



HEAVY VIBRATION (3DOF) – MISSION EQUIPMENT VIBRATION TABLE (MEVT)

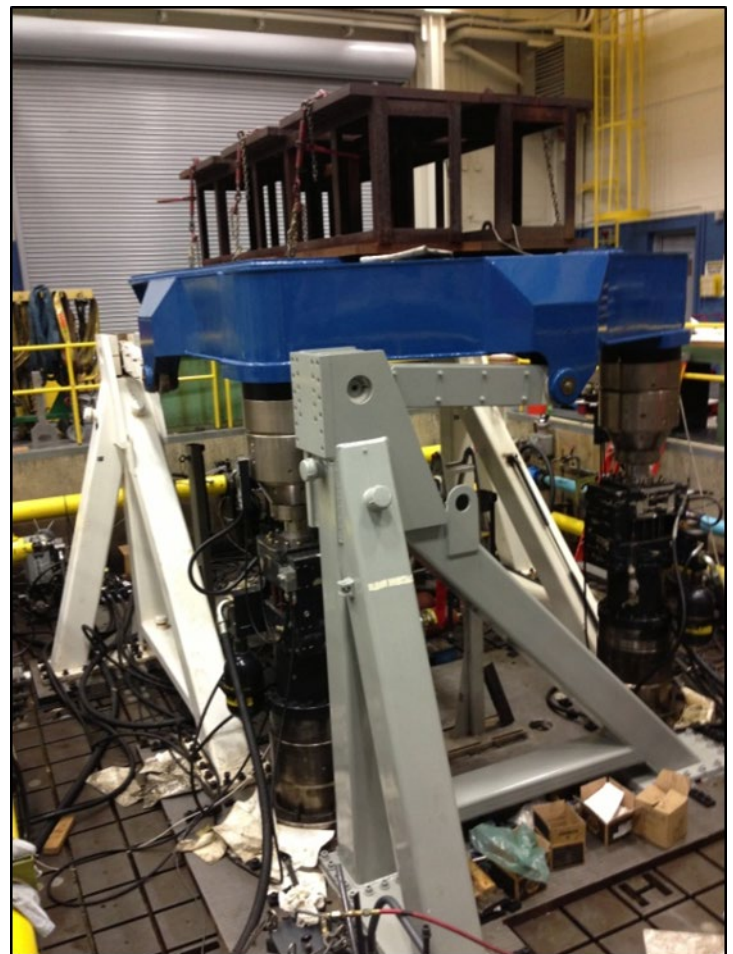
Combat Capabilities Development Command (CCDC) Ground Vehicle Systems Center's (GVSC) Physical Simulation Team (PST) operates a Three Degree of Freedom heavy vibration table that allows us to input road loads into integrated components and subsystems. Through in-house designed fixtures, PST's engineers are able to replicate vehicle mount points and vibration profiles from Army test sites to validate the performance of your design over the intended use throughout it's lifecycle.

Benefits over Field Testing

- Repeatability: Can reproduce previous test conditions
- Test Compression: Removal of non-damaging events
- Control Environment: Motions do not change with time, due to driver, weather, test parameters, etc.
- Reproduction of Field Environment: Measured field responses can be replicated
- Dynamic qualifications of vehicle subsystems by applying single or multiaxial base excitation and identifying modal properties.

Components Tested

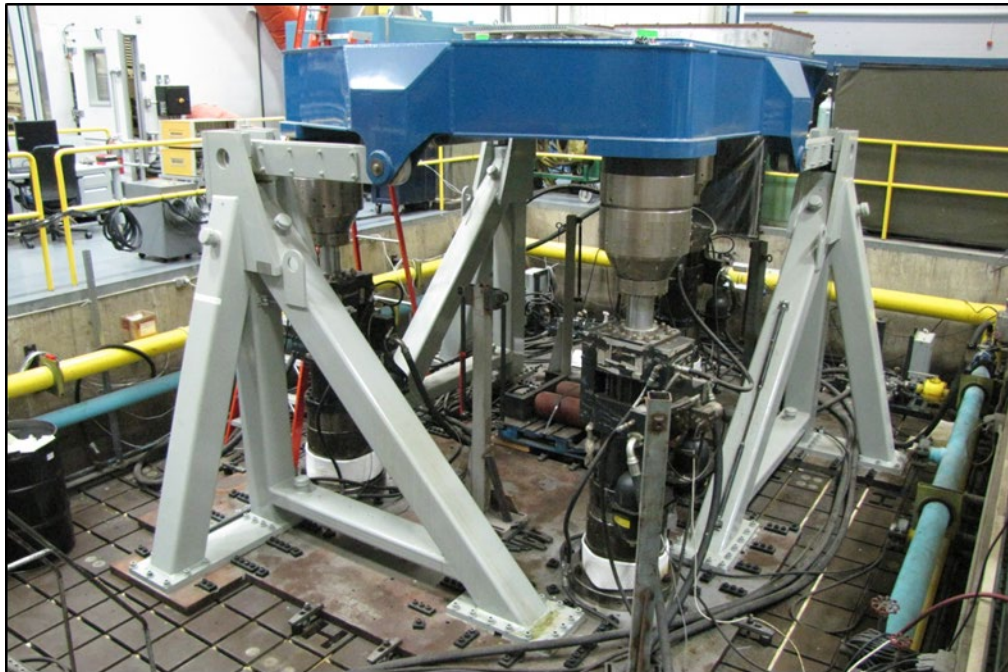
- Armor Solutions (Active / Passive / Transparent)
- Crew Compartments (Floors / Seats / Stowage)
- Vehicle Mounts and Antenna
- Doors, Fasteners, and Hinges



Trailer Frame Structure



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Mission Equipment Vibration Table

Vibration Table Motion Limits

- Displacement: Vertical = ± 4 in
- Rotational
 - Roll = ± 6 degrees
 - Pitch = ± 6 degrees
- Velocity: Vertical = 18 in/s (0.4572 m/s)
- Acceleration: Vertical = 10g
- System Bandwidth (bare table) = 100 Hz @ 25,000 lbs
- Maximum Payload = 25,000 lbs

Mounting Surface

- Table size: 101" x 120" [8.4' x 10']
- 6" rectangular grid spaced $\frac{3}{4}$ " x 10 mounting holes

FOR FURTHER INFORMATION:

U.S. ARMY COMBAT CAPABILITIES
DEVELOPMENT COMMAND — GROUND
VEHICLE SYSTEMS CENTER:
<https://tardec.army.mil/>

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