Brief 65-10176

NASA TECH BRIEF



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Device Enables Measurement of Moments of Inertia About Three Axes



SETUP FOR PENDULUM METHOD

The problem: Designing a fixture which will permit the measurement of the moments of inertia of an irregularly shaped mass about three mutually perpendicular axes, without requiring remounting of the mass. Such a fixture was required for measuring the moments of inertia of delicate instrumentation packages which could be suspended from only one point.

The solution: A fixture which suspends the test mass at one point and which can be adjusted to allow

This document was prepared under the sponsorship of the National Aeronautics and Space Administration. Neither the United States Government, nor NASA, nor any person acting on behalf of NASA: A. Makes any warranty or representation, express or implied, with respect to the accuracy, completeness, or usefulness of the information contained in oscillation of the mass about each of three mutually perpendicular axes for measurement of the respective moments of inertia by the standard pendulum and torque methods.

How it's done: The fixture employs a long thin suspension rod which is rigidly fixed to a bar support plate at one end and to the test mass at the other. For making measurements with respect to one axis by the pendulum method (as illustrated), the bar support

(continued overleaf)

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Notes:

- 1. The fixture can be easily modified to permit measurements with respect to more than three axes.
- 2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer Goddard Space Flight Center Greenbelt, Maryland, 20771 Reference: B65-10176

Patent status: NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA, Code AGP, Washington, D.C., 20546.

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