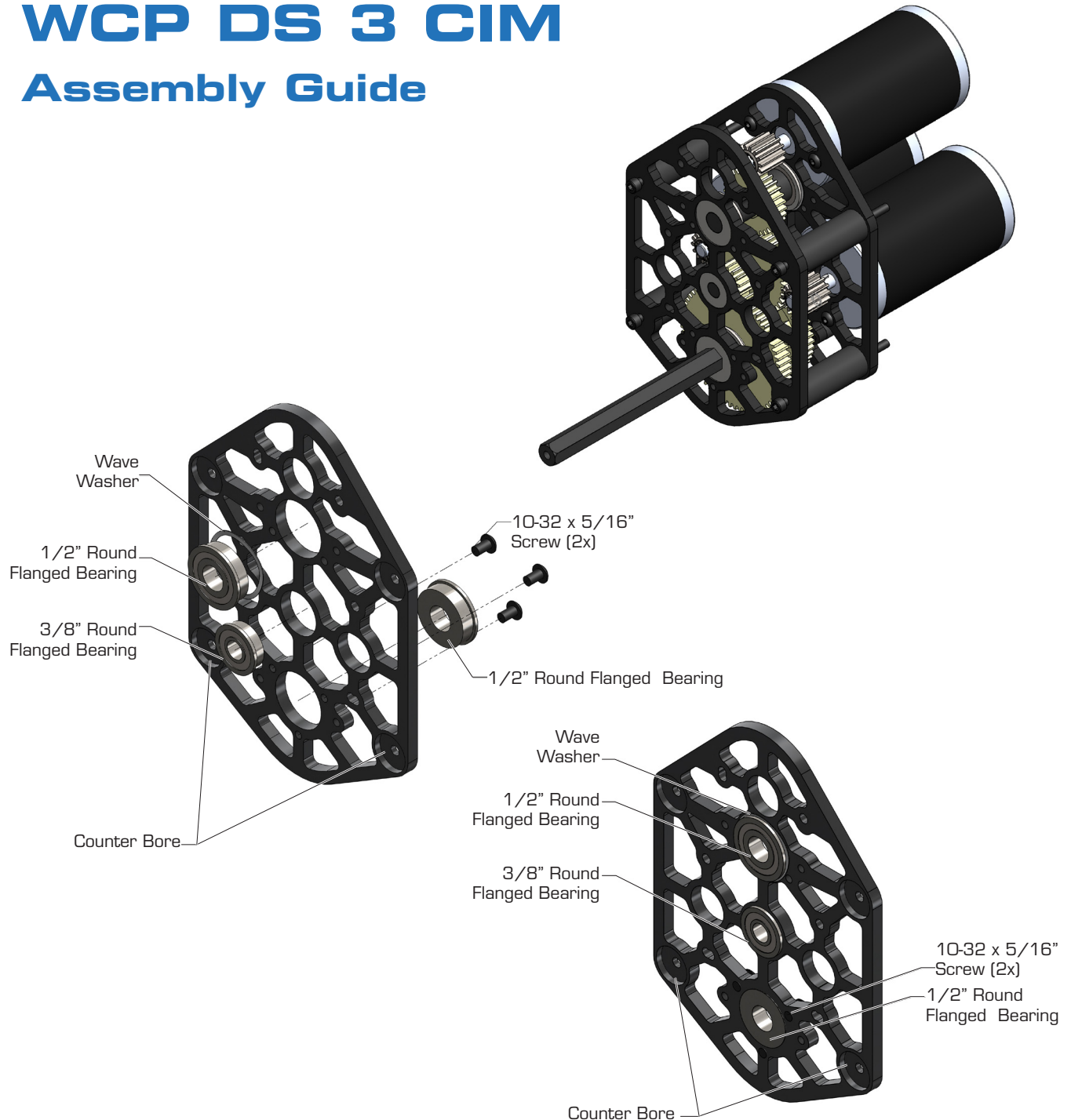


# WCP DS 3 CIM

## Assembly Guide

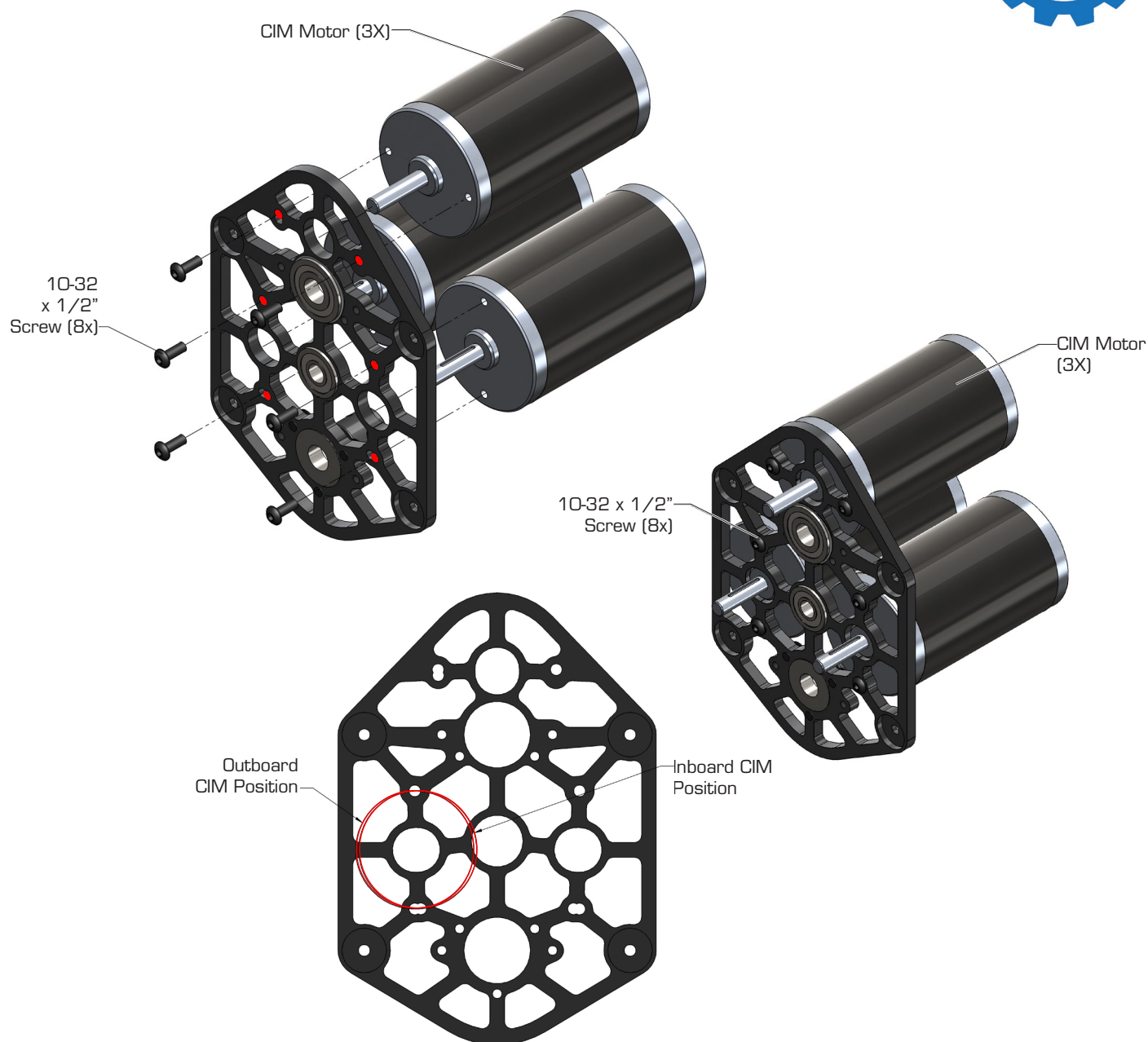


### Step 1:

Insert a wave washer, (2X) 1/2" round flanged bearings, 3/8" round flanged bearing, and (3X) 10-32 x 5/16" screws into a transmission plate as shown. Use of Loctite is recommended on all screws.

