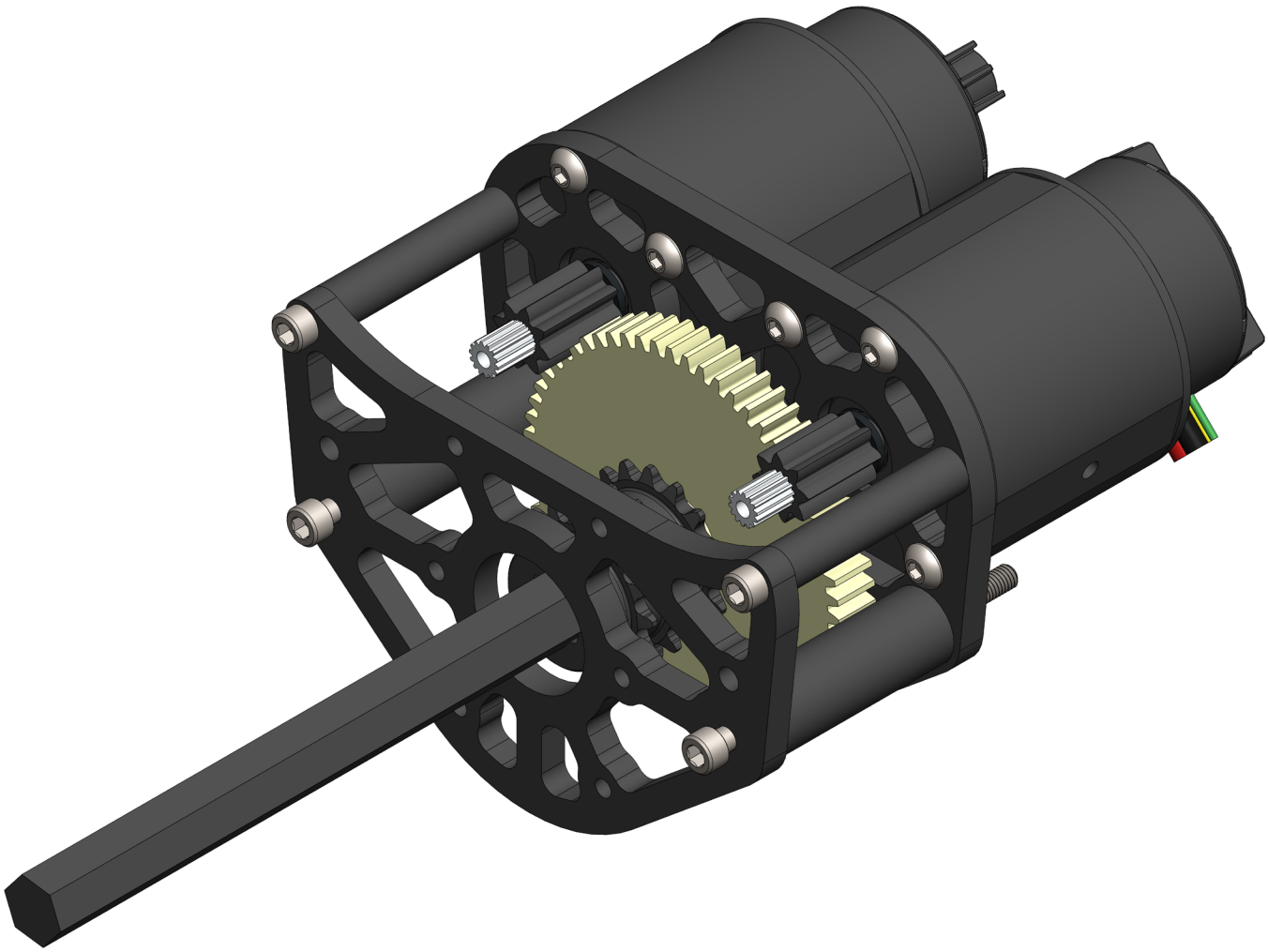
WCP SS Gearbox (Single Speed, 1 Stage) - User Guide (Rev 1)



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What is the WCP SS Gearbox (Single Speed, 1 Stage)?

The WCP SS Gearbox is a simple and approachable single-stage gearbox designed to effortlessly interface with a West Coast style drivetrain using 4” wheels. Mount a WCP SS Gearbox to each side of your drivetrain, connect them to a WCP Gearbox Bearing Block (217-3634) or a V2 Versablock (217-6111), and you’ll be ready to hit the ground rolling!

- Accepts 2 CIMs, Mini CIMs, Falcon 500s, or any other 2” bolt circle with a maximum diameter of 2.5” (~64mm)
- Select from a variety of gear ratios ranging from 4.14:1 to 7.75:1

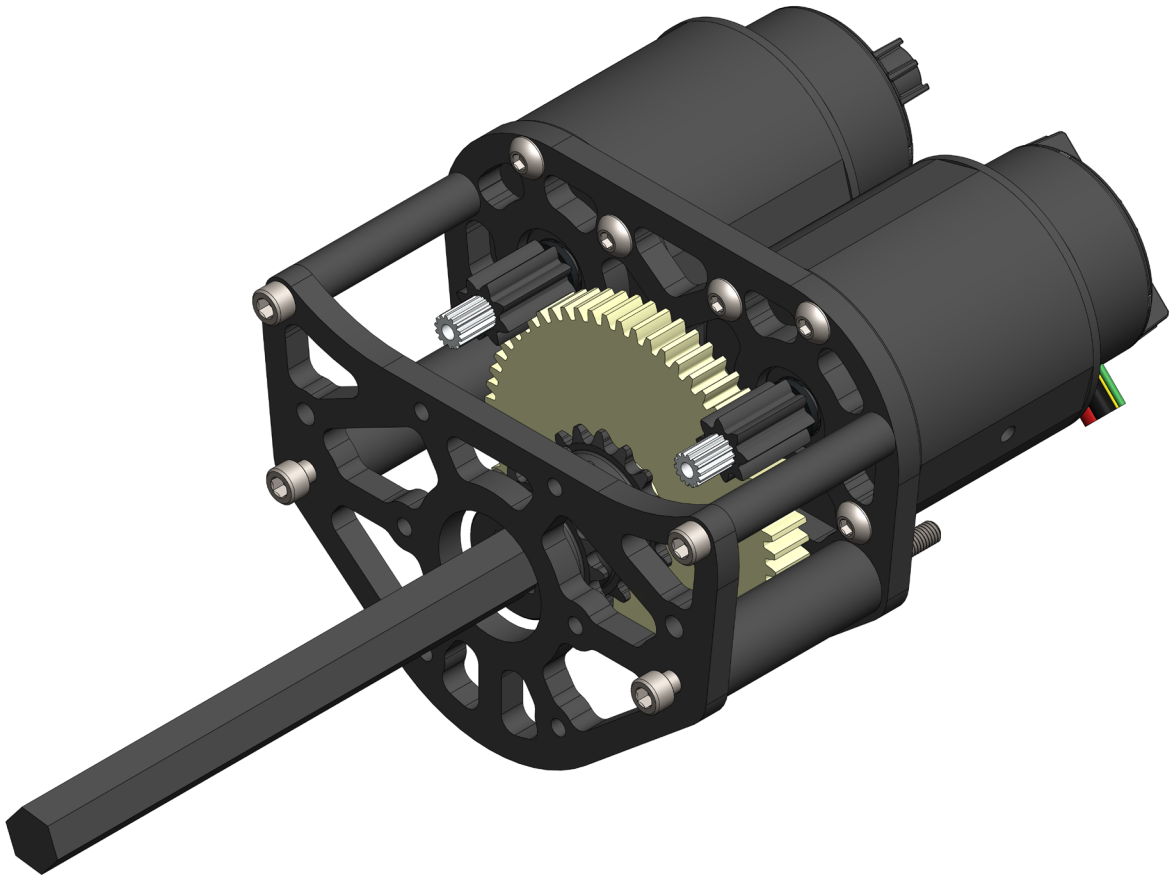
Recommended Tools

Picture	Name
	Allen Wrench Set
	Snapring Pliers

Assembly Instructions

The gearbox should be fully assembled before installation, unless there is a space issue during installation that would prevent this.

