# PIPER

# Mission:
## Piper Make Robotic Rover

## SIDE A
### Assembly

## INVENTORY

- **1** Base
- **2** Servo Spacers
- **1** Servo Holder
- **2** #1 Spacers
- **2** #2 Spacers
- **2** FS90R Servo Motors
- **2** Wheels and Rims
- **2** Gummy Foot

- **1** Range Finder Holder
- **1** Ball and Holder
- **6** #4-40 Screws (A)
- **2** #2-56 Screws (B)
- **2** #4-40 Screws (C)
- **2** Small Screws (D)
- **2** #4-40 Nuts
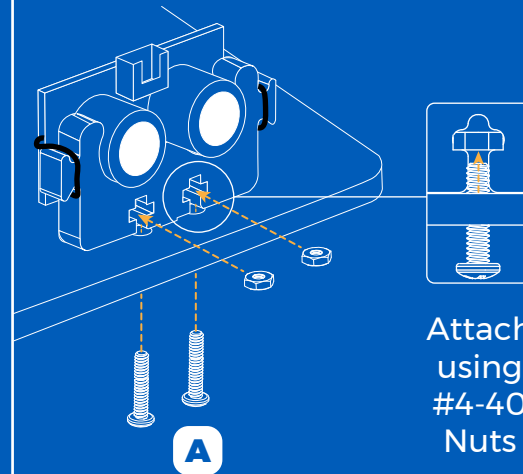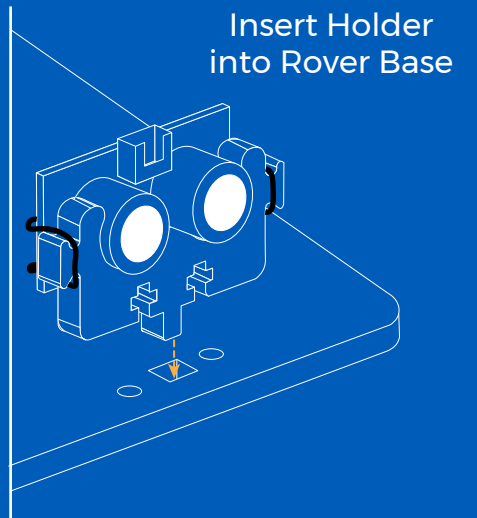- **1** O-Ring
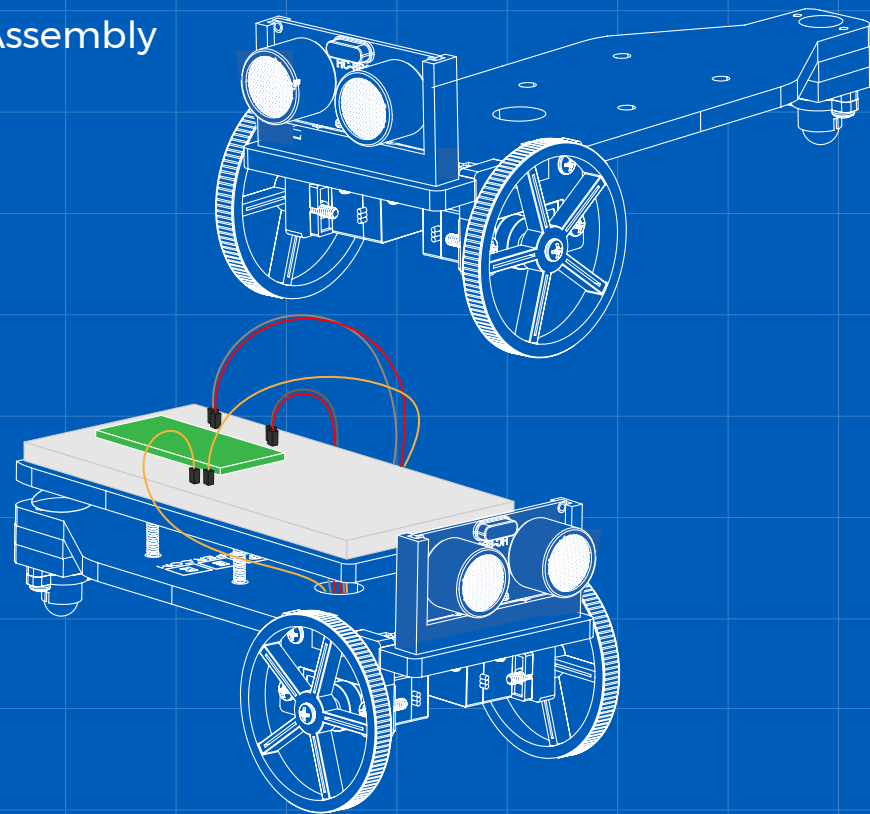
### 1 ●○○○○○
Use O-Ring to attach Range Finder to Holder
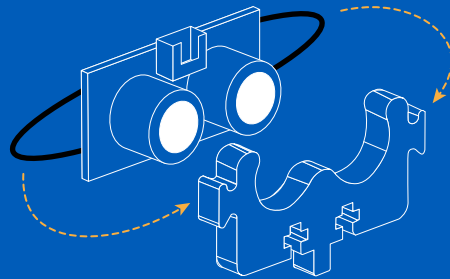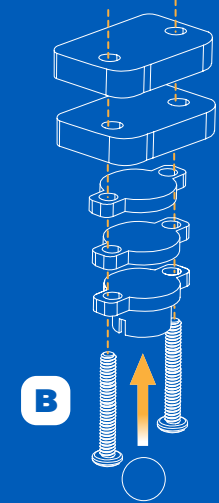
Insert Holder into Rover Base

