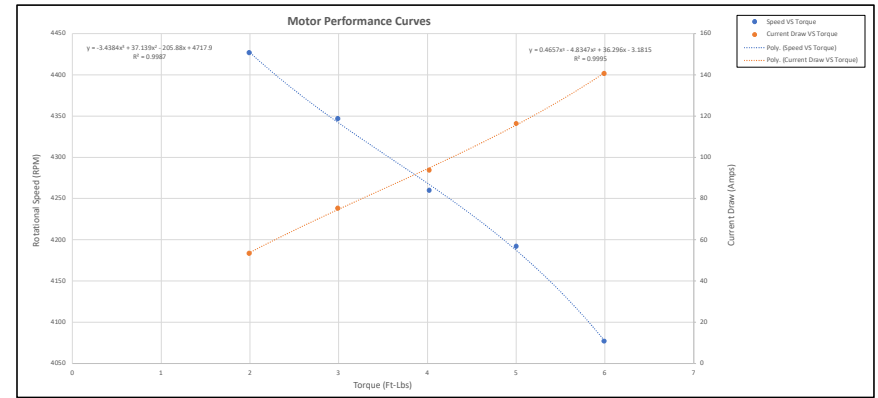
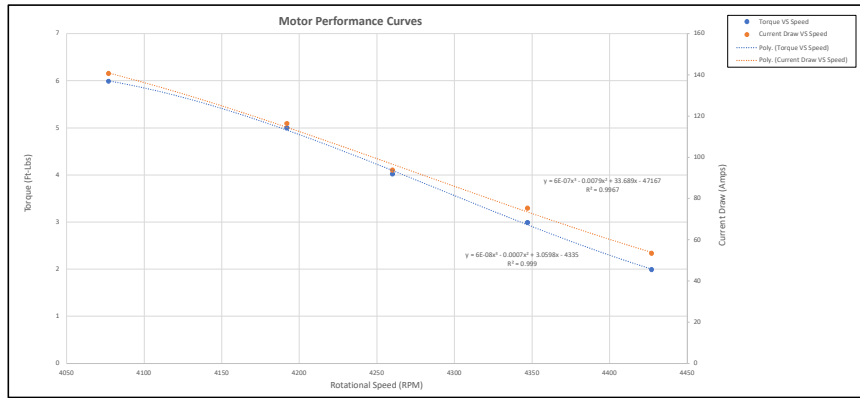
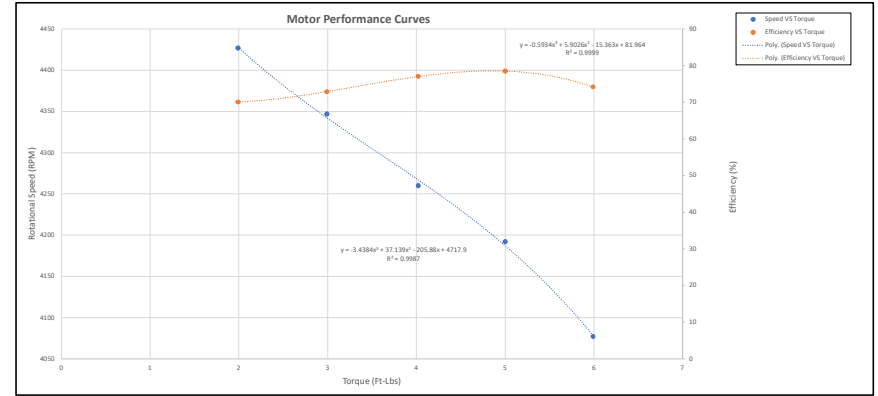
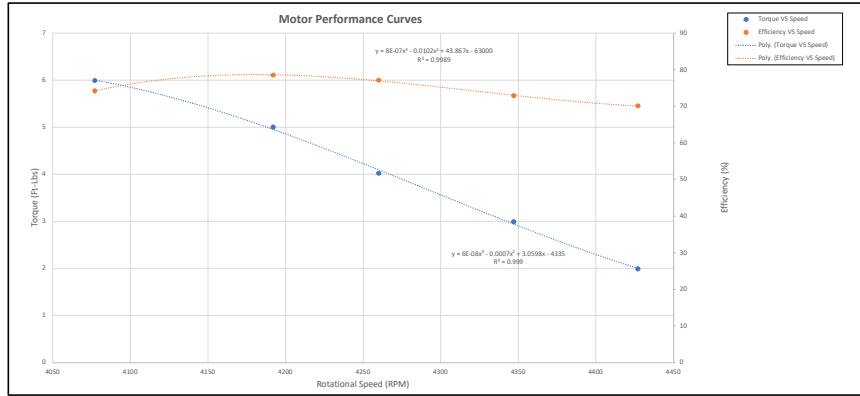


Engineering Performance Test Report

Performance Spec (PS) Number: 69
 System Voltage (V): 36 - (1" ± 0.015)

Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amper)	Field Voltage (Volts)	Field Current (Amper)	Total Current (Amper)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
1.99	4427	35.2	50.4	3.1	2.99	53.39	2.39	1.68	70.1
2.99	4347	34.9	72.3	3.1	2.99	75.29	3.4	2.48	72.5
4.02	4260	34.6	90.8	3.1	3.95	93.75	4.23	3.26	77.1
5	4192	34.3	113.4	3.1	3.01	116.41	5.22	3.99	78.5
5.99	4077	33.9	137.7	3.1	2.97	140.67	6.27	4.65	74.2

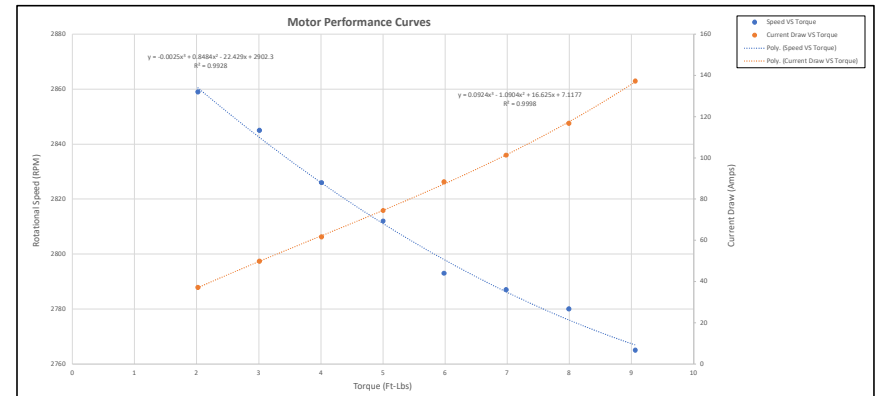
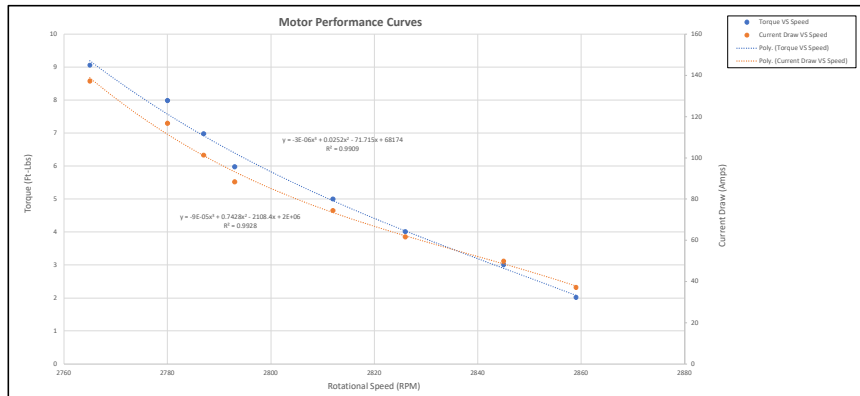
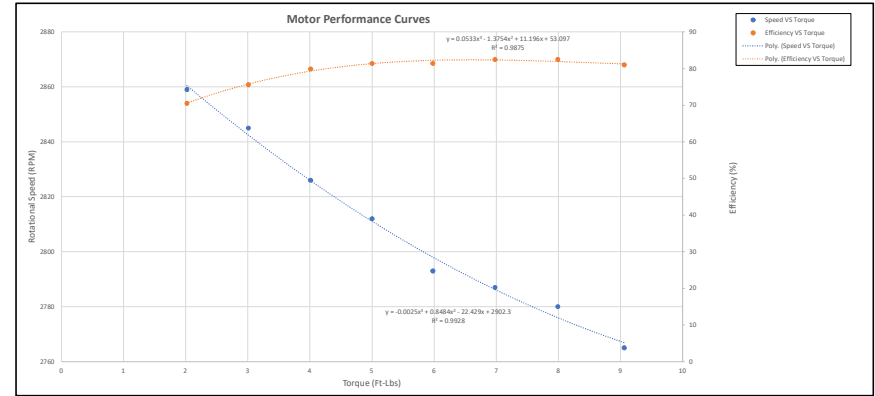
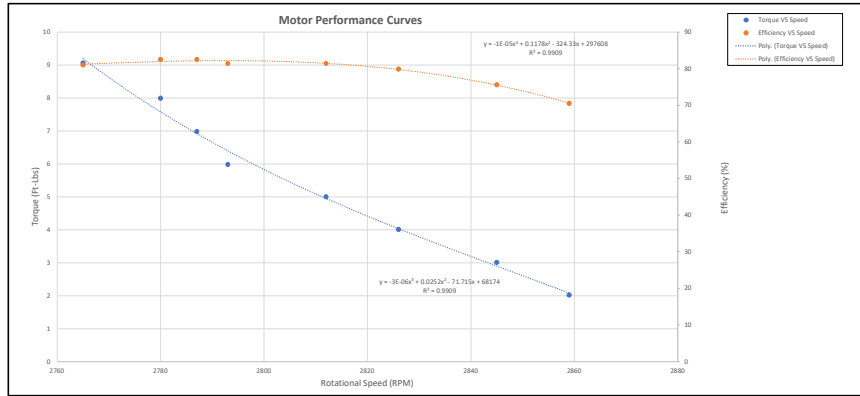


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 36 - (± 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 (%)
2.02	2859	35.5	32	5.2	5.1	37.1	1.56	1.11	70.5
3.01	2845	35.3	44.8	5.2	5.09	49.89	2.16	1.63	75.6
4.01	2826	35.1	56.5	5.2	5.14	61.64	2.7	2.15	79.8
5	2812	35	69.4	5.3	5.04	74.44	3.29	2.68	81.4
5.98	2793	34.7	83.1	5.3	5.19	88.29	3.91	3.18	81.4
6.98	2787	34.5	96.3	5.3	4.99	101.29	4.49	3.77	82.5
7.99	2780	34.3	111.7	5.3	5.05	116.75	5.17	4.26	82.5
9.06	2765	34	132.2	5.3	5.04	137.24	6.05	4.9	81