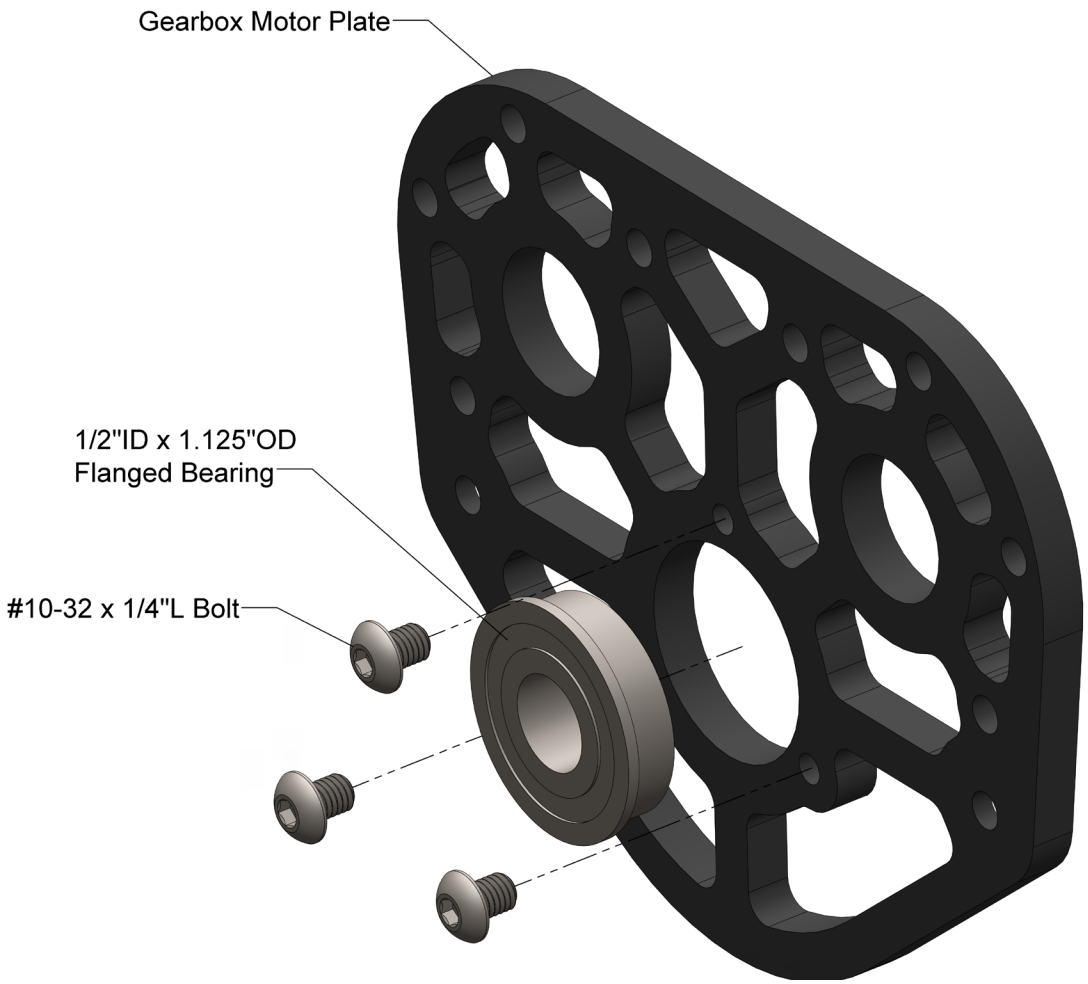
Note: Blue Loctite (McMaster P/N 1004A12) is recommended on all bolts that thread into a tapped hole.



Step 1

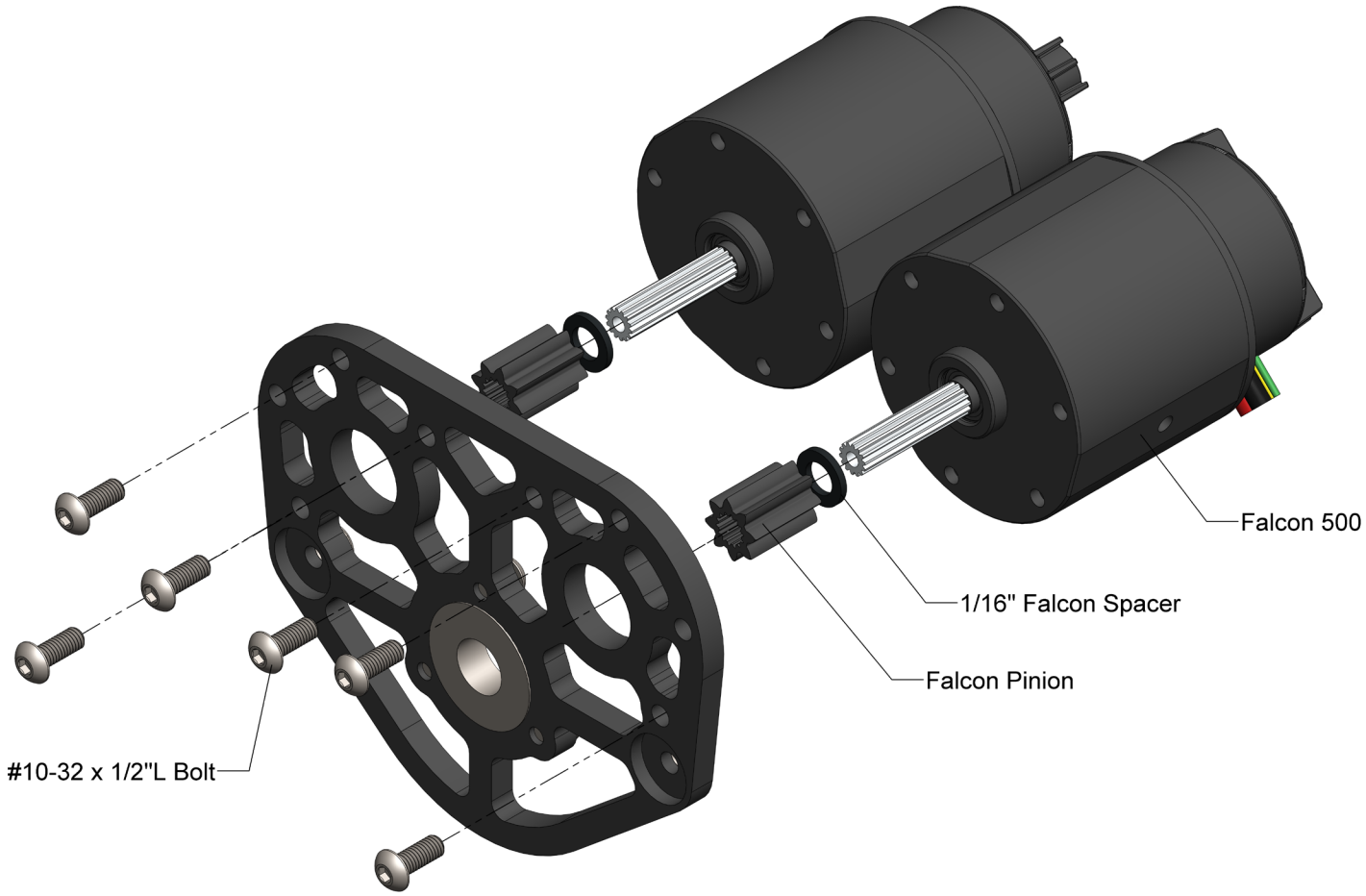
Bearing should be a slip fit into the plate. If needed an arbor press can be used to press the bearing in. Use the 3 #10-32 x 1/4”L bolts to retain the bearing.

Note: Bearing flange goes on the opposite side of the plate from the C-bore.



