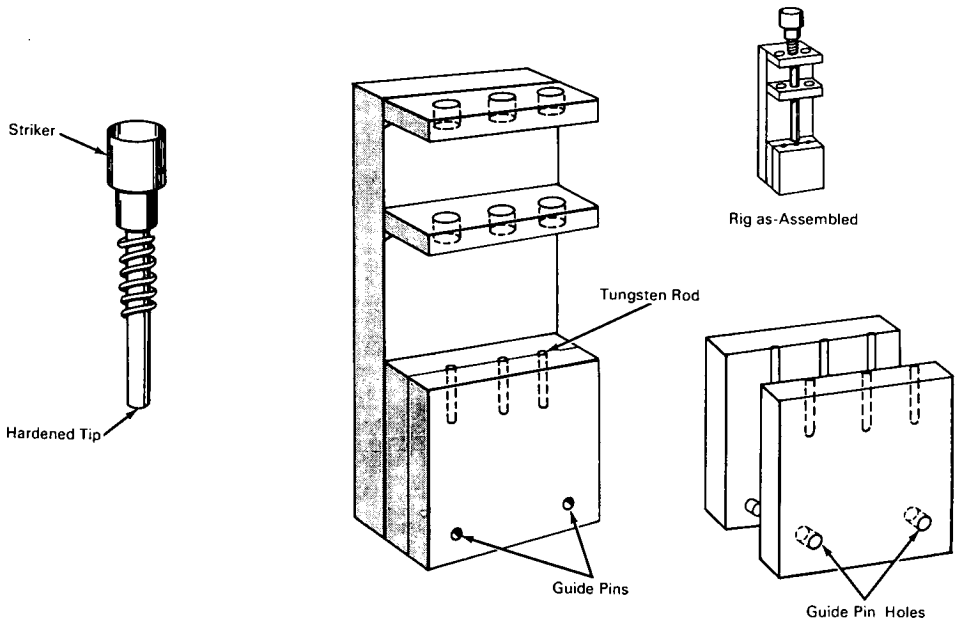
NASA TECH BRIEF

Jig and Fixture Aid Fabrication of Tungsten Rivets



The problem: Tungsten rivets, when machined in small quantities and assorted sizes, represent an expense in the order of dollars per rivet. This creates a requirement for a simple, inexpensive method of fabricating tungsten rivets from stock.

The solution: A jig and fixture that holds several lengths of tungsten rod with sufficient material exposed for heating and forging into a rivet head.

How it's done: Tungsten rod stock, cut to proper length, is held between two blocks having mating semicylindrical grooves that are held in alignment by guide pins (dowels) through the blocks. A striker with a hardened tip is inserted through guide holes in the fixture successively over each tungsten rod. A spring on the striker permits heating of the tungsten rod without damaging the hardened end of the striker. The exposed tungsten rod is heated with a hydrogen torch to the proper temperature and the striker is driven down on it by a blow from a hand-held hammer. The hardened tip of the striker forges the heated tungsten into a rivet head by this single blow.

Notes:

1. This device has been used to produce tungsten rivets at a fraction of the commercial price for finished rivets.

(continued overleaf)

2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio, 44135
Reference: B65-10101

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

Source: John H. Chattin
(Lewis 185)