Attach using #4-40 Nuts

**A**

### 2 ●●○○○○
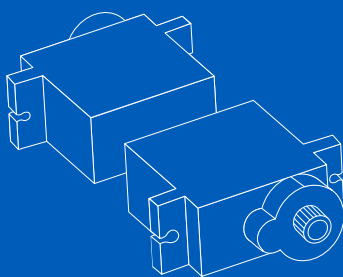Remove Ball from Holder

Attach screws as shown

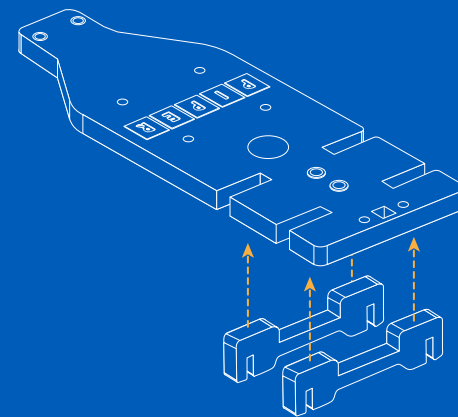Reinsert Ball into Holder

**B**

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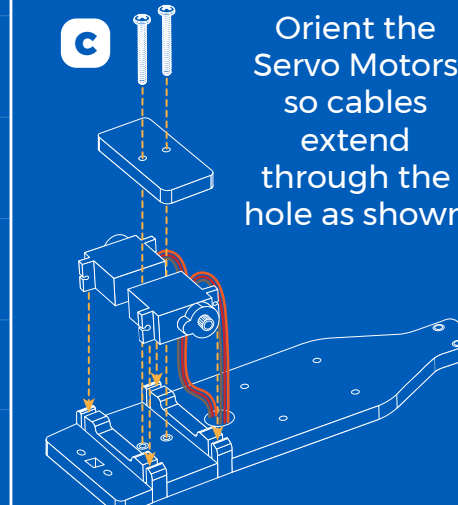Head to Piper Make to calibrate Servo motors with Step Two of your mission
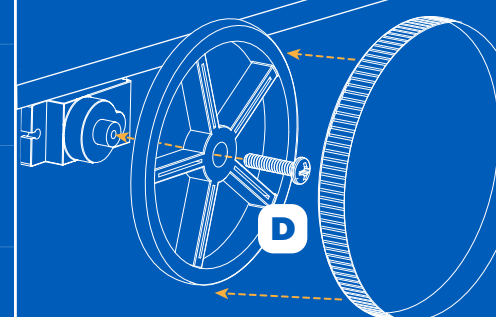
### 3 ●●●○○○
Insert Servo Spacers into Base notches