Step 2

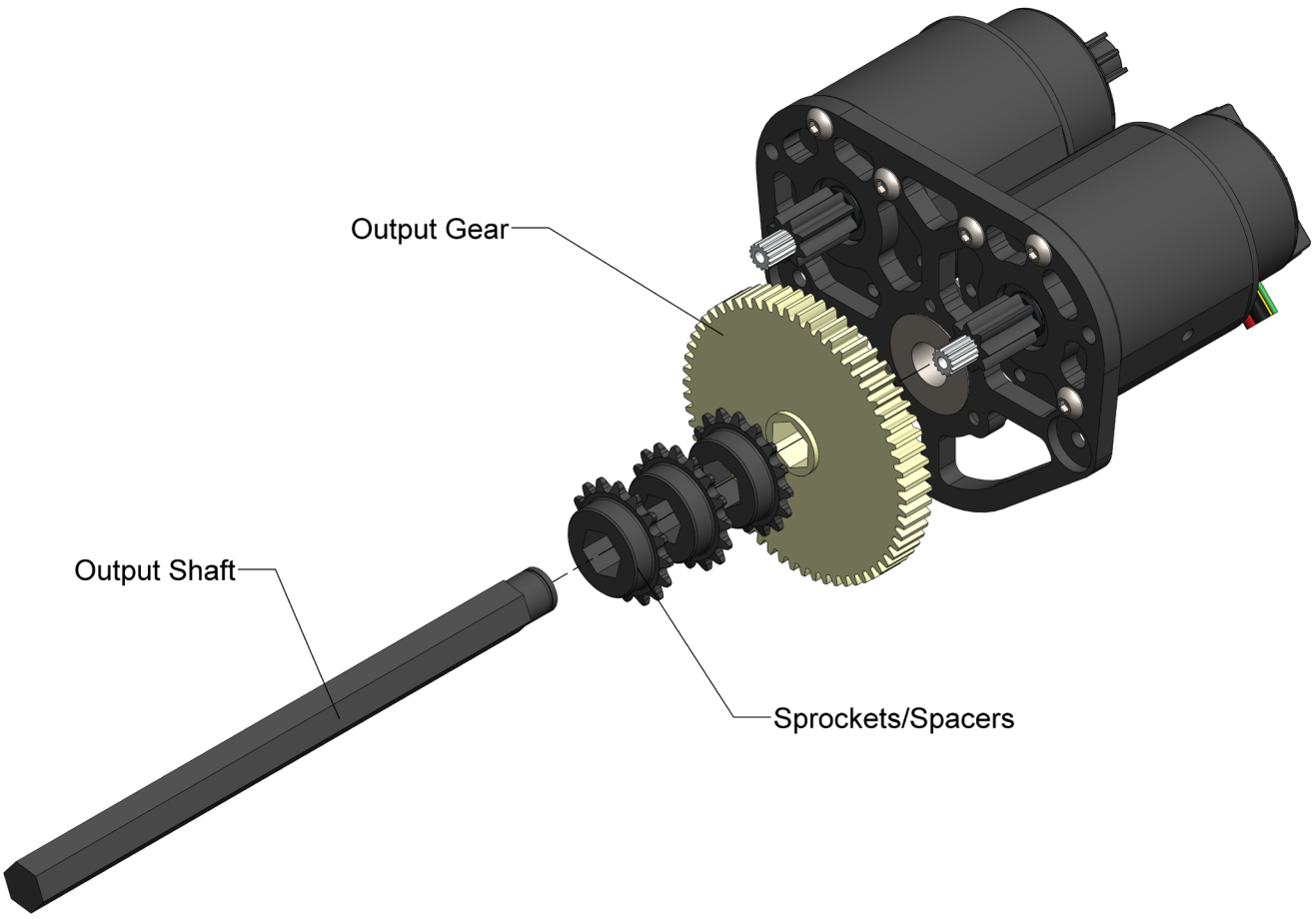
Use 6 #10-32 x 1/2”L bolts to attach the Falcons. Install the 1/16” Falcon spacer between the motor and pinion. Use desired stack up of spacers to constrain the pinion on the shaft.



Step 3

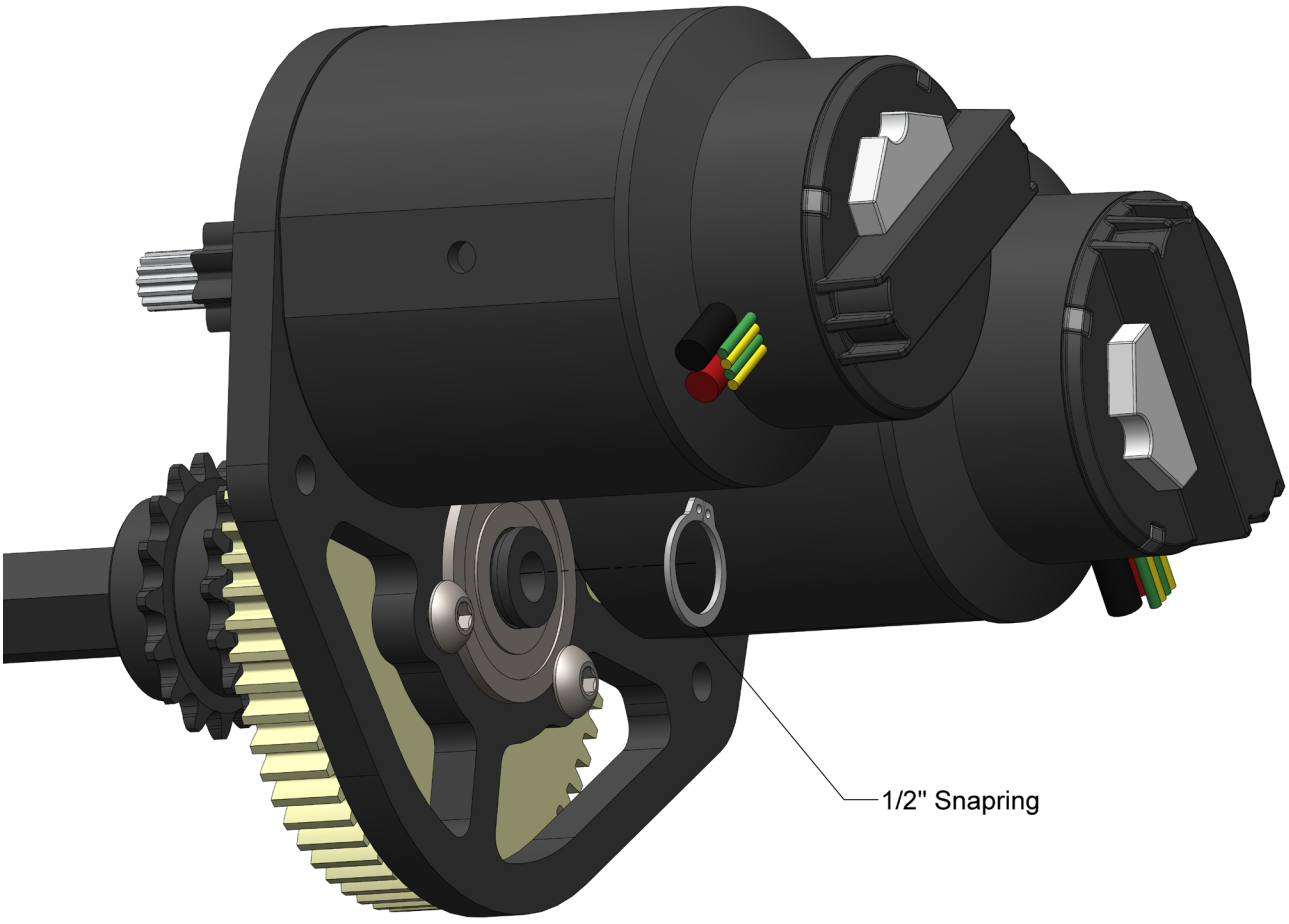
We recommend that you cut the drive shaft to the correct length before installation.

Slide desired gear, drive sprockets/pulleys, and spacers onto shaft.



Step 4

Retain output shaft with 1/2” snap ring.