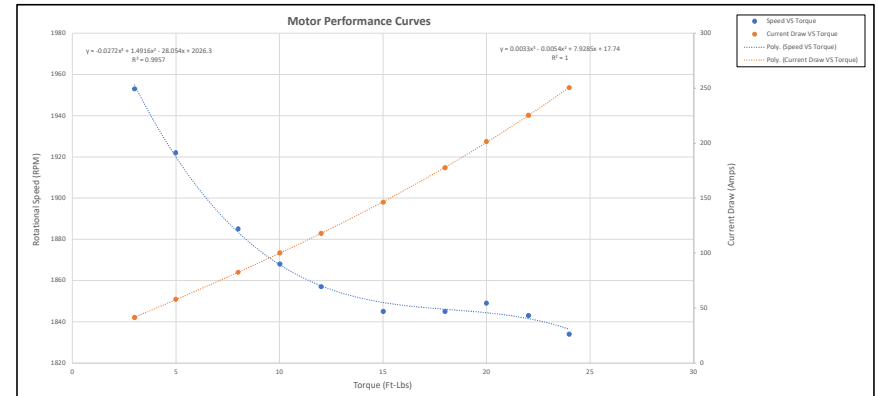
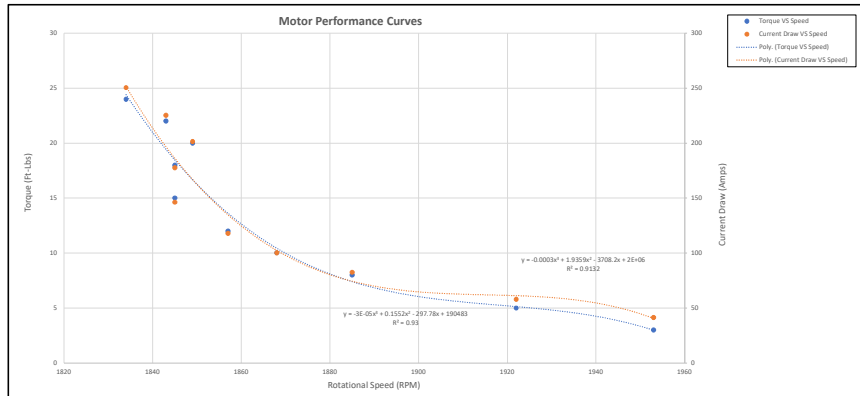
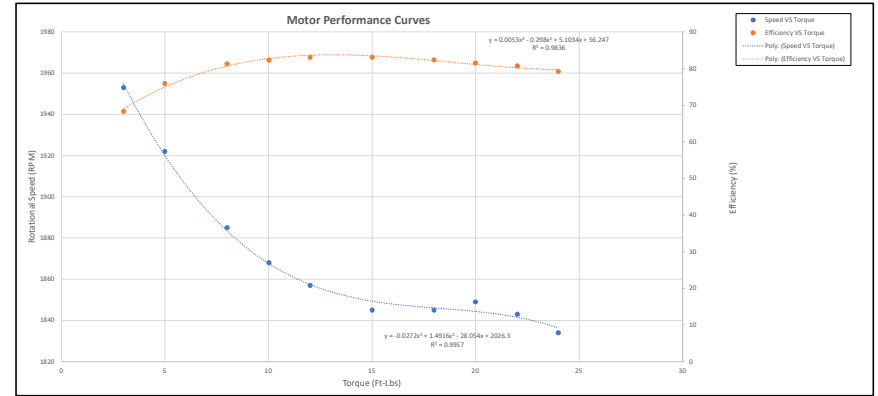
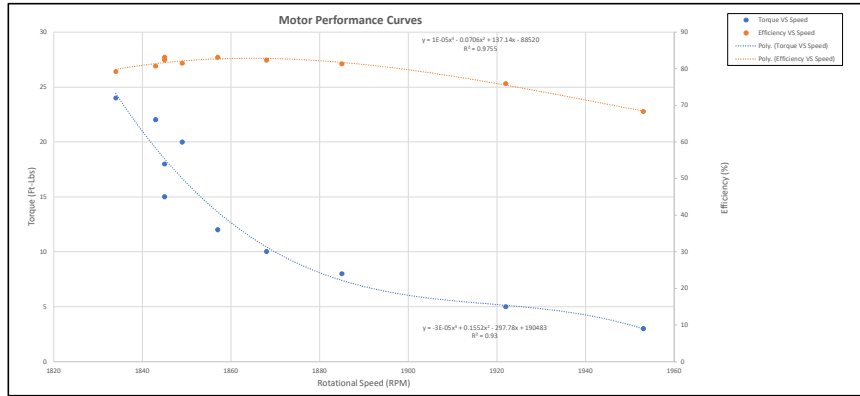


Engineering Performance Test Report

Performance Spec (PS) Number: 69

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 (%)
3	1953	35.5	31.3	10.02	10.02	41.32	1.63	1.12	68.3
4.99	1922	35.3	47.8	10.8	10.11	57.91	2.41	1.81	75.0
8	1885	34.9	72.4	10.8	10.11	82.51	3.53	2.87	81.3
10.02	1868	34.6	90.2	10.8	9.96	100.16	4.33	3.56	82.3
12.01	1857	34.3	107.9	10.9	10.05	117.95	5.11	4.25	83.1
15.01	1845	33.9	136.3	10.9	9.96	146.26	6.34	5.27	83.1
17.99	1845	33.5	167.7	10.9	9.98	177.68	7.67	6.32	82.4
19.99	1849	33.1	191.4	11	10.03	201.43	8.63	7.04	81.5
22.02	1843	32.7	215	11	10.34	225.34	9.58	7.73	80.7
23.99	1834	32.4	240.3	11	10.21	250.51	10.57	8.38	79.2

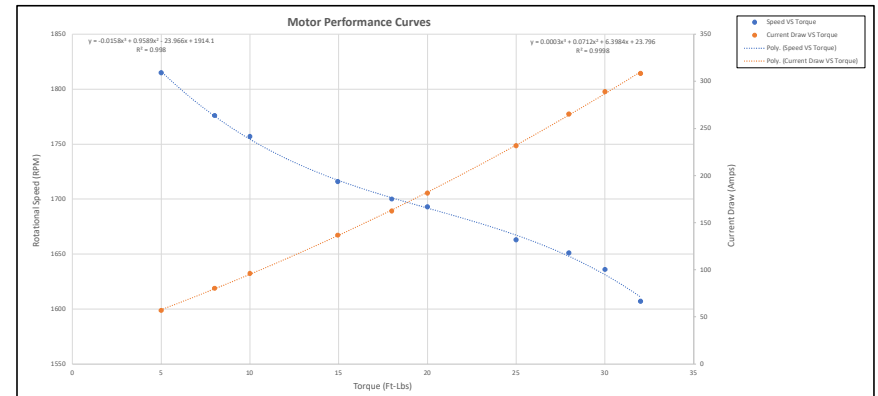
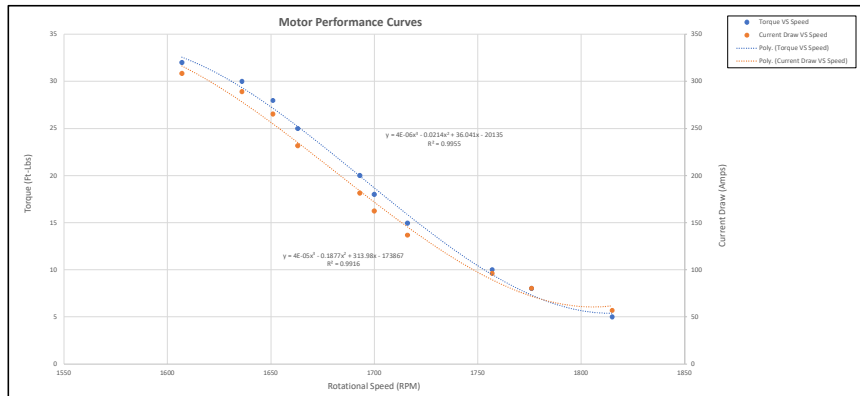
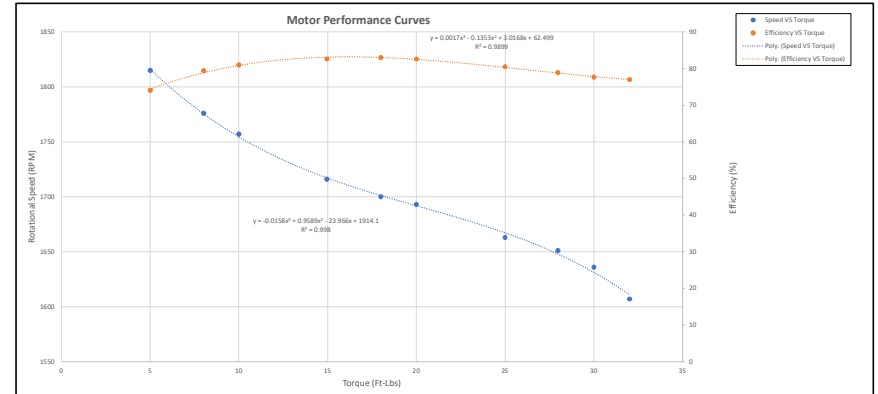
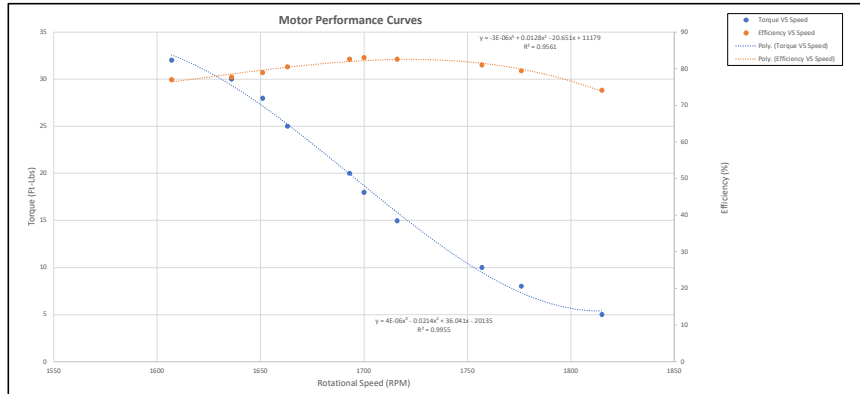


Engineering Performance Test Report

Performance Spec (PS) Number: 69

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 (%)
5	1815	35.3	44.8	13.2	12.03	56.83	2.33	1.73	74.1
8.01	1776	35	68.2	13.7	12.12	80.32	3.41	2.71	79.4
10	1757	34.7	84.1	13.3	11.97	96.07	4.13	3.34	81
14.95	1716	34.1	124.8	13.4	11.89	136.69	5.92	4.89	82.6
17.99	1700	33.7	150.5	13.4	11.91	162.41	7.02	5.82	83
20	1693	33.4	169.4	13.5	12.11	181.51	7.81	6.45	82.6
24.99	1663	32.7	219.7	13.5	12.04	231.74	9.83	7.91	80.5
27.97	1651	32.2	253.4	13.6	11.92	265.32	11.14	8.79	78.9
30	1636	31.8	277	13.7	11.99	288.99	12.04	9.35	77.7
32.01	1607	31.5	296.3	13.7	12.04	308.34	12.73	9.8	77

