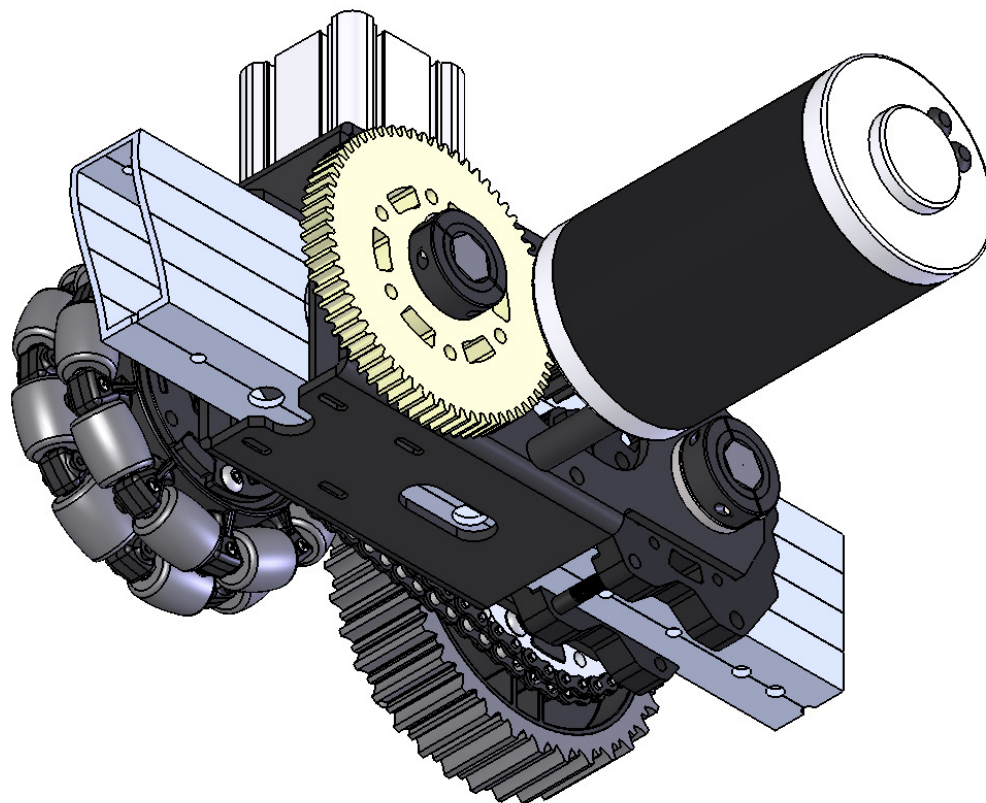
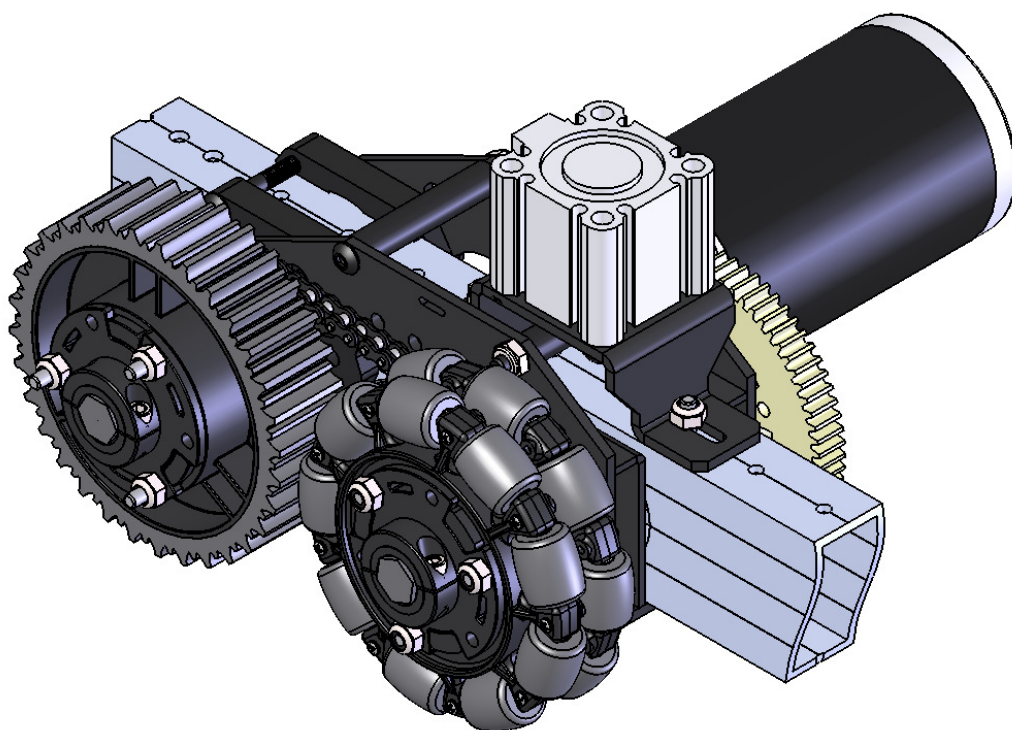


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VEX DropDrive Module Assembly

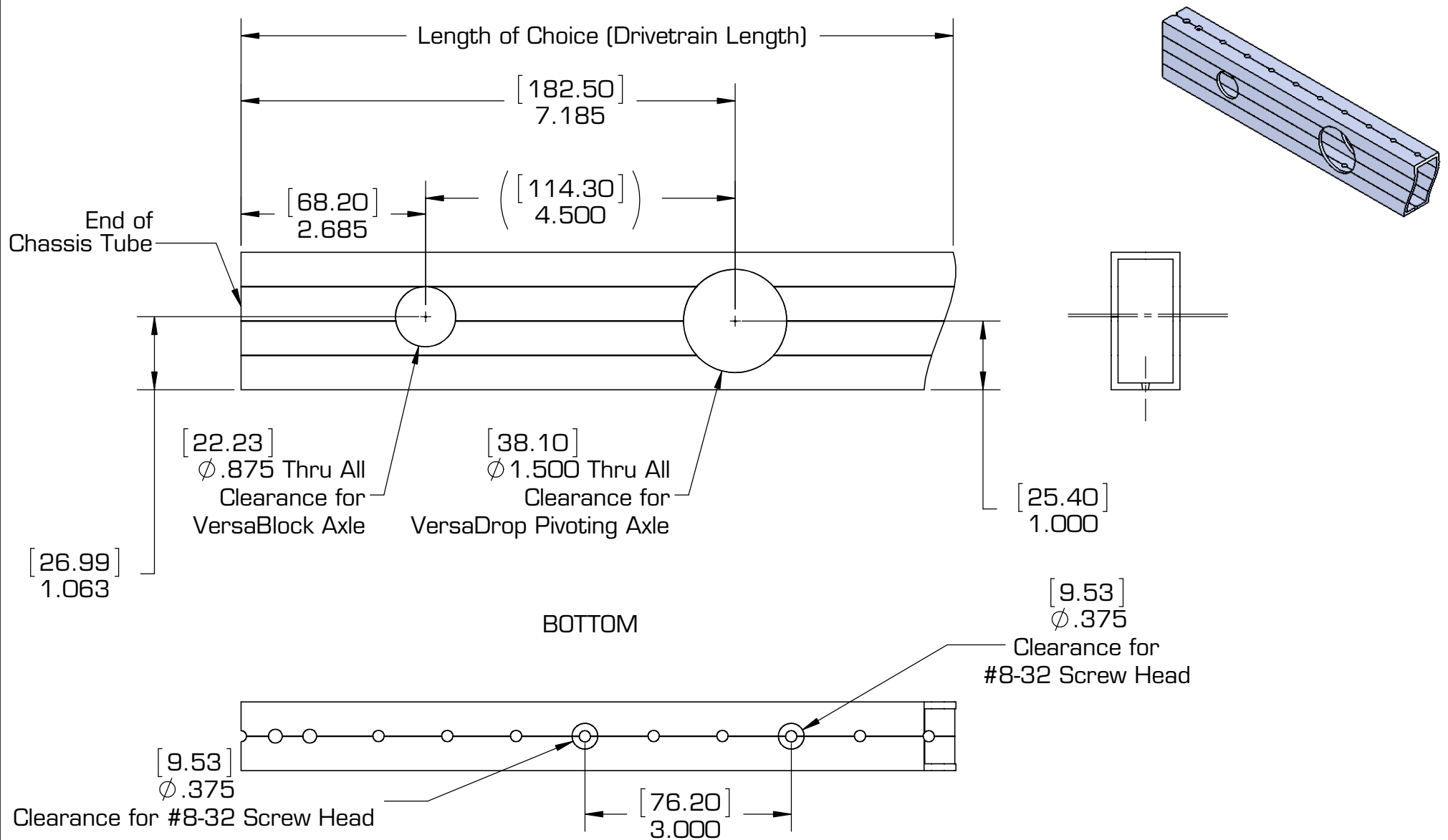




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VEX DropDrive Module Assembly

