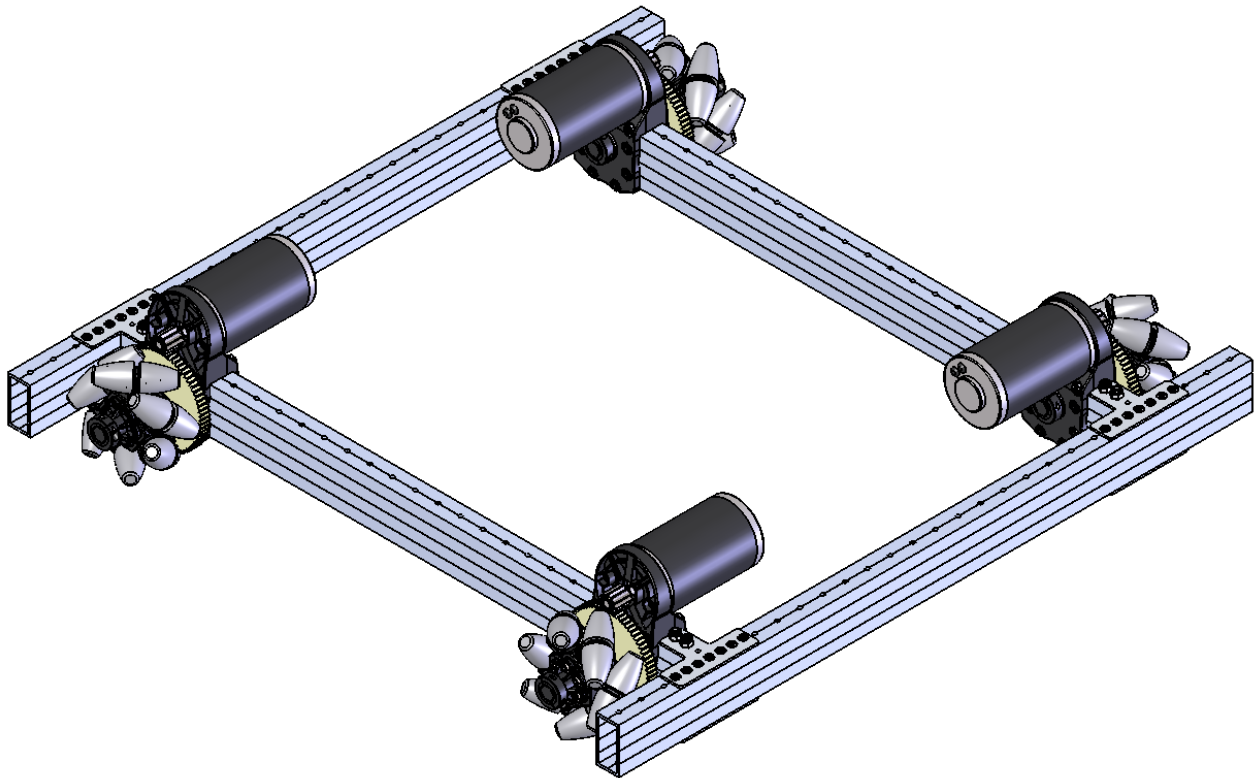


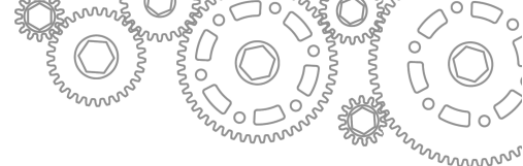
# VersaChassis - 4" Mecanum

217-8000-003



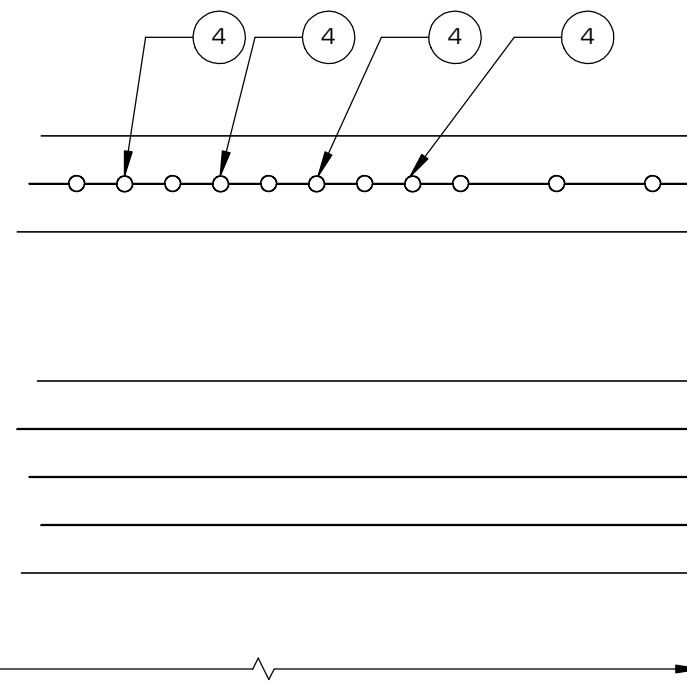
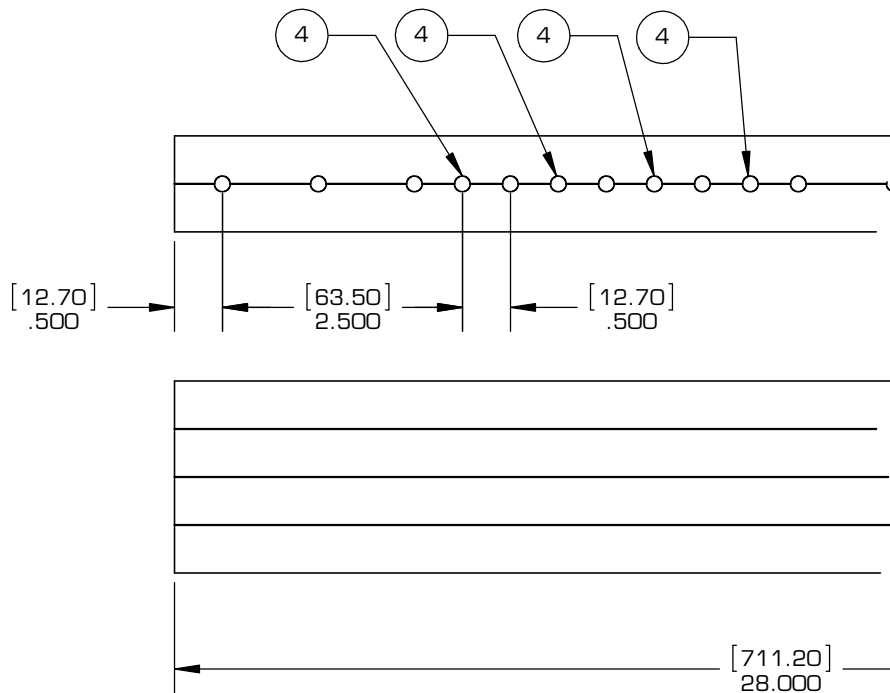
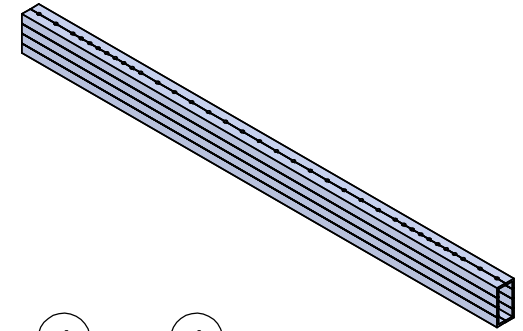
# VersaChassis - 4" Mecanum

217-8000-003



## Bill of Materials

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	VersaChassis - Mecanum Front Rail	217-8000-003-001	2
2	VersaChassis - Mecanum Side Rail	217-8000-003-002	2
3	Gusset	217-8000-001-003	8
4	5/32" Rivet	Rivet	56
5	Button Head Screw, #10-32 x 2.500 Long	SBS1032-2500	8
6	#10-32 Nut	NNY1032	40
7	Single Reduction Clamping Gearbox	217-4156	4
8	Socket Head Screw #10-32 x 1.375" Long	SHS1032-1375	32
9	CIM Motor	217-2000	4
10	Flanged Bearing - 0.500" (Hex) x 1.125in x 0.313in v2	217-3875	8
11	72T Gear with 1/2" Hex Bore	217-3576	4
12	11T CIM Gear w/ 12T Center Distance (Steel)	217-3107	4
13	ROTORCLIP TX-31, OR EQUIV. (retaining ring)	From 217-3107	8
14	VersaChassis Mecanum - Drive Shaft	217-8000-003-003	4
15	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106	8
16	#10-32 SOCKET HEAD CAP SCREW - 1/2" LONG	From 217-3107	8
17	2mm Key	From 217-3107	4
6	4" Mecanum Wheel - Right	217-3644	2
7	4" Mecanum Wheel - Left	217-3645	2
8	1/8" Acetal Spacer 1/2" Hex (10pk)	217-2758	1