### 4 ●●●●○○
**C**

Orient the Servo Motors so cables extend through the hole as shown

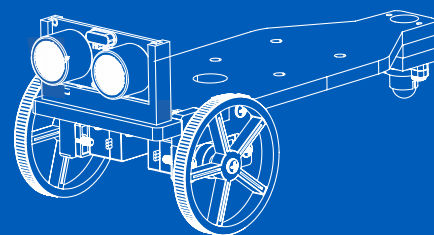### 5 ●●●●●○
Stretch the Wheels over the Rims

**D**

Insert the Servo Motor shaft into the ridged hole of the Wheel

## ASSEMBLY COMPLETE!

Head to Piper Make to continue your mission

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## OPTIONAL

Attach your Starter Base

Gummy Foot

Gummy Foot

**!**
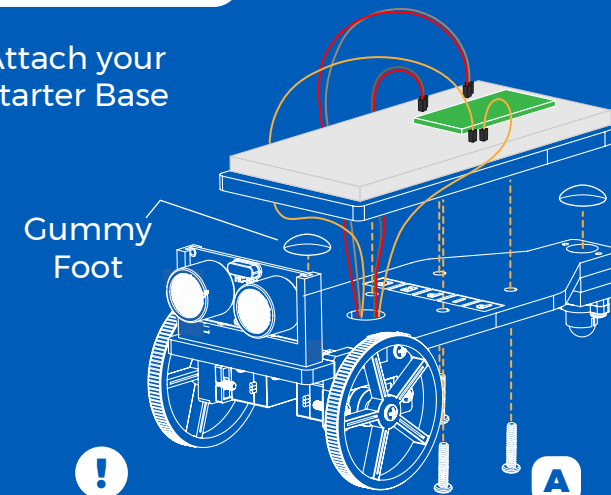
*Wiring instructions in Piper Make tutorials*

**A**

*Flip Over!*
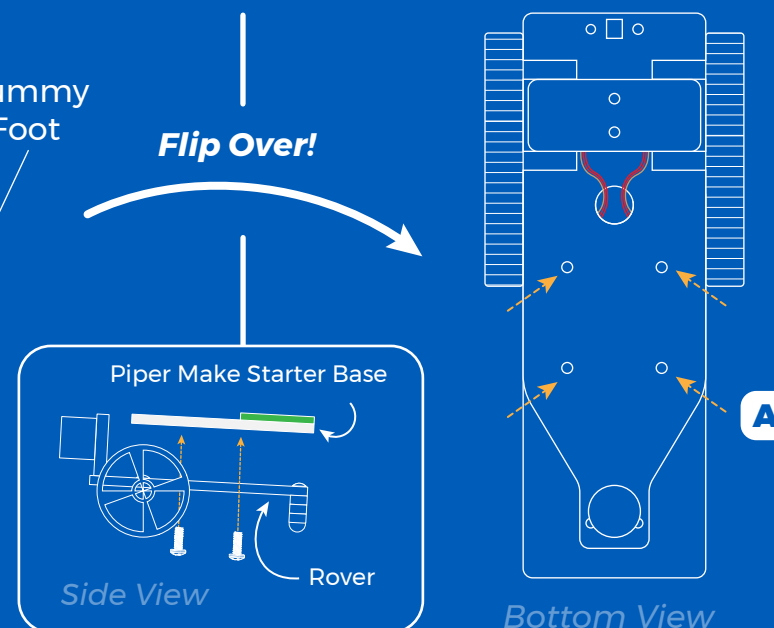
Piper Make Starter Base

*Side View*

Rover

*Bottom View*

**A**

# PIPER
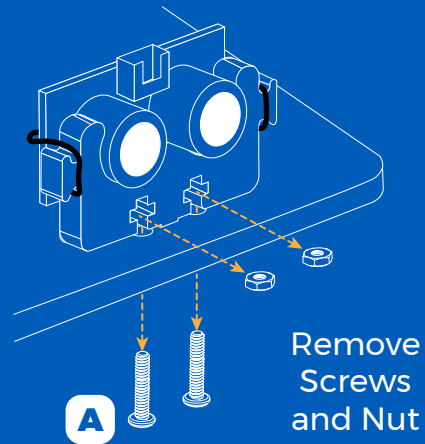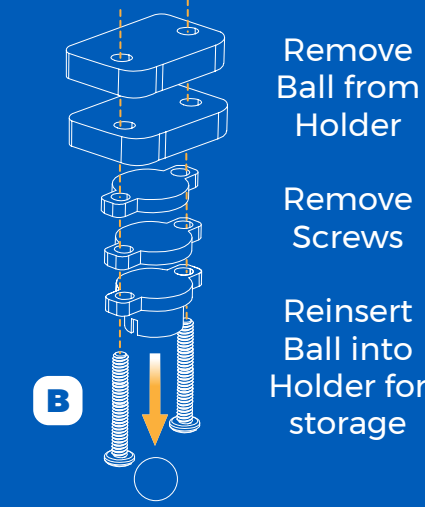
# Mission:
## Piper Make Robotic Rover

