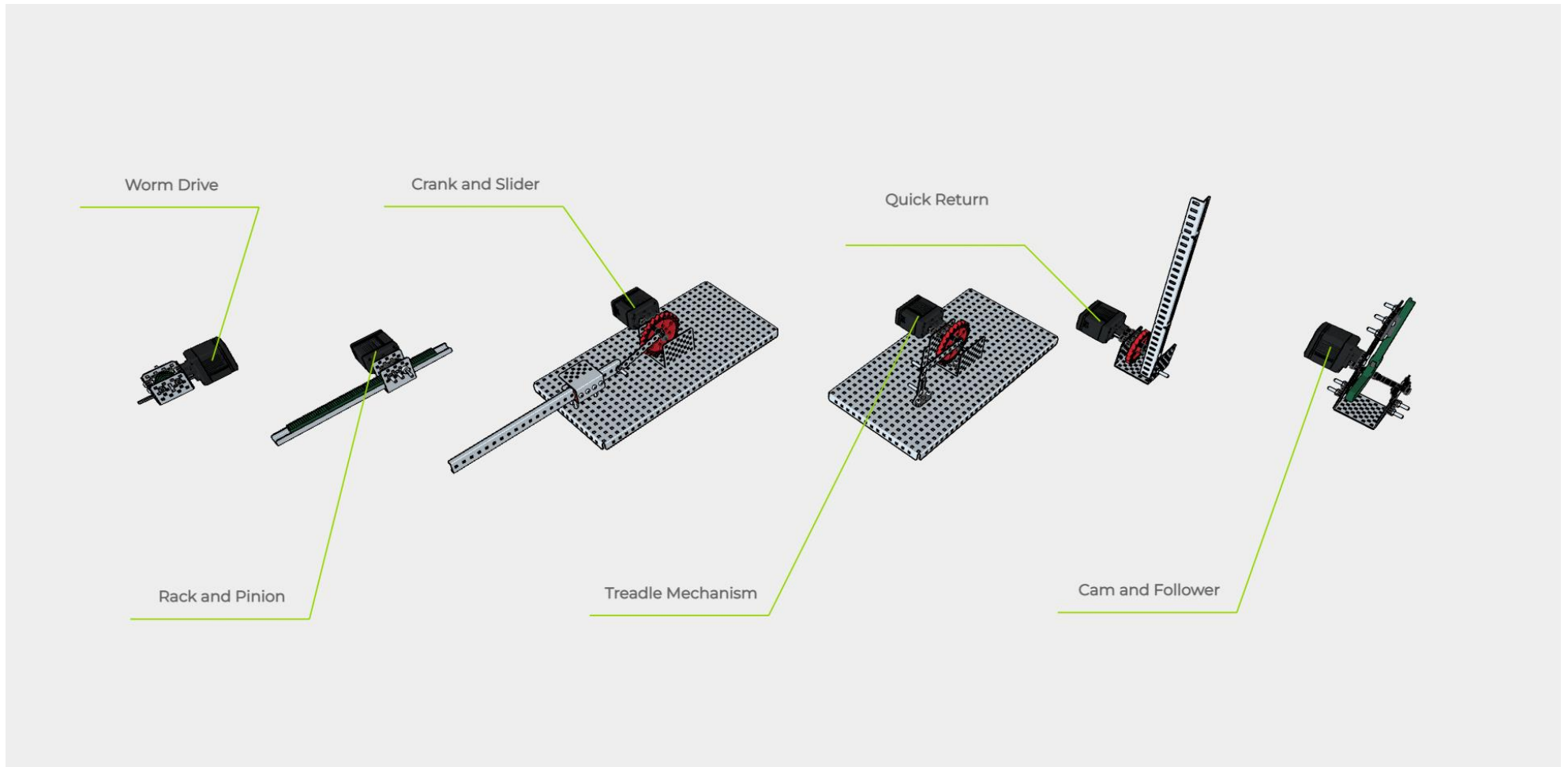
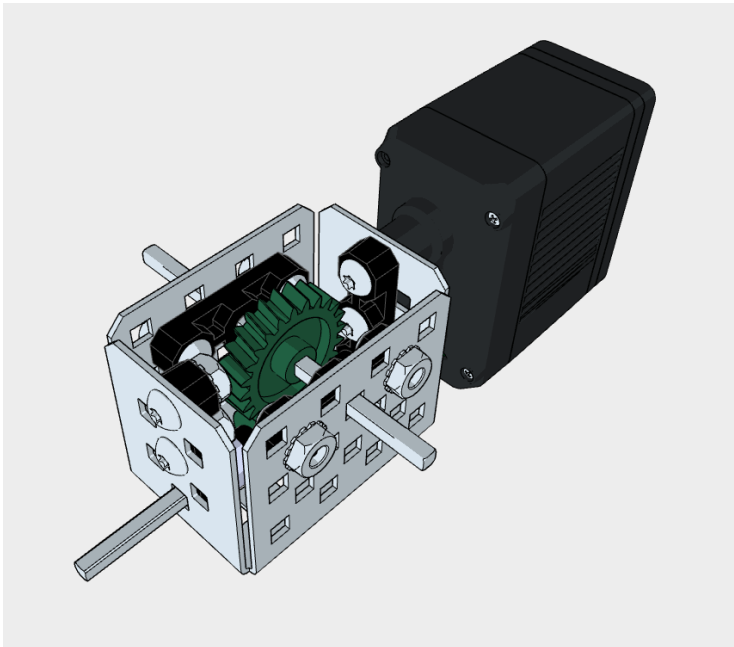