Item No.	Description	Part Number	Qty
1	VersaDrop Module	217-4824	1
2	4" Omni Wheel	217-2584	1
3	VersaWheel (4")	217-2903	1
4	#25 Plate Sprocket - 32t	217-2690	1
5	1/16" Acetal Spacer - 1/2" Hex (10-pack)	217-3257	1
6	#25 Sprocket w/ Hub - 16t - 1/2" Hex ID	217-2642	1
7	CIM motor	217-2000	1
8	12t CIM Motor Gear with Mounting Hardware	217-2614	1
9	66t Gear with 1/2" Hex Bore & VersaKeys	217-3223	1
10	1/2" Hex Stock (18 inches)	217-3309	1
11	Flanged Bearing - 0.500in (Hex) x 1.125in x 0.313in v2	217-3875	7
12	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106	4
13	VersaBlock Kit	217-3432	1
14	VersaHub (1/2" Hex, Plastic)	217-4009	3
15	Button Head Screw, #8-32 x 2.000" Long	-	6
16	Nylock #8-32 Nut	-	6
17	VersaFrame 1" x 2" x 0.10" Pre-Drilled Tube Stock (59" length)	217-3453	1
18	#25 Roller Chain (10 feet)	217-2775	1

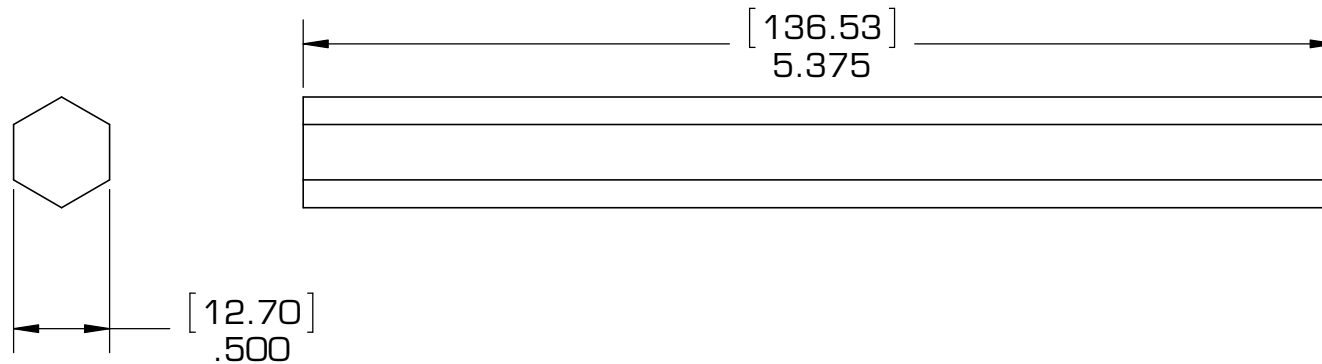
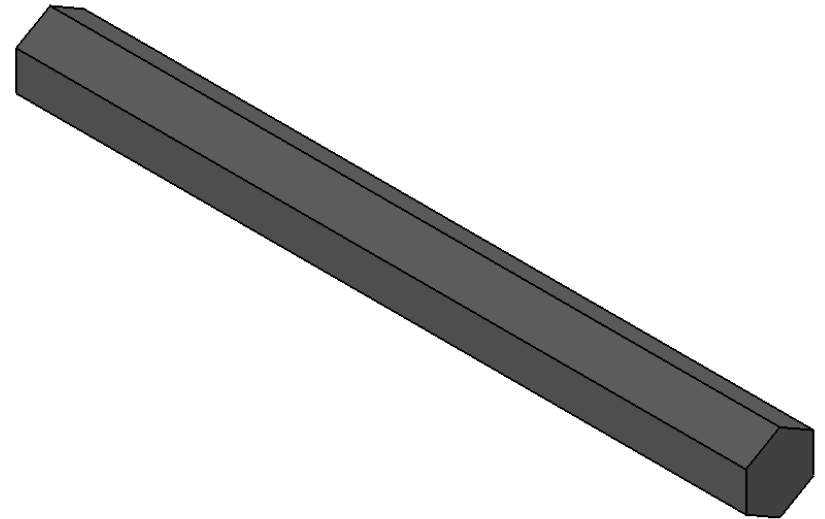


THESE HOLES ONLY GO THROUGH THE BOTTOM WALL ON THE 2X1 TUBE



Description	VersaChassis DriveRail		
Dwg No	217-8000-022-100		
Project	VEXpro	Sheet 3 of 18	
Release	12/11/2015	ALL DIMENSIONS ARE IN INCHES [MM].	

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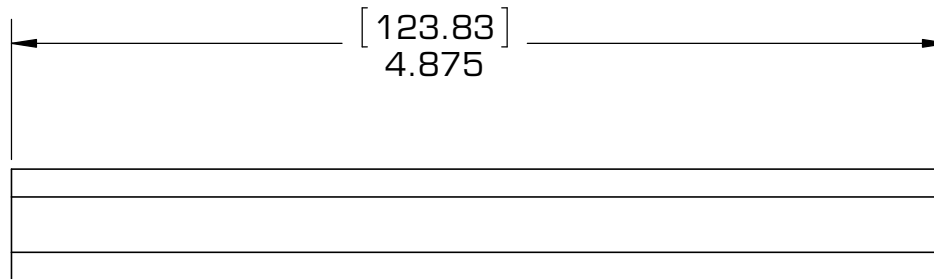
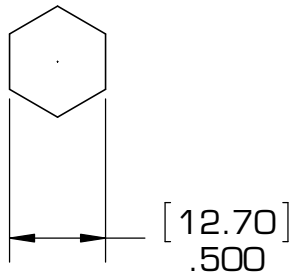
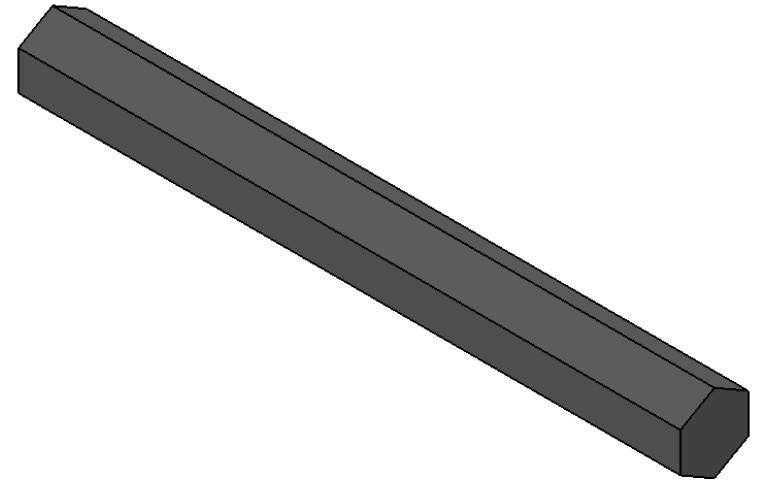
NOTE:

1. CUT TO LENGTH FROM THE 1/2" HEX STOCK (217-3309 OR 217-2753)
2. MAKE THE AXLE A LITTLE LONGER THAN YOU THINK YOU NEED
3. QTY: 1 PER VERSADROP MODULE



Description	LONG AXLE		
Dwg No	217-8000-022-100		
Project	VEXpro	Sheet 4 of 18	
Release	12/11/2015	ALL DIMENSIONS ARE IN INCHES [MM].	

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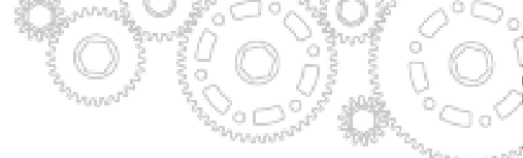
NOTE:

1. CUT TO LENGTH FROM THE 1/2" HEX STOCK (217-3309 OR 217-2753)
2. MAKE THE AXLE A LITTLE LONGER THAN YOU THINK YOU NEED
3. QTY: 1 PER VERSADROP MODULE



Description	SHORT AXLE		
Dwg No	217-8000-022-100		
Project	VEXpro	Sheet 5 of 18	
Release	12/11/2015	ALL DIMENSIONS ARE IN INCHES [MM].	

