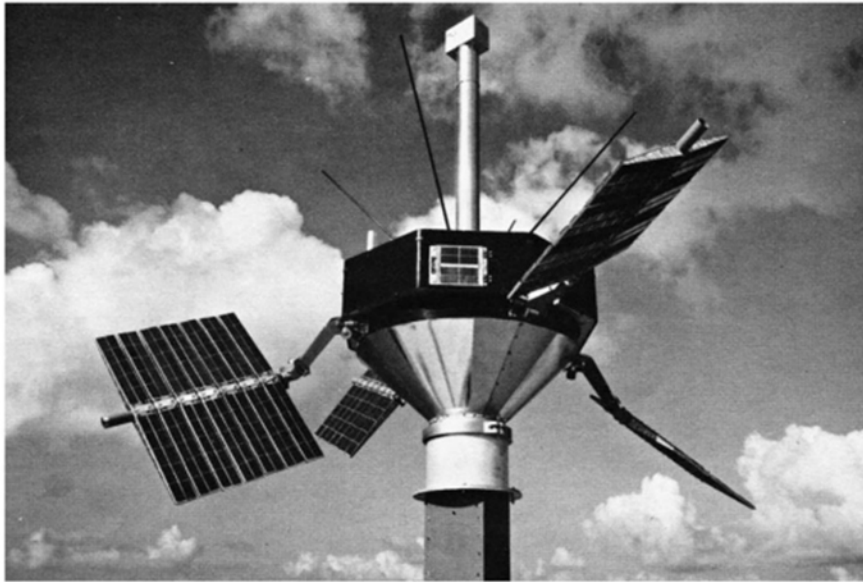




Explorers 12 and 14 are identical spacecrafts

Explorer XII was the first in a series of four spacecrafts designed to investigate the solar winds, interplanetary magnetic fields, distant regions of the Earth's magnetic field, and energetic particles in interplanetary space and the Van Allen Belts.

Explorer XII was launched from Cape Canaveral on August 15, 1961.

It remains a historical highlight for many a contemporary student of space. This satellite has given us much information we know about space today. It was the first to identify Earth's "magnetopause" – the boundary between Earth's magnetic environment and interplanetary space. It also improved our understanding of the Van Allen radiation belts and Earth's magnetosphere. Notably, it helped establish that the radiation belts were not so strong that they would prevent manned spaceflight.

Explorer XIV used the same design as Explorer XII: a truncated cone mounted under an octagonal platform, four solar paddles, a 34-inch column supporting a magnetometer package and four telemetry antennas. It was 27 inches across the flats of the octagon and 51 inches high and weighed 89 pounds.

Explorer XIV was a follow-on to Explorer XII. It was designed to monitor trapped corpuscular radiation, solar particles, cosmic radiation, and their solar winds and to correlate particle phenomena with magnetic field observations.

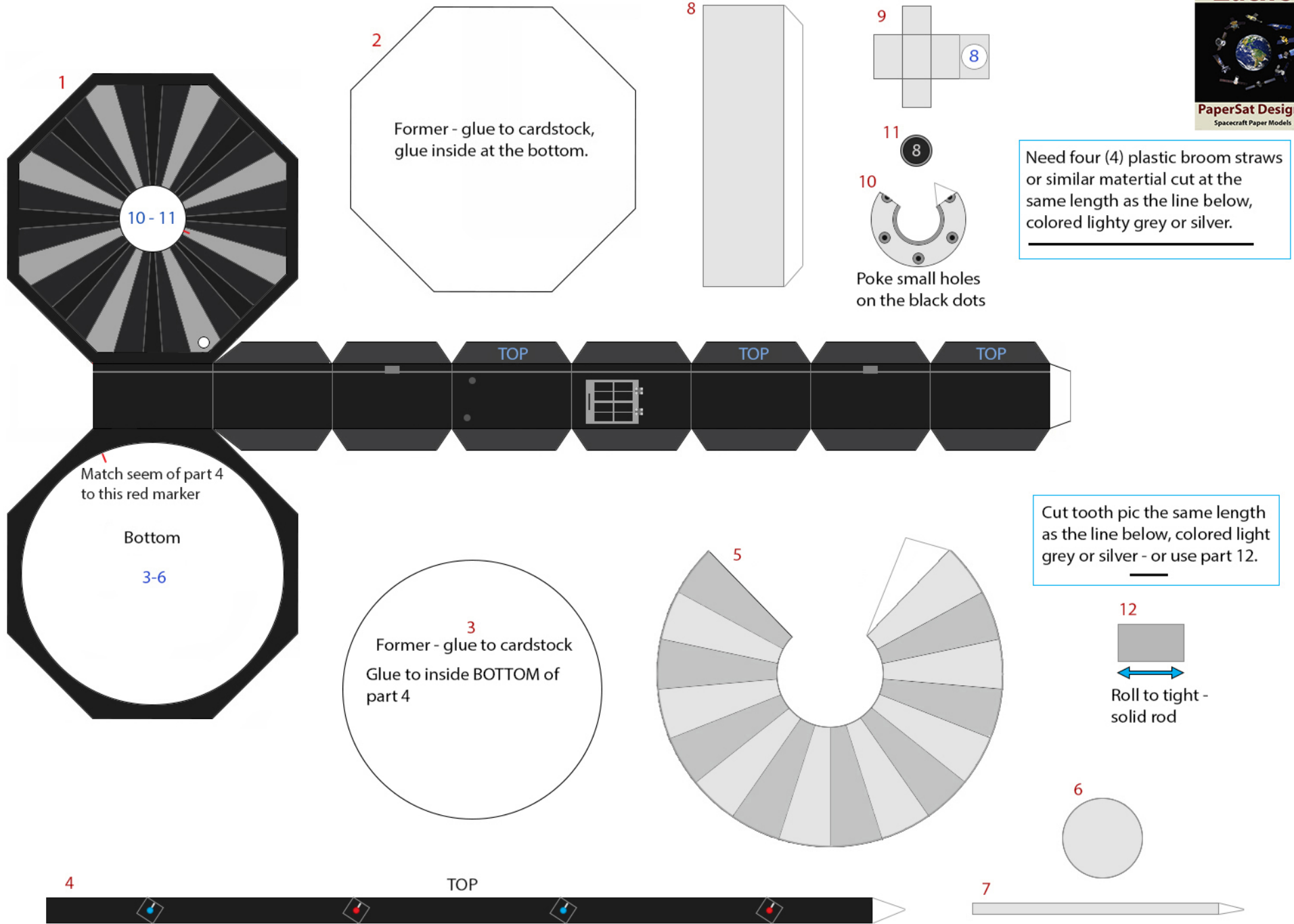
Explorer XIV was launched from Cape Canaveral on October 2, 1962.

