



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Vehicle Improvement Studies

Live Fire Testing on the Joint Light Tactical Vehicle to Assess Mitigation Capabilities from Mine and Improvised Explosive Device-Related Blast Effects

Research conducted at the Program Executive Office Combat Support and Combat Service Support (PEO CS&CSS), Joint Project Office for the Joint Light Tactical Vehicles (JPO JLTV at TACOM in Warren, Michigan), demonstrated that the JLTV Program met all blast-related occupant protection threshold requirements during FY17. These comprised Live Fire Testing from the blast effects of mine and improvised explosive device-related threats during the Low Rate Initial Production (LRIP) Phase. A series of Full Up System Level tests were conducted against required threat levels for both the four-door Combat Tactical Vehicle and two-door Utility Vehicle variants (Figures 1-4). The testing was conducted by Aberdeen Test Center (Aberdeen Proving Grounds, Maryland) with test results being assessed by the collocated Army Evaluation Command and Army Research Laboratory. In all blast-related threshold requirement level testing that assessed levels of occupant blast protection, these JLTV variant designs proved successful in terms of protecting occupants from both underbody, side attack, and under wheel threat events. For a light tactical vehicle, this represents a leap forward in underbody occupant blast protection for a system that also balances a high degree of mobility and high levels of operational reliability at a low vehicle cost. A final LRIP Live Fire Test Report in support of the JLTV Full Rate Production Acquisition Milestone is under development.

Fielding of the JLTV will represent a significant capability increase for Service members in terms of protected mobility that features enhanced deployability, mobility, and vehicle system reliability at low operational cost.

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FIGURE 1: JLTV-Close Combat Weapons Carrier (CCWC) Variant
(Figure used with permission from the authors)



FIGURE 2: JLTV-Utility Variant (Figure used with permission from the authors)



FIGURE 3: JLTV-CCWC Variant (Figure used with permission from the authors)



FIGURE 4: JLTV-CCWC Variant (Figure used with permission from the authors)

