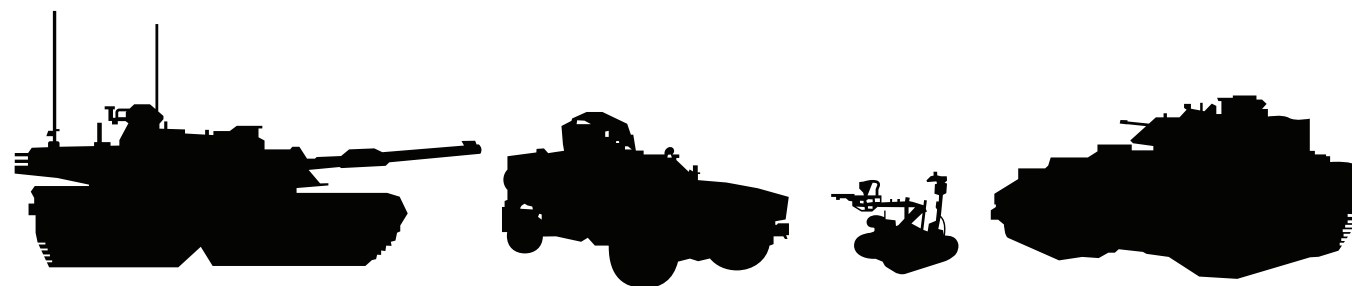




TEST REQUEST PROCESS

- Customer contacts Branch Chief
- Customer completes Customer Test Request form (from provided link)
- OPL members work with the customer to finalize test requirements
- A Laboratory Test Agreement (LTA) is signed by both parties
- Testing process is initiated and a test engineer and/or technician is assigned to the project



The Occupant Protection Laboratory (OPL) is a full service test facility with the resources, capabilities, equipment, and partnerships to perform dynamic impact/impulse testing on components, systems, or sub-systems. This provides the ability to perform unique “out of the box” impact testing along with standardized testing on occupant protection and energy mitigation technologies.

Technologies tested but not limited to:

- Blast mitigating seats
- Restraints
- Blast mats
- EA flooring solutions
- Cargo retention solutions
- Head impact material solutions

The OPL has:

- The capability to certify ATDs according to CFR 49, Part 572 standards.
- Partnerships to perform off-site live fire blast testing and evaluation.
- Off-site contractors that work with OPL engineers and technicians to perform rollover, sled, and full vehicle crash testing.
- The willingness to support your testing needs.



OCCUPANT PROTECTION LABORATORY

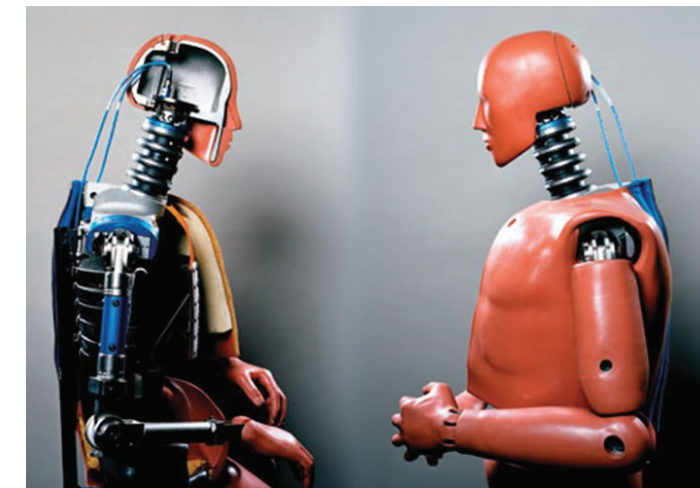
U.S. Army GVSC, Selfridge ANGB • 44030 Schilling Street, Bldg 1426 • Harrison Township, MI 48045



Branch Chief: AnnMarie Meldrum
Phone: 586-459-8005
Email: annmarie.meldrum.civ@army.mil



OCCUPANT PROTECTION LABORATORY



Capabilities and Services

GVSC
Ground Vehicle Survivability & Protection (GVSP)



OCCUPANT PROTECTION LABORATORY

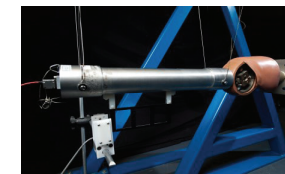
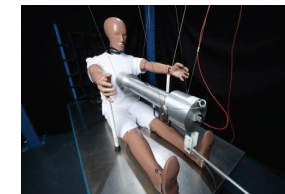
The Occupant Protection Laboratory (OPL) offers seven unique test services:

