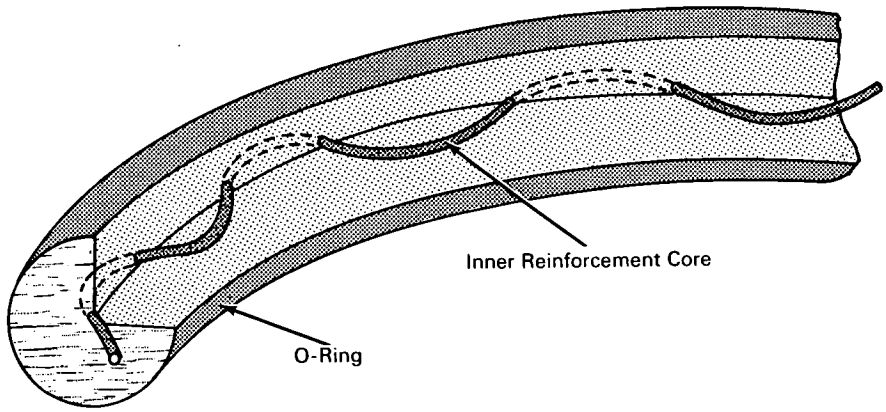
NASA TECH BRIEF

Reinforcement Core Facilitates O-Ring Installation



The problem: To facilitate the installation of O-rings in large structural components. Conventional O-rings are easily distorted or displaced when they are positioned in component grooves which do not restrain the rings in the process of assembly. Specially designed grooves or pairs of wires spot-welded in the grooves have previously been used to hold large-diameter O-rings in place while the adjacent parts were being assembled.

The solution: Incorporate a reinforcement core in the O-ring to add circumferential rigidity to the O-ring material.

How it's done: The O-ring material is molded around the reinforcement core, which may be made of metal, or other appropriate material, in any one of a number of configurations depending on the application.

Notes:

1. The inner core does not appreciably affect the sectional elasticity or gland-sealing characteristics of the O-ring.
2. A simple retainer that facilitates installation of conventional O-rings is described in NASA SP-5010, "Selected Shop Techniques", available from the U.S. Government Printing Office, Washington, D.C., 20402; price: $0.60. Inquiries may also be directed to:

   Technology Utilization Officer
   Western Operations Office
   150 Pico Boulevard
   Santa Monica, California, 90406
   Reference: B65-10378

(continued overleaf)

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

Source: North American Aviation, Inc.
under contract to
Western Operations Office
(WOO-228)