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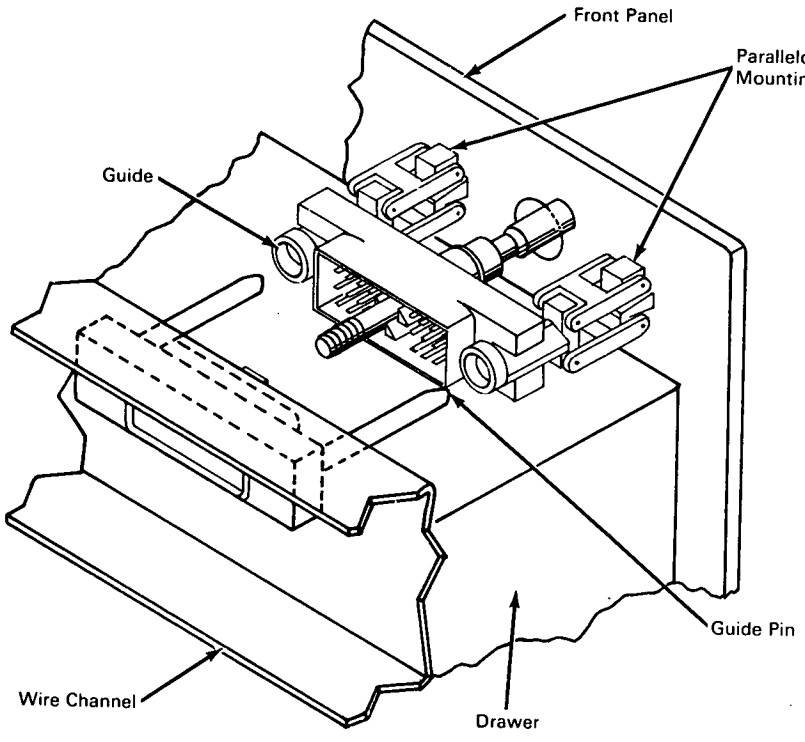
Brief 66-10007

NASA TECH BRIEF

Floating Device Aligns Blind Connections



The problem: To overcome the misalignment of blind connectors that occurs as a result of tolerance buildup between male and female connectors in electronic rack mounted equipment.

The solution: A panel-mounted connector that is free to move in the vertical direction by the action of a parallelogram mount.

How it's done: A portion of the guide pin bushing is replaced with a parallelogram-type mechanism which is attached to the front panel. The ends of the guide pins are tapered, and the holes in the guide bushings are beveled to pick up the misalignment. The connector guide is allowed to move up and down a total of 0.190 inch while remaining perpendicular to the front panel. The amount of vertical travel is determined by the angle on the parallelogram-type base. As the drawer is moved in, the guide pins engage the guides and align the connector up or down before the center screw engages the mating connector, thus insuring proper engagement.

(continued overleaf)

Notes:

1. Freedom of motion allowed by the parallelogram principle maintains the guide pin hole centerline parallel to the guide pin centerline at all times.
2. A device with a more general application could be designed using ball joints on each end of the parallelogram base. This would allow motion within the limits of the guides in all directions.
3. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   P.O. Box 1537
   Houston, Texas, 77001
   Reference: B66-10007

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

Source: James E. Resel of
North American Aviation, Inc.,
under contract to
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(MSC-256)