

## Crew Casualty Assessment

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### ABSTRACT:

To predict injury effects on personnel from ballistic events on a vehicle we first need to perform a live fire test with either plywood or anthropomorphic (anthros) mannequins. To analyze the plywood mannequins we needed to gather the mass, striking velocity, and measurements of fragments. Entering this data into the Plywood Mannequin Analysis Tool (PMAT) gave us a performance assessment of the soldier's remaining capabilities. A similar process was followed with the anthros using electronic sensory data on various locations throughout the body. The sensory data was analyzed in a program called Analysis of Mannequin Data (AMANDA). This program gave the severity of the blast injuries sustained. The data from PMAT and AMANDA was compiled to get a damage assessment of the entire crew. This testing is important to ensure vehicles are meeting the standard to maximize soldier survivability.

**KEYWORDS:** crew casualty assessment, Analysis of Mannequin Data AMANDA, Mannequin, Plywood Mannequin Analysis Tool (PMAT), fragments, soldier survivability, ballistic impact

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