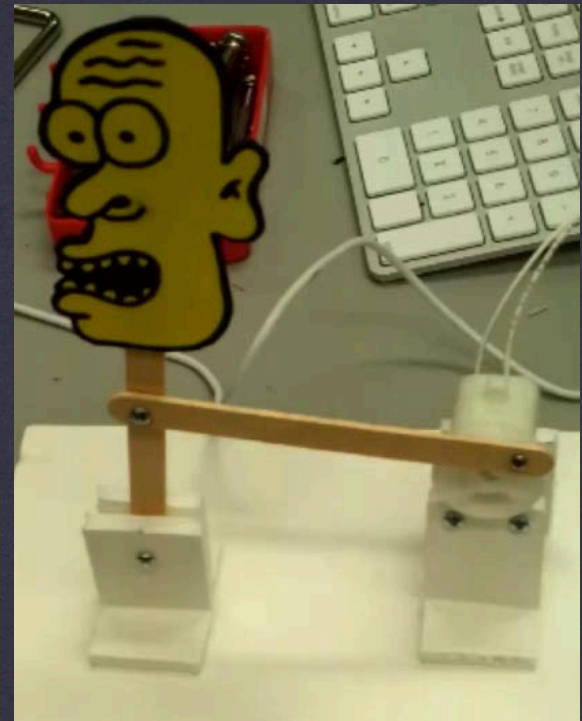


ARTBOTICS

Exploring Mechanisms with Arduino

Waving Crank

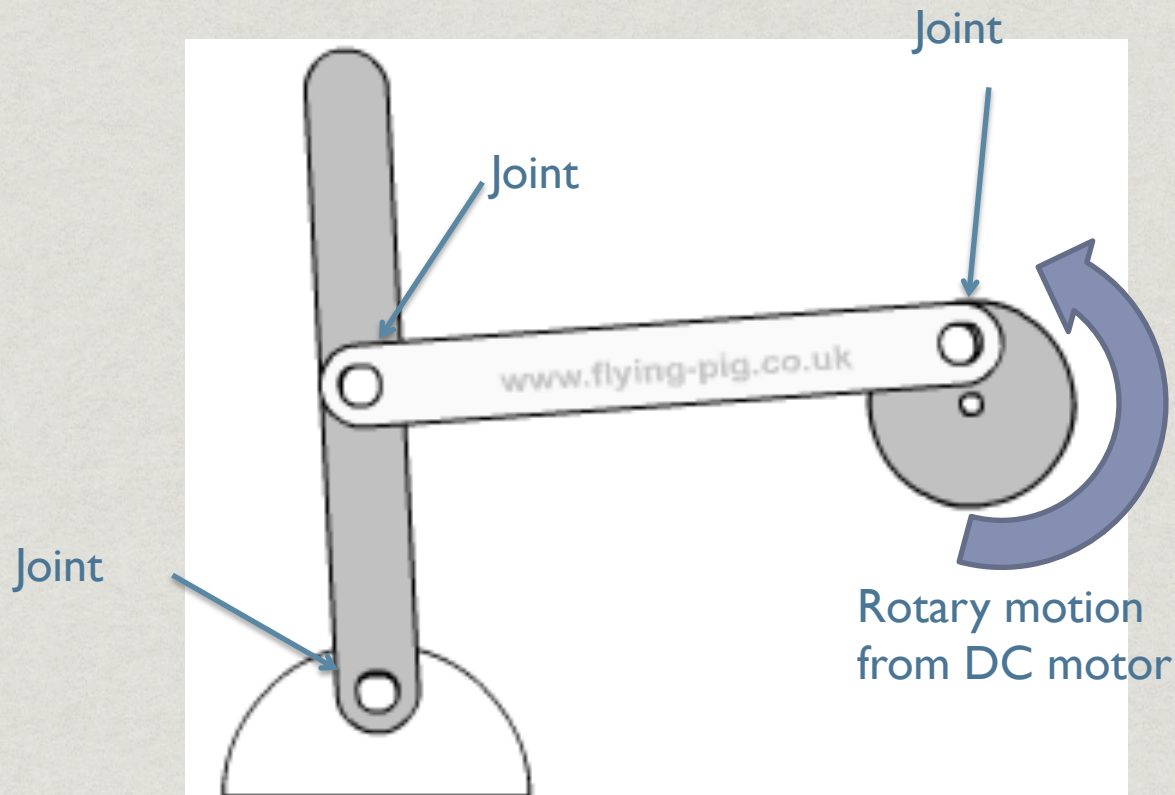


Mechanisms

- * Convert rotary movement from a single motor into:
 - * Smooth waving motions – Crank
 - * Multiple rotary movements at different speeds – **Gears**
 - * Linear motion – **Cams**

