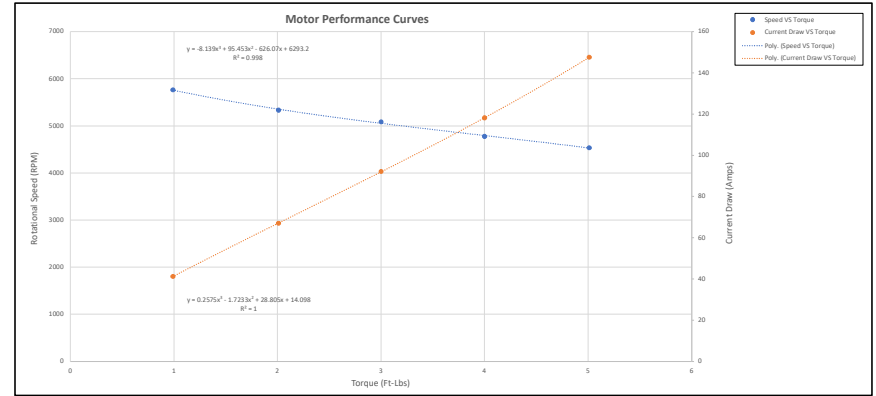
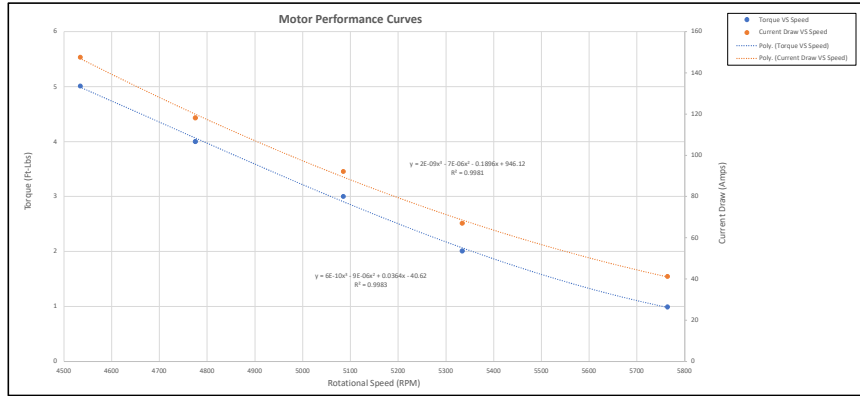
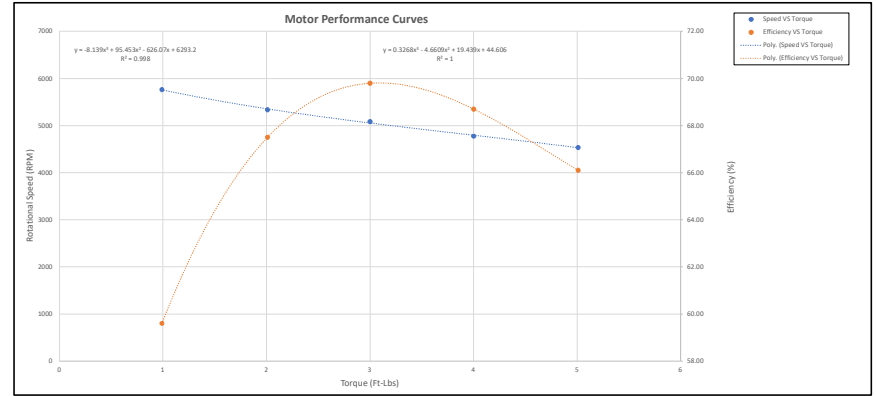
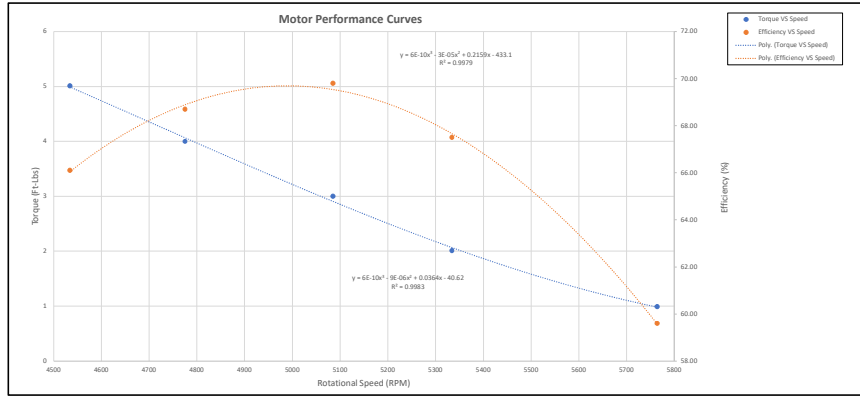


**Engineering Performance Test Report**

Performance Spec (PS) Number: 4

System Voltage (V): 36 (V ± 0.015)

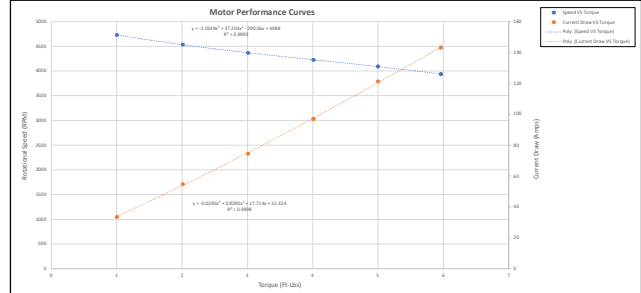
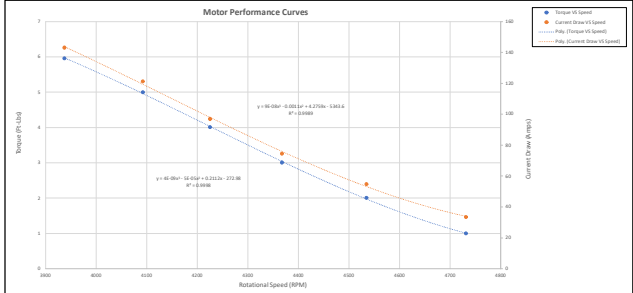
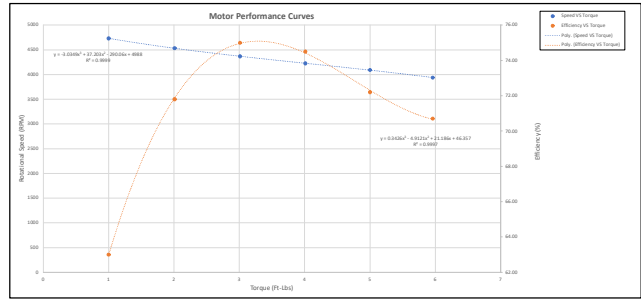
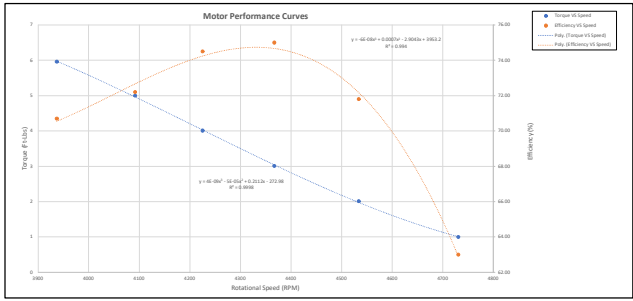
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
0.99	5764	35.6	38.3	1.6	2.9	41.2	1.83	1.09	59.60
2.01	5334	45.4	54	1.6	3.02	67.03	3.02	2.04	67.50
3	5085	34.7	89.1	1.6	3.01	92.11	4.15	2.9	69.80
4	4775	34.3	115.1	1.6	3.02	118.12	5.29	3.64	68.70
5.01	4534	33.7	144.6	1.6	2.96	147.56	6.54	4.32	66.10



**Engineering Performance Test Report**

Performance Test #1 Number: 1  
 System Name: VFD Dr. (1 - 0225)

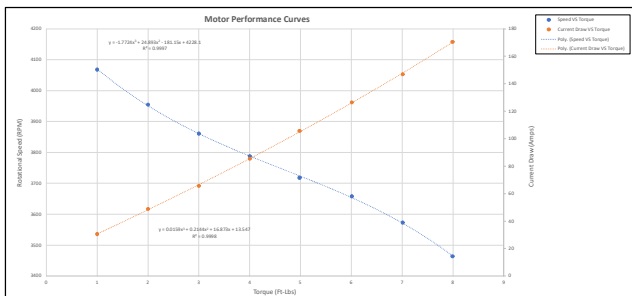
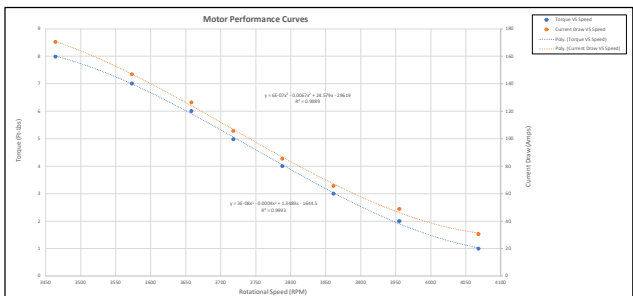
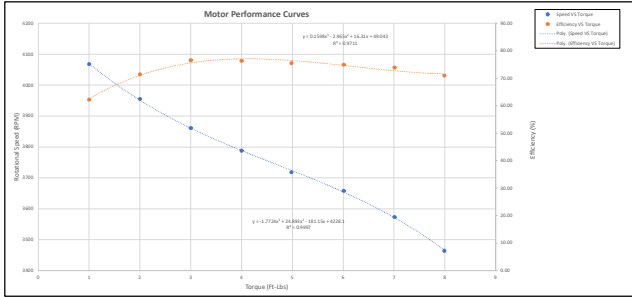
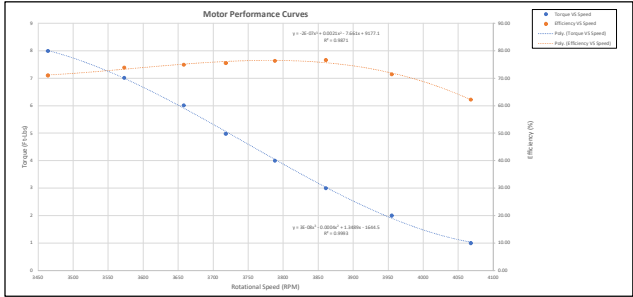
Test #	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)
1	4773	25.7	283	2.2	375	3355	1.43	9.9	49.00			
2	4584	26.0	300	2.2	338	3478	2.40	3.25	25.80			
3	4382	26.1	316	2.2	309	3630	3.24	2.3	25.00			
4	4225	26.0	331	2.2	277	3817	4.01	3.23	25.50			
5	4092	26.2	347	2.2	246	4028	5.4	3.0	22.20			
5.00	3932	26.8	363	2.2	216	4253	6.81	4.42	20.70			



