

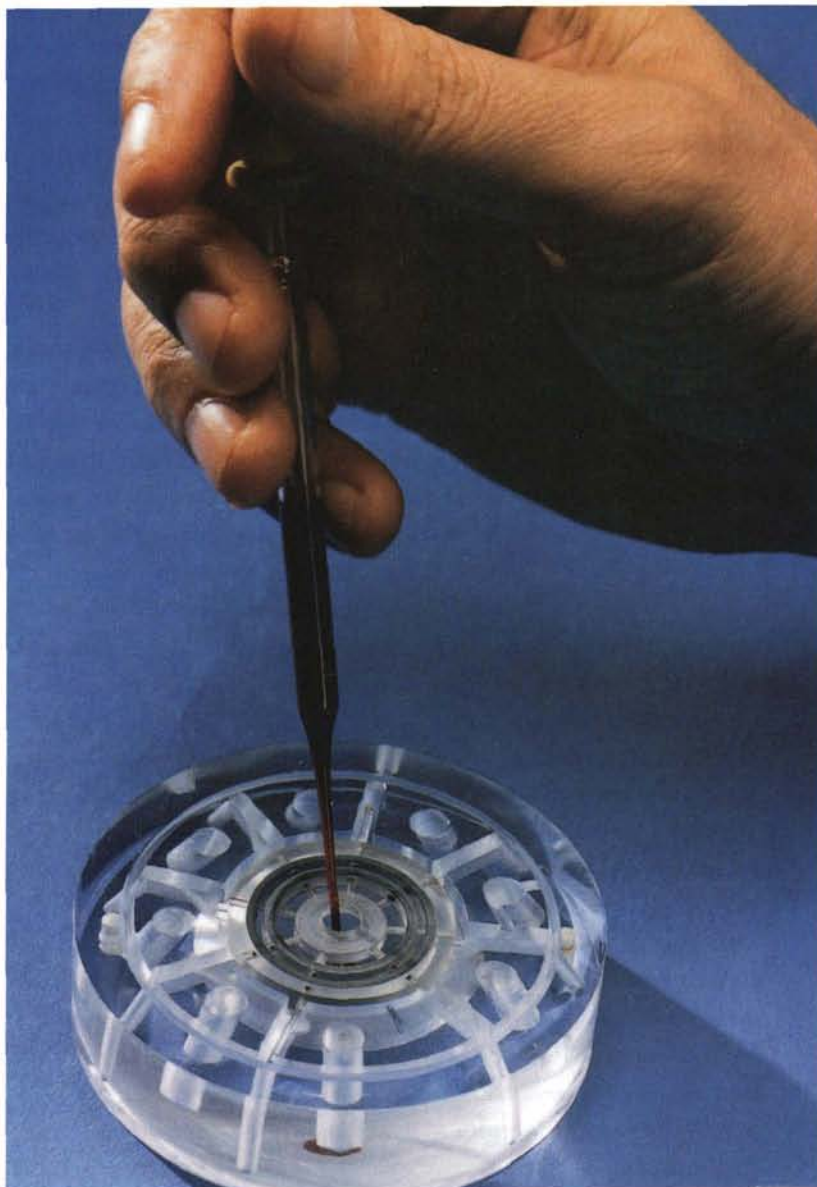
Blood Analyzer



In the 1970s, Oak Ridge (Tennessee) National Laboratory (ORNL), operated for the Department of Energy by Martin Marietta Energy Systems, undertook development of an automatic blood analyzer for the Skylab manned orbital laboratory under funding provided by NASA.

Because an existing mechanical analysis system was far too large for spacecraft use and would not have functioned

properly in microgravity, ORNL took a new approach and developed the technique of "dynamic loading," which employed a spinning rotor as the basic step in loading, transferring and analyzing blood samples by centrifugal processing. In the accompanying photo, blood is being introduced to the processing rotor of the ORNL CPA-2 system, an advancement of the CPA-1 developed for NASA.



ORNL's centrifugal analysis technology served as a developmental base for a refined, commercial version of the blood analyzer produced by ABAXIS, Mountain View, California.

Designed to obviate the need for expensive laboratory based testing, the toaster-sized ABAXIS MiniLab MCA is a portable system intended for use in a physician's office. Using a single drop of whole blood, the equipment can perform 80 to 100 chemical blood tests and report results in about five minutes. ABAXIS is continuing advanced development of the system. ●