

Hardware Description

The Pelomyxa (amoeba) Experiment Package consists of polycarbonate resin chambers each divided into three 5 cc compartments, mounted inside a hollow box. Each compartment is separated by Lexan pistons with ethylene propylene O-rings. The first two compartments hold amoebae or paramecia that are mixed inflight via actuation of a Lexan shaft to which the pistons are attached. Further actuation mixes the first two compartments with the third compartment which contains fixative. Twenty-four chambers are mounted on five magnesium plates. Front, back, and side magnesium covers are mounted on these plates. The chamber shafts are spring loaded on one end and restrained by a multi-slotted face cam on the other end. When the cam, which is rotated by a high-torque motor, moves from one position to the next, chamber shafts are pushed into the cam slots to achieve "mix" or "fix" chamber actuations. These actuations, in turn, close microswitches which serve as verifications of actuations. Four of the chambers contain thermistors for measuring inflight temperatures. These data are telemetered to the various ground stations. High density foam pads are placed between chambers to damp vibrations during powered flight and re-entry. The total package is bolted to the aft plate of the Biosatellite module. A spacecraft timer initiates five sequential inflight actuations.

Specifications

Dimensions: Unknown
Weight: 15 lbs (total package)
Power: None

Data Acquisition

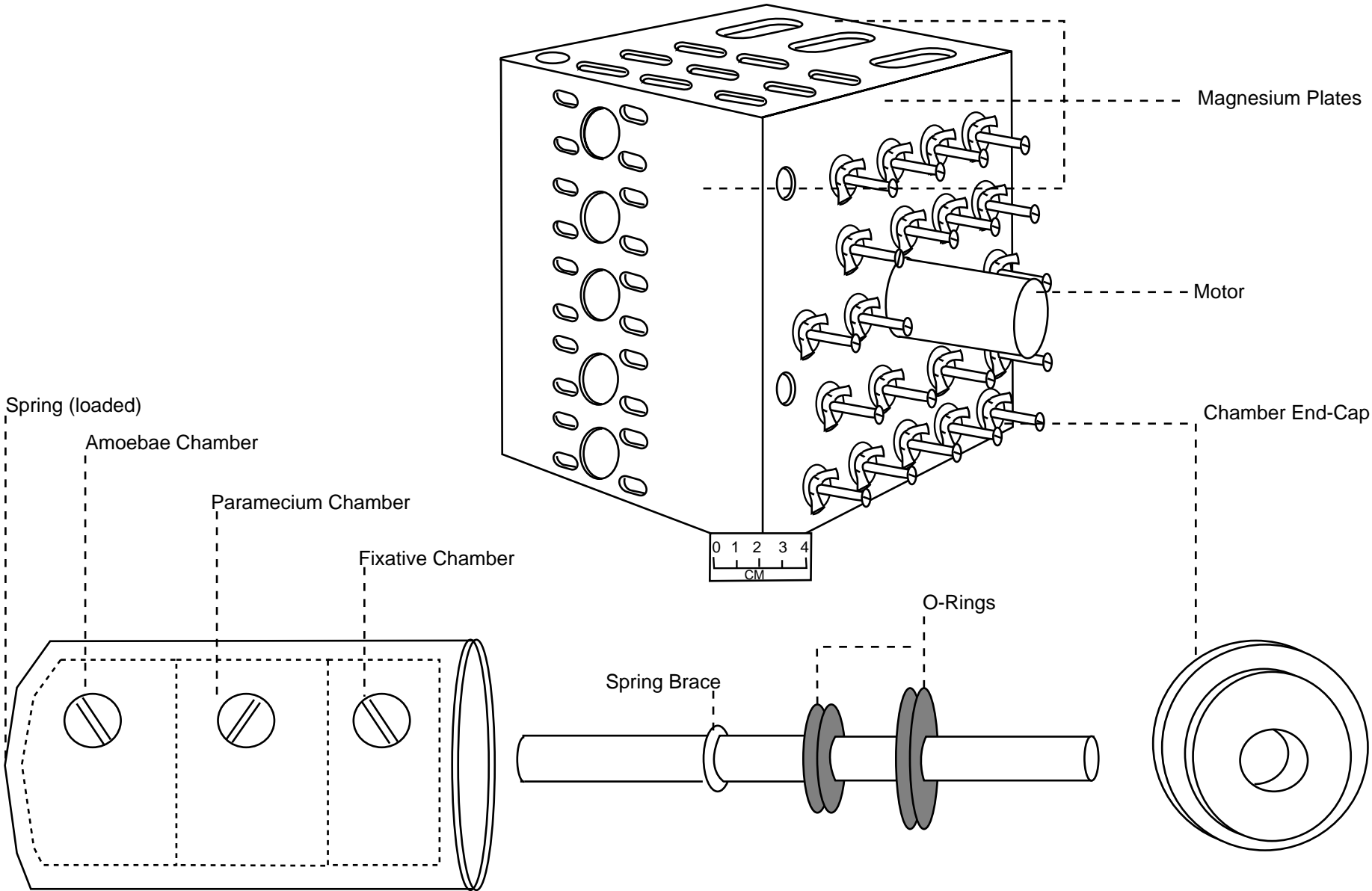
Inflight fixation

Related Ground-Based Hardware

None

Publications

- Eckberg, D.R. et al.: The Effect of Weightlessness on the Amoeba, *Pelomyxa carolinensis*-I. Materials and Methods. *Bioscience*. Vol. 18 (No. 106): 615-622, December 1969.
- *Biosatellite Project Historical Summary Report*. NASA-Ames Research Center. J.W. Dyer, ed. December 1969.



Missions Flown Through 1990: Biosatellite I/II (p. 44)