## SIDE B
Disassembly

## INVENTORY

| | | | |
|---|---|---|---|
| **1** Base | | **1** Range Finder Holder | |
| **2** Servo Spacers | | **1** Ball and Holder | |
| **1** Servo Holder | | **6** #4-40 Screws (A) | |
| **2** #1 Spacers | | **2** #2-56 Screws (B) | |
| **2** #2 Spacers | | **2** #4-40 Screws (C) | |
| **2** FS90R Servo Motors | | **2** Small Screws (D) | |
| **2** Wheels and Rims | | **2** #4-40 Nuts | |
| **2** Gummy Foot | | **1** O-Ring | |

### 1 ● ○ ○ ○ ○ ○

**A** Remove Screws and Nut

Detach Holder from Rover Base

Remove O-Ring to detach Range Finder from Holder
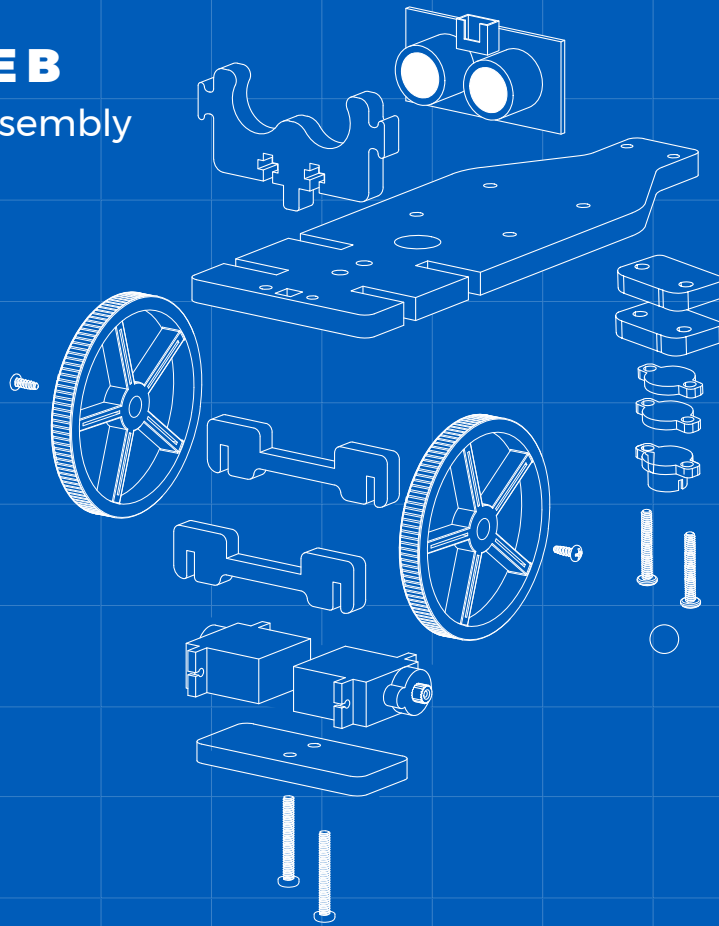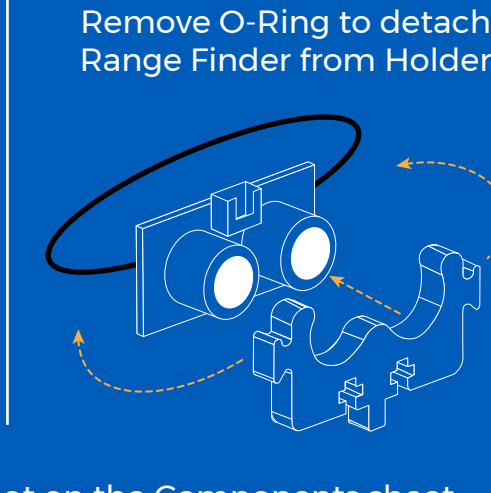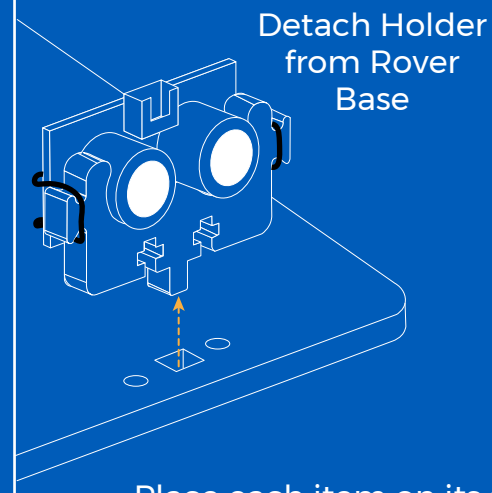
Place each item on its spot on the Components sheet