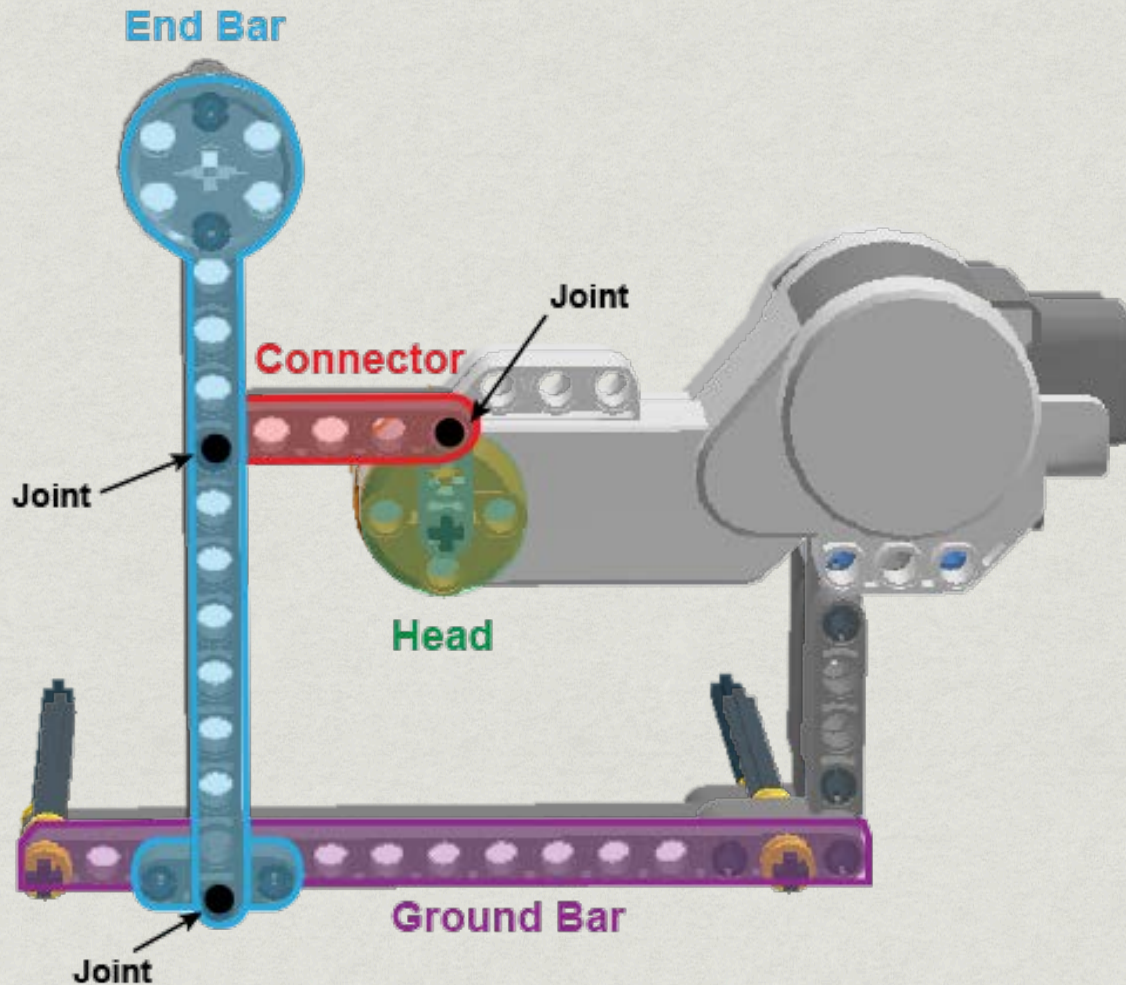
Waving Crank

- * Rotary movement to smooth waving motions

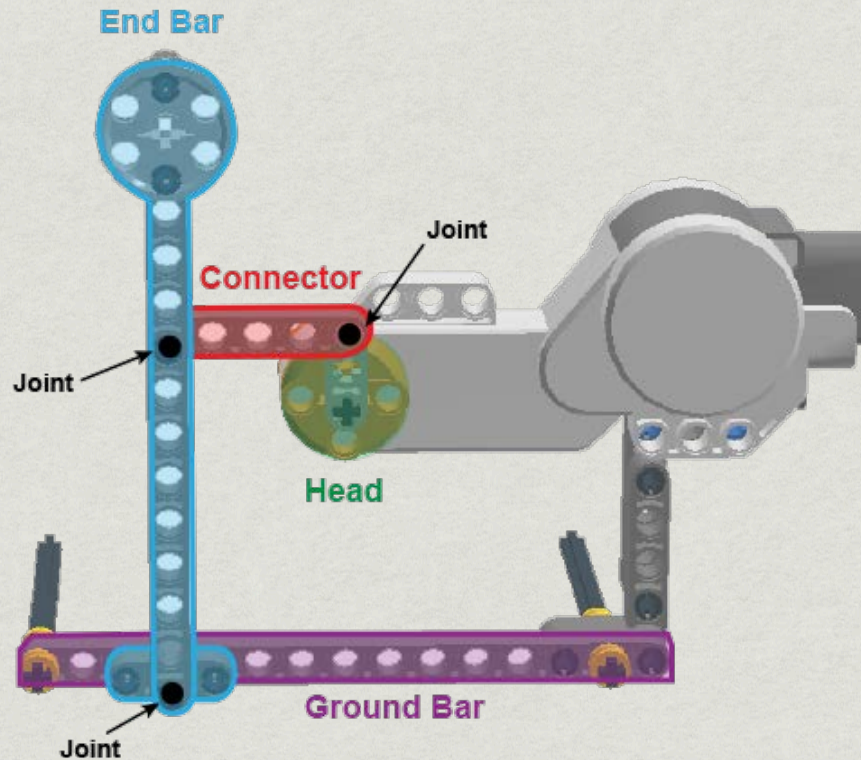


