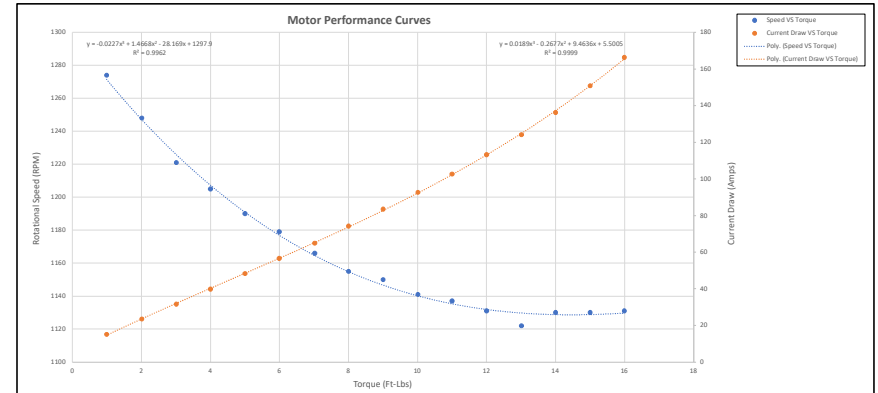
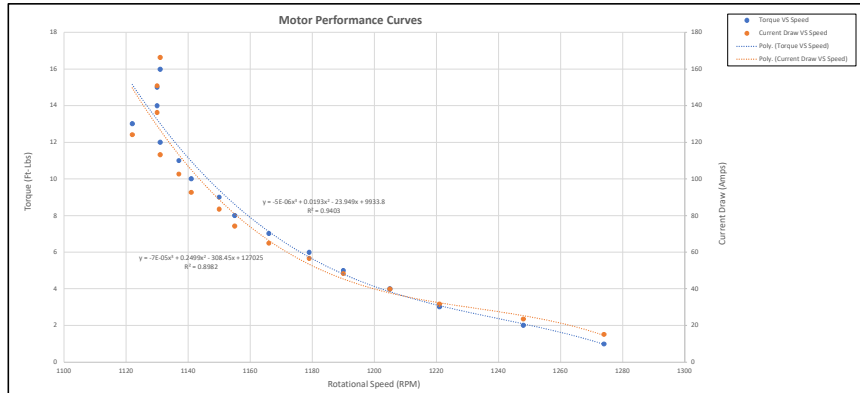
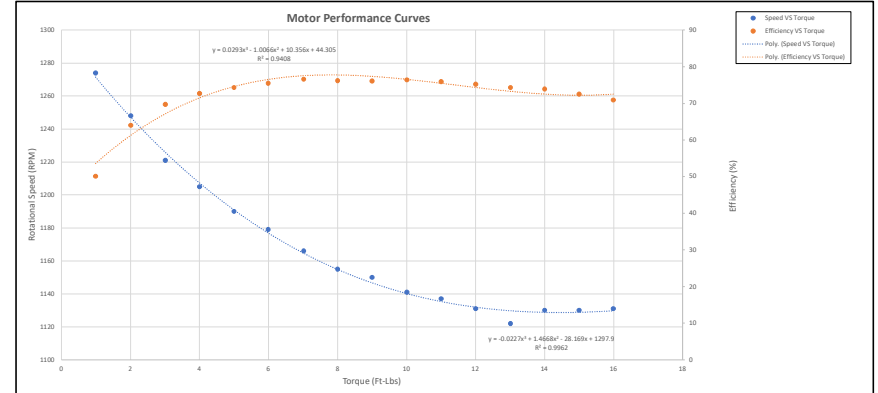
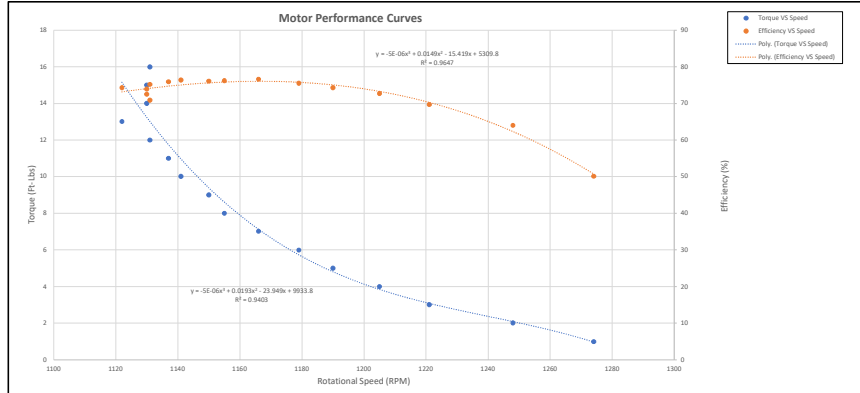


Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 24 - (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 (%)
0.99	1274	24.2	12.2	20.7	2.94	15.14	0.48	0.24	50.1
2.01	1248	24.1	20.6	20.7	2.92	23.52	0.75	0.48	64
3.01	1221	24	28.7	20.7	2.93	31.63	1	0.7	69.7
4	1205	23.9	36.9	20.7	2.97	39.87	1.26	0.92	72.7
5	1190	23.8	45.4	20.7	2.92	48.32	1.53	1.13	74.3
5.99	1179	23.6	53.7	20.7	2.94	56.64	1.78	1.35	75.5
7.02	1166	23.5	62	20.7	2.94	64.94	2.03	1.56	76.6
8	1155	23.3	71.3	20.7	2.96	74.26	2.31	1.76	76.2
9	1150	23.2	80.5	20.7	2.97	83.47	2.59	1.97	76.1
10.01	1141	23	89.7	20.7	2.93	92.63	2.85	2.17	76.4
11	1137	22.9	99.7	20.7	2.94	102.64	3.14	2.38	75.9
12	1131	22.7	110.3	20.8	2.95	113.25	3.44	2.59	75.2
13.01	1122	22.5	121.1	20.8	3.02	124.12	3.74	2.78	74.3
14	1130	22.3	133.3	20.8	3.04	136.34	4.07	3.01	73.9
15	1130	22.1	147.8	20.8	3	150.8	4.45	3.23	72.5
15.99	1131	21.8	163.4	20.8	2.92	166.32	4.86	3.44	70.9

