

MASA Cumulative Flight Statistics
1998 - 2013

Totals	MM	1/4A	1/2A	A	B	C	D	E	F	G	H	I	J	Flights	Engines	Impulse	Est \$\$
1998*	0	1	13	34	51	126	64	14	17	26	5			436	351	6,304	
1999	6	8	32	164	226	332	229	29	36	22	1			995	1,085	15,155	\$3,159
2000	2	5	20	105	184	375	254	42	61	72	15			1,035	1,135	26,024	\$4,456
2001	10	4	54	121	224	276	199	46	65	57	15			960	1,067	22,749	\$4,093
2002	4	6	22	182	347	372	192	79	66	40	7			1,161	1,307	21,552	\$4,974
2003	36	3	35	116	228	339	207	53	47	33	14			962	1,111	19,108	\$4,082
2004*	13	2	26	197	241	282	156	15	16	3	0			855	951	8,876	\$2,780
2005*	1	0	18	123	211	226	147	40	28	35	4	3		711	836	14,788	\$3,361
2006*	0	0	6	74	119	208	171	35	30	35	22	8	2	606	710	21,692	\$3,605
2007*	3	2	25	122	233	348	148	77	56	45	11	4	0	952	1,074	21,909	\$5,415
2008*	2	1	44	130	203	287	169	55	49	46	10	8	0	903	1,005	22,136	\$5,178
2009*	5	3	25	129	241	327	201	119	60	56	24	13	2	1,052	1,205	33,991	\$6,912
2010*	0	11	29	139	198	298	127	80	44	44	28	10	6	910	1,014	29,962	\$5,876
2011*	2	3	13	146	261	334	209	68	56	63	47	16	8	1,128	1,227	42,868	\$7,776
2012*	8	4	24	198	328	400	194	99	51	45	51	17	10	1,314	1,429	44,658	\$9,637
2013*	7	2	16	128	138	218	84	59	11	13	16	4	7	640	703	18,329	\$4,119
Totals	99	55	402	2,108	3,433	4,748	2,751	910	693	635	270	83	35	14,620	16,210	370,101	75,422

* Not all flights logged = actual totals will be higher

Engine Total Impulse
Size Max N-s

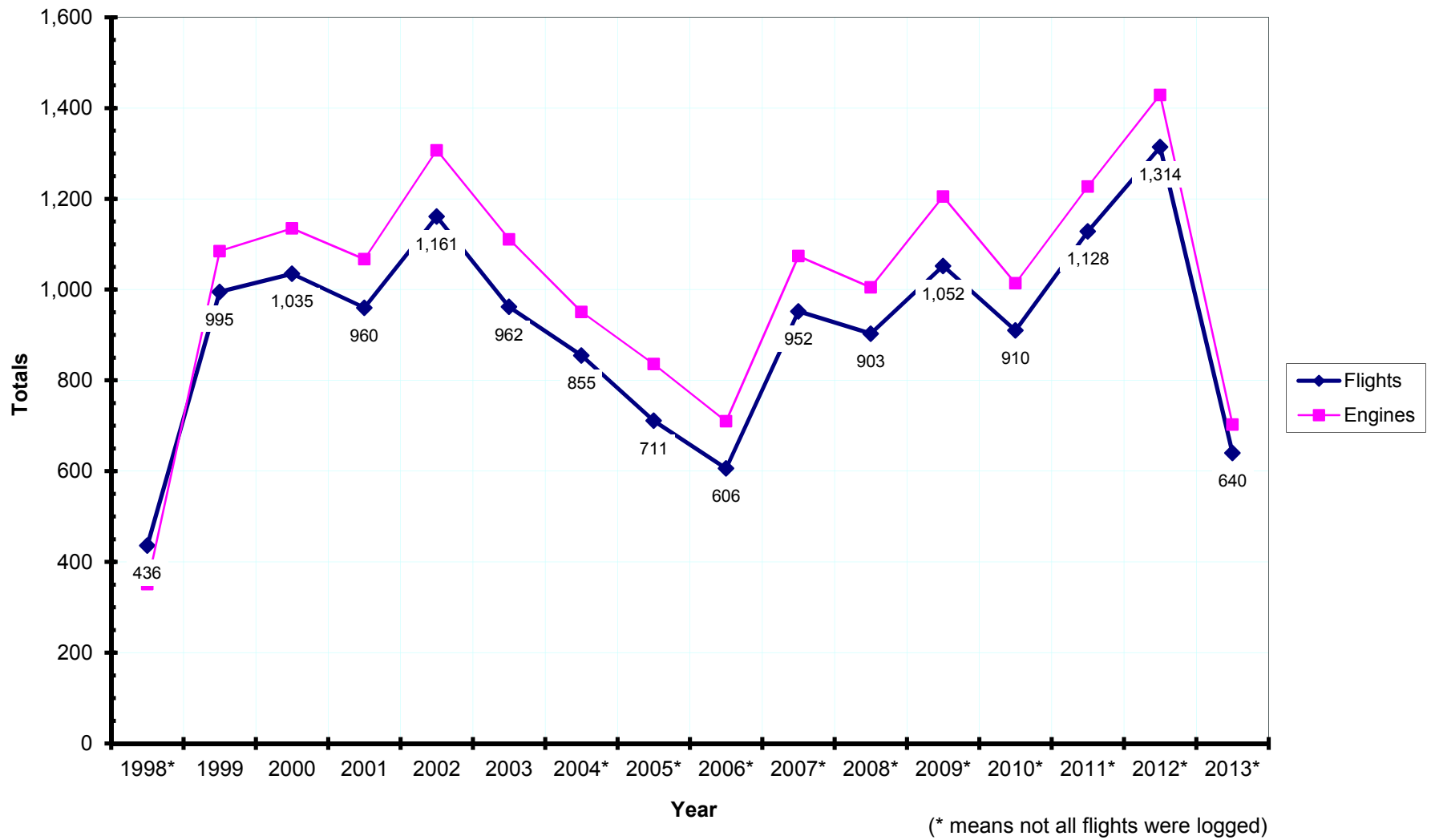
A	2.5
B	5
C	10
D	20
E	40
F	80
G	160
H	320
I	640
J	1280
K	2560
L	5120
M	10240
N	20480
O	40960
P	81920
Q	163840
R	327680
S	655360