Waving Crank

- * Rotary movement to smooth waving motions



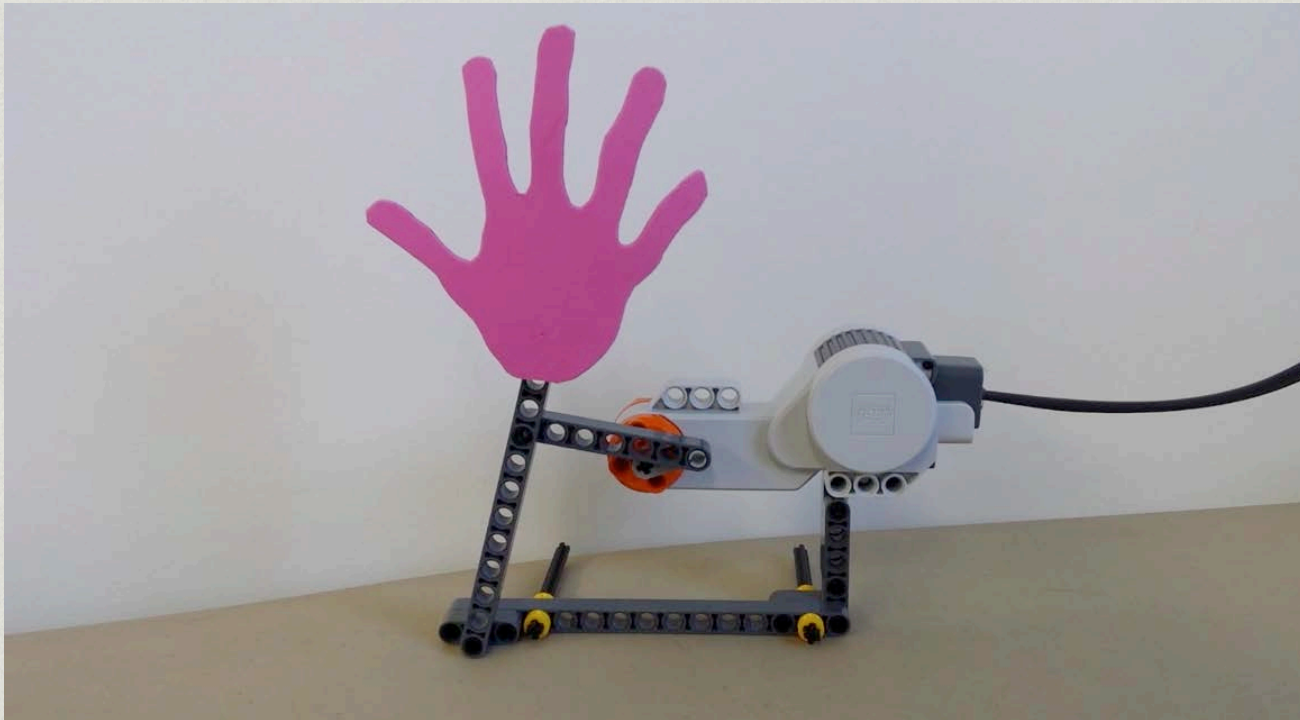
Waving Crank



- * **Connector** and **end bar** can vary in size
- * **Connector** to **end bar joint** placement can vary
- * **End bar** to **ground bar joint** placement can vary