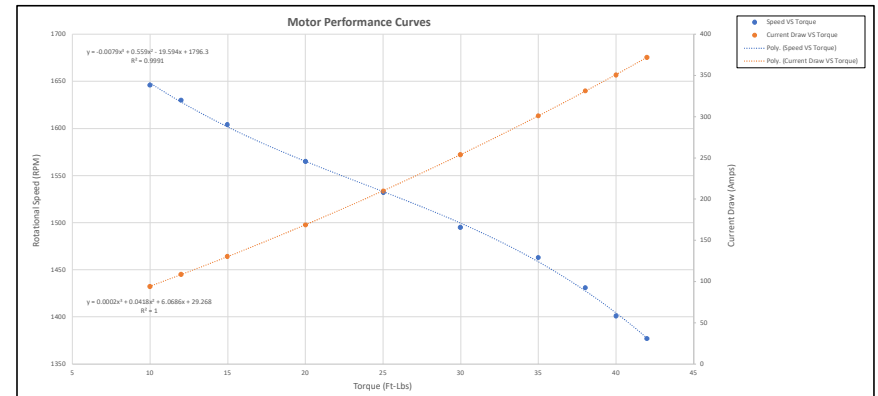
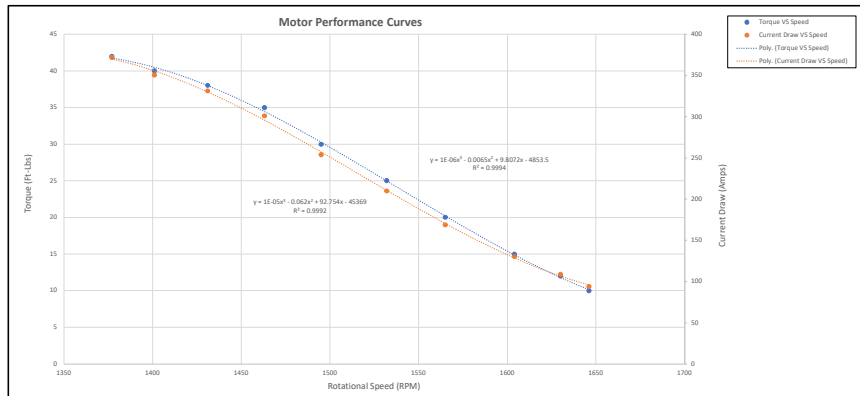
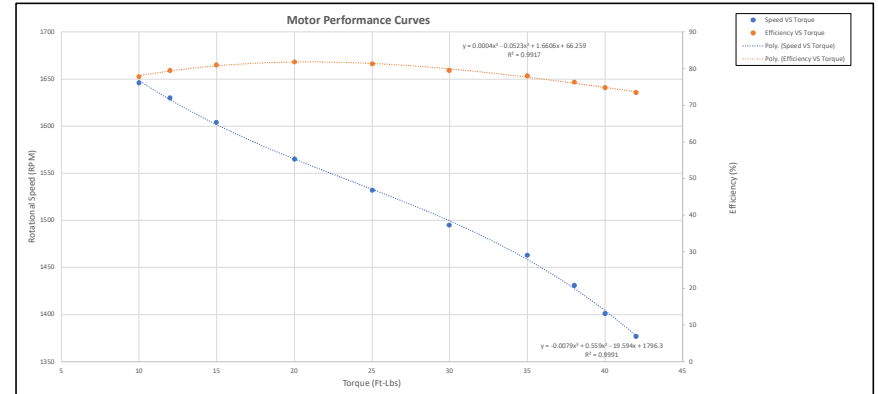
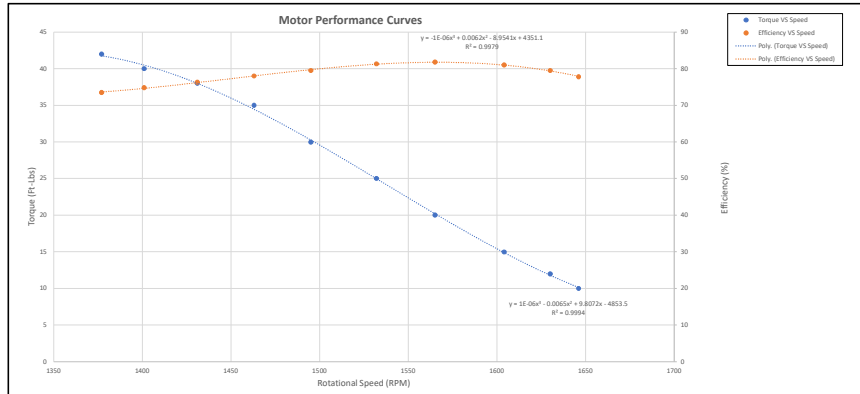


Engineering Performance Test Report

Performance Spec (PS) Number: 69

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 (%)
9.99	1646	34.8	78.9	16.9	14.99	93.89	4.02	3.13	77.8
11.99	1636	34.6	93.5	17	15.14	108.64	4.66	3.71	79.5
14.97	1604	34.2	115.5	17.81	15.05	130.55	5.65	4.57	81
20.01	1565	33.7	153.7	17.2	15.06	168.76	7.28	5.96	81.8
25.02	1532	33	195	17.3	14.84	209.84	8.98	7.3	81.3
29.97	1495	32.4	238.9	17.5	15.13	254.03	10.73	8.53	79.5
34.99	1463	31.7	285.8	17.6	15.21	301.01	12.5	9.74	78
38.02	1431	31.2	316.2	17.7	15.17	331.37	13.58	10.36	76.3
40	1401	30.9	335.8	17.8	14.89	350.69	14.27	10.07	74.8
41.99	1377	30.6	356.8	17.9	15.18	371.98	14.98	11.01	73.5

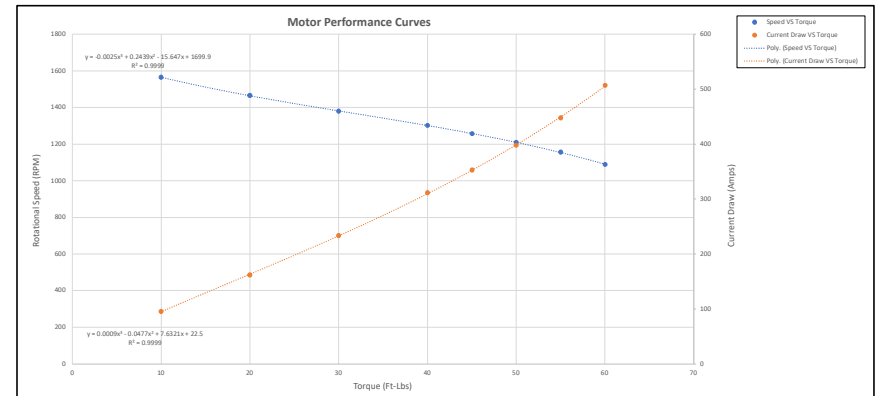
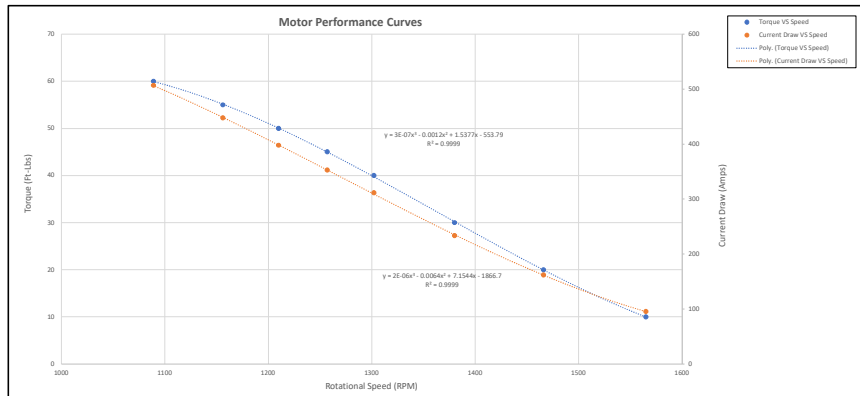
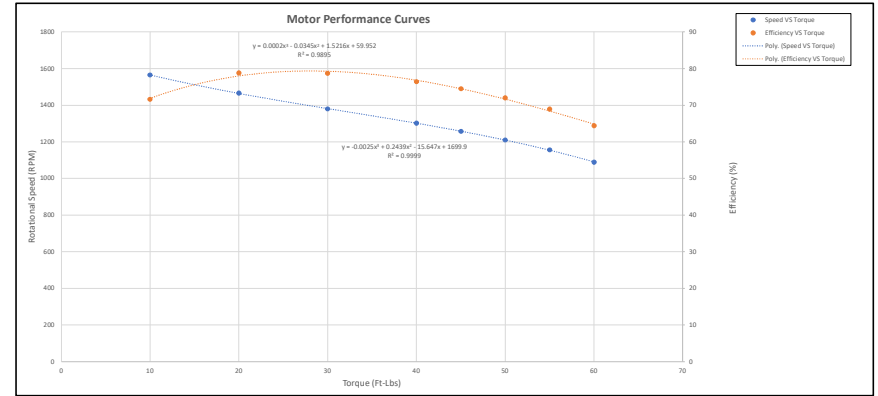
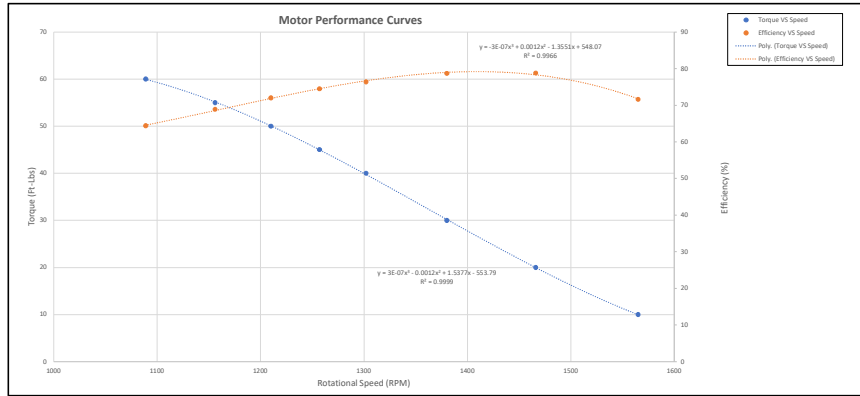


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 36 - (1 ± 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 (%)
9.98	1565	34.9	75.3	23.6	20.07	95.37	4.15	2.98	71.6
19.99	1466	33.9	141.9	23.9	19.99	161.89	7.06	5.58	78.6
29.99	1380	32.7	213.7	24.2	19.81	233.51	10.02	7.88	78.7
40.01	1302	31.6	291.3	24.5	20.05	311.35	12.99	9.92	76.4
45.03	1257	31	332.7	24.8	20.1	352.8	14.48	10.78	74.5
50	1210	30.2	378.1	25.1	19.83	397.93	15.99	11.052	72
55.01	1156	29.5	428.1	25.3	19.56	447.66	17.59	12.11	68.9
60.02	1089	28.6	487.1	25.6	19.85	506.95	19.34	12.44	64.4

