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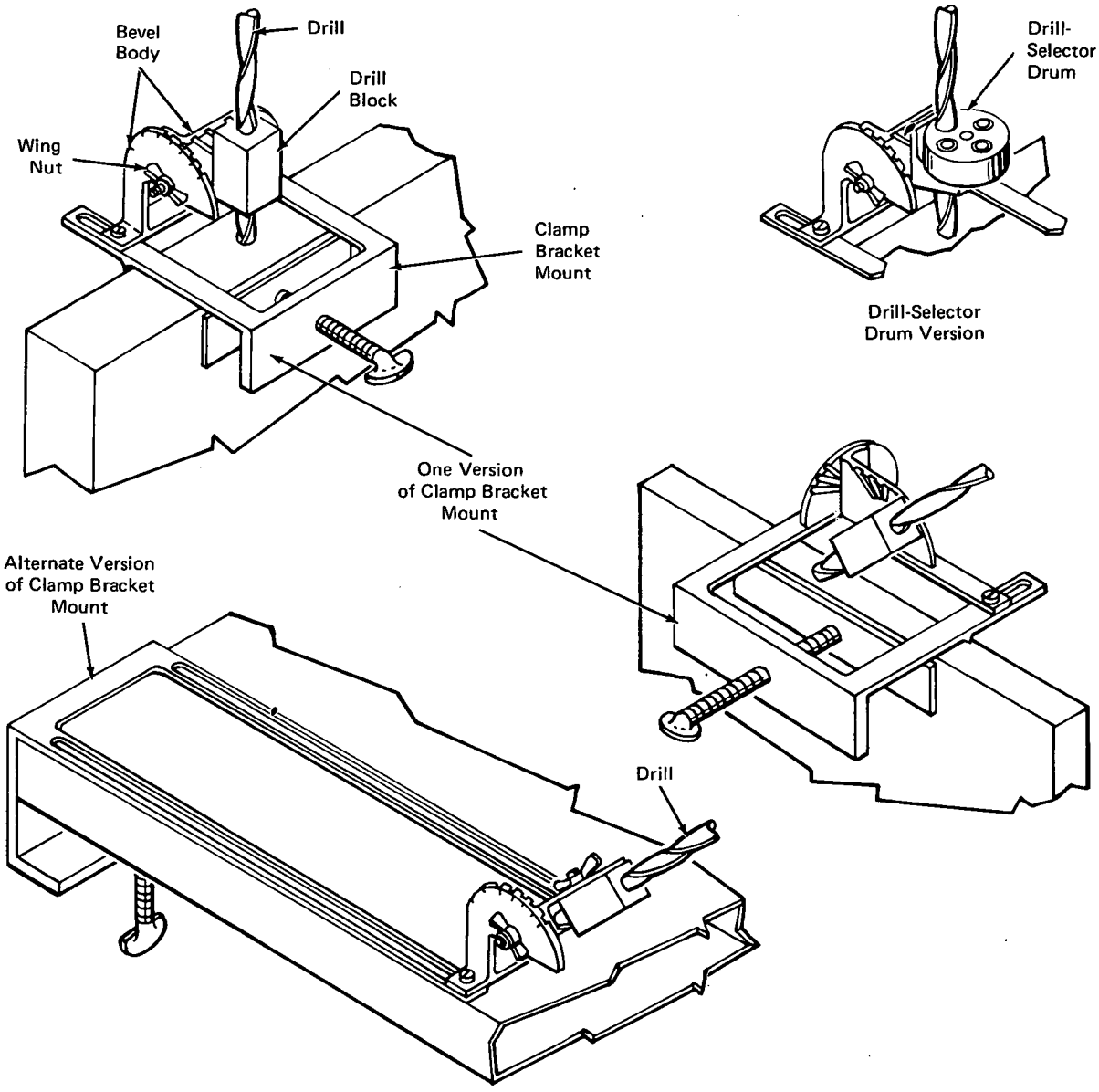
NASA TECH BRIEF

Marshall Space Flight Center

Universal Drill Jig



Universal Drill Jig

(continued overleaf)

The problem:

Drilling of holes at different angles to the flat plane often requires expensive tools such as a radial arm drill press.

The solution:

An inexpensive jig can steadily guide the drill at selected angles to the flat plane from any direction.

How it's done:

The jig shown in the figure uses two mutually perpendicular bevel bodies designed to set the drill bit at 15° intervals from 90° to 45° to the flat plane. Each bevel body has grooves to correspond to 15° interval settings. A drill block used for guiding the drill bit has a spline on one side to engage the groove on the bevel body at a selected angle. Angles are set by loosening wing nuts on either or both bodies, tilting the drill block to the desired angle until the spline engages the groove, and tightening the nuts. The drill bit is then inserted through the drill block and guided at the selected angle.

To hold the entire assembly steady, several types of clamp bracket mounts are available for supporting the bevel bodies (see figure). In addition, another type of drill block may be used, to guide the different sizes of drill bits, by simply selecting a proper hole on the drill-selector drum.

Notes:

1. The jig can be designed for angle settings other than those described.
2. Requests for further information may be directed to:
   Technology Utilization Officer
   Marshall Space Flight Center
   Code A&PS-TU
   Marshall Space Flight Center, Alabama 35812
   Reference: B73-10324

Patent status:

Inquiries concerning rights for the commercial use of this invention should be addressed to:

Patent Counsel
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