# VEX Build Support Guide

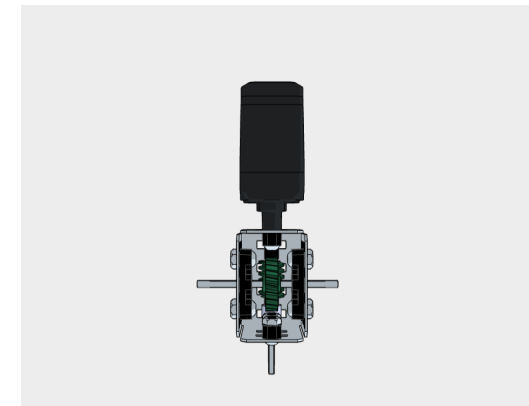
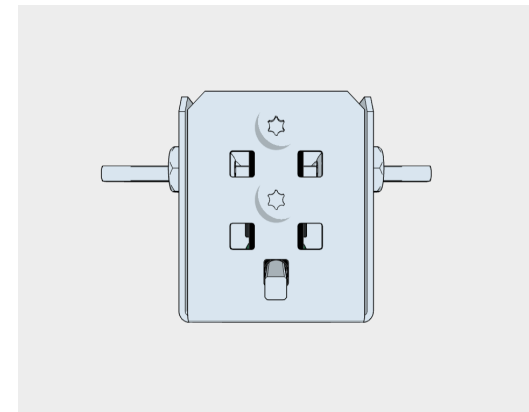
## Mechanisms