**Note:** Make sure to install the bearings so one 1/2" and the 3/8" bearings' flanges are oriented towards the large counter bores while the other 1/2" bearing's flange is oriented away. Both transmissions plates are identical.





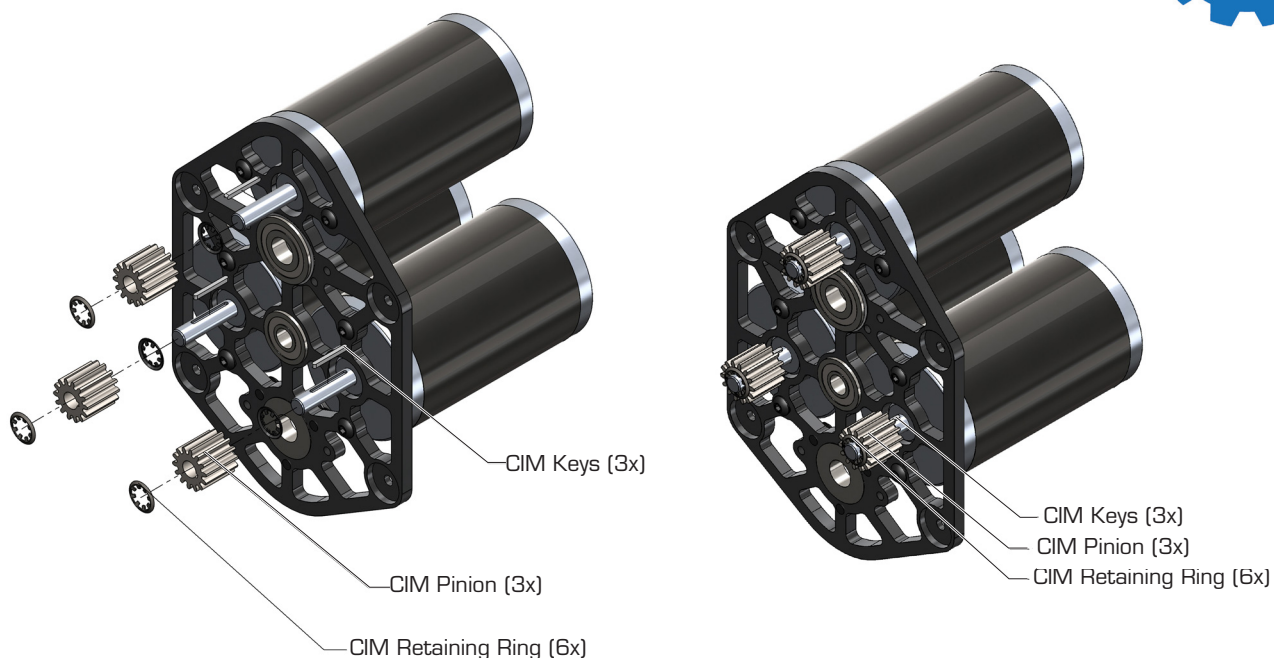
### Step 2:

Use (6X) 10-32 x 1/2" screws to affix the (3X) CIM Motors (not included) to the transmission plate as shown. Use of Loctite is recommended on all screws.

