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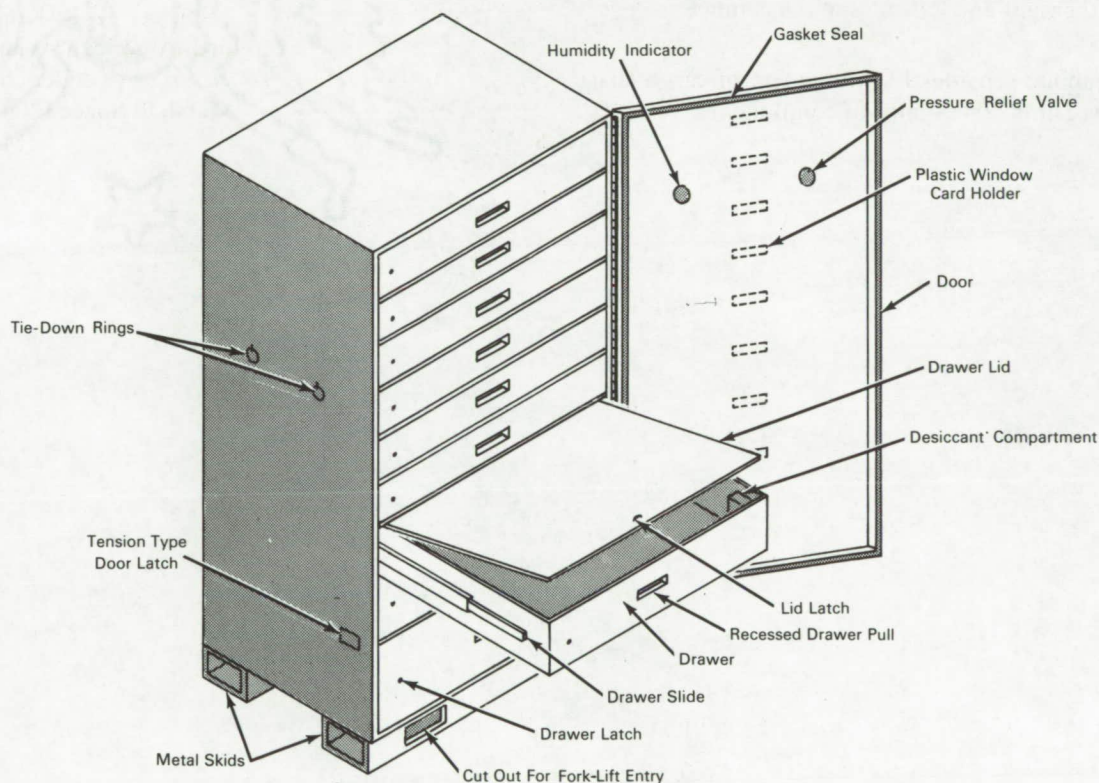
Brief 66-10258

NASA TECH BRIEF



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Critical Parts Are Stored and Shipped in Environmentally Controlled Reusable Container



The problem:

To design a reusable container for shipping and storing quantities of sensitive electronic, pneumatic, or hydraulic parts or medical supplies under extreme weather and handling conditions. The container must be compatible with on-site and transportation handling facilities. Previous methods of packaging parts in nonreusable, individual packages resulted in high packaging costs. If the package was opened for visual

inspection of the parts, considerable time was required for repackaging.

The solution:

An environmentally controlled, hermetically sealed, reusable metal cabinet with storage drawers.

How it's done:

The cabinet is 30 × 24 × 72 inches and is constructed of steel. The exterior surface is painted to provide protection against corrosion.

(continued overleaf)

The cabinet door may be hinged on either the right or left side of the cabinet and is removable. The door, fitted with a gasket to provide an airtight, vapor-proof seal may be secured to the cabinet by four tension-type latches. A humidity indicator, a pressure relief valve, and plastic window cardholders to designate the contents of the drawers, are mounted on the door panel.

The cabinet contains removable covered drawers. Each drawer has a desiccant compartment, a lid, and a latch to keep the drawer securely in place. The drawers are lined and fitted with dividers of polyurethane to protect the parts from abrasion and shock.

Two metal skids fabricated from ten-inch channel are welded to the bottom of the cabinet. Slots are cut in the skids to permit fork-lift entry from front, rear, and both sides of the cabinet. Recessed tie-down rings, used to secure the cabinet during shipment, are located on both the right and left sides of the cabinet.

Notes:

1. The cabinet provides 12.8 cubic feet of cargo space and will hold 700 pounds of components.

2. The weight of the cabinet can be reduced by 30 percent by making it of aluminum instead of steel.
3. The cabinet is designed to be secure and to protect its contents under the following conditions: temperatures from -20°F to $+140^{\circ}\text{F}$, humidity up to 100%, and mechanical shock that would result from dropping the cabinet loaded with 100 pounds per drawer from a height of 12 inches onto a concrete surface.
4. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B66-10258

Patent status:

No patent action is contemplated by NASA.

Source: K. R. Kummerfeld
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