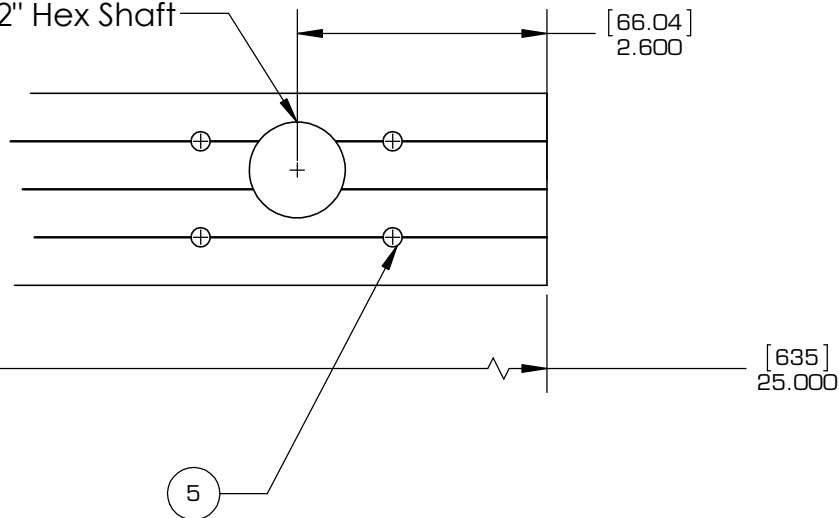
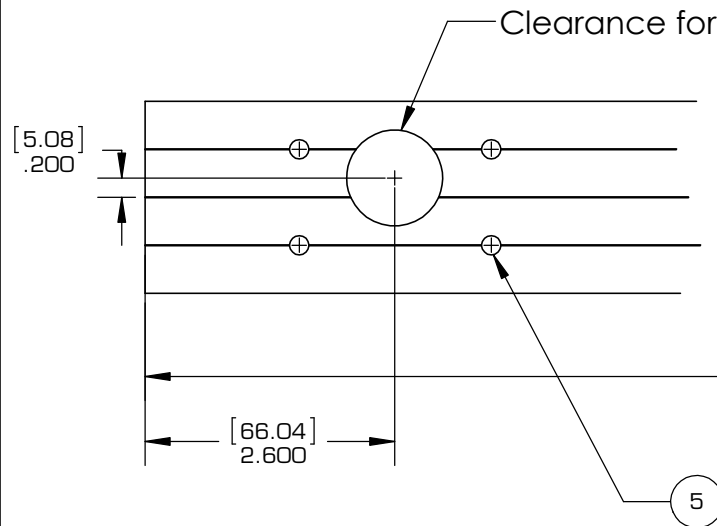
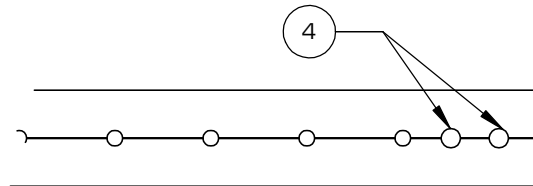
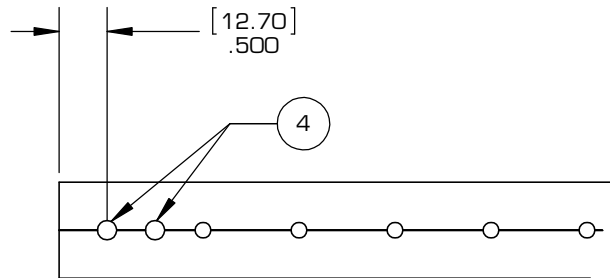
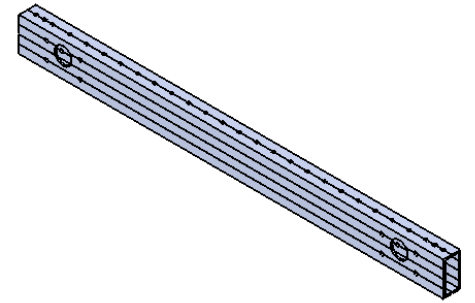
NOTES:

1. CUT FROM VERSAFRAME 1" X 2" X .100" PRE-DRILLED TUBE STOCK (59" LENGTH) (217-3453)
2. QTY: 2 PER ROBOT
3. LENGTH CAN BE ADJUSTED. ENSURE FRAME MEETS FRAME PERIMETER REQUIREMENTS
4. DRILL NEW 5/32"  $\phi$  HOLES THRU BOTH SIDES  
MATCH DRILL FROM GUSSET (SEE MATCH DRILL GUIDE)



Description		VersaChassis - Mecanum Front Rail
Dwg No		217-8000-003-001
Project		Sheet 3 of 11
Release	2014-12-16	ALL DIMENSIONS ARE IN INCHES [MM].

