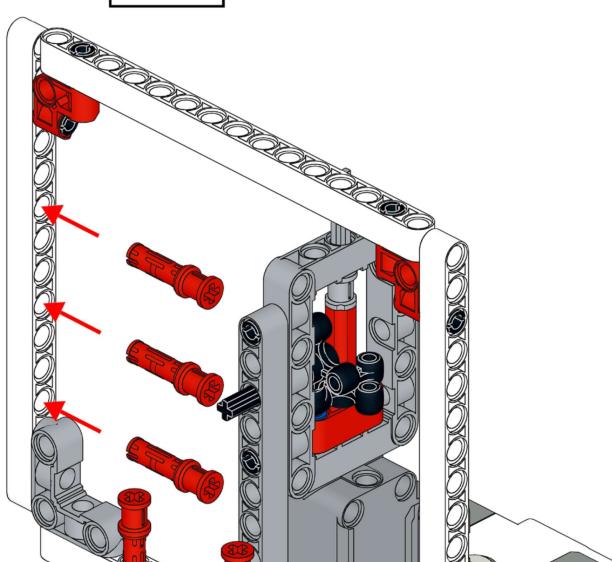
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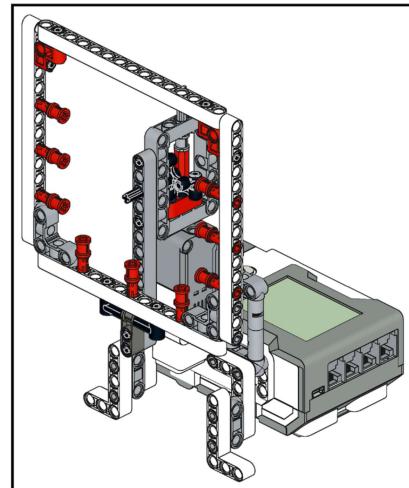
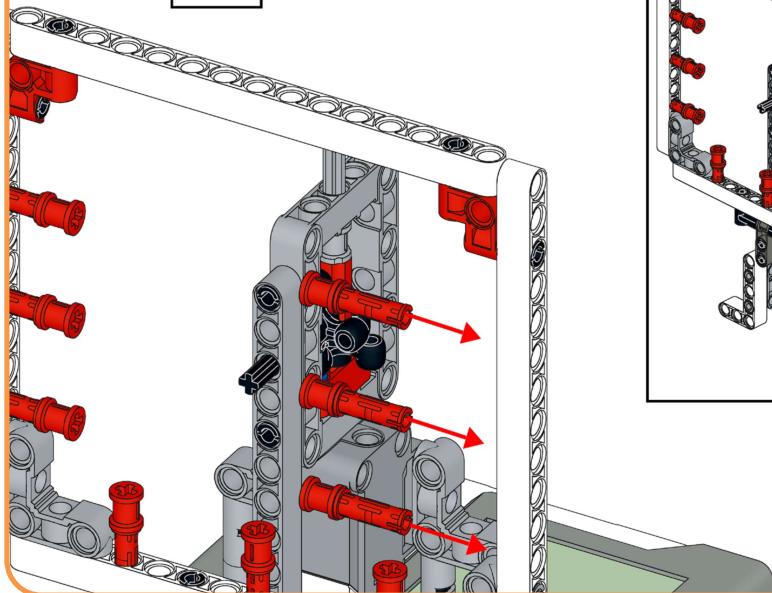
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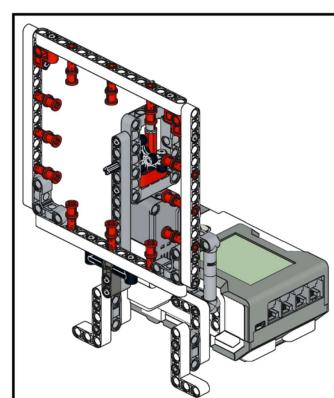
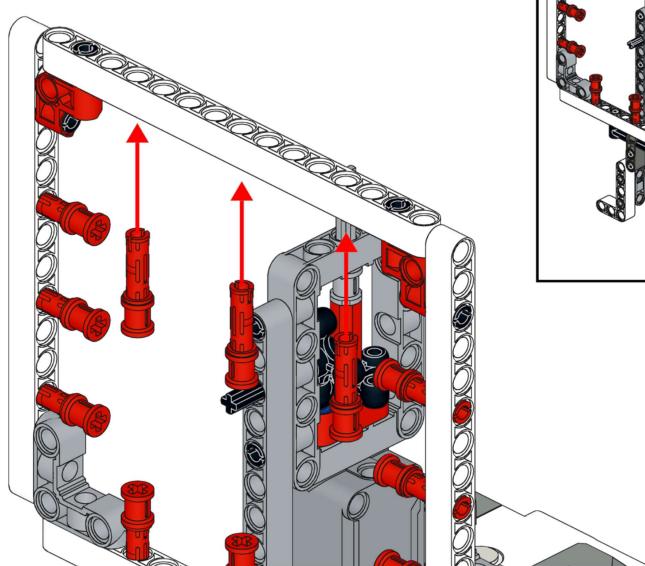
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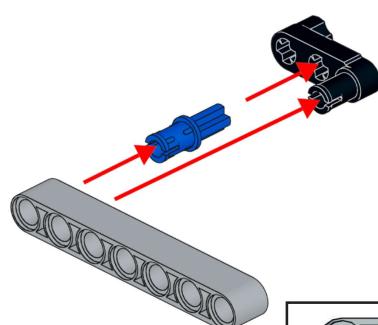
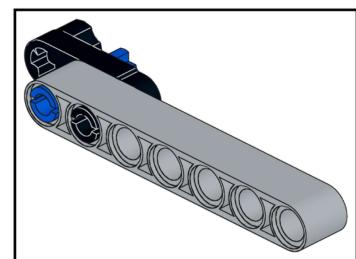
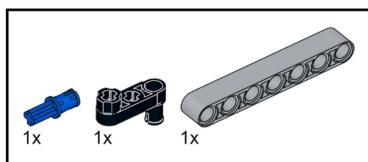
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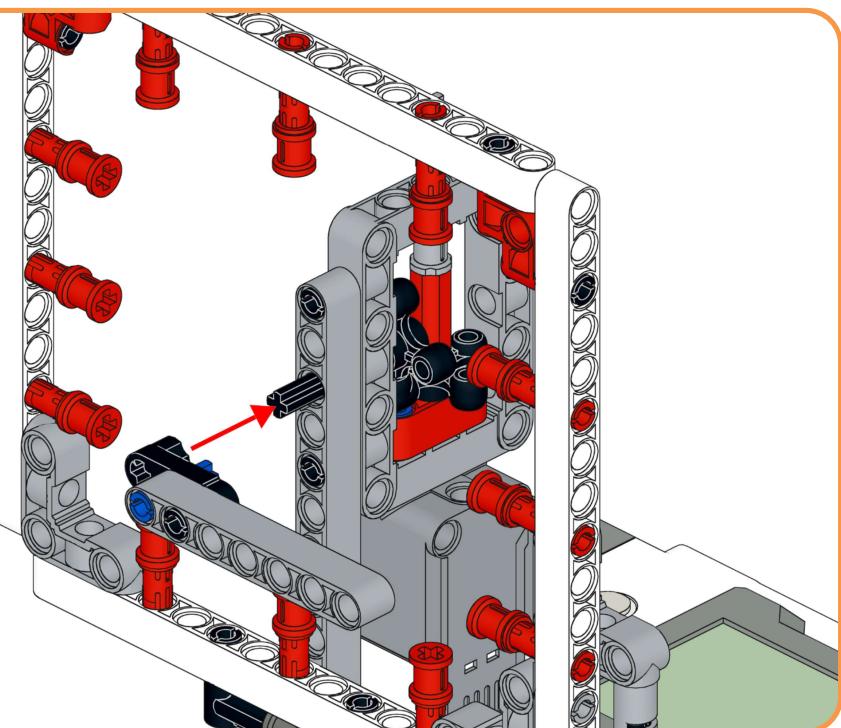


