May 1965

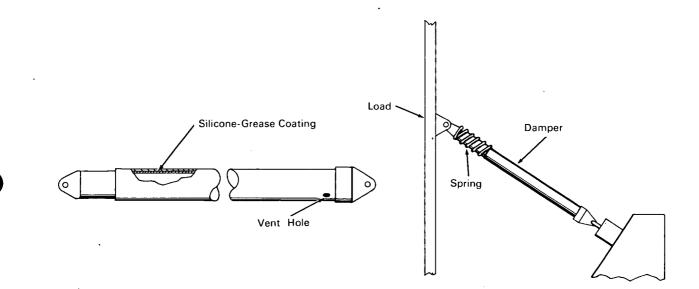
Brief 65-10144

## NASA TECH BRIEF



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## Lightweight Load Support Serves as Vibration Damper



**The problem**: Designing a tall compact support structure for omnidirectional antennas and solar panels. The structure must not interfere with a high-gain-antenna pattern and must be capable of damping mechanical vibrations in the supported load. Ordinary air-dashpot-damping cannot be used because the device must function in a vacuum environment.

**The solution:** A thin-walled tubular support strut employing the viscous drag of a silicone grease to effect damping and a coil spring to support the static loads imposed on the strut.

**How it's done:** The damping support consists of two thin-walled aluminum tubes, one of which can slide within the other under vibration loads. Silicone grease is used as the vibration-damping medium as it exhibits a much smaller variation in damping coefficient with temperature than ordinary hydrocarbon greases.

## Note:

Inquiries concerning this innovation may be directed to:

> Technology Utilization Officer Jet Propulsion Laboratory 4800 Oak Grove Drive Pasadena, California, 91103 Reference: B65-10144

**Patent status:** NASA encourages commercial use of this innovation. No patent action is contemplated.

Source: W.E. Layman JPL-661) Category No. 05

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