

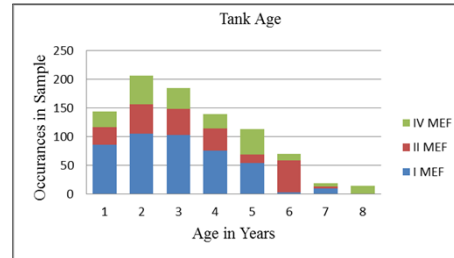
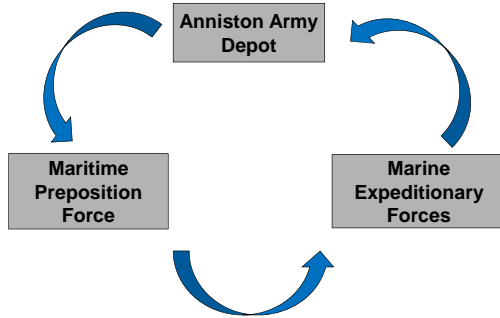


Description

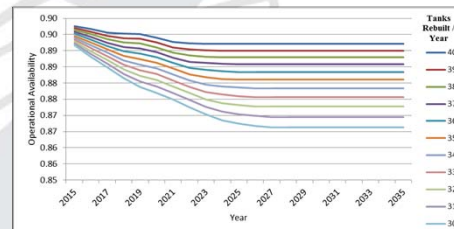
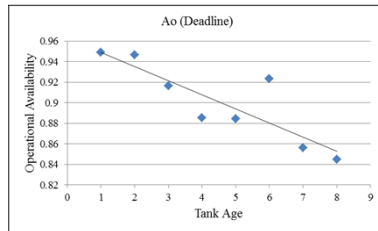
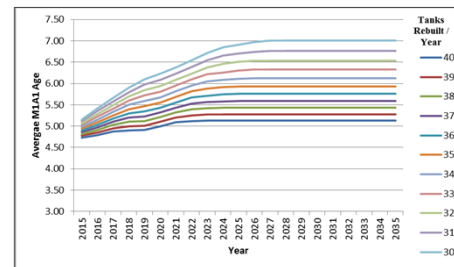
The purpose of this project is to determine the effects of age, as measured by the time since the last depot-level rebuild, on equipment operational availability for the M1A1 Main Battle Tank (MBT) in the Marine Corps.



Typical USMC M1A1 Rotation



Age	Tanks	Regions			ERO (Deadline)	Uptime(Deadline)	Downtime (Deadline)	Ao (Deadline)
		I MEF	II MEF	IV MEF				
1	144	86	31	27	100	45512	2448	0.948957465
2	206	106	51	49	173	66531	3748	0.946669702
3	185	103	46	36	222	59987	5481	0.916279709
4	139	76	39	24	171	43146	5587	0.885354893
5	113	54	15	44	127	31456	4105	0.884564551
6	70	3	56	11	55	16493	1370	0.923305156
7	19	10	4	5	14	4264	715	0.856396867
8	15	1	0	14	27	4052	743	0.845046924
Totals	891	439	242	210				



Findings

- There is a linear correlation between the age of a M1A1 MBT and that tank's average operational availability.
- Maintaining the current rebuild strategy of 10% annually, will result in a long term fleet operational availability average of .892 beginning in 2023.
- This model can be used by senior decision makers in optimizing depot-level maintenance and operational logistics planning.