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Investigation of Corner Turning Behaviour in a 95% TATB Based Explosive. BEN SUTTON, NICHOLAS WHITWORTH, DAN THOMAS, Atomic Weapons Establishment — The breakout distance of a TATB based explosive has been measured for two acceptor charge diameters. The explosive comprises 95% TATB and 5% KelF-800. In each experiment, a 12.7 mm diameter donor charge was used to initiate a larger diameter acceptor charge of the same material. Acceptor charge diameters of 40 mm and 50 mm were selected, to chart the progress of the detonation wave at different distances from the central axis of the charge. For both acceptor charges, the breakout distance was recorded using a combination of Heterodyne Velocimetry (HetV) and piezoelectric pins; these diagnostics were used to allow the difference between a shock wave and a detonation wave to be discerned.

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