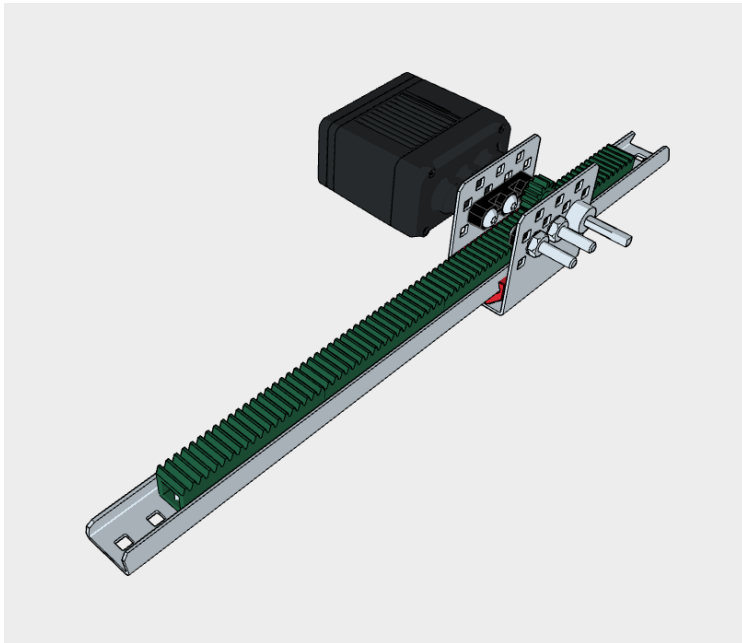
Worm Drive



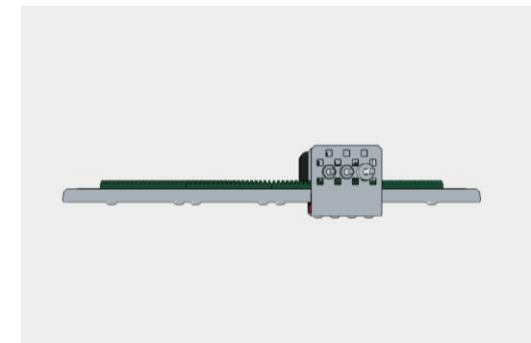
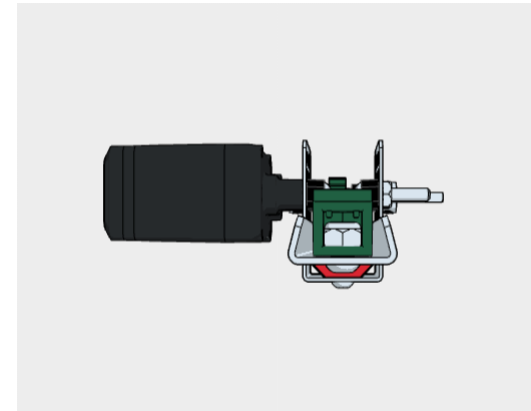
- |                                    |                     |
|------------------------------------|---------------------|
| (1x) Worm Gearbox Bracket          | (6x) #8-32 Keps Nut |
| (1x) Worm Gear & Wheel             | (2x) 3" Drive Shaft |
| (4x) Flat Bearing                  |                     |
| (1x) Shaft Collar                  |                     |
| (1x) 4.6mm Plastic Spacer          |                     |
| (1x) 8mm Plastic Spacer            |                     |
| (1x) V5 Smart Motor (11W)          |                     |
| (2x) #8-32 x 1" Star Drive Screw   |                     |
| (1x) Rubber Shaft Collar           |                     |
| (6x) #8-32 x 3/8" Star Drive Screw |                     |