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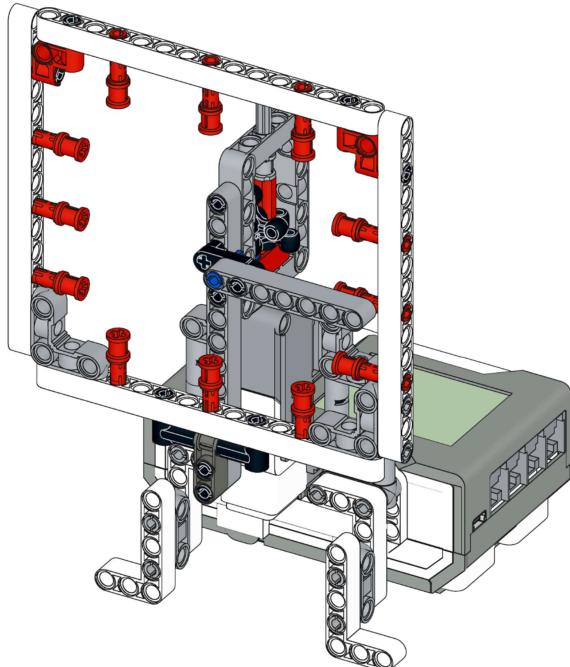
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ROBÓTICA NA PRÁTICA

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PROGRAMAÇÃO

O ponteiro do relógio irá contar os segundos. Vocês deverão girar o motor menor de forma que ele rotacione no tempo de um minuto, da posição 0 à posição de 360° do relógio.

Serão considerados, no movimento do motor, a rapidez e o ângulo.

A velocidade ou rapidez influenciará apenas na força do motor, enquanto o ângulo fará a movimentação do ponteiro, e o tempo de espera é o que vai relacionar o tempo marcado pelo relógio com o tempo real.

Estudamos anteriormente que o ponteiro do relógio movimenta 6° por segundo, considerando que ele tem 360° para completar a circunferência.

Façam alguns testes usando a mesma lógica:

a) Realizar a movimentação dos ponteiros a cada 15 segundos:

Intervalo a cada 15 segundos: $(60/15=4)$

Intervalo de graus da circunferência do relógio: $(360/4 = 90°)$

Ou seja, quando o ponteiro se move 90°, isso representa 15 segundos!

b) Realizar a movimentação dos ponteiros a cada 5 segundos:

Intervalo a cada 5 segundos: $(60/5=12)$

Intervalo de graus da circunferência do relógio: $(360/12 = 30°)$

Ou seja, quando o ponteiro se move 30°, isso representa 5 segundos!