

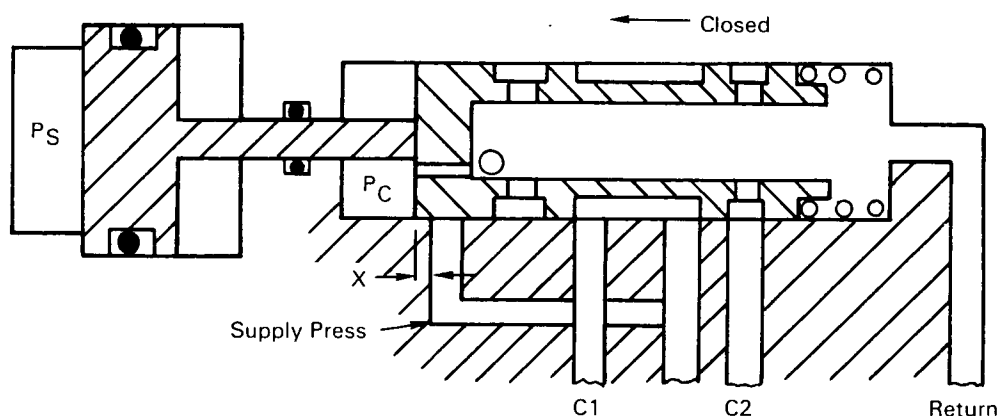
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# NASA TECH BRIEF



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## Fast-Acting, Four-Way Slide Valve



This valve design represents the response to the need for a fast-acting four-way valve that is insensitive to fluctuating sense pressure. The valve is currently in use.

The valve design has many potential applications in the hydraulics field. Operating principles are described below.

Cavity pressure  $P_c$  is maintained at a low level by the combination of overlap  $X$  and the size of orifice  $O$ . Increasing sense pressure  $P_s$  initiates valve movement against the preloaded spring. Overlap  $X$  decrease causes cavity pressure  $P_c$  to rise sharply. The opening force on the spool is now greater than the preload on the spring and the valve snaps to full-open position. The valve remains in full-open position until the

supply pressure is removed. The spool position is not affected by variations in sense pressure  $P_s$ .

### Note:

Requests for further information may be directed to:  
Technology Utilization Officer  
Marshall Space Flight Center  
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No patent action is contemplated by NASA.  
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