

“Eye on Io”

By Scot Hogan

The vehicle:

NASA Unmanned Space Probe Voyager 1.

In 1979, NASA's unmanned space probe Voyager 1 performed a fly-by of Jupiter and made a startling discovery on its closest moon, Io. With the silhouette of the sun behind it, Voyager photographed a volcanic eruption on Io. "How could there be volcanic activity so far from the sun?", scientist pondered. It turns out that the pull of Jupiter's gravity is so strong, that Io actually changes shape as it orbits around its massive parent. The friction of the tectonic plates constantly moving and grinding on each other results in so much volcanic activity, that Io's surface is nearly smooth and devoid of meteor craters.

The build:

This is the standard 1:48 scale Hasegawa (SW02) Unmanned Space Probe Voyager distributed in 2012. A framework was built on the inside to support the 1/4-inch mounting rod, but otherwise it was built “out of the box”.

The plastic Meter Unit Mast and Magnetometer Boom were replaced with detailed photo-etch counterparts from LVM Studios. The delicate Planetary Radio Astronomy and Plasma Wave Antenna were replaced with sturdier scratch-built versions made from brass rod.

The main dish was pre-shaded with panel lines and surface shading, before being dusted in flat white. The overall effect makes the probe seem scaled appropriately. For each camera lens, I carefully dropped one drop of gloss black into the aperture and let it gravity dry. It gives the lens a dark glass look.

The Jupiter base is scratch-built. The Jupiter planetoid is solid cast resin and has roughly 20 layers of paint, starting with sand. The first coats of paint were applied by airbrush and the remainder by hand. The Io moon was cast from a deformed 2-inch super-ball and painted using a combination of manual and airbrush techniques. The black base is constructed from five thin plywood discs while the support rods are clear acrylic.