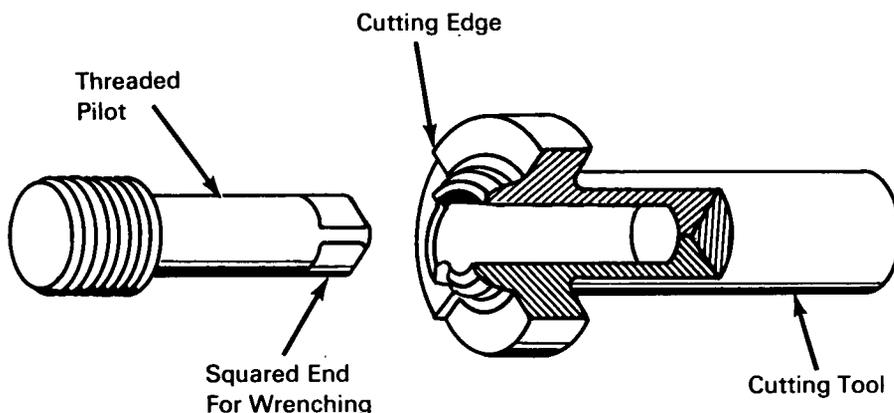


NASA TECH BRIEF



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Threaded Pilot Insures Cutting Tool Alignment



The problem:

The standard practice in machining a port component, or boss, requires that the hole be threaded after the piece has been first drilled and machined. The machined surface of the boss must be normal and concentric in relation to the threads.

If the boss has to be reworked, an unusual amount of time and care are required to remachine and retain perfect threads. The reworking process results in many bosses being scrapped or replaced.

The solution:

A threaded pilot that is used to align cutting surfaces with the boss threads. This allows machining to be done after threading, and insures precision alignment.

How it's done:

After the boss is drilled and threaded, a threaded pilot is screwed into the boss and a cutting tool that fits over the threaded pilot shaft is used to machine the boss surfaces. The use of the threaded pilot keeps the machined surfaces normal and concentric

to the threads. For reworking a boss, the threaded pilot is screwed in, and the surfaces are machined in the same manner as that used for the original work.

Notes:

1. This device is recommended for use wherever precise alignment of port threads and boss face is required.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama, 35812
Reference: B66-10074

Patent status:

No patent action is contemplated by NASA.

Source: William E. Schneider and
Reuben Goldman of
North American Aviation, Inc.
under contract to
Marshall Space Flight Center
(M-FS-527)
Category 05