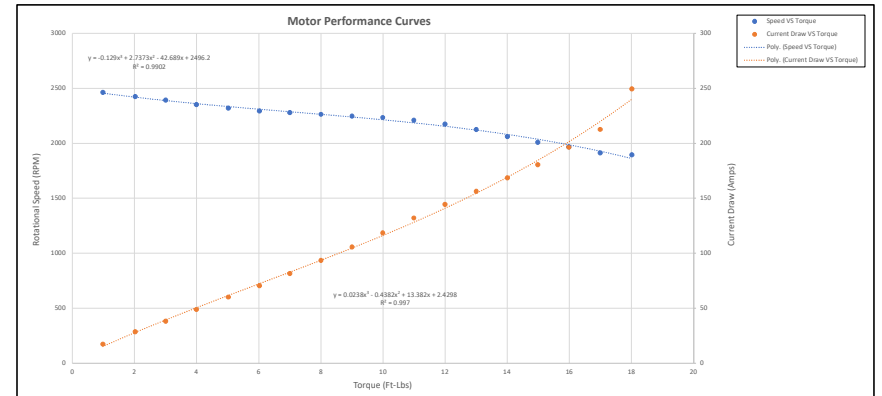
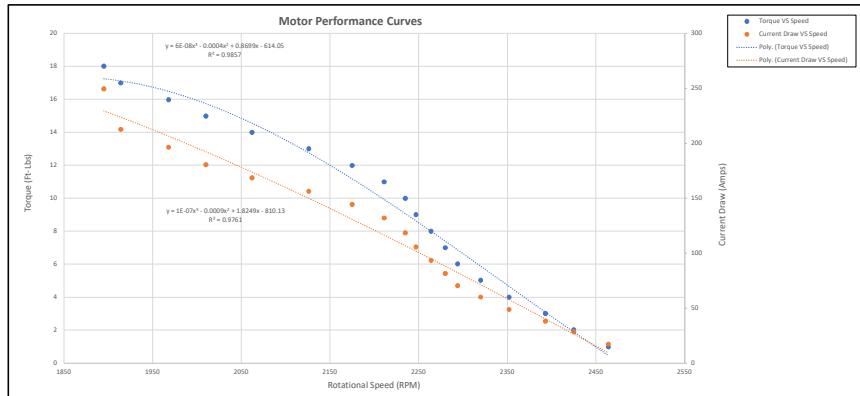
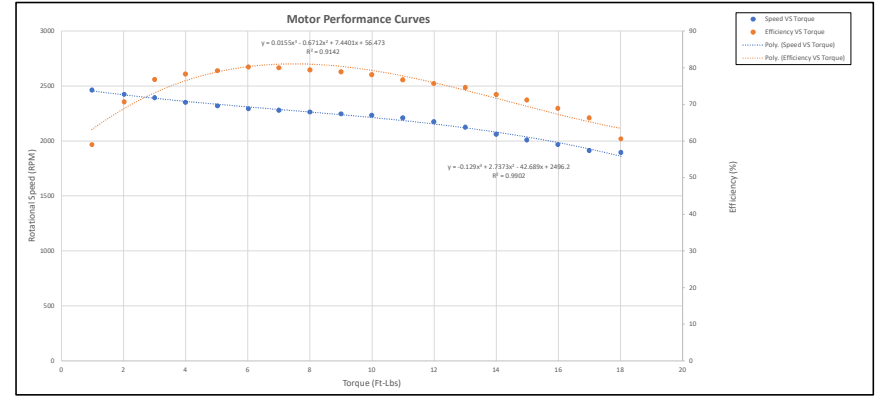
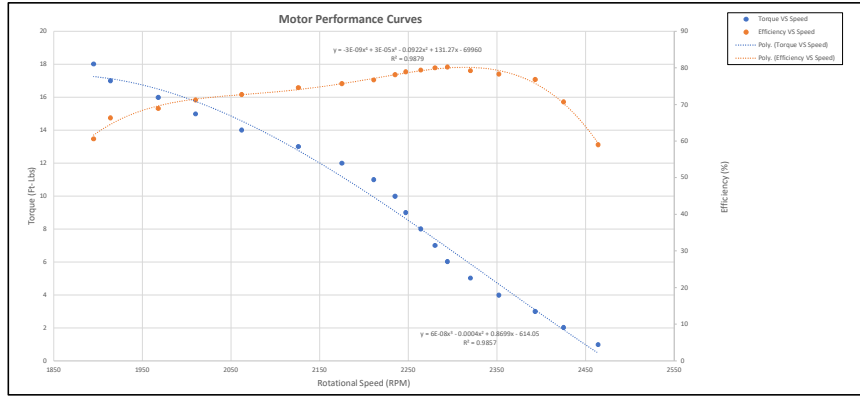


Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 36 - (1 * 0.015)

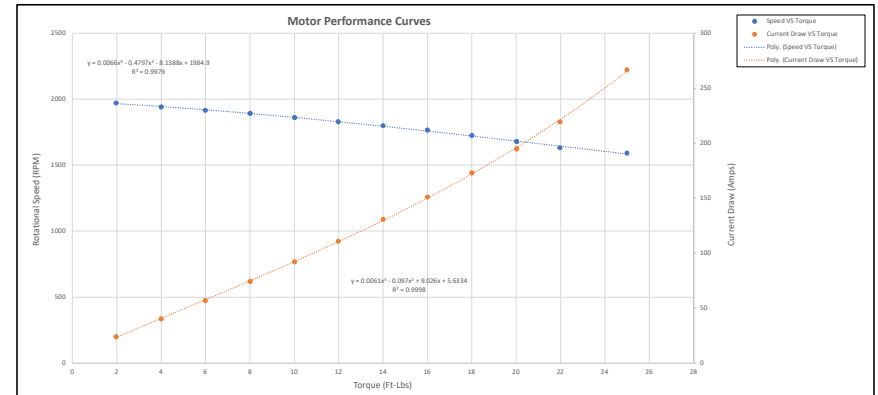
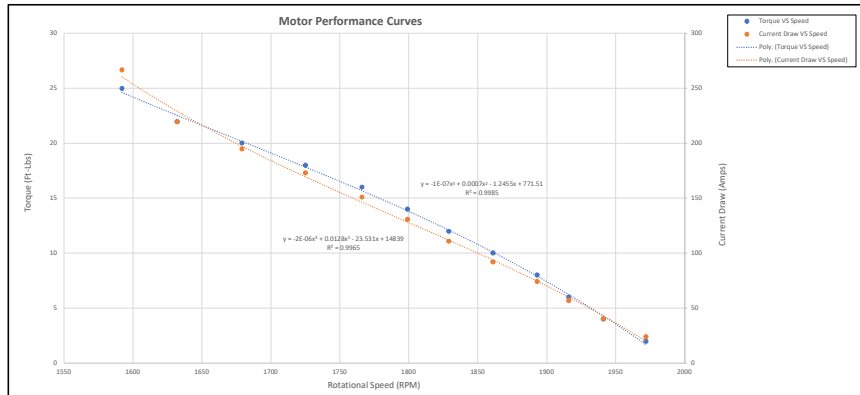
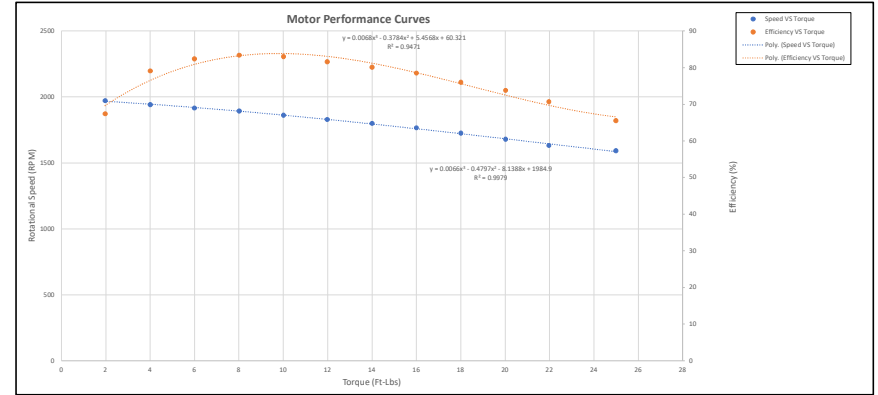
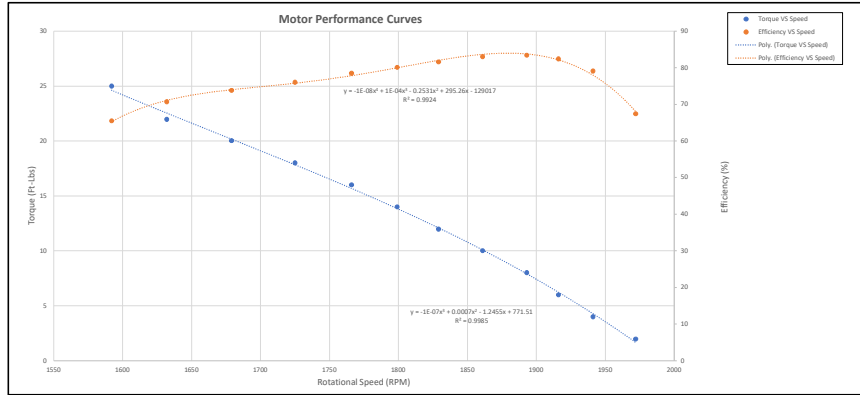
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
0.98	2464	36.2	15.3	13.8	1.91	17.21	0.78	0.46	59
2.02	2425	36.1	16.6	13.8	1.94	18.51	1.32	0.93	70.2
3	2393	35.9	16.2	13.8	1.9	18.1	1.76	1.37	76.8
3.99	2352	35.7	16.9	13.8	1.91	18.81	2.28	1.79	78.3
5.02	2320	35.6	18.1	13.8	1.93	19.03	2.8	2.22	79.2
6.02	2294	35.4	18.4	13.9	1.93	19.33	3.28	2.63	80.2
7	2280	35.3	19.9	13.9	1.92	21.52	3.8	3.04	80
8	2264	35.1	21.6	13.9	1.91	23.51	4.34	3.45	79.4
9	2247	34.9	23.7	13.9	1.93	25.63	4.88	3.85	78.5
9.99	2235	34.6	25.5	13.9	1.93	27.81	5.44	4.25	78.1
10.99	2211	34.4	28.2	13.9	1.87	30.07	6.03	4.63	76.7
11.99	2175	34.2	30.2	13.9	1.91	32.41	6.56	4.96	75.2
13	2126	33.9	33.9	13.9	1.93	35.33	7.06	5.26	74.6
14	2062	33.7	36.7	14	1.87	38.57	7.57	5.5	72.7
14.98	2010	33.5	39.5	14	1.95	41.95	8.05	5.73	71.2
15.98	1968	33.2	42.4	14	1.86	45.46	8.7	5.99	68.9
16.99	1914	33	45.7	14	1.93	49.13	9.19	6.23	66.3
18.01	1855	32.2	49.5	14	1.96	52.96	9.65	6.46	60.6



