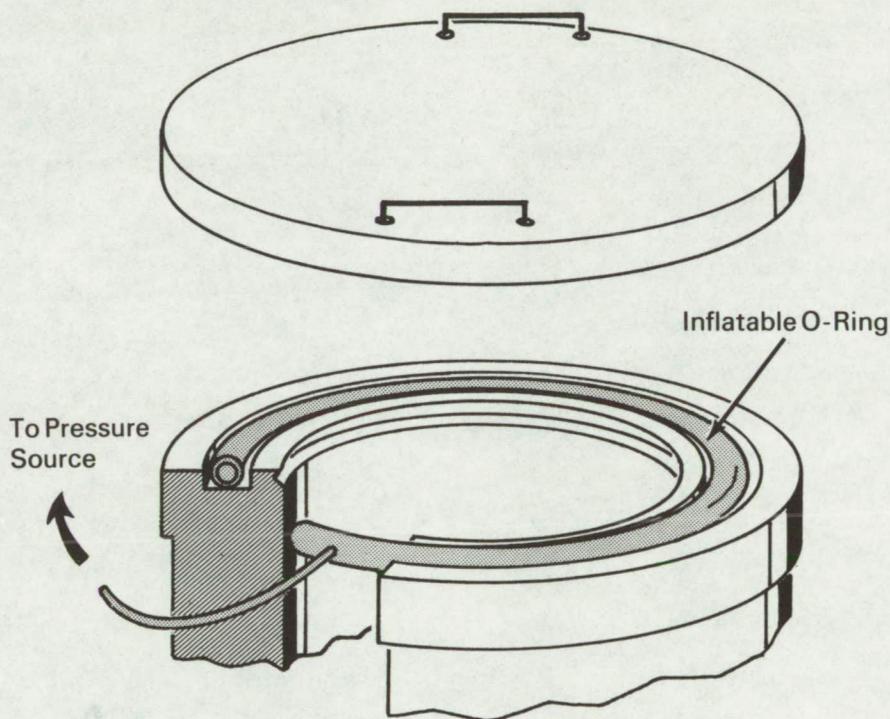


NASA TECH BRIEF



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Inflatable O-Ring Seal Would Ease Closing of Hatch Cover Plate



The problem:

In a certain application, a considerable force was required to compress a conventional O-ring seal in order to enable closing and opening of a rotary-type hatch cover plate. A positive sealing means was needed that would not require the manual exertion of a large compressive force during opening or closing of the cover plate.

The solution:

An inflatable O-ring that would be inserted between the sealing surfaces.

How it's done:

Before rotating the hatch cover plate to the closed position, the hollow O-ring would be deflated. After closure of the cover plate, the O-ring would be inflated from a gas pressure source to effect a positive seal, even in the presence of surface irregularities. To disengage the cover plate, the hollow O-ring would first be deflated.

Note:

This design is in the conceptual stage only; as of the date of publication of this Tech Brief neither a model nor a prototype has been constructed.

(continued overleaf)

Patent status:

No patent action is contemplated by NASA.

Source: Kenneth J. Neary
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