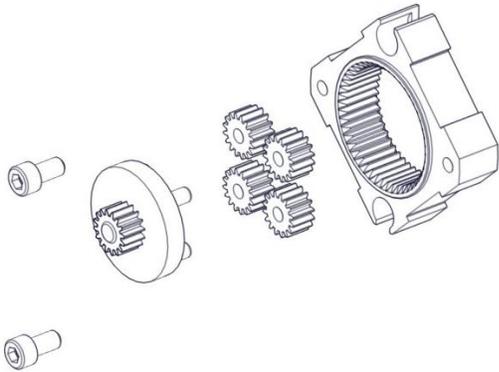


Sport Gearbox

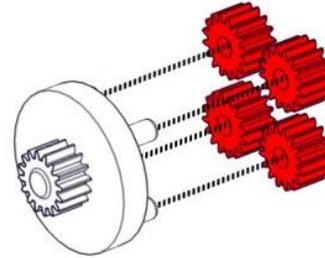
Add-On Stage Installation Guide



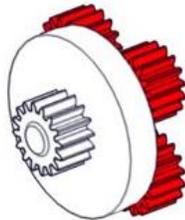
Step 1: Verify you have all of the components before proceeding: (1) Ring Gear, (4) Planet Gears, (1) Carrier Plate with Sun Gear, (2) ½" Long 10-32 Socket Head Cap Screws.



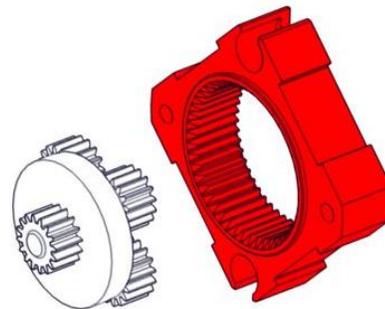
Step 2: Add the four (4) planet gears to the pins on the backside of the carrier plate.



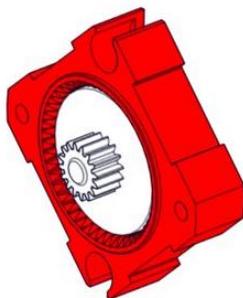
Step 3: Now is a great time to add a small amount of Red Tacky Grease (am-2768) to each of the planet gears and the sun gear on the front of the carrier plate.



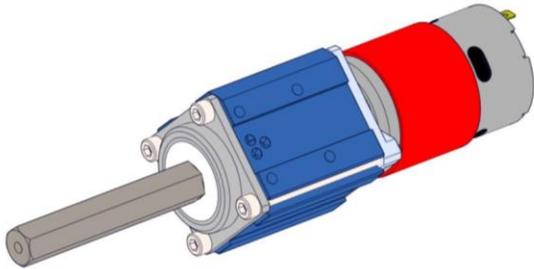
Step 4: Slide the Ring Gear over the planet gears and carrier plate. You may need to rotate individual planet gears slightly to align the teeth with the ring gear. The carrier plate should be fully within the ring gear but will remain loose.



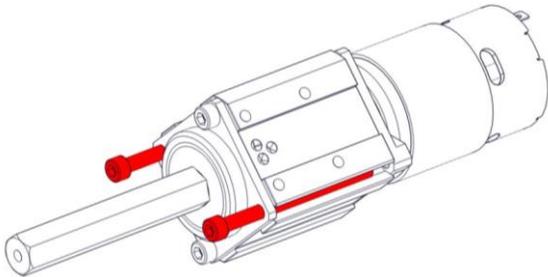
Step 5: The completed Add-On Stage is now ready to be mounted to the motor and gearbox.



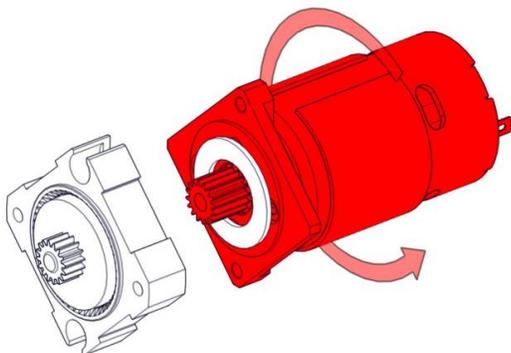
Step 6: The following steps assume you already have an assembled 57, CIM, or Falcon Sport Gearbox. If you are building from scratch, skip to **Step 10** after preparing your Sport Gearbox for assembly using the 57 Sport Installation Guide.



