



SPECIAL SYSTEMS AND COMPONENT ENGINEERING LAB

Above: 5000 CFM Airflow Bench

OVERVIEW

The Special Systems and Component Engineering (SSCE) Lab is located in the Ground Systems Power and Energy Lab(GSPEL), at the U.S. Army Detroit Arsenal (DTA) in Warren, MI. SSCE is a full-service test facility with the resources, capabilities, equipment, and partnerships needed to perform dynamic testing on Heating, Ventilation, Air-Conditioning (HVAC) component systems, vehicle system power testing and 28Vdc alternator bench for vehicle integration and tests. Testing can be performed in five distinct environmental and air-flow chambers.



Large Environmental Chamber



CAPABILITIES

- Five Environmental Chambers
 - Sizes from 4'x4'x4' to 12'x15'x10'
 - Temperatures -80 Deg F to 1000 Deg F
 - Humidity
- Solar load
- Thermal shock up to pallet sized items
- Alternator testing
 - Up to ~1500 amps @ 28V

TESTS

- HVAC System Testing
 - A/C capacity and performance
 - Exchangers and heating system capacity
 - Charge determination and system evaluation
 - Oil circulation measurement
 - Air flow component, system, vehicle level
- Vehicle system power testing
- Alternator bench to vehicle testing

GROUND VEHICLE SURVIVABILITY & PROTECTION (GVSP) is part of the U. S. Army Ground Vehicle Systems Center (GVSC). GVSP is responsible for ground vehicle ballistic protection, blast mitigating technologies, and hit and kill avoidance initiatives for the Department of Defense. GVSP uses its unique in-house laboratories and subject matter expertise to reinforce its reputation as the Army's technical authority on survivability in the following research areas:

- Ballistics and blast testing
- Armor component fabrication and characterization
- Dynamic impact/impulse testing
- Vehicle crash and rollover assessment
- Active protection testing
- Laser and fire protection studies

For further Information visit:
<https://www.usarmygvsc.com/>

Contact: James P. Muldoon
james.p.muldoon3.civ@army.mil



Alternator Test Inside Environmental Chamber



Airflow on Vehicle