

Abstract Submitted
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One dimensional shock Initiation of UK Comp B. MALCOLM BURNS, Los Alamos National Laboratory — Ten shock initiation experiments have been carried out on the UK isostatically pressed Composition B (59.5% RDX, 39.5% TNT, 1% wax) comprising of seven sustained pulse experiments with input pressures ranging from 2.89 to 9.86 GPa and three short shock experiments using the embedded gauge technique at the Los Alamos National Laboratory gas gun facility. The evolution of the reactive growth at and behind the shock front has been measured along with the run to detonation distance. These data have been used to create the Pop plot and hugoniot states for the UK Comp B. The shock initiation behavior of the UK Comp B has been compared to that of the equivalent US Composition. The reactive growth shows a feature that was observed in the US composition in which the wave profiles display a high level of pre-detonation noise. This was hypothesized to be due to a piezoelectric effect in the RDX crystals. The results of these experiments have shown that this effect may be localized in the gamma phase at shock pressures in the region of 5 GP and above.

Malcolm Burns
Los Alamos National Laboratory

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