### 2 ● ● ○ ○ ○

Remove Ball from Holder

Remove Screws

Reinsert Ball into Holder for storage

**B**

### 3 ● ● ● ● ○ ○

**D**

Detach Wheel from the Servo Motor by removing Screws

### 4 ● ● ● ● ○

**C**

Detach the Servo Motor Holder and Servo Motors by removing Screws

### 5 ● ● ● ● ●

Remove Servo Spacers from Base

## DISASSEMBLY COMPLETE!

If not already done, place each piece on its spot on the Components sheet

## OPTIONAL

Detach your Starter Base
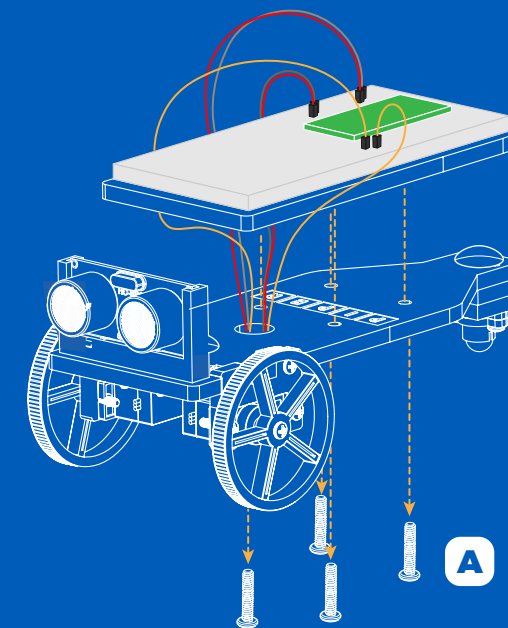
Remove Screws to detach Starter Base

**A**

# PIPER

# Mission:

## Piper Make
## Robotic Rover

### Components Sheet

Gather and organize
your supplies

Base x 1

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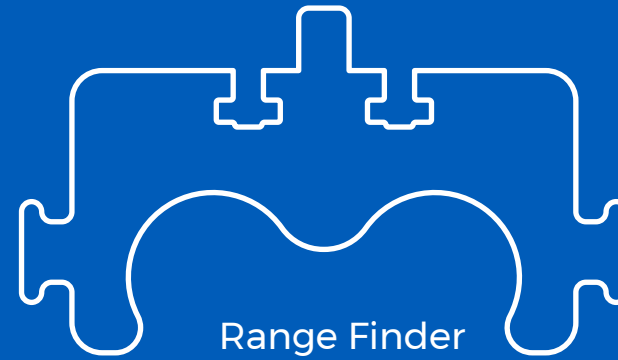
**Continuous Servo Motors**

FS90R Servo Motor x 2

1/2"