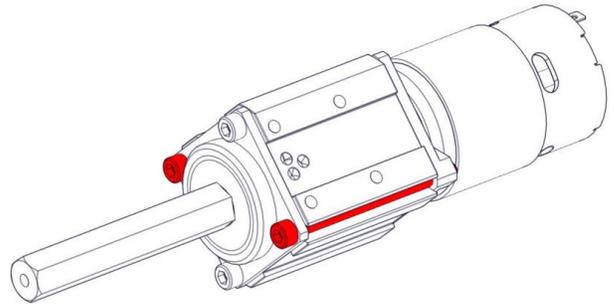
Step 8: Unscrew these two (2) screws so that the motor block assembly is free from the gearbox. There is no need to completely remove the screws from the gearbox.



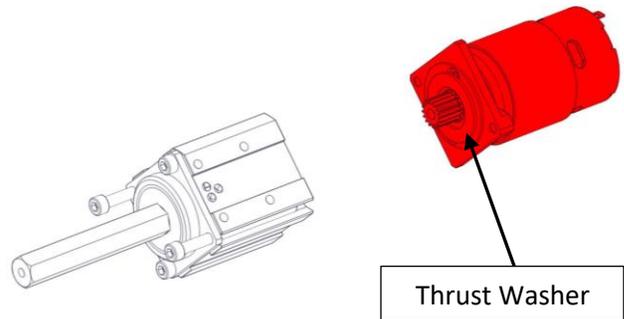
Step 10: Align the Add-On stage with the motor block assembly. The counter-bored holes of the Add-On Ring Gear should align with threaded holes of the motor assembly.



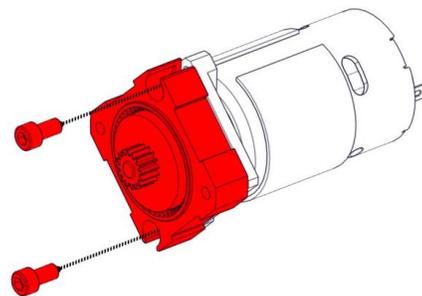
Step 7: Locate the two (2) 10-32 Socket Head Screws that run the length of the gearbox and attach the motor block.



Step 9: Separate the motor block assembly from the gearbox. Be sure that the thrust washer is removed with the motor block assembly.

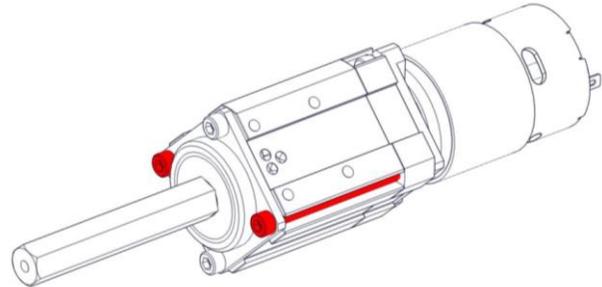
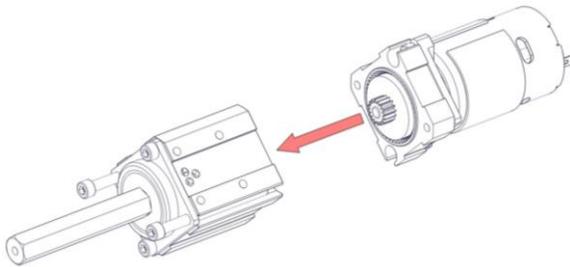


Step 11: Install the Add-On Stage Assembly onto the Motor Block Assembly using the included two (2) 1/2" Long 10-32 Socket Head Cap Screws. The screws will be located in the counter-bored holes of the ring gear. Be careful to ensure the thrust washer is fully seated within the ring gear on the face of the planet gears.