Engineering Performance Test Report

Performance Spec (PS) Number: 19
 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 (%)
1.97	1972	36.1	21	20.7	2.92	23.92	1.1	0.74	67.4
4	1941	35.9	27.2	20.7	2.94	40.14	1.87	1.48	79.1
5.99	1916	35.6	53.8	20.6	2.95	56.75	2.65	2.19	82.4
8.01	1893	35.4	71.3	20.6	2.94	74.24	3.46	2.89	83.4
10.01	1861	35.1	89	20.6	2.95	91.95	4.27	3.55	83
11.98	1829	34.8	107.8	20.5	2.93	110.83	5.12	4.17	81.6
14	1799	34.5	127.7	20.5	2.94	130.64	5.99	4.79	80.1
16	1766	34.1	148.1	20.4	2.94	151.04	6.86	5.38	78.5
18	1725	33.8	170	20.4	3.04	173.04	7.78	5.91	76
20.02	1679	33.4	193.8	20.4	2.99	194.79	8.67	6.4	73.8
21.97	1632	33	216.3	20.4	3.06	219.36	9.66	6.83	70.7
24.99	1592	32.5	263.5	20.3	3.15	266.65	11.56	7.57	65.5

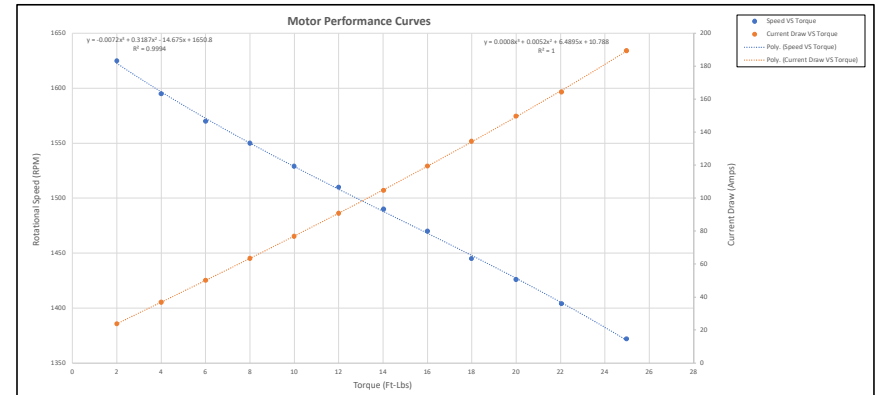
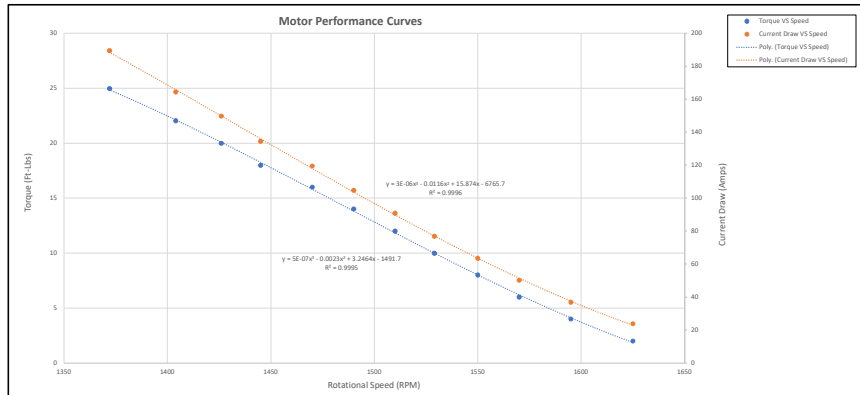
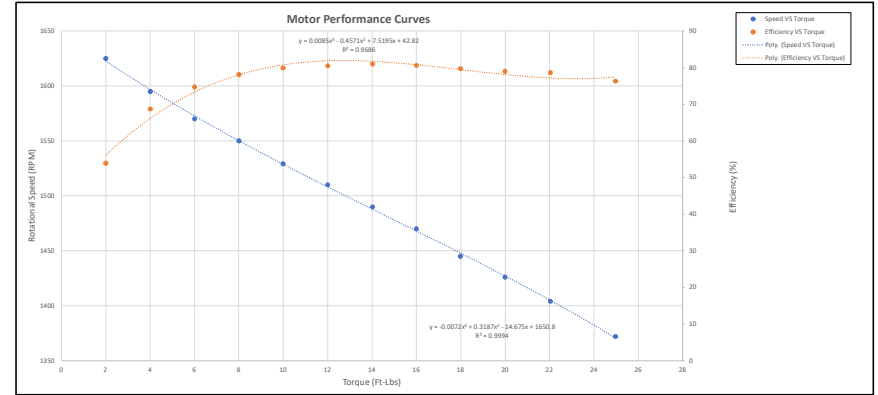
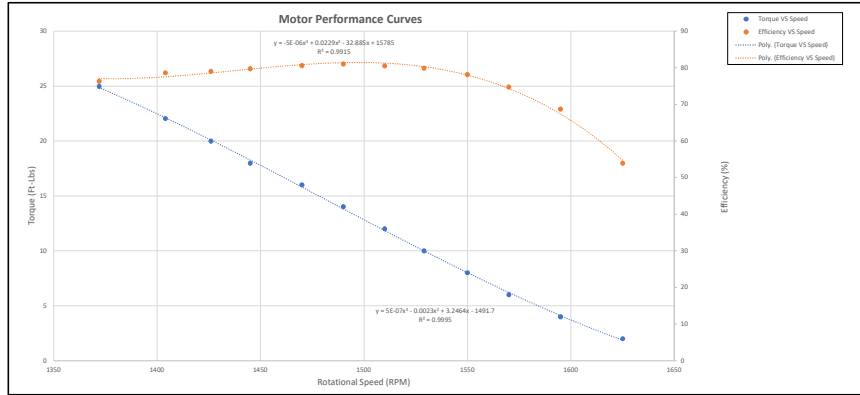


Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 36 - (1 * 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 (%)
2	1625	36.1	38.8	35.4	4.98	23.78	1.15	0.62	53.9
4	1595	35.9	39.8	35.3	4.97	26.97	1.77	1.27	68.7
6	1570	35.7	45.2	35.3	4.99	30.10	2.4	1.79	74.7
8	1550	35.6	58.5	35.2	4.99	63.49	3.02	2.36	78.1
9.99	1529	35.4	71.9	35.1	4.99	76.89	3.64	2.91	79.9
12	1510	35.2	85.9	34.9	5	90.9	4.29	3.45	80.5
14.02	1490	35	99.8	34.8	4.93	104.73	4.91	3.98	81
16	1470	34.7	114.5	34.7	4.97	119.47	5.56	4.48	80.6
17.98	1445	34.5	129.6	34.6	4.88	134.48	6.21	4.95	79.7
19.99	1426	34.2	144.9	34.5	4.88	149.78	6.87	5.43	79
22.04	1404	34	159.4	34.3	5.04	164.44	7.5	5.89	78.6
24.97	1372	33.7	184.5	34.2	4.94	189.44	8.55	6.52	76.3

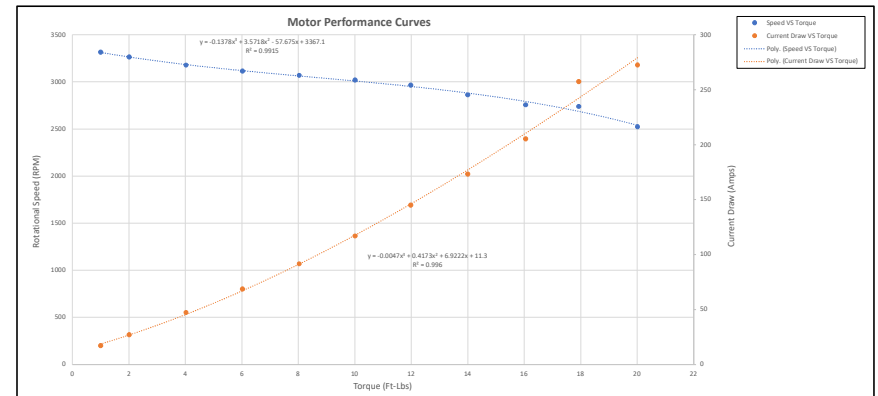
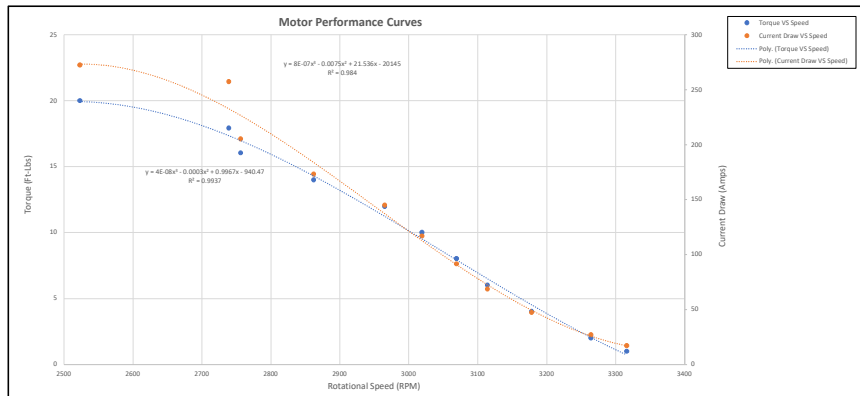
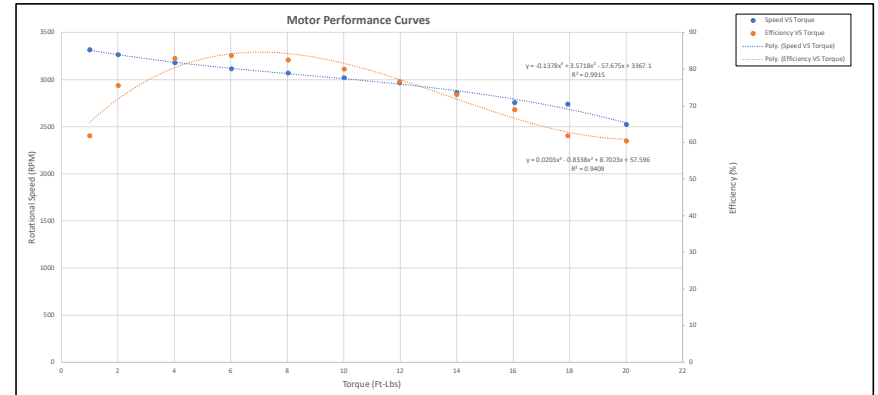
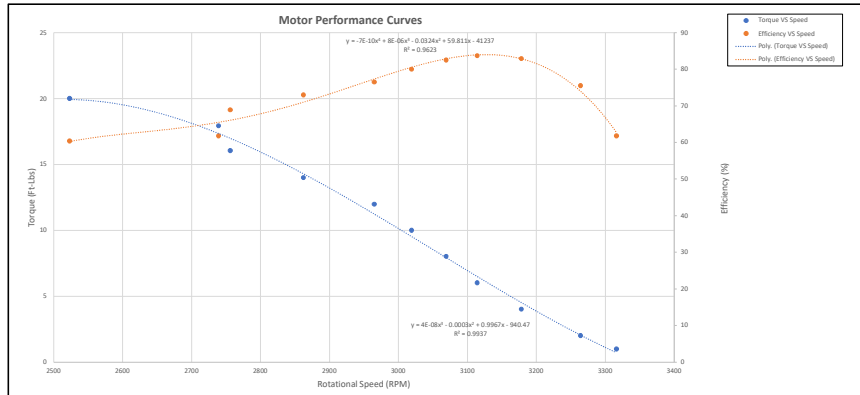


Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 48 - (1 * 0.015)