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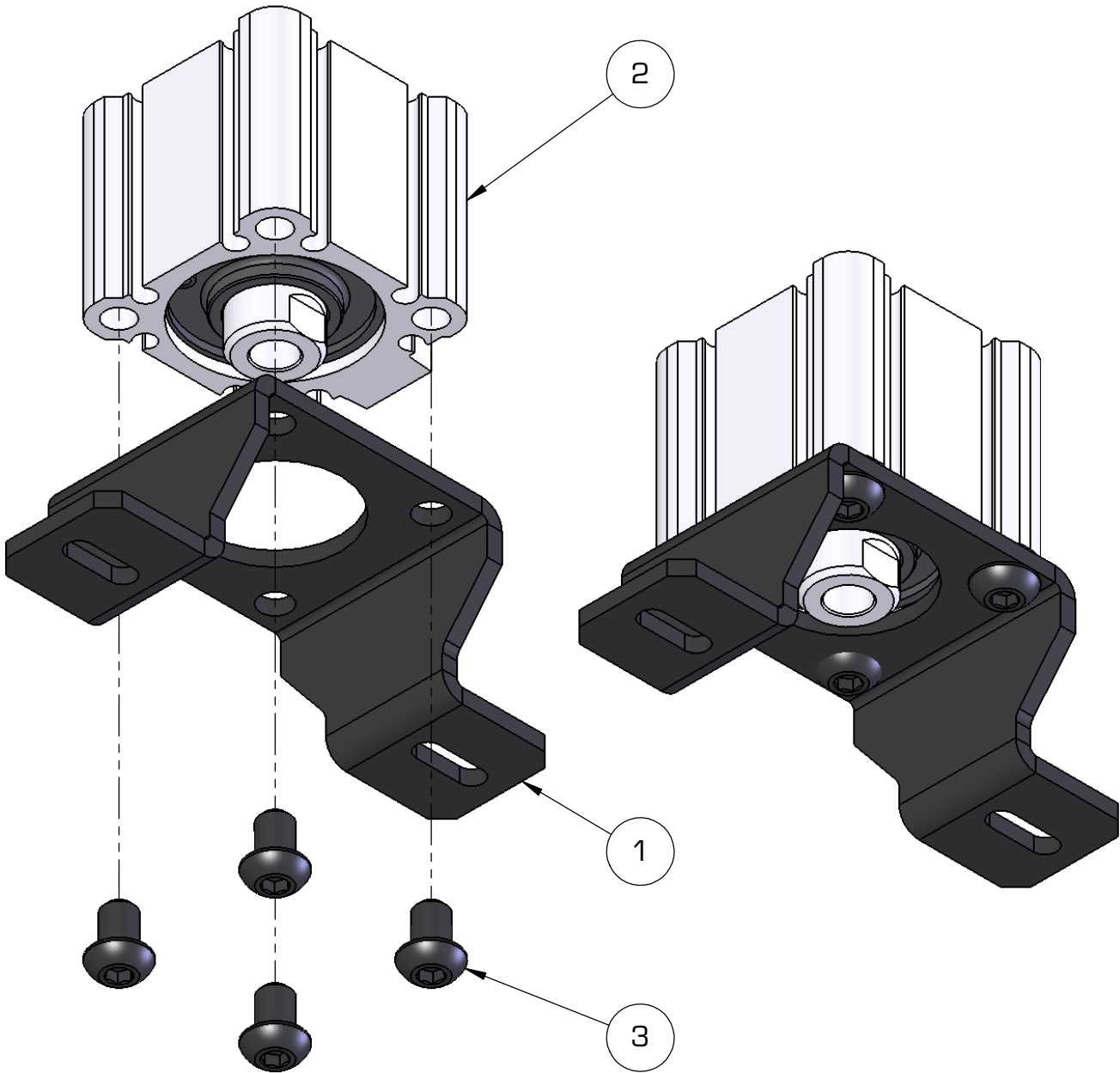
217-8000-022-100

VEX DropDrive Module Assembly

Item No.	Description	Part Number	Qty
1	VersaDrop Cylinder Mount	217-4824-016	1
2	Pneumatic Cylinder, 32mm Bore, 15mm Stroke Bore	NCQ2A32-15DZ	1
3	Button Head Screw, .#1/4-20 x .375 Long	-	4

Step 1:

Assemble Pneumatic Cylinder to Mount using the included 1/4"-20 Button Head Fasteners.

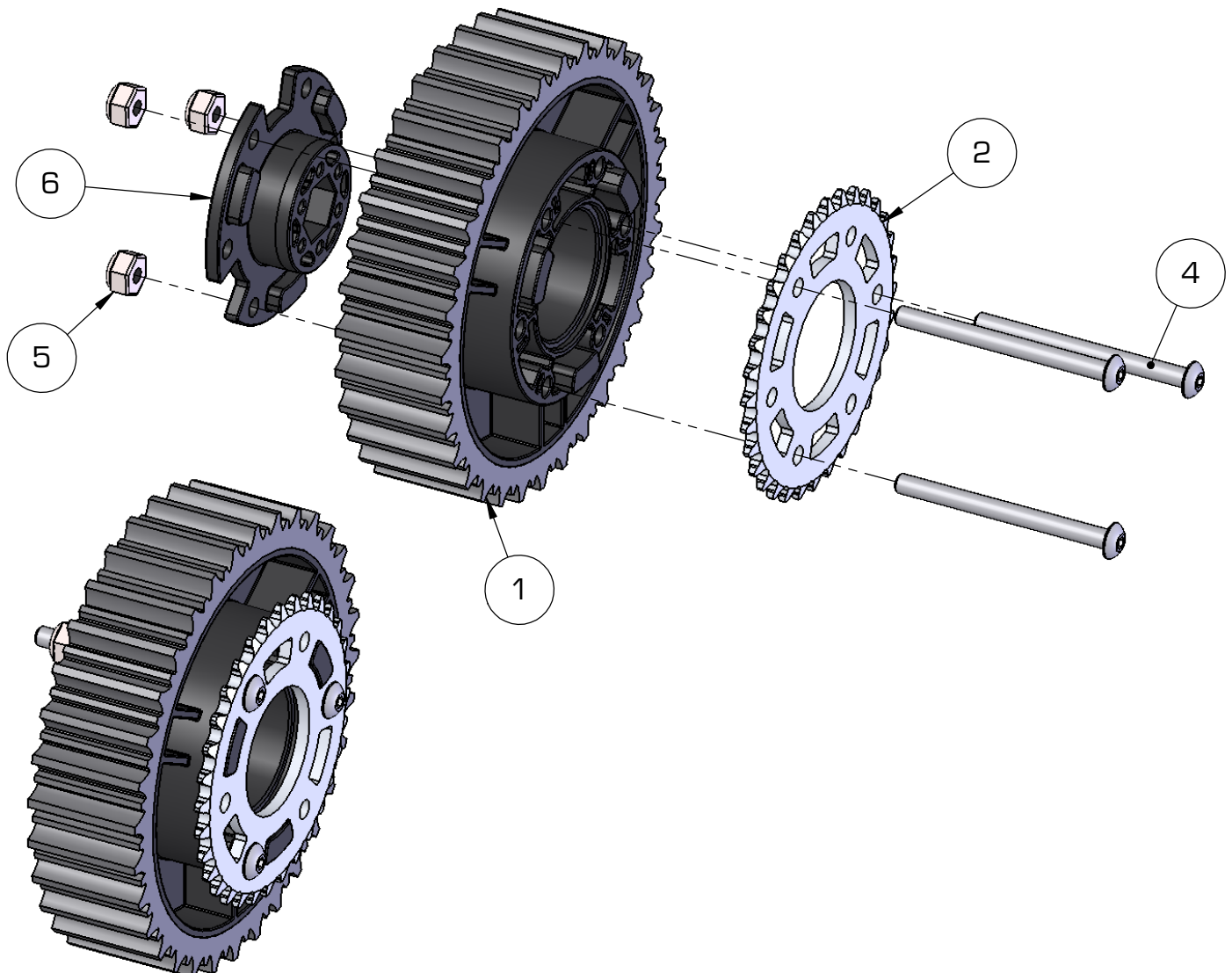


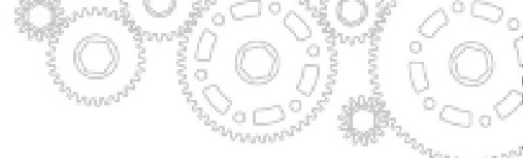
VEX DropDrive Module Assembly

Item No.	Description	Part Number	Qty
1	VEXpro 4" VersaWheel	217-2903	1
2	#25 Plate Sprocket - 32t	217-2690	1
3	Flanged Bearing - 0.500in (Hex) x 1.125in x 0.313in v2	217-3875	1
4	Button Head Screw, #8-32 x 2.000" Long	-	3
5	Nylock #8-32 Nut	-	3
6	VersaHub (1/2" Hex, Plastic)	217-4009	1

Step 2:

Insert the Flanged Bearing into the VersaWheel. Then insert the chosen plate sprocket and the plastic VersaHub into the wheel and fasten with 8-32 screws. Make sure the heads of the screws are on the sprocket side of the wheel.



