GA-724

June 1965

Brief 65-10180

NASA TECH BRIEF

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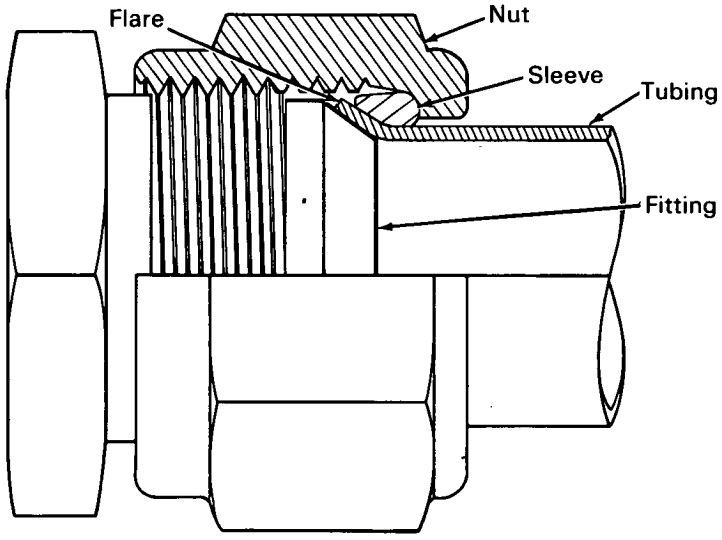
New Nut and Sleeve Improve Flared Connections



The problem: In standard stainless steel flared tube connections, nonconcentricity and misalignment of the tube flare in relation to the fitting is frequently encountered. These conditions contribute to a poor seal and short component life because the forces on the mating surfaces of the tube and fitting are not uniformly applied.

The solution: An improved nut and sleeve that allow forces on the mating surfaces to be uniformly applied.

How it's done: The redesigned nut and sleeve provide for a spherical mating surface between the two as opposed to the plane mating surfaces of a standard nut and sleeve. This spherical surface creates a better connection between the tube and fitting in the case of a nonconcentric or misaligned flare on the tube. With uniform compression of the tubing, the seal is greatly improved and component life is increased significantly.

Notes:

1. The improved nut and sleeve mate with standard fittings.
2. This innovation should be of interest to manufacturers of pressurized fluid systems such as refrigeration and air conditioning and hydraulic systems.
3. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama, 35812
   Reference: B65-10180

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

Source: J. S. Garrard
(M-FS-194)

Category No. 05