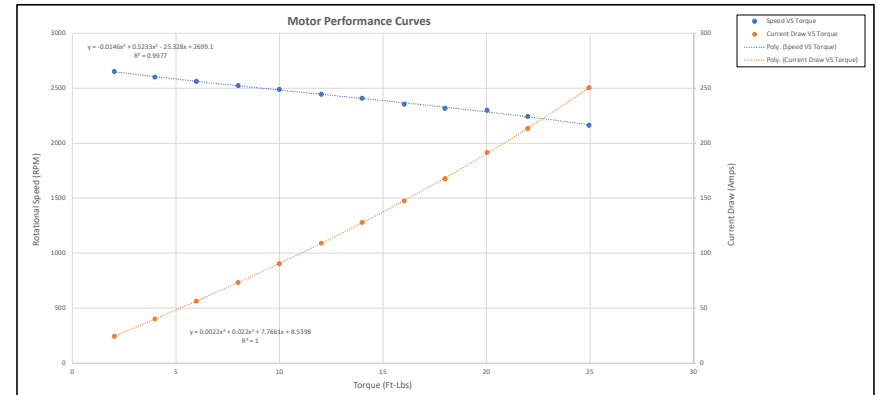
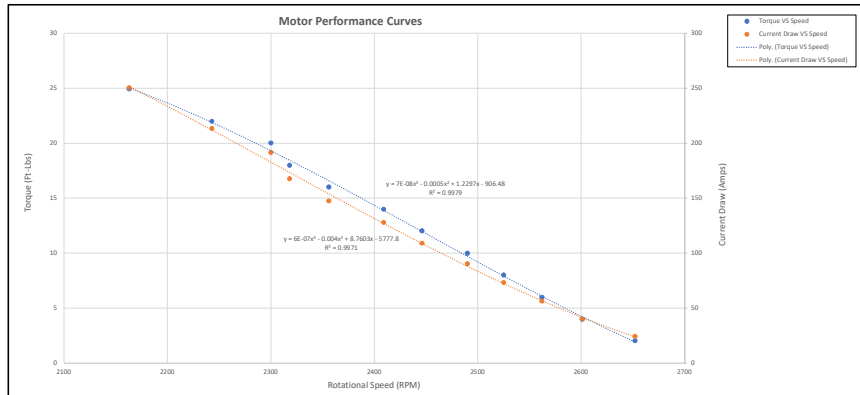
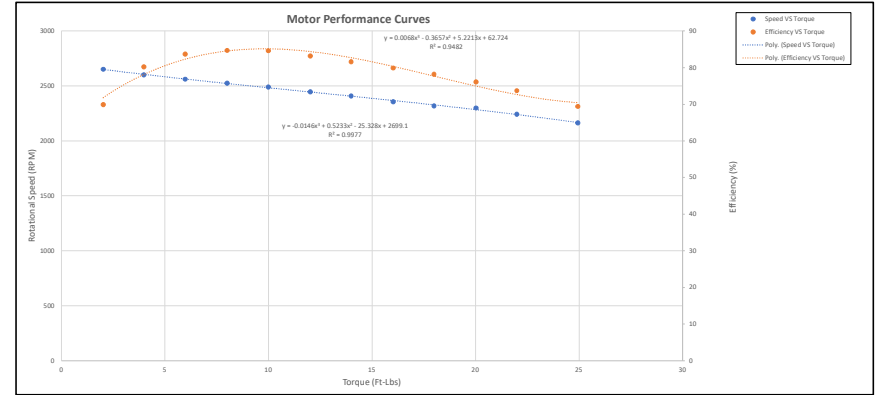
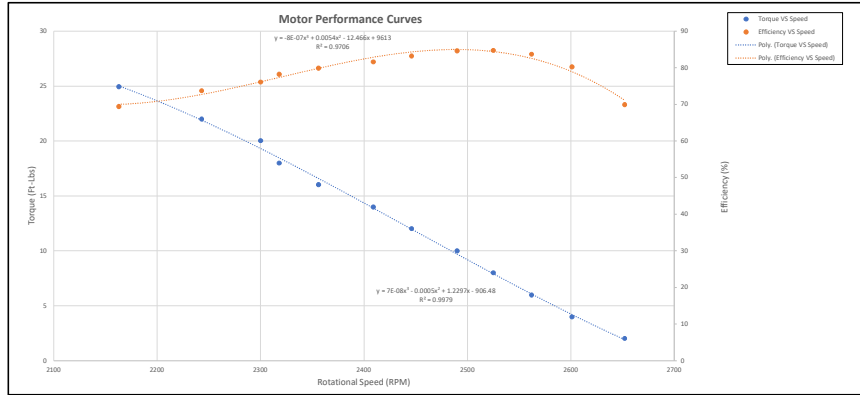
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
1	3316	48.2	15.2	14.1	1.91	17.11	1.02	0.63	61.8
2.01	3264	48	25.1	14.1	1.9	27	1.65	1.25	75.5
4.02	3178	47.7	45.4	14.1	1.92	47.32	2.94	2.43	82.5
6.02	3114	47.4	66.7	14.1	1.91	68.61	4.27	3.57	83.7
8.03	3069	47	89.7	14.1	1.92	91.62	5.68	4.69	82.5
10.01	3019	46.5	115	14	1.93	116.93	7.1	5.76	80
11.98	2965	45.9	143.2	14	1.9	145.1	8.84	6.77	76.5
14	2862	45.4	171.4	14	1.89	173.29	10.45	7.63	73
16.05	2756	44.7	203.4	14	1.9	205.3	12.23	8.42	68.9
17.93	2739	44.1	254.4	14	1.97	257.37	15.13	9.35	61.8
20.01	2523	43.8	270.5	13.9	1.99	272.49	15.91	9.61	60.4



Engineering Performance Test Report

Performance Spec (PS) Number: 19
 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 (%)
2.02	2652	48.1	21.3	21.1	2.95	24.25	1.46	1.02	69.9
3.98	2601	47.8	37.1	21.1	2.94	40.04	2.46	1.97	80.2
5.98	2562	47.6	53.4	21	2.9	56.3	3.49	2.92	83.7
8	2525	47.3	70.3	21	2.94	73.24	4.54	3.85	84.7
9.99	2490	47.1	87.4	21	2.91	90.31	5.6	4.73	84.6
12.02	2446	46.7	105.1	20.9	2.92	109.02	6.73	5.6	82.2
13.99	2409	46.5	125	20.8	2.95	127.95	7.87	6.42	81.6
16.02	2356	46	144.5	20.8	3.02	147.52	8.99	7.18	79.9
17.99	2318	45.6	164.7	20.7	2.98	167.68	10.15	7.94	78.2
20.02	2300	45.2	188.7	20.7	2.87	191.57	11.52	8.77	76.1
21.99	2243	44.9	210.5	20.6	2.97	213.47	12.75	9.39	73.7
24.94	2163	44.4	247.6	20.6	2.85	250.45	14.8	10.27	69.4