The satellite had relayed excellent quality preliminary data. But in January 1963, it developed radio transmission difficulty, not repairable by remote control.

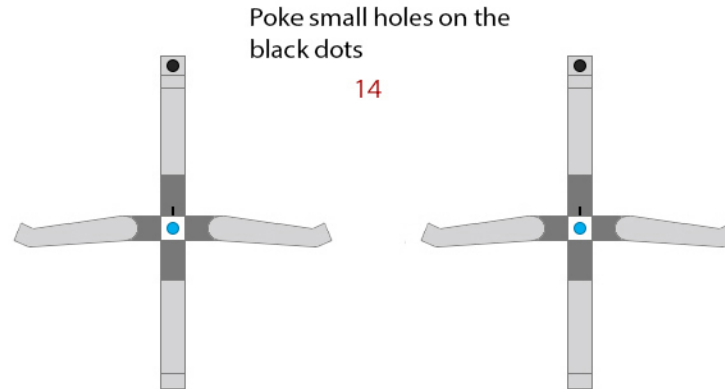
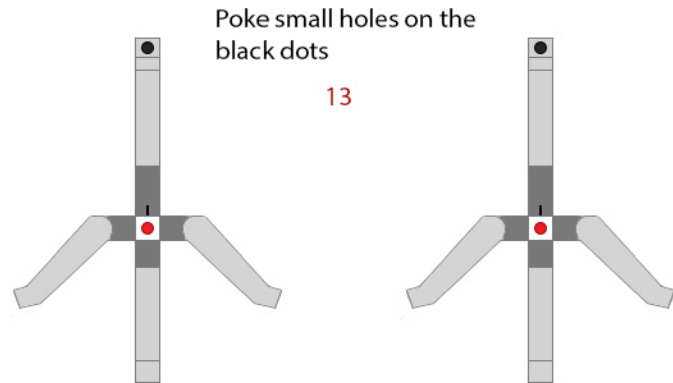
On 22 June 1963, Explorer XIV was eclipsed by the Moon - a possible first in satellite history. Satellite was some 70,000 km. from the Earth with apogee portion in the Sun's direction when a 19-min. shadow occurred between approximately 0151 and 0210 UT.

On 8 October 1963, Explorer XIV ceased useful transmission after almost 10 months of successful operation. A number of new insights had already emerged, among them being: Earth's magnetosphere, as shown by mapping charged particles, flared away from the Earth in an ogival-pointed arch-shape; confirmation that the vector magnetic field changes gently from a dipole configuration to a radial field at increasing distance on the night side of the Earth near the equatorial plane; and further evidence probably supporting Explorer VI's finding of a ring current flow on the night side of the Earth.

Explorer 12 & 14



Explorer 12 & 14



Need 4 tooth pics cut at 40mm long
(see line below), colored light grey or
silver for the solar panel support rods.

