ShockRide® LLC Delivers 1000th Mine Blast Seating Vehicle set to BAE

ShockRide® LLC operating out of their new manufacturing facility in Chandler, AZ. has delivered its 1000th vehicles set of BASS (Bradley Advanced Seating System) mine blast bench seating system to BAE Land Systems. These troop seats sets are designed for the rear troop seating area of BAE's "Bradley" Infantry Fighting Vehicle (IFV) on an IDIQ contract that could end up to be over 6,000 IFV's seating sets.

ArmorWorks Enterprises, LLC and ShockRide® have developed separate designs for troop seats, driver seats, and commander seats. These include stand alone seats (shown in center of ad on opposite page) as well as a modular bench seat system for the IFV (shown in lower right of ad opposite). All seats are designed allowing for maximum operational efficiency, safety and comfort of the occupant.

ShockRide® mine blast seating incorporates the most advanced technology at the lowest cost for advance ground vehicle seating. These seats incorporate a number of state-of-the-art technologies, causing our seats to offer greater protection at a much lower weight. Further, our non-bench seats are adjustable in several ways, affording the driver and commander much greater comfort and ease of movement. Our five (5) point restraints ensure that the seats' occupants will be in proper position for maximum safety in the event of a mine blast.

All early work on Energy Attenuating (EA) seating systems were directed to aircraft and particularly to helicopters. Although aircraft crashes and vehicle mine/IED incidents both require some type of EA seating system, the type of input pulses are vastly different.

Aircraft crash scenarios produce input pulses that are well defined and result in long duration and low g (acceleration) loads on the aircraft and occupants. Ground vehicle blast characterizations are not well defined and result in short duration and extremely high input g-loads (accelerations) to the occupants.

The energy attenuating seating program was started in order to provide protection for crew members from the extremely high lumbar forces that are realized during a mine or IED blast.

ArmorWorks has developed our Energy Attenuating Seating Systems over eight years under multiple SBIR grants from the US Army & US Marines. During the development of the EA seating systems, ArmorWorks worked hand in hand with the Army Research Laboratory in testing and validating our EA seating systems. The first generation EA seating systems were deployed in the General Dynamics AAAV or EFV.

In order to deliver a more cost effective solution to the ground vehicle market, ArmorWorks developed the second generation EA seating system in the forth quarter of 2006 and delivered the first prototypes for live fire testing to BAE Land Systems MRAP program in January 2007.

This live fire test at Aberdeen Proving Ground (APG) included multiple other seat manufactures in a "head to head" competition using fully instrumented anthropometric mannequins to quantify the performance of the seats.

Instrumentation on the vehicle provided the g-loading imparted to the vehicle from the blast and the instrumentation on board the mannequins showed how well the EA system on each seat reduced the g-loading in the to occupant. Shortly after that live fire test, ArmorWorks was awarded the contract for all the crew seats for the BAE MRAP program.

HOW IT WORKS:

All current ShockRide® seating systems use a unique energy attenuation system that does not rely on hydraulic/ pneumatic struts.

The EA system is a mechanical filter that functions like a crumple zone in a car; it holds the force transmitted to the occupant at a constant value that is below injury thresholds. ArmorWorks uses energy attenuators to limit blast loads transferred to the vehicles structure.

The ShockRide® EA system is able to attenuate both the initial blast input and the slam down input while delivering safe survivable inputs to the occupants.

In order to concentrate on energy attenuating seating systems exclusively, ShockRide® LLC was formed in Jan 2008. It is a division of ArmorWorks Enterprises, LLC that is housed in a separate facility located in Chandler Arizona.

The ShockRide®/ArmorWorks team have developed EA seating Systems for General Dynamics AAAV/EFV, LAV H, and Stryker, BAE Land Systems RG33 MRAP, RG33 SOCOM MRAP, Bradley Fighting Vehicle, CTV, CTV+, AAV and the M113 and its variants. ShockRide® has also provided EA seating systems for BAE/OMC RG31 SOCOM Variant, AM General & Textron Land and Marine Systems, Blackwater Worldwide, SPAWAR AAV Command variant, as well as the UK MoD Ridgeback and Mastiff MRAP programs. Since its inception ShockRide® LLC has delivered in excess of 24,000 ShockRide® Energy Attenuating Seats

The ShockRide®/ArmorWorks team supplies additional survivability products to all branches of the US military and multiple OEM for vehicle and aircraft, including the Energy Attenuating Seating Systems, body armor, vehicle armor, Aircraft armor systems, R&D and ballistic testing.

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