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NASA TECH BRIEF

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Inspection of Fine Wires Simplified by Capillary Tube Wire Holder



The problem:

To design a mount to hold fine wire (.0005 inch diameter) for photomicrographs. The mount must protect the wire from damage and permit easy location of the specimen. Formerly the fine wire was cast in a solid block which tended to damage the specimen.

The solution:

A capillary tube wire holder mounted within a stainless steel tube and cast in a transparent casting material.

How it's done:

A .030 inch x $\frac{3}{4}$ inch capillary tube is mounted within a $\frac{3}{8}$ inch x $\frac{3}{4}$ inch stainless steel tube. Wires

This document was prepared under the sponsorship of 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 such use will be free from privately owned rights. strung through eight .040 inch holes (four at the top end and four at the bottom) drilled in the stainless steel tube suspend the capillary along the axis of the larger tube. The fine wire specimen is inserted in the capillary tube and the whole construction is cast within a transparent casting material.

Notes:

- 1. Using this technique, four .0005 inch diameter specimens were successfully polished and their metallographic structure determined.
- 2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer Manned Spacecraft Center Houston, Texas 77058 Reference: B66-10329

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: H. A. Raphael of North American Aviation, Inc. under contract to Manned Spacecraft Center (MSC-358)