**Engineering Performance Test Report**

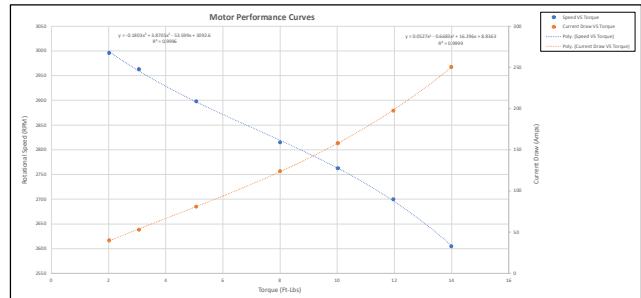
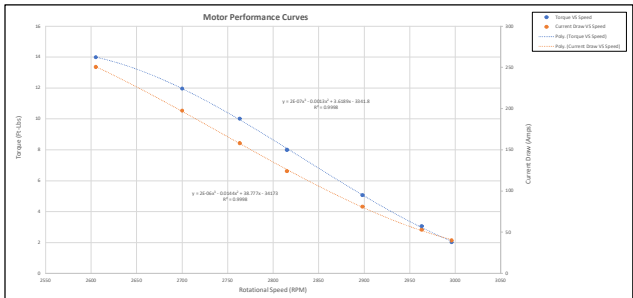
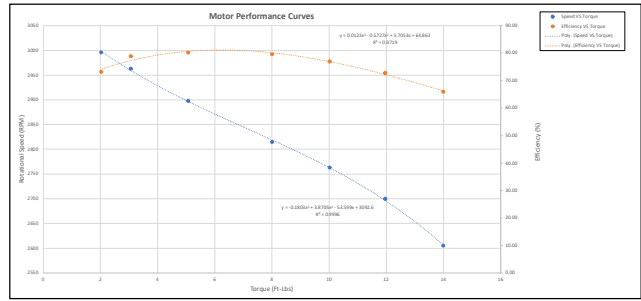
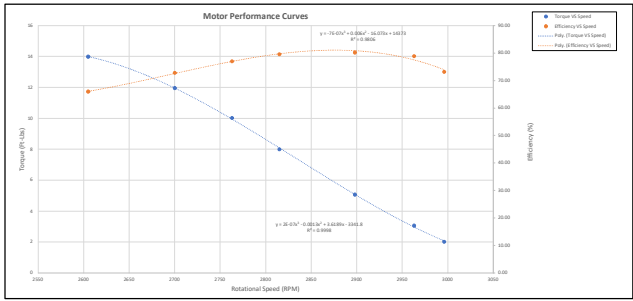
Performance Test #10 Number: 4  
Series Voltage (V): 11.7 (0.25)

Test #	Series Voltage (V)	Series Current (A)	Series Power (W)	Series Resistance (Ω)	Series Inductance (mH)	Series Capacitance (μF)	Series Impedance (Ω)	Series Phase Angle (°)	Series Power Factor
1	10.95	25.7	278.5	2.7	4.95	30.55	3.25	1.78	0.225
2	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
3	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
4	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
5	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
6	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
7	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
8	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
9	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225
10	10.95	25.2	273.5	2.7	4.98	30.88	3.31	1.8	0.225



**Engineering Performance Test Report**  
**Performance Test #51 Number: 4**  
**Series Voltage (V): 11.1 (0.25)**

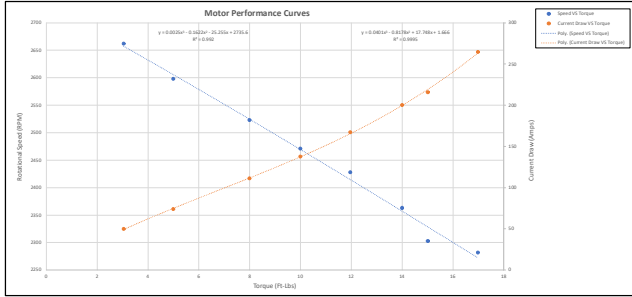
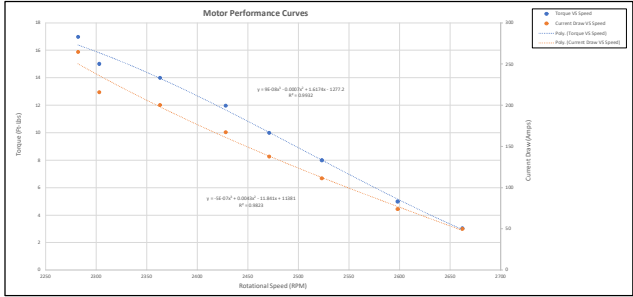
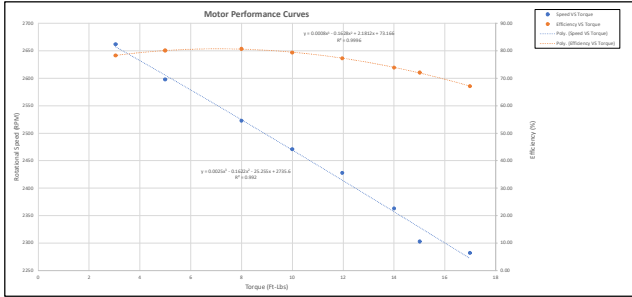
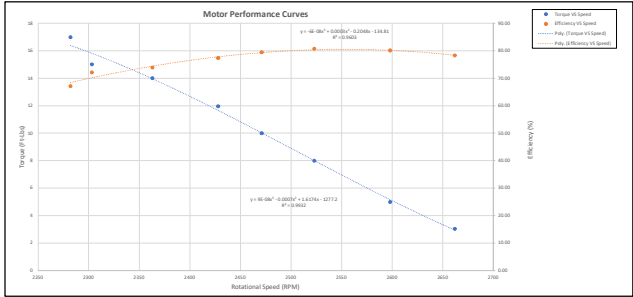
Series Voltage (V)	Series Current (A)	Series Power (W)	Series Torque (ft-lb)	Series RPM	Series Efficiency (%)	Series Power Factor	Series Torque (Nm)	Series RPM	Series Efficiency (%)	Series Power Factor
2.07	2.09	4.33	3.7	4.4	8.05	40.05	1.55	1.55	77.35	
3.95	3.94	15.57	6.5	4.4	8.04	39.95	2.10	2.25	78.92	
5.87	5.85	34.24	11.1	4.4	8.04	39.94	3.40	3.4	80.26	
7.8	7.75	60.51	15.5	4.4	8.04	39.94	5.20	4.95	79.02	
10.02	9.94	100.0	21.8	4.4	7.96	39.90	8.05	5.27	77.80	
12.06	11.95	144.1	29.8	4.4	7.96	39.90	11.94	6.10	73.82	
13.99	13.85	191.7	41.1	4.4	7.85	39.51	16.51	6.94	68.05	



**Engineering Performance Test Report**

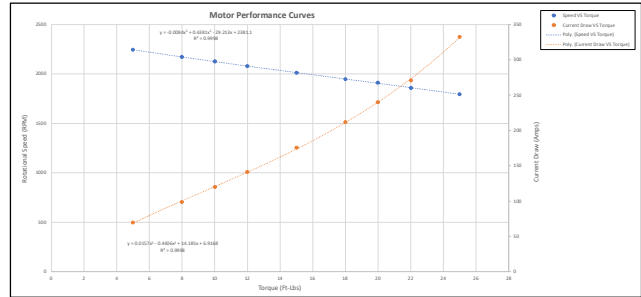
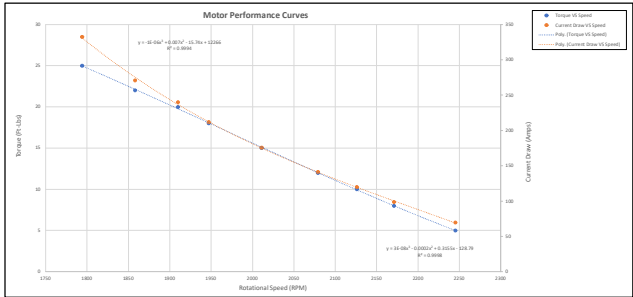
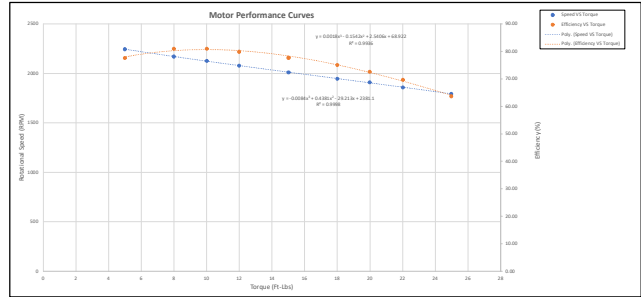
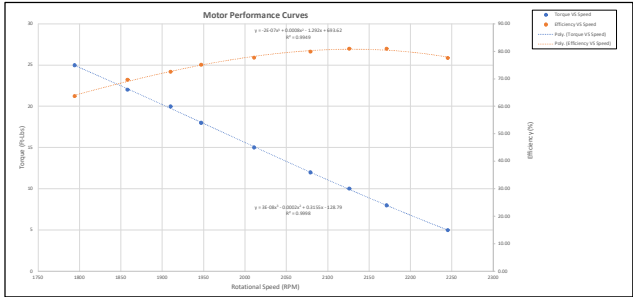
Performance Test #1 Number: 1  
 System Voltage (V): 110 (± 0.25%)

Test #	Current (A)	Power (W)	Speed (RPM)	Efficiency (%)	Torque (ft-lb)	Power (W)	Speed (RPM)	Efficiency (%)	Torque (ft-lb)
1.01	2.92	25.5	337.7	5.5	10.00	49.79	1.57	2.54	29.35
4.01	2.98	26.2	335.8	5.6	10.00	73.81	3.06	2.47	80.32
7.01	2.92	26.6	332.1	5.6	10.08	113.18	4.28	3.80	80.32
9.91	2.97	26.1	327.9	5.6	9.18	137.79	5.92	4.7	75.42
11.91	2.98	26.6	327.1	5.6	10.18	167.26	7.18	5.53	77.80
14	2.98	26.1	326.6	5.6	9.77	200.31	8.61	6.3	73.82
15.01	2.93	25.8	293.8	5.6	10.13	233.91	9.11	6.58	72.35
16.91	2.92	27	254.7	5.7	9.78	264.61	11	7.88	67.80



