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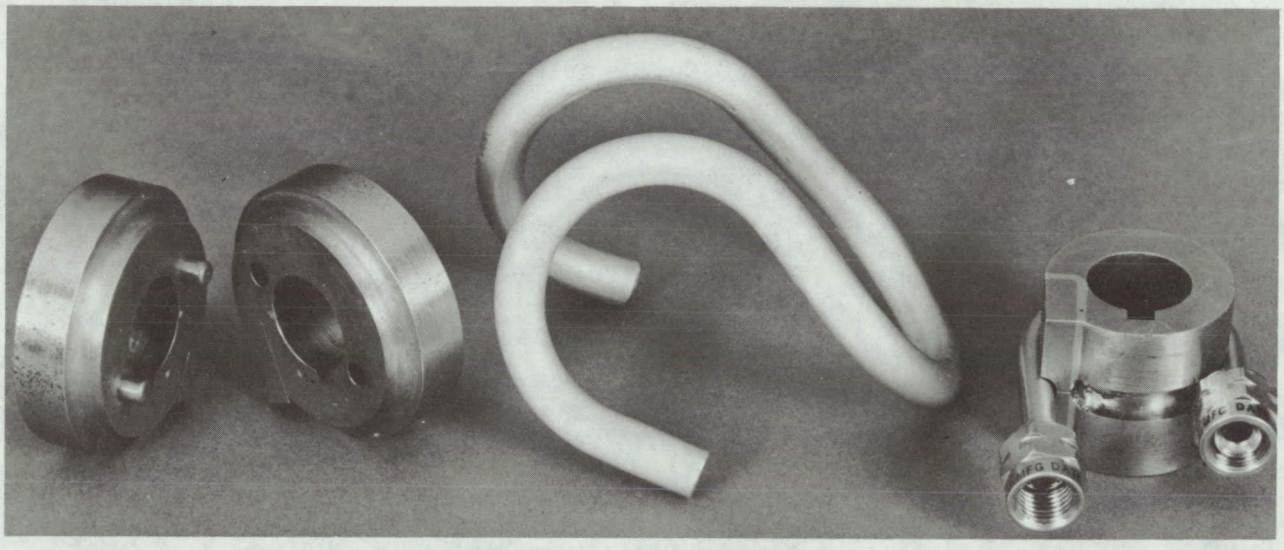
NASA TECH BRIEF

Split Radius-Form Blocks for Tube Benders



The problem:

Present solid-type, radius-form blocks are limited to maximum bends that permit the tube ends (or end connections) to clear the inside diameter of the form block for removal. The amount of tube flexure cannot be extended beyond 180°.

The solution:

A new two-piece, radius-form block, shown in the figure, permits, in a single operation, accurate forming and removing of parts with more than a 180° bend.

How it's done:

The radius-form block is made in two parts which are separated along the plane of the bend to permit removal of the part. The fabrication of the short U-turn assembly is an example of the capability of this unit. With the new form block, it is also possible to install the nuts and flare both ends of the tube prior to bending.

Notes:

1. This tube bender can be used to shape flexible metal tubing in applications dealing with plumbing, heating, and pressure transmission lines.
2. This Tech Brief is complete in itself. No additional documentation is available.

Patent status:

No patent action is contemplated by NASA.

Source: C. W. Seiple and D. R. Lange of
North American Rockwell Corporation
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