**Note:** The WCP DS Transmission has oblong shaped CIM Motor pilot and mounting holes. This allows the CIM Motor to be in two different positions (INBOARD & OUTBOARD), as shown, and allows four different CIM Motor pinions to be used to further customize gear ratios. The proper CIM Motor position must be selected for a given pinion and cluster gear size. To determine the proper CIM motor position, consult the chart below.

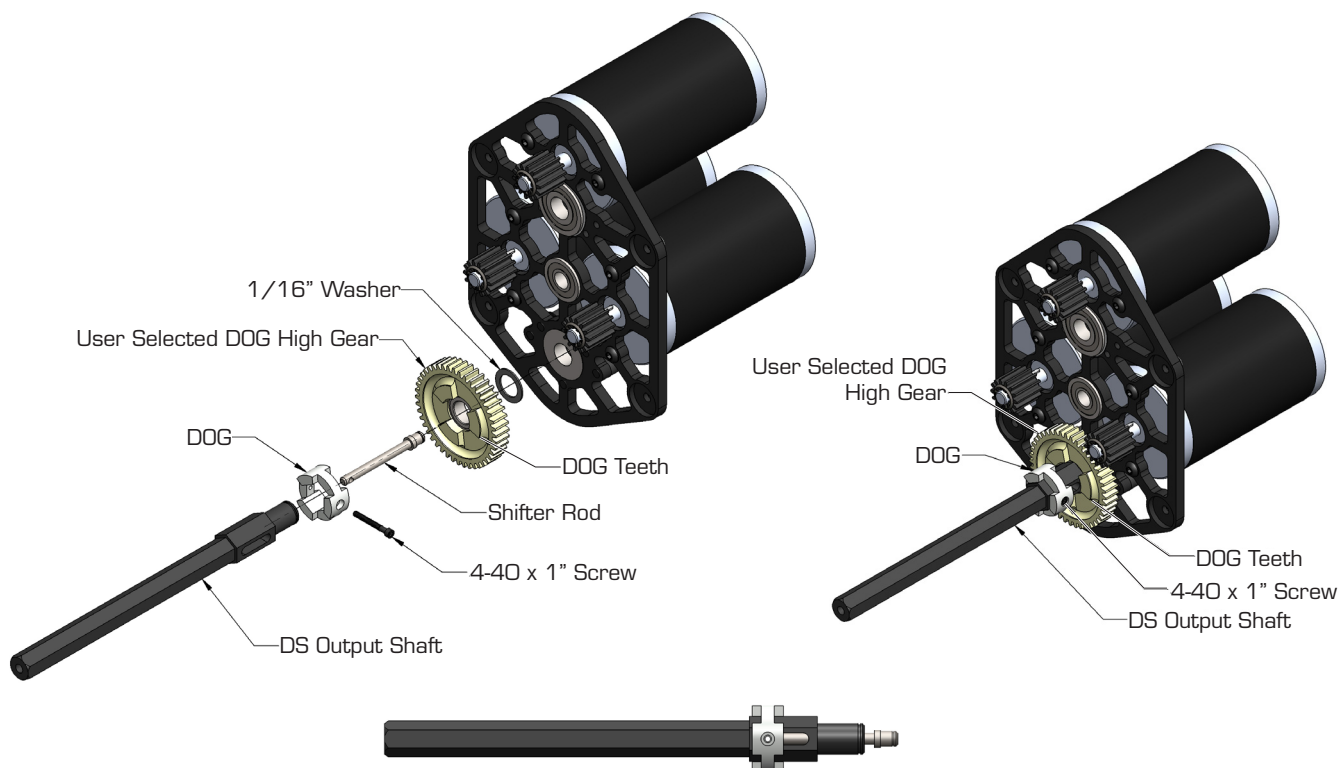
Pinion Gear	Cluster Gear	CIM Position
11T	42T	INBOARD
12T	42T	INBOARD
13T	42T	OUTBOARD
14T	42T	OUTBOARD
13T	40T	INBOARD
14T	40T	INBOARD





### Step 3:

Install (6X) CIM retaining rings, (3X) 2mm keys, and (3X) 11, 12, 13, or 14 tooth pinion gears. Take care to push the first retaining ring just past the keyway and no further.