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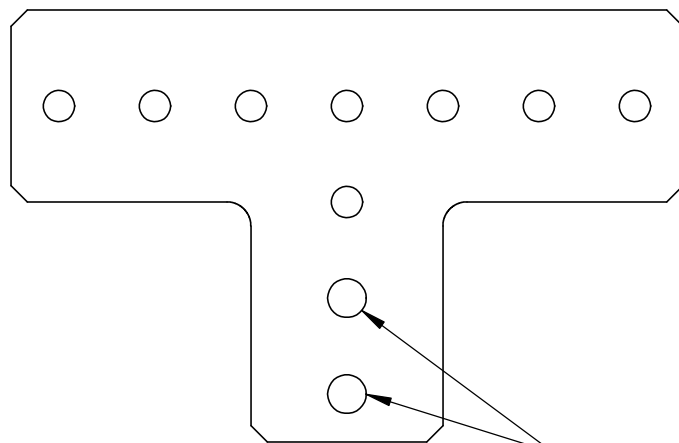
#### NOTES:

1. CUT FROM VERSAFRAME 1"X2" X .10" PRE-DRILLED TUBE STOCK (59" LENGTH) (217-3453)
2. QTY: 2 PER ROBOT
3. LENGTH CAN BE ADJUSTED. ENSURE FRAME MEETS FRAME PERIMETER REQUIREMENTS
4. MATCH DRILL FROM GUSSET TO CLEARANCE FOR #10 SCREW (.201") (SEE MATCH DRILL GUIDE)
5. MATCH DRILL FROM PLASTIC CLAMPING GEARBOX (217-4156) (SEE MATCH DRILL GUIDE)

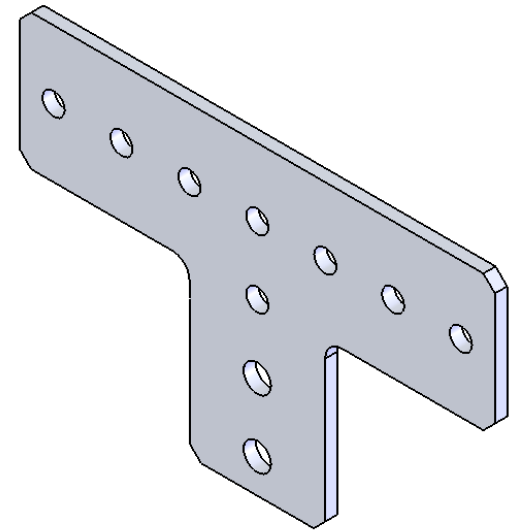


Description	VersaChassis - Mecanum Side Rail		
Dwg No	217-8000-003-002		
Project			Sheet 4 of 11
Release	2014-12-16	ALL DIMENSIONS ARE IN INCHES [MM].	

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ENLARGE HOLE TO #10 SCREW CLEARANCE (.201")



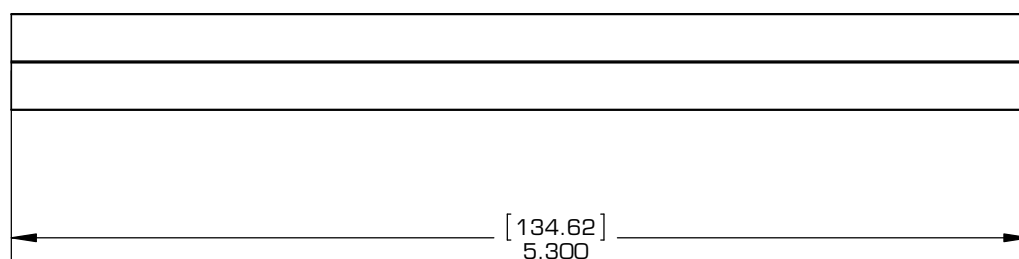
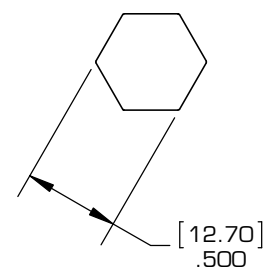
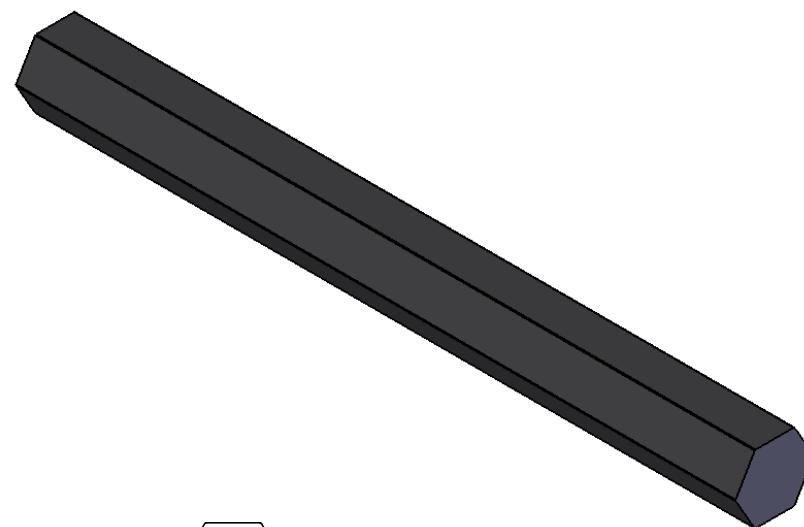
NOTES:

1. MODIFY VERSACHASSIS GUSSET (217-3557)
2. QTY: 8 PER ROBOT



Description	Gusset		
Dwg No	217-8000-001-003		
Project	VersaChassis - 4" Mecanum	Sheet 5 of 11	
Release	2014-12-16	ALL DIMENSIONS ARE IN INCHES [MM].	

