## **FEATURE**

# The Mariner 2 model

### **Terry Regan**

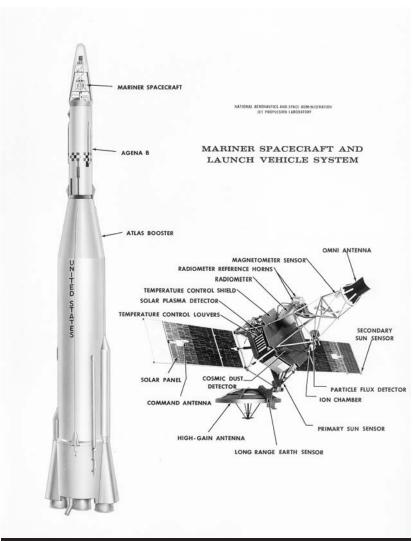
The i4is star model maker, Terry Regan, has celebrated another pioneering spacecraft by producing one of his brilliant scratch-built models. Here he recounts the original spacecraft and his motivation to build a model of Mariner 2. He'll be recording the rest of his creative process in later articles for Principium.

#### Introduction

Mariner 2 became the first successful mission to another planet when it flew by Venus on December 14, 1962. But it wasn't the first attempt to get a spacecraft to Venus. The Russians sent Venera 1 on 12 February 1961 but it lost communication on the way to Venus, incidentally Venera is Russian for Venus.

## **Brief History**

Mariner 2 was launched on 27th August 1962 and it would be a flyby, so what happened to Mariner 1 spacecraft? It was launched on 22 July 1962 but around 5 minutes into flight it went off course so it was blown up by the range safety officer. Mariner 1 and 2 were simplified version of the block 1 spacecraft of the Ranger programme. Mariner 2 is now in orbit around the Sun, and this is the start of space exploration - beginning by sending more probes to the inner planets then getting more ambitious by sending probes to the outer planets in the solar system, like Pioneers 10 and 11, Voyagers 1 and 2 and New Horizon. The team at i4is build on this legacy by looking at possibilities for getting probes to other stars. And this all started with Mariner 2.



A diagram of the Mariner series of spacecraft and launch vehicle. Mariner spacecraft explored Mercury, Venus and Mars. Credit (caption and image): NASA/JPL-Caltech

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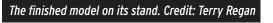
#### ■ Mariner 2 Model

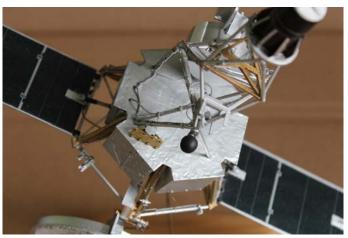
I have always liked the look of Mariner 1 and 2 and its down to it's unusual shape and the challenge it would be for me to build. I won't go into great depths on how I build it as this will be a later series for the Principium magazine. I used, as with all the other models I have built, sheets of plastic card - the same material that railway modellers use. For plans I would normally use plans designed for a paper model but in this case I found a set of hand drawn plans with the measurement in imperial units which I drew out and scaled down but at this stage I didn't know what scale it was going to be. However a couple of years later I did find a set of plans for a paper model and just by luck what I scaled down turned out to be almost exactly the same size as the plans so we have a 1/20th scale model.



Next step is the research starting at the British Interplanetary Society, emailing NASA archive department and the Science Museum London who were just so helpful and finally going onto the Smithsonian Air and Space museum web site where they have a replica Mariner 2 hanging from the roof plus around 30 odd close-up photos of the spacecraft which came very useful with detail that I could add to the model. In later editions of Principium I will be doing articles on how I made the Mariner 2 model and also the history of the mission. As a taster, here are a couple of images of the model.







Main body and RTG generator arm Credit: Terry Regan