**Engineering Performance Test Report**  
**Performance Test #1 Number: 4**  
**Series Number (S): 01 - (1 of 1025)**

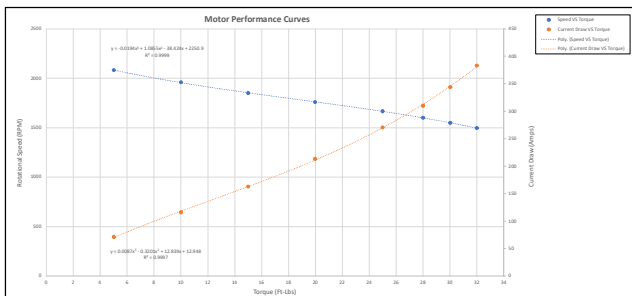
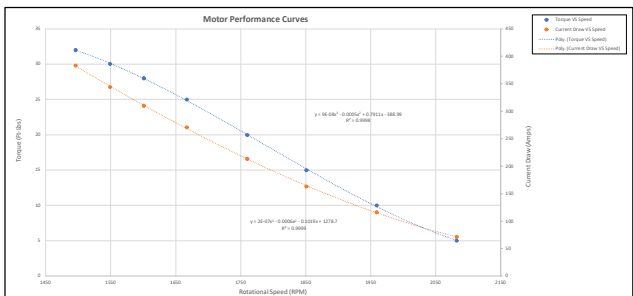
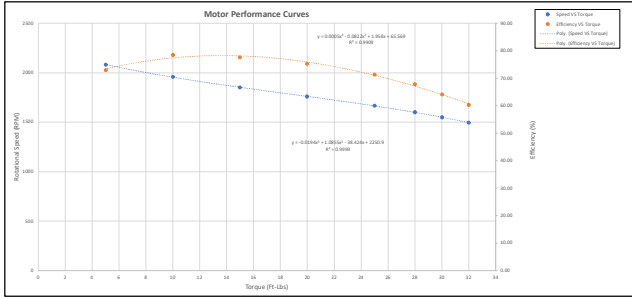
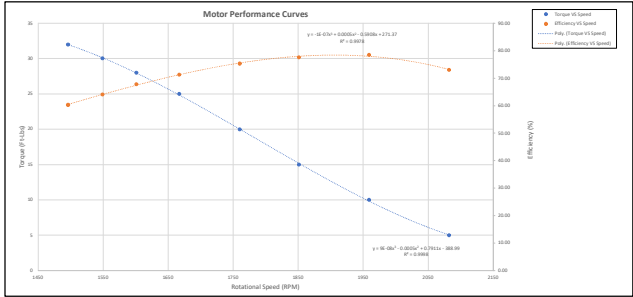
Time	Speed	Current	Torque	Efficiency	Power	Power	Power	Power	Power
4.99	2395	35.6	34.5	8.3	15.05	69.58	2.25	2.33	77.65
7.99	2323	36.0	39.6	8.3	15.1	68.7	4.99	3.3	80.85
10.99	2326	36.5	104.6	8.4	15.12	118.22	5.64	4.55	81.35
13.99	2079	37.2	131	8.4	15.08	145.03	5.95	4.75	79.55
16.99	2031	38.6	160.5	8.5	15.04	175.54	7.4	5.25	77.35
19.99	1945	39.1	189.7	8.5	15.05	211.79	8.65	6.45	76.25
19.98	1952	39.6	223.7	8.5	15.04	233.74	10	7.25	75.65
22.99	1858	39.1	258.6	8.6	15.05	273.85	11.25	7.75	69.25
24.98	1824	39.1	317.4	8.6	15.1	332.1	11.35	8.5	68.25



**Engineering Performance Test Report**

Performance Test #1 Number: 1  
 System Voltage (V): 110 (± 0.25%)

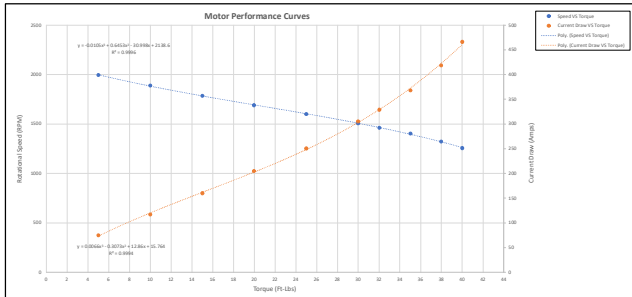
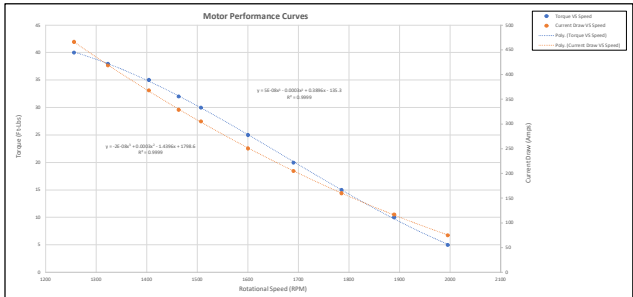
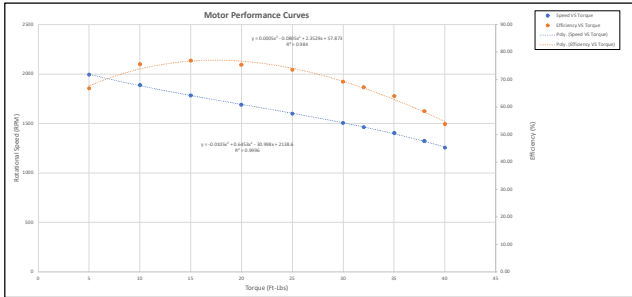
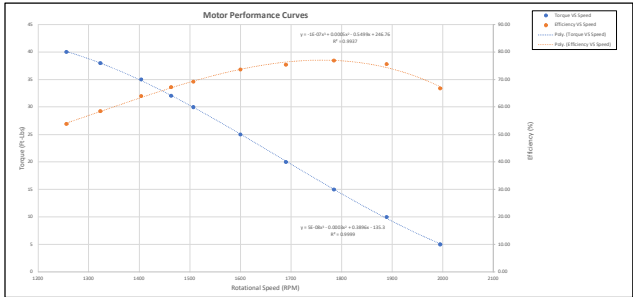
Test #	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)
1	3075	2.092	22.4	31	112	20.22	222	72.72
2	3075	2.092	22.4	31	112	20.22	222	72.72
3	1479	3.01	33.1	44.9	14.4	20.09	162.99	8.61
4	1700	3.1	33.1	44.9	14.4	20.09	162.99	8.61
5	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
6	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
7	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
8	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
9	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
10	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
11	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
12	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
13	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
14	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
15	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
16	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
17	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
18	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
19	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
20	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
21	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
22	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
23	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
24	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
25	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
26	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
27	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
28	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
29	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
30	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
31	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
32	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
33	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
34	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
35	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
36	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
37	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
38	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
39	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
40	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
41	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
42	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
43	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
44	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
45	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
46	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
47	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
48	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
49	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13
50	1867	3.2	34.6	46.4	15.1	20.17	170.47	9.13



**Engineering Performance Test Report**

Performance Test #1 Number: 4  
 System Voltage (V): 110 (± 0.2%)

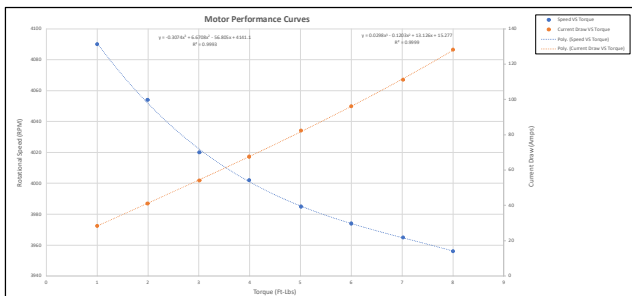
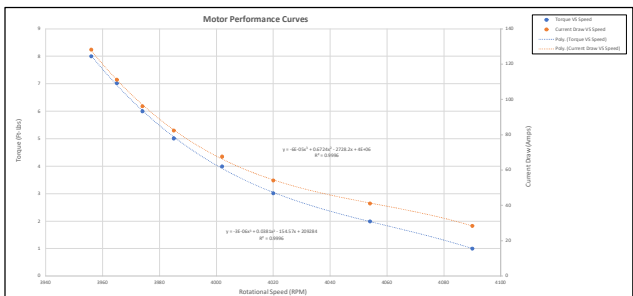
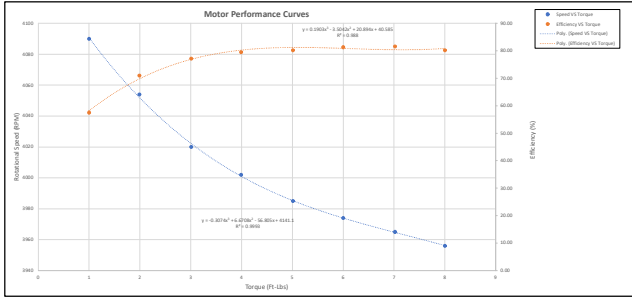
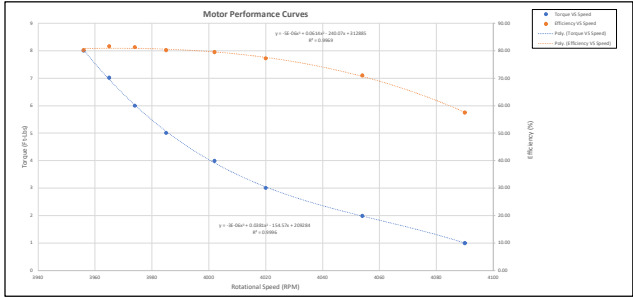
Test #	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)
1	1895	25.4	351.1	11.8	25.1	27.2	2.61	1.5
2	1885	26.7	361	14	25.08	27.08	4.75	3.35
3	1785	26.4	349.8	14.1	25.01	26.91	4.61	3.4
4	1705	25.4	325.2	15.2	25.13	25.03	4.51	3.45
5	1605	27.2	375.2	14.4	25.29	25.19	5.05	3.65
6	1505	28.8	389.2	14.6	24.98	24.88	5.46	3.85
7	1405	31.4	393.2	14.7	25.1	24.8	5.71	4.05
8	1305	34.8	349.2	14.6	25.01	24.91	5.61	4.05
9	1205	38.1	349.2	14.6	25.01	24.91	5.61	4.05
10	1105	41.5	349.2	14.6	25.01	24.91	5.61	4.05
11	1005	45	349.2	14.6	25.01	24.91	5.61	4.05
12	905	48.4	349.2	14.6	25.01	24.91	5.61	4.05
13	805	51.8	349.2	14.6	25.01	24.91	5.61	4.05
14	705	55.2	349.2	14.6	25.01	24.91	5.61	4.05
15	605	58.6	349.2	14.6	25.01	24.91	5.61	4.05
16	505	62	349.2	14.6	25.01	24.91	5.61	4.05
17	405	65.4	349.2	14.6	25.01	24.91	5.61	4.05
18	305	68.8	349.2	14.6	25.01	24.91	5.61	4.05
19	205	72.2	349.2	14.6	25.01	24.91	5.61	4.05
20	105	75.6	349.2	14.6	25.01	24.91	5.61	4.05