Waving Crank

- * **Connector** to **end bar joint** placement can vary

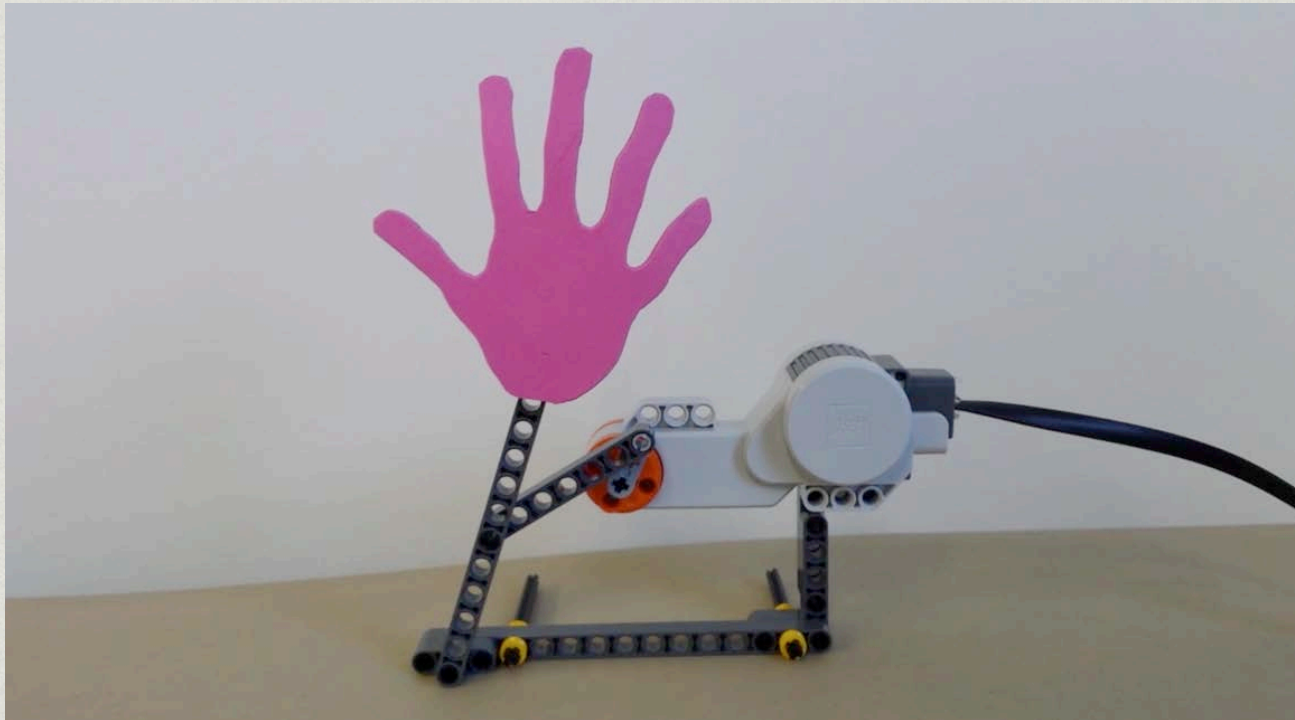


- * Joint is 8 pegs from the bottom

<http://www.youtube.com/watch?v=hkb8JgMgVKc>

Waving Crank

- * **Connector** to **end bar joint** placement can vary

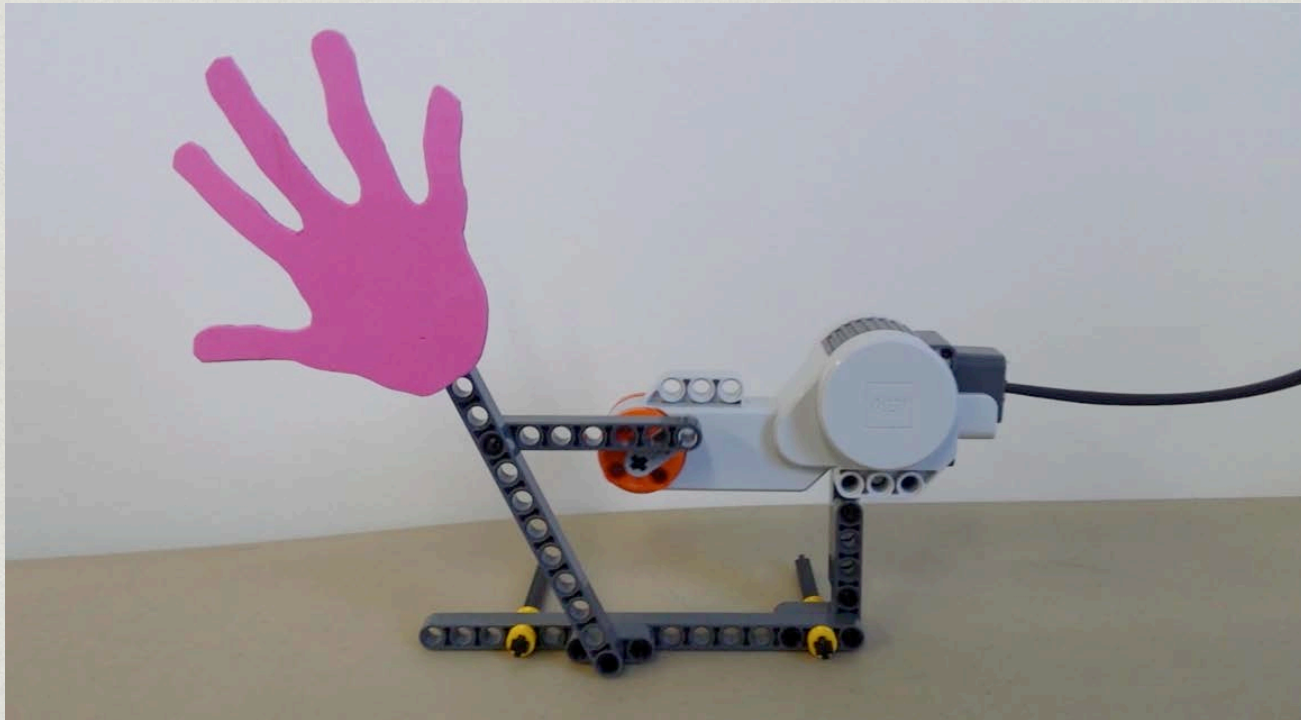


- * Joint is 5 pegs from the bottom

http://www.youtube.com/watch?v=L0Ltf_jcdFI

Waving Crank

- * **End bar** to **ground bar joint** placement can vary



- * Joint is 5 pegs from the left