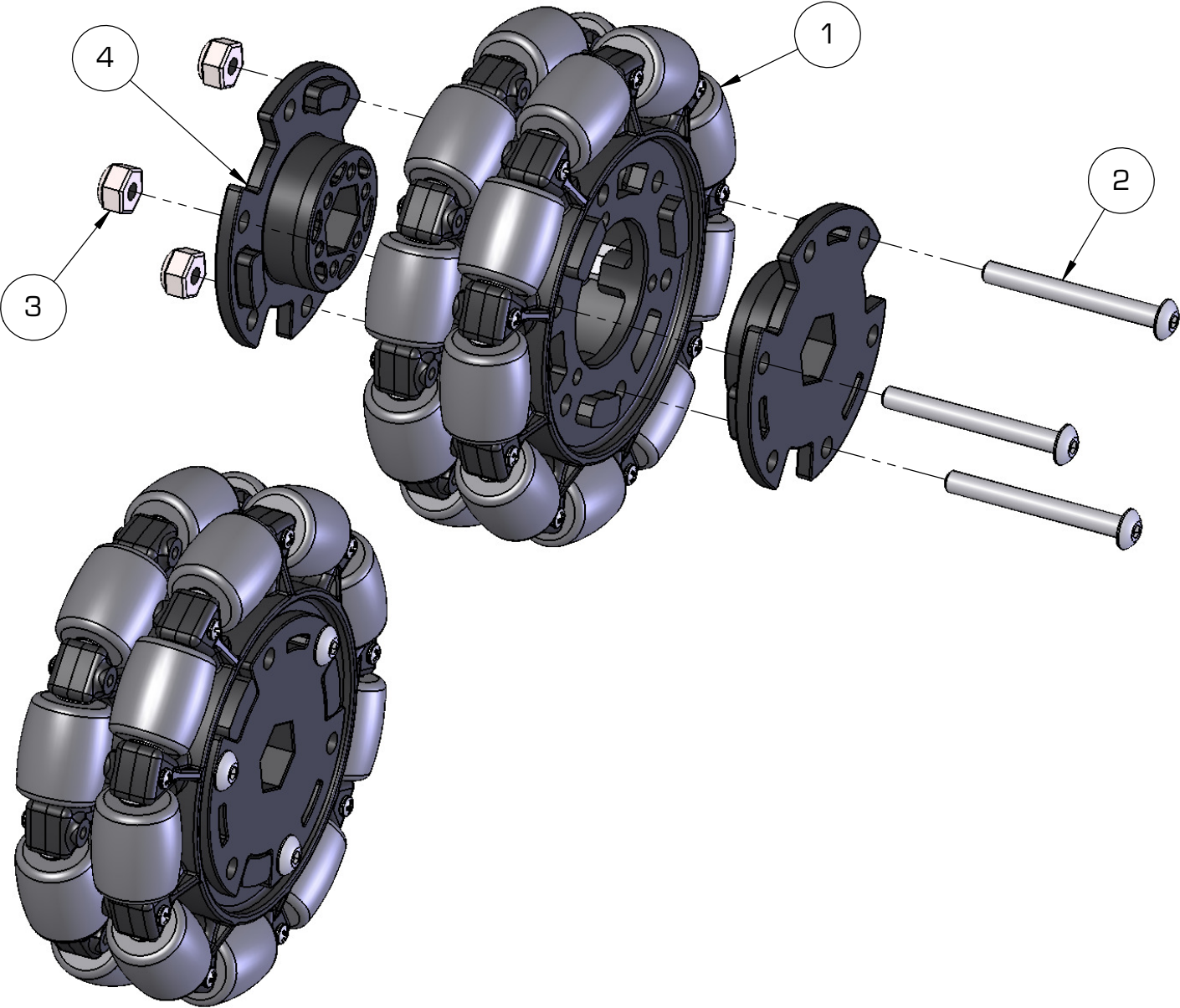


VEX DropDrive Module Assembly

Item No.	Description	Part Number	Qty
1	4" Omni Wheel	217-2584	1
2	Button Head Screw, #8-32 x 2.000" Long	-	3
3	Nylock #8-32 Nut	-	3
4	VersaHub (1/2" Hex, Plastic)	217-4009	2

Step 3:

Insert both plastic VersaHubs into the Omni Wheel, then fasten with 8-32 screws.





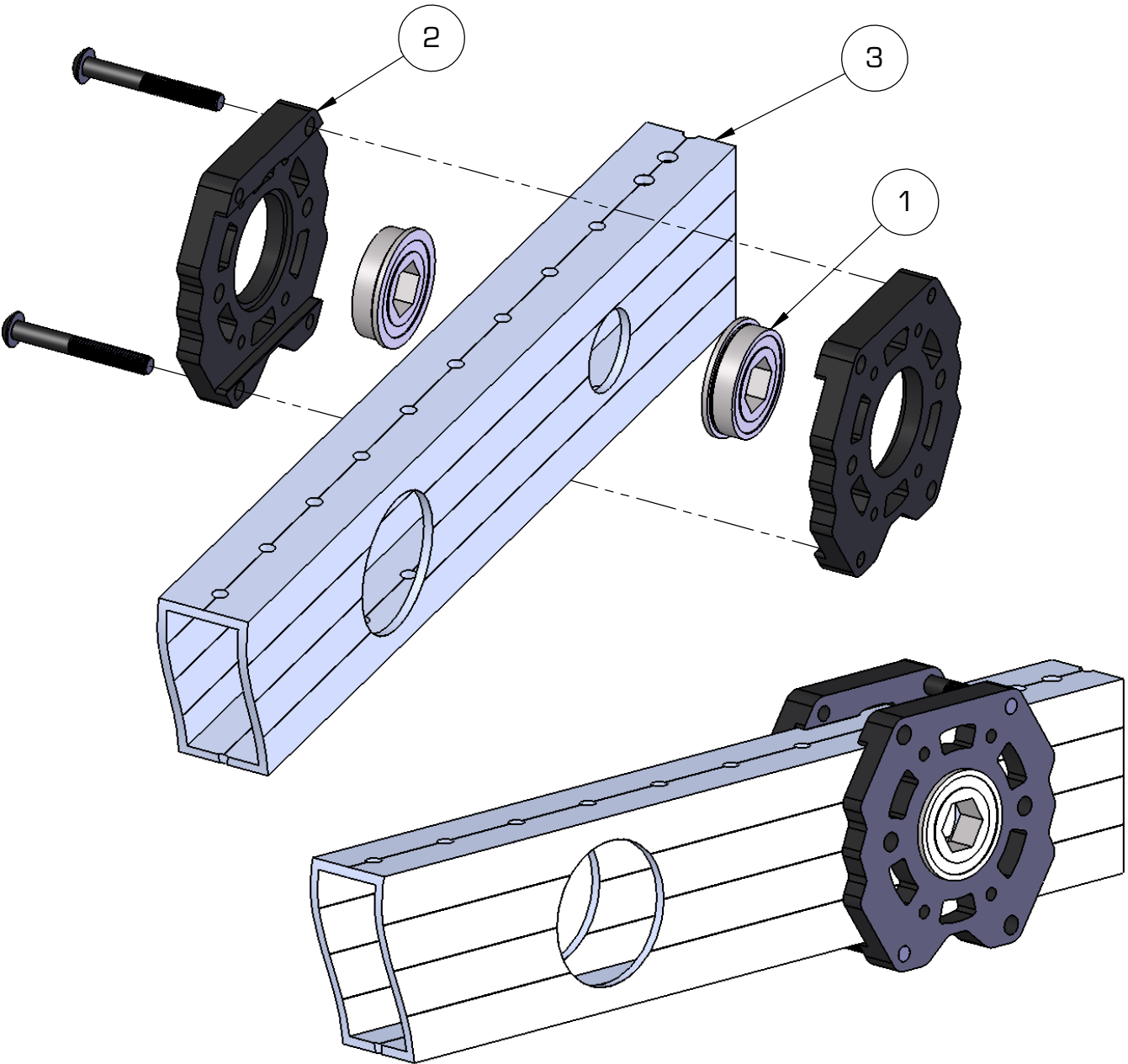
217-8000-022-100

VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Flanged Bearing - 0.500in (Hex) x 1.125in x 0.313in v2	217-3875	2
2	VersaBlock Kit	217-3432	1
3	VersaChassis Drive Rail	217-3453	1

Step 4:

Insert the bearings into the VersaBlock Half then clamp the VersaBlock around the 2x1 box extrusion using the 10-32 fasteners.