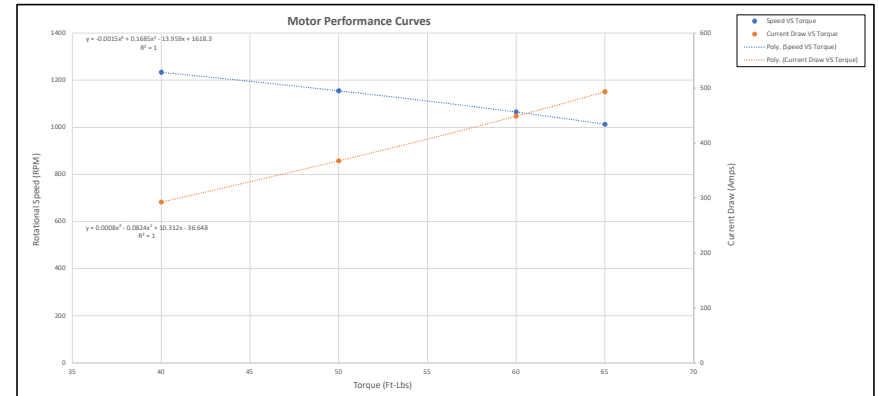
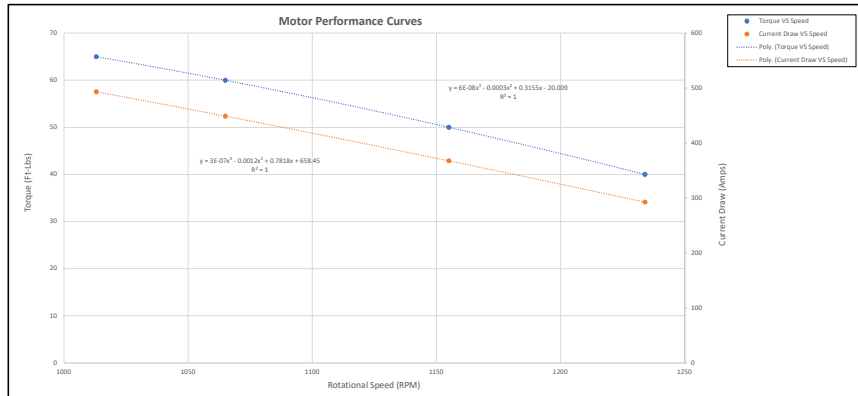
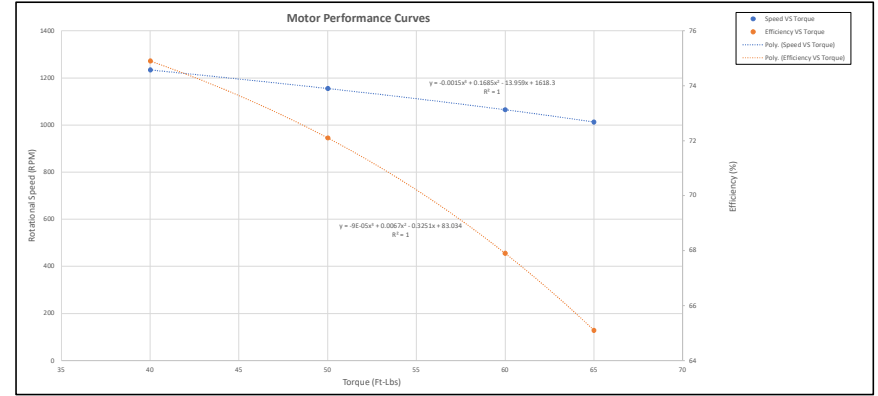
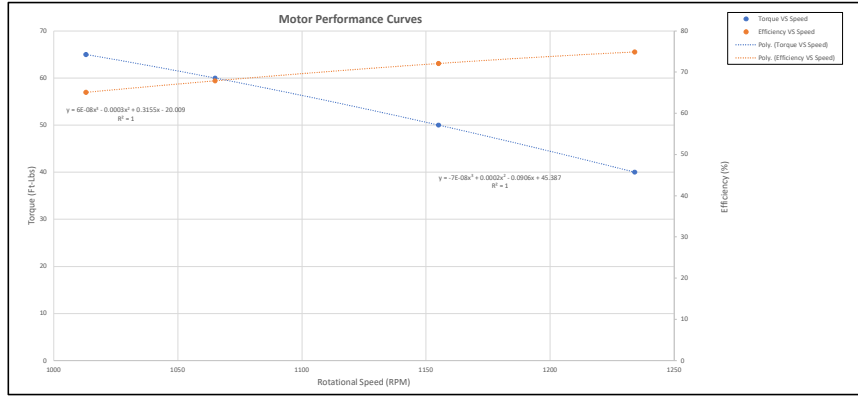


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 36 - (1 * 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 (%)
40.01	1234	32	267.1	31.9	25.4	292.5	12.54	9.4	74.9
50.01	1155	30.8	302.5	32.6	25.14	367.64	15.25	11	72.1
60	1085	29.6	433.6	33.1	25.33	448.93	17.92	12.17	67.9
65	1013	28.9	468.4	33.7	24.97	493.37	19.26	12.54	65.1

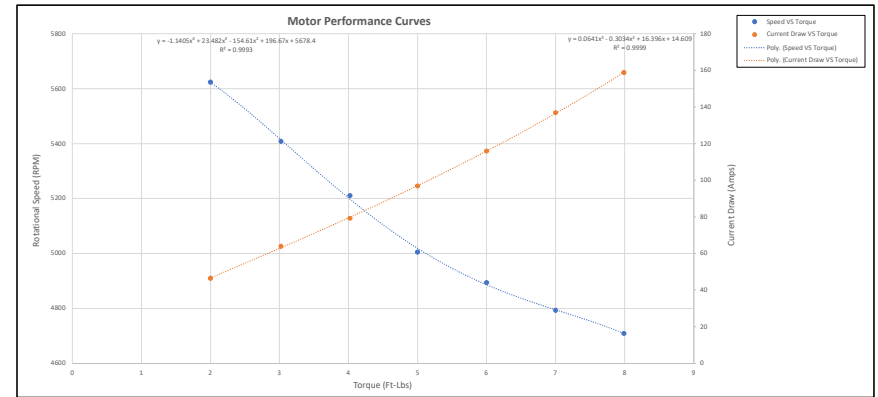
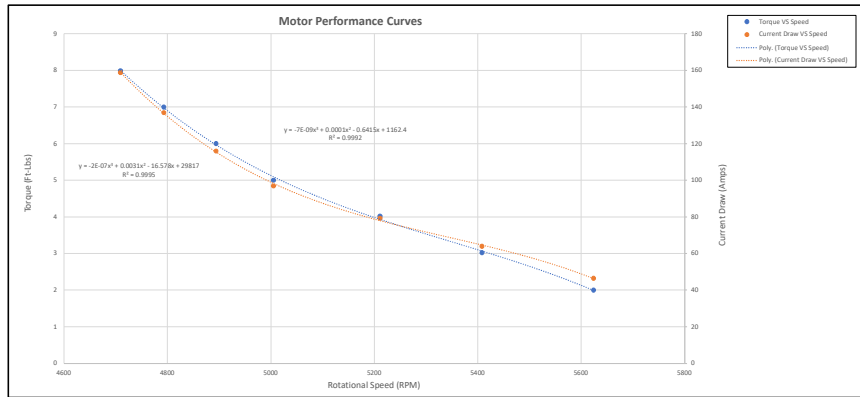
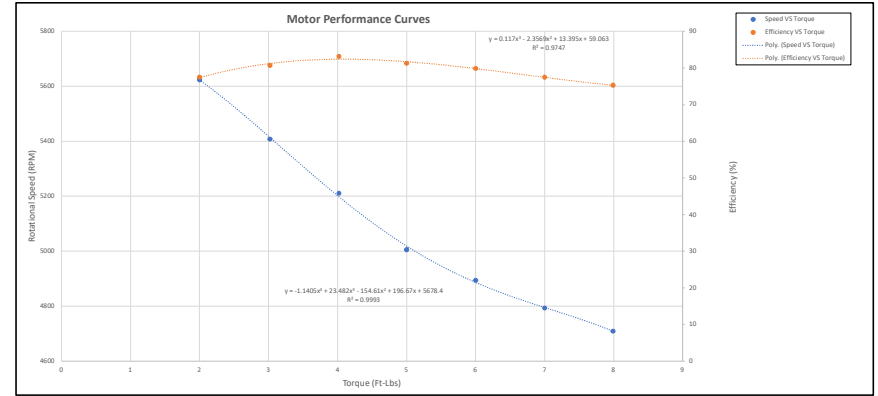
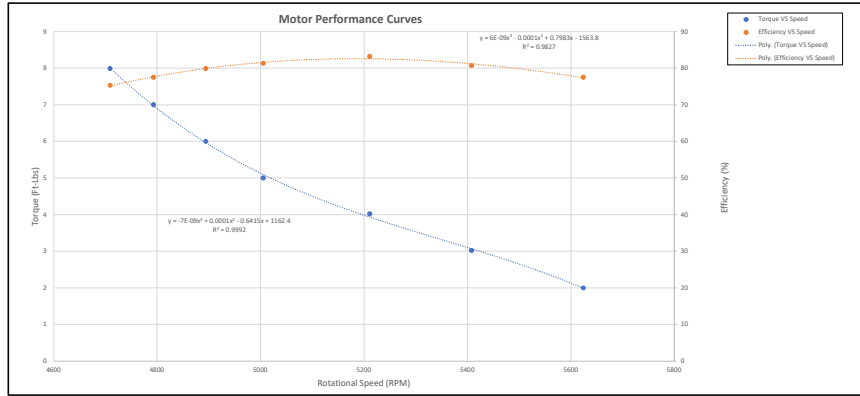


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 48 - (I² * 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 (%)
2	5624	47.3	43.4	3.8	3.02	46.42	2.77	2.15	77.5
3.02	5408	47	61	3.8	2.94	63.94	3.85	3.11	80.2
4.02	5211	46.8	76.2	3.8	3.01	79.21	4.79	3.99	83.2
5	5005	46.5	93.9	3.8	2.97	96.87	5.87	4.77	81.3
6	4894	46.2	112.9	3.8	3.01	115.91	7	5.59	79.9
7	4793	45.9	133.9	3.8	2.98	136.88	8.24	6.28	77.5
7.99	4709	45.5	155.8	3.8	2.97	158.77	9.52	7.16	75.3

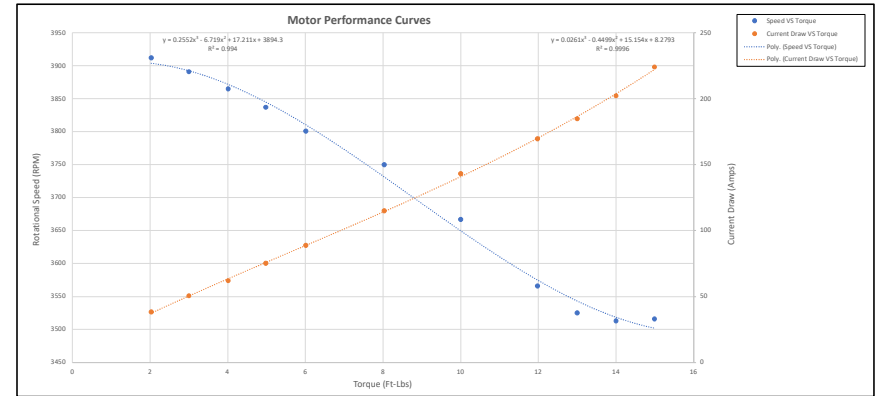
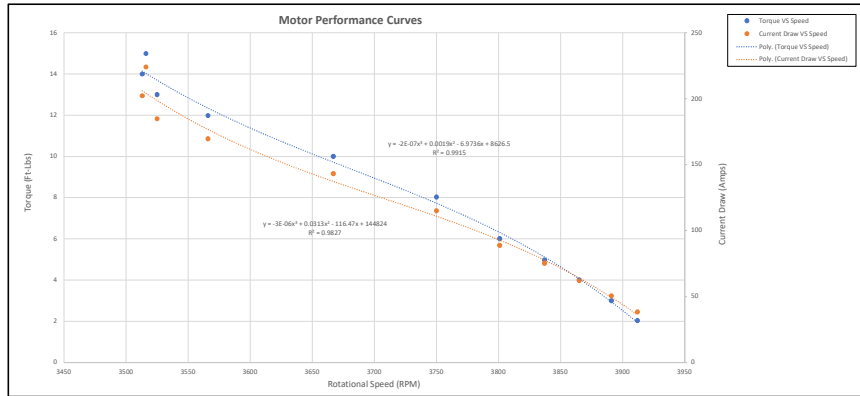
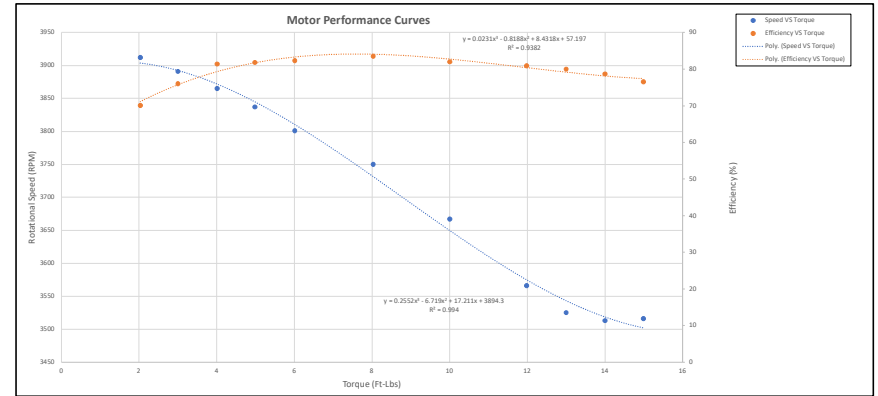
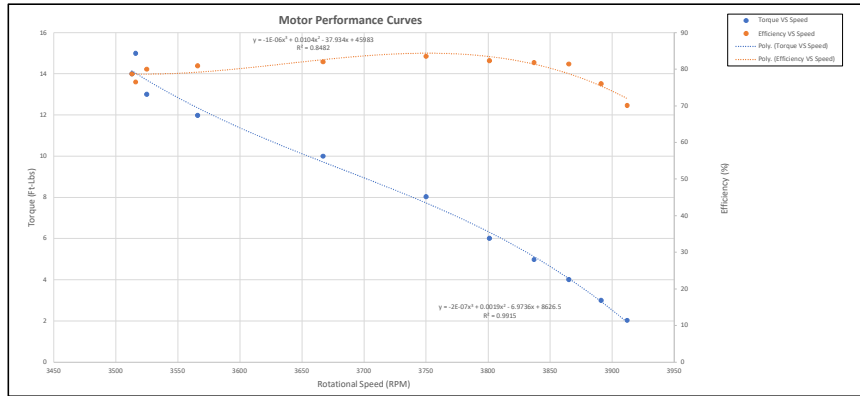


