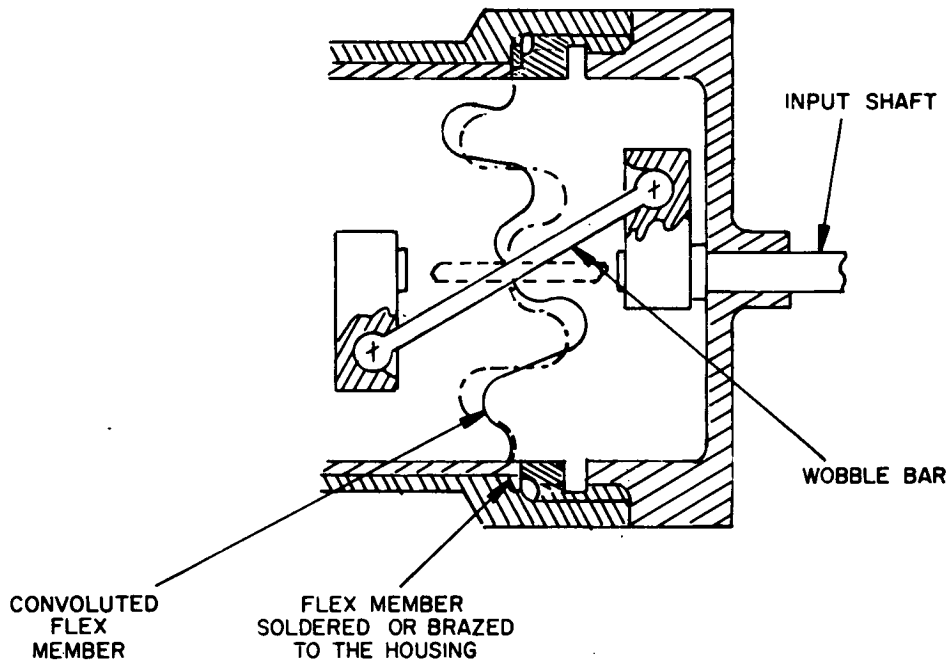
August 1971 Brief 71-10328

NASA TECH BRIEF

Manned Spacecraft Center

Hermetically Sealed Motion Transmitter



An hermetically sealed motion transmitter has been developed which allows transmission of rotational or single planar arc motion through an hermetically sealed chamber without the use of dynamic seals or complex mechanisms.

Motion is transmitted between two shafts on the same axis using a wobble bar that has its end points captive in crank arms. A convoluted member of a highly flexible fatigue-resistant metal (e.g., berrylium copper) is soldered or brazed to the shaft at the wobble axis and to the housing, thus forming a seal without the use of dynamic seals.

Each design application is limited to a maximum pressure differential. Excellent operating life can be expected with the proper design ratio of the radius of the crank arm, the length of the bar and the diameter of the convoluted member.

This device may be of interest to pressure vessel designers and those who need to isolate equipment from a hostile environment.

Note:

No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: B71-10328

(continued overleaf)

Patent status:

No patent action is contemplated by NASA.

Source: Robert L. Eckert
North American Rockwell
under contract to
Manned Spacecraft Center
(MSC-17348)