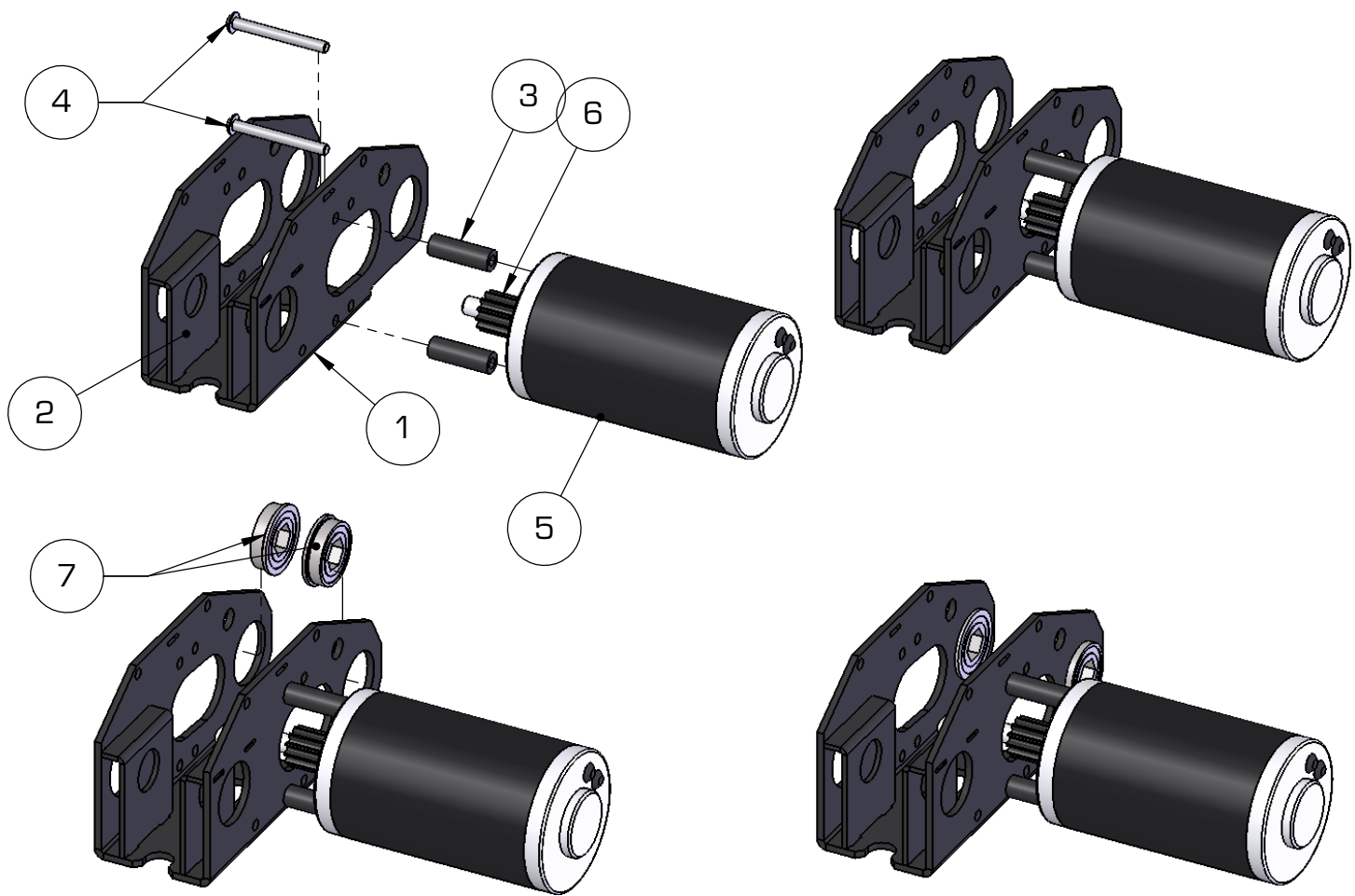


VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	VersaDrop Pivot	217-4824-015	1
2	VersaDrop Tube Brace	217-4824-002	2
3	WCP SS - Standard Top Spacer	217-3421-005	2
4	Button Head Screw, #10-32 x 1.750" Long	-	2
5	CIM motor	217-2000	1
6	12t CIM Motor Gear with Mounting Hardware	217-2614	1
7	Flanged Bearing - 0.500in (Hex) x 1.125in x 0.313in v2	217-3875	2

Step 5:

Attach the CIM motor to the VersaDrop module through the WCP SS Spacer using the 10-32 screws. Insert two bearings into the VersaDrop module. Assemble the VersaDrop Tube Brace components into the VersaDrop Pivot as shown. Pliers may be required to fully seat the tabs.

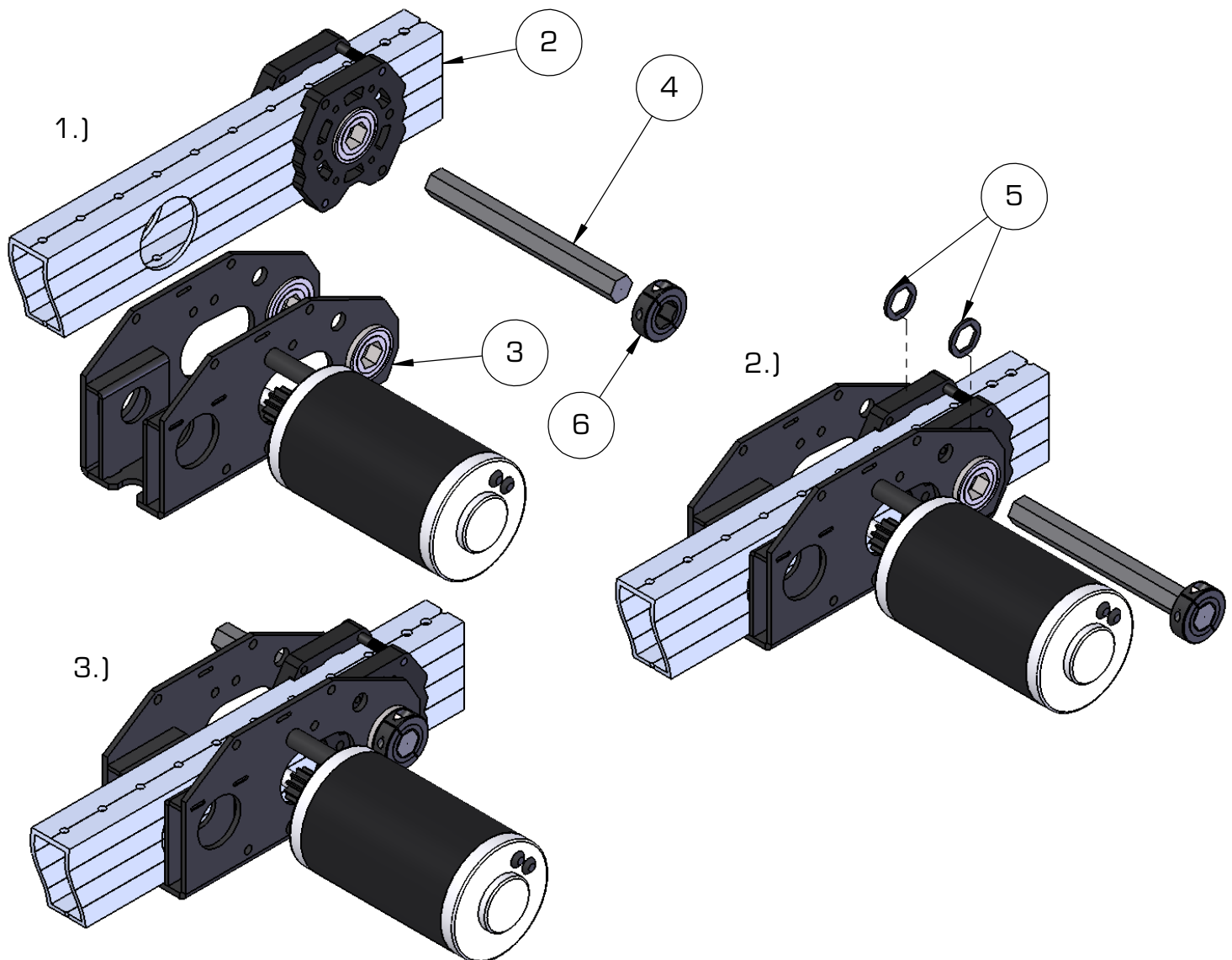


VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Step 4	-	1
2	Step 5	-	1
3	Short Axle	-	1
4	1/16" Acetal Spacer - 1/2" Hex	-	2
5	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106	1

Step 6:

- 1.) Line up the Hex bearings in the Step 4 and Step 5 Modules.
- 2.) Insert and fasten the High Strength Clamping Shaft Collar onto the end of the Short Axle.
- 3.) Put the Short axle through the Hex Bearings in Step 4 and Step 5. Make sure that the 1/16" Spacers are inbetween the Hex Bearings on each side of the 2x1 tube.



