A Finite Srain, Non-Reactive EOS for PBX9502 BRIAN LAM-
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AWE plc — Like some liquids, the shock velocity - particle velocity relation for
PBX9502 is initially curved, but tends to a linear relation for stronger shocks. Be-
cause of this, the method developed by Jeanloz of finding a Taylor expansion form
for the principal isentrope cannot be used to develop an equation of state (EOS).
Instead, the principal isentrope has been found from the Hugoniot by integration,
using an analytic form for the variation of Gruneisen Gamma with specific volume.
The isentrope has been extended by plausible extrapolations, both beyond the max-
imum Hugoniot compression and into the expansion regime. Finally an analytic fit
has been made to the resulting principal isentrope to develop a Mie-Gruneisen form
of EOS.

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