**A**
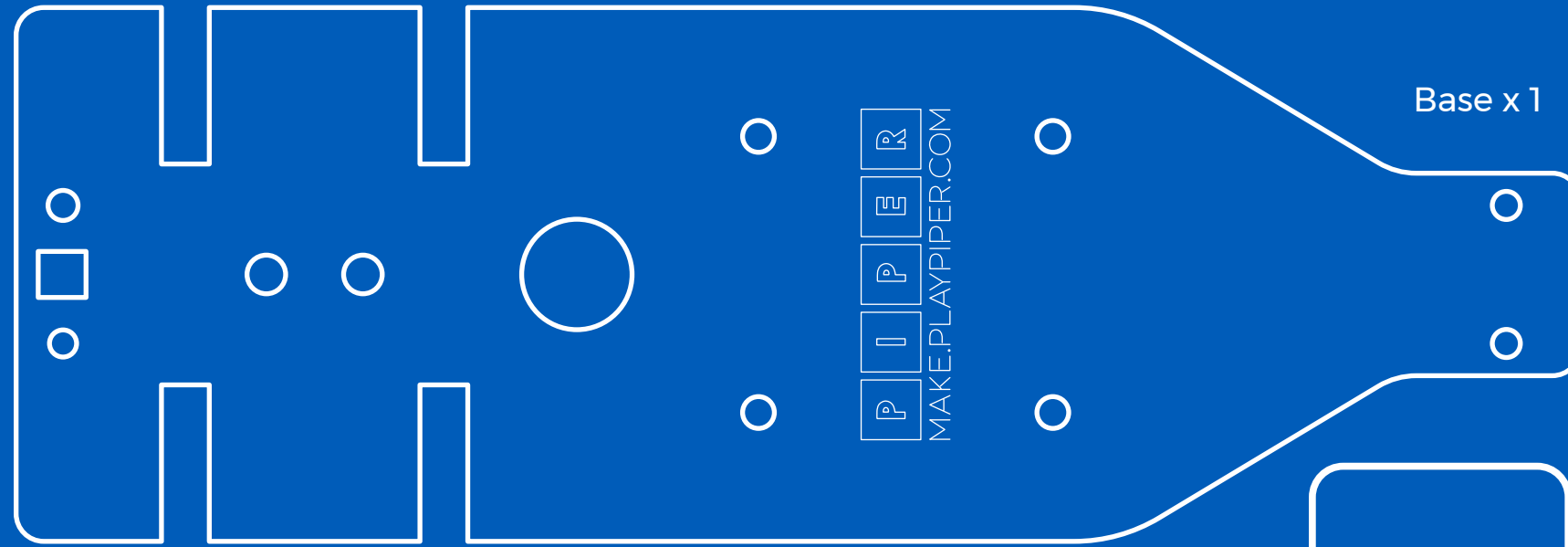
#4-40 Screw x 6

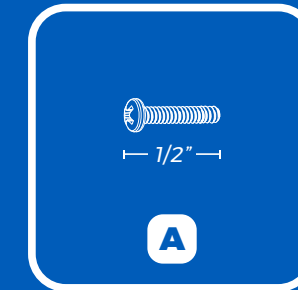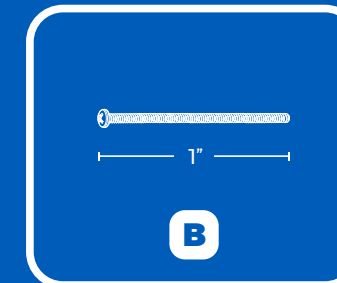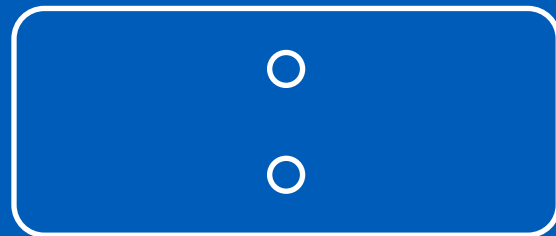Servo Spacer x 2
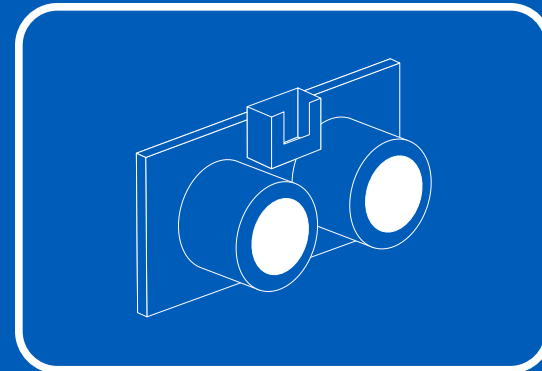
Ultrasonic Range Finder x 1