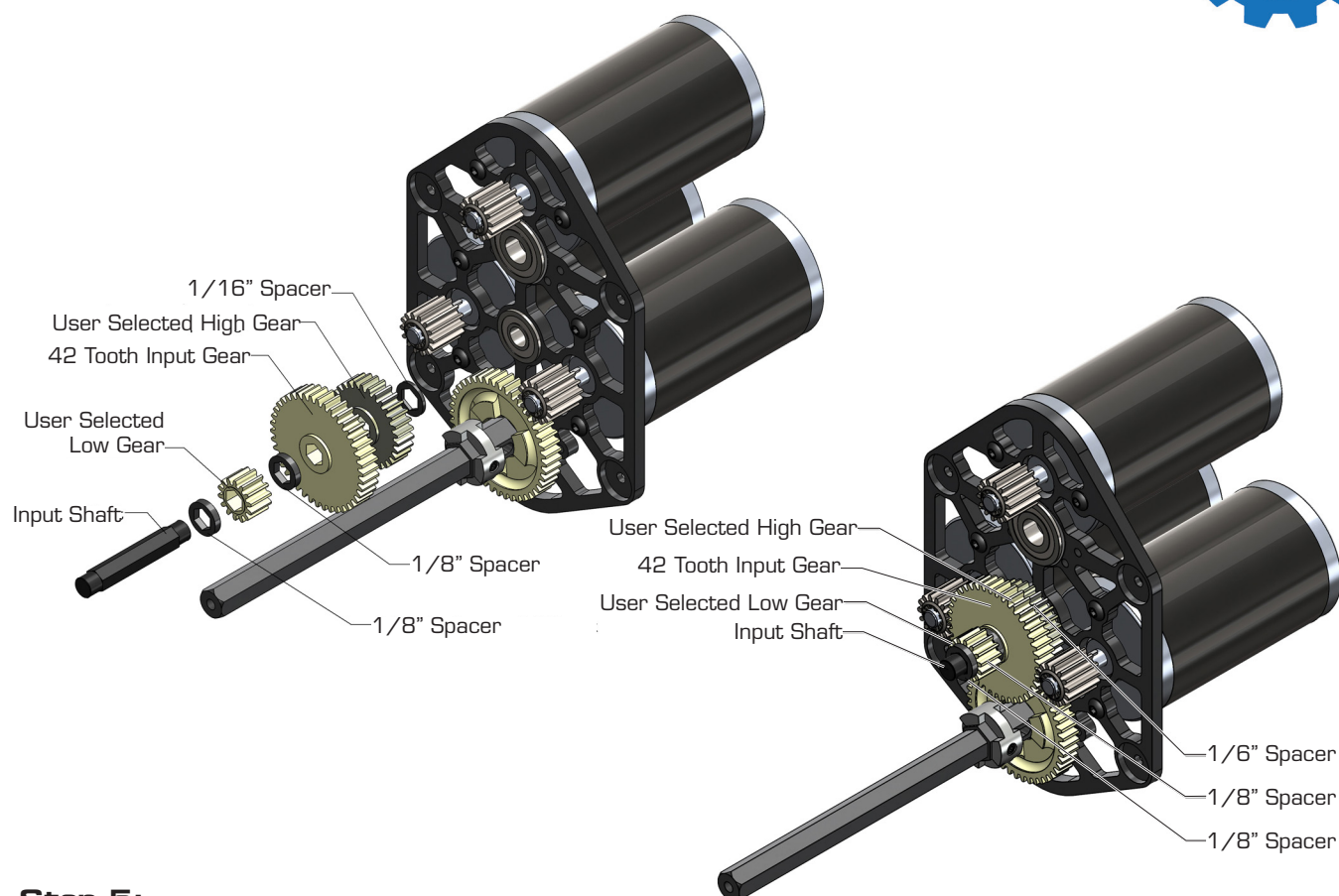


### Step 4:

Insert the DOG, shifter rod, and 4-40 x 1" screw to secure the shifter rod to the DOG. Then insert the user selected DOG high gear and 1/16" washer onto the DS output shaft, as shown. Insert the output shaft into the transmission. Make sure the DOG teeth are oriented towards the DOG.

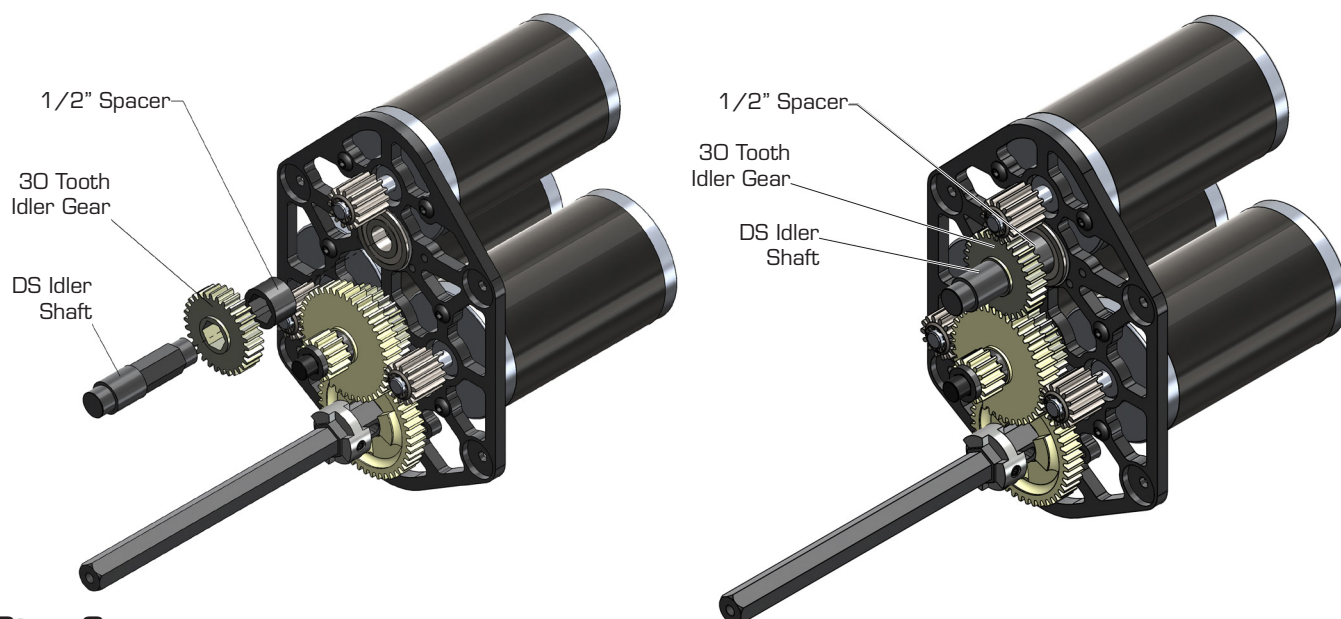
**Note:** Make sure to align the DOG and shifter rod with the slot. When properly aligned, one should be able to see straight through the holes to the other side. The 1/16" washer is the thinnest of all the spacers.



