

NASA TECH BRIEF

Langley Research Center



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Container Seal for Dusty Environment

A method has been devised to maintain the cleanliness of joint-sealing surfaces under dust-laden conditions. This is accomplished by keeping the seal and the sealing surface covered with sliding plastic rings, which slide out of the way when a joint is seated.

This technique was designed to meet the requirements for a remotely-controlled sample container, which could be covered and sealed reliably in an atmosphere laden with dust and micrometer-sized particles. The method could be used in other applications where integrity of the seal and the sealing surface must be maintained throughout the engagement of a joint.

Figure 1 shows the sample container-cup assembly and the cap assembly in the open position. A standard O-ring, inserted in a groove in the cap assembly,

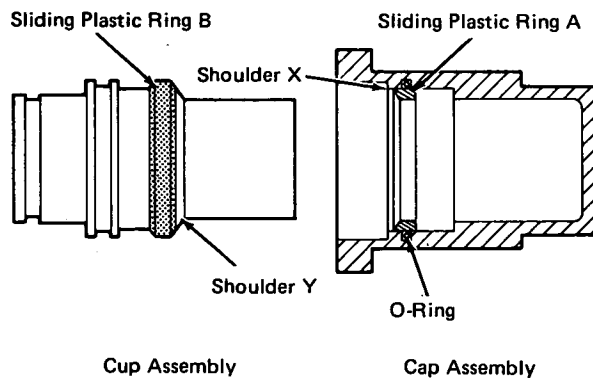


Figure 1. Open Position

provides the basic seal and is protected by sliding plastic ring A. The sealing surface for the O-ring on the cup assembly is protected by sliding plastic ring B. When the cap is placed on the cup, shoulder Y of the cup engages plastic ring A and simultaneously shoulder X of the cap engages plastic ring B. As the cap and cup

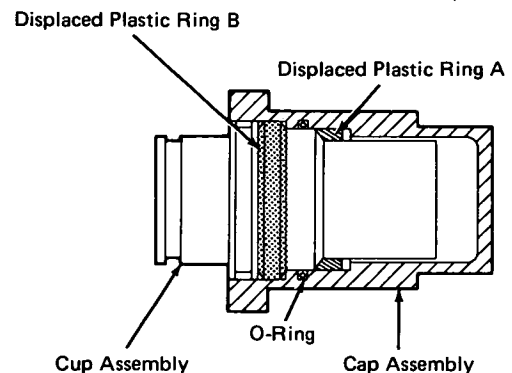


Figure 2. Sealed Position

assemblies are pushed together, both plastic rings slide away to uncover the clean O-ring and sealing surface. Figure 2 shows the cup and cap assemblies in the sealed position.

Note:

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

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Patent status:

NASA has decided not to apply for a patent.

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