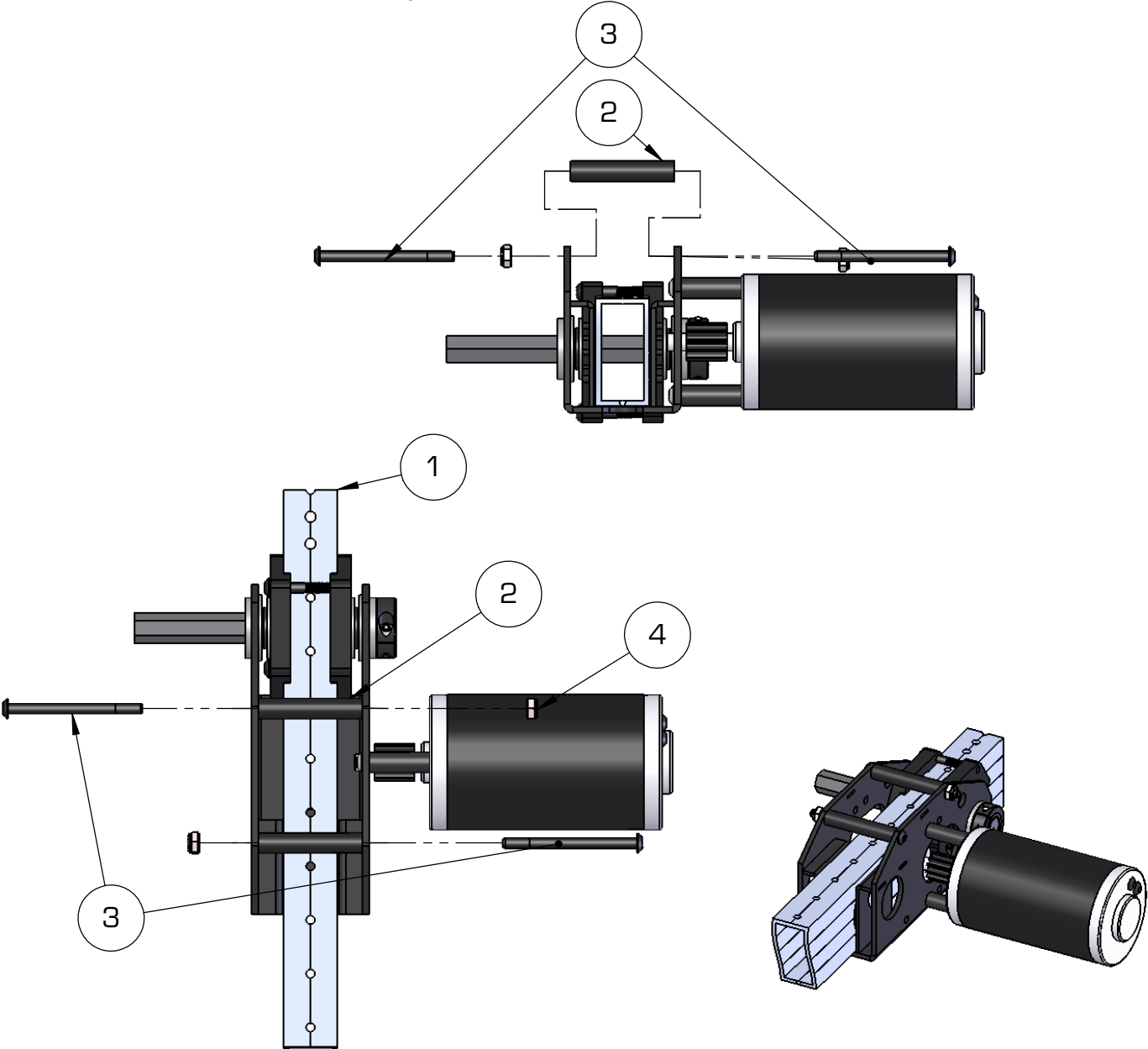


VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Step 6	-	1
2	Module Spacers	217-3423-010	2
3	Button Head Screw, #10-32 x 2.500	-	2
4	Nylock #8-32 Nut	-	2

Step 7:

Align the Module Spacers to the holes in the VersaDrop Module. Insert the Screws through the holes and fasten with the Nylock Nuts.



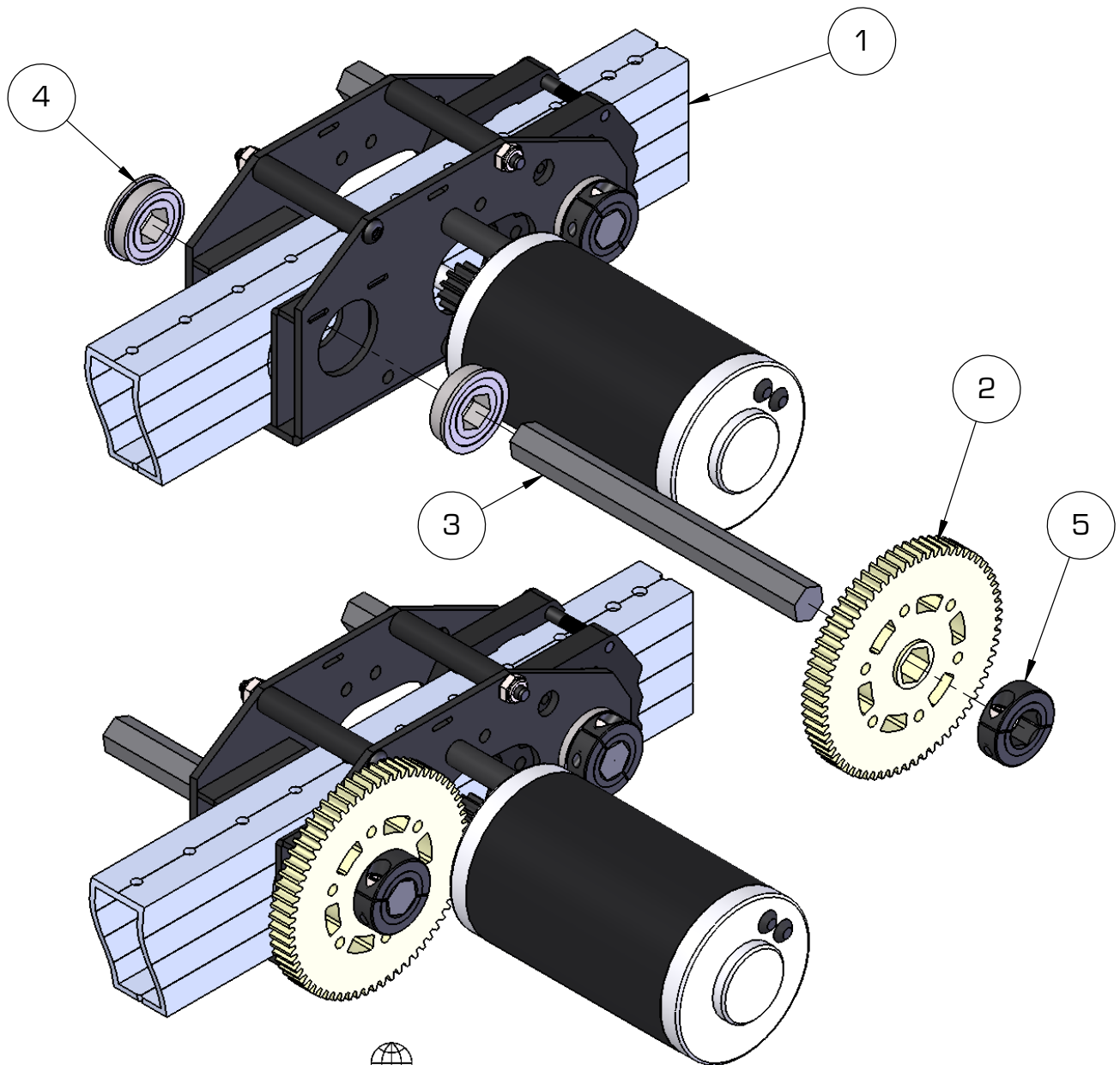
MAKE SURE THE SCREWS ARE INSERTED AS SHOWN.