**Step 5:**

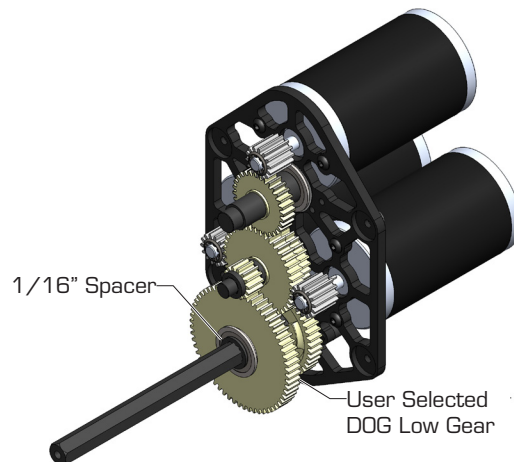
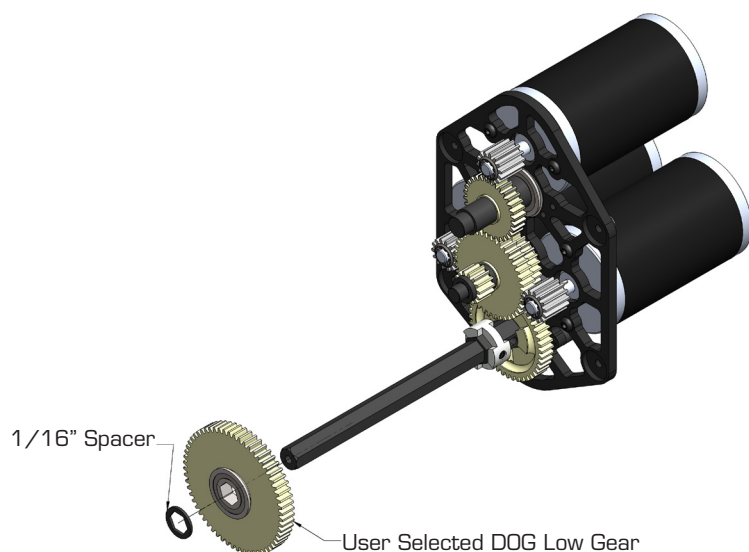
Insert a 1/16" spacer, user selected high gear, 42 tooth input gear, [2X] 1/8" spacers, user selected low gear, and DS input shaft as shown.

**Note:** The DS input shaft is the only 3/8" Hex shaft. The 1/16" spacer is the thinnest of all the spacers.

**Step 6:**

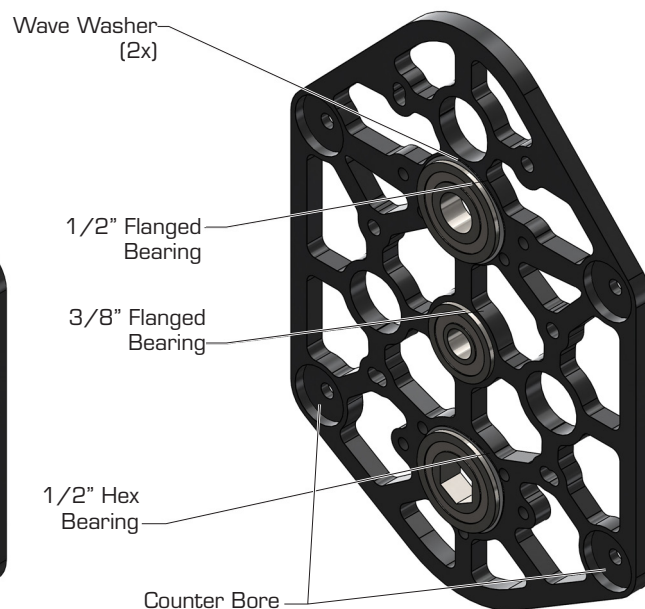
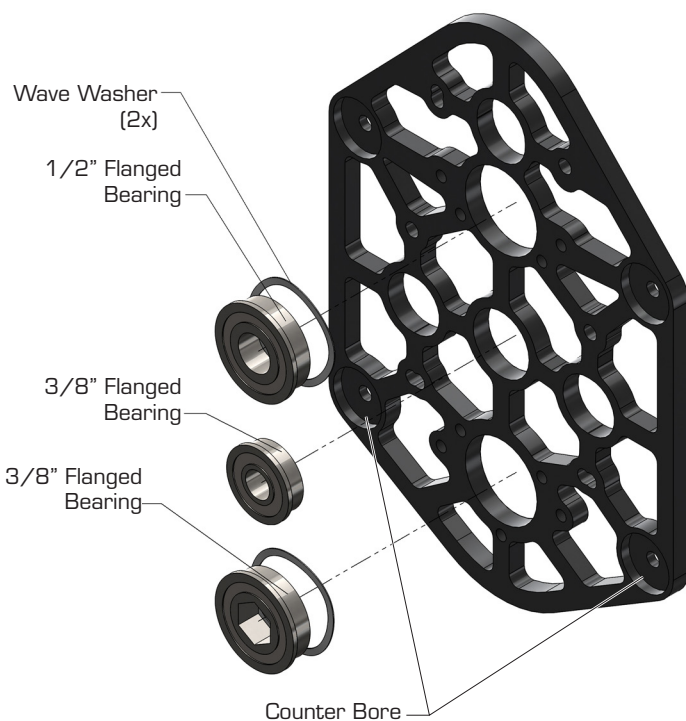
Insert the DS idler shaft, 30 tooth idler gear, and 1/2" spacer as shown.





