

Assignment 3

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Assignment 3: Exercise 1

The file `Bleed.txt`, in `RSplidaAlpha\RSplida` text data, contains field failure data on failures in aircraft engine bleed systems (each aircraft has one such system) from a fleet of 2256 military aircraft. Use these data to compute the Kaplan-Meier product limit estimator out to 500 hours of operation. Set this up in a table and do the computation without the aid of a computer, unless you do your own programming (e.g., in R or an Excel spreadsheet). Show the table outlining the computations as part of your solution. You can use available software (e.g. JMP or RSPLIDA) to check your answers.

Answer:

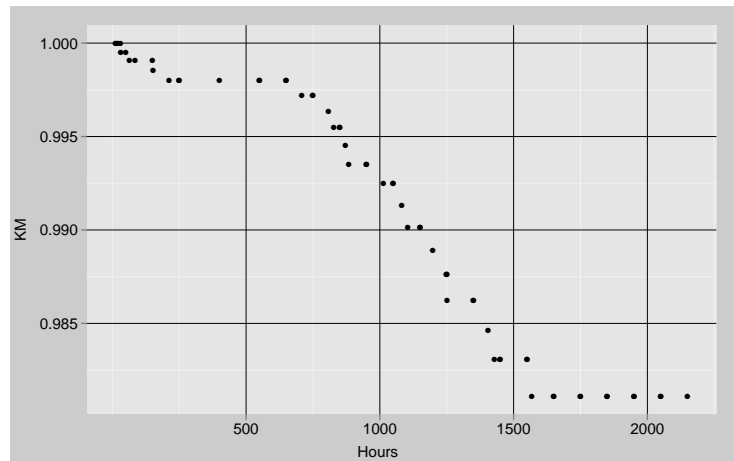


Figure 1: Figure 1: Kaplan-Meier Estimates

	Hours	Status	Weight	units.entered	d	pi	KM
1	12	Censored	39	2256	0	1.00000000	1.00000000
2	20	Censored	52	2217	0	1.00000000	1.00000000
3	30	Censored	46	2165	0	1.00000000	1.00000000
4	32	Failed	1	2119	1	0.99952808	0.99952808
5	50	Censored	31	2118	0	1.00000000	0.99952808
6	64	Failed	1	2087	1	0.99952084	0.99904915
7	85	Censored	48	2086	0	1.00000000	0.99904915
8	150	Censored	102	2038	0	1.00000000	0.99904915
9	153	Failed	1	1936	1	0.99948347	0.99853311
10	212	Failed	1	1935	1	0.99948320	0.99801707
NA							
50	1650	Censored	55	490	0	1.00000000	0.98108263
51	1650	Censored	8	435	0	1.00000000	0.98108263
52	1750	Censored	55	427	0	1.00000000	0.98108263
53	1750	Censored	4	372	0	1.00000000	0.98108263
54	1850	Censored	55	368	0	1.00000000	0.98108263
55	1850	Censored	2	313	0	1.00000000	0.98108263
56	1950	Censored	152	311	0	1.00000000	0.98108263
57	1950	Censored	3	159	0	1.00000000	0.98108263
58	2050	Censored	152	156	0	1.00000000	0.98108263
59	2050	Censored	3	4	0	1.00000000	0.98108263
60	2150	Censored	1	1	0	1.00000000	0.98108263

Table 1: Kaplan-Meier Computations