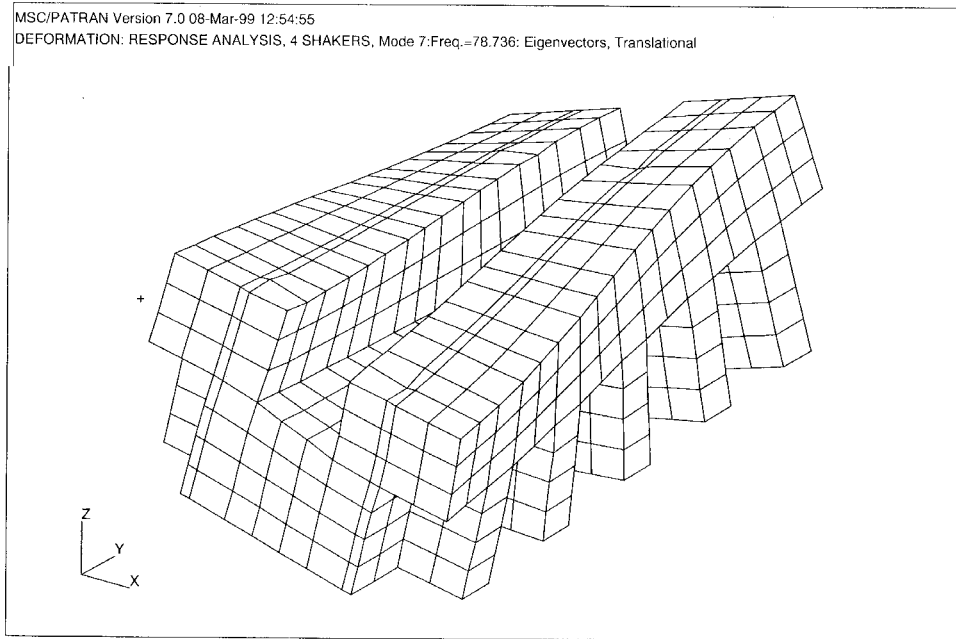
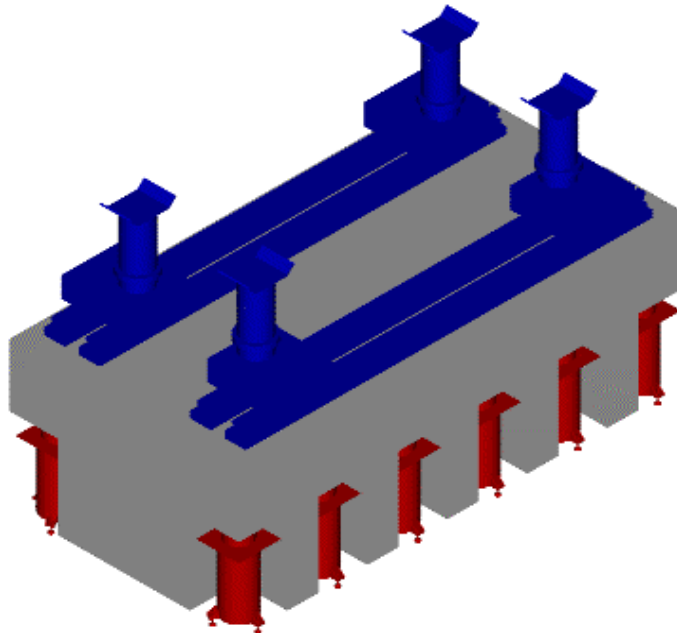


General Motors Proving Ground Schenck Pegasus



The existing masses had to be analyzed dynamically by simulating the force inputs from the hydraulic actuators. A modal analysis of each mass shows the reaction of the mass and its mode shapes. The analysis also includes the dynamic response of the isolators and the isolation characteristics of the system.



Each Schenck 4-post road simulator machine is installed on a concrete reaction mass which is supported on pneumatic isolators.



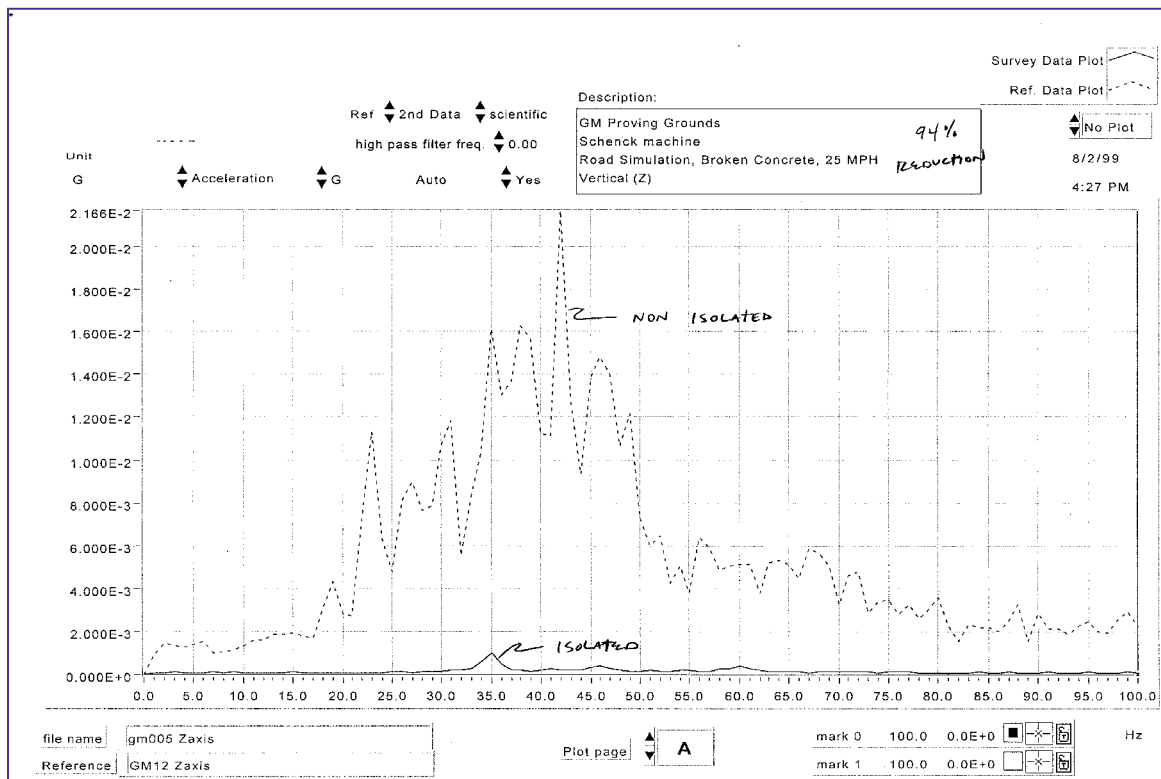
Twelve isolators are used to support each mass and payload using the existing "pockets" under the masses. Each isolator supports 185,000 lbs and has adjustable vertical damping.



The natural frequency and damping determine the dynamic spring rate of the system which is used in the modal analysis.



A total of four chambers are used at the GM facility. Two are also used for environmental testing with temperatures ranging from -20°F to 120°F.



Vibration measurements are recorded before and after isolation. Acceptance testing confirms the reduction of vibration in the test cell created by the actuators.