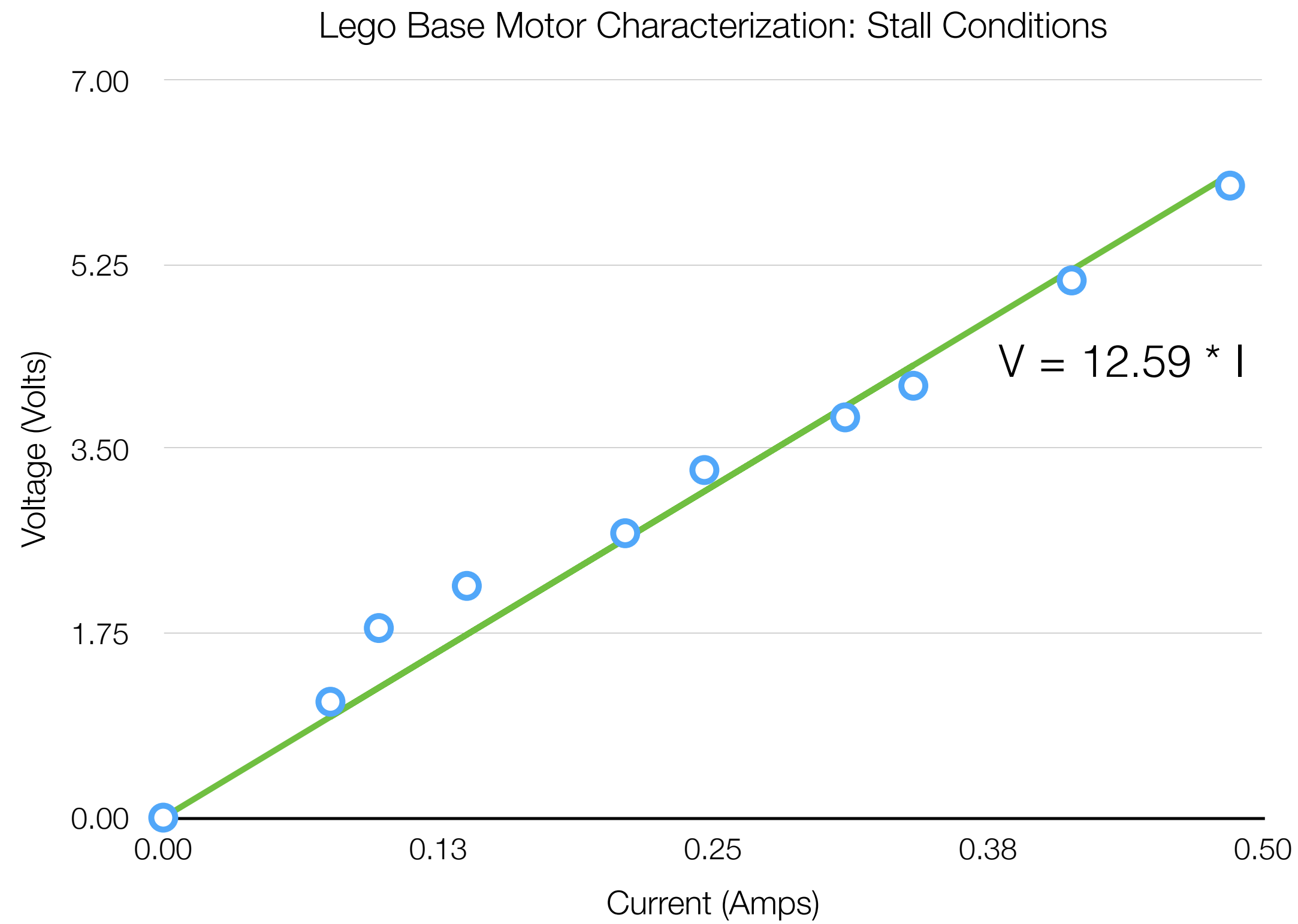