Engine usage expressed as a percent of the yearly total

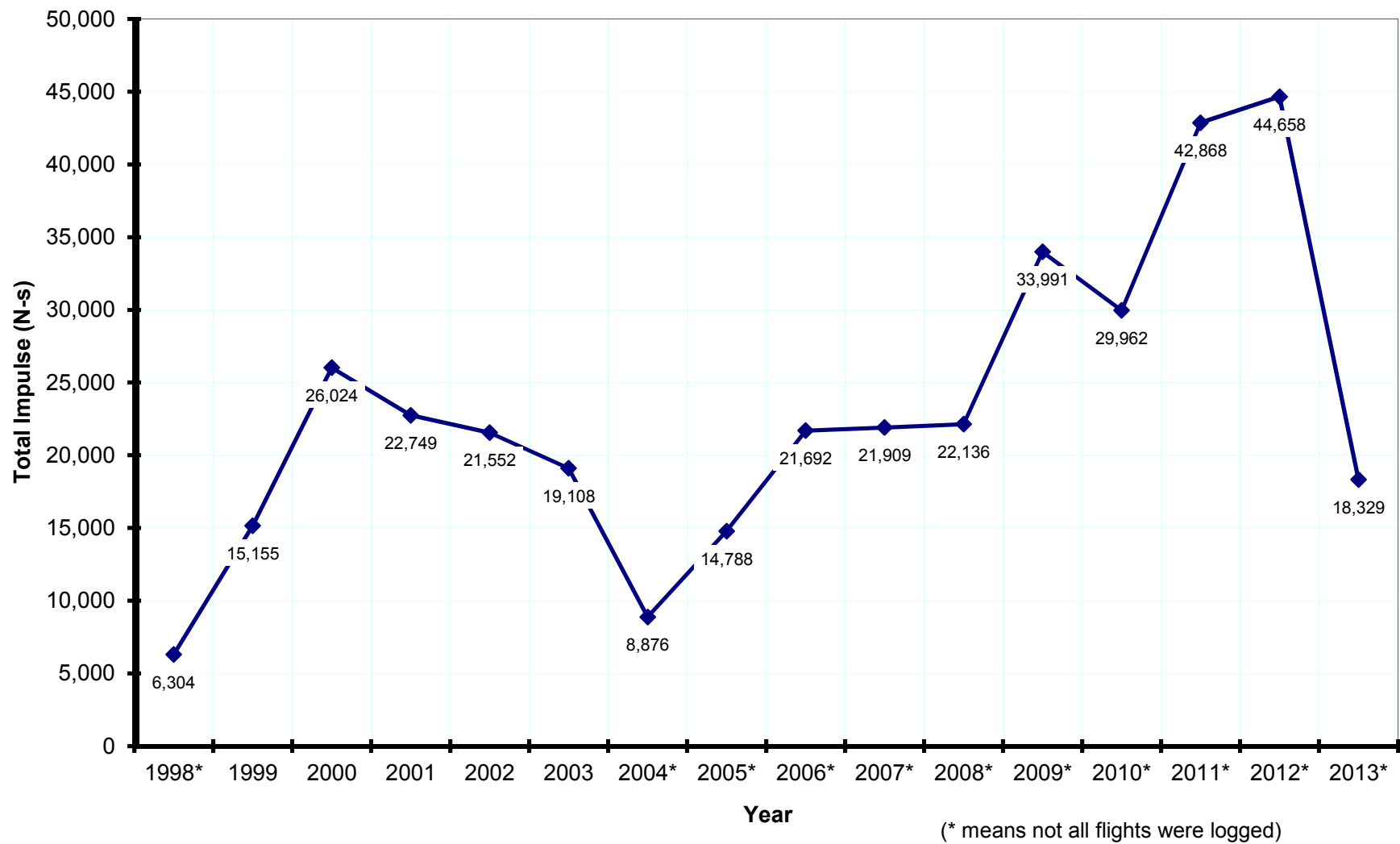
%	MM	1/4A	1/2A	A	B	C	D	E	F	G	H	I	J
1998*	0.0	0.3	3.7	9.7	14.5	35.9	18.2	4.0	4.8	7.4	1.4	0.0	0.0
1999	0.6	0.7	2.9	15.1	20.8	30.6	21.1	2.7	3.3	2.0	0.1	0.0	0.0
2000	0.2	0.4	1.8	9.3	16.2	33.0	22.4	3.7	5.4	6.3	1.3	0.0	0.0
2001	0.9	0.4	5.1	11.3	21.0	25.9	18.7	4.3	6.1	5.3	1.4	0.0	0.0
2002	0.3	0.5	1.7	13.9	26.5	28.5	14.7	6.0	5.0	3.1	0.5	0.0	0.0
2003	3.2	0.3	3.2	10.4	20.5	30.5	18.6	4.8	4.2	3.0	1.3	0.0	0.0
2004*	1.4	0.2	2.7	20.7	25.3	29.7	16.4	1.6	1.7	0.3	0.0	0.0	0.0
2005*	0.1	0.0	2.2	14.7	25.2	27.0	17.6	4.8	3.3	4.2	0.5	0.4	0.0
2006*	0.0	0.0	0.8	10.4	16.8	29.3	24.1	4.9	4.2	4.9	3.1	1.1	0.3
2007*	0.3	0.2	2.3	11.4	21.7	32.4	13.8	7.2	5.2	4.2	1.0	0.4	0.0
2008*	0.2	0.1	4.4	12.9	20.2	28.6	16.8	5.5	4.9	4.6	1.0	0.8	0.0
2009*	0.4	0.2	2.1	10.7	20.0	27.1	16.7	9.9	5.0	4.6	2.0	1.1	0.2
2010*	0.0	1.1	2.9	13.7	19.5	29.4	12.5	7.9	4.3	4.3	2.8	1.0	0.6
2011*	0.2	0.2	1.1	11.9	21.3	27.2	17.0	5.5	4.6	5.1	3.8	1.3	0.7
2012*	0.6	0.3	1.7	13.9	23.0	28.0	13.6	6.9	3.6	3.1	3.6	1.2	0.7
2013*	1.0	0.3	2.3	18.2	19.6	31.0	11.9	8.4	1.6	1.8	2.3	0.6	1.0
Average	0.6	0.3	2.5	13.0	21.2	29.3	17.0	5.6	4.3	3.9	1.7	0.5	0.2

