

Explorer 3



Explorer 3 (Harvard designation 1958 Gamma) was an American artificial satellite launched into medium Earth orbit in 1958. It was the second successful launch in the Explorer program, and was nearly identical to the first U.S. satellite Explorer 1 in its design and mission.

The objective of this spacecraft was a continuation of experiments started with Explorer 1. The payload consisted of a micrometeorite detector (a wire grid array and acoustic detector) and the same cosmic ray counter (a Geiger-Müller tube) experiment included on Explorer 1, but this time with an on-board tape recorder to provide a complete radiation history for each orbit, Ludwig having had time to accommodate for the spin-stabilization of the satellite.

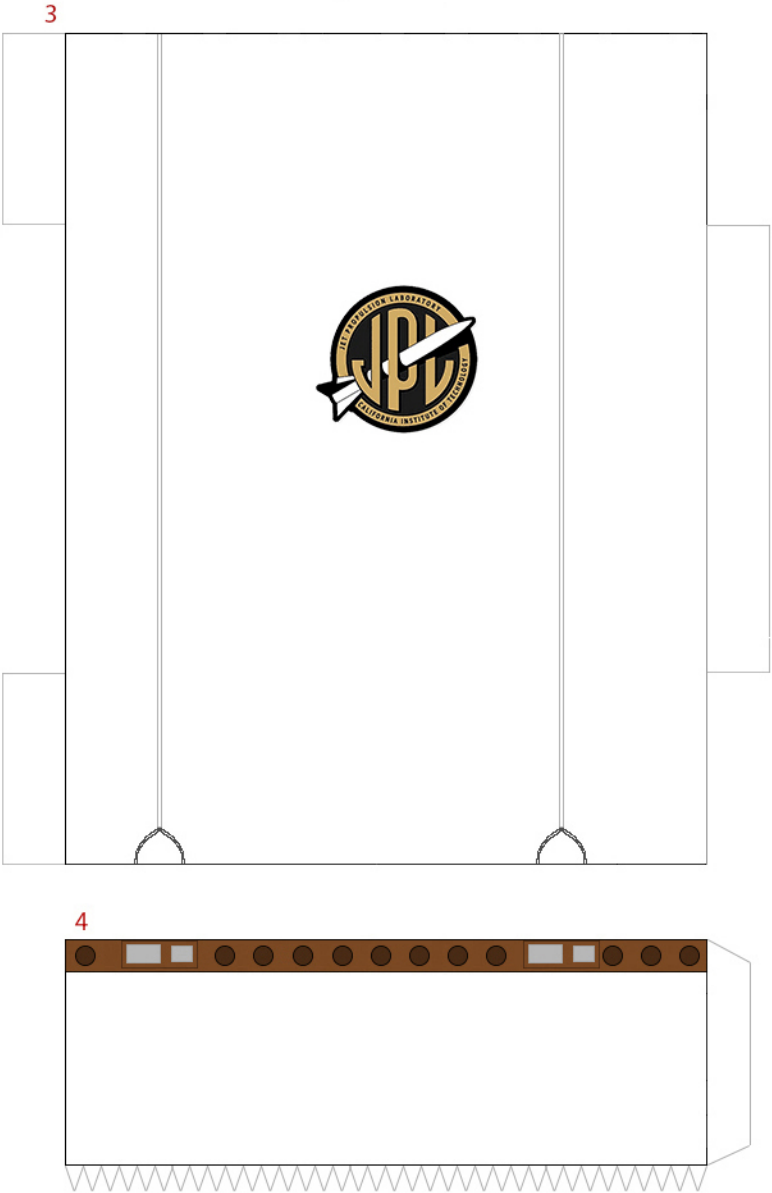
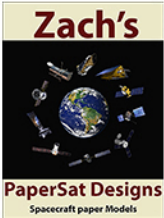
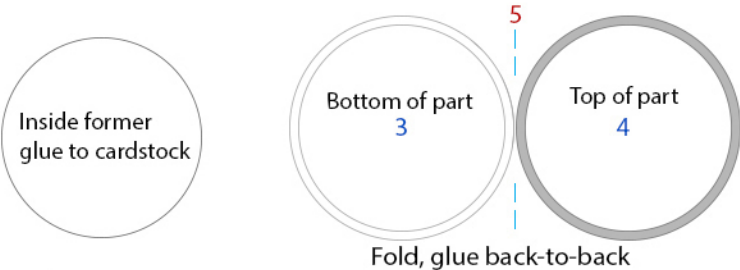
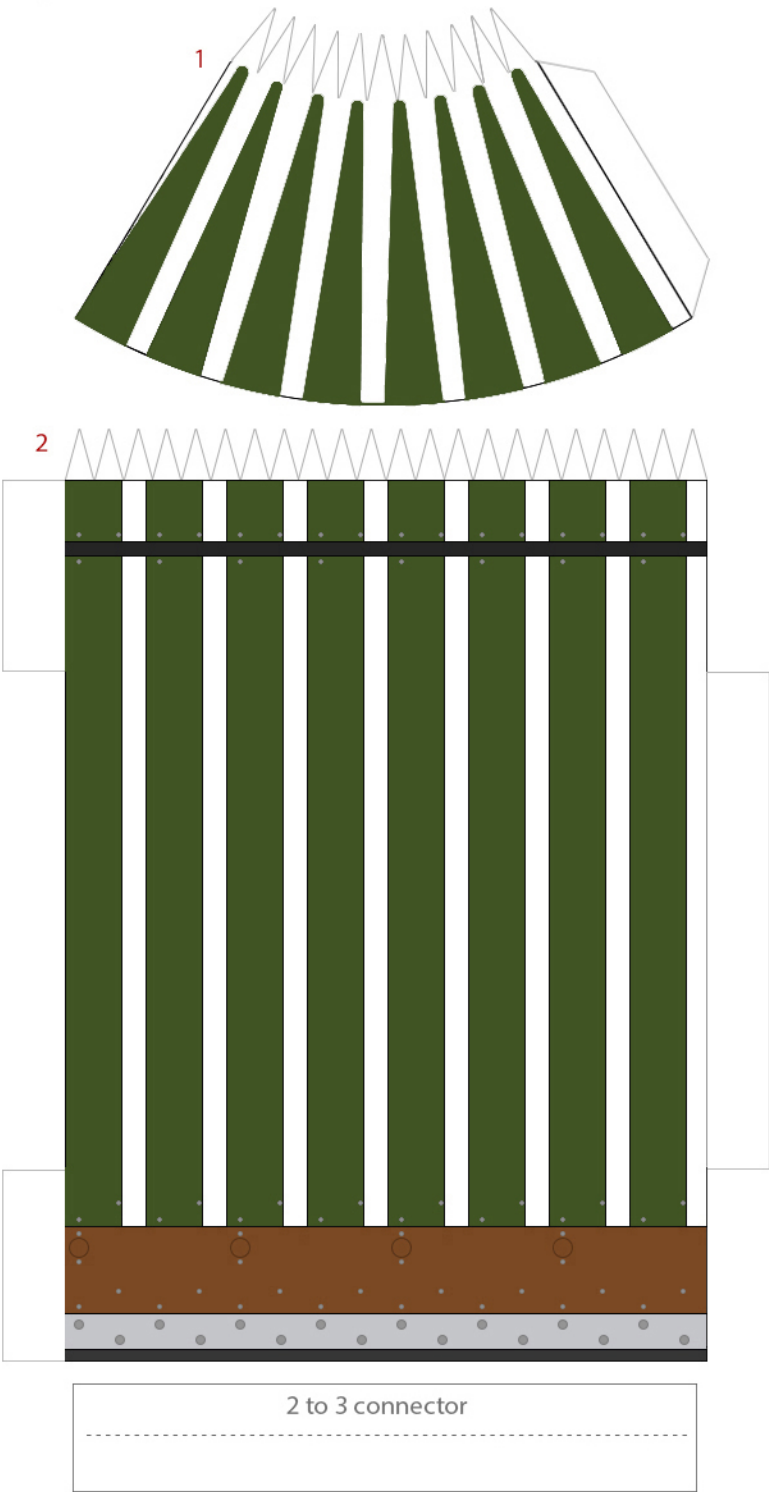
Transmitting antennas consisted of two fiberglass slot antennas in the body of the satellite itself. **The four flexible whip antennas of Explorer 1 were removed from the design. The external skin of the instrument section was painted in alternate strips of white and dark green to provide passive temperature control of the satellite.** The proportions of the light and dark strips were determined by studies of shadow-sunlight intervals based on firing time, trajectory, orbit, and orbital inclination.