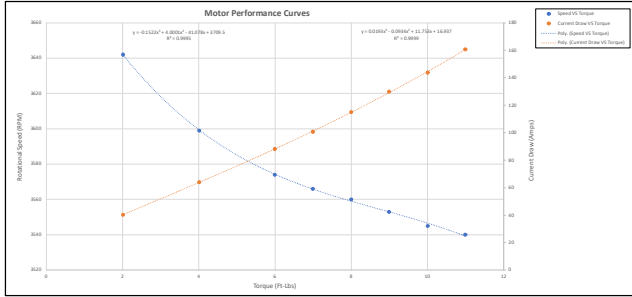
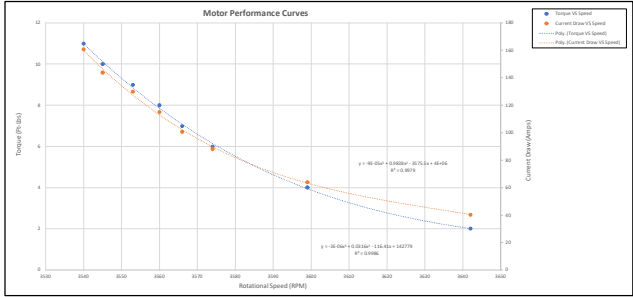
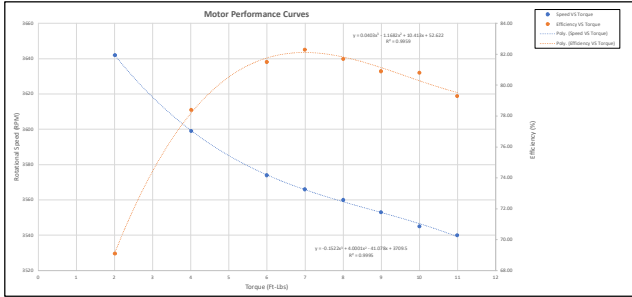
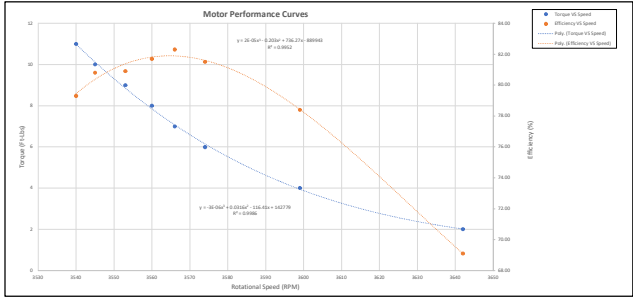
**Engineering Performance Test Report**  
 Performance Test #12 Number: 4  
 System Voltage (V): 48 (1 - 0.225)

Test #	Current (A)	Power (W)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)	Current (A)	Power (W)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)
1	0.092	47.9	204	4.3	8.02	28.82	1.90	478	57.95	
2	0.094	47.7	193.1	4.3	8.03	49.18	2.12	478	57.95	
3	0.092	47.6	186.1	4.4	8.03	54.33	2.09	478	57.95	
4	0.092	47.3	179.1	4.4	8.04	67.64	1.91	478	57.95	
5	0.091	47.1	174.4	4.4	8.03	82.41	1.74	478	57.95	
6	0.091	46.9	169.1	4.4	8.03	98.32	1.60	478	57.95	
7	0.091	46.6	163.1	4.4	8.04	113.14	1.43	478	57.95	
8	0.091	46.4	157.1	4.4	8.04	128.14	1.24	478	57.95	



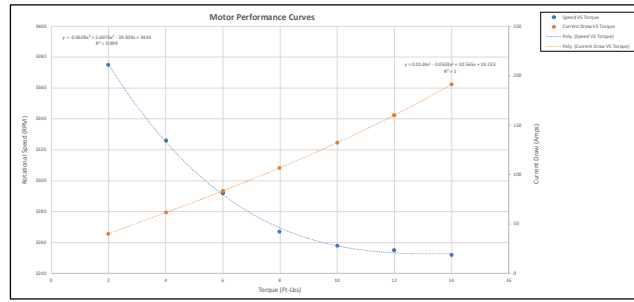
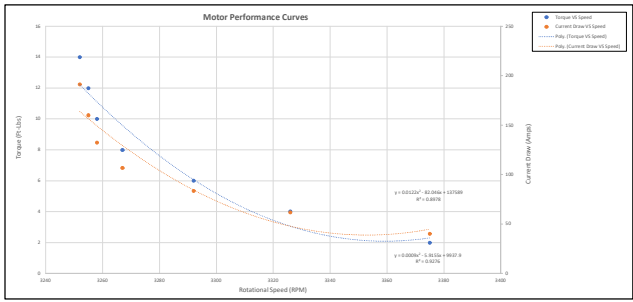
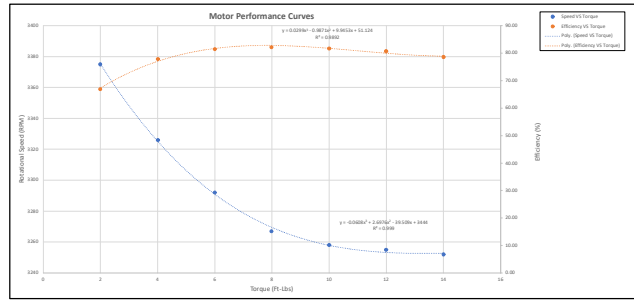
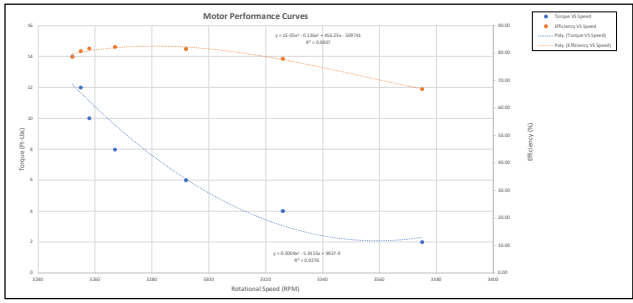
**Engineering Performance Test Report**  
 Performance Test #12 Number: 4  
 System Voltage (V): 48 (1 - 0.225)

Test #	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)	Speed (RPM)	Current (Amps)	Power (Watts)	Efficiency (%)
2.01	3542	47.8	30.3	5.4	35	45.3	2.01	2.35
4.01	3595	47.8	34	5.5	35	45.95	3.31	2.75
5.99	3574	47.4	38.4	5.5	30.01	48.43	2.7	3.25
6.99	3568	48.3	40.7	5.5	30	49.7	3.71	3.55
8	3565	48.6	40.5	5.5	30.04	50.01	4.64	3.42
8.99	3574	48.4	43.8	5.4	30.04	50.84	5.61	3.68
10	3545	48.2	43.7	5.5	30.06	51.76	6.51	3.75
30.99	3545	48.3	43.8	5.5	30.09	52.09	9.41	3.82



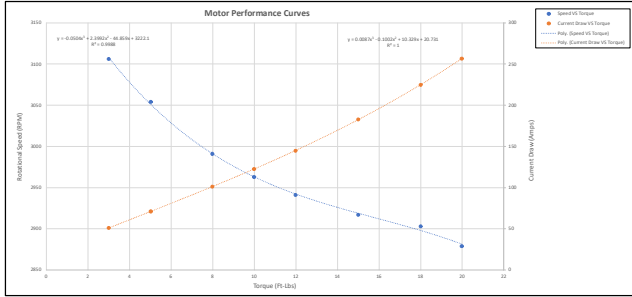
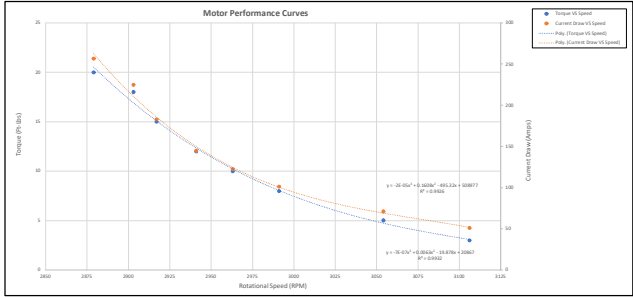
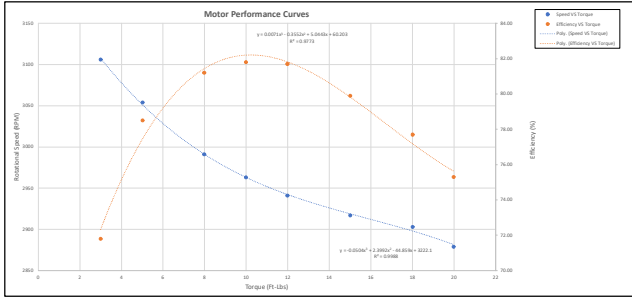
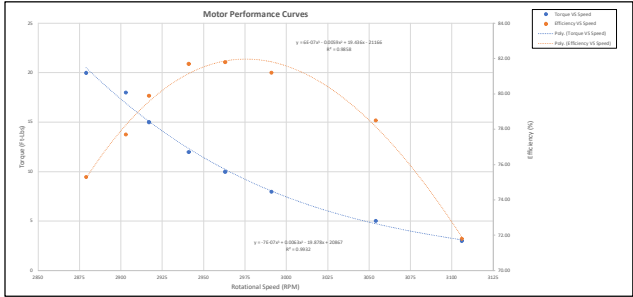
**Engineering Performance Test Report**  
**Performance Test #21 Number: 4**  
**Series Voltage (V): 12 (1 - 0.25)**

Series	Current (A)	Power (W)	Efficiency (%)	Speed (RPM)	Torque (ft-lb)	Current (A)	Power (W)	Efficiency (%)	Speed (RPM)	Torque (ft-lb)
1.99	3.375	40.5	28.1	6.5	12.05	40.15	1.51	2.38	40.95	
6.91	3.326	23.2	49.5	6.6	12.03	40.61	3.26	2.45	41.95	
6	3.292	20.1	74.3	6.6	12.09	40.39	4.64	3.28	42.35	
7.88	3.267	25.8	96.5	6.6	12.07	40.67	6.91	4.22	43.22	
10	3.258	32.4	100.2	6.7	12.08	40.24	7.59	6.2	43.39	
11.88	3.254	38.1	147.8	6.7	12.11	40.31	8.21	5.6	43.74	
14	3.251	45.4	179.3	6.7	12.04	40.34	11.01	6.67	43.85	



