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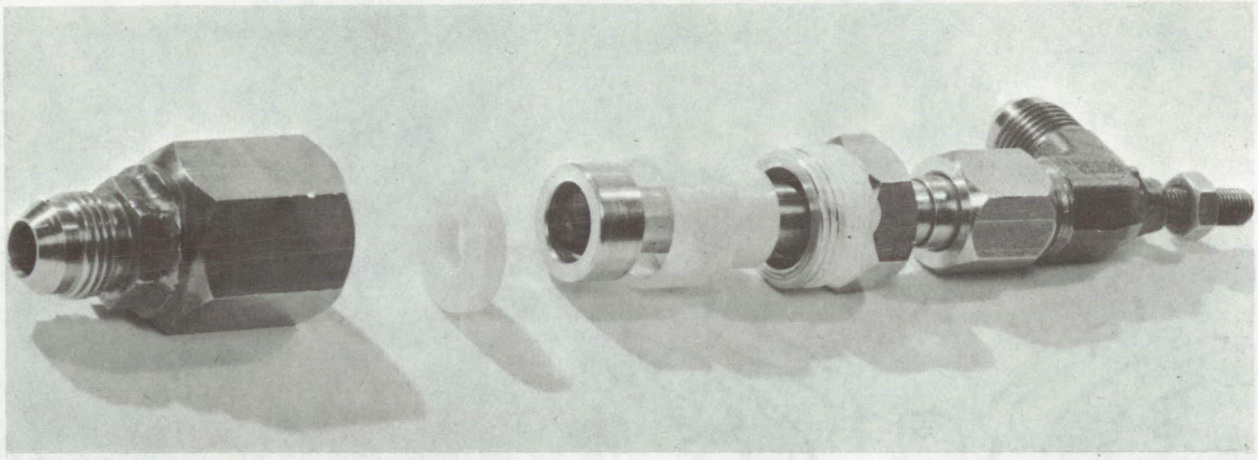
NASA TECH BRIEF

Teflon-Packed Flexible Joint



During the ground testing of cryogenic zero-G equipment, it was desirous to flow liquid nitrogen through the hardware. When shaking the apparatus for calibration, etc., it was necessary to support the liquid nitrogen vacuum-jacketed supply line from the ceiling of the test area. To separate the movement of the shaker from the liquid nitrogen hose, a Teflon-packed flexible joint was developed. The joint allows the liquid nitrogen hose to lie on the floor in a stationary position as the shaker moves back and forth; thus, the hose is not subjected to violent motion. The joint eliminates the previous hazard of having personnel in contact with the line while shaking. This severe action could result in rupture of the supply line and serious injury to the man handling it.

The joint basically is a union-type fitting which has been modified by covering select surfaces with Teflon. The Teflon serves simultaneously as a sealing and lubricating surface whereby one section of the fitting can slide or rotate relative to the other section, permitting one section to be held rigidly while the other rotates.

The properties of Teflon permit the joint to be used at cryogenic temperatures and/or with corrosive or hazardous fluids.

Note:

No additional documentation is available. Technical questions concerning this innovation may be directed to:

Technology Utilization Officer
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135
Reference: B69-10049

Patent status:

No patent action is contemplated by NASA.

Source: G. E. Belmont
(LEW-90252)
Category 03