

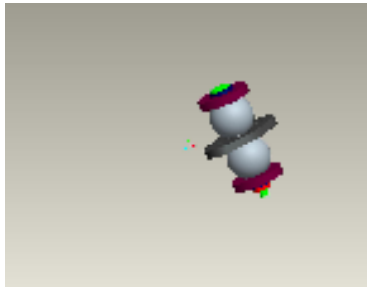
SHOCK AND VIBRATION MOUNTING SYSTEM

American Engineering Group (AEG) has developed a new low cost “Dual Structure Shock Mount System”. This new AEG mount system design will allow varying static properties and provide dynamic shock and vibration mitigation over a wide load range for automotive and industrial applications. This dual structure system provides both axial and radial damping. The mount system will have two hollow spherical elements with top element functions as a “load bearing” element and the bottom spherical element as a vibration shock damping element.

This design-formulation concept promises higher axial-radial stiffness, vibration damping, and extended life. Finite element results and prototype testing demonstrates the optimum stiffness and damping properties for the radial and axial deflection in service conditions.

With recent advances in material technology, processing, and design concepts, AEG has achieved this vibration and shock performance improvement. This two element structural isolation concept is successfully used in aerospace and marine applications for sound and vibration isolation. Material choices and mount designs are established based on the requirements for the combined axial and radial loads experienced by the current mount systems. The dual mount design concept will be to maintain stiffness to dynamic loads, while providing enough damping to equipment vibration and shock loads.

The automotive industry could also apply this mount to an engine and silent mount design. The construction and heavy equipment industries can use these mounts on shocked vehicles for increased shock durability. This dual mount system will offer significant improvements in reliability and maintainability by reducing acquisition cost, reducing inspection intervals, extending the damage tolerance threshold and improving design efficiency.



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