1. Anthropomorphic Test Device (ATD) Certification
2. Sub-System Drop Tower (SSDT)
3. Crew Compartment Underbody Blast Simulator (CCUBS)
4. Soldier System Interface Impactor (SSII)
5. Floor Interface Technology Accelerator (FITA)
6. Component Impact Simulator (CIS)
7. Off-site Testing Support

ATD Certification

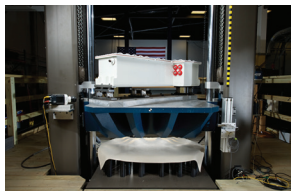
The OPL's Anthropomorphic Test Device (ATD) Certification Laboratory enables GVSC to certify ATDs in-house. This capability reduces the time and cost of certifying ATDs and reduces down time between tests. ATDs can be certified frequently thereby increasing confidence in test measurements and increasing the availability of ATDs for testing. This service is also available to customers.

- Certification fixtures for each ATD body region
- CFR 49, Part 572 Anthropomorphic Test Devices
- Instrumentation conforms to SAE J211 standards
- 5th, 50th, and 95th Hybrid III ATD and Warrior Injury Assessment Manikin (WIAMan)



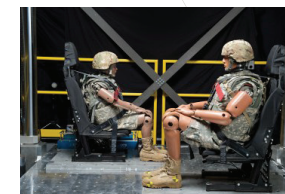
Sub-System Drop Tower (SSDT)

The SSDT is a pneumatic test device for evaluating technologies under a simulated dynamic impact test event. It consists of a 48" x 48" platform that can test a variety of system configurations such as floor, wall, or ceiling-mounted energy absorbing (EA) seats, floor mat materials, EA floors, cargo retention devices, and data acquisition black boxes. Impulses up to 1,000 g, durations from 2-10 msec. Payloads of 1,100 lbs to 7,400 lbs depending on test configuration. The SSDT is ISO/IEC 17025 accredited.



Crew Compartment Underbody Blast Simulator (CCUBS)

CCUBS is a pneumatic test fixture consisting of a large 8' x 8' platform capable of holding multiple seated occupants. It is used to evaluate vehicle crew compartments in simulated underbody blast events. System and sub-system testing can consist of items such as EA seats and restraints, EA floors and floor mats, cargo retention devices and any item that requires dynamic impact testing. It is capable of testing impulses up to 350 g - 11 m/s with slam-down impulses up to 90 g - 8.5 m/s. Total payload is 2,200 lbs.



Soldier System Interface Impactor (SSII)

The SSII is an impact test machine used to test vehicle interior impact points that cause injuries to the head and extremities. The data generated provides the information required to develop interior padding solutions for vehicles subjected to blast, crash, and rollover events. Capable of testing speeds up to 24 kph (15 mph) using Federal Motor Vehicles Safety (FMVS) 201u standards head form. The SSII is ISO/IEC 17025 accredited.



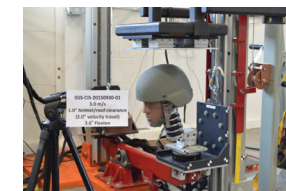
Floor Interface Technology Accelerator (FITA)

The FITA is a test device used to evaluate the performance of EA floor materials for vehicles in a simulated underbody blast. The FITA consists of a rigidly mounted seat with a pneumatically actuated piston that drives the foot of the occupant. This test allows engineers to quickly evaluate the performance of EA materials. Capable of testing speeds up to 10 m/s with an ATD.



Component Impact Simulator (CIS)

A multipurpose test fixture used for component and sub component shock impulse testing. Test results are used to identify input parameters significant to component failure or occupant injury. The fixture is capable of achieving impulses up to 7 m/s. Testing is performed on head/neck, lower extremities, pelvis/lumbar, flooring, seat padding materials, and electronics.



Off-Site Testing Support

The OPL provides off-site test support for its customers by providing Data Acquisition Systems (DAS), ATDs, instrumentation, and test consulting. The OPL has partnerships to perform off-site live fire blast testing and evaluation. The OPL has also worked with off-site contractors to perform sled and rollover testing and full vehicle crash and rollover testing.