Explorer 3 was launched at 17:38:03 GMT on 26 March 1958 from Cape Canaveral Launch Complex 5 via the same type of modified Jupiter-C (Juno 1) as the prior two Explorers.

The satellite reentered the atmosphere on 28 June 1958, after just 93 days of operation;.

Explorer 3 largely confirmed the findings of Explorer 1, with the same zero count returned above an altitude of around 1,000 km (620 mi) to 1,200 km (750 mi). Because of the consistent results, Van Allen hypothesized that the satellites' equipment might have been saturated by unexpectedly high radiation concentrations, trapped in a belt of charged particles by the Earth's magnetic field. Explorer 4, equipped with a lead-shielded counter, flew in July and confirmed the existence of the radiation fields subsequently known as the Van Allen Belts.

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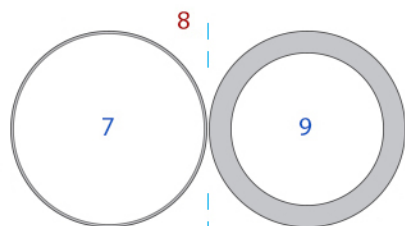


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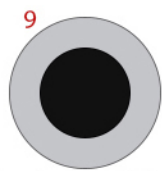


Part 6 bottom
former, glue to
cardstock

Part 7 top
former, glue to
cardstock



Fold, glue back-to-back



Glue to two (2) layers
of cardstock

