NASA Tech Briefs are issued to summarize specific innovations derived from the U. S. space program and to encourage their commercial application. Copies are available to the public from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Insert Sleeve Prevents Tube Soldering Contamination

The problem:
To prevent contamination of internal tube surfaces by solder compound during soldering operations that connect and seal the tube ends.

The solution:
A Teflon sleeve insert pressed into the mating tube ends with a slight interference fit.

How it's done:
Teflon is relatively inert, impervious to most chemical liquids and gases, and has a melting temperature above that reached during soldering. The Teflon is machined into a sleeve configuration that includes a center external shoulder to position the sleeve between the tube ends and prevent system fluids from moving the sleeve away from the joint area.

The sleeve is forced into the two ends of the tubes to be connected before the soldering operation begins. The sleeve, if deformed during installation, will tend to reform to the original configuration during solder heating, thereby improving seal effectiveness.

Notes:
1. Material used is bar tetrafluoroethylene, stress relieved at 500°F for 2 hours.
2. Inquiries concerning this innovation may be directed to:
   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas, 77058
   Reference: B66-10238

Patent status:
No patent action is contemplated by NASA.

Source: John Stein of North American Aviation, Inc. under contract to Manned Spacecraft Center (MSC-552)

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.