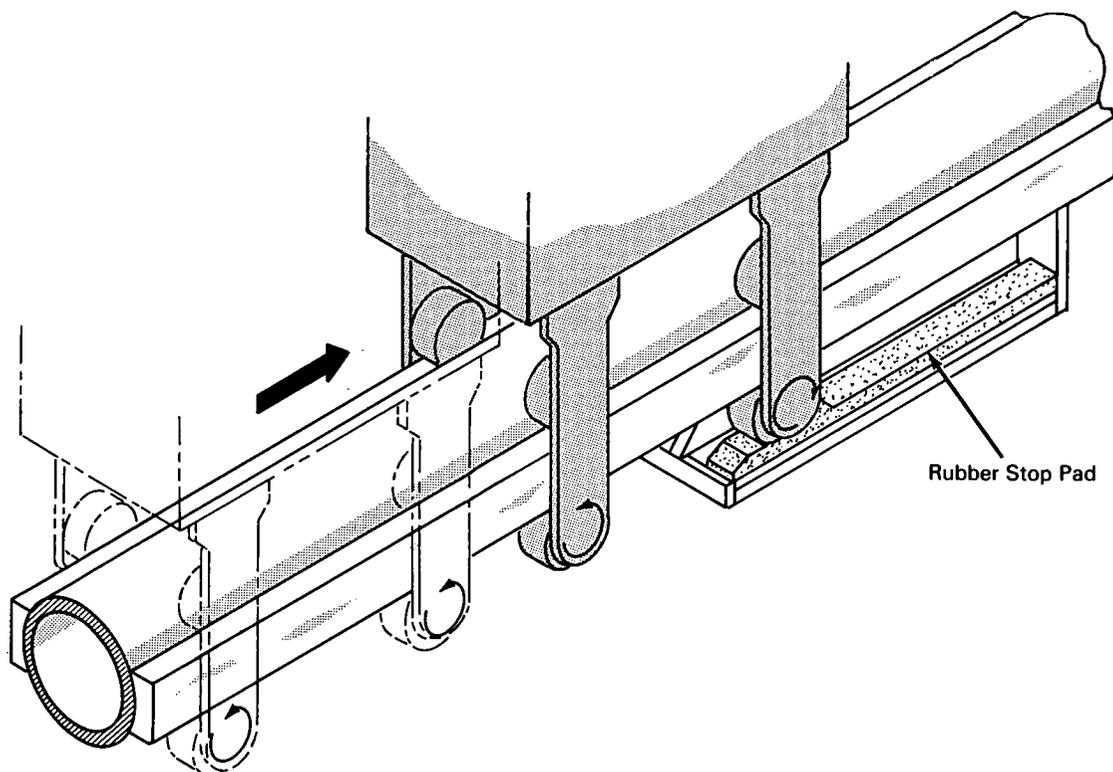


NASA TECH BRIEF



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Hoist Is Automatically Stopped at Low Deceleration Rate



The problem:

In operating a hoist to transport delicate or fragile components, some means is required to bring the mass of hoist plus load to a stop at relatively low deceleration rates. Springs or pneumatic and hydraulic shock absorbers have proven expensive and sometimes unreliable. Manual stopping places a premium on operator judgement and reaction time.

The solution:

An automatic stopping device that may be adjusted to impose a predetermined deceleration rate during stopping.

How it's done:

The device consists of two rubber pads mounted beneath the hoist track at the point where it is desired to stop the load. During operation, the hoist is moved along the track until the wheels come in contact with the rubber pads at which point they are trapped between track and pad. The coefficient of friction is higher on the rubber pad side of the wheels, causing them to skid on the track side as they roll on the rubber pad side. A wave of rubber is built up in front of each wheel, creating a wedge effect that further increases the friction load causing

(continued overleaf)

deceleration of the wheeled mass. The rubber pads are adjustable by shimming to control the deceleration rate at a predetermined value.

Note:

Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B66-10545

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: T. R. George and H. C. Hess
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under contract to
Marshall Space Flight Center

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