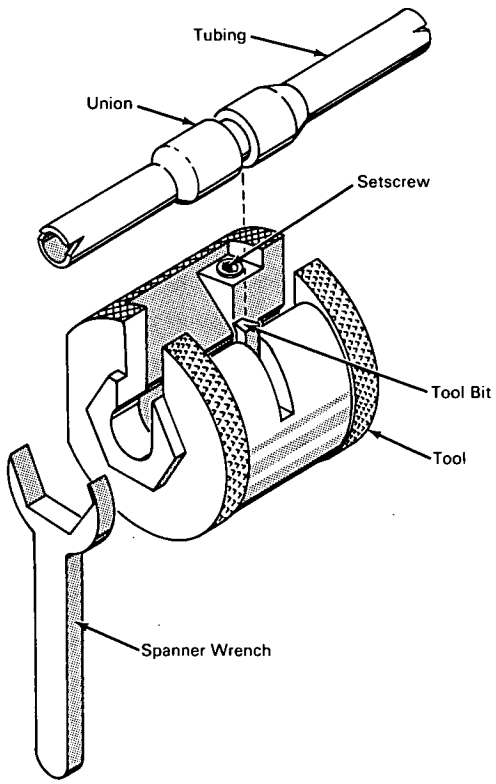
NASA TECH BRIEF

Tool Separates Sleeve-Type Unions Without Heat



The problem:

To design a tool to separate a sleeve type tubing union and tube without the use of heat, with minimum tube deformation while maintaining optimum cleanliness.

The solution:

A tool holder that uses conventional milling and cutting techniques.

How it's done:

The union separating tool consists of a slotted holder that receives the union-sleeved tubing. A tool bit is inserted in the holder and the holder is rotated by a spanner engaging a slotted nut on one end. The tool bit is advanced after each rotation of the tool by means of a setscrew adjustment so that it machines a channel in the union. Design of the tool limits the

(continued overleaf)

depth of cut to the union wall only. When the union wall has been milled through, the tool bit is replaced by a cutting wheel and the holder is again rotated, the setscrew being used to advance the cutting wheel at each rotation. This cuts through the tubing wall leaving smooth, even ends, free of burrs and deformation.

Notes:

1. A selection of holders, associated bits, and cutting wheels permits separation of varied diameter unions.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas 77058
   Reference: B66-10253

Patent status:

No patent action is contemplated by NASA.

Source: A. U. Millett
of North American Aviation, Inc.
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