MIL-HDBK-338-environmental conversion table correction

In reliability analysis for space launch vehicles, limited data is frequently a challenge due to the pure number of launches. A common solution is to use surrogate historical data of similar components from other industries (military data). The operating environment of the common data may be different from that of the necessary target analysis. The military electronic design handbook (MIL-HDBK-338) has a table for converting Mean Time Between Failure (MTBF) data from one environment to another. However, the table has some discrepancies and rounding of complementary conversions; namely going from environment A to B does not given the same result as going from B to A.

This presentation will show the discrepancies in the original conversation table, the greater than expected magnitude, the problem with the updated published table and a suggested corrected table to reference when doing MTBF data environment conversion.