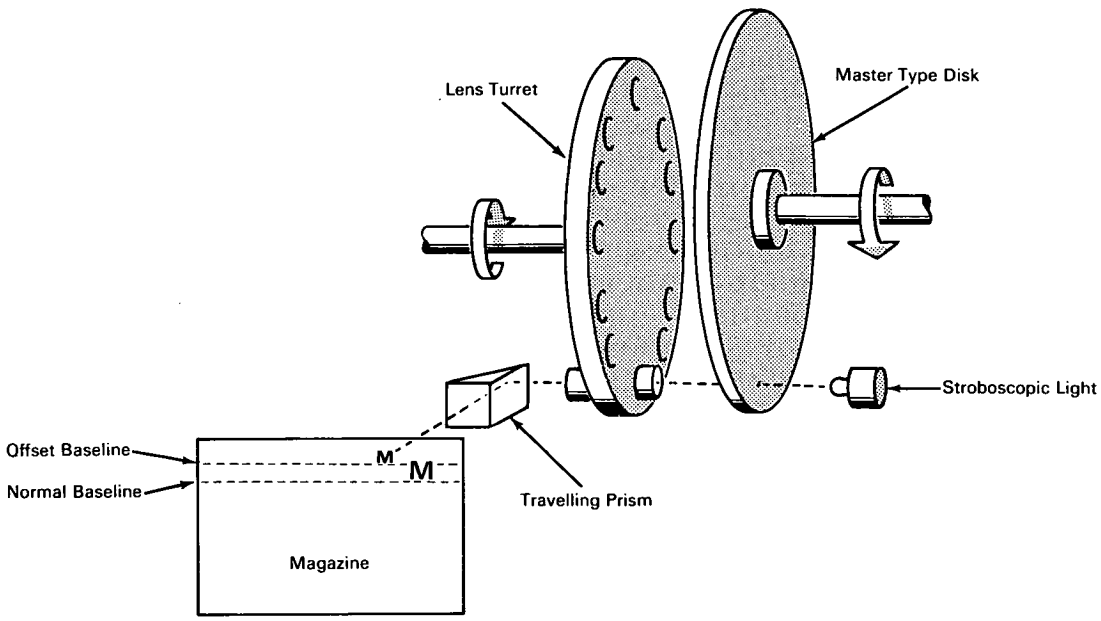
NASA TECH BRIEF

Offset Lenses Add Versatility to Phototypesetting Machine



The problem:

In composing copy on the Photon automatic phototypesetting machine, inputs involving other than straight baseline characters pose a problem of spacing and then resetting that essentially robs the machine of the composing speed that is its prime feature. For example, in mathematical formulas it is not uncommon to encounter superior, supersuperior, inferior, and subinferior characters as exponents and subscripts of baseline characters. With the basic Photon machine, such a formula must be set five times, first composing the baseline characters and spacing for the superior and inferior characters, and then setting them—superior, supersuperior, inferior, and subinferior.

The solution:

A number of lenses in the lens turret are mounted in an offset (eccentric) pattern that causes characters projected through them to fall on the photographic paper in the magazine above or below the baseline.

How it's done:

The lens turret mounts 12 lenses, each mounted by means of an eccentric screw for normal alignment. The mounting holes for four of the least used lenses (those for the least used type sizes) are elongated so that these four lenses may be mounted in planes other than normal. Using a special optical alignment kit, the four lenses are positioned so their images fall

(continued overleaf)

slightly "up" or "down" relative to the normal baseline.

Notes:

1. In one application, lenses for superior and inferior characters were selected at two point sizes smaller than the normal baseline characters, and for supersuperior and subinferior characters, at four point sizes smaller than the norm.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   National Aeronautics and Space Administration
   Code UT
   Washington, D.C., 20546
   Reference: B66-10173

Patent status:

No patent action is contemplated by NASA.

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