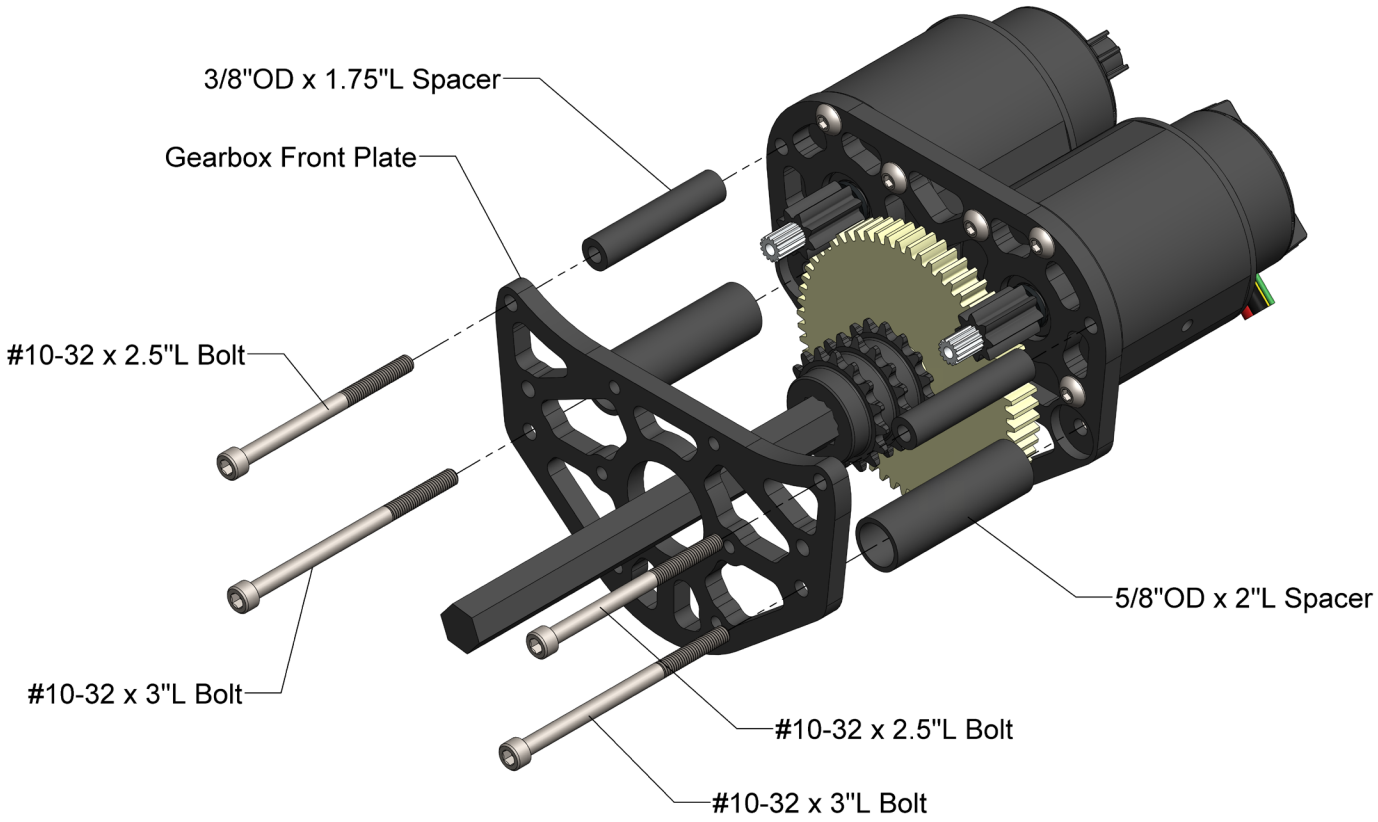


Step 5

The 2 #10-32 x 2.5”L bolts thread into holes in the Falcons.

The 2 #10-32 x 3”L bolts should slip all the way through the gearbox. These bolts should be installed during the mounting of the gearbox as they help support the gearbox.

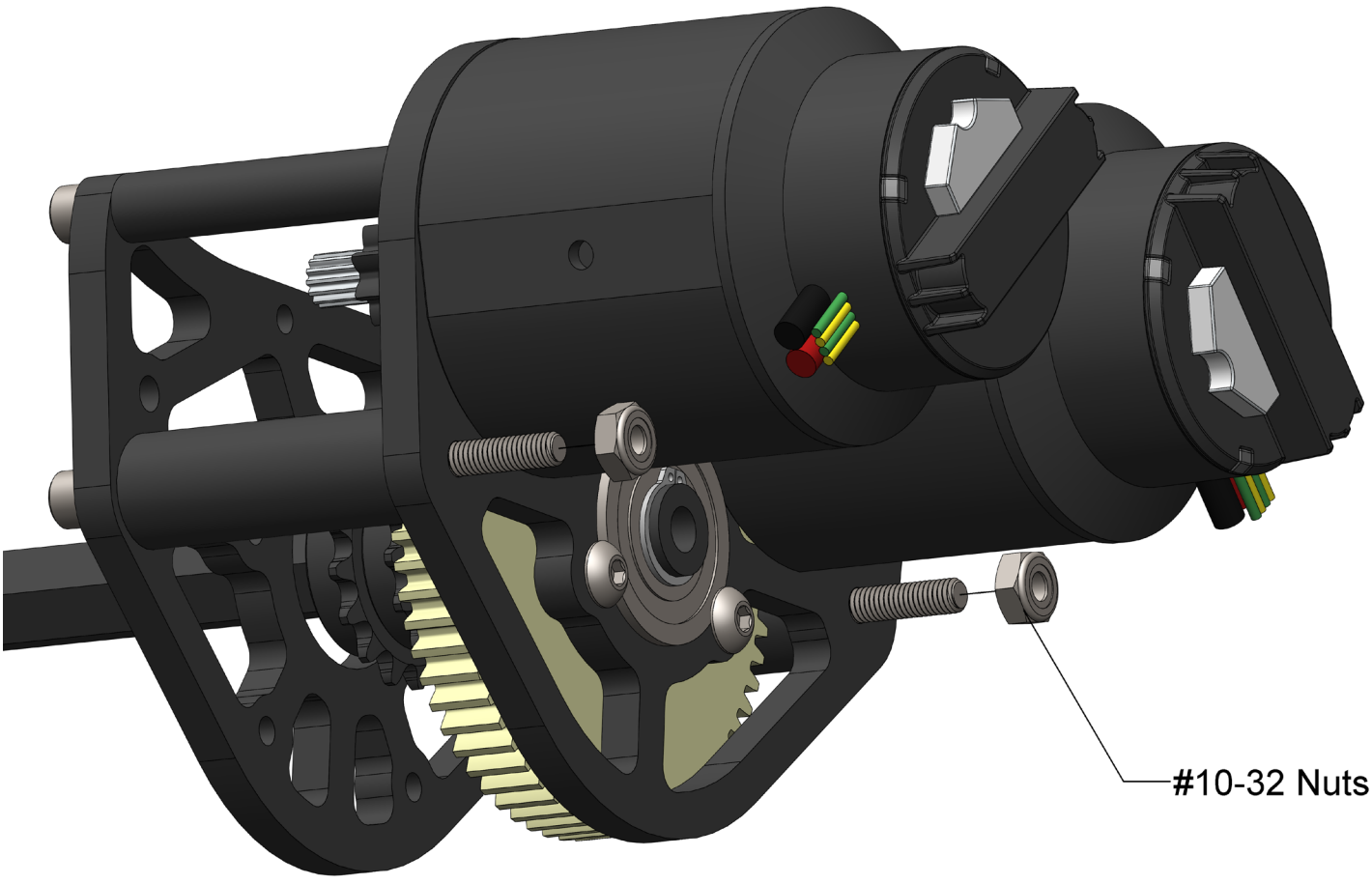
Note: Be sure that the larger OD spacers are fully seated in their respective C-bore before fully tightening any bolts.



