

Table 1. Comparison of Selected Aircraft Engines, Sorted by Specific Weight

Make	Model	Bore	Stroke	Cylinders	Disp	Take Off HP	Take Off RPM	Weight (lbs)	CSFC (lb/hp/hr)	Specific Power (hp/in3)	Specific Weight (lb/hp)	6-hr MSW (lb/hp)	12-hr MSW (lb/hp)	Piston Speed (fpm)	BMEP psi	Comp Ratio	Super-charger Ratio	Reduction Gear Ratio	Length x Height x Width (Dia) (inches)	Disp per Cylinder (in3)	Power per Cylinder (hp)	Fuel Grade
Curtiss-Wright	955C9HE1	6.125	6.875	9	1,823.13	1,475	2,800	1,406	0.45	0.809	0.953	2.30	3.65	3208	229	6.8:1	7.21 & 8.69	0.4400	48.5 x (54.9)	202.6	163.9	110/130
Napier	Sabre VII	5.000	4.750	24	2,238.39	3,055	3,850	2,940	0.45	1.365	0.962	2.31	3.66	3048	281	7.0:1	4.68 & 5.83	0.2742	83 x 47.2 x 40	93.3	127.3	100/130
P&W	R-2800 CA17	5.750	6.000	18	2,804.47	2,300	2,800	2,355	0.42	0.820	1.024	2.28	3.54	2800	232	6.75:1	7.29, 9.45	0.3500	78.39 x (52.8)	155.8	127.8	115/145
Curtiss-Wright	R-3350-30WA	6.125	6.312	18	3,347.67	3,250	2,900	3,433	0.38	0.971	1.056	2.20	3.34	3051	265	6.70:1	6.46 & 8.67	0.4375	91.8 x (56.6)	186.0	180.6	115/145
Curtiss-Wright	975C18CB1	6.125	6.312	18	3,347.67	2,800	2,900	3,065	0.43	0.836	1.095	2.38	3.67	3051	228	6.70:1	6.46 & 8.67	0.4375	89.5 x (56.6)	186.0	155.6	115/145
Bristol	Hercules 763	5.750	6.500	14	2,363.02	2,160	2,900	2,400	0.42	0.914	1.111	2.37	3.63	3142	250	7.0:1	6.64 & 8.30	0.4400	67.0 x (55.0)	168.8	154.3	115/145
P&W	R-4360 CB2	5.750	6.000	28	4,362.50	3,250	2,700	3,670	0.43	0.745	1.129	2.42	3.71	2700	219	6.75:1	6.375	0.3750	102.0 x (55.0)	155.8	116.1	108/135
Bristol	Centaurus 568	5.750	7.000	18	3,271.88	2,550	2,700	2,920	0.42	0.779	1.145	2.41	3.67	3150	229	7.2:1	5.93 & 7.76	0.4400	72.0 x (55.3)	181.8	141.7	100/130
Allison	V-1710-131(G3R)	5.500	6.000	12	1,710.60	1,600	3,200	1,875	0.46	0.935	1.172	2.54	3.91	3200	231	6.0:1	7.76 & 9.60	0.4200	103.0 x 40.34 x 29.28	142.6	133.3	100/130
Rolls-Royce	Merlin 724	5.400	6.000	12	1,648.96	1,760	3,000	2,190	0.45	1.067	1.244	2.59	3.94	3000	282	6.0:1	5.79 & 7.06	0.4200	86.9 x 43.2 x 29.8	137.4	146.7	100/130
Rolls-Royce	Griffon 57	6.000	6.600	12	2,239.33	1,985	2,750	2,500	0.42	0.886	1.259	2.52	3.78	3025	255	6.0:1	6.615 & 7.70	0.4423	83.5 x 41.5 x 32.0	186.6	165.4	100/130
Napier	Nomad NNm.7	6.000	7.375	12	2,502.28	3,135	2,050	3,980	0.33	1.253	1.270	2.26	3.25	2520	242	8.0:1	Turbo	0.5260	109.5 x 52.5 x 56.2	208.5	261.3	Diesel
Proto	4-stroke (08-27-2005)	1.000	1.000	1	0.79	1	1	1	?	1.273	1.000	#VALUE!	#VALUE!	0	#####	?	?	?	?	0.8	1.0	

NOTES:
 Power ratings are dry ratings, either takeoff or METO. This leaves room for 5-15% increase with ADI.
 These specifications come from Wilkinson 1951 or 1955 and manufacturer's specifications of the same era.
 CSFC = Cruise Specific Fuel Consumption.
 6-hr MSW = Six hour Mission Specific Weight, i.e., weight of engine and fuel for 6 hours cruising at 50% of takeoff power, divided by takeoff power.
 BMEP formula is modified for two-stroke engines
 Weight for air cooled engines is published dry weight.
 Weight for liquid cooled engines increases the published dry weight by a 400 lb allowance for radiator, coolant and plumbing .
 Disp, Specific Power, Specific Weight, 6-hr MSW, 12-hr MSW, Piston Speed and BMEP are all calculated from Bore, Stroke, Cylinders, Take Off HP, Take Off RPM, Weight and CSFC.