<http://www.youtube.com/watch?v=ob2qLidY1hQ>

Waving Crank

- * Rotary movement to smooth waving motions



Waving Crank

* Horse rider



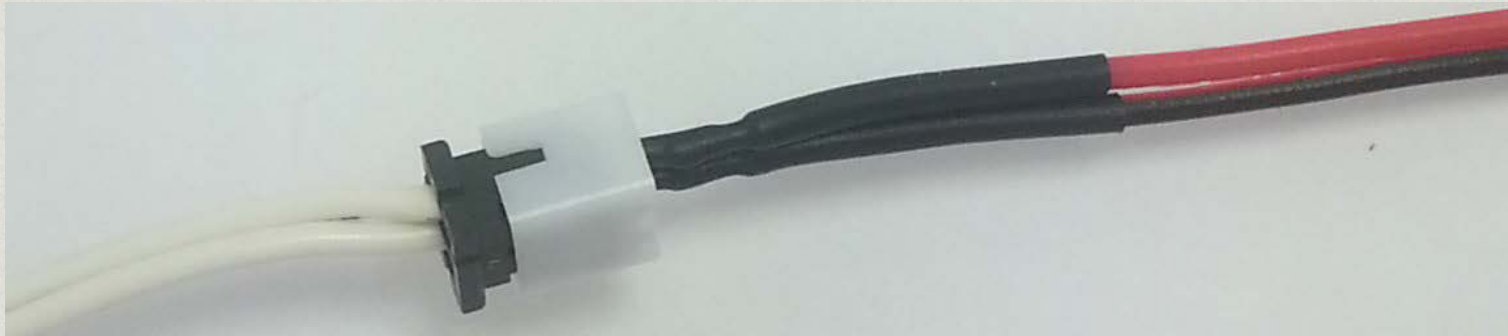
“Clapping” Crank

- * Rotary movement to smooth waving motions



Mechanisms

- * Unplug your car motors from the Arduino plugs



- * Plug the two white DC motors in your kit into the Arduino plugs for motor A and B



Mechanisms

```
Motor motorA(pin, pin);
```

```
Motor motorB(pin, pin);
```

```
motorA.rotate(duration, power, direction);
```

