

### **Hardware Description**

The Drosophila (fruit fly) Experiment Package consists of eight insect modules assembled into a two-tiered container. Prior to flight, each module base is filled with melted culture medium and a retaining sieve inserted. Once filled, the Drosophilids are added and the cover is affixed. Preflight testing showed that 75 inseminated females could be loaded into a single module with good survival. Each of the eight modules is inserted into the housing frame, which is built as a spherical segment so that all modules in each frame are equidistant from the radiation source. Modules are mounted in two horizontal rows of four each, and brackets are placed over the modules using nylon screws. The larvae package is installed behind the adult, for a total of sixteen modules; it has a greater radius of curvature and receives a lower intensity of radiation. The container holds a thermistor for recording temperature and small square holders for the radiation detectors.

**Radiation Dosimeters:** LiF radiation dosimeters are attached to each of two container units to measure dose received at two sites: 1) the fore compartment where it is exposed to an estimated dose of 1,200 to 1,500 r from an onboard <sup>85</sup>Sr source and 2) the aft compartment where the unit is receives lower radiation doses due to curvature differences.

### **Specifications**

**Dimensions:** 2.5 cm<sup>2</sup> (each module)

**Weight:** Unknown

**Power:** None

### **Data Acquisition**

Radiation and temperature data

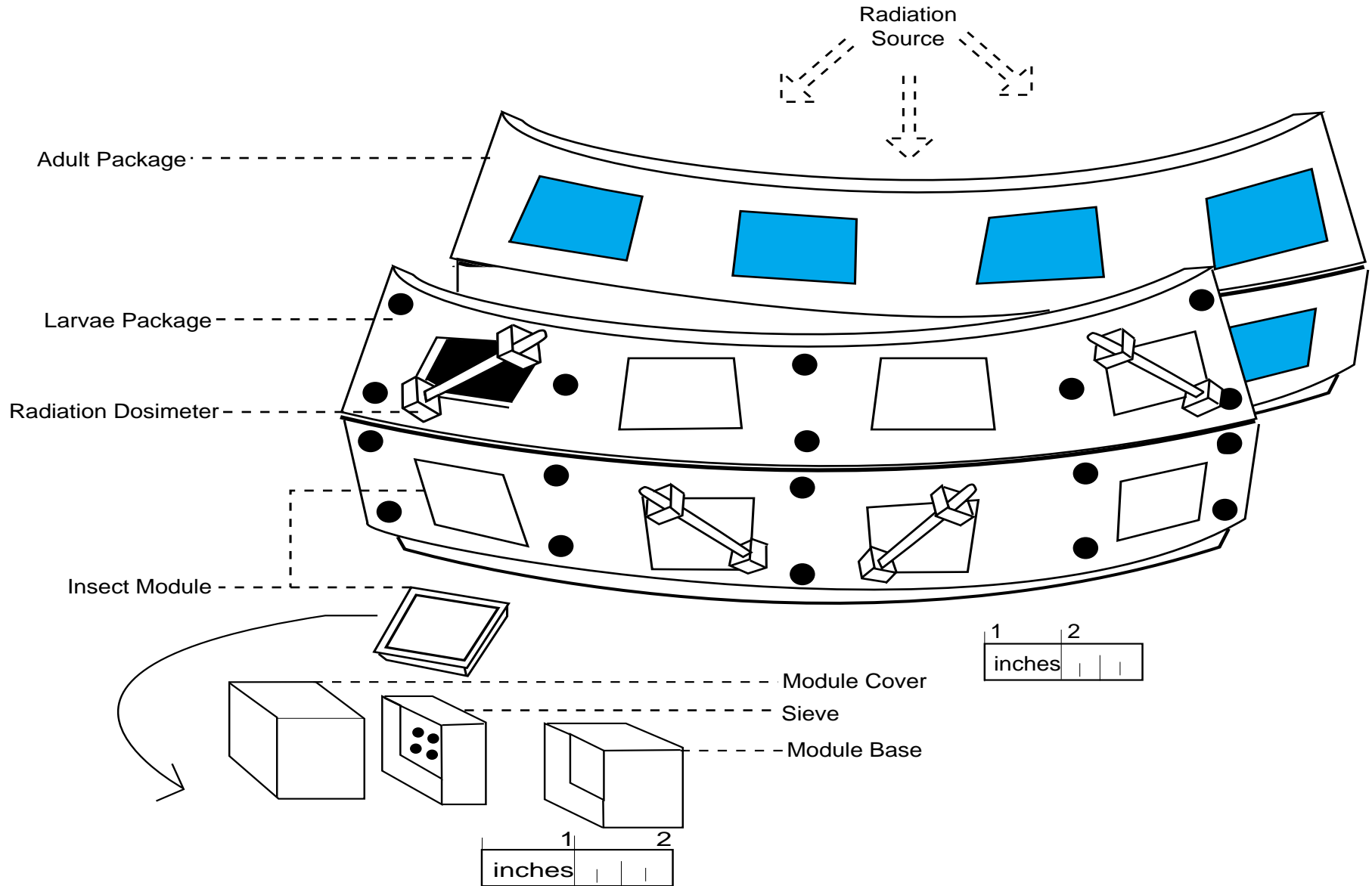
### **Related Ground-Based Hardware**

None

### **Publications**

- Browning, L.S.: Effects of the Space Environment on Radiation-Induced Damage in the Reproductive Cells and Pupae of Adult Drosophila. *Bioscience*. Vol. 18 (No. 106): 570-582, December 1969.
- *Biosatellite Project Historical Summary Report*. NASA-Ames Research Center. J.W. Dyer, ed. December 1969.

# Drosophila (Fruit Fly) Experiment Package



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