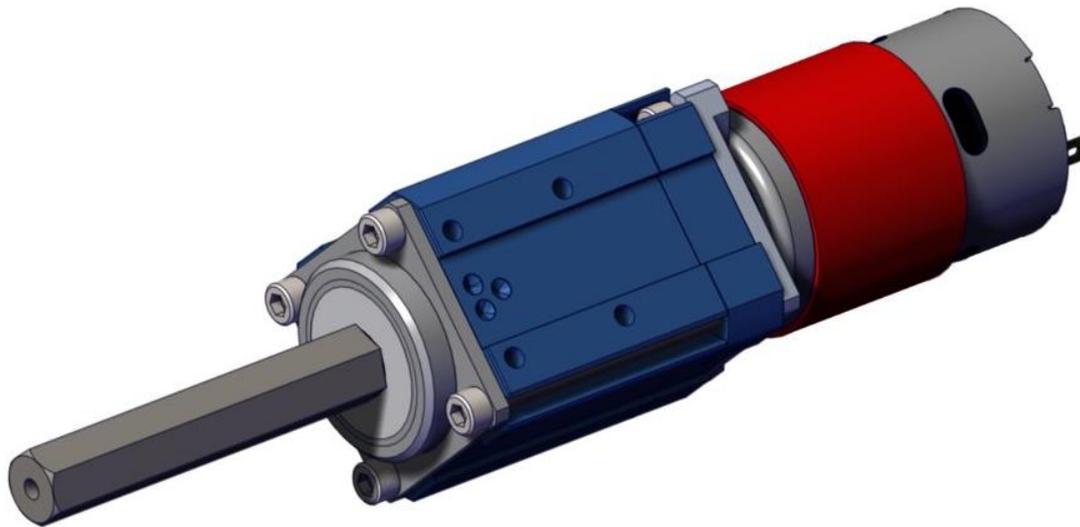


Step 12: Align and install the Motor Block / Add-On Stage assembly into the back of the gearbox. You may need to rotate the output shaft slightly to align the teeth so the sun gear slides in properly. There should be no gap between the two ring gear sections.

Step 13: To complete the assembly, tighten the two (2) 10-32 Socket Head Set Screws that were removed in **Step 8**. These screws should now thread into the ring gear of the Add-On Stage at the corners opposite the counter-bored holes used in **Step 11**.



Congratulations: You now have a completed 57 Sport with an Add-On Stage.



The following tables are provided for reference only. Please note that it is possible to exceed the design characteristics of the Sport Gearbox using the 4:1 Add-On Stage. Use caution when designing mechanisms with these higher ratios and take precautions to guard against exceeding the load limits.

57 Sport with 4:1 Add-On Stage - Redline (am-3775a)

Base Gearbox Part #	Ratio with 4:1 Add-On Stage	Weight	Length From Face	Rated Torque	Stall Torque	Free Speed
am-4005_004	16:1 SD	1.89 lb	5.12 in.	120 ft-lbs	8.26 ft-lbs	1313.75 rpm
am-4005_012	48:1 SD	2.10 lb	5.62 in.	135 ft-lbs	24.78 ft-lbs	437.92 rpm
am-4006_012	48:1 HD	2.19 lb	5.87 in.	170 ft-lbs	24.78 ft-lbs	437.92 rpm
am-4005_016	64:1 SD	2.11 lb	5.62 in.	120 ft-lbs	33.04 ft-lbs	328.44 rpm
am-4006_016	64: HD	2.20 lb	5.87 in.	160 ft-lbs	33.04 ft-lbs	328.44 rpm
am-4005_020	80:1 SD	2.11 lb	5.62 in.	110 ft-lbs	41.30 ft-lbs	262.75 rpm
am-4006_020	80:1 HD	2.21 lb	5.87 in.	140 ft-lbs	41.30 ft-lbs	262.75 rpm
am-4006_036	144:1 HD	2.40 lb	6.37 in.	170 ft-lbs	74.35 ft-lbs	145.97 rpm
am-4006_048	192:1 HD	2.43 lb	6.37 in.	170 ft-lbs	99.13 ft-lbs	109.48 rpm
am-4006_064	256:1 HD	2.41 lb	6.37 in.	160 ft-lbs	132.17 ft-lbs	82.11 rpm
am-4006_080	320:1 HD	2.43 lb	6.37 in.	140 ft-lbs	165.21 ft-lbs	65.69 rpm
am-4006_100	400:1 HD	2.43 lb	6.37 in.	140 ft-lbs	206.52 ft-lbs	52.55 rpm

57 Sport with 4:1 Add-On Stage - BaneBots 550 (am-3830)

Base Gearbox Part #	Ratio with 4:1 Add-On Stage	Weight	Length From Face	Rated Torque	Stall Torque	Free Speed
am-4005_004	16:1 SD	1.47 lb	4.62 in.	120 ft-lbs	5.76 ft-lbs	1206.25 rpm
am-4005_012	48:1 SD	1.68 lb	5.12 in.	135 ft-lbs	17.29 ft-lbs	402.08 rpm
am-4006_012	48:1 HD	1.77 lb	5.37 in.	170 ft-lbs	17.29 ft-lbs	402.08 rpm
am-4005_016	64:1 SD	1.69 lb	5.12 in.	120 ft-lbs	23.05 ft-lbs	301.56 rpm
am-4006_016	64: HD	1.78 lb	5.37 in.	160 ft-lbs	23.05 ft-lbs	301.56 rpm
am-4005_020	80:1 SD	1.69 lb	5.12 in.	110 ft-lbs	28.82 ft-lbs	241.25 rpm
am-4006_020	80:1 HD	1.79 lb	5.37 in.	140 ft-lbs	28.82 ft-lbs	241.25 rpm
am-4006_036	144:1 HD	1.98 lb	5.87 in.	170 ft-lbs	51.87 ft-lbs	134.03 rpm
am-4006_048	192:1 HD	2.01 lb	5.87 in.	170 ft-lbs	69.16 ft-lbs	100.52 rpm
am-4006_064	256:1 HD	1.99 lb	5.87 in.	160 ft-lbs	92.21 ft-lbs	75.39 rpm
am-4006_080	320:1 HD	2.01 lb	5.87 in.	140 ft-lbs	115.27 ft-lbs	60.31 rpm
am-4006_100	400:1 HD	2.01 lb	5.87 in.	140 ft-lbs	144.08 ft-lbs	48.25 rpm