### Step 7:

Insert the user selected DOG low gear and 1/16" spacer as shown. Make sure the DOG teeth are oriented towards the DOG. **At this point a liberal application of white lithium grease is required on all gears.**

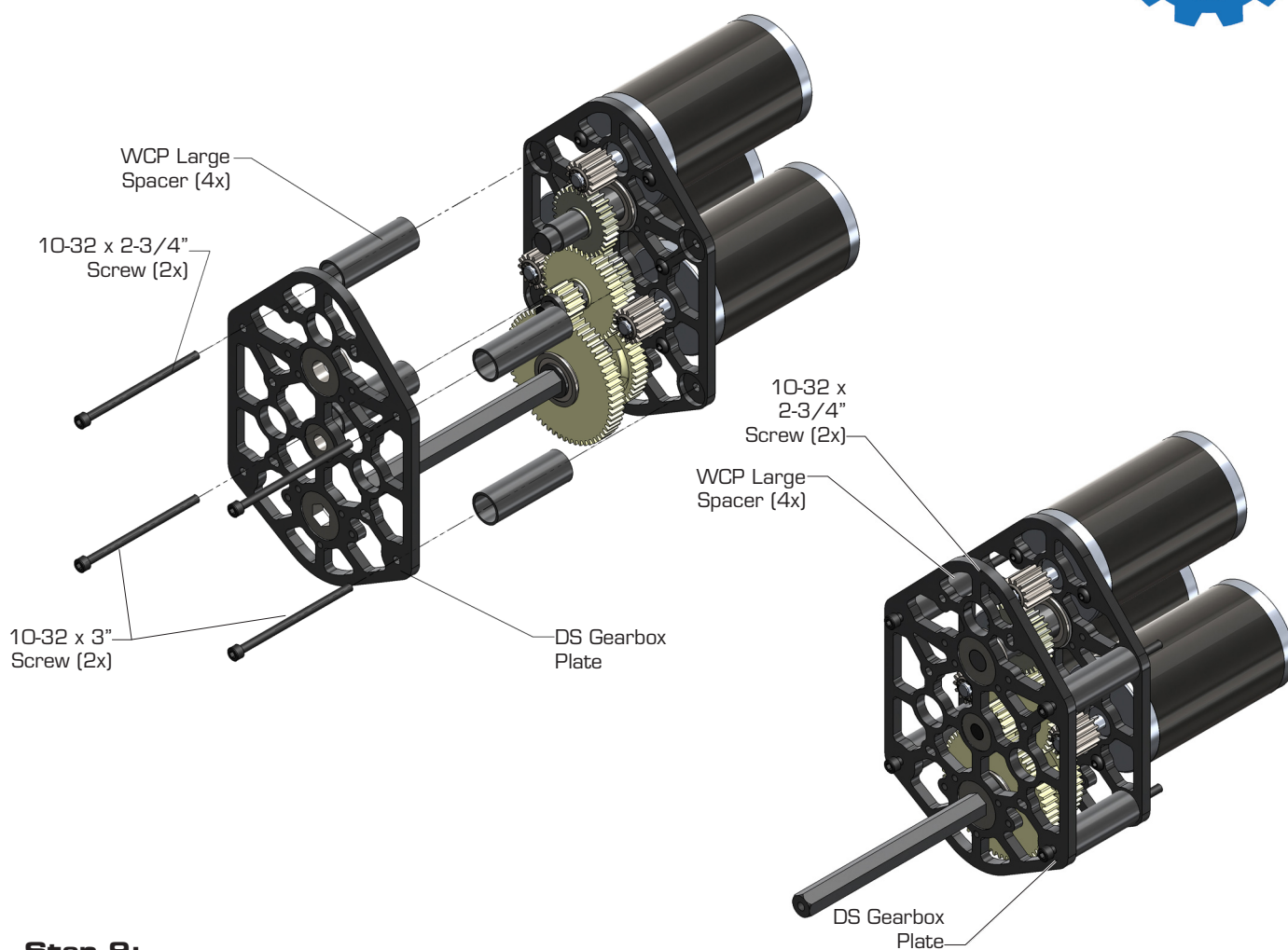


### Step 8:

Insert a 3/8" round flanged bearing, (2X) wave washers, a 1/2" round flanged bearing, and 1/2" hex flanged bearing into the remaining transmission plate, as shown.