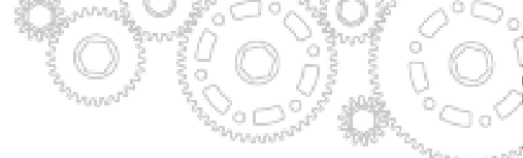
VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Step 7	-	1
2	66t Gear with 1/2" Hex Bore & VersaKeys	217-3223	1
3	Long Axle	-	1
4	Flanged Bearing - 0.500in (Hex) x 1.125in x 0.313in v2	217-3875	2
5	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106	1

Step 8:

Insert and fasten the Clamping Shaft Collar onto the end of the Long Axle. Slide the 66t gear onto the Long Axle. Slide a Hex Bearing onto the Long Axle. Put the Shaft through the hole and Insert the other Hex Bearing onto the Long Axle.





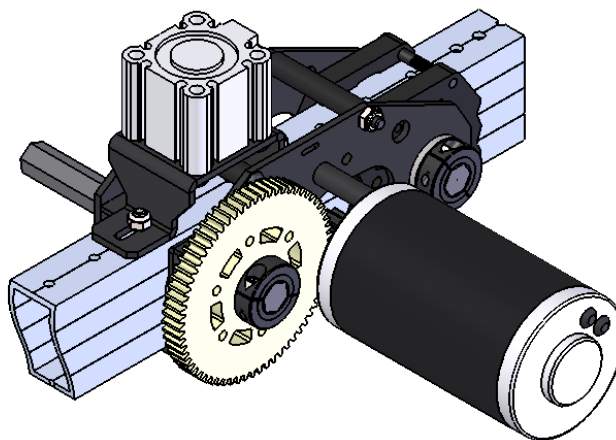
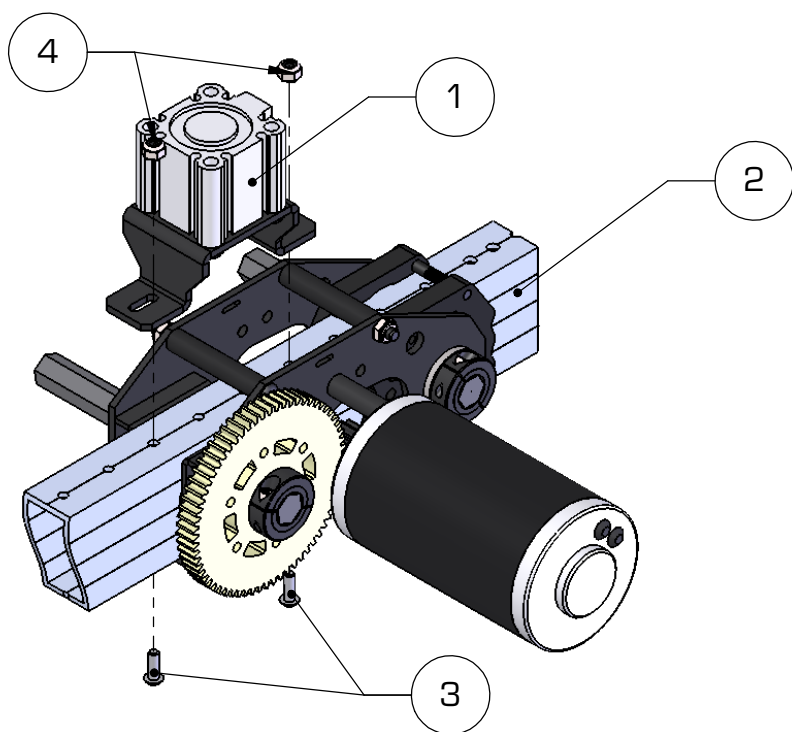
217-8000-022-100

VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Step 1	-	1
2	Step 8	-	1
3	Button Head Screw, #8-32 x .500" Long	-	2
4	Nylock #8-32 Nut	-	2

Step 9:

Attach Step 1 to the top of the 2x1 Versatube using two #8-32 screws and Nylock Nuts. Make sure that the cylinder is directly above the standoff such that the cylinder pushes the VersaDrop module down when actuated.

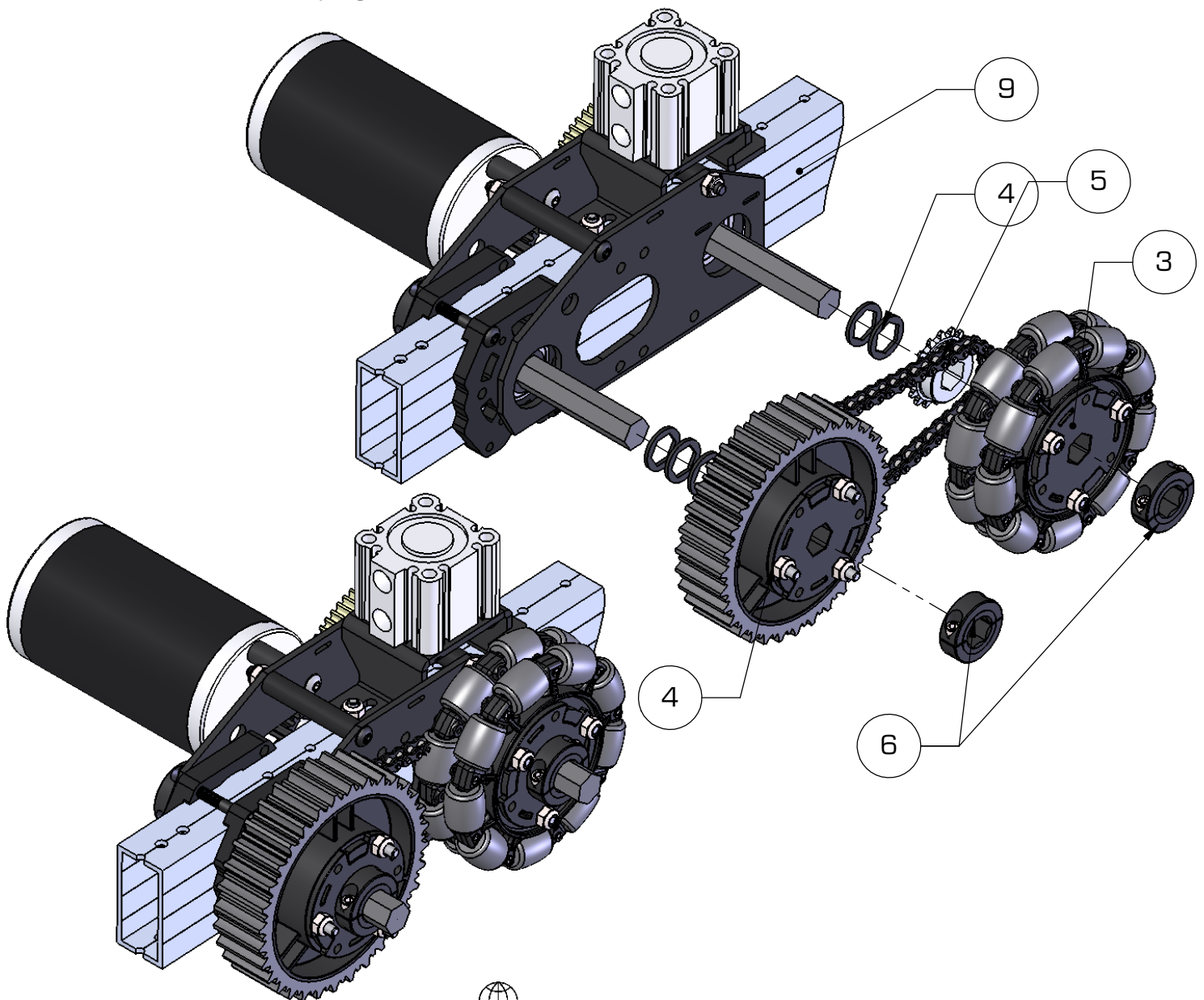


VEX VersaDrop Module Assembly

Item No.	Description	Part Number	Qty
1	Step 2	-	1
2	Step 3	-	1
3	Step 9	-	1
4	1/16" Acetal Spacer - 1/2" Hex	217-3257	5
5	#25 Sprocket w/ Hub - 16t - 1/2" Hex ID	217-2642	1
6	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106	2

Step 10:

Insert 3x 1/16" Spacers onto the Short Axle and 2x 1/16" Spacers onto the Long Axle. Then Put the Chain Loop (60links) around the 32t Plate Sprocket (Step 2) and the 16t Sprocket w/ Hub. Slide these onto the Axes. Slide Step 3 onto the Long Shaft. Finally, Insert and fasten a Clamping Shaft Collar onto the end of each shafts.



