Protective Equipment

Crew Turret Structural Modifications for Improved Service Member Survivability

Under the US Army M1A2SEPV3 program, the Product Manager, Abrams Tank System initiated an effort to improve crew survivability from underbody blast by making several seating, structural, and component mounting modifications to the crew turret area of the tank. These modifications were made to reduce the amount of shock transmission from underbody blast into the turret basket and seats, thereby increasing crew survivability during these types of events. Specifically, shock mounted seating systems to allow seats to move independently of the floor; stiffened structural components for increased turret basket support; modified supports to keep Service Members feet off of the turret basket floor to minimize lower leg injury; and removal, rerouting, and shock mounting of components under the turret to lessen transmitted loads from components into the turret basket were all incorporated into the overall survivability solution. Ballistic validation testing continues through early FY16. All changes are scheduled to be incorporated into the M1A2SEPV3 production beginning in FY17. All modifications scheduled for incorporation into the final design have demonstrated, via ballistic testing, to drastically reduce crew injury and turn previously unsurvivable underbody attacks into survivable events for the crew (results are classified).