Table 2. Comparison of Selected Aircraft Engines, Sorted by 6-hr MSW

Make	Model	Bore	Stroke	Cylinders	Disp	Take Off HP	Take Off RPM	Weight (lbs)	CSFC (lb/hp/hr)	Specific Power (hp/in3)	Specific Weight (lb/hp)	6-hr MSW (lb/hp)	12-hr MSW (lb/hp)	Piston Speed (fpm)	BMEP psi	Comp Ratio	Super-charger Ratio	Reduction Gear Ratio	Length x Height x Width (Dia) (inches)	Disp per Cylinder (in3)	Power per Cylinder (hp)	Fuel Grade
Curtiss-Wright	R-3350-30WA	6.125	6.312	18	3,347.67	3,250	2,900	3,433	0.38	0.971	1.056	2.20	3.34	3051	265	6.70:1	6.46 & 8.67	0.4375	91.8 x (56.6)	186.0	180.6	115/145
Napier	Nomad NNm.7	6.000	7.375	12	2,502.28	3,135	2,050	3,980	0.33	1.253	1.270	2.26	3.25	2520	242	8.0:1	Turbo	0.5260	109.5 x 52.5 x 56.2	208.5	261.3	Diesel
P&W	R-2800 CA17	5.750	6.000	18	2,804.47	2,300	2,800	2,355	0.42	0.820	1.024	2.28	3.54	2800	232	6.75:1	7.29, 9.45	0.3500	78.39 x (52.8)	155.8	127.8	115/145
Curtiss-Wright	955C9HE1	6.125	6.875	9	1,823.13	1,475	2,800	1,406	0.45	0.809	0.953	2.30	3.65	3208	229	6.8:1	7.21 & 8.69	0.4400	48.5 x (54.9)	202.6	163.9	110/130
Napier	Sabre VII	5.000	4.750	24	2,238.39	3,055	3,850	2,940	0.45	1.365	0.962	2.31	3.66	3048	281	7.0:1	4.68 & 5.83	0.2742	83 x 47.2 x 40	93.3	127.3	100/130
Bristol	Hercules 763	5.750	6.500	14	2,363.02	2,160	2,900	2,400	0.42	0.914	1.111	2.37	3.63	3142	250	7.0:1	6.64 & 8.30	0.4400	67.0 x (55.0)	168.8	154.3	115/145
Curtiss-Wright	975C18CB1	6.125	6.312	18	3,347.67	2,800	2,900	3,065	0.43	0.836	1.095	2.38	3.67	3051	228	6.70:1	6.46 & 8.67	0.4375	89.5 x (56.6)	186.0	155.6	115/145
Bristol	Centaurus 568	5.750	7.000	18	3,271.88	2,550	2,700	2,920	0.42	0.779	1.145	2.41	3.67	3150	229	7.2:1	5.93 & 7.76	0.4400	72.0 x (55.3)	181.8	141.7	100/130
P&W	R-4360 CB2	5.750	6.000	28	4,362.50	3,250	2,700	3,670	0.43	0.745	1.129	2.42	3.71	2700	219	6.75:1	6.375	0.3750	102.0 x (55.0)	155.8	116.1	108/135
Rolls-Royce	Griffon 57	6.000	6.600	12	2,239.33	1,985	2,750	2,500	0.42	0.886	1.259	2.52	3.78	3025	255	6.0:1	6.615 & 7.70	0.4423	83.5 x 41.5 x 32.0	186.6	165.4	100/130
Allison	V-1710-131(G3R)	5.500	6.000	12	1,710.60	1,600	3,200	1,875	0.46	0.935	1.172	2.54	3.91	3200	231	6.0:1	7.76 & 9.60	0.4200	103.0 x 40.34 x 29.28	142.6	133.3	100/130
Rolls-Royce	Merlin 724	5.400	6.000	12	1,648.96	1,760	3,000	2,190	0.45	1.067	1.244	2.59	3.94	3000	282	6.0:1	5.79 & 7.06	0.4200	86.9 x 43.2 x 29.8	137.4	146.7	100/130
Proto	4-stroke (08-27-2005)	1.000	1.000	1	0.79	1	1	1	?	1.273	1.000	#VALUE!	#VALUE!	0	#####	?	?	?	?	0.8	1.0	

NOTES:
 Power ratings are dry ratings, either takeoff or METO. This leaves room for 5-15% increase with ADI.
 These specifications come from Wilkinson 1951 or 1955 and manufacturer's specifications of the same era.
 CSFC = Cruise Specific Fuel Consumption.
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 BMEP formula is modified for two-stroke engines
 Weight for air cooled engines is published dry weight.
 Weight for liquid cooled engines increases the published dry weight by a 400 lb allowance for radiator, coolant and plumbing .
 Disp, Specific Power, Specific Weight, 6-hr MSW, 12-hr MSW, Piston Speed and BMEP are all calculated from Bore, Stroke, Cylinders, Take Off HP, Take Off RPM, Weight and CSFC.