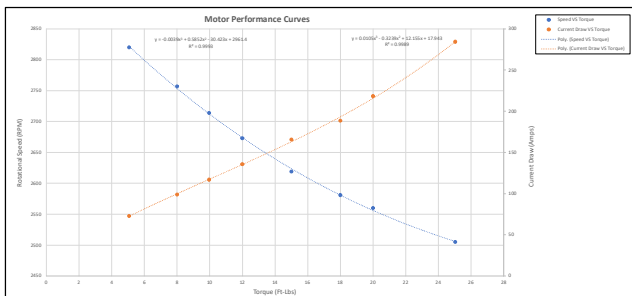
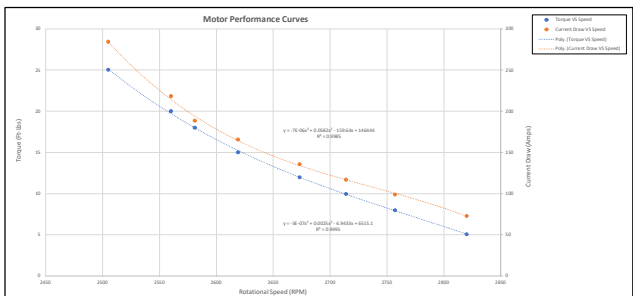
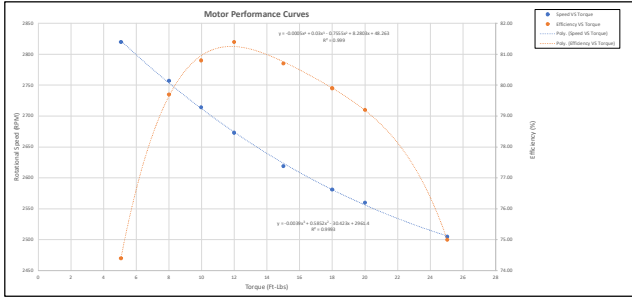
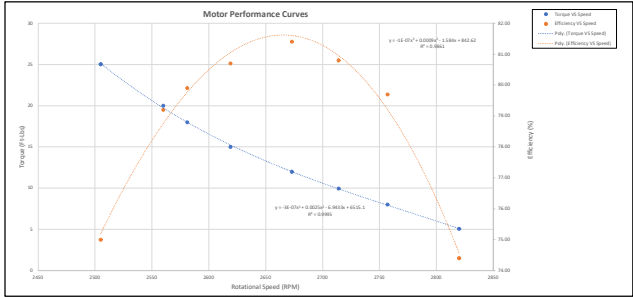
**Engineering Performance Test Report**  
 Performance Test #12 Number: 4  
 System Volume (V): 4L (1" x 0.25)

Test #	Rotational Speed (RPM)	Current (Amps)	Efficiency (%)	Speed (RPM)	Torque (ft-lbs)	Power (W)	Current (Amps)	Efficiency (%)	Speed (RPM)	Torque (ft-lbs)	Power (W)
1	1025	07.2	35	8.3	15.07	15.07	2.47	36	2.72	72.85	
2	1024	07.0	36	8.3	15.07	15.07	3.21	37	2.90	78.20	
3	2081	06.0	48.4	14.08	103.38	103.38	5.81	45.4	81.20		
4	2081	06.0	48.4	14.08	103.38	103.38	6.92	5.61	81.80		
5	2081	06.0	48.4	14.08	103.38	103.38	8.21	6.12	81.20		
6	2081	06.0	48.4	14.08	103.38	103.38	9.10	6.10	79.20		
7	2081	06.0	48.4	14.08	103.38	103.38	10.81	6.95	77.20		
8	2081	06.0	48.4	14.08	103.38	103.38	14.51	10.90	75.30		



**Engineering Performance Test Report**  
 Performance Test PFI Number: 4  
 System Volume (V): 10 (1" x 0.25)

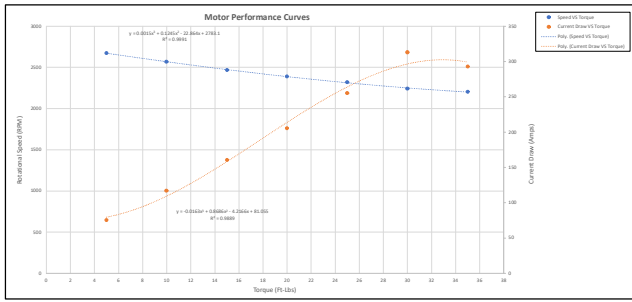
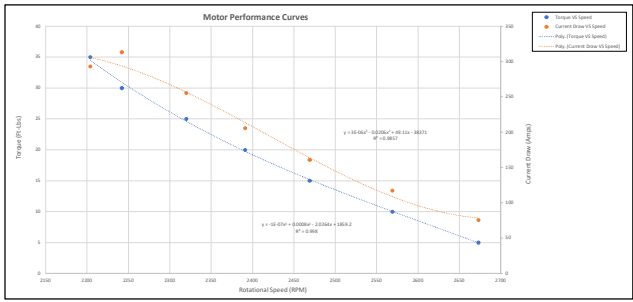
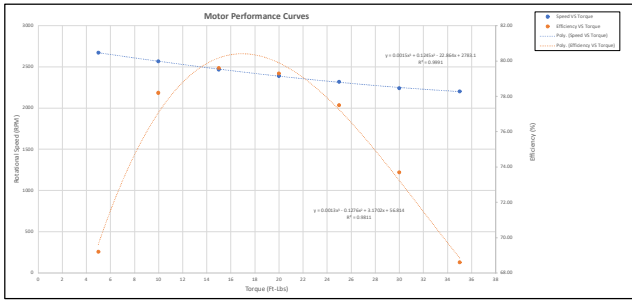
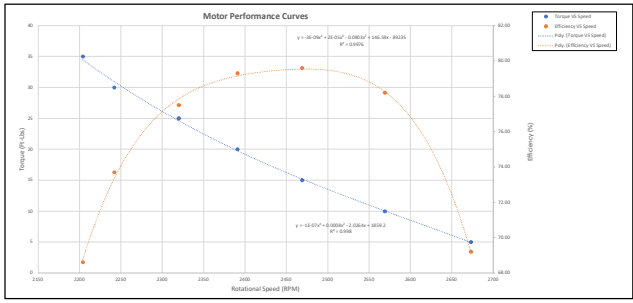
Time	Speed	Current	Power	Efficiency	Torque	Power	Efficiency	Torque	Power	Efficiency	Torque
5.00	2850	87.4	32.8	10.0	20.1	72.9	3.00	2.72	79.40		
8	2725	87	78.5	11	20.00	98.90	5.27	6.4	79.30		
9.96	2714	86.4	98.9	11.1	20.00	118.90	8.27	5.13	80.80		
13.99	2673	85.2	135.5	11.1	20.00	135.60	7.51	6.1	81.40		
15	2612	86	145.4	11.2	20.14	165.54	9.27	7.48	80.70		
17.98	2584	85.4	178.1	11.2	19.99	188.61	11.00	8.86	79.80		
20	2560	85.2	193.1	11.4	20.19	218.20	12.1	9.75	79.30		
25.00	2505	85.1	261	11.5	20.1	281.1	15.91	11.90	75.80		



**Engineering Performance Test Report**

Performance Spec #21 Number: 4  
 System Volume (V): 4L (1" x 0.25)

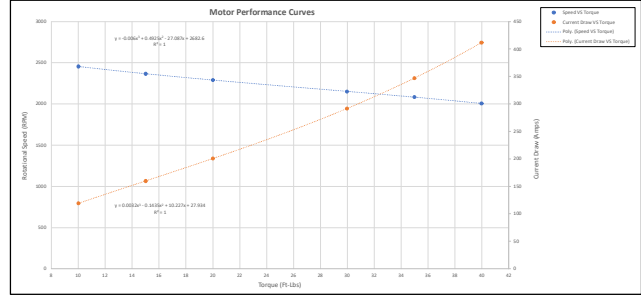
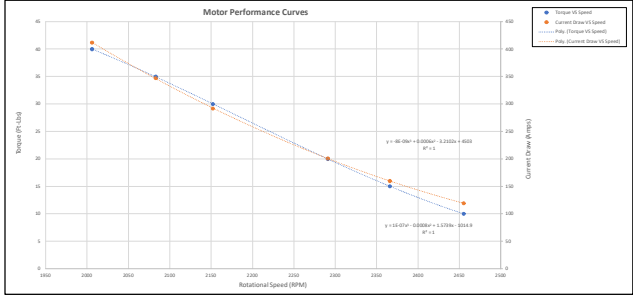
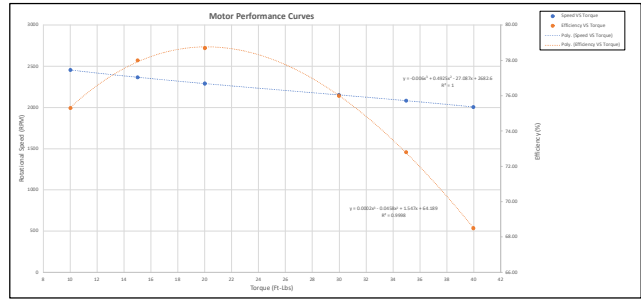
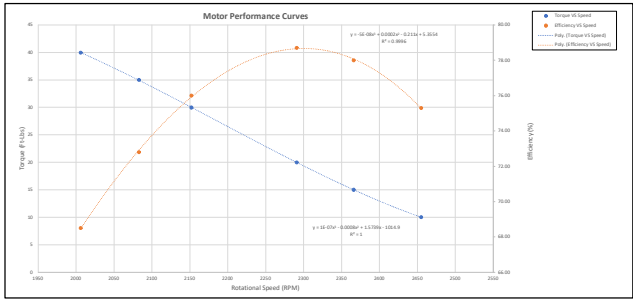
Time (s)	Speed (RPM)	Current (A)	Torque (ft-lb)	Efficiency (%)	Power (W)	Power (HP)	Power (kW)	Power (CV)
4.99	2073	07.5	50.8	11.5	25	33.6	3.67	2.54
5.97	2066	08.0	50.5	13.7	28.08	37.68	4.06	29.02
6.95	2062	08.2	100.7	18.8	28.05	37.65	4.05	29.02
7.93	2053	07.5	100.5	15.0	25.08	33.68	3.67	26.50
8.91	2032	08.6	200.4	14.1	24.88	33.58	3.62	26.30
9.89	2014	08.8	200.2	14.2	24.88	33.58	3.62	26.30
10	2004	05.5	201.9	14.4	25.04	33.84	3.64	26.50



