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NASA TECH BRIEF



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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.
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Category 05