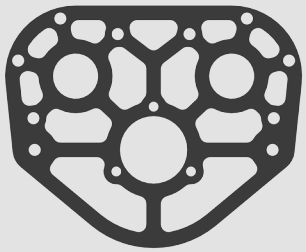
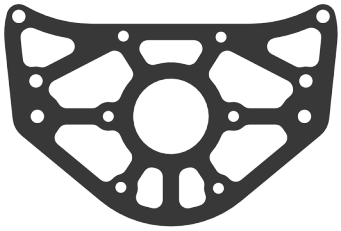
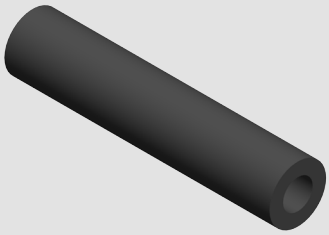
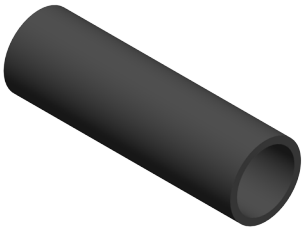
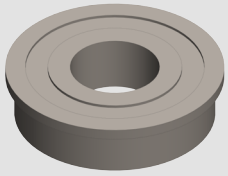
Step 6

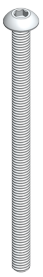
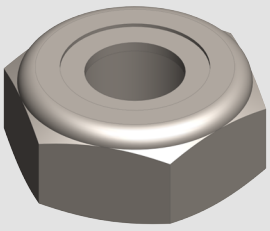
Once the gearbox is mounted, the 2 #10-32 nuts can be installed.

Note: Be sure that the larger OD spacers are fully seated in their respective C-bore before fully tightening any bolts.

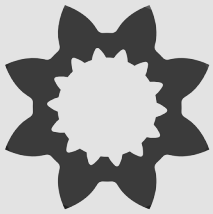
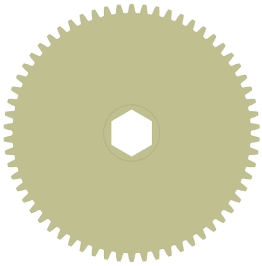
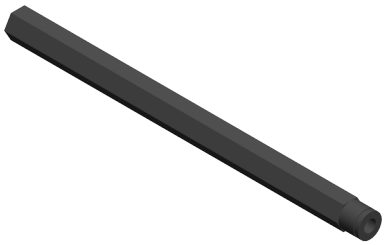


Kit Contents

Picture	Name	QTY	Kit
	Gearbox Motor Plate	1	Base Kit
	Gearbox Front Plate	1	Base Kit
	3/8”OD x 1.75”L Spacer	2	Base Kit
	5/8”OD x 2”L Spacer	2	Base Kit
	1/2”ID x 1.125”OD Flanged Bearing	1	Base Kit

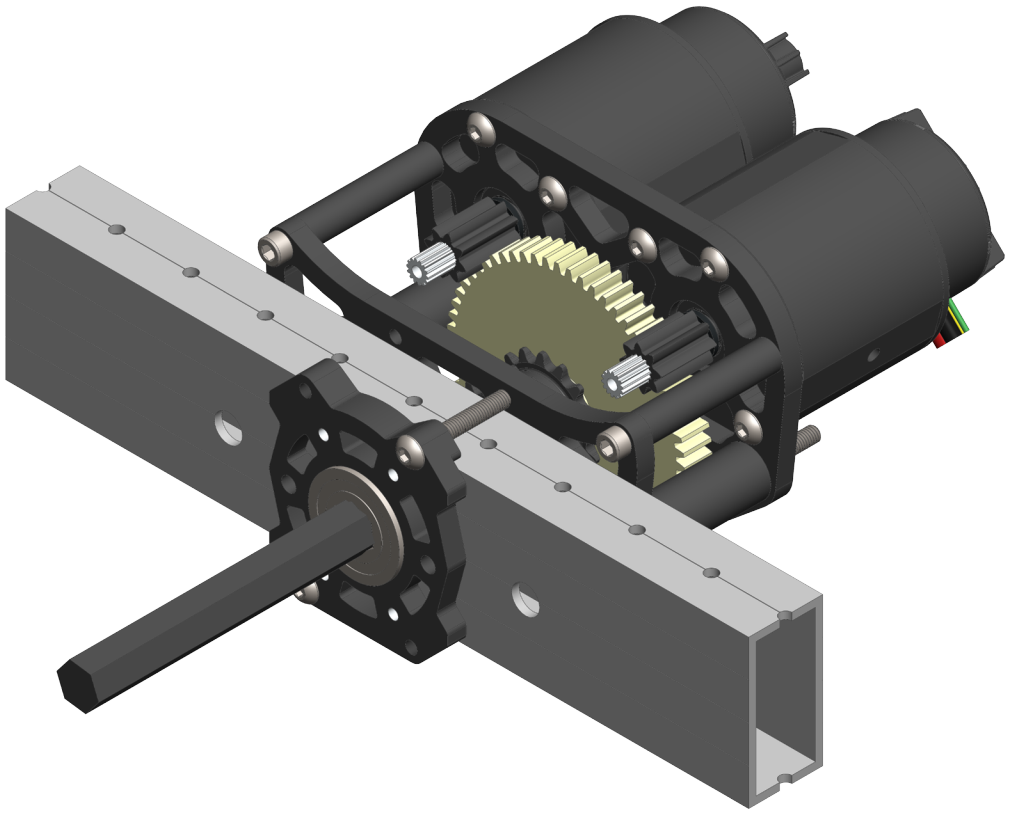
Picture	Name	QTY	Kit
	1/2” Snapring	1	Base Kit
	#10-32 x 1/4”L Bolt	3	Base Kit
	#10-32 x 2.5”L Bolt	2	Base Kit
	#10-32 x 3”L Bolt	2	Base Kit
	#10-32 Nut	2	Base Kit

Recommended Parts to Buy

Picture	Name	QTY
	Falcon Pinion	2
	Output Gear	1
	Sprocket(s)	1-3
	WCP SS - Output Shaft	1

Application Example - Versa Block Mounting

This method is recommended for teams that do not have the ability to do precision machining or do not want to spend the time to machine the drive rail. Mounting the gearbox with this method can be accomplished with a cordless drill and basic hand tools.

