

July 1972

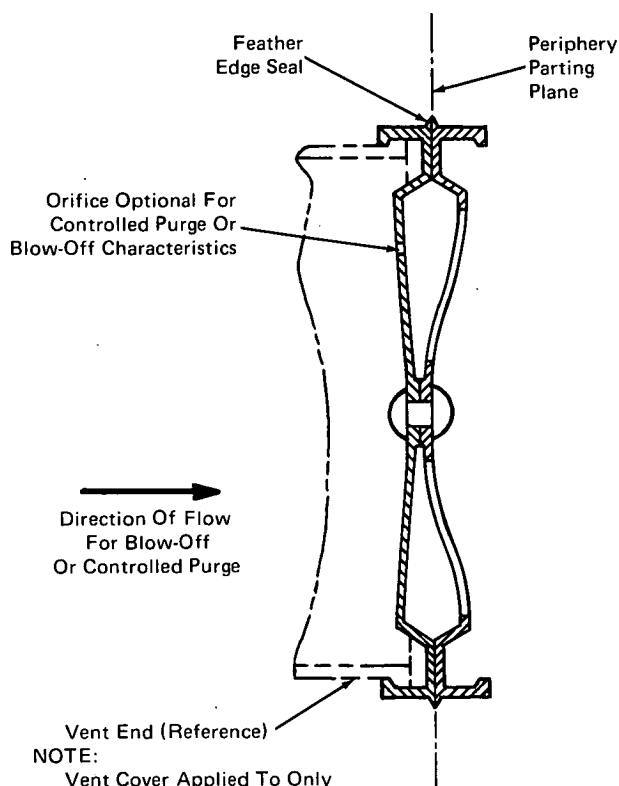
# NASA TECH BRIEF

## Marshall Space Flight Center



NASA Tech Briefs announce new technology derived from the U.S. space program. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Office, NASA, Code KT, Washington, D.C. 20546.

### An Economical Vent Cover



NOTE:  
Vent Cover Applied To Only  
One End But May Be  
Reversed To Change Modes

#### The problem:

In vent systems, control of undesirable air environment such as wind, rain, and humidity involves a wide variety of valve designs. Popular designs include flapper valves, swivel hoods, burst disc, spring loaded or weighted relief valves, and other combinations of these. Unfortunately, most of these units have moving parts which are subject to seizures and require frequent maintenance.

#### The solution:

An inexpensive formed-plastic vent cover has been developed that allows controlled purge of the vent systems and also provides blowout protection.

#### How it's done:

The vent cover shown in the figure consists of two parts which may be constructed from a variety of plastics with varying densities to fit the media used and provide the desired blow-off of venting pressures. With the cover in the blow-off or controlled purge mode, the orifice allows low vent purge. In this mode, the cover can be blown off at a predetermined pressure. Also, the cover can be flipped to the opposite side and used at a different blow-off pressure. In general, blow-off pressures are determined by selection of the periphery stiffnesses on each side of the cover as well as by the particular choice of materials.

The cover can also be used in the relief mode to allow normal system relief flows without disengaging from the vent system. Relief pressures are determined by configuration changes and different thicknesses and densities of the material used.

#### Note:

Requests for further information may be directed to:  
Technology Utilization Officer  
Marshall Space Flight Center  
Code A&TS-TU  
Huntsville, Alabama 35812  
Reference: B72-10348

#### Patent status:

No patent action is contemplated by NASA.

Source: A. C. Lee and M. D. McDonald of  
Astronautics Division of  
Mc Donnell Douglas Corp.  
under contract to  
Marshall Space Flight Center  
(MFS-20692)

Category 07