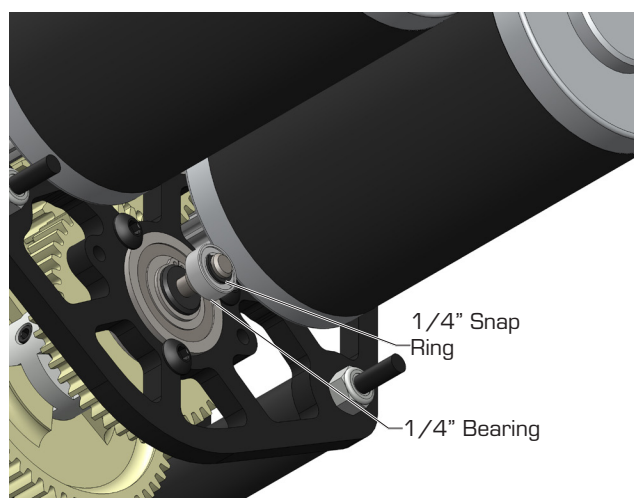
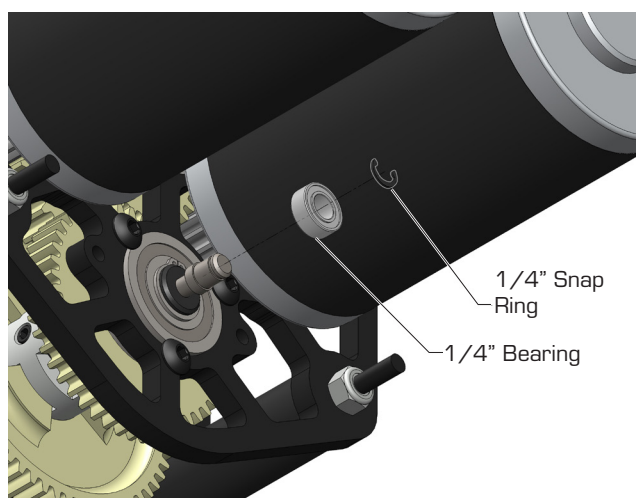
**Note: Make sure to install the bearings so the flanges are on the same side of the plate as the counter-bores.**





### Step 9:

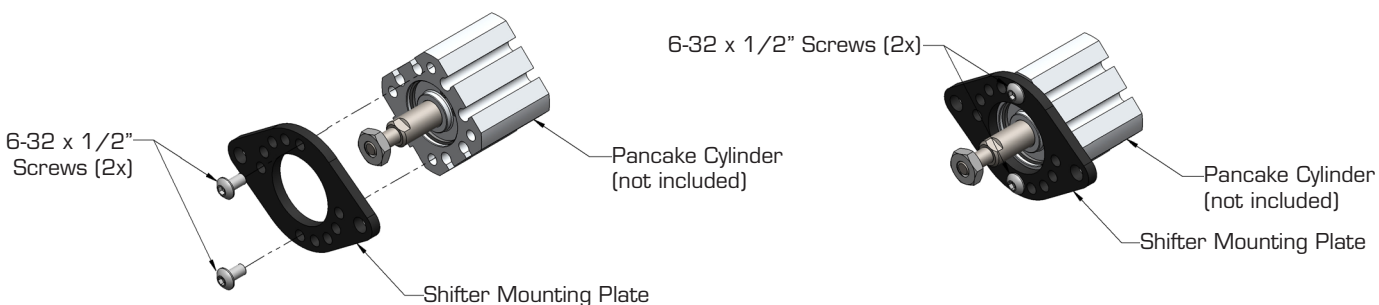
Use (2X) 10-32 x 2-3/4" screws, (2X) 10-32 x 3" screws, (4X) WCP large spacers, and (4X) 10-32 Nylock nuts to secure the transmission plate to the rest of the gearbox, as shown. Use of Loctite is not recommended with Nylock nuts.



### Step 10:

Insert the 1/4" round bearing onto the shifter rod and retain with the 1/4" snap ring as shown.