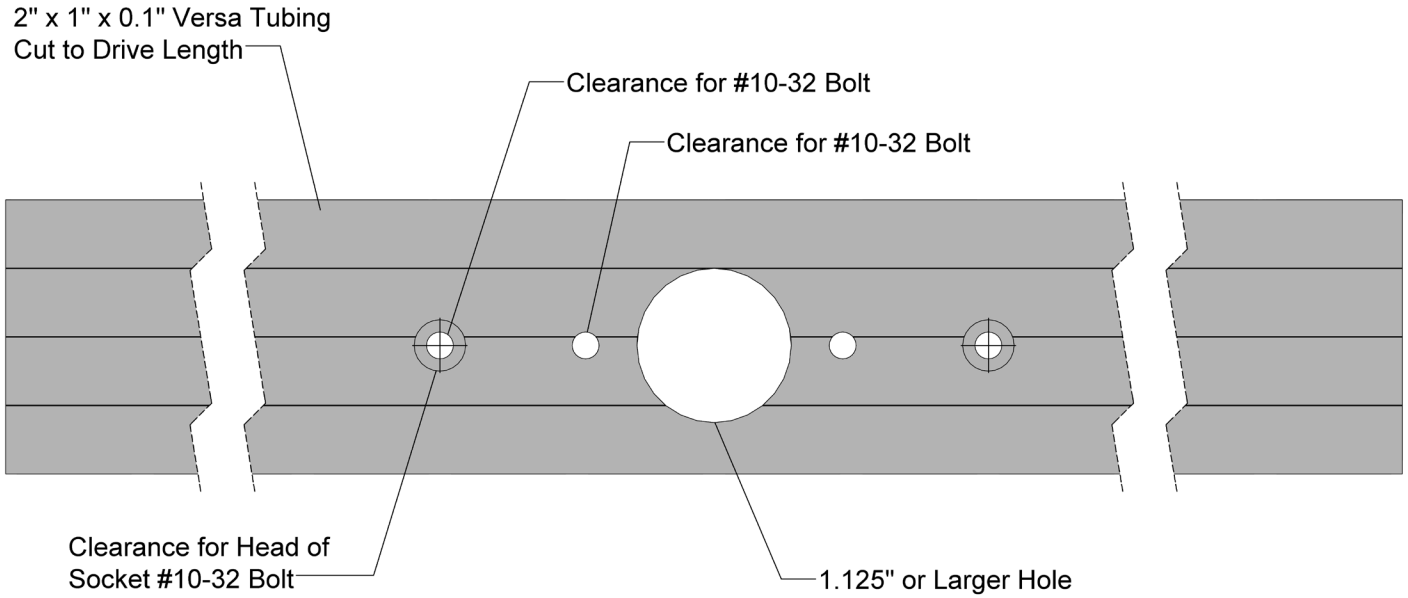


Holes to Drill

The center hole can be drilled out using a step bit to 1.125” or larger. This hole is for clearance. Align the Versa Block with the center of this hole and match drill the two #10-23 clearance holes.

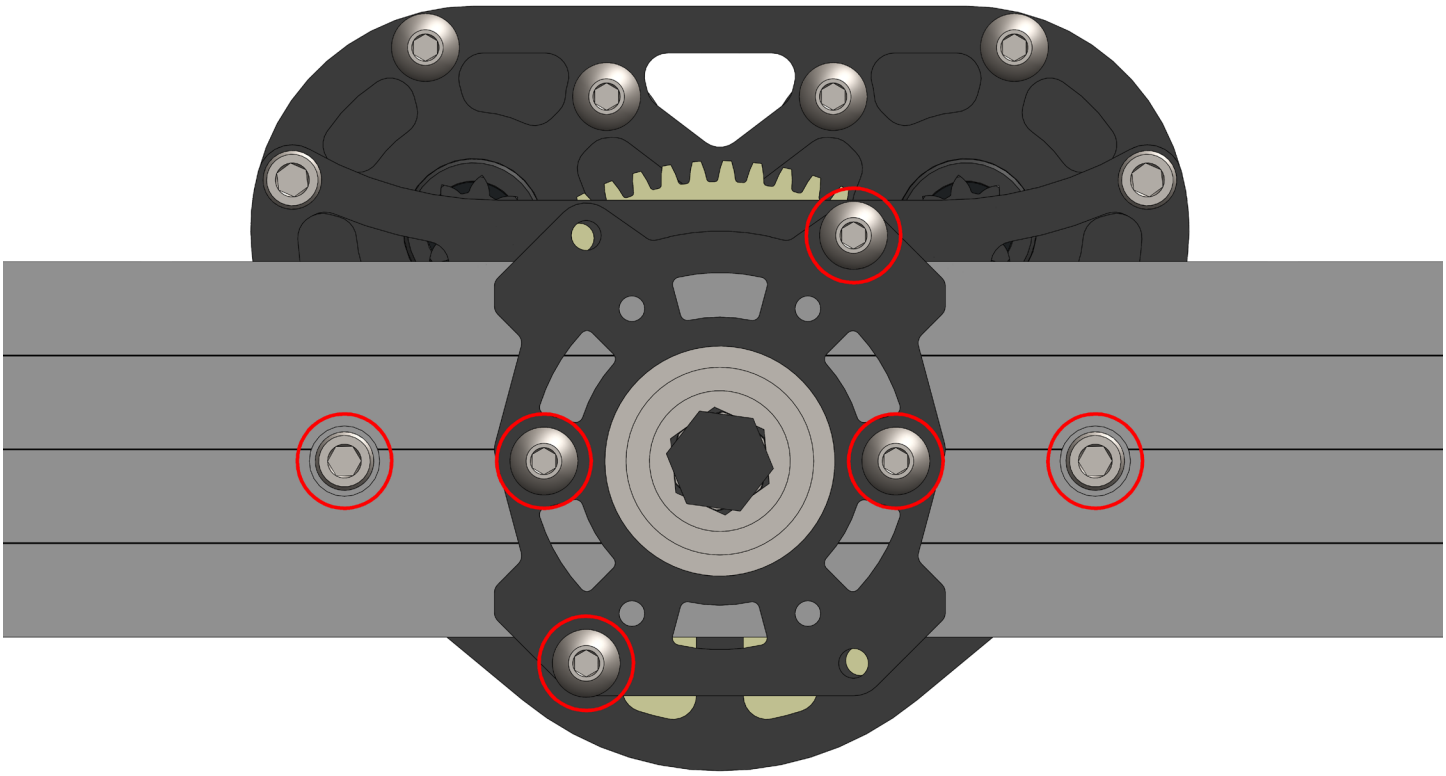
Before assembly of the gearbox bolt the mounting plate to the tube using the Versa Block and the holes just drilled. Match drill the mounting holes in the gearbox plate into the tube.

The outside wall of the outer mounting holes are recommended to be drilled out to clearance for the bolt head. If you choose to not do this, then a longer bolt will be needed, that is not provided.



Bolt Locations

The recommended locations for bolts to mount the gearbox are shown below in red.