Range Finder
Holder x 1

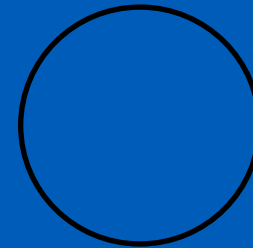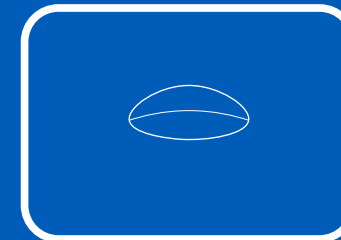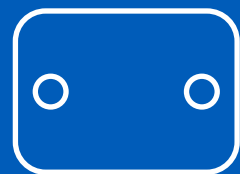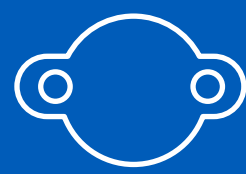1"

**B**

#2-56 Screw x 2
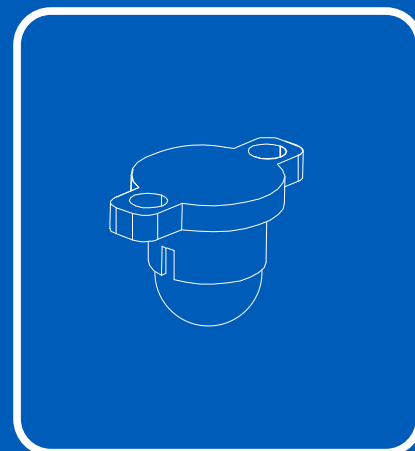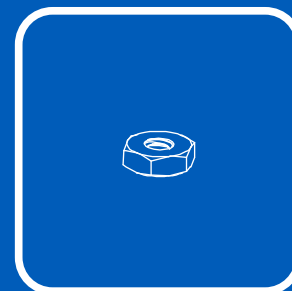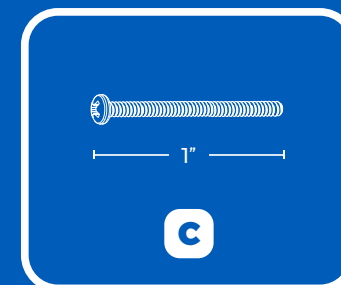
Wheel x 2
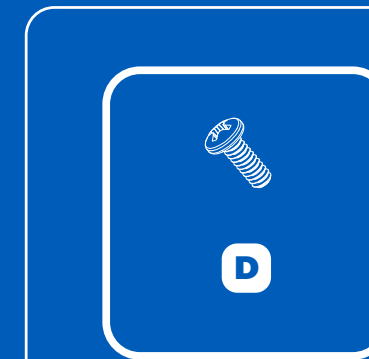
Servo Holder x 1

O-Ring x 1

Gummy Foot x 2
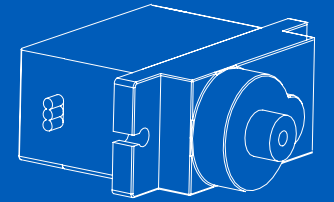
Spacer #1 x 2

Spacer #2 x 2
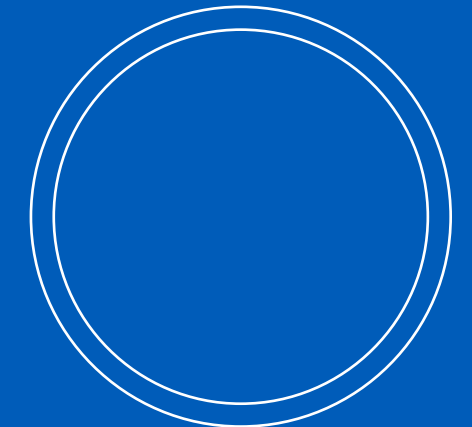
Ball and Holder x 1

#4-40 Nut x 2

1"

**C**

#4-40 Screw x 2

**D**

Small Screws x 2

Wheel Rim x 2