

an 8-meter CEP accuracy or two SSBs with 3-meter accuracy

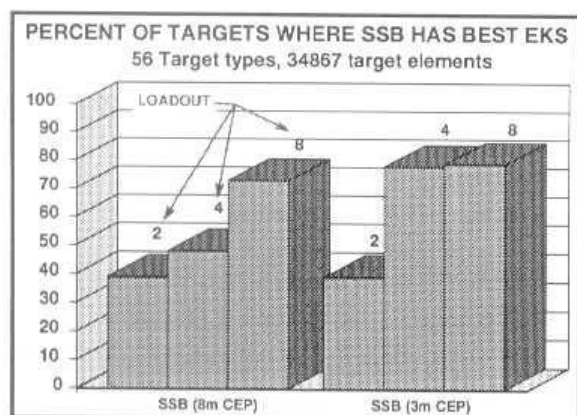


Figure 5. Percent of Target Set Where SSB has the Best EKS

Figure 5 shows the percentage of the 34867 targets where the SSB expected-kill-per-sortie value is higher than the loadout of two 454 kg munitions. We see that a loadout of four SSBs and 8-meter accuracy achieves a best EKS value for slightly less than 50% of the target set. The two 454kg munitions achieve the best EKS for the remaining 50% of the targets. However, a loadout of four SSBs with 3-meter accuracy provides the best effectiveness for almost 80 percent of the targets. By the time a loadout of 8 SSBs is reached, the SSB is the most effective weapon for 75 % of all the targets at either the 8 or 3-meter accuracy. We can make a couple of statements from this observation: 1) There are some targets that are best attacked with 454 kg class munitions, thus a UTA should be able to carry at least a 454 kg class GP bomb, 2) Somewhere between 4 and 8 SSBs with 8-meter accuracy there is a significant number of additional targets where SSB obtains the best EKS. Up to now there has been no indication how much better the EKS value is for the SSB than the 454 kg munition. Figure 6 helps answer this question since the target set is restricted to those targets

where the SSB has been shown to have the best EKS. Recall that this restricted set still represents over 75% of the total original set used in this study. For this set of targets we see that even a loadout of two SSBs is as effective as two 454 kg munitions and that four SSBs and 3-meter accuracy provide an average of two targets killed per sortie. When 4 SSBs, which represents 1000-lb (454 kg) in total weight, is compared to a single 454 kg munition of equal weight we can see that on average, the four SSBs (8 meter accuracy) have over 3 times the EKS as the 454 kg weapon. At 3-meter accuracy 4 SSBs have almost 9 times the EKS and has the equivalent weight of a single 454 kg munition.

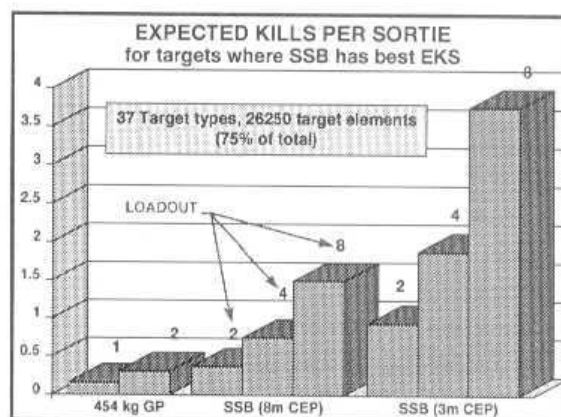


Figure 6. Expected Kills Per Sortie (Targets where SSB has the Best EKS)

This would allow the required number of sorties to be reduced by 300% for an 8-meter SSB and by almost an order of magnitude for a 3-meter accuracy munition. In addition to increasing the conflict tempo, by attacking multiple targets per sortie, a reduction in the total number of sorties required would also reduce attrition, sortie cost, and possibly conflict duration. If these advantages could be realized the additional cost of a terminal seeker to provide a 3-meter accuracy might certainly be justified.