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NOTES:

1. CUT FROM 1/2" HEX STOCK (3 FEET) (217-2753)
2. QTY: 4 PER ROBOT



Description		VersaChassis Mecanum - Drive Shaft
Dwg No		217-8000-003-003
Project		Sheet 6 of 11
Release	2014-12-16	ALL DIMENSIONS ARE IN INCHES [MM].

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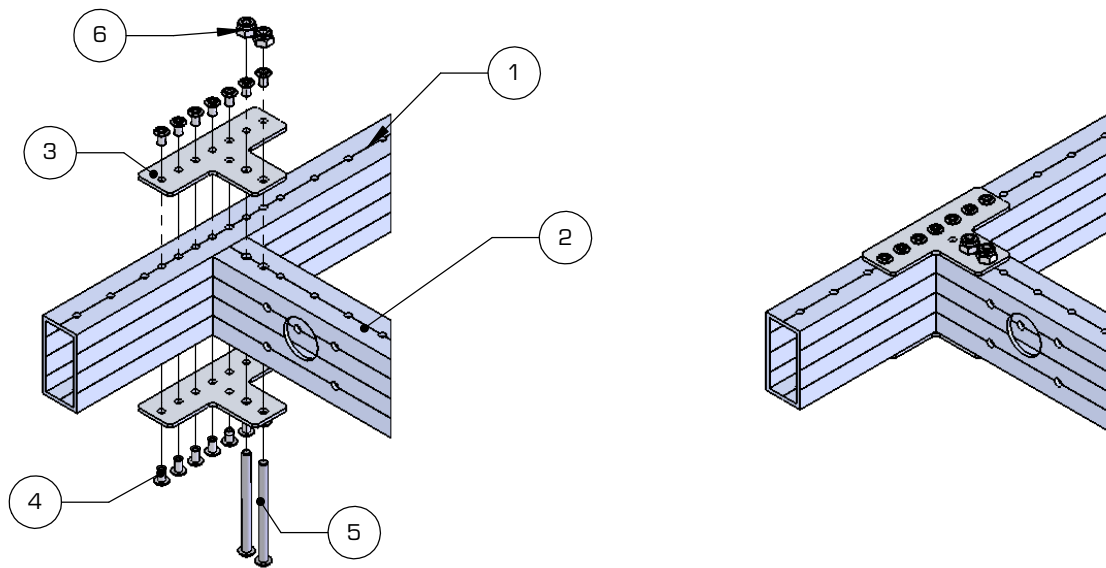
# VersaChassis - Mecanum

217-8000-003 Rev1

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	VersaChassis - Mecanum Front Rail	217-8000-003-001	2
2	VersaChassis - Mecanum Side Rail	217-8000-003-002	2
3	Gusset	217-8000-001-003	8
4	5/32" Rivet	Rivet	56
5	Button Head Screw, #10-32 x 2.500 Long	SBS1032-2500	8
6	#10-32 Nut	217-4155-002 Rev3	8

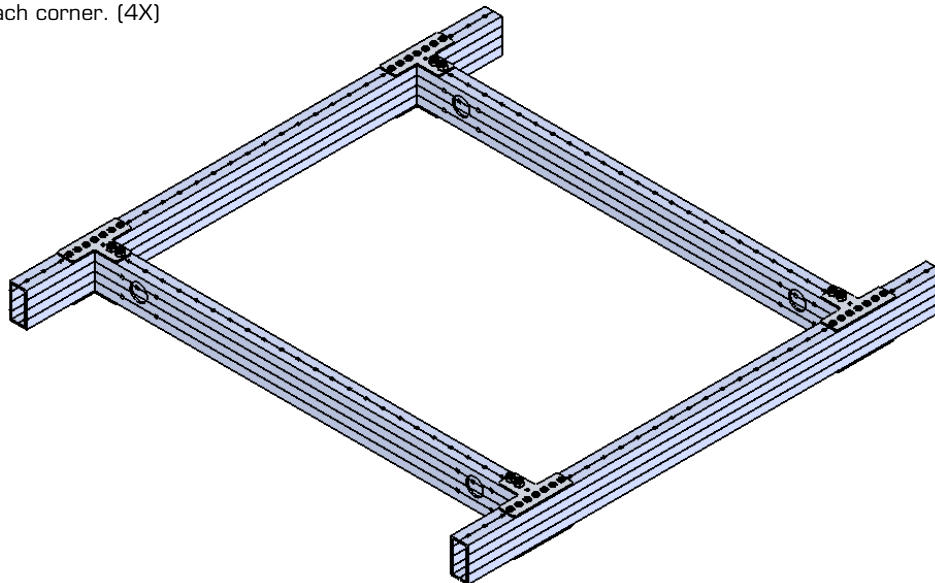
## Step 1:

