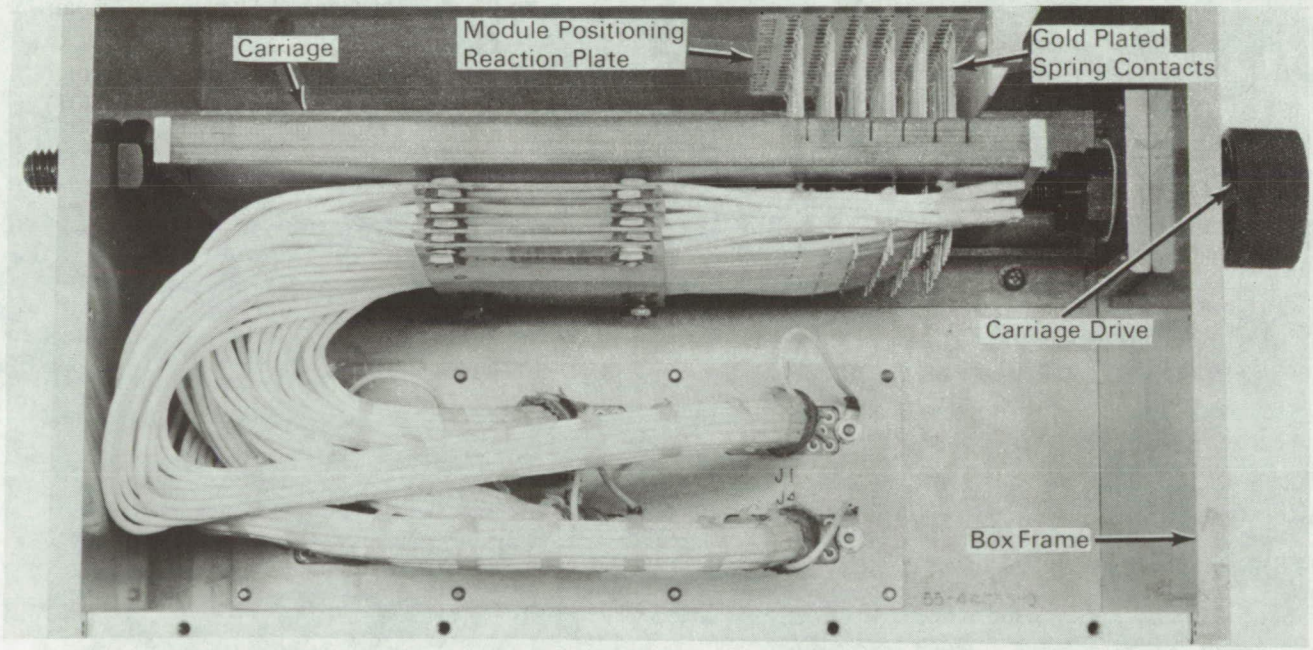
NASA TECH BRIEF

Test Device Prevents Weld Joint Damage by Eliminating Axial Pin Forces on Unpotted Modules



The problem:

To design a device for testing unpotted electronic modules that will prevent weld joint damage by eliminating axial or displacing forces on connector pins.

The solution:

A test device designed to make electrical connection to pins on unpotted modules which do not introduce any displacing forces of the pins. The pins are spaced in a potting header, but are free to slide in and out except for restraint from welded wire joints. The device consists of a box frame, a carriage with gold plated phosphor bronze contact springs, a module positioning reaction plate, carriage drive, stops, wiring, and miscellaneous hardware.

How it's done:

The carriage holds the contact springs in a matrix identical to the module pin matrix and the positioning plate matrix. With the carriage in the retracted position, the springs are completely clear of the positioning plate holes. The holes are slightly larger than the

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unpotted module pins and thus the pins may enter without force.

Advancing the carriage with the drive screw (approximately 0.05 inch) brings the springs into contact with the pins immediately below the positioning plate (approximately 0.1 inch) which prevents the module pins from moving away. A mechanical stop prevents carriage overtravel and allows a controlled spring pressure on the module pins.

Notes:

1. The contact springs are wired to standard connectors for the interface with test equipment.
2. The position of the contact springs allows testing of unpotted modules with pins extending only 0.25 inch or modules with pins up to 1.0 inch.
3. Inquiries concerning this innovation may be directed to:

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   Reference: B67-10359

   or

   New Technology Representative
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   Reference: B67-10359

Patent status:

No patent action is contemplated by NASA.

Source: R. E. Cree
of General Dynamics/Convair
under contract to
Lewis Research Center
(LEW-10201)