Expanding cylinder experiments in Cu-2wt%Be STEWART STIRK, RON WINTER, AWE — Expanding cylinder techniques are useful methods of investigating dynamic fracture properties since uniform radial strains are achieved at high strain-rates. A gas-gun technique to achieve uniform radial expansion of a cylinder is explored in which the motion of the cylinder is driven by impact of a plastic projectile upon silastomer rubber that partially fills the specimen cylinder. Cylinders of age-hardened copper-beryllium alloy Cu-2wt%Be (TF00 treatment) have been expanded to failure at radial strain-rates in the range $1.2 \times 10^3 \text{ s}^{-1}$. The temporal history of fracture activation is captured using high speed photography and modelled using a combined statistics and energy based fragmentation theory [1]. The model is shown to reproduce the crack dynamics and strain-rate dependence reasonably well.