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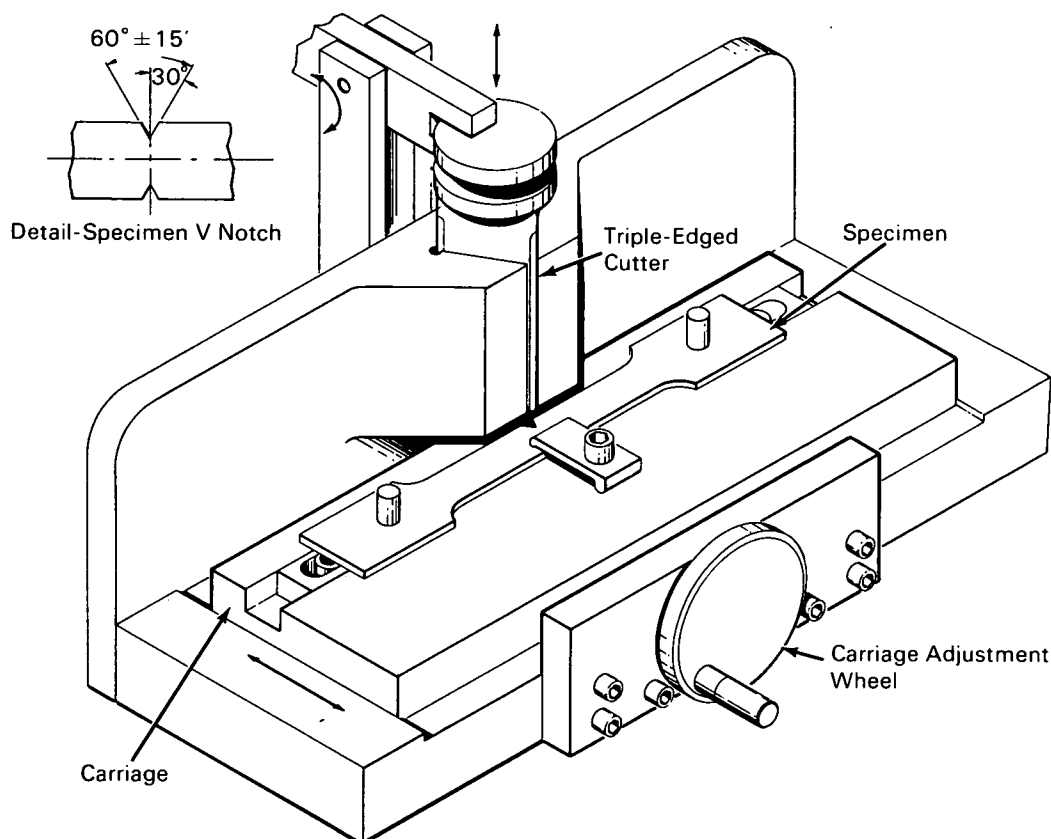
Brief 70-10411

# NASA TECH BRIEF



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## Vee-Notch Tool Cuts Specimens



### The problem:

To design a vee-notch cutting tool for use on tensile specimens that would cost less and be easier to set up than any existing equipment for that purpose. Also a higher degree of precision could be achieved than that obtainable by conventional methods.

### The solution:

A triangular cutting tool, rigidly mounted in a slot of mating contour to prevent deflection during the

cutting operation. Since no expensive machine equipment is required, the tool can be mounted on a stand or table and operated by laboratory technicians.

### How it's done:

The tool is hollow ground on the end, allowing all three edges to be used prior to resharping. Since neither the carriage nor the cutter can be deflected, uniformity of the vee-notch position is positive in relation to the holes. In addition, spring collets are

(continued overleaf)

provided for positioning of the specimen from the existing holes. This precise positioning eliminates any misalignment of the opposed notches due to variation of tolerance in the hole size. A rocker, activated by an electrically driven bellcrank (not shown) causes the triple edged cutter to oscillate up and down. Simultaneously, turning the carriage adjustment wheel moves the specimen against the cutter blade. The geometry of the cutter provides for the application of carbide tips when used in notching heat-treated or abrasive materials, or exotic alloys contemplated for use in structures subjected to high stresses. Furthermore, the tool can be adapted to other types of notching and/or light duty punching of holes or slots.

**Note:**

Requests for further information may be directed to:

Technology Utilization Officer  
Code A&TS-TU  
Marshall Space Flight Center  
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Reference: TSP70-10411

**Patent status:**

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: Raymond A. Spier  
Marshall Space Flight Center  
(MFS-20730)