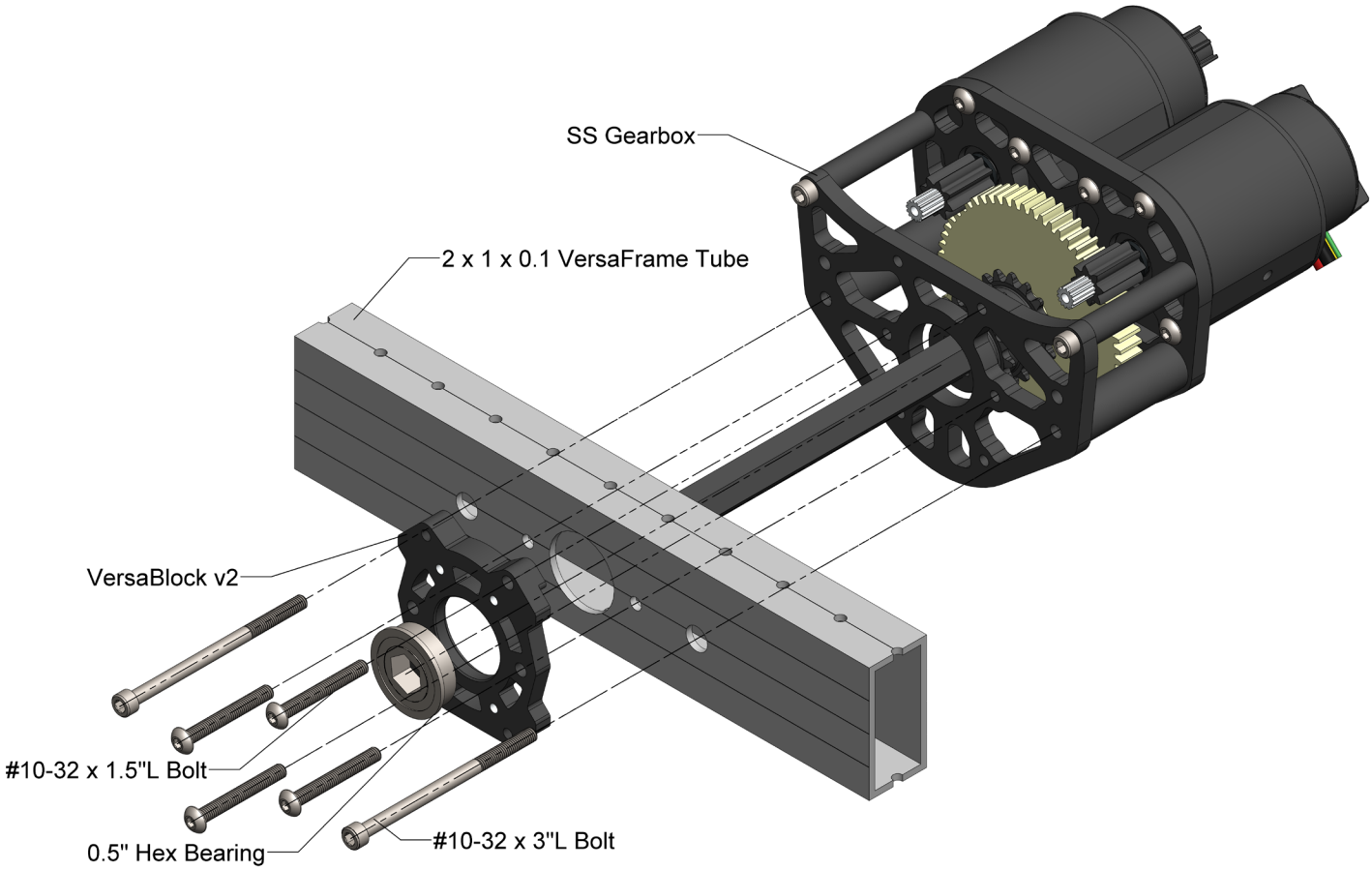
Gearbox Mounting

Use the two provided #10-32 x 3”L bolts to attach the gearbox to the tube.

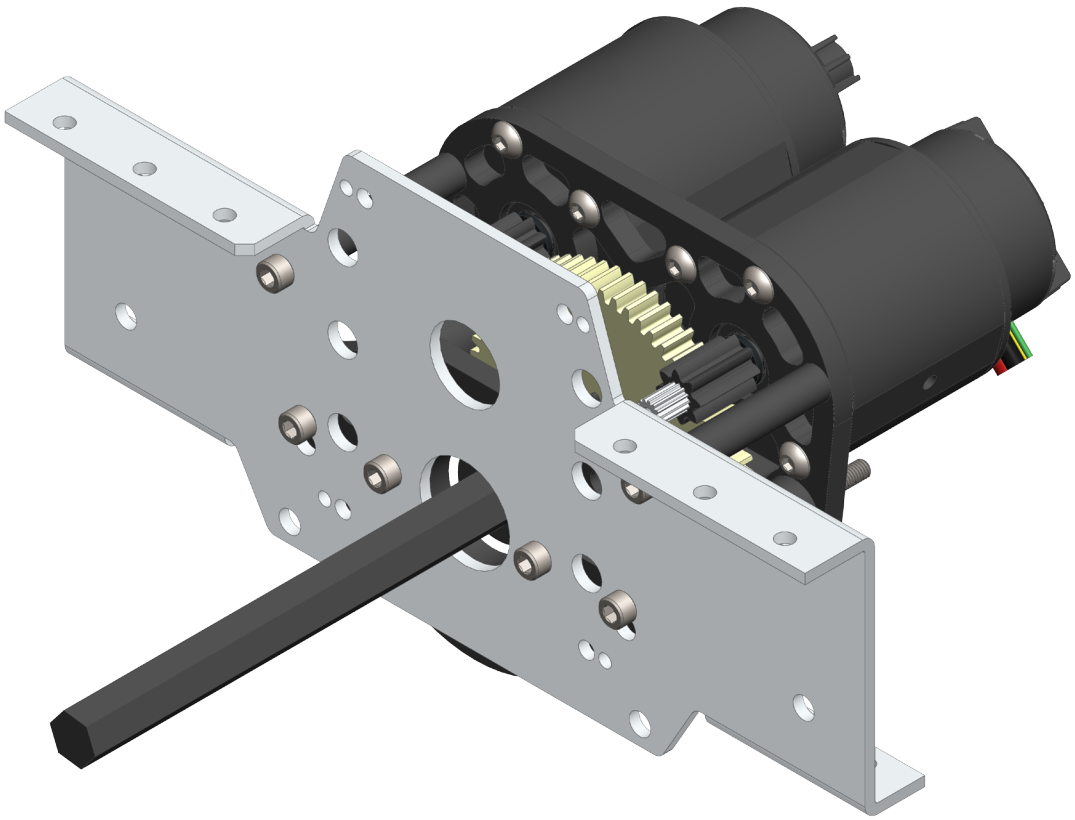
Install the bearing and Versa Block with 4 #10-32 x 1.5”L bolts.

Note: Spacers will need to be added between the 1/2” hex bearing and the sprockets depending on spacing.

Note: After installation, attach a wheel to the output shaft and ensure the gearbox spins smoothly.



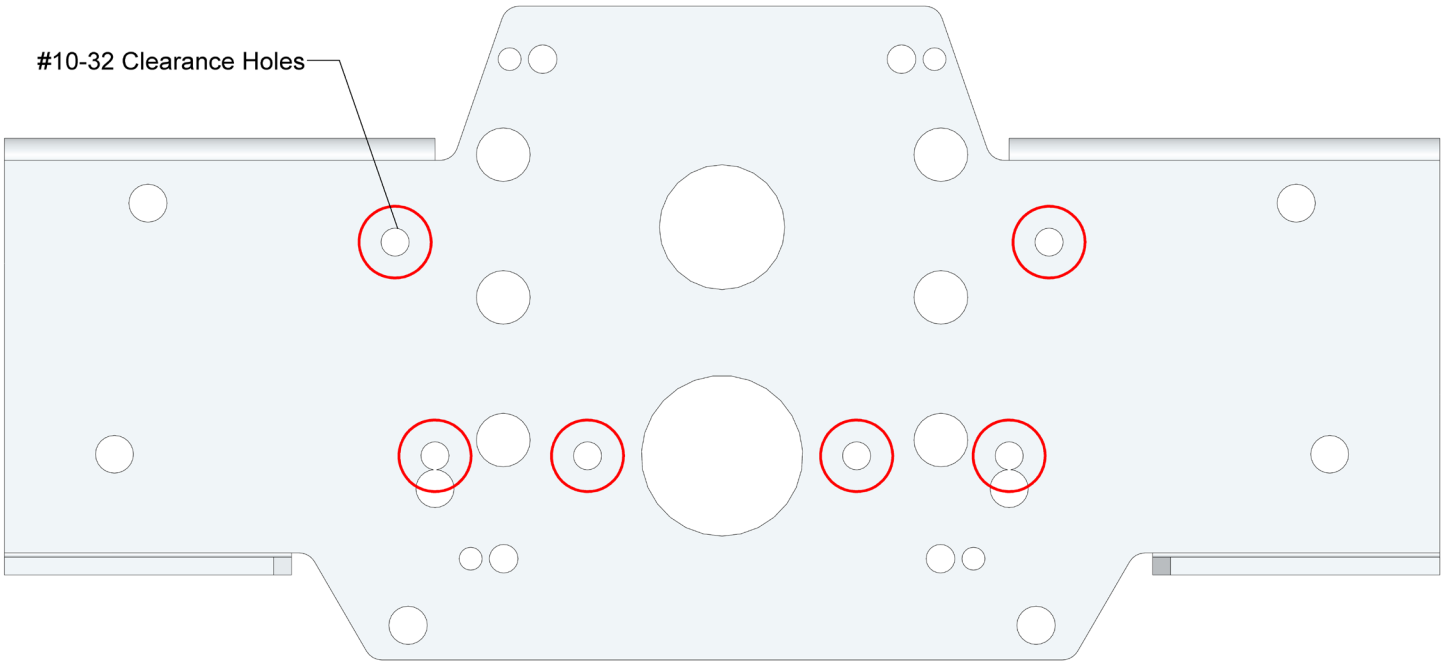
Application Example - AM Kit Chassis



Holes to Drill

Before assembly of the gearbox, use the mounting plate to help with drilling the hole locations.

Insert a 1.125” bearing into the AM gearbox rail. The bearing should stick out on one side. Use this bearing to align the mounting plate of the gearbox to the drive rail. Match drill the holes shown in the image below. Be sure to remove bearing after drilling all holes.