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 48 (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 (%)
2.03	3912	47.4	33.2	6	5.06	38.26	2.15	1.51	70.1
3	3891	47.3	45.5	6	5.04	50.54	2.92	2.22	76
4.01	3865	47	56.9	6	5.05	61.95	3.63	2.95	81.4
4.98	3837	46.9	70.1	6	5.1	75.2	4.45	3.64	81.8
6.01	3801	46.7	83.8	6.1	5.07	88.87	5.28	4.35	82.3
8.03	3750	46.3	110	6.1	5.07	115.07	6.86	5.73	83.5
10	3667	45.8	138.1	6.1	5.03	143.13	8.52	6.98	82
11.98	3566	45.4	164.6	6.1	5.06	169.66	10.06	8.13	80.9
13	3525	45.2	179.6	6.1	5.18	184.78	10.91	8.72	80
14	3513	44.8	197.3	6.1	4.92	202.22	11.9	9.37	78.7
14.99	3516	44.5	219.1	6.1	4.95	224.05	13.12	10.04	76.5

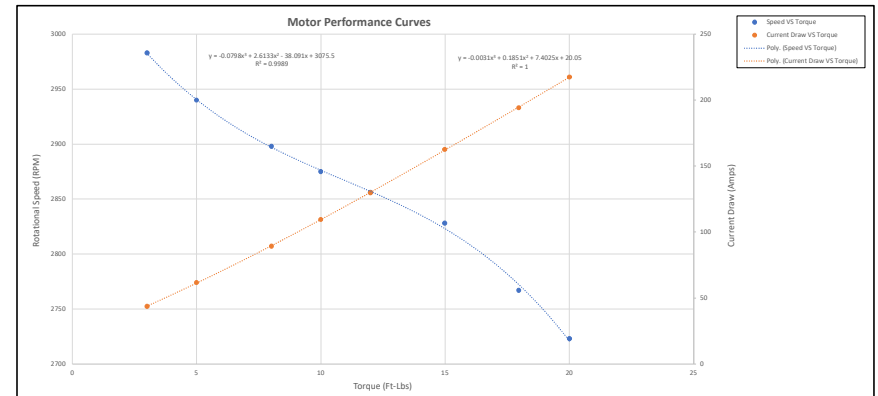
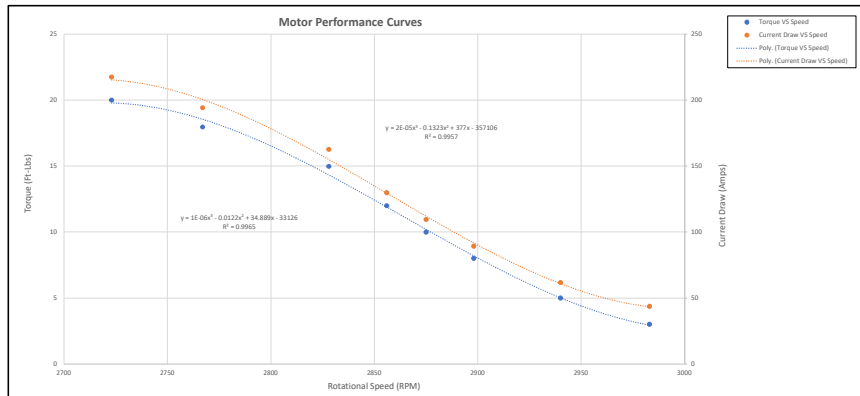
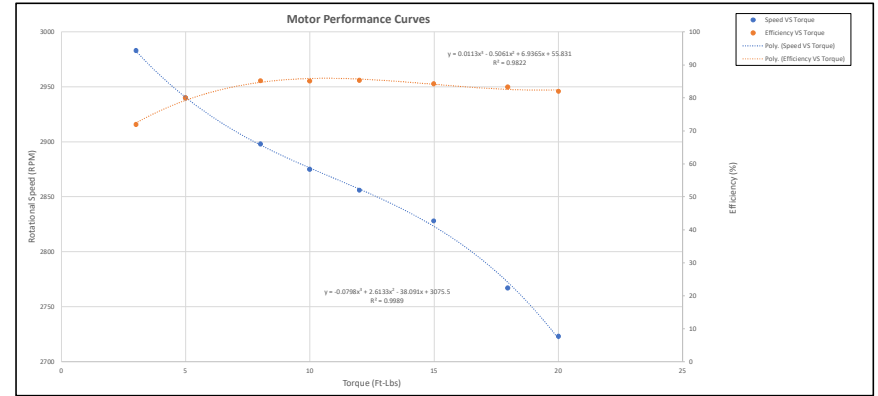
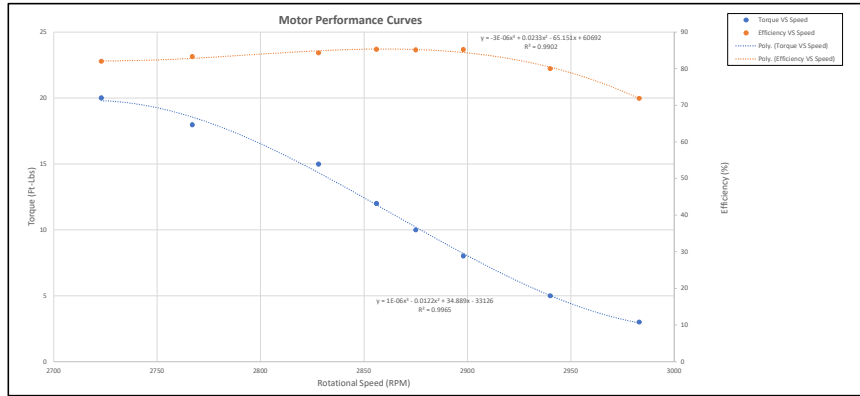


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage [V]: 48 - (1 * 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 (%)
3	2983	47.3	35.7	9.7	7.95	43.65	2.37	1.7	71.9
4.99	2940	47.1	33.7	9.7	7.98	51.08	3.45	2.29	80
8.01	2898	46.7	31.2	9.7	8.02	89.21	5.19	4.42	85.2
9.99	2875	46.4	30.5	9.8	8	109.5	6.42	5.47	85.1
11.99	2856	46.1	32	9.8	7.84	129.94	7.64	6.52	85.3
14.99	2828	45.6	34.9	9.8	7.86	162.66	9.56	8.07	84.3
17.96	2767	45.1	38.1	9.8	8.18	194.28	11.36	9.46	83.3
20	2723	44.7	40.4	9.9	8.15	217.55	12.65	10.37	82

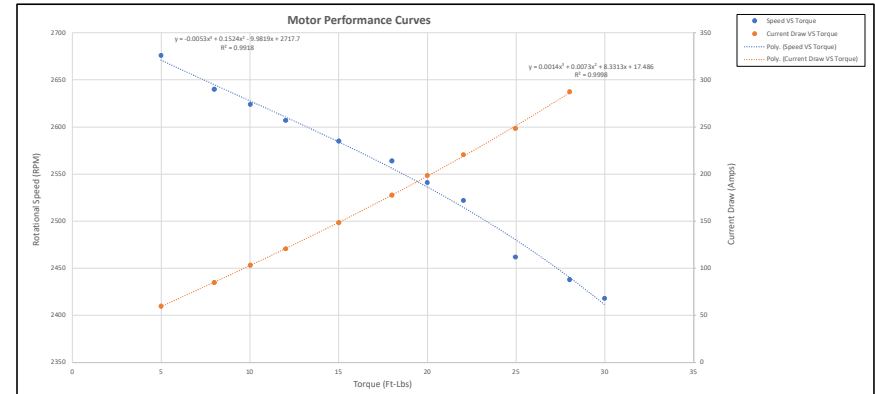
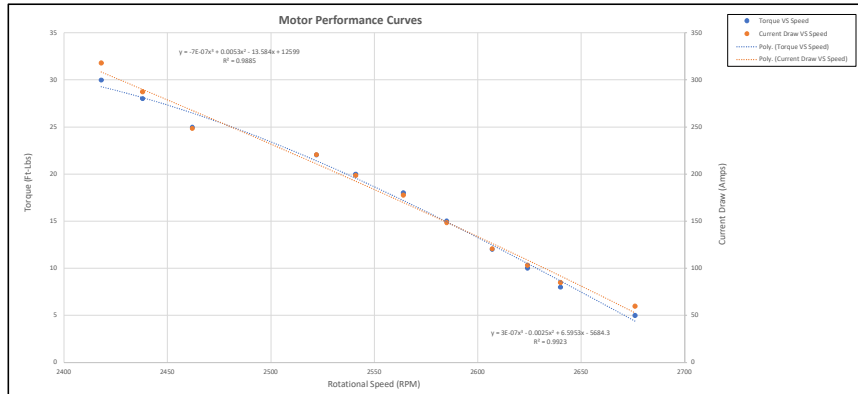
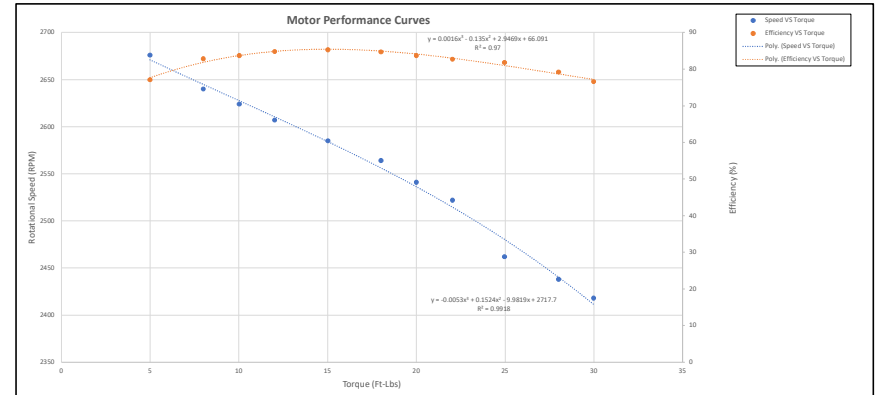
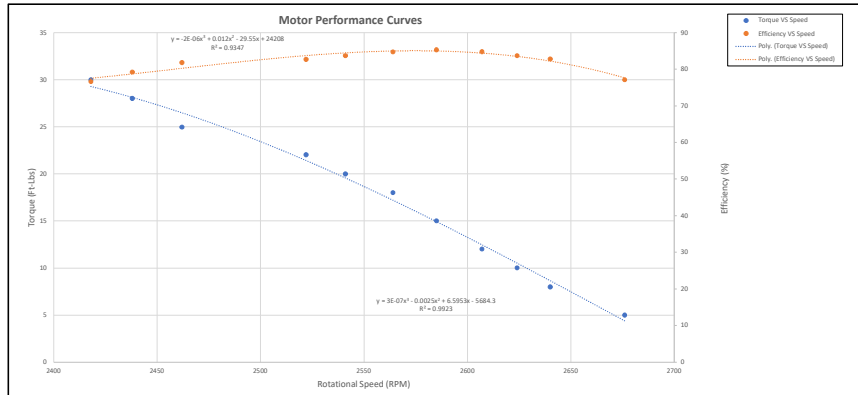