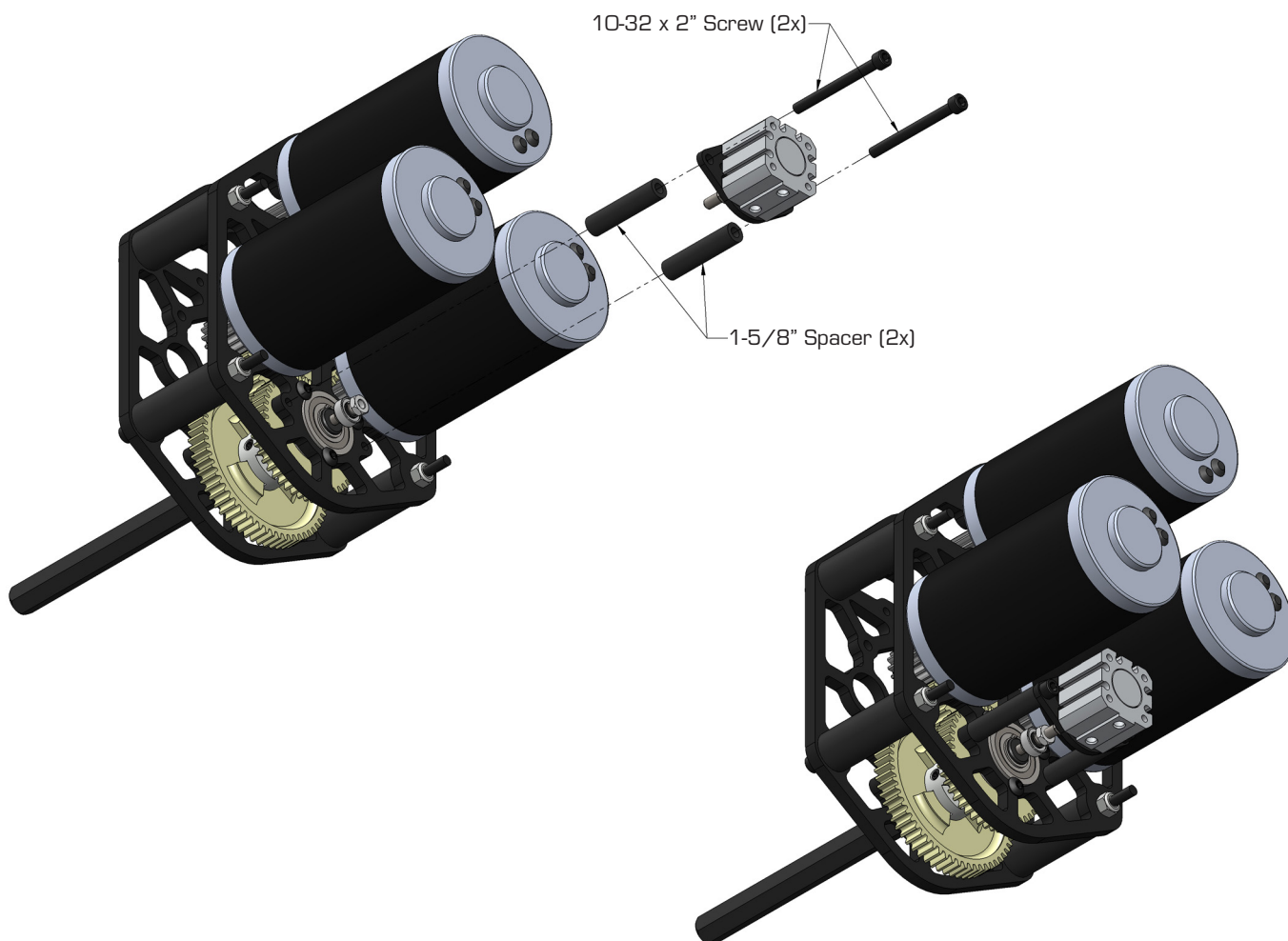




### Step 10:

Use (2X) 6-32 x 1/4" screws to attach the pancake cylinder (not included) to the shifter mounting plate. Use of Loctite is recommended with all screws.

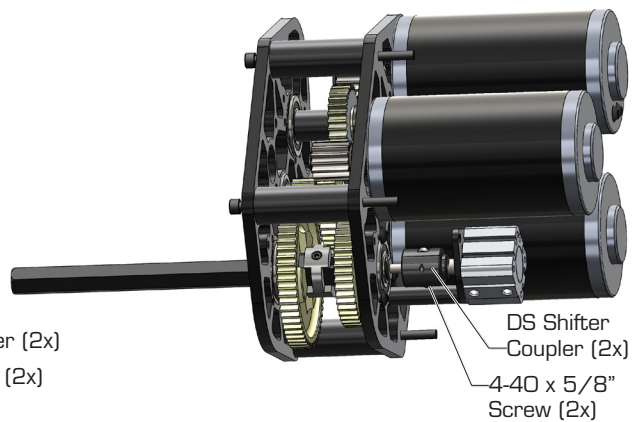
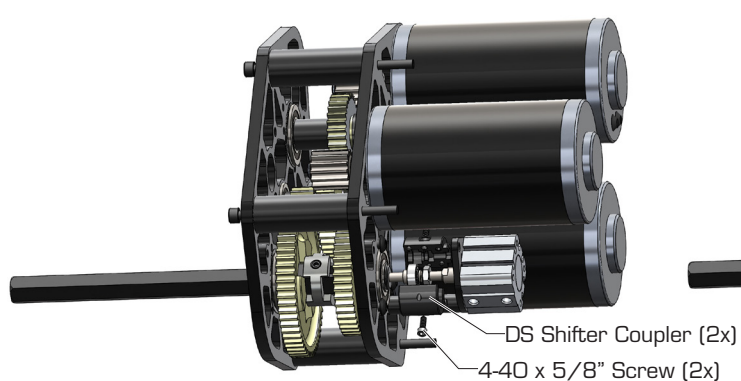
**Note:** There are multiples holes on the DS Shifter Plate to allow the air ports on the pancake cylinder to be repositioned for the user's specific configuration.



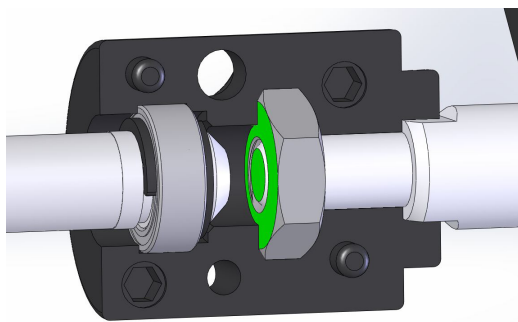
### Step 12:

Use (2X) 10-32 x 2" screws and (2X) 1-5/8" spacers to attach the pancake cylinder assembly to the back of the transmission. Use of Loctite is recommended with all screws.





**IMPORTANT:** The hex nut **MUST BE FLUSH** with the end of the piston rod as illustrated.



### Step 13:

Use (2X) pneumatic coupler halves to capture the pancake cylinder rod and the bearing installed in Step 9 as shown. Then use (2X) 4-40 x 5/16" screws to attach the two halves.