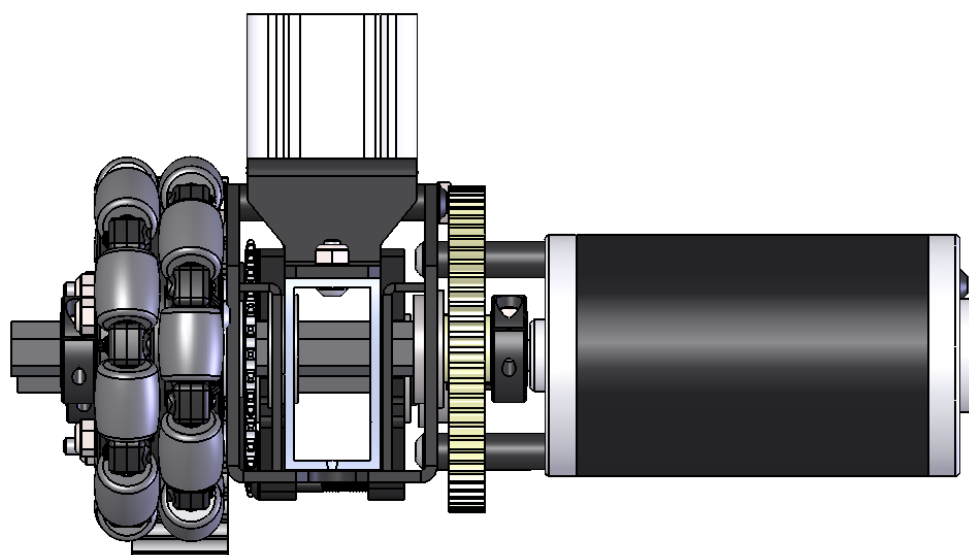
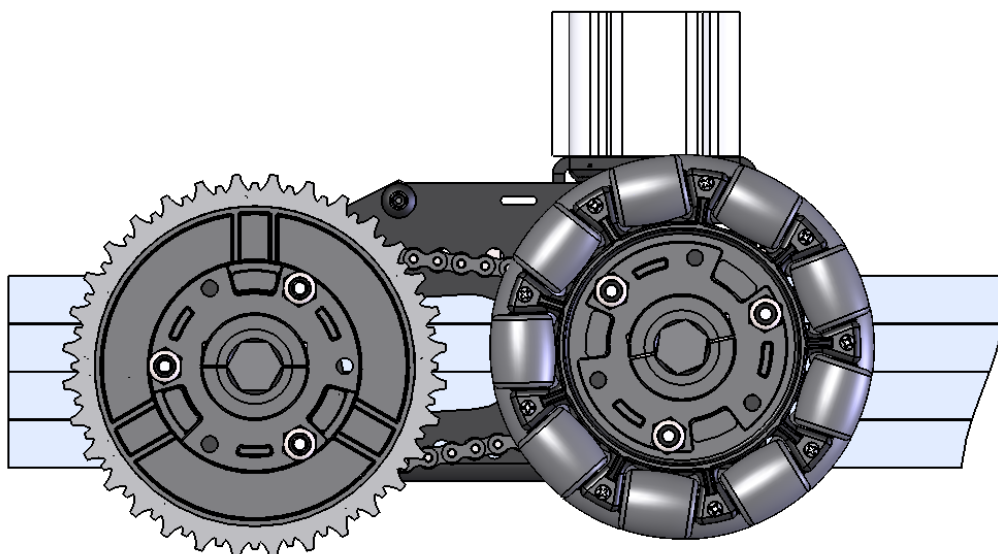


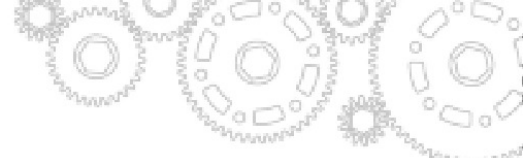
217-8000-022-100

VEX VersaDrop Module Assembly

Performance:

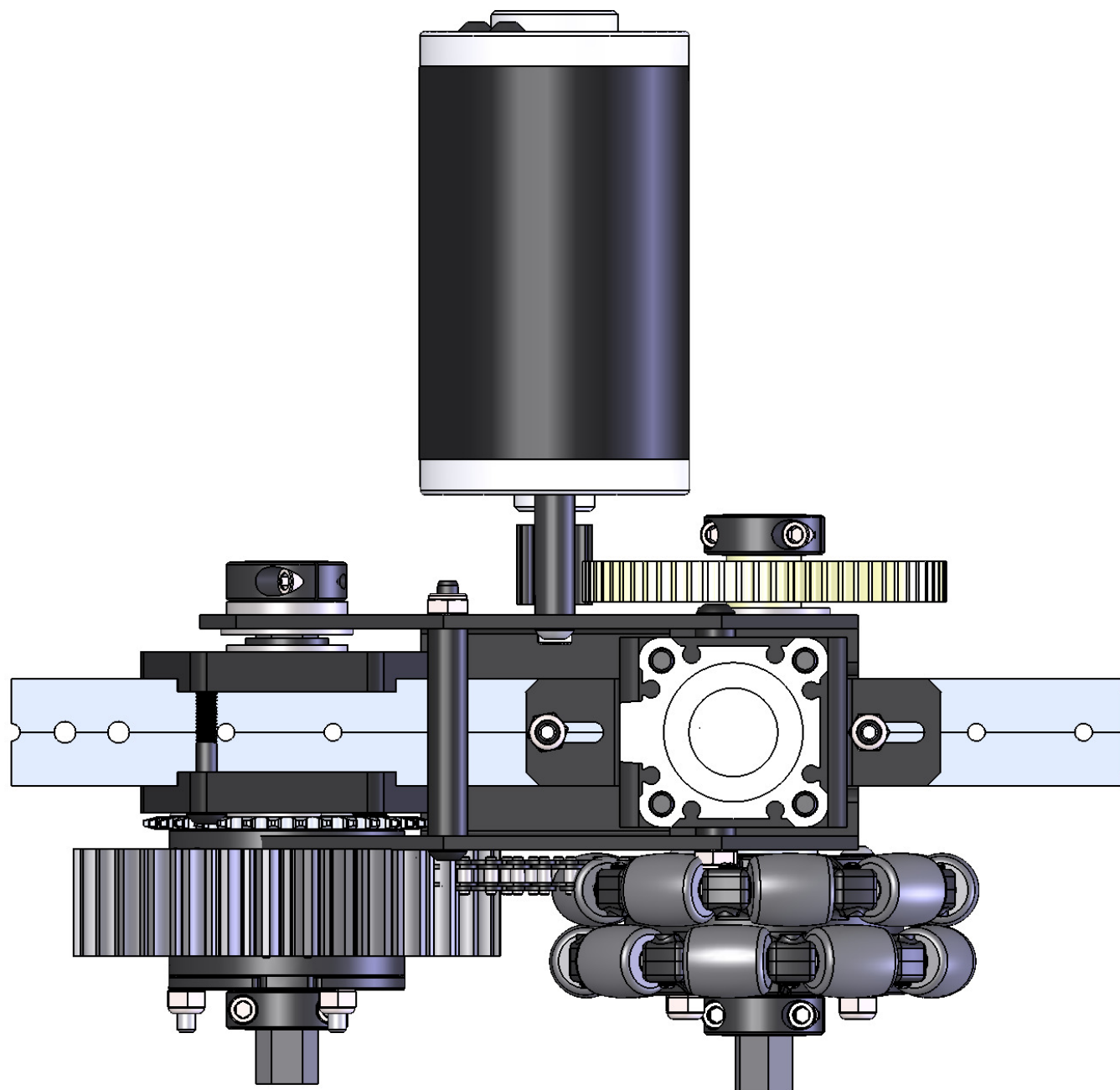
At 60psi the module will have approximately 74lbs of lifting force at the pivoting wheel.
Adjusted for frictional loss "real world" Speeds as assembled per this guide are as follows:
Approximately 14ft/s on the Omni Wheels
Approximately 7ft/s on the traction wheels





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VEX VersaDrop Module Assembly



217-8000-022-100

VEX VersaDrop Module Assembly

