

# Golden Skies R/C Aircraft

## Model Aircraft Power Requirements by Desired Flight Performance

General Assumptions:					
<b>1:</b>	0.25	hp per pound (total Plane weight) for Advanced Aerobatic Performance			
<b>2:</b>	0.31	hp per pound (total Plane weight) for 3-D & Free Style Performance			
<b>3:</b>	745.7	watts per Horse-Power (hp)			
<b>4:</b>	Trainer	Sport Aerobatic	Advanced Aerobatics	3-D & Free Style	Watts Required for the four Flying Performance
	50	80	100	150	
<b>5:</b>	100%	Motor Conversion Efficiency = Watts in / Watts out			

### ----- Based upon Assumption # 2 -----

Plane Weight (lbs)	Gas or Fuel Aircraft Power Requirements (Hp)				Electric Aircraft Input Power Requirements (W)		
	Trainer	Sport Aerobatic	Advanced Aerobatics	3-D & Free Style	Trainer	Sport Aerobatic	Advanced Aerobatics
1	0.10	0.19	0.25	0.31	77	139	185
1.5	0.16	0.28	0.37	0.47	116	208	277
2	0.21	0.37	0.50	0.62	154	277	370
2.5	0.26	0.47	0.62	0.78	193	347	462
3	0.31	0.56	0.74	0.93	231	416	555
3.5	0.36	0.65	0.87	1.09	270	485	647
4	0.41	0.74	0.99	1.24	308	555	740
4.5	0.47	0.84	1.12	1.40	347	624	832
5	0.52	0.93	1.24	1.55	385	694	925
5.5	0.57	1.02	1.36	1.71	424	763	1017
6	0.62	1.12	1.49	1.86	462	832	1110
6.5	0.67	1.21	1.61	2.02	501	902	1202
7	0.72	1.30	1.74	2.17	539	971	1295
7.5	0.78	1.40	1.86	2.33	578	1040	1387
8	0.83	1.49	1.98	2.48	616	1110	1479
8.5	0.88	1.58	2.11	2.64	655	1179	1572
9	0.93	1.67	2.23	2.79	694	1248	1664
9.5	0.98	1.77	2.36	2.95	732	1318	1757
10	1.03	1.86	2.48	3.10	771	1387	1849

10.5	1.09	1.95	2.60	3.26	809	1456	1942
11	1.14	2.05	2.73	3.41	848	1526	2034
11.5	1.19	2.14	2.85	3.57	886	1595	2127
12	1.24	2.23	2.98	3.72	925	1664	2219
12.5	1.29	2.33	3.10	3.88	963	1734	2312
13	1.34	2.42	3.22	4.03	1002	1803	2404
13.5	1.40	2.51	3.35	4.19	1040	1872	2497
14	1.45	2.60	3.47	4.34	1079	1942	2589
15	1.55	2.79	3.72	4.65	1156	2081	2774
16	1.65	2.98	3.97	4.96	1233	2219	2959
17	1.76	3.16	4.22	5.27	1310	2358	3144
18	1.86	3.35	4.46	5.58	1387	2497	3329
19	1.96	3.53	4.71	5.89	1464	2635	3514
20	2.07	3.72	4.96	6.20	1541	2774	3699
22	2.27	4.09	5.46	6.82	1695	3051	4069
25	2.58	4.65	6.20	7.75	1926	3468	4623
30	3.10	5.58	7.44	9.30	2312	4161	5548

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	----- Based upon Assumption # 4 -----			
	Electric Aircraft			
watts)	Input Power Requirements (watts)			
3-D & Free Style	Trainer	Sport Aerobatic	Advanced Aerobatics	3-D & Free Style
231	50	80	100	150
347	75	120	150	225
462	100	160	200	300
578	125	200	250	375
694	150	240	300	450
809	175	280	350	525
925	200	320	400	600
1040	225	360	450	675
1156	250	400	500	750
1271	275	440	550	825
1387	300	480	600	900
1503	325	520	650	975
1618	350	560	700	1050
1734	375	600	750	1125
1849	400	640	800	1200
1965	425	680	850	1275
2081	450	720	900	1350
2196	475	760	950	1425
2312	500	800	1000	1500

2427	525	840	1050	1575
2543	550	880	1100	1650
2658	575	920	1150	1725
2774	600	960	1200	1800
2890	625	1000	1250	1875
3005	650	1040	1300	1950
3121	675	1080	1350	2025
3236	700	1120	1400	2100
3468	750	1200	1500	2250
3699	800	1280	1600	2400
3930	850	1360	1700	2550
4161	900	1440	1800	2700
4392	950	1520	1900	2850
4623	1000	1600	2000	3000
5086	1100	1760	2200	3300
5779	1250	2000	2500	3750
6935	1500	2400	3000	4500