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage [V]: 48 - (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 (%)
4.99	2676	47.2	49.6	11.8	10.04	59.64	3.3	2.54	77.1
7.99	2640	46.8	74.8	11.9	10.04	84.84	4.85	4.02	82.8
10.02	2624	46.5	93.3	11.9	9.99	103.29	5.98	5.01	83.7
12.01	2607	46.3	110.7	11.9	10.02	120.72	7.03	5.96	84.8
15.01	2585	45.8	138.5	12	9.91	148.41	8.66	7.39	85.3
18	2564	45.4	167.9	12	9.84	177.74	10.37	8.79	84.7
19.99	2541	45.1	188.7	12.1	9.81	198.51	11.56	9.68	83.7
22.03	2522	44.7	210.6	12.1	9.88	220.58	12.79	10.58	82.7
24.96	2492	44.3	238.5	12.1	9.88	248.38	14.31	11.7	81.8
28.01	2438	43.7	277.6	12.2	9.79	287.39	16.41	13.1	79.6
29.98	2418	43.3	307.7	12.2	10.19	317.89	18.01	13.8	76.6

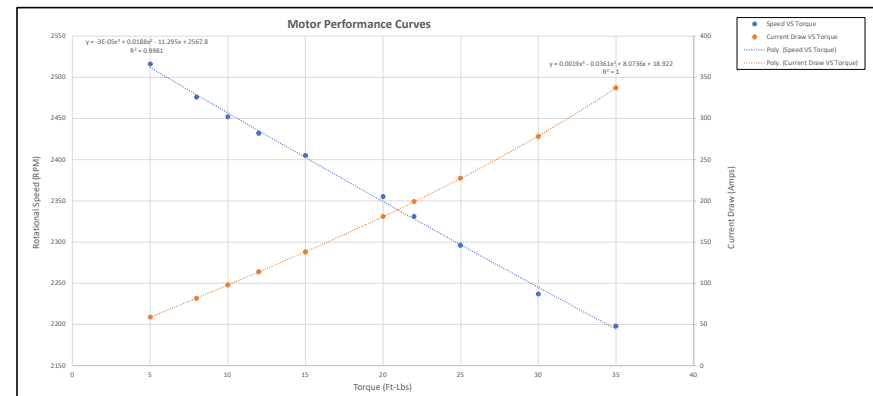
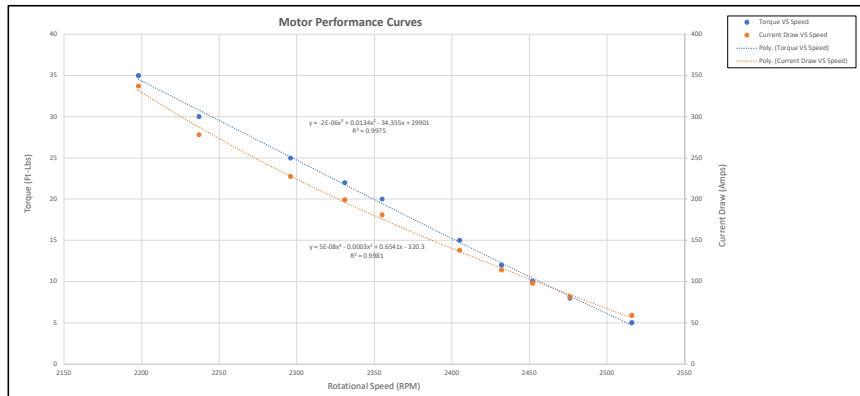
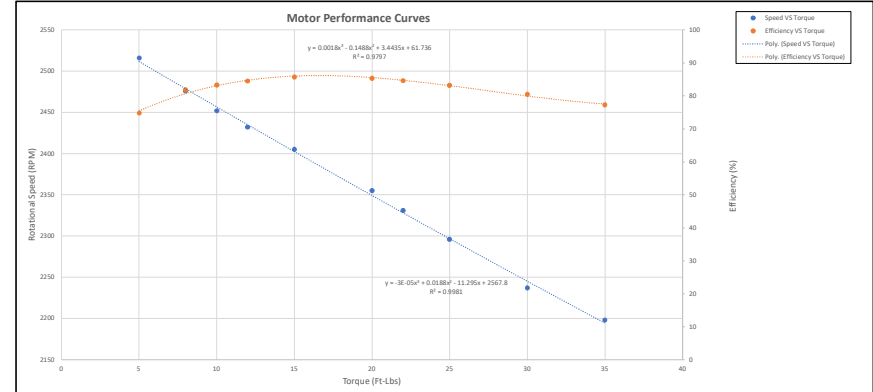
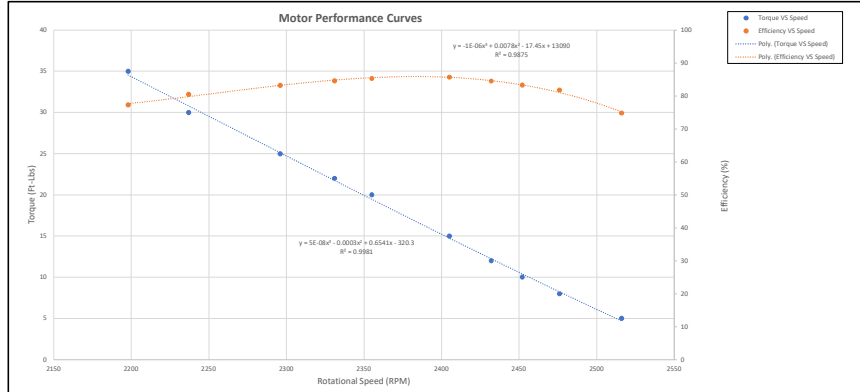


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 48 - (1" ± 0.015)

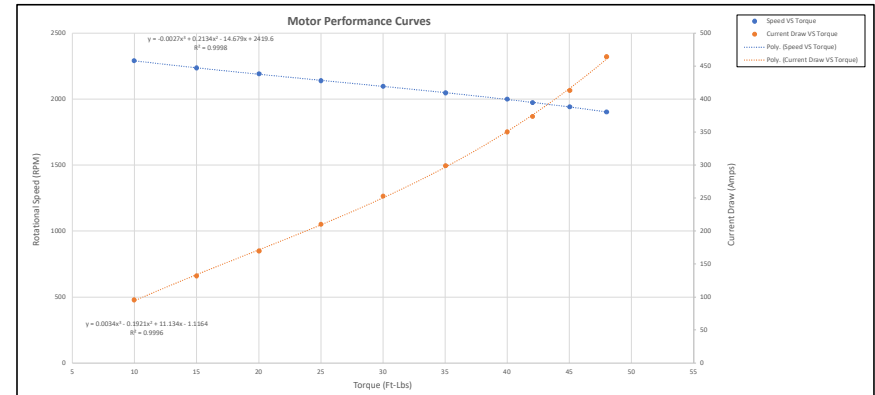
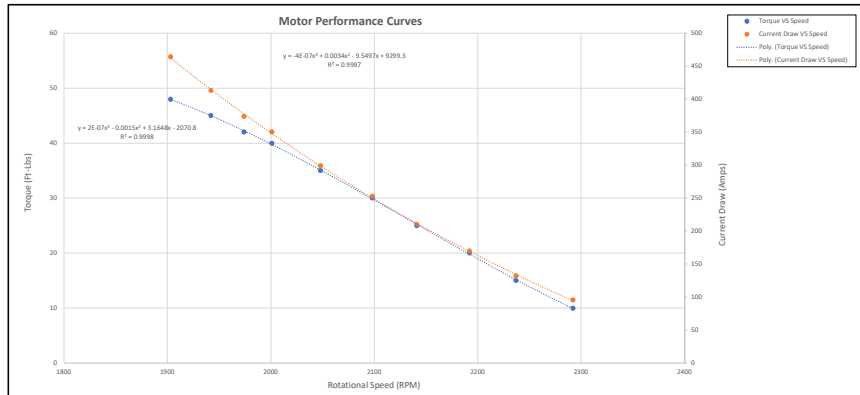
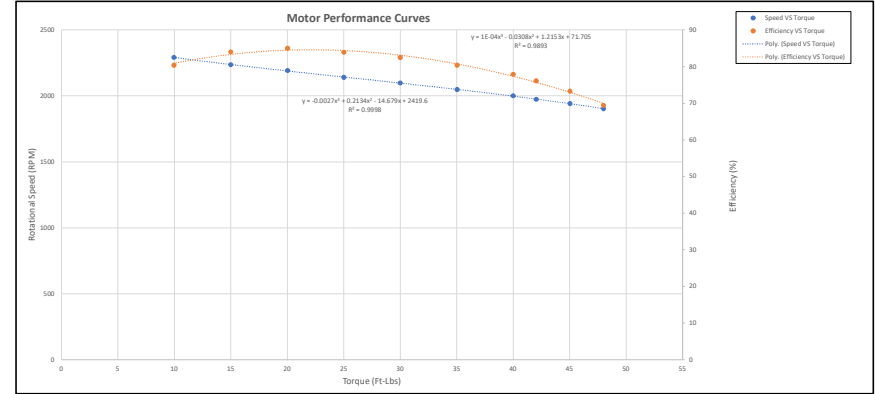
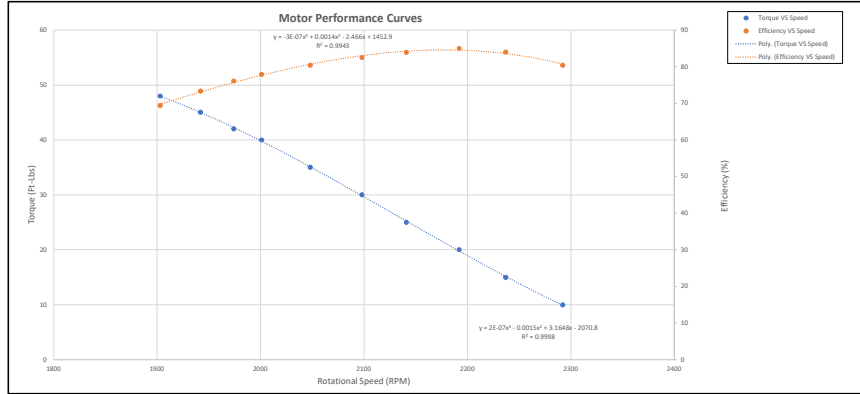
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
5.01	2516	47.2	47	14.5	12.01	59.01	3.21	2.4	74.8
7.99	2476	46.9	69.6	14.5	12.01	81.61	4.6	3.77	81.4
10.01	2452	46.6	85.9	14.6	12.02	97.92	5.61	4.67	83.3
11.99	2432	46.4	101.9	14.7	12	113.9	6.57	5.55	84.5
15	2405	46.1	126	14.7	12.02	138.02	8.02	6.87	85.7
20	2355	45.4	169	14.8	11.93	180.93	10.52	8.97	85.3
22	2331	45.1	186.9	14.9	12.2	199.1	11.55	9.77	84.6
24.98	2296	44.6	215.5	14.9	11.91	227.41	13.13	10.92	83.2
30	2237	43.8	266.2	15	11.87	278.07	15.88	12.78	80.5
34.99	2198	42.9	325.1	15.1	12.03	337.13	18.94	14.65	77.3