Attach VersaChassis Gussets to front and back VersaFrame with 5/32 pop rivets (Match drill any absent holes). Match drill holes from gusset to the side rail, then fasten with #10-32 screws and nuts as shown.



## Step 2:

Repeat for each corner. (4X)



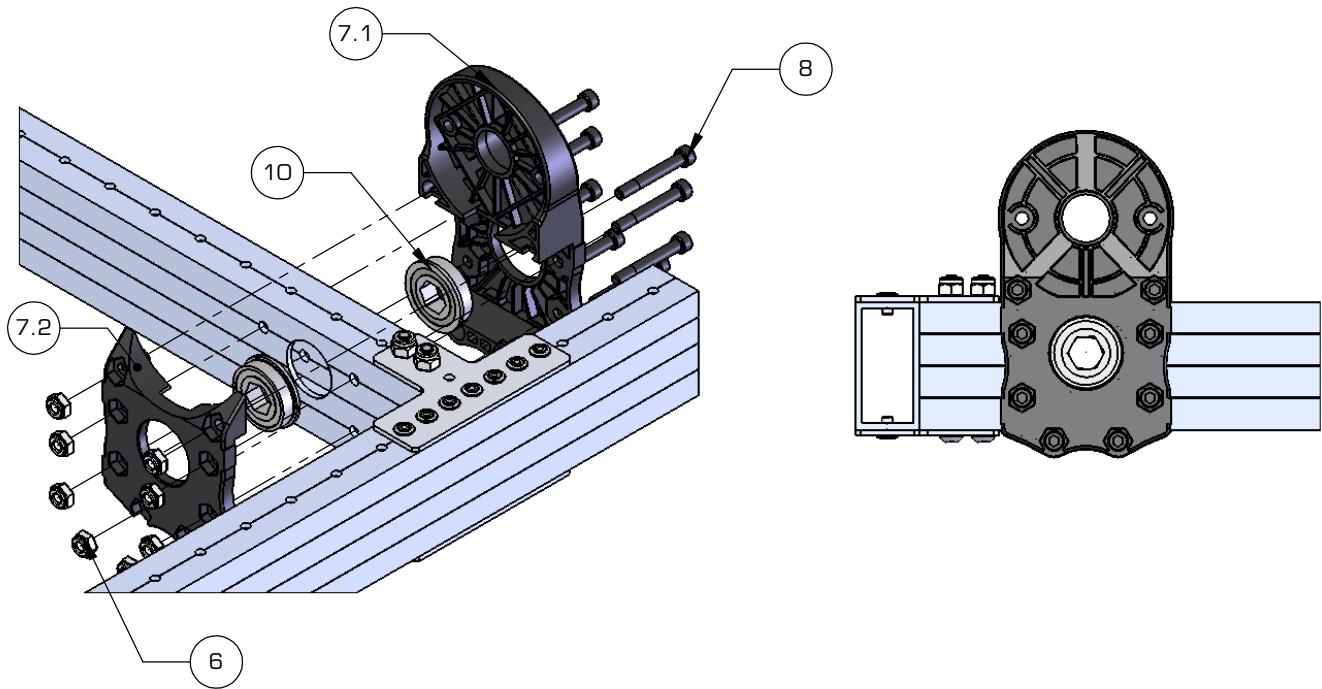
# VersaChassis - Mecanum

217-8000-003 Rev1

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
6	#10-32 Nut	217-4155-002	32
7	Single Reduction Clamping Gearbox	217-4156	4
7.1	Single Reduction Clamping Gearbox (Front)	217-4156-001	1
7.2	Single Reduction Clamping Gearbox (back)	NNY1032-ZC	1
8	Socket Head Screw #10-32 x 1.375" Long	#10-32 Nut	32
10	Flanged Bearing - 0.500" (Hex) x 1.125in x 0.313in v2	217-3875-001	8

## Step 3:

Attach Single Reduction Clamping Gearbox (217-4156) with Hex bearings (217-3875) to frame rail. Then, match drill through the four screw clearance (.201") holes on the tube face. Then, install (4X) #10-32x 1.375" long socket head screws.