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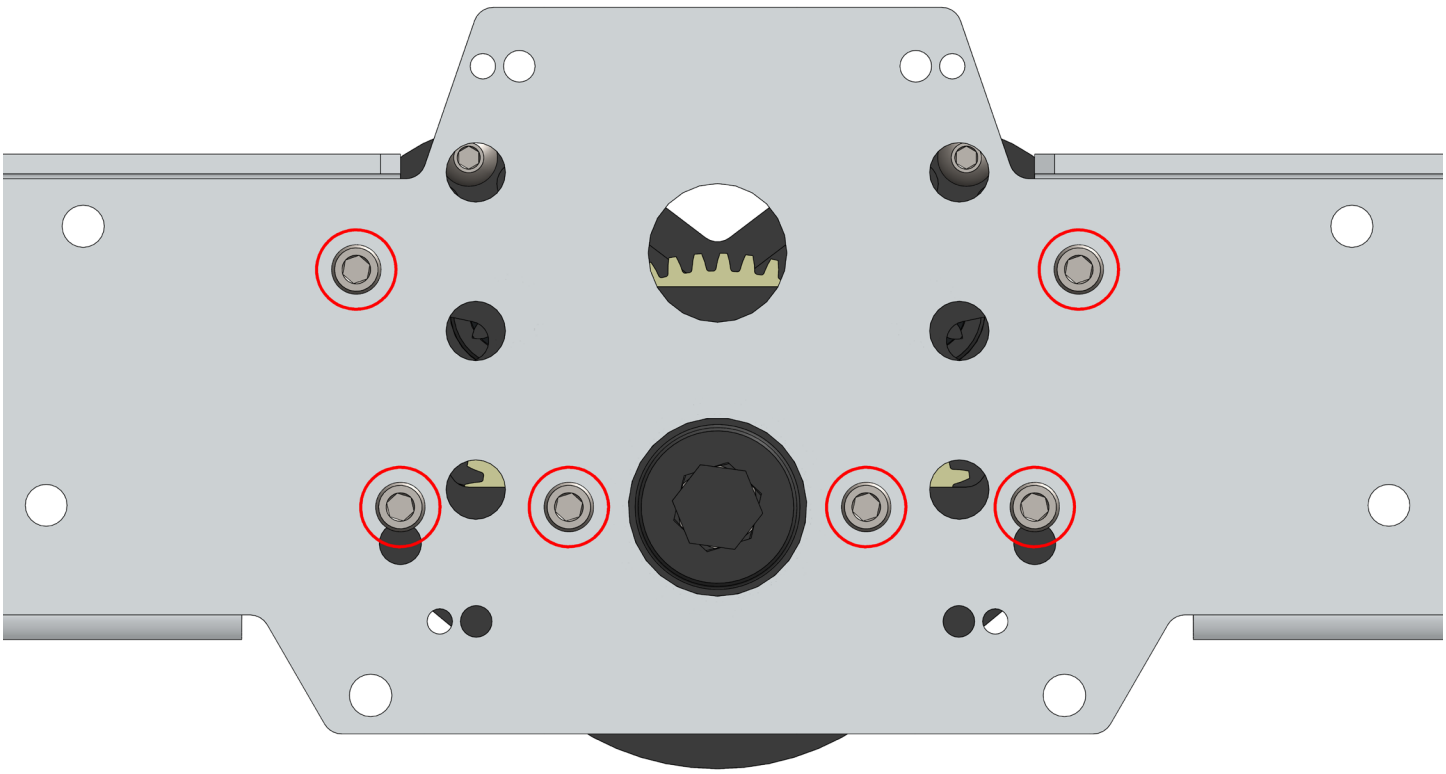
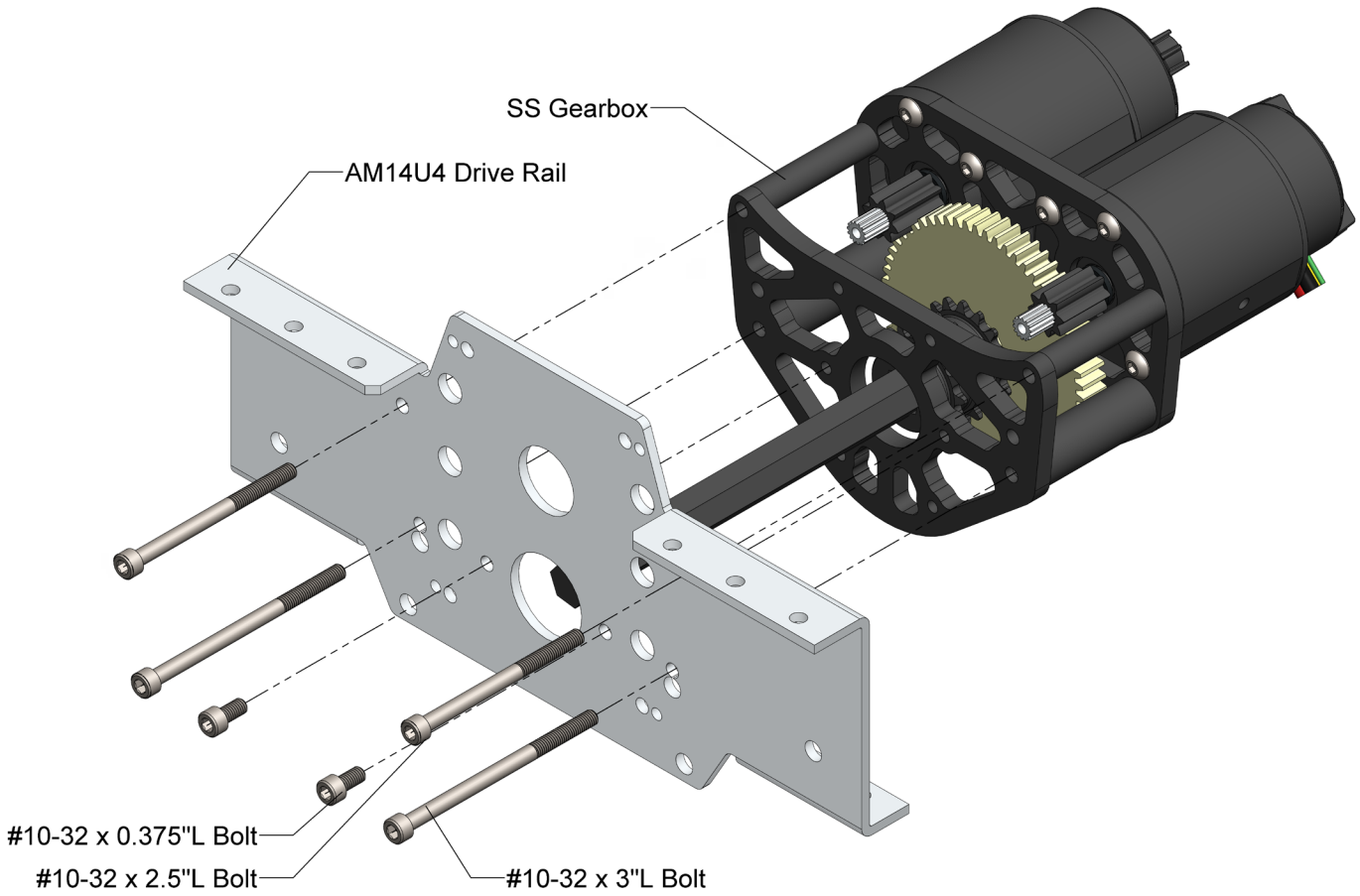


Gearbox Mounting

Use the four provided #10-32 x 3”L bolts to attach the gearbox to the tube. Two additional #10-32 x 3/8”L Bolts may be added for additional support.

Note: Spacers will need to be added between the wheel and the sprockets, depending on wheel size and spacing.

Note: After installation, attach a wheel to the output shaft and ensure the gearbox spins smoothly.



FAQ

Q: What size wheels does this gearbox support?
A: This gearbox only supports 4” wheels.

Revision Table

Revision Date	Revision #	Description
1/14/2020	1.0	First revision created.
5/17/2021	1.1	Fix spelling errors. Updated kit contents.