Engineering Performance Test Report

Performance Spec (PS) Number: 69
 System Voltage (V): 48 - (1 ± 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 (%)
9.96	2292	46.7	80.5	18.3	15.09	95.59	5.41	4.35	80.4
14.99	2237	46.7	116.8	18.4	15.12	131.92	7.61	6.39	84
20.02	2192	45.6	154.8	18.6	14.94	169.74	9.83	8.35	85
25	2141	45	195.3	18.7	14.97	210.27	12.15	10.19	83.9
30	2098	44.3	238.1	18.8	14.93	253.03	14.52	11.98	82.5
35.03	2048	43.6	284.4	19	14.78	299.18	17	13.66	80.4
39.99	2001	42.7	334.6	19.1	15.79	350.39	19.57	15.24	77.9
42.03	1974	42.4	358.7	19.2	15.12	373.82	20.77	15.8	76.1
45.02	1942	41.8	388.6	19.4	14.68	413.28	22.7	16.65	73.3
47.99	1903	41	449.2	19.5	15.18	464.38	25.08	17.89	69.4

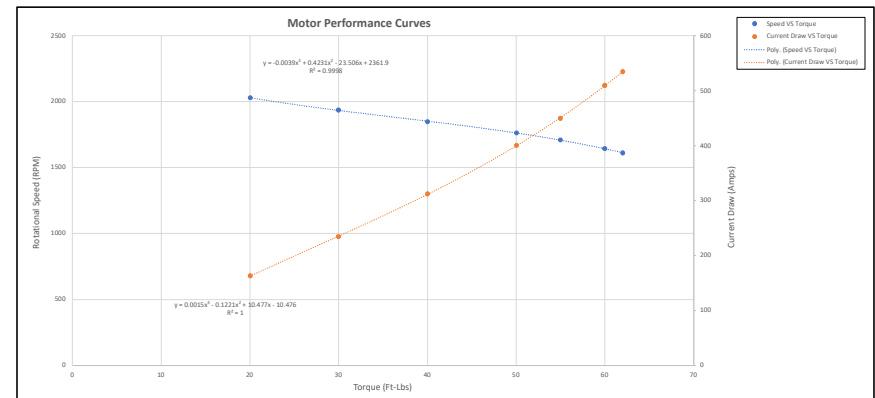
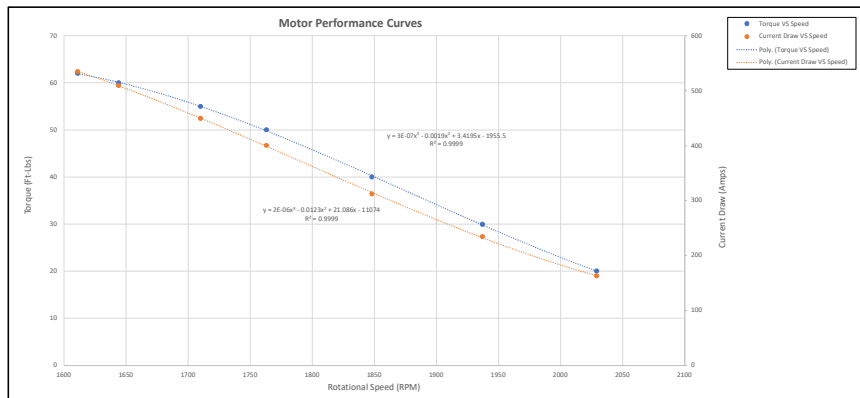
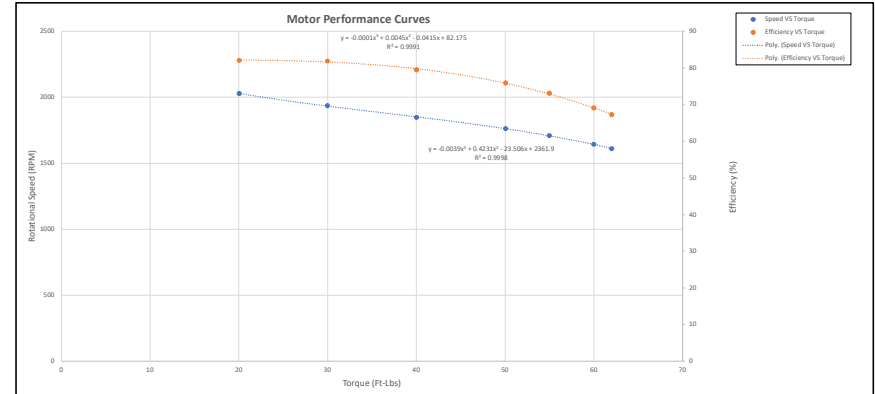
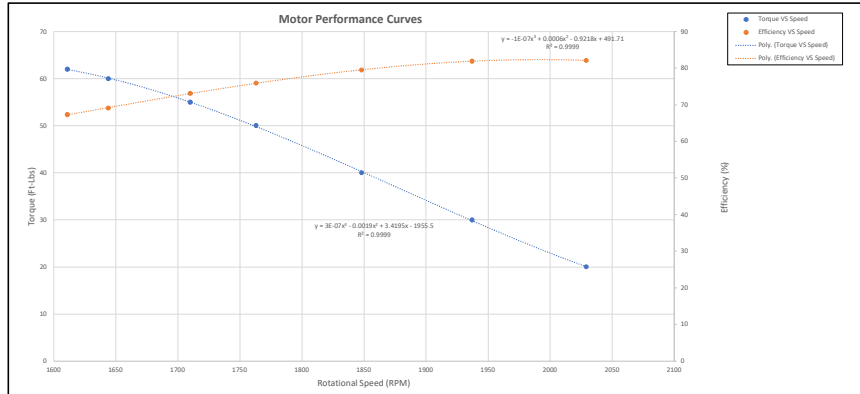


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage [V]: 48 - (I * 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 (%)
20.03	2029	45.8	142.8	24.6	20.1	162.9	9.42	7.74	82.1
29.97	1937	44.7	214.2	24.9	20.15	234.35	13.5	11.06	81.9
40.01	1848	43.6	291.8	25.2	20.26	312.06	17.72	14.08	79.5
50.04	1763	42.1	380	25.5	20.33	400.33	22.14	16.8	75.9
54.98	1710	41.3	429.9	25.9	19.69	449.59	24.49	17.9	73.1
59.98	1644	40.4	491.1	26.2	20.24	509.34	27.18	18.77	69.1
62	1611	40	514.4	26.5	20.27	534.67	28.27	19.02	67.3

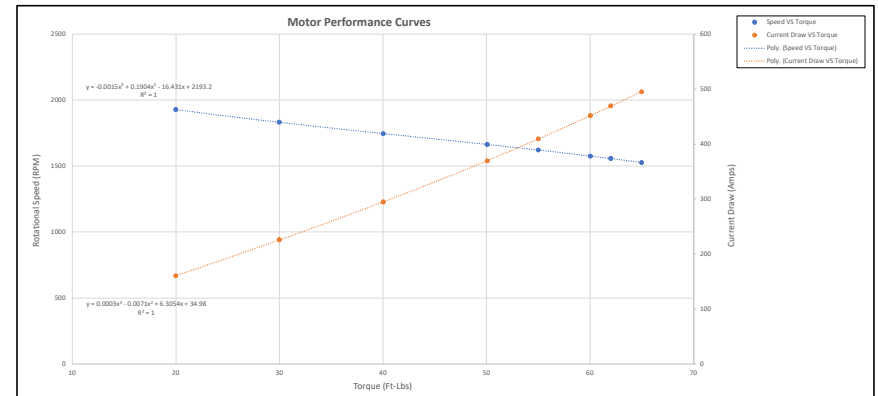
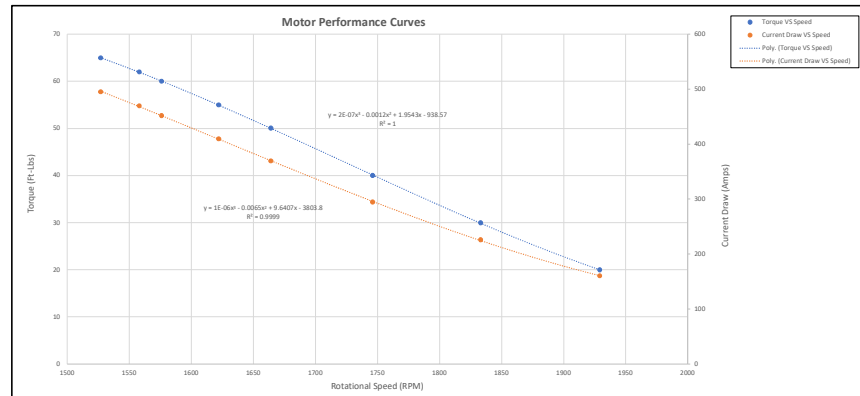
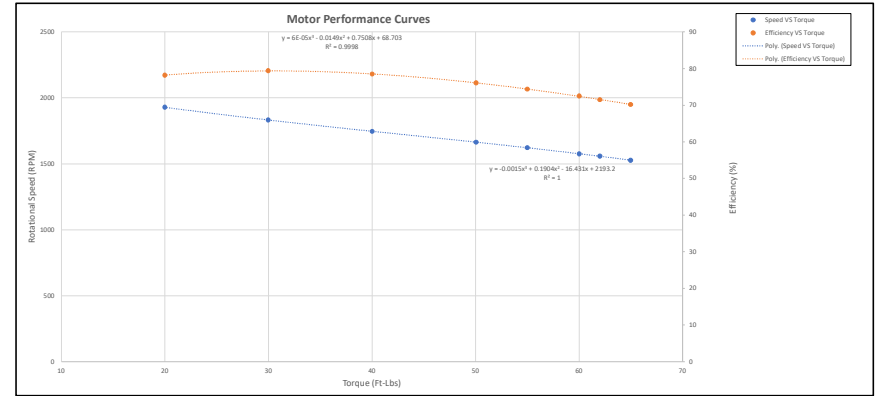
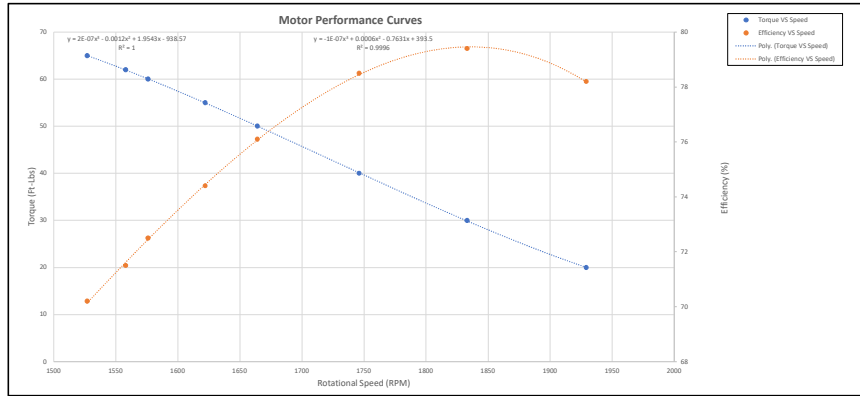


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage [V]: 48 - (I * 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 (%)
19.98	1929	45.9	135.1	31.8	25.24	160.34	9.39	7.34	78.2
29.97	1833	44.9	201	32.4	24.95	225.95	13.16	10.46	79.4
40.01	1746	43.9	269.4	33.1	25.07	294.47	16.95	13.3	78.5
50.05	1664	42.7	344	33.7	25.51	369.51	20.85	15.86	76.1
54.99	1622	42.1	384	34.3	25.63	409.63	22.84	16.99	74.4
60.01	1576	41.4	436.6	35	25.11	451.71	24.84	18	72.5
62	1558	41.2	444.1	35.5	25.56	469.66	25.72	18.39	71.5
64.97	1527	40.8	470.1	36.2	25.17	495.27	26.9	18.89	70.2

