

Ohsumi satellite 1:10 model



space_valentin

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Summary

A quick to print and easy to assemble model of the first Japanese satellite.

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After 4 failed attempts, Japan reached orbit using the Lambda-4S launcher with the small “Oshumi” satellite on February 11, 1970. Placed on an elliptical 350x5140km @ 31deg orbit, it reentered the atmosphere in 2003.

You can find additional details on the mission at the following links:

- <https://www.isas.jaxa.jp/en/missions/spacecraft/past/ohsumi.html>
- https://space.skyrocket.de/doc_sdat/ohsumi.htm

Print instructions

The different pieces are designed for FDM printers and around a layer height of 0.2mm and a nozzle diameter of 0.4mm. No support is needed.

The tolerances used are 0.2mm vertically and at least 0.07mm in-plane to provide a snug fit (keep that in mind if you want to re-scale the model!). If the tolerances are not accessible to your printer (or your printer is better

tuned than mine 😊) you may have to use sandpaper or a hobby knife to adjust them until they fit and/or use glue.

Assembly is pretty straightforward; I included a little montage of the main steps as a picture.

Additional pieces

For the antennas I used metal pieces I already had, in the form of some steel piano string (.75mm diam.) and brass hollow rod (1mm diam.) pieces. Do not forget to adjust the holes in the base of the SILVER_PayloadModule_x1.stl piece if you need to fit different diameters!

For the connection to the desk support I used a piece of 3mm diameter acrylic rod, but you can alternatively use any piece of metal, wood or even 3D print a rod (the model being lightweight).

I use a silver paint pen on the text of the desk support tag and then glue it to the base.

Model files



silver_tmtcantenna_x2.stl



silver_payloadmodule_x1.stl



xxx_mountingpeg_x1.stl



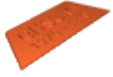
black_4thstagemotorbody_x1.stl



silver_4thstagenozzle_x1.stl



black_desksupportbase_x1.stl



black_desksupporttag_x1.stl

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