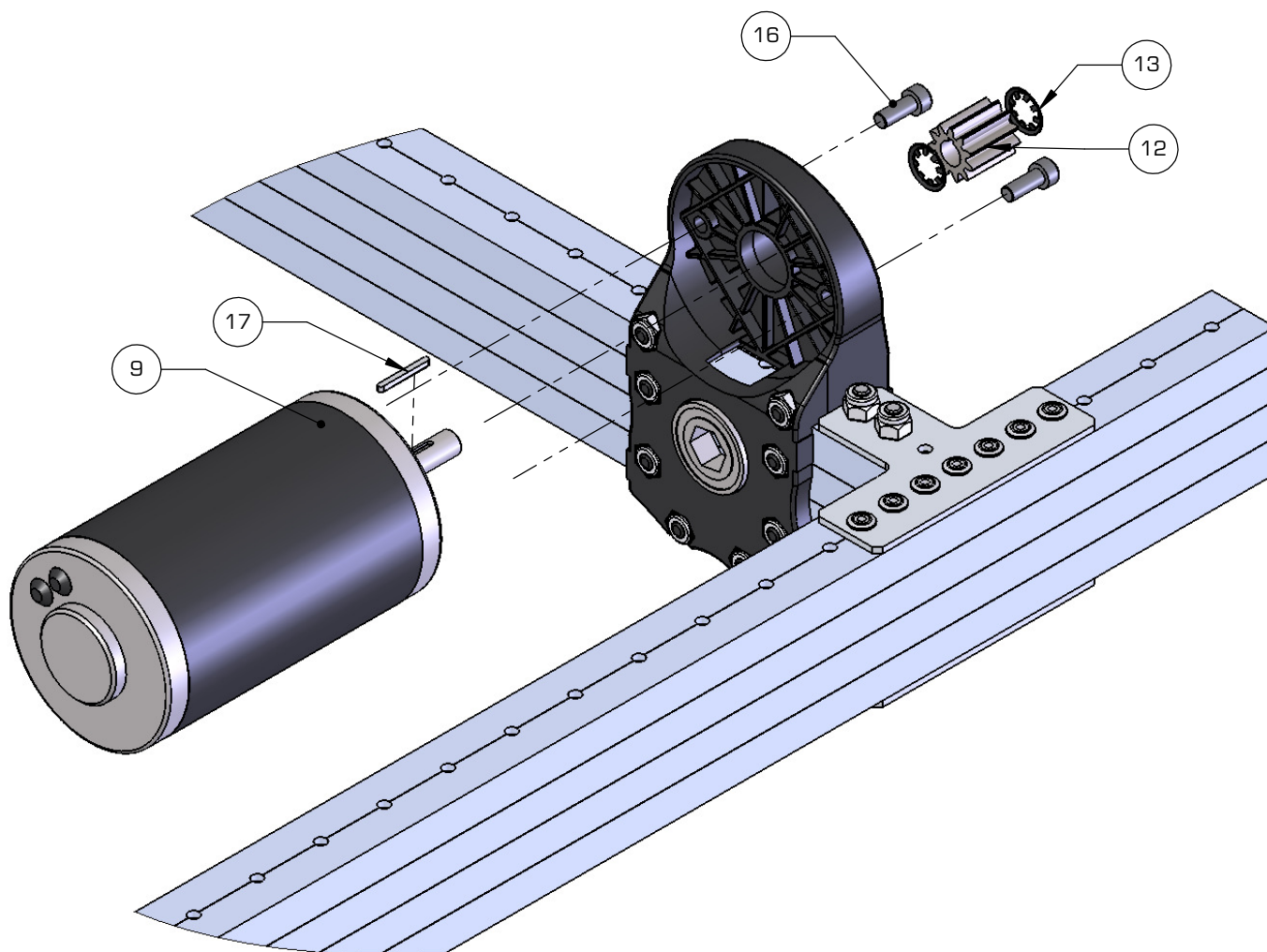
# VersaChassis - Mecanum

217-8000-003 Rev1

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
9	CIM Motor	217-2000	4
12	11T CIM Gear w/ 12T Center Distance (Steel)	217-3107	4
13	ROTORCLIP TX-31, OR EQUIV. (retaining ring)	98430A132	8
16	#10-32 SOCKET HEAD CAP SCREW - 1/2" LONG	217-2614-010	8
17	2mm Key	217-2761-001	4

## Step 4:

Assemble CIM motor into each gearbox using the hardware provided with the 11T CIM pinion. A retaining ring is required on both sides of the pinion to locate the pinion for proper gear mesh. Press on a retaining clip, then insert 2mm key into keyway, slide on 11T pinion, and finish with final retaining clip.