Table 3. Comparison of Selected Aircraft Engines, Sorted by 12-hr MSW

Make	Model	Bore	Stroke	Cylinders	Disp	Take Off HP	Take Off RPM	Weight (lbs)	CSFC (lb/hp/hr)	Specific Power (hp/in3)	Specific Weight (lb/hp)	6-hr MSW (lb/hp)	12-hr MSW (lb/hp)	Piston Speed (fpm)	BMEP psi	Comp Ratio	Super-charger Ratio	Reduction Gear Ratio	Length x Height x Width (Dia) (inches)	Disp per Cylinder (in3)	Power per Cylinder (hp)	Fuel Grade
Napier	Nomad NNm.7	6.000	7.375	12	2,502.28	3,135	2,050	3,980	0.33	1.253	1.270	2.26	3.25	2520	242	8.0:1	Turbo	0.5260	109.5 x 52.5 x 56.2	208.5	261.3	Diesel
Curtiss-Wright	R-3350-30WA	6.125	6.312	18	3,347.67	3,250	2,900	3,433	0.38	0.971	1.056	2.20	3.34	3051	265	6.70:1	6.46 & 8.67	0.4375	91.8 x (56.6)	186.0	180.6	115/145
P&W	R-2800 CA17	5.750	6.000	18	2,804.47	2,300	2,800	2,355	0.42	0.820	1.024	2.28	3.54	2800	232	6.75:1	7.29, 9.45	0.3500	78.39 x (52.8)	155.8	127.8	115/145
Bristol	Hercules 763	5.750	6.500	14	2,363.02	2,160	2,900	2,400	0.42	0.914	1.111	2.37	3.63	3142	250	7.0:1	6.64 & 8.30	0.4400	67.0 x (55.0)	168.8	154.3	115/145
Curtiss-Wright	955C9HE1	6.125	6.875	9	1,823.13	1,475	2,800	1,406	0.45	0.809	0.953	2.30	3.65	3208	229	6.8:1	7.21 & 8.69	0.4400	48.5 x (54.9)	202.6	163.9	110/130
Napier	Sabre VII	5.000	4.750	24	2,238.39	3,055	3,850	2,940	0.45	1.365	0.962	2.31	3.66	3048	281	7.0:1	4.68 & 5.83	0.2742	83 x 47.2 x 40	93.3	127.3	100/130
Bristol	Centaurus 568	5.750	7.000	18	3,271.88	2,550	2,700	2,920	0.42	0.779	1.145	2.41	3.67	3150	229	7.2:1	5.93 & 7.76	0.4400	72.0 x (55.3)	181.8	141.7	100/130
Curtiss-Wright	975C18CB1	6.125	6.312	18	3,347.67	2,800	2,900	3,065	0.43	0.836	1.095	2.38	3.67	3051	228	6.70:1	6.46 & 8.67	0.4375	89.5 x (56.6)	186.0	155.6	115/145
P&W	R-4360 CB2	5.750	6.000	28	4,362.50	3,250	2,700	3,670	0.43	0.745	1.129	2.42	3.71	2700	219	6.75:1	6.375	0.3750	102.0 x (55.0)	155.8	116.1	108/135
Rolls-Royce	Griffon 57	6.000	6.600	12	2,239.33	1,985	2,750	2,500	0.42	0.886	1.259	2.52	3.78	3025	255	6.0:1	6.615 & 7.70	0.4423	83.5 x 41.5 x 32.0	186.6	165.4	100/130
Allison	V-1710-131(G3R)	5.500	6.000	12	1,710.60	1,600	3,200	1,875	0.46	0.935	1.172	2.54	3.91	3200	231	6.0:1	7.76 & 9.60	0.4200	103.0 x 40.34 x 29.28	142.6	133.3	100/130
Rolls-Royce	Merlin 724	5.400	6.000	12	1,648.96	1,760	3,000	2,190	0.45	1.067	1.244	2.59	3.94	3000	282	6.0:1	5.79 & 7.06	0.4200	86.9 x 43.2 x 29.8	137.4	146.7	100/130
Proto	4-stroke (08-27-2005)	1.000	1.000	1	0.79	1	1	1	?	1.273	1.000	#VALUE!	#VALUE!	0	#####	?	?	?	?	0.8	1.0	

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