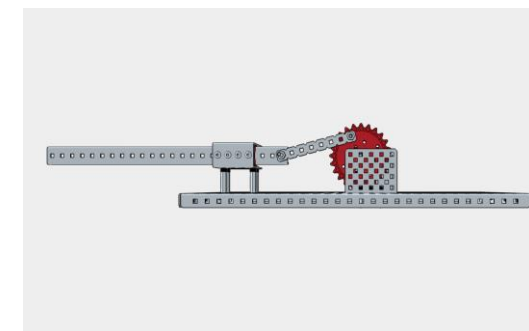
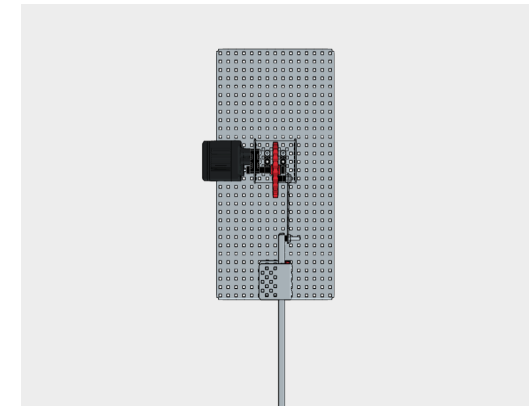
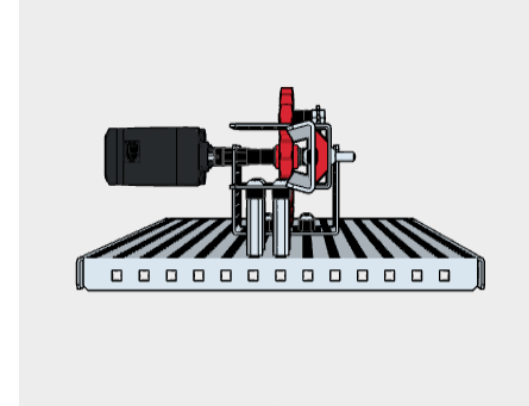
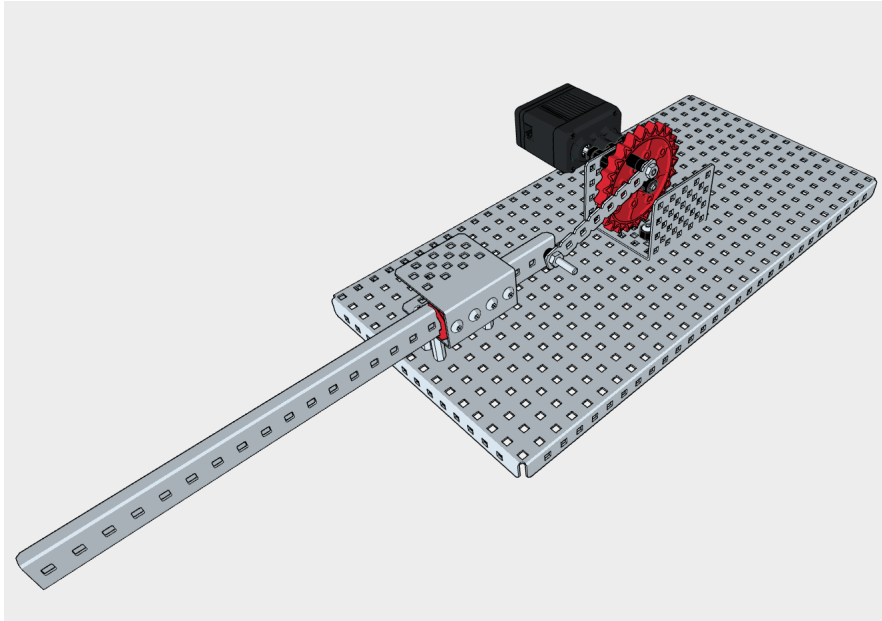
## Rack and Pinion



- |                                     |                                |
|-------------------------------------|--------------------------------|
| (1x) 12" Long Linear Slide Track    | (1x) #8 Click on Spacer 0.125" |
| (1x) Rack Gearbox Bracket           | (2x) Shaft Collar              |
| (1x) Outer Acetal Slide Truck       | (2x) #8-32 Keps Nut            |
| (12x) #8-32 x 1/4" Star Drive Screw | (1x) 3" Drive Shaft            |
| (4x) Rack Gear                      |                                |
| (8x) #8-32 Nylock Nut               |                                |
| (1x) 12T Gear                       |                                |
| (2x) Flat Bearing                   |                                |
| (1x) V5 Smart Motor (11W)           |                                |
| (4x) #8-32 x 1" Star Drive Screw    |                                |

