



GROUND VEHICLE SURVIVABILITY & PROTECTION (GVSP)

COMPONENT IMPACT SIMULATOR (CIS)

The Component Impact Simulator (CIS) is a multipurpose test fixture used for component and subcomponent shock impulse testing. The test results are used to identify input parameters that are significant to component failure or occupant injury. The CIS provides the data required to generate algorithms that will predict the risk of failure or injury given the input parameters. This is a repeatable, non-destructive test methodology.

CIS is located within the Occupant Protection Laboratory (OPL), a full-service test facility with the resources, capabilities, equipment, and partnerships needed to perform dynamic impact/impulse testing on components, subsystems, or systems within six distinct testing capabilities.



Head and Neck Testing

- Testing from 6 -10 m/s
- Head/Neck impact testing (with or without helmet)
- Lower-extremity testing (ATD leg from knee down)
- Pelvis impact testing (pelvis and lumbar)
- Evaluation of flooring, seat padding materials (foams, rubbers), vehicle trim, cargo retention, and electronics

AVAILABLE INSTRUMENTATION

- 5th, 50th, 95th Hybrid III ATD and WIAMan (Warrior Injury Assessment Manikin)
- Accelerometers: 7264 style, 2K range or other upon request
- Load Cells: Compression load cells
- High Speed Video: 5,000 fps upon request
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- High Speed Video: 5,000 fps



Pelvic Impact Test



Head and Neck Assembly Test



Lower Leg Testing