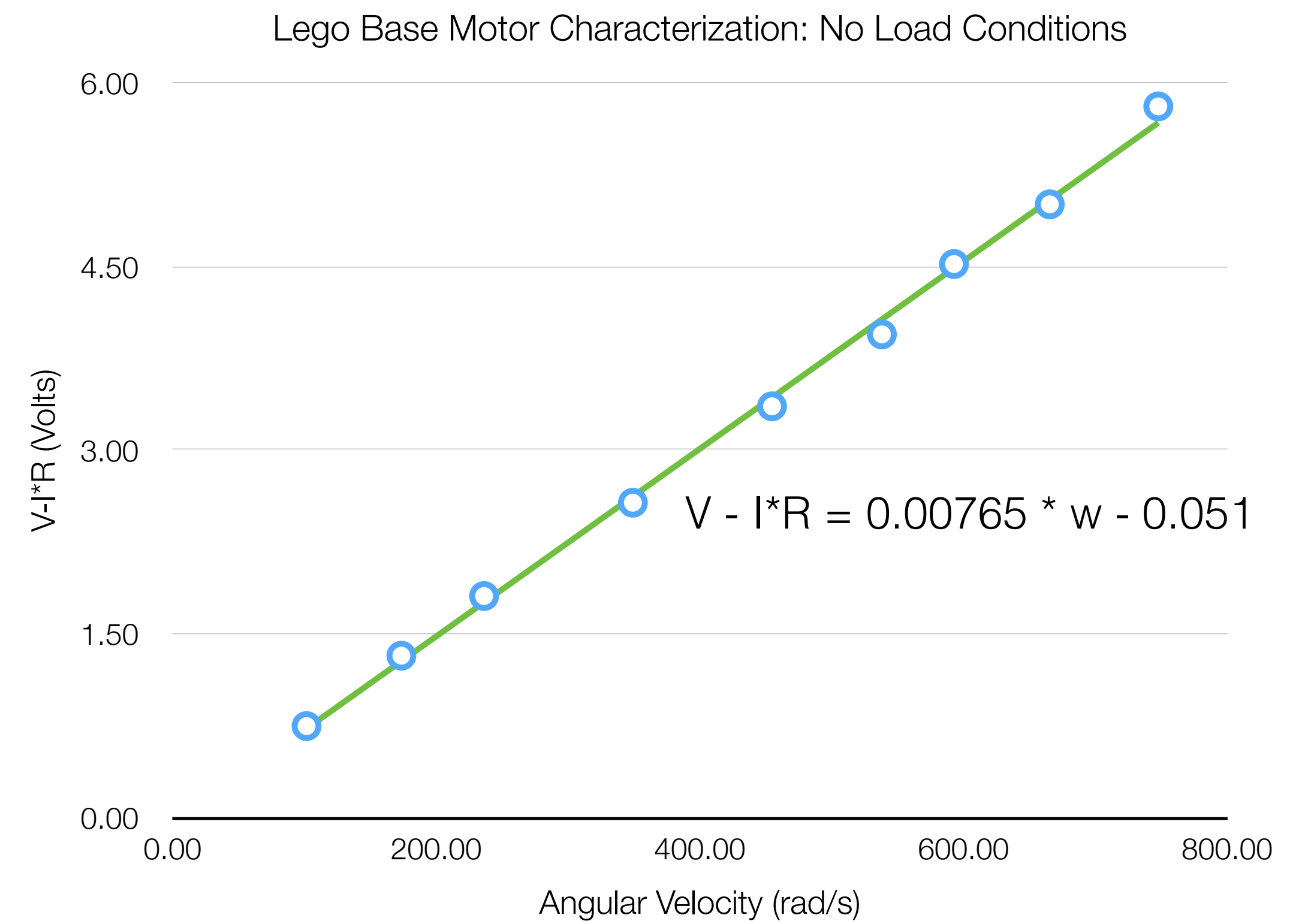