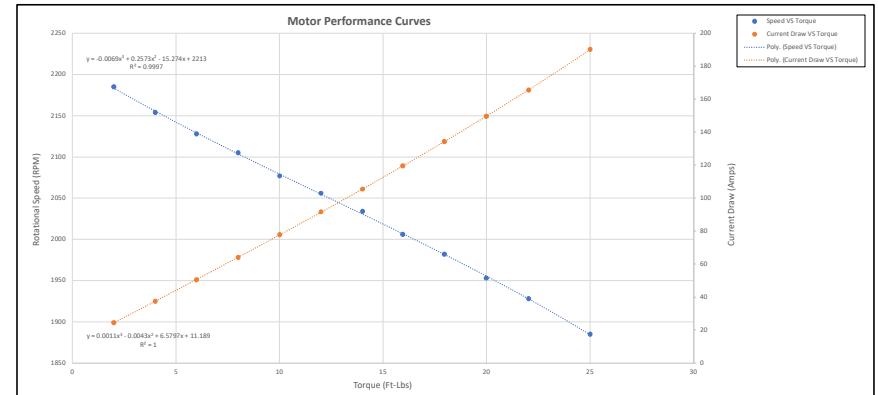
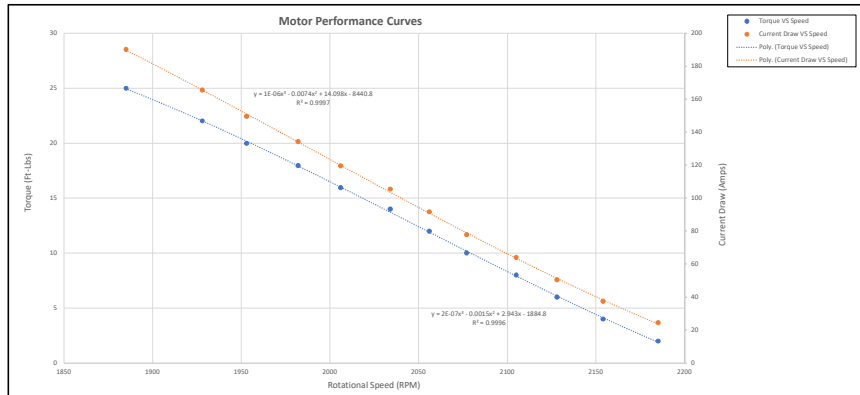
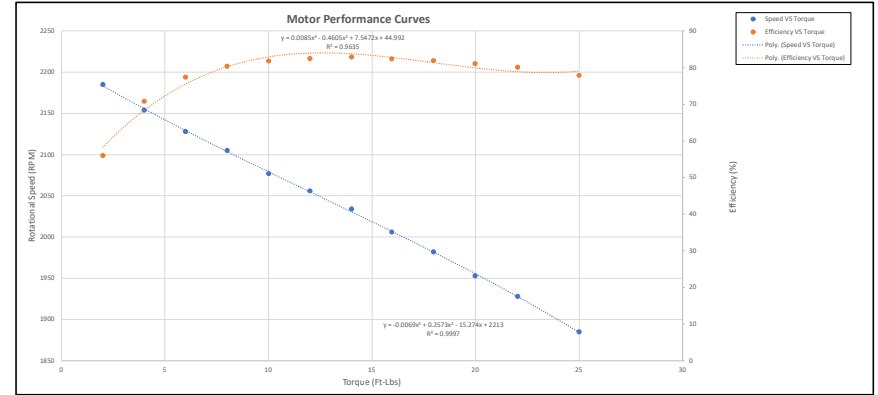
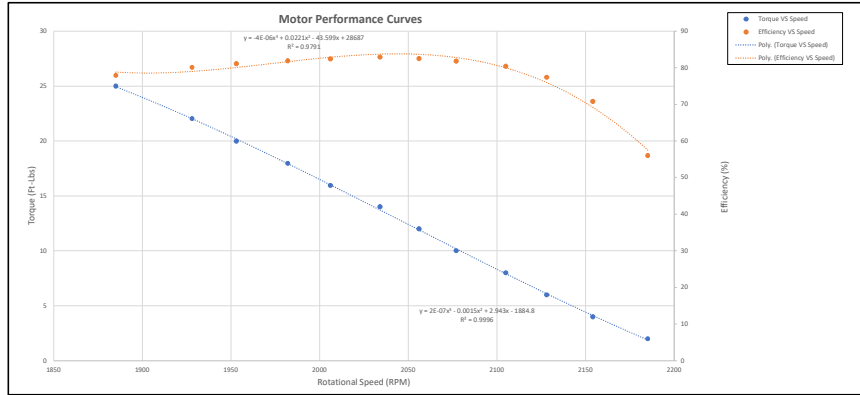


Engineering Performance Test Report

Performance Spec (PS) Number: 19

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 (%)
2	2185	48.1	19.5	34.3	4.96	24.46	1.48	0.83	56
4	2154	47.9	33.5	34.3	4.97	37.47	2.32	1.64	70.8
5.99	2128	47.7	45.5	34.1	4.97	50.47	3.14	2.43	77.4
8	2105	47.5	59.1	33.9	4.95	64.05	3.99	3.21	80.4
10.01	2077	47.3	72.8	33.8	4.96	77.76	4.84	3.96	81.8
12	2056	47.1	86.7	33.7	4.97	91.67	5.69	4.7	82.5
14.01	2034	46.9	100.5	33.5	4.98	105.48	6.54	5.43	82.9
15.95	2006	46.7	114.6	33.3	4.98	119.58	7.39	6.09	82.4
17.96	1982	46.5	129.3	33.2	4.97	134.27	8.27	6.78	81.9
19.98	1953	46.1	144.7	33	4.96	149.66	9.16	7.43	81.1
22.03	1928	45.9	160.6	32.9	4.97	165.57	10.1	8.08	80.1
25	1885	45.5	185.2	32.7	5.03	190.23	11.52	8.97	77.9

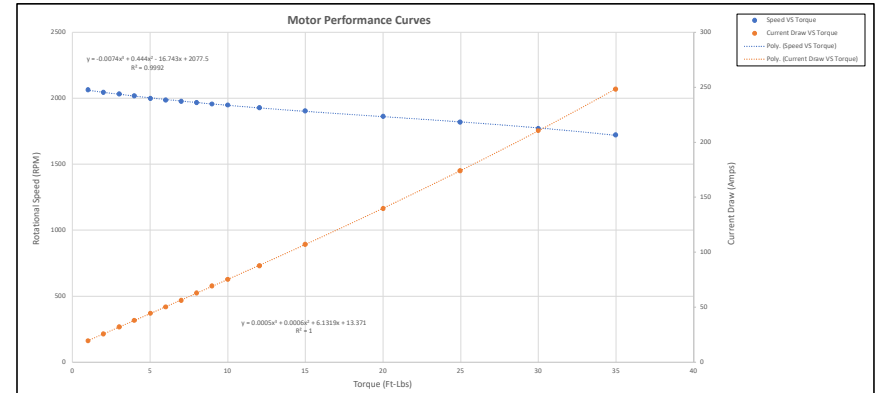
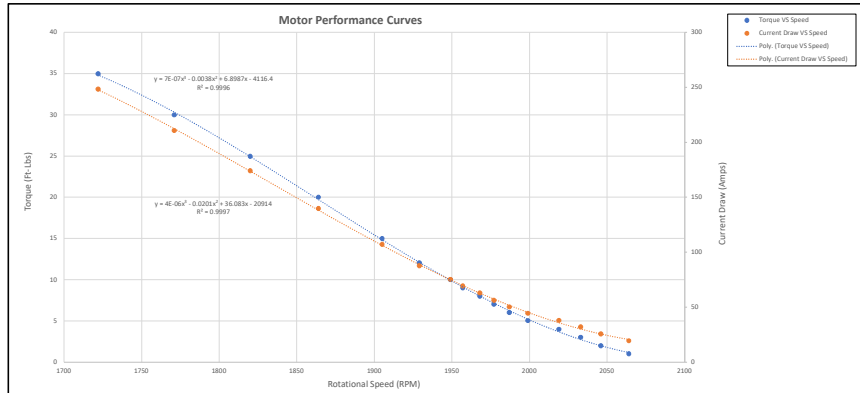
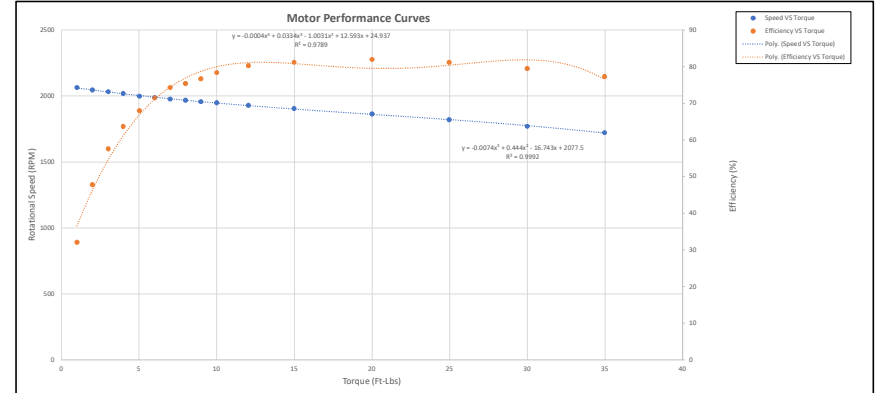
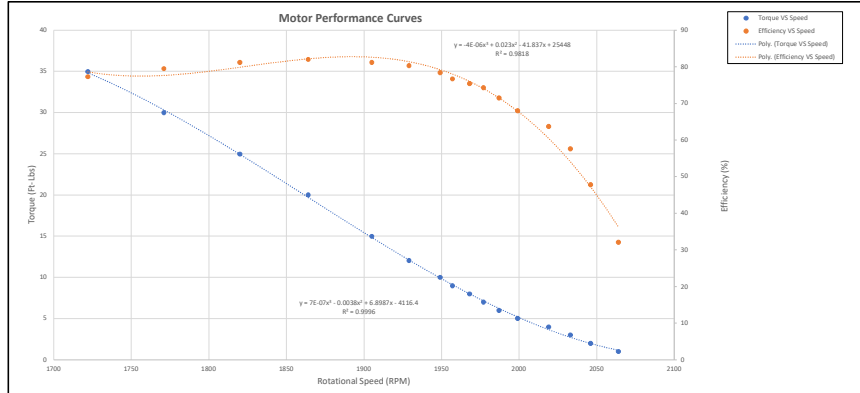


Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 48 - (1 * 0.015)

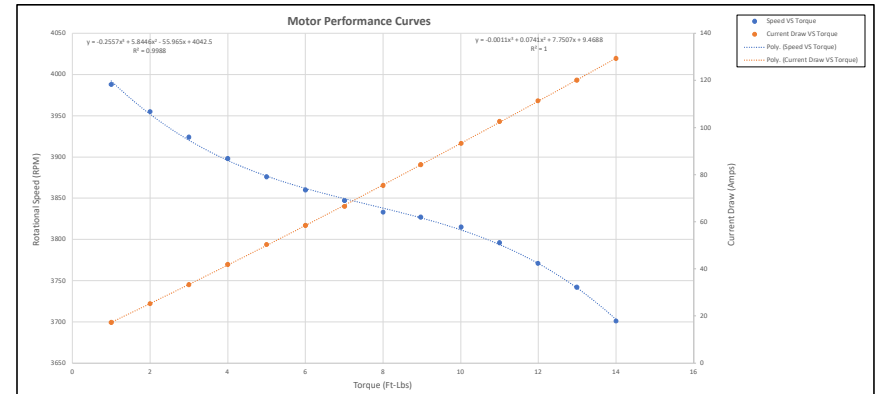
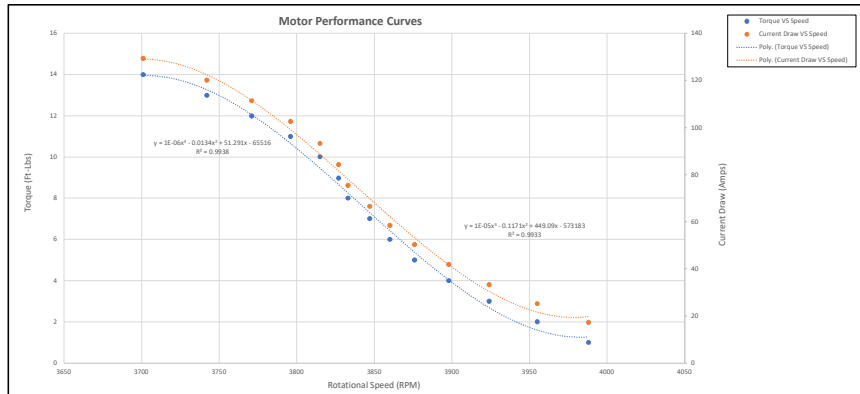
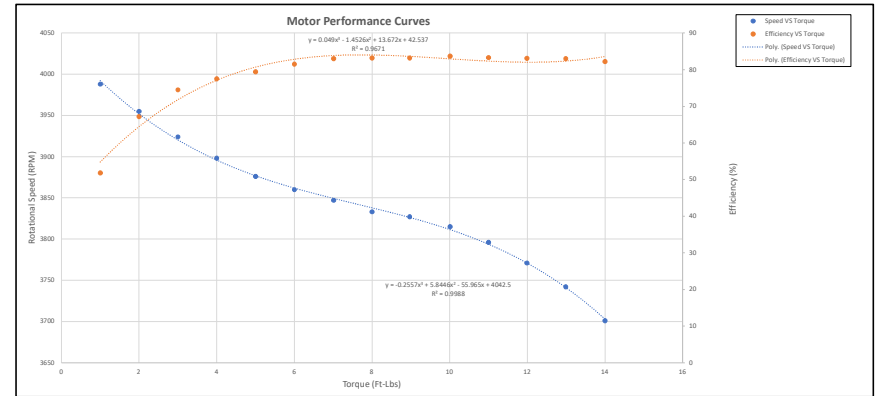
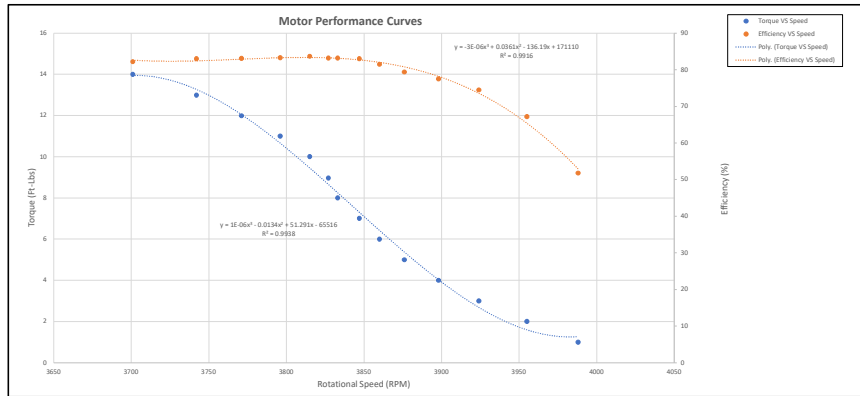
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
1	2064	48.2	32.8	44.8	6.51	19.31	1.22	0.39	32.1
1.99	2046	48.1	35.8	44.7	6.51	25.81	1.62	0.77	47.8
3.01	2033	48	35.4	44.5	6.5	31.9	2.02	1.17	57.6
3.98	2019	47.9	31.4	44.2	6.51	37.91	2.4	1.53	63.7
5.02	1999	47.8	37.9	44	6.52	44.42	2.81	1.91	68
6	1987	47.7	43.7	43.8	6.51	50.21	3.17	2.27	71.5
7	1977	47.6	49.6	43.5	6.53	56.13	3.55	2.63	74.3
7.99	1968	47.6	56.3	43.2	6.51	62.81	3.97	2.99	75.4
8.98	1957	47.5	62.7	42.9	6.5	69.2	4.36	3.35	76.7
10	1949	47.4	68.8	42.7	6.44	75.24	4.73	3.71	78.4
12.04	1929	47.2	81.2	42.4	6.49	87.69	5.5	4.42	80.3
14.98	1905	46.9	100.6	42	6.49	107.09	6.69	5.43	81.2
30	1864	46.4	133.3	41.7	6.45	139.75	8.66	7.1	82
24.96	1820	45.8	167.6	41.3	6.45	174.05	10.65	8.65	81.2
29.99	1771	45.2	204.1	40.9	6.57	210.67	12.73	10.11	79.5
34.97	1722	44.7	242	40.5	6.99	248.99	14.83	11.47	77.3



Engineering Performance Test Report

Performance Spec (PS) Number: 19
System Voltage (V): 72 - (1 * 0.015)