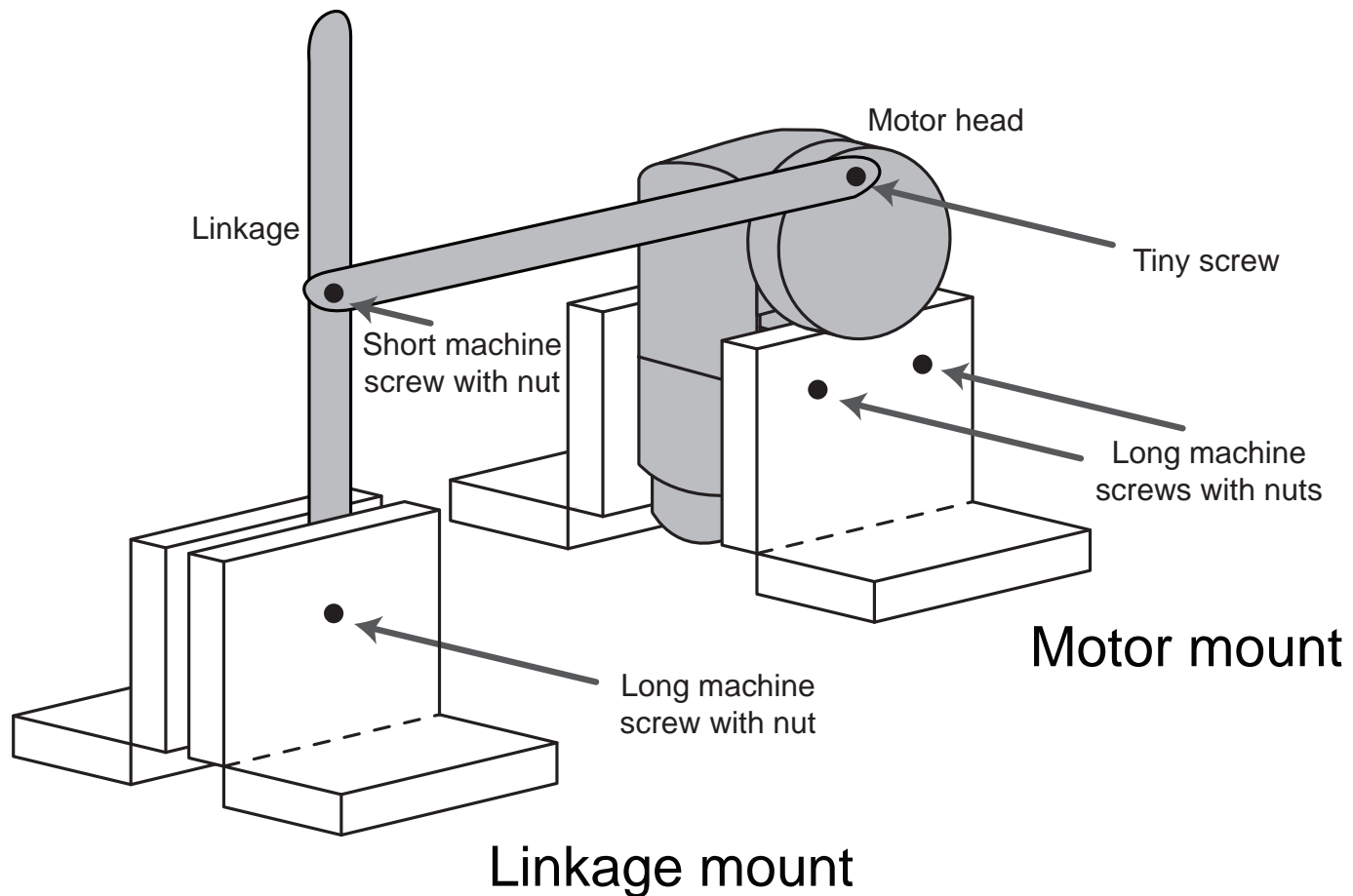
```
motorB.rotate(duration, power, direction);
```

```
motorA.stop();
```

