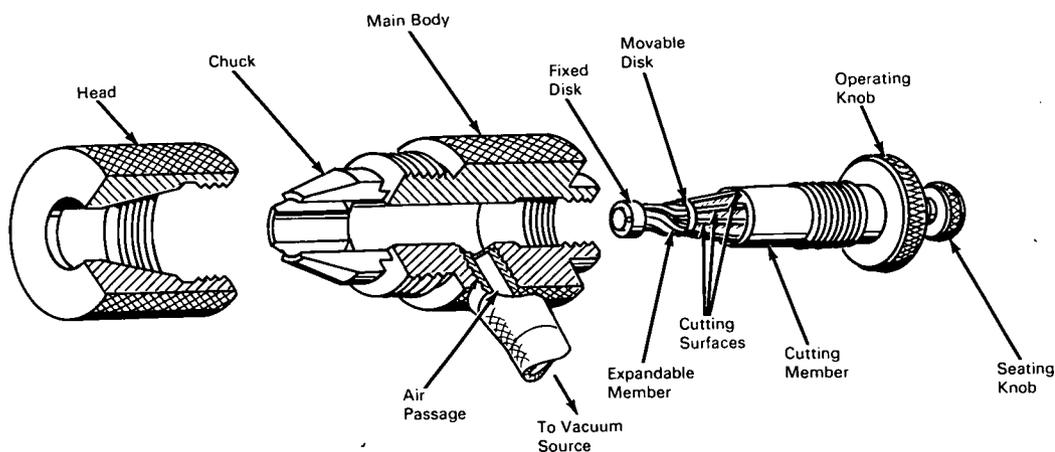


NASA TECH BRIEF



NASA Tech Briefs are issued by the Technology Utilization Division to summarize specific technical innovations derived from the space program. Copies are available to the public from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia, 22151.

Portable Tool Removes Burrs from Pipe and Tubing



The problem: When tubing or piping is cut, as in the repairing of a system, burrs frequently remain in the cut ends. In critical systems, such burrs would adversely affect performance by impeding or causing turbulence in system flow. It is necessary to remove the burrs before re-joining the tubing to assure smooth flow to system design.

The solution: A portable tool that cleanly removes the burrs from the tubing end, restores the end to its original configuration, and carries away all chips and pieces.

How it's done: The portable tool consists of three parts; a main body, a head, and a cutting member. A vacuum source attached to an air passage in the main body carries off chips, pieces, or dust resulting

from the cutting action. In operation, the head is slipped over the tubing to be treated and the end of the tubing is inserted into the main body until it seats in the chuck. The head is drawn up and clamps the chuck jaws to hold the tube externally. The cutting member is screwed into the main body until the expandable member enters the chuck-held tube. Rotating the seating knob forces the movable disk towards the fixed disk and causes the expandable member to move outward and engage the inside of the tube. With the tube firmly engaged externally by the chuck and internally by the expandable member, the operating knob is rotated to deburr and smooth the tube end by action of the cutting surfaces. Slots in the expandable member permit air through the tubing and this can be assisted, if desired, by applying pressure from the

(continued overleaf)

opposite end of the tubing to augment the cleaning action of the vacuum source.

Note: This tool has been used to good advantage in places of limited access where a larger tool could not be used.

Patent status: Title to this invention has been waived under the provisions of the National Aeronautics and Space Act (42 U.S.C. 2457 (f)), to the McDonnell Aircraft Corporation, Box 516, St. Louis, Missouri, 63166.

Source: Charles A. Headley, Victor E. Padilla,
and Robert A. Schoppman of McDonnell
Aircraft Corporation under contract to
Manned Spacecraft Center
(MSC-237)