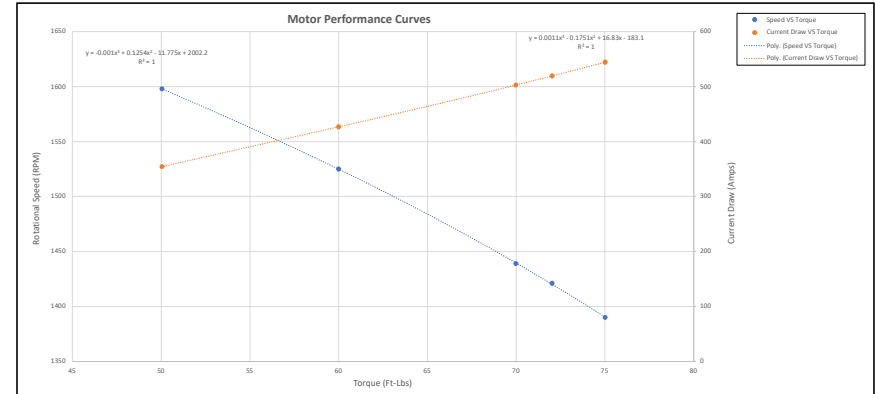
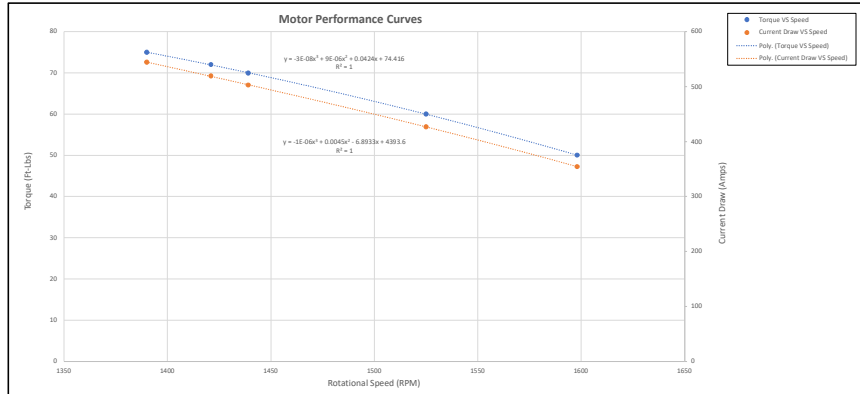
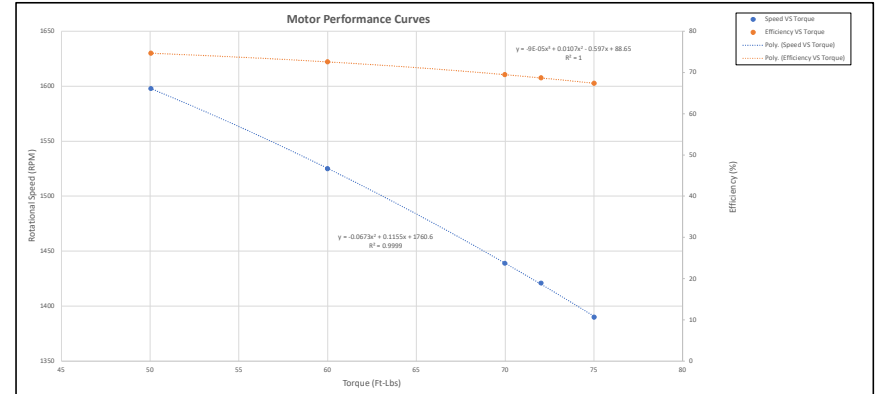
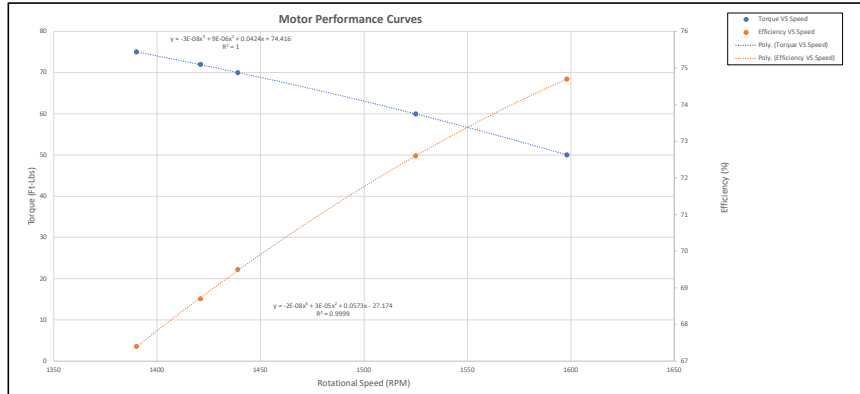


Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 48 (I² = 0.015)

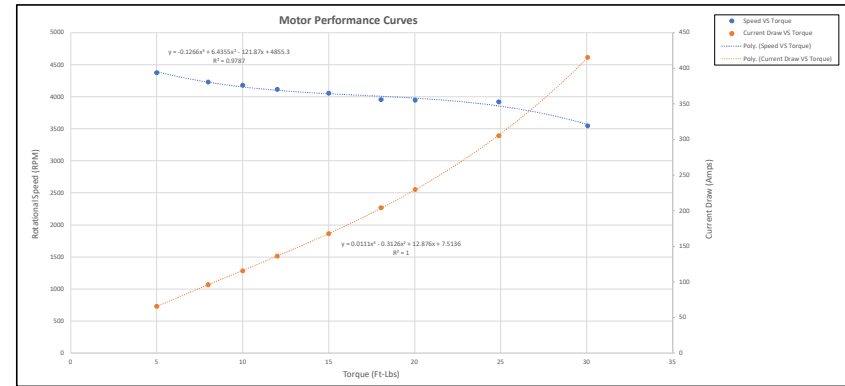
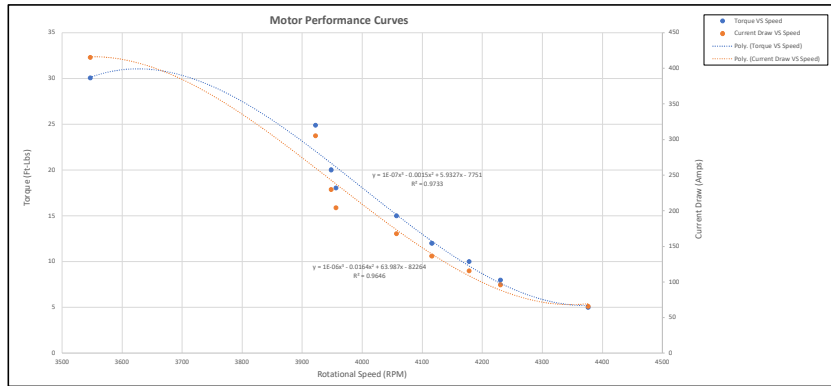
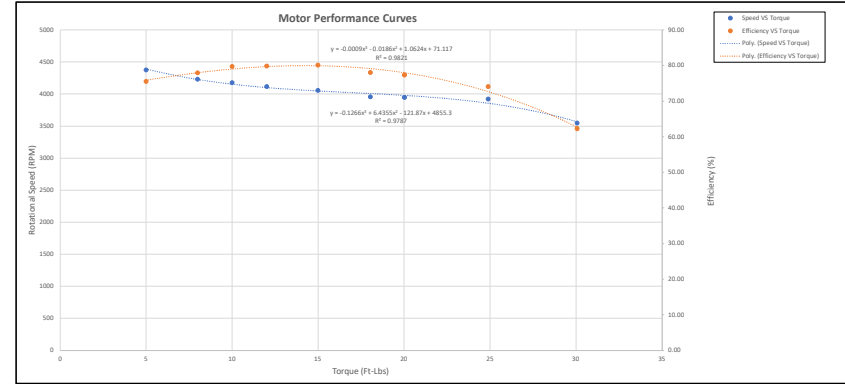
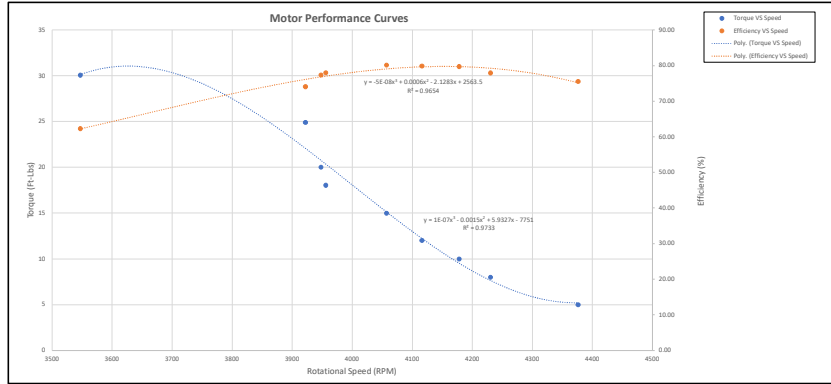
Torque (Ft-Lbs)	Speed (RPM)	Available Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
50.04	1598	43.1	324.3	41.6	30.07	354.37	20.4	15.23	74.7
59.99	1525	41.9	306.6	42.8	30.2	426.8	24	17.42	72.6
69.98	1439	40.8	472.4	43.9	30.46	502.86	27.59	19.58	69.5
72.02	1421	40.5	489.4	45.1	30.05	519.45	28.38	19.49	68.7
75.01	1390	40.1	514	46.2	30.48	544.48	29.48	19.86	67.4



Engineering Performance Test Report

Performance Spec (PS) Number: 69
 System Voltage (V): 72 - 0 + 0.030

Speed (RPM)	Speed (RPM)	Armature Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Speed (RPM)	Speed (RPM)	Speed (RPM)	Efficiency (%)
5	4376.18	70.11	57.88	7.99	7.89	65.77	5.52	4.17	75.54	
7.99	4220.2	69.14	58.14	8.01	7.89	66.03	8.25	6.42	77.84	
10	4178	68.54	107.6	8.04	7.89	115.49	9.97	7.95	79.74	
12.01	4116	67.92	128.5	8.06	7.88	136.38	11.78	9.41	79.88	
14.99	4057	66.95	160	8.09	7.88	167.88	14.45	11.58	80.14	
18.04	3956	65.87	196.3	8.11	7.85	204.15	17.42	13.59	78.01	
20.02	3948	65.06	222	8.13	7.86	229.86	19.45	15.05	77.38	
24.89	3922	64.78	297.2	8.39	8.04	305.24	25.1	18.59	74.06	
30.06	3947	59.58	406.9	8.69	8.3	415.2	32.99	20.3	62.29	



Engineering Performance Test Report

Performance Spec (PS) Number: 69

System Voltage (V): 72 - (I * 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 (%)
15	2966.45	68.56	112.42	27.52	24.96	137.38	11.25	8.47	75.29
20.02	2892.3	67.52	145.84	28.08	24.97	170.81	14.14	11.02	77.83
25.04	2824	66.47	179.6	28.61	24.98	204.58	16.96	13.47	79.42
30	2756	65.4	213.9	29.12	24.97	238.87	19.73	15.74	79.78
40.01	2620	63.18	286.7	29.63	24.99	311.69	25.27	19.96	78.99
50.02	2462	60.77	365.5	30.13	24.96	391.46	30.87	23.45	75.96
60.01	2297	58.1	454.5	30.66	25.02	479.52	36.42	26.24	72.05

