

NASA TECH BRIEF

Marshall Space Flight Center

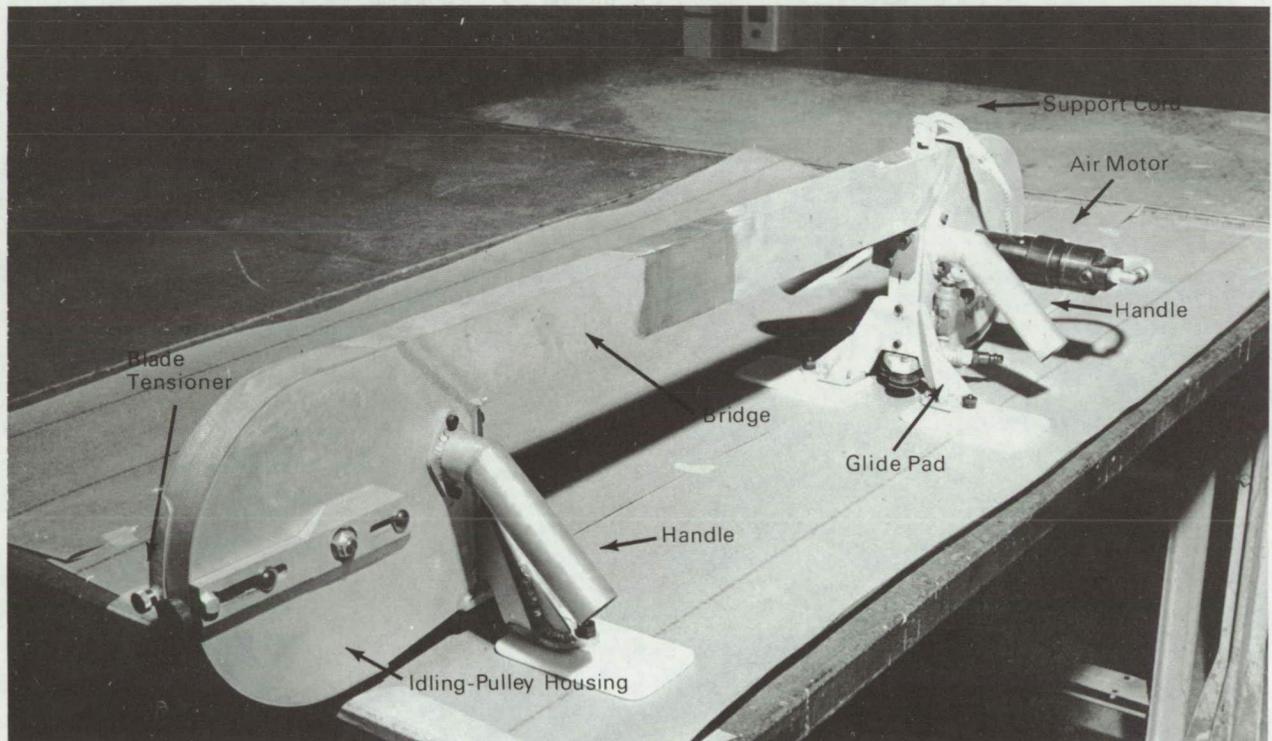


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Portable Lightweight Bandsaw

A portable, lightweight bandsaw (see fig.) trims polyurethane foam insulation of large cylinders. The spiral blade cuts in any direction, so that the saw can be moved (and can cut) vertically or hor-

In this model, a 20 cm diameter driving pulley is keyed to the output shaft of an air motor. Closely enclosing the pulley is a roughly semicircular housing mounted on the body of the motor. From the top of



izontally. With coordination of the saw's vertical and horizontal movements, the blade can cut at any angle between these directions.

The hardness of the material that can be cut is limited primarily by the material and dimensions of the blade. The original model, constructed of aluminum-6061, can handle balsam or spruce, weighs only about 5 kg, and can be operated by one or two men.

the housing, a three-sided bridge extends outward to a similar housing, within which a similar (idling) pulley is mounted through a horizontal slot. Each pulley has a groove cut around its periphery. Around both pulleys and in the grooves runs a spring-tempered spiral bandsaw blade, the edge of which runs through the bridge.

The pulleys can be adjusted by means of a

(continued overleaf)

knurled capscrew to control the blade tension. The pulley housings are separated by a distance equal to the nominal width of the cutting throat. This throat is reduced by a pair of glide pads mounted below the inner edges of the pulley housings. The pads, which are adjustable in height, serve as regulators for the depth of the cut and as feet for the saw when it stands on a flat surface. Four handles are attached to the sides, and the bridge can serve as a handle if needed.

A limitation of the saw is its inability to handle flat surfaces wider than a given dimension, determined by the particular dimensions of the saw itself. However, it was designed for curved surfaces, and its depth of cut varies with the surface curvature.

Note:

Requests for further information may be directed to:

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