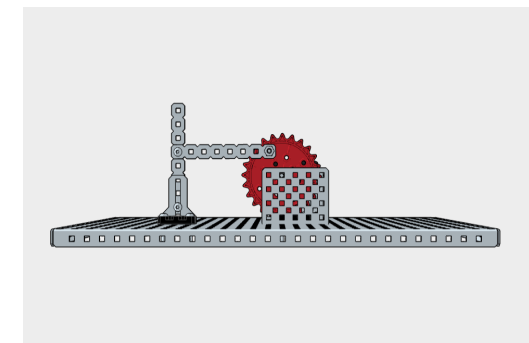
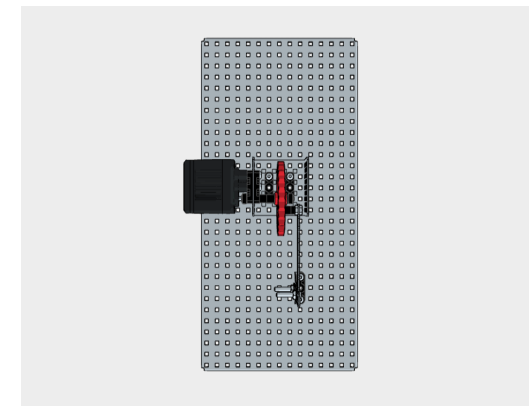
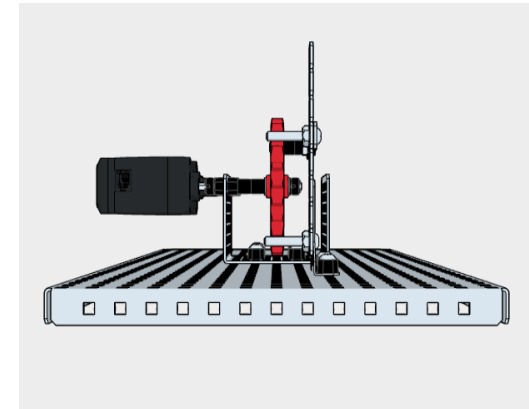
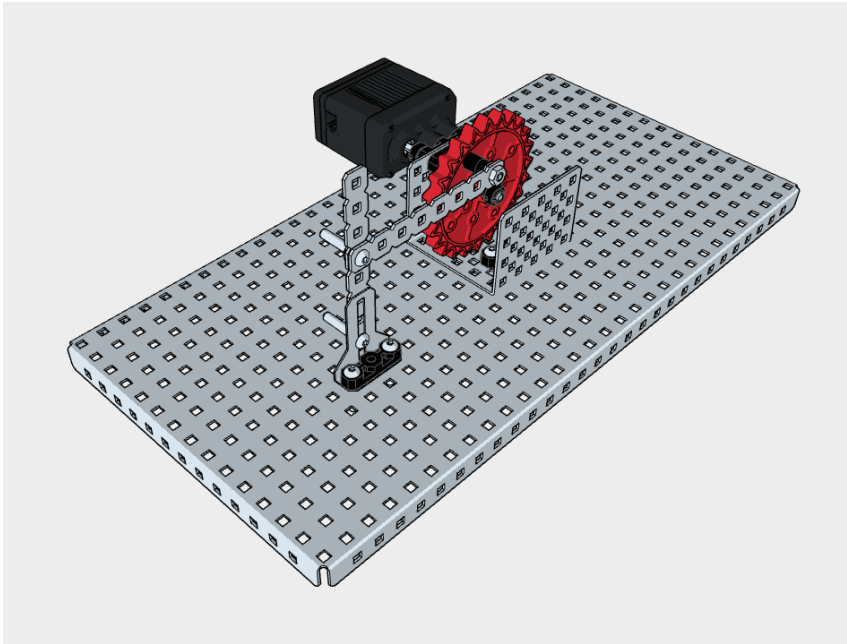