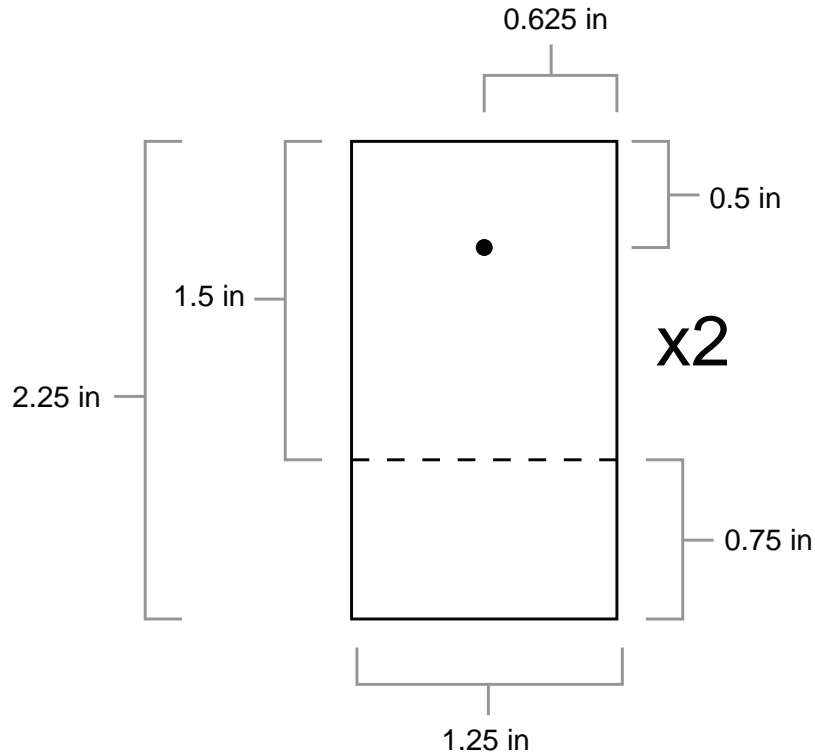
```
motorB.stop();
```

```
delay(milliseconds);
```

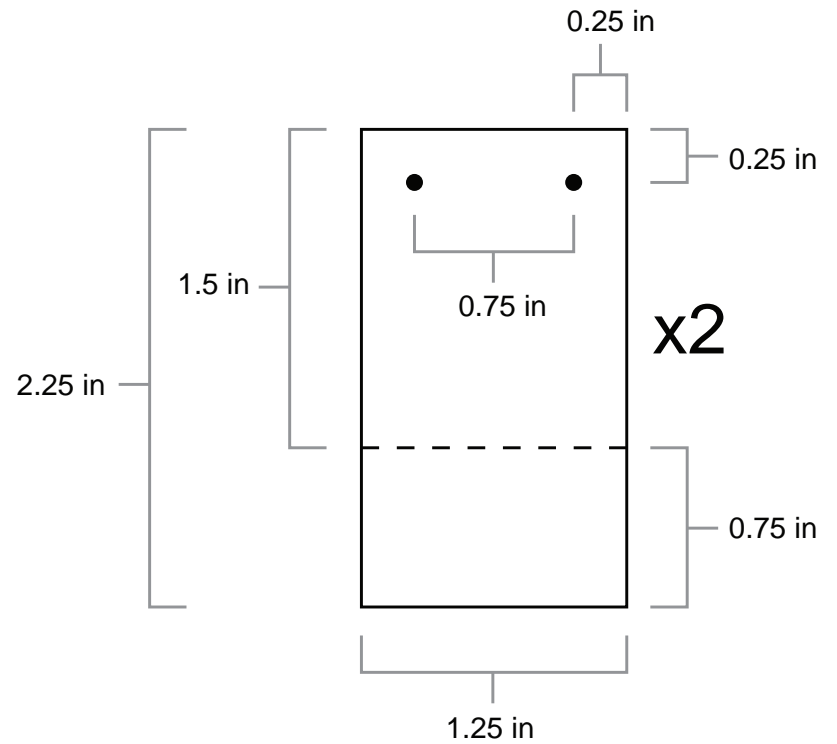
Mechanisms



Mechanisms



Linkage mount
Foamcore



Motor mount
Foamcore