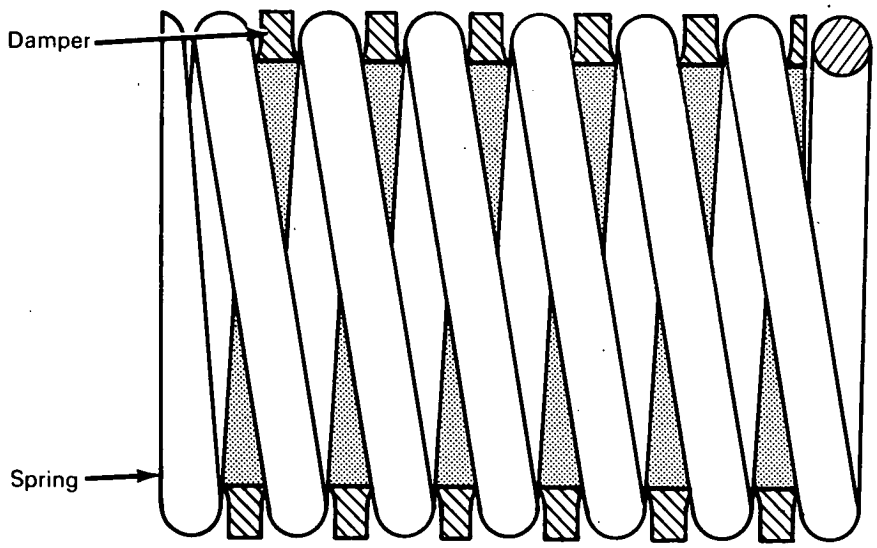
NASA TECH BRIEF

Sleeved Damper Limits Spring Surging



In the cushioning of delicate instrumentation subjected to shock loading, such as impacts upon their container being dropped on a solid surface, springs are frequently used to absorb the generated energy. However, excessive vibration in the form of spring surging can defeat the spring's intended purpose of cushioning the instrumentation.

To overcome this undesirable action, a damping device has been designed which limits spring surging to tolerable limits. The device consists of a spiral formed plastic member interleaved between the spring coils in the same helix configuration. The plastic spiral is so situated within the spring coils that, at normal uncompressed or free height of the spring, there is a gap between and along the length of spring coil and damper coil. During small vibrations, this gap is not completely reduced, but when the spring tends to surge, the plastic spiral limits its vibrational amplitude to the remaining gap.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B68-10111

Patent status:

No patent action is contemplated by NASA.

Source: W. C. Dean
of United Aircraft Corporation
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Category 05