Crank and Slider



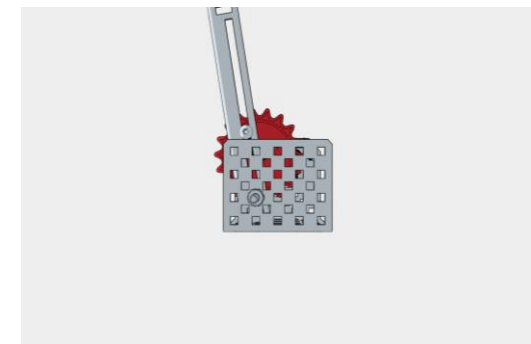
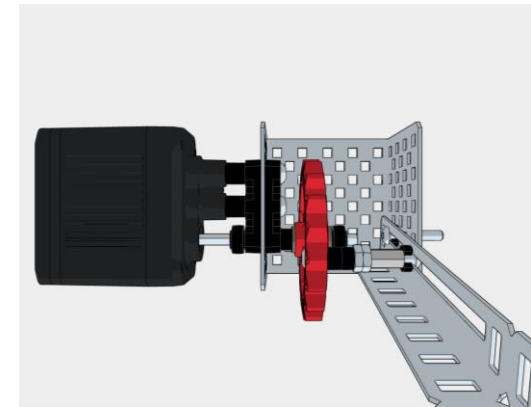
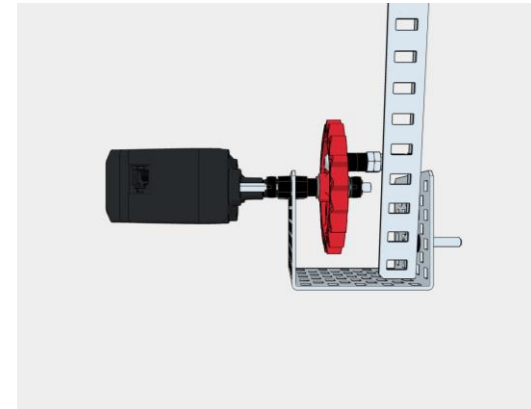
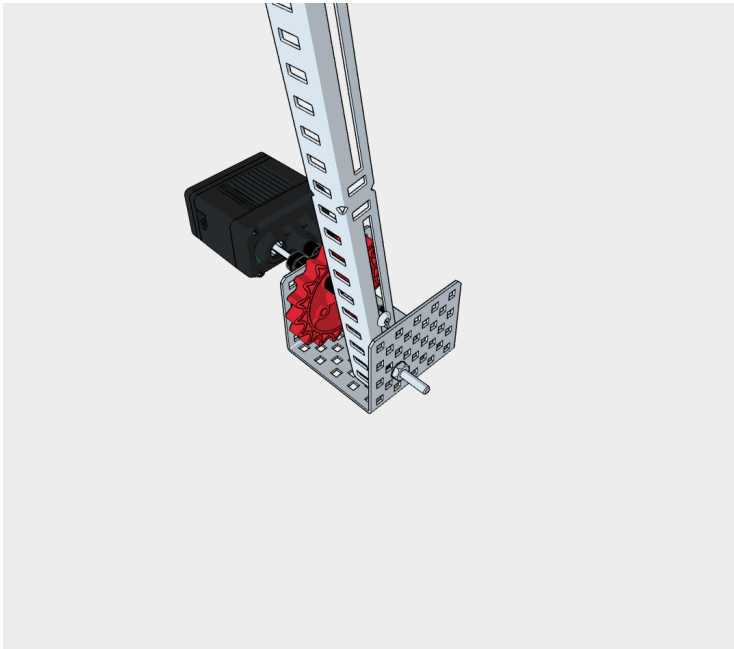
- |                                  |                                    |
|----------------------------------|------------------------------------|
| (1x) 15x30 Base Plate            | (3x) #8-32 Hex Nut                 |
| (1x) Winch Bracket               | (1x) 1x8 Flat Beam                 |
| (4x) #8-32 Keps Nut              | (6x) 4.6mm Plastic Spacer          |
| (4x) Flat Bearing                | (1x) 12" Long Linear Slide Track   |
| (8x) #8-32 x 1" Star Drive Screw | (1x) Rack Gearbox Bracket          |
| (1x) V5 Smart Motor (11W)        | (4x) 1.00" Standoff                |
| (2x) Rubber Shaft Collar         | (1x) Outer Acetal Slide Truck      |
| (1x) 24T High Strength Sprocket  | (8x) #8-32 x 3/8" Star Drive Screw |
| (2x) Metal Shaft Inserts         | (4x) #8-32 x 1/4" Star Drive Screw |
| (3x) 8mm Plastic Spacer          | (1x) 3" Drive Shaft                |