**Engineering Performance Test Report**

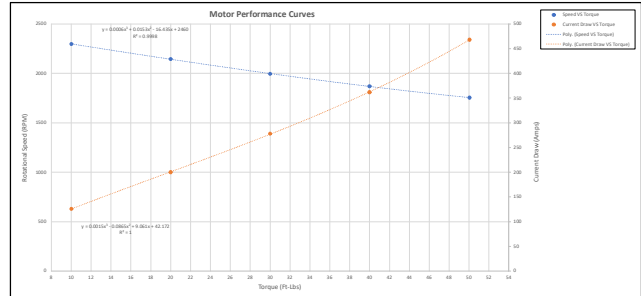
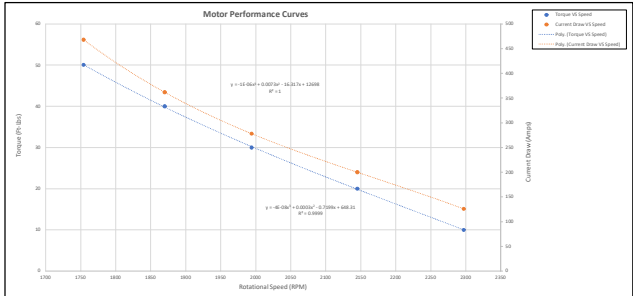
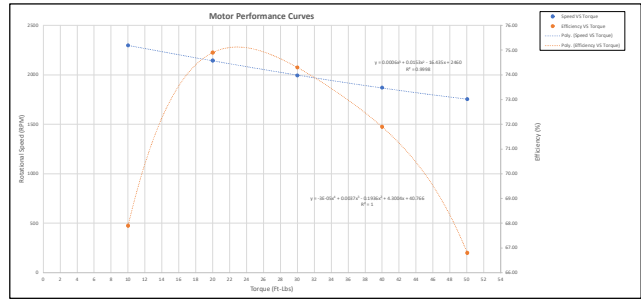
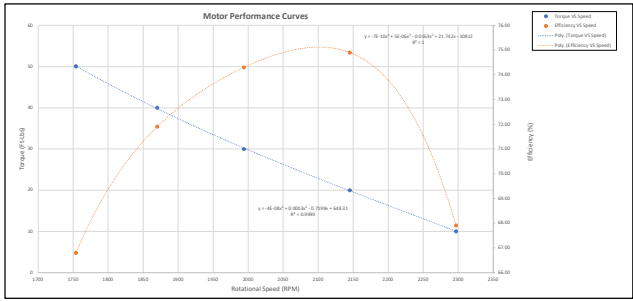
Performance Test #10 Number: 4  
 Series Voltage (V): 48 (1 - 0.25)

Test #	Series Voltage (V)	Series Current (A)	Series Power (W)	Series Resistance (Ω)	Series Inductance (mH)	Series Capacitance (μF)	Series Impedance (Ω)	Series Phase Angle (°)	Series Power Factor	Series Efficiency (%)
10.01	2.855	06.9	89.3	15.1	27.9	137.2	6.21	-4.68	0.97	75.35
10.02	2.866	06.9	129.5	15.2	29.86	139.76	6.67	-5.26	0.95	76.82
10.03	2.921	06.6	171	15.6	29.82	209.82	11.04	-8.72	0.92	76.25
10.04	3.023	06.2	202.9	15.9	29.77	292.67	16.21	-12.28	0.9	75.02
10.05	3.081	05.6	316.9	16.1	30.04	368.94	19.07	-13.87	0.87	72.82
10.06	3.096	05.2	381.2	16.4	30.04	612.74	22.21	-15.21	0.85	68.25



**Engineering Performance Test Report**  
**Performance Spec P01 Number: 4**  
**Series Voltage (V): 48 ( ± 0.25)**

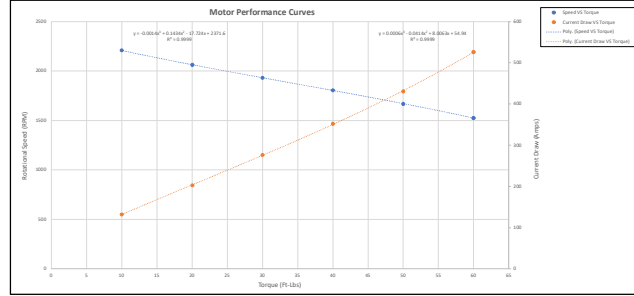
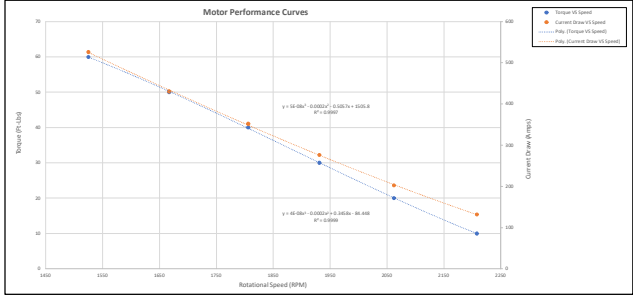
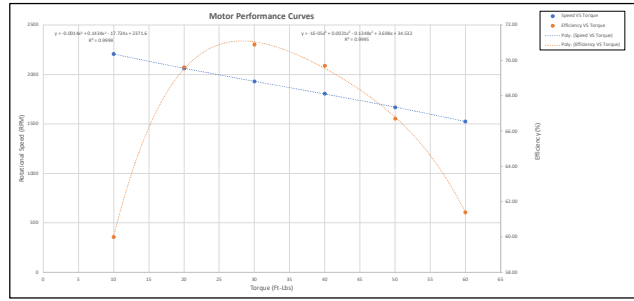
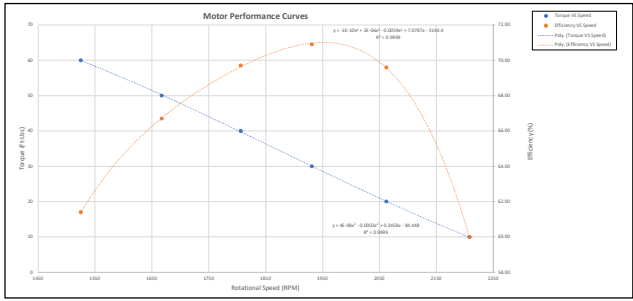
Series Voltage (V)	Series Current (A)	Series Power (W)	Series Torque (ft-lb)	Series RPM	Series Efficiency (%)	Series Loss (W)	Series Loss (%)
48.00	2.977	142.96	10.5	1700	65.00	77.50	53.50
48.00	2.645	126.72	10.5	1850	67.70	69.96	54.90
48.00	2.394	114.89	10.5	2000	69.80	62.95	56.10
48.00	1.870	90.72	10.5	2500	65.00	77.50	53.50
48.00	1.754	84.24	10.5	2600	65.00	77.50	53.50





**Engineering Performance Test Report**  
 Performance Test #21 Number: 4  
 Series Voltage (V): 48 (1 - 0.225)

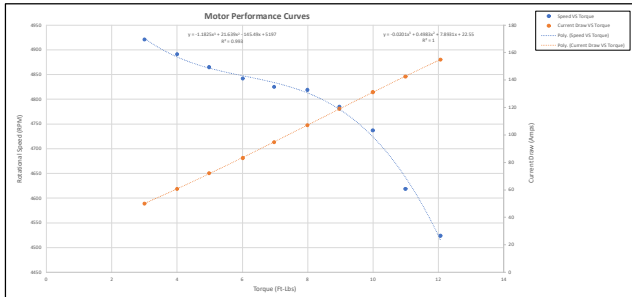
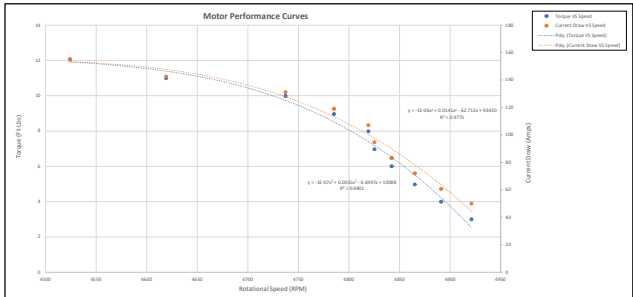
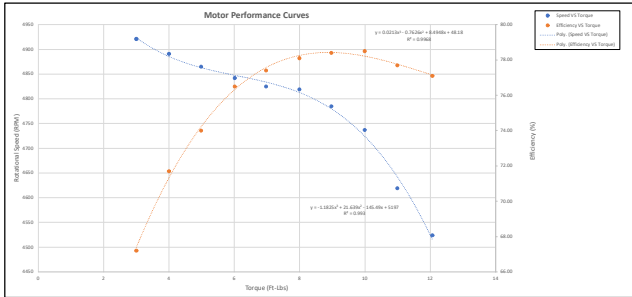
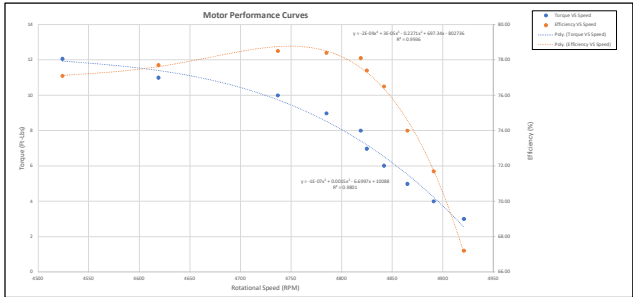
Series Voltage (V)	Series Current (A)	Series Power (W)	Series Resistance (Ω)	Series Inductance (mH)	Series Capacitance (μF)	Series Impedance (Ω)	Series Reactance (Ω)	Series Susceptance (S)	Series Admittance (S)
9.99	2.09	20.77	27.4	49.05	131.95	7	4.2	60.05	
20.92	4.04	85.3	133.1	98.7	269.81	14.1	7.95	119.82	
30.91	5.91	182.4	287.7	199.9	529.09	28.2	15.9	239.64	
40.89	7.78	318.7	409.7	300.1	798.18	42.3	23.8	359.47	
50.87	9.65	489.2	509.7	400.2	1067.27	56.4	31.7	479.30	
59.86	11.52	688.7	599.7	500.3	1336.36	70.5	39.6	599.13	