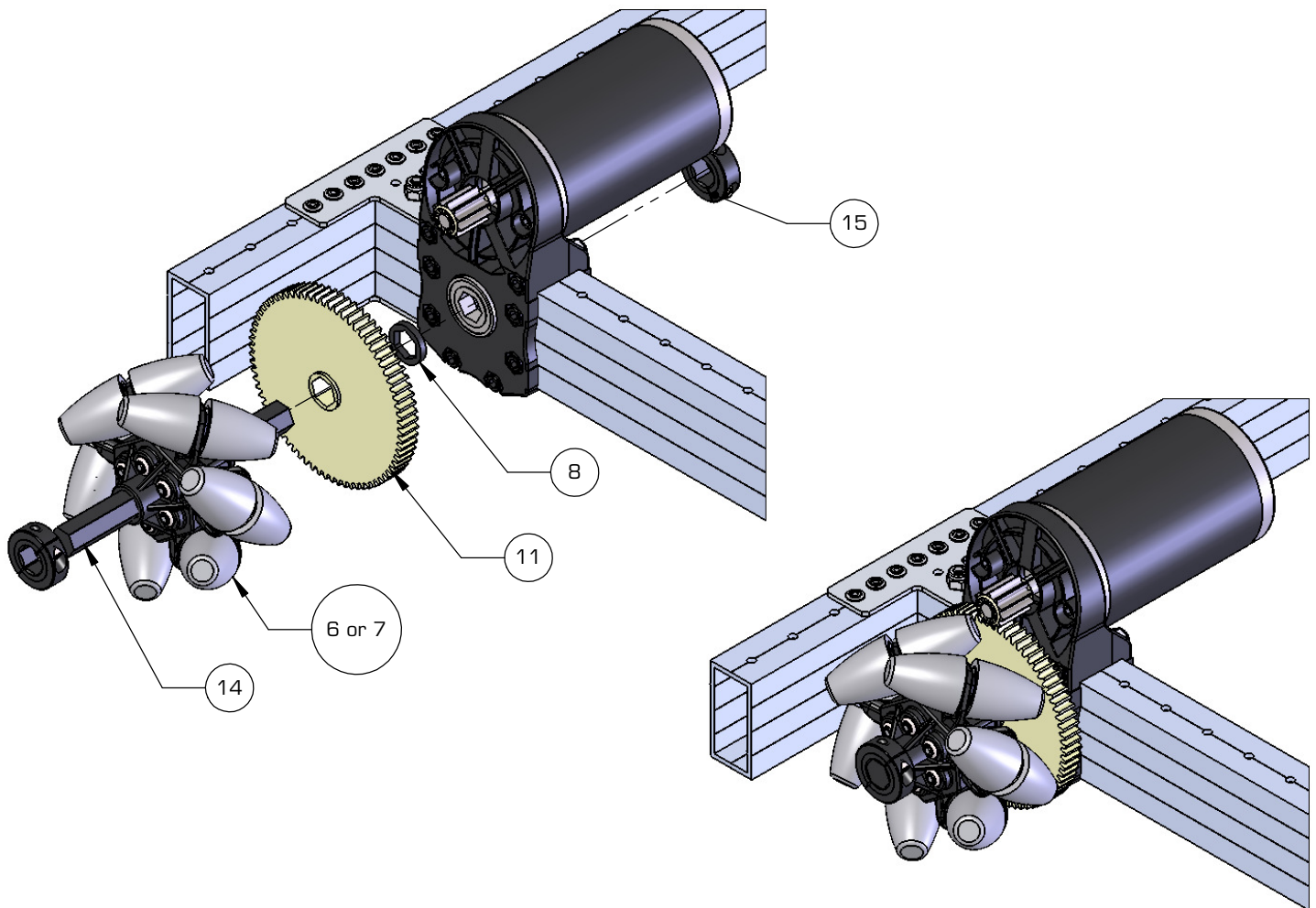
# VersaChassis - Mecanum

217-8000-003 Rev1

ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
11	72T Gear with 1/2" Hex Bore	217-2716-002	4
14	VersaChassis Mecanum - Drive Shaft	217-8000-003-003	4
15	High Strength Clamping Shaft Collar - 1/2" Hex ID	217-4106-000	8
6	4" Mecanum Wheel - Right	217-3644	2
7	4" Mecanum Wheel - Left	217-3645	2
8	1/8" Acetal Spacer 1/2" Hex (10pk)	217-2758-001	1

## Step 5:

Assemble Mecanum wheel, 1/8" acetal spacer, and 72T gear onto Clamping gearbox, secure both ends with a 1/2" high strength clamping shaft collar. Assembly is easier if you mesh the 72T gear before inserting the Hex axle.



# VersaChassis - Mecanum

217-8000-003 Rev1

## Step 6:

Repeat steps 3-5 for the other three corners, wheels when viewed from above should form an "X" with the rollers pointing to the middle of the robot.