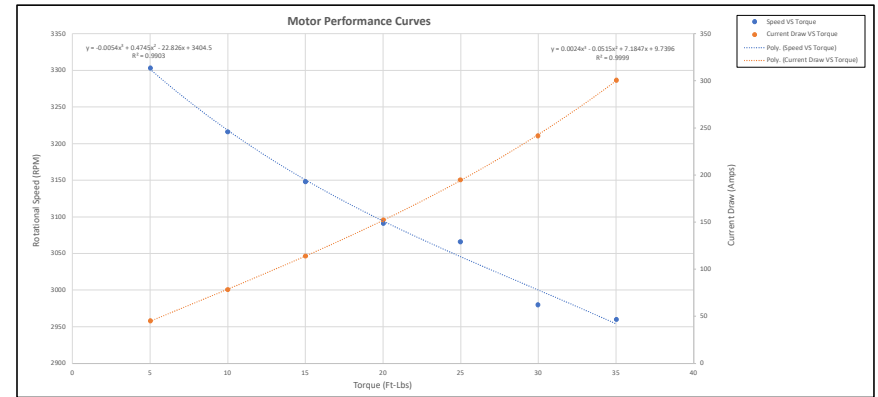
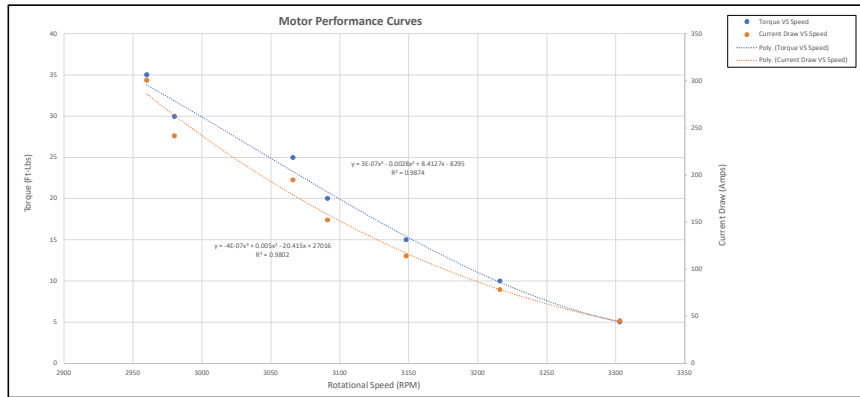
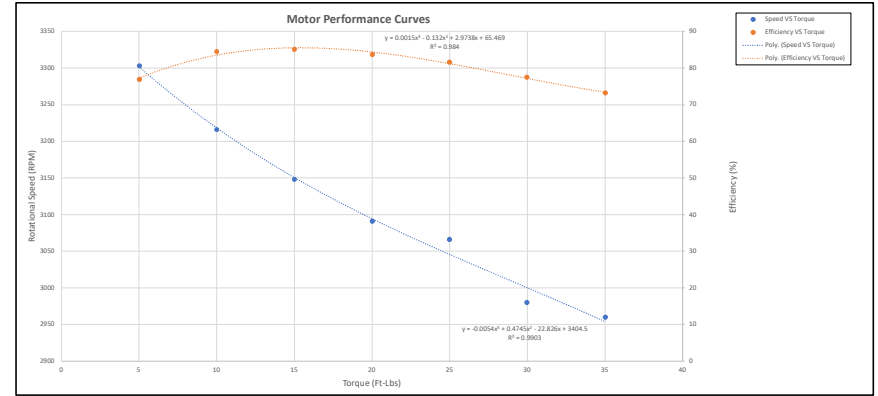
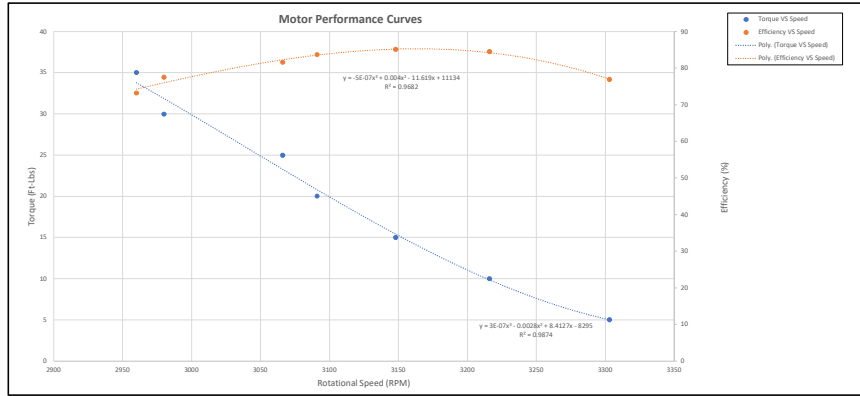
Torque (Ft-Lbs)	Speed (RPM)	Applied Voltage (Volts)	Armature Current (Amps)	Field Voltage (Volts)	Field Current (Amps)	Total Current (Amps)	Power In (Horsepower)	Power Out (Horsepower)	Efficiency (%)
1	3988	72.2	14.3	21.6	2.94	17.24	1.47	0.76	51.8
2	3955	72.1	22.3	21.5	2.92	25.22	2.24	1.15	62.2
3	3924	72	30.3	21.5	2.94	33.24	3.01	2.24	74.5
4	3898	71.9	38.9	21.4	2.94	41.84	3.83	2.97	77.5
5	3876	71.8	47.4	21.4	2.94	50.34	4.65	3.69	79.4
6	3860	71.6	55.5	21.3	2.92	58.42	5.42	4.41	81.5
7.01	3847	71.6	63.6	21.3	2.93	66.53	6.19	5.13	83
8	3833	71.4	72.5	21.3	2.92	75.42	7.02	5.84	83.2
8.97	3827	71.3	81.3	21.2	2.92	84.22	7.85	6.54	83.2
10.01	3815	71.1	90.3	21.2	2.95	93.25	8.69	7.27	83.2
11	3796	70.9	99.6	21.2	2.97	102.57	9.55	7.95	83.3
11.99	3771	70.7	109.4	21.2	2.94	111.34	10.36	8.61	83.1
12.99	3742	70.5	117.2	21.2	2.94	120.14	11.16	9.26	82
14	3701	70.3	126.4	21.2	2.95	129.35	12	9.86	82.2



Engineering Performance Test Report

Performance Spec (PS) Number: 19
 System Voltage (V): 72-1 (± 0.01%)

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 (%)
5.02	3303	71.9	40.1	35.6	4.97	45.07	4.1	3.15	76.9
10	3216	71.4	73.3	35.5	4.98	78.28	7.25	6.13	84.5
15	3148	70.8	108.9	35.3	5	113.9	10.57	8.99	85.1
20.02	3091	70.1	147.3	35.1	5	152.3	14.07	11.78	83.7
24.98	3065	69.3	189.9	34.9	4.95	194.85	17.87	14.58	81.6
29.97	2982	68.5	236.7	34.7	4.86	241.56	21.95	17	77.5
35.02	2960	67.5	295.5	34.4	5.07	300.57	26.95	19.74	73.2



Engineering Performance Test Report

Performance Spec (PS) Number: 19

System Voltage (V): 72 - (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 (%)
1.98	2863	72.1	23.3	81.8	10.07	33.37	3.36	1.08	32.2
3.96	2834	72	23.5	80.9	10.08	43.58	4.32	2.13	49.4
5.96	2806	71.8	44.4	79.9	10.06	54.46	5.35	3.18	59.5
8.03	2779	71.6	55.1	78.8	10.12	65.22	6.36	4.25	66.9
9.97	2753	71.5	66.2	77.7	10.06	76.26	7.4	5.22	70.7
12.03	2727	71.3	77.4	76.6	10.1	87.5	8.43	6.24	74
14.99	2683	71	93.9	75.4	10.16	104.06	9.96	7.66	76.9
19.99	2614	70.6	120.7	74.1	10.05	130.75	12.42	9.95	80.1
25	2552	70.1	148.9	72.8	10.02	158.92	14.96	12.15	81.2
30	2480	69.6	178.6	71.5	10.1	188.7	17.63	14.16	80.4

