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Development of protection for vehicle structure against mine blasts

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In this paper studying the benefits of v-shaped armored vehicles for protection of soldiers against the blast .the difference between the heights and angle of v- shape and affecting of them on the vehicles .the materials which used for resisting the blast .the design and stress analysis of test rig that used for testing the v-shape.

This paper directly gives us a general background on one of the survivability challenges to constructing a manned ground vehicle weighing less than 20 tons is ensuring the vehicle's ability to withstand the impulsive forces from an anti-tank landmine blast underneath its structure. Hull structures designed to withstand anti-tank mines. Global effects caused by the detonation of an IED near a military vehicle induce subsequent severe acceleration effects on the vehicle occupant. Two concepts to minimize these global effects were The first concept consists in the optimization of the vehicle shape to reduce the momentum transfer and thus the occupant loading. The V-shaped vehicles with different ground clearances were built and compared to a reference vehicle equipped with a flat floor. The second concept, called dynamic impulse compensation (DIC), is based on a momentum compensation technique. The principal possibility of this concept was demonstrated on a scaled vehicle