**Engineering Performance Test Report**

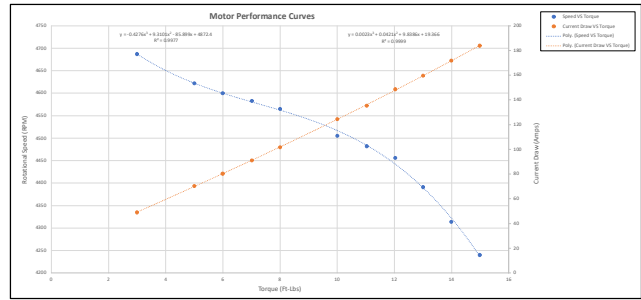
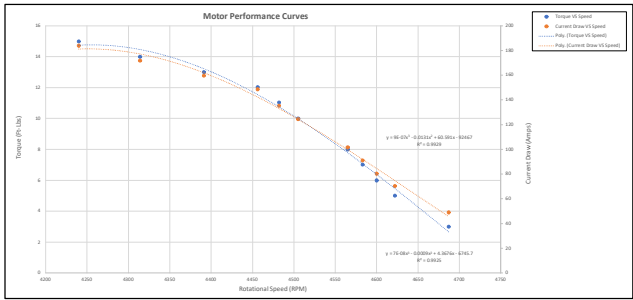
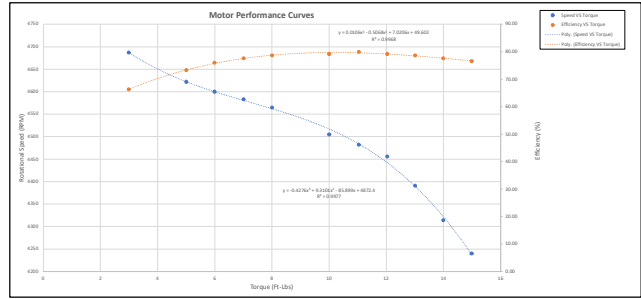
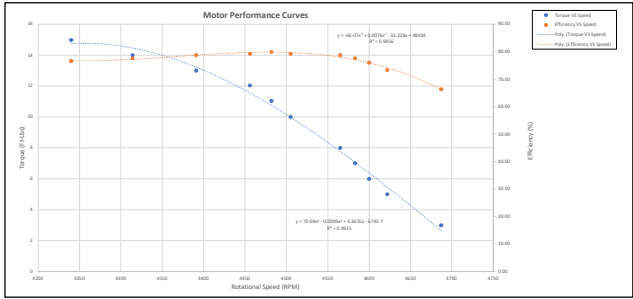
Performance Test #12 Number: 4  
Series Number: 12 (1 - 0225)

Test #	Series	Speed (RPM)	Current (Amps)	Power (Watts)	Torque (ft-lb)	Efficiency (%)	Temperature (°C)	Notes	
1	0021	71	43.1	0.8	0.07	50.07	41.0	2.92	67.25
4	0061	70.7	39.6	0.8	0.01	60.81	3.0	3.20	70.20
4.98	0062	70.3	40.2	0.8	0.01	72.21	6.24	6.44	76.20
6.91	0042	70	70.2	1.0	0.04	63.24	7.20	5.54	75.20
6.97	0043	69.6	67.8	0.9	0.03	58.72	8.24	6.42	77.40
7.98	0018	69.3	60.2	0.8	0.06	50.18	8.20	7.20	78.20
8.97	0793	68.8	113.1	1.0	0.01	113.11	10.41	8.12	78.40
9.99	1172	68.4	148.1	1.0	0.01	148.11	11.40	9.00	78.20
10.99	0612	68	110.4	10.1	0.01	110.41	12.41	9.04	77.20
12.00	0524	67.4	101.1	10.1	0.04	101.04	13.40	10.00	77.80



**Engineering Performance Test Report**  
 Performance Test #1 Number: 4  
 System Volume (V): 17 (10/2020)

Test #	Time (min)	Current (A)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)	Power (W)	Power (HP)	Power (kW)	Power (kVA)
2.99	4.97	71.1	41	10.7	8.05	49.05	4.02	2.57	49.35
3	4.92	70.0	42.4	10.8	8.03	49.41	4.03	2.57	49.35
3.99	4.92	70.1	42.3	10.9	8.02	49.32	4.02	2.57	49.35
7.91	4.93	69.9	42.3	10.9	7.99	49.09	3.99	2.57	49.35
8	4.95	69.5	42.4	10.9	8.09	49.49	4.04	2.57	49.35
8.91	4.92	69.7	42.4	11	8.04	49.44	4.04	2.57	49.35
11.99	4.92	69.3	42.4	11	7.99	49.39	4.03	2.57	49.35
12.99	4.95	69.3	42.4	11.1	8.11	49.61	4.06	2.57	49.35
14	4.93	67.4	42.4	11.1	8.01	49.61	4.06	2.57	49.35
14.99	4.94	67	42.4	11.2	7.94	49.74	4.07	2.57	49.35
14.99	4.95	66.1	42.4	11.3	7.96	49.81	4.07	2.57	49.35

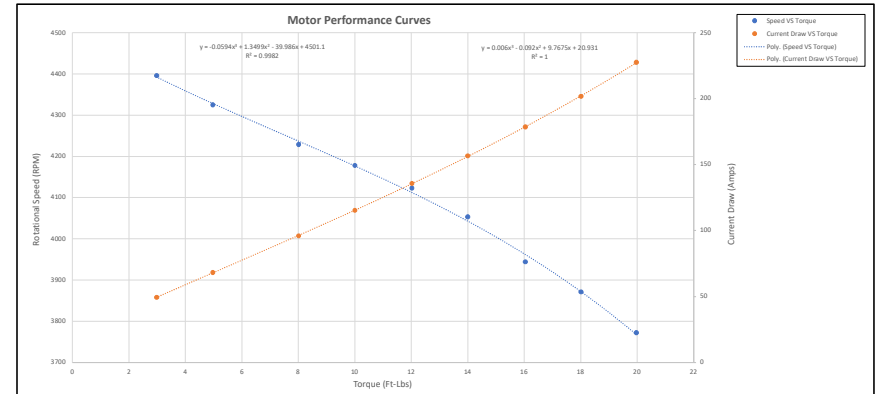
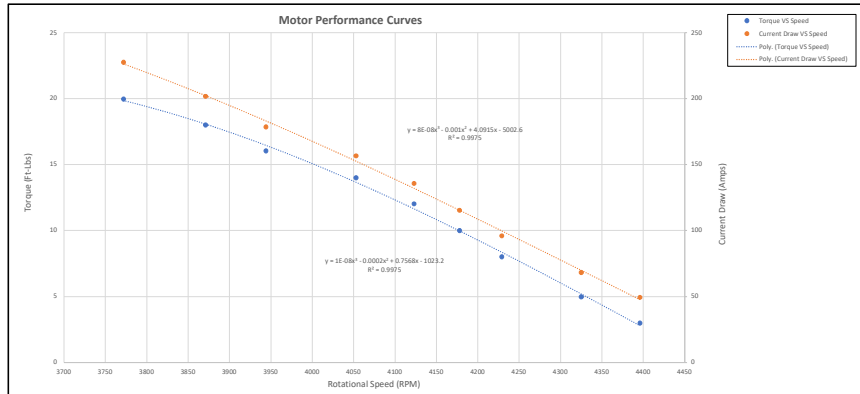
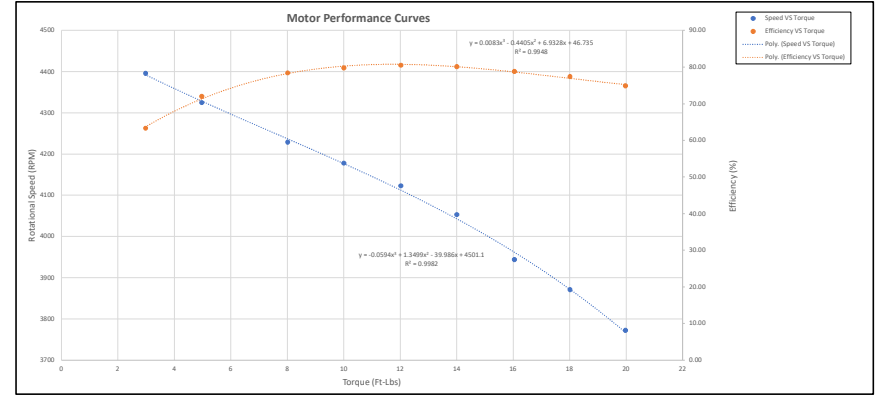
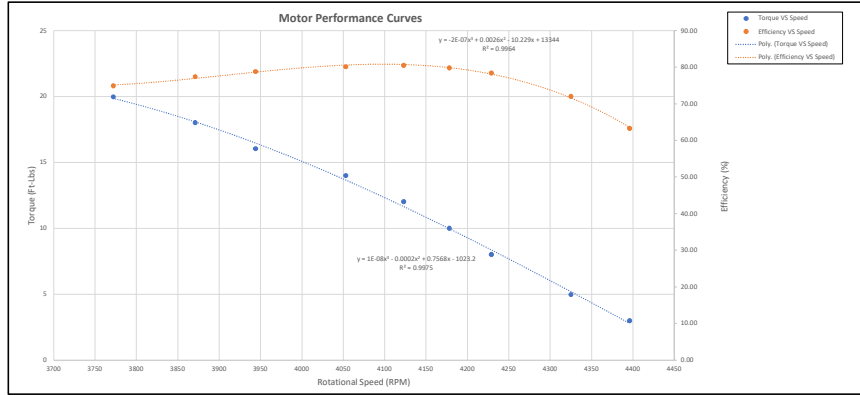


**Engineering Performance Test Report**

Performance Spec (PS) Number: 4

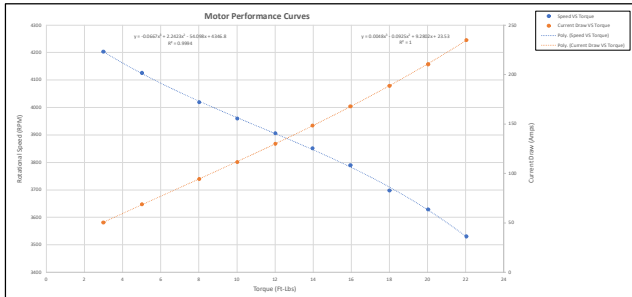
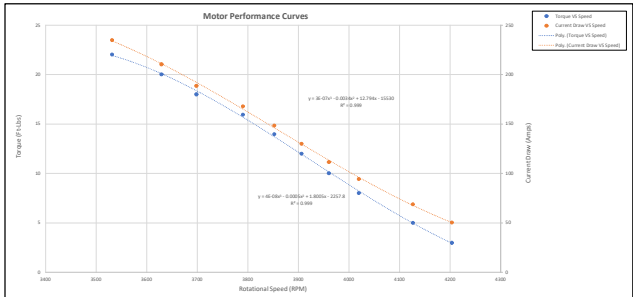
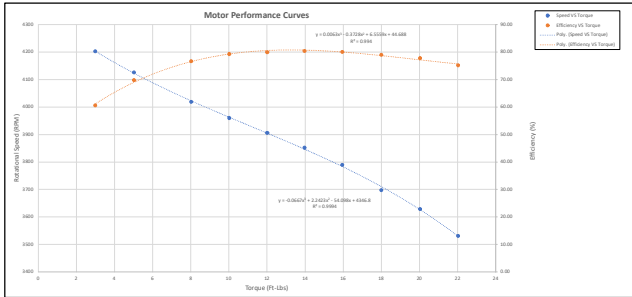
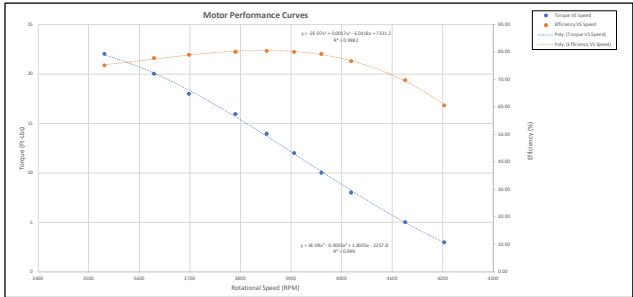
System Voltage (V): 72 (V ± 0.030)

Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
2.98	4396	71.1	39.3	14.6	10.05	49.35	3.94	2.5	63.30
4.97	4325	70.6	38.8	14.7	10.05	48.85	5.69	4.1	72.00
8.01	4329	69.7	35.9	14.7	10.05	45.95	8.22	6.45	78.40
10	4178	69.1	105.4	14.8	9.98	115.38	9.96	7.95	79.80
12.02	4123	68.4	125.6	14.9	10.11	135.71	11.72	9.43	80.50
14	4053	67.6	146.5	14.9	10.12	156.62	13.49	10.81	80.10
16.04	3944	66.8	168.5	15	10.07	178.57	15.29	12.04	78.80
18.01	3871	66	191.7	15.1	10.04	201.74	17.16	13.28	77.40
19.97	3772	65	217.4	15.2	10.11	227.51	19.15	14.34	74.90



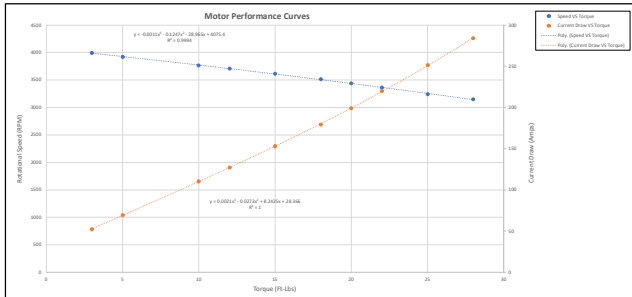
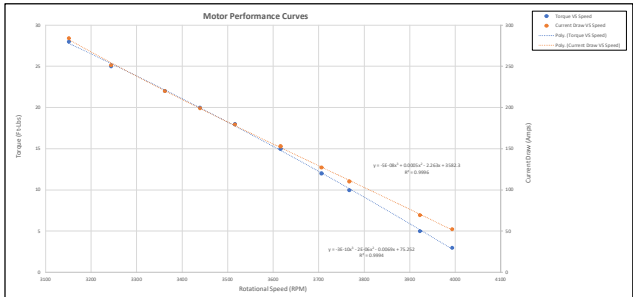
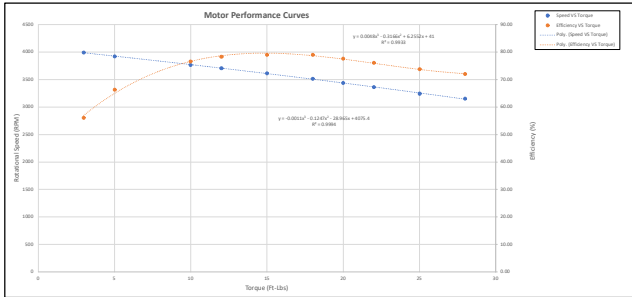
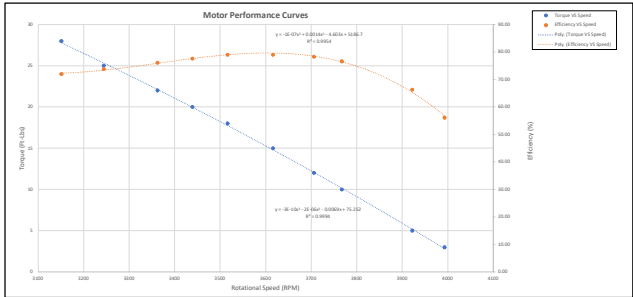
**Engineering Performance Test Report**  
**Performance Test #12 Number: 4**  
**Series Values (V, I, P) (0-200)**

Series	Value	Series	Value	Series	Value	Series	Value	Series	Value	Series	Value
1	2.09	4373	71.2	38.4	17.8	12.05	58.95	3.95	2.39	60.85	
2	3.92	4326	70.6	39.7	17.7	12.04	59.71	3.95	2.39	60.85	
3	8.02	4312	69.8	40.4	17.8	12.04	58.44	7.09	5.13	76.26	
4	10.02	3905	69.3	45.2	17.9	12.04	113.54	6.51	7.95	79.32	
5	12.01	3906	68.7	118.1	18	12	139.1	11.14	8.93	80.89	
6	14.01	3912	68.1	118.1	18.1	12.05	148.51	12.25	10.25	86.62	
7	15.95	1920	67.4	153.8	18.3	12.11	167.91	14.17	11.51	88.35	
8	18	1918	66.6	176.1	18.4	12.11	188.61	16.08	12.68	91.61	
9	20.01	1923	65.8	118.4	18.5	12.06	218.84	17.81	14.84	92.86	
10	22.01	1931	65.1	222.8	18.7	12.1	231.9	18.61	16.81	95.28	



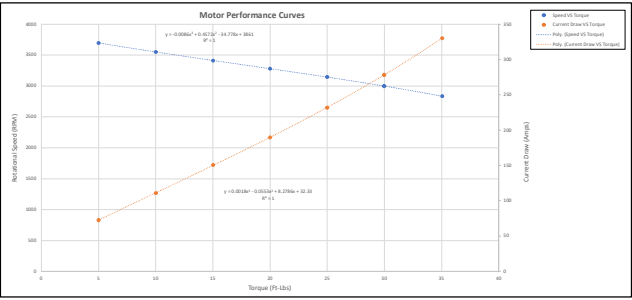
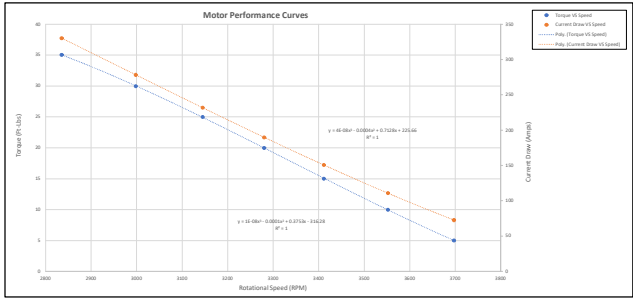
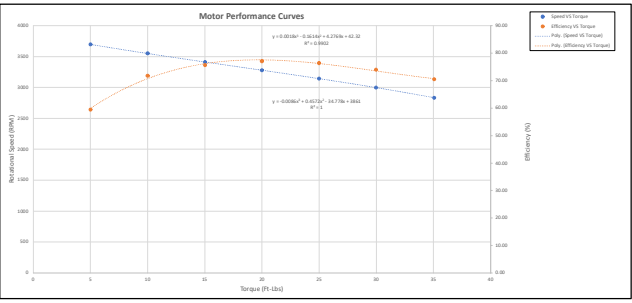
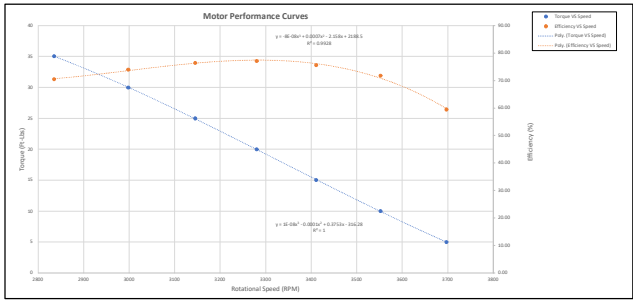
**Engineering Performance Test Report**  
**Performance Spec PSI Number: 4**  
**Series Number: PS\_17\_11\_01201**

Series	PSI	Current (Amps)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)	Current (Amps)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)
2.98	1092	27.2	374	23.7	55.05	53.95	4.05	2.27	58.35
3.95	1092	29.7	365	24	55.05	69.32	5.95	3.75	68.82
4.98	1102	38.4	353	24.2	55.05	109.39	5.25	2.48	76.82
12.05	1105	68.8	112.1	24.4	55.07	127.17	10.81	8.48	78.32
15	1016	88	108	24.4	55.05	153.05	18.07	15.33	79.82
18	1116	82	106.2	24.4	55.05	173.31	12.26	11.05	79.82
19.99	1492	68.3	183.1	25	55.07	193.17	16.87	13.05	77.82
22.98	1492	68.3	201	25.1	55.01	228.01	16.26	14.05	78.32
24.98	1484	66.4	236.4	25.4	54.98	251.98	20.51	15.44	78.82
27.99	1351	63.3	285.1	25.6	55.02	284.12	23.51	18.79	77.82



**Engineering Performance Test Report**  
 Performance Test #12 Number: 4  
 System Volume (V): 12 (1 - 0.220)

Test #	Speed (RPM)	Torque (FT-LB)	Efficiency (%)	Current (Amps)	Power (Watts)	Power (Horsepower)	Power (Kilowatts)	Power (Megawatts)	Power (Gigawatts)
1	1097	29.7	52.8	35	2055	2.81	2.81	2.81	2.81
2	1024	39.1	59.5	33.4	2098	2.85	2.85	2.85	2.85
3	1002	34.1	68.2	30.9	2011	2.72	2.72	2.72	2.72
4	1000	39.0	69.0	30.4	2056	2.79	2.79	2.79	2.79
5	1000	34.5	65.4	28.8	1936	2.64	2.64	2.64	2.64
6	1000	29.8	68.0	26.2	1806	2.45	2.45	2.45	2.45
7	1000	24.9	64.5	23.3	1606	2.17	2.17	2.17	2.17
8	1000	20.8	61.0	20.4	1396	1.89	1.89	1.89	1.89
9	1000	15.9	57.1	17.5	1186	1.61	1.61	1.61	1.61
10	1000	10.9	53.2	14.6	976	1.33	1.33	1.33	1.33



**Engineering Performance Test Report**  
 Performance Test #12 Number: 4  
 System Voltage (V): 12 (1 - 0.020)

Test #	Time (s)	Current (A)	Power (W)	Speed (RPM)	Torque (ft-lb)	Efficiency (%)
4.00	3375	25.1	61.4	40.0	29.05	93.25
4.00	3390	25.0	60.5	40.0	29.05	93.25
14.00	3382	25.0	60.5	40.0	29.05	93.25
20.00	3390	25.0	60.5	40.0	29.05	93.25
25.00	3382	25.0	60.5	40.0	29.05	93.25
25.00	3390	25.0	60.5	40.0	29.05	93.25
35.00	3382	25.0	60.5	40.0	29.05	93.25
35.00	3390	25.0	60.5	40.0	29.05	93.25
45.00	3382	25.0	60.5	40.0	29.05	93.25
45.00	3390	25.0	60.5	40.0	29.05	93.25