## Treadle Mechanism



- |                                   |                           |
|-----------------------------------|---------------------------|
| (1x) 15x30 Base Plate             | (2x) #8-32 Hex Nut        |
| (1x) Winch Bracket                | (2x) 1x8 Flat Beam        |
| (8x) #8-32 Keps Nut               | (1x) 4.6mm Plastic Spacer |
| (5x) Flat Bearing                 | (1x) Angle Gusset         |
| (11x) #8-32 x 1" Star Drive Screw | (1x) 3" Drive Shaft       |
| (1x) V5 Smart Motor (11W)         |                           |
| (2x) Rubber Shaft Collar          |                           |
| (1x) 24T High Strength Sprocket   |                           |
| (2x) Metal Shaft Inserts          |                           |
| (3x) 8mm Plastic Spacer           |                           |

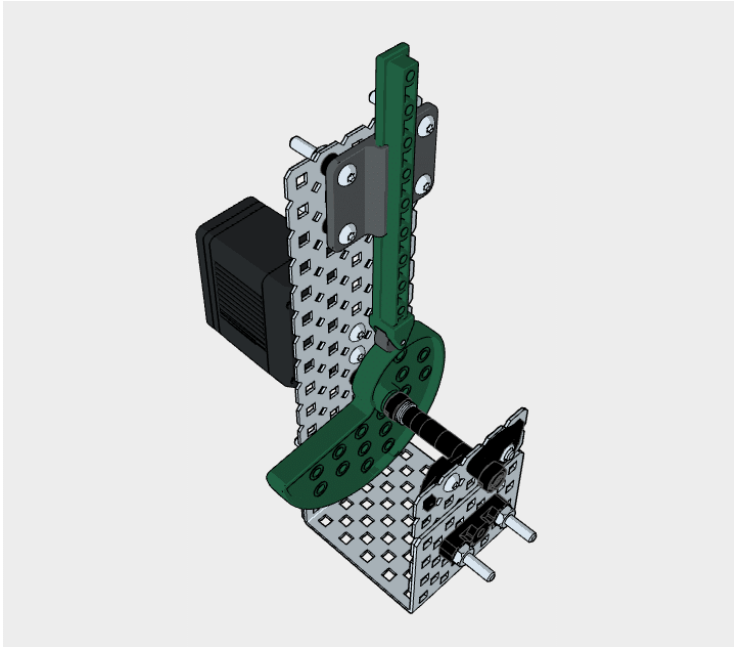
Quick Return



- (1x) Winch Bracket
- (2x) Flat Bearing
- (1x) V5 Smart Motor (11W)
- (2x) Rubber Shaft Collar
- (2x) Metal Shaft Inserts
- (1x) #8-32 x 1" Star Drive Screw
- (3x) 8mm Plastic Spacer
- (2x) 4.6mm Plastic Spacer
- (1x) Slotted Angle Beam
- (1x) #8-32 Keps Nut

- (1x) #8-32 x 3/8" Star Drive Screw
- (2x) #8-32 Hex Nut
- (1x) #8-32 x 1" Star Drive Screw
- (2x) #8-32 x 1.5" Star Drive Screw
- (2x) #8 Click on Spacer 0.125"
- (1x) 1/2" Standoff
- (1x) 18T High Strength Sprocket
- (1x) 3" Drive Shaft

Cam and Follower



- (1x) 5x15 Steel Plate
- (1x) 4" Drive Shaft
- (3x) Rubber Shaft Collar
- (1x) Cam Follower
- (1x) Winch Bracket
- (1x) 5x5 Steel Plate
- (3x) Flat Bearing
- (10x) #8-32 x 1" Star Drive Screw
- (8x) #8-32 Keps Nut
- (2x) 1-Post Hex Nut Retainer w/Bearing Flat

- (2x) #8-32 x 3/8" Star Drive Screw
- (2x) #8-32 Nylock Nut
- (1x) V5 Smart Motor (11W)
- (1x) Cam Follower Mounting Bracket
- (7x) 4.6mm Plastic Spacer
- (1x) Drop Off Cam
- (2x) 8mm Plastic Spacer
- (3x) Steel Washer