CIM Sport with 4:1 Add-On Stage

Base Gearbox Part #	Ratio with 4:1 Add-On Stage	Weight	Length	Rated Torque	Stall Torque	Free Speed
am-4007_004	16:1 SD	4.01 lb	7.62 in.	120 ft-lbs	28.62 ft-lbs	331.88 rpm
am-4007_012	48:1 SD	4.22 lb	8.12 in.	135 ft-lbs	85.85 ft-lbs	110.63 rpm
am-4008_012	48:1 HD	4.31 lb	8.37 in.	170 ft-lbs	85.85 ft-lbs	110.63 rpm
am-4007_016	64:1 SD	4.23 lb	8.12 in.	120 ft-lbs	114.46 ft-lbs	82.97 rpm
am-4008_016	64: HD	4.32 lb	8.37 in.	160 ft-lbs	114.46 ft-lbs	82.97 rpm
am-4007_020	80:1 SD	4.23 lb	8.12 in.	110 ft-lbs	143.08 ft-lbs	66.38 rpm
am-4008_020	80:1 HD	4.33 lb	8.37 in.	140 ft-lbs	143.08 ft-lbs	66.38 rpm
am-4008_036	144:1 HD	4.52 lb	8.87 in.	170 ft-lbs	257.54 ft-lbs	36.88 rpm
am-4008_048	192:1 HD	4.55 lb	8.87 in.	170 ft-lbs	343.39 ft-lbs	27.66 rpm
am-4008_064	256:1 HD	4.53 lb	8.87 in.	160 ft-lbs	457.86 ft-lbs	20.74 rpm
am-4008_080	320:1 HD	4.55 lb	8.87 in.	140 ft-lbs	572.32 ft-lbs	16.59 rpm
am-4008_100	400:1 HD	4.55 lb	8.87 in.	140 ft-lbs	715.40 ft-lbs	13.28 rpm

Falcon Sport with 4:1 Add-On Stage

Base Gearbox Part #	Ratio with 4:1 Add-On Stage	Weight	Length	Rated Torque	Stall Torque	Free Speed
am-4183_004	16:1 SD	2.06 lb	5.25 in.	120 ft-lbs	55.35 ft-lbs	398.75 rpm
am-4183_012	48:1 SD	2.27 lb	5.75 in.	135 ft-lbs	166.04 ft-lbs	132.92 rpm
am-4184_012	48:1 HD	2.36 lb	6.00 in.	170 ft-lbs	166.04 ft-lbs	132.92 rpm
am-4183_016	64:1 SD	2.28 lb	5.75 in.	120 ft-lbs	221.39 ft-lbs	99.69 rpm
am-4184_016	64: HD	2.37 lb	6.00 in.	160 ft-lbs	221.39 ft-lbs	99.69 rpm
am-4183_020	80:1 SD	2.28 lb	5.75 in.	110 ft-lbs	276.73 ft-lbs	79.75 rpm
am-4184_020	80:1 HD	2.38 lb	6.00 in.	140 ft-lbs	276.73 ft-lbs	79.75 rpm
am-4184_036	144:1 HD	2.57 lb	6.50 in.	170 ft-lbs	498.12 ft-lbs	44.31 rpm
am-4184_048	192:1 HD	2.60 lb	6.50 in.	170 ft-lbs	664.16 ft-lbs	33.23 rpm
am-4184_064	256:1 HD	2.58 lb	6.50 in.	160 ft-lbs	885.54 ft-lbs	24.92 rpm
am-4184_080	320:1 HD	2.60 lb	6.50 in.	140 ft-lbs	1106.93 ft-lbs	19.94 rpm
am-4184_100	400:1 HD	2.60 lb	6.50 in.	140 ft-lbs	1383.66 ft-lbs	15.95 rpm