# Lego Base Motor Characterization



$R = 12.59 \text{ Ohms}$



$K = 7.65 \text{ mNm/Amp}$

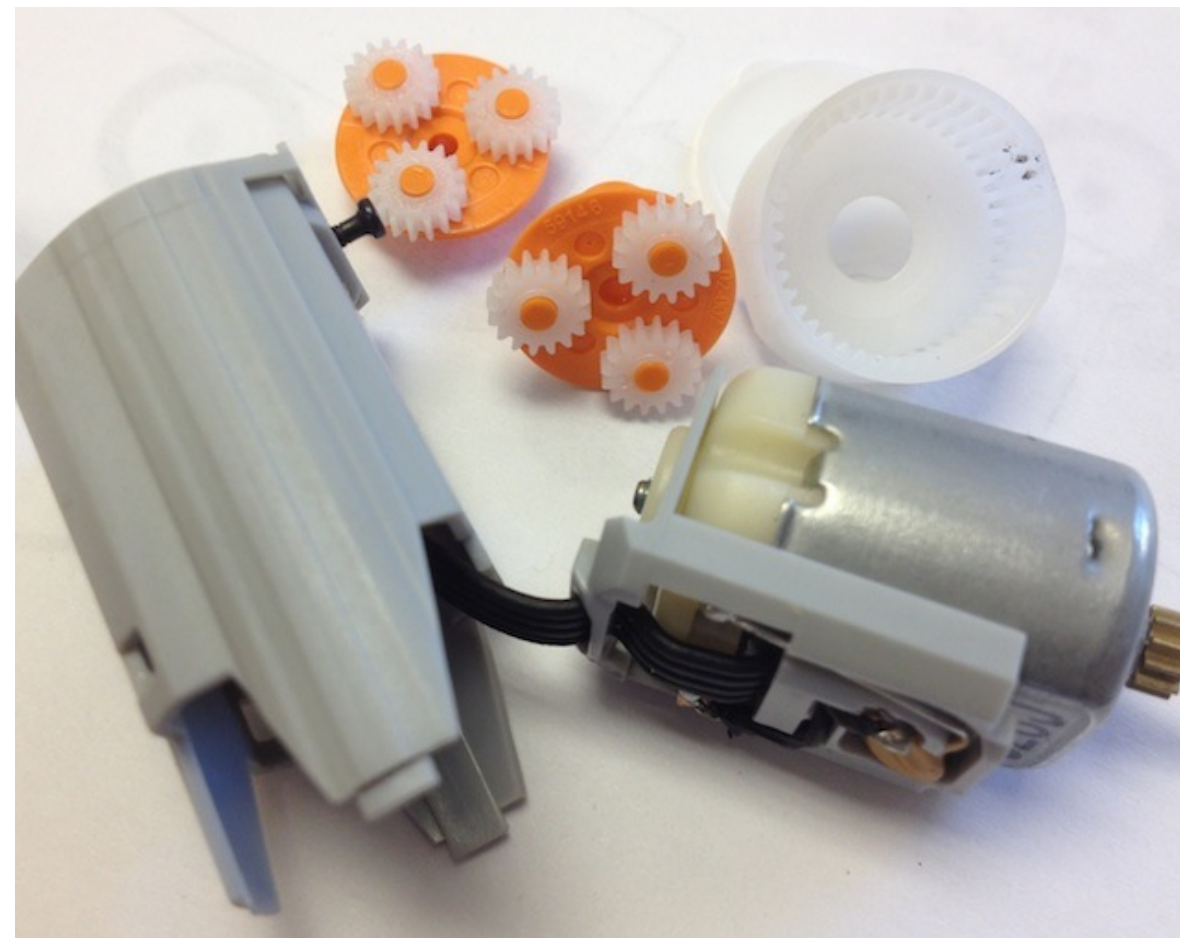
# Lego Base Motor Characterization — Raw Data

Stall Measurements	
I (Amps)	V (Volts)
0.00	0.00
0.21	2.7
0.341	4.1
0.076	1.1
0.098	1.8
0.138	2.2
0.246	3.3
0.31	3.8
0.413	5.1
0.485	6

