December 1967 Brief 67-10594

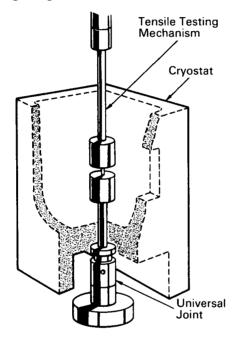


AEC-NASA TECH BRIEF



AEC-NASA Tech Briefs describe innovations resulting from the research and development program of the U.S. AEC or from AEC-NASA interagency efforts. They are issued to encourage commercial application. Tech Briefs are published by NASA and may be purchased, at 15 cents each, from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Self-Aligning Rod Prevents Eccentric Loading of Tensile Specimens



The problem:

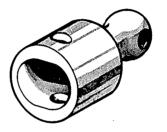
To devise a method for testing tensile specimens in liquid nitrogen (LN₂) without subjecting the cryostat to tilting during assembly of the specimen in the LN₂-filled cryostat.

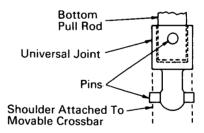
The solution:

A universal joint with a semielliptical head and socket that reduces misalignment and permits only limited side travel.

How it's done:

The semielliptical head of the universal joint is seated in the shoulder attached to the bottom movable cross bar, and moves about a pin-loaded joint. The universal joint socket also has a semielliptical contour but with the flats at right angles to the flats





of the head. The socket receives the bottom pull rod and also moves about a pin-loaded joint, which is at right angles to the pin through the head. With this design, misalignment effects are reduced while the cryostat (which is attached to the bottom pull rod) remains relatively rigid, preventing spillage of LN₂ and facilitating assembly of the specimen.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
AEC-NASA Space Nuclear Propulsion
Office

U.S. Atomic Energy Commission Washington, D.C. 20545 Reference: B67-10594

(continued overleaf)

This document was prepared under the sponsorship of the Atomic Energy Commission and/or the National Aeronautics and Space Administration. Neither the United States Government nor any person acting on behalf of the United States Government assumes any

liability resulting from the use of the information contained in this document, or warrants that the use of any information, apparatus, method, or process disclosed in this document may not infringe privately owned rights.

Patent status:

No patent action is contemplated by AEC or NASA.

Source: E. F. Vandergrift of Westinghouse Astronuclear Laboratory under contract to AEC-NASA Space Nuclear Propulsion Office (NUC-10525)