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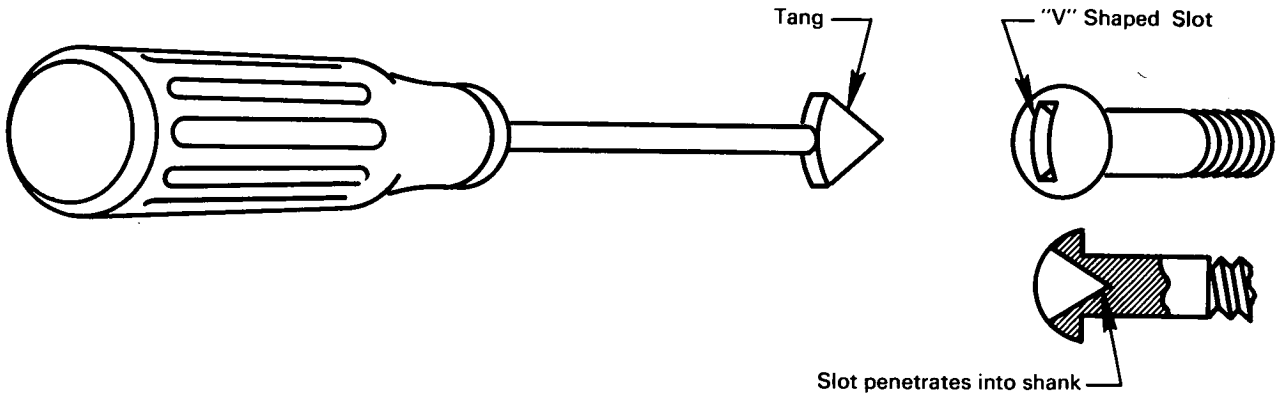
NASA TECH BRIEF

This NASA Technical Brief is issued by the Office of Technology Utilization to acquaint industry with the technical content of an innovation derived from the NASA space program.

V-Slotted Screw Head and Matching Driving Tool Facilitate Insertion and Removal of Screw Fasteners



The problem: The conventional slots (tapered slots, cruciform slots, etc.) in screw heads become burred and galled with repeated use. Damaged screws are troublesome to insert and remove. In addition, problems are encountered in starting conventionally slotted screws in difficult locations.

The solution: A screw head with a V-slot extending into the shank of the screw fastener and a screwdriver with a mating V-shaped tang, as shown in the illustration.

How it's done: Holding the screwdriver with only one hand, the tang is readily centered in the V-shaped slot and, when seated to its full depth in the slot, is capable of supporting the screw without the use of the other hand. The screw can then be easily inserted and driven into the threaded hole, even when the latter is in a difficult location. The V-slotted design minimizes axial forces that must be applied with conventional designs, thus avoiding damage as well as facilitating offset driving of the screw. In case slippage of the screwdriver tang occurs near the top of the slot, effective contact of the mating surfaces remains at the bottom of the V-shaped slot.

Notes:

1. In emergencies, conventional screwdrivers may be used.
2. The design can be applied to the general class of screw fastenings and all subdivisions of the screw and bolt classification.

Patent status: NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA Headquarters, Washington, D.C., 20546.

Source: Max G. Handley
Flight Research Center (FRC-16)