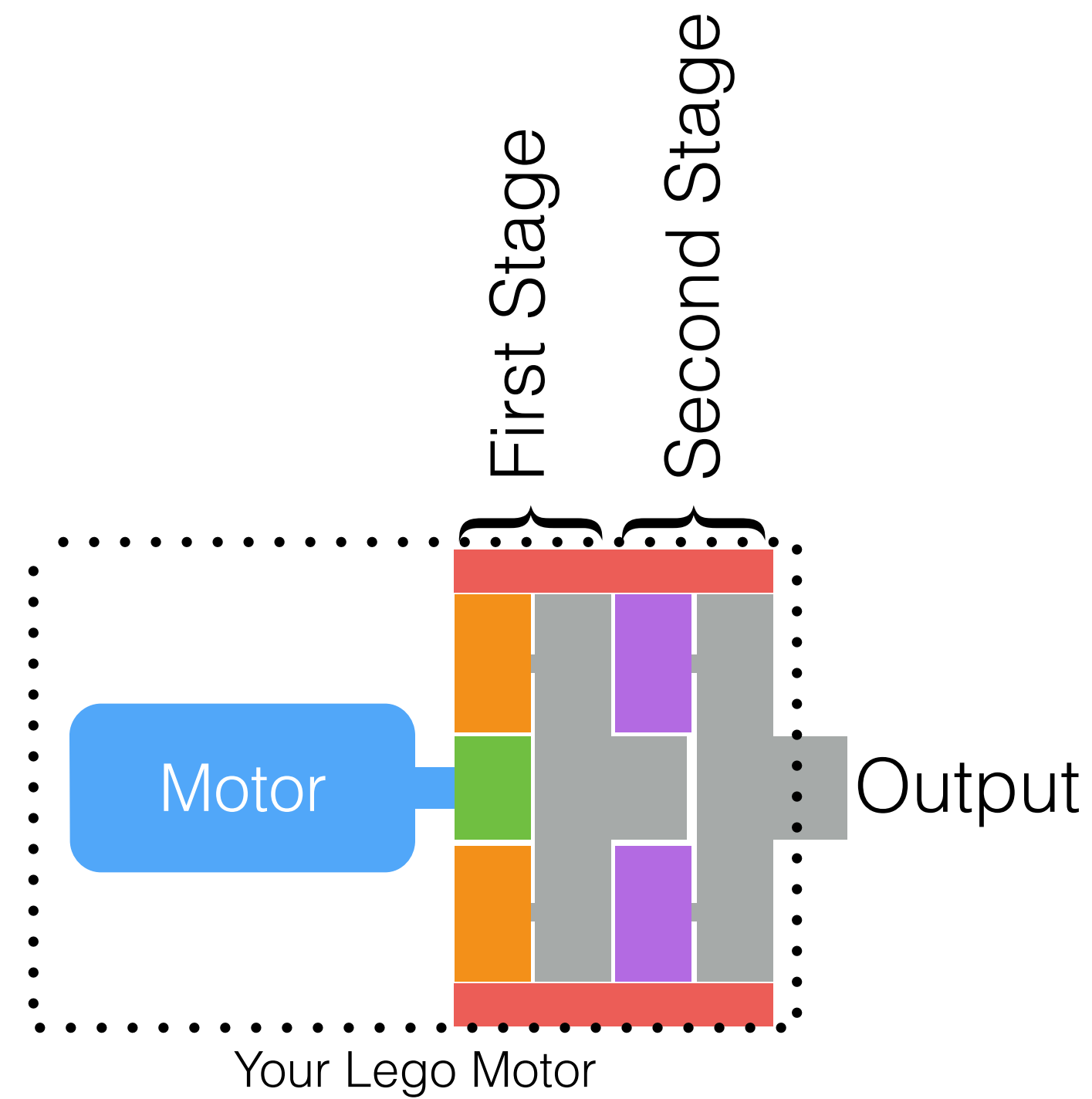
No Load Measurements		
I (Amps)	V (Volts)	w (RPM)
0.028	1.1	970
0.03	1.7	1657
0.031	2.2	2256
0.034	3	3334
0.035	3.8	4342
0.036	4.4	5138
0.038	5	5660
0.039	5.5	6354
0.039	6.3	7140

# Lego Motor Internal Gearbox Characteristics

**Lego Motor Assembly  
(Motor and Gearbox)**



**Gearbox Configuration  
(Two identical planetary stages)**



**Gearbox Detail  
(1 stage)**