Percentage of total to date

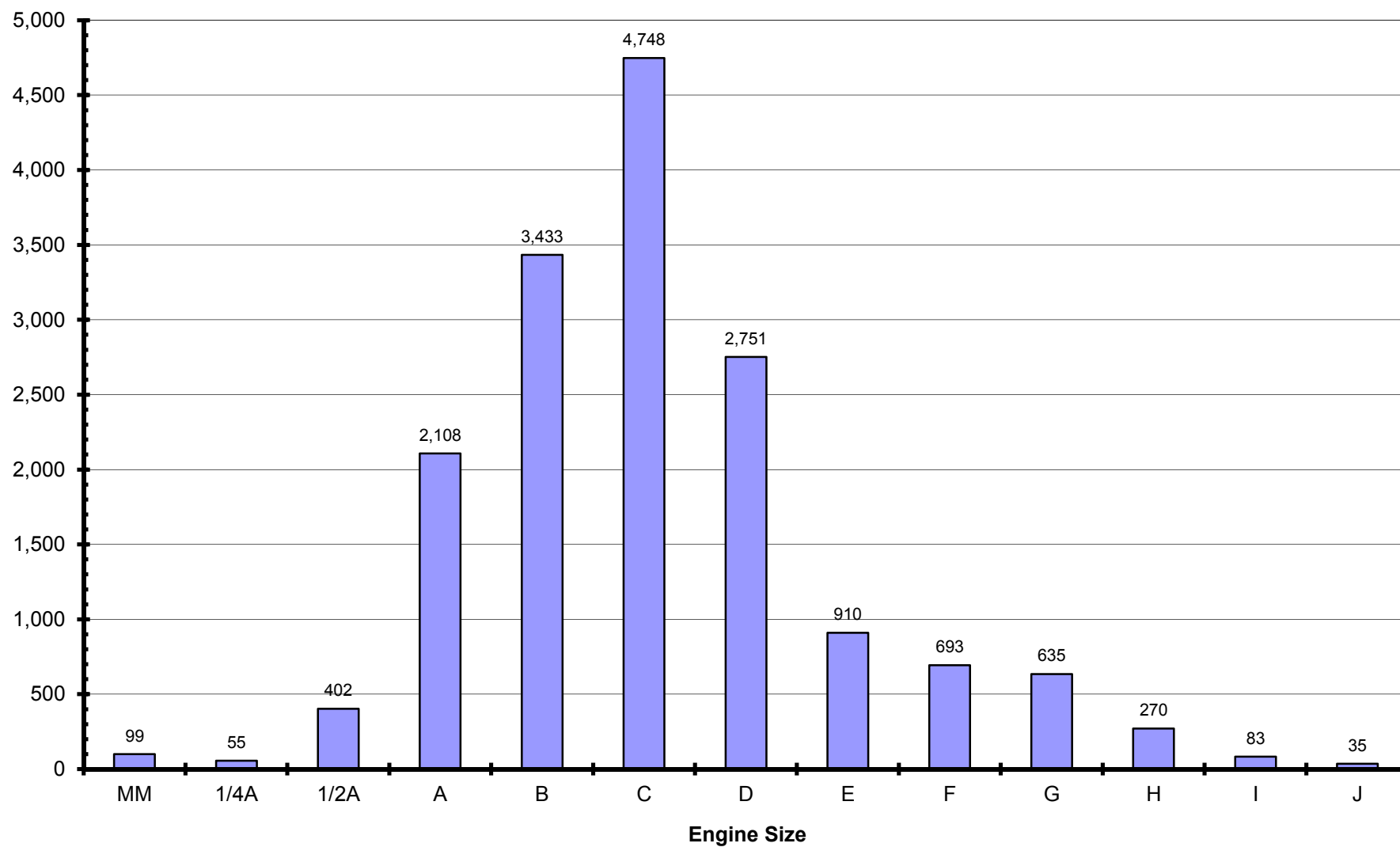
**Total Number of Flights Per Year
and Total Number of Engines Burned Per Year
MASA Launches: 1998 - 2013**



Total Impulse of Engines Burned Per Year MASA Launches: 1998 - 2013



Number of Engines Burned at MASA Launches: 1998 - 2013



Distribution of Engines Burned at MASA Launches: 1998 - 2013
(percentage of total)

