

# Nimbus-1 Satellite



Nimbus 1, the first in a series of second-generation meteorological research-and-development satellites (7 total), was designed to serve as a stabilized, earth-oriented platform for the testing of advanced meteorological sensor systems and for collecting meteorological data.

It was a test of the Nimbus spacecraft configuration and provide improved cloud photographs using the APT system deployed on TIROS-8. Advanced cameras and high-resolution infrared radiometers were also to be tested for improved daylight as well as night cloud-cover conditions.

The spacecraft was designed in two sections. The lower circular ring housed the meteorological sensors and electronics. The upper hexagonal section contained the altitude control system and had two solar panels (containing 10,500 individual panels) attached to its sides.

The two sections were constructed by a magnesium truss. The lower ring was 57 inches in diameter. The total spacecraft height was 118 inches while the width across the solar panels was 134 inches. The total weight of the spacecraft was 830 pounds.

The craft contained three cameras with direct readout and delayed readout capabilities. A high-resolution infrared radiometer operated in the 3.4 to 4.2 micron region. Two horizon scanners, Sun sensors and freon gas jets provided the altitude control.

Premature Agena cutoff left the craft in an elliptical orbit rather than a more circular one, and one of the solar panels failed 26 days into the mission. In spite of these problems, 27,000 pictures were taken and 60 ground stations were involved in the direct readout of this imagery. The infrared imagery was much clearer than those sampled by the TIROS series.

Participants: NASA, General Electric, ITT, Fairchild - Hiller, RCA, US Weather Bureau

## Nimbus-1 Stats:

- ☒ Launch Date: August 28, 1964
- ☒ Operational Period: Operational until September 23, 1964
- ☒ Launch Vehicle: Thor-Agena B
- ☒ Launch Site: Vandenberg Air Force Base, CA

# Nimbus-1 Satellite



2

Internal Former  
Glue to bottom

3

Top

4

Re-inforcement for the  
TOP. Glue to the middle  
backside of the TOP  
piece

8

Poke small holes in the 20  
small dots after glueing onto  
part 7.

1

Score-fold at the blue lines

12

13

Color back Black, roll to a ring

6

Top

Poke small holes on the 12  
small black dots

7

Bottom

Glue to cardstock for  
strength

9

Glue to backside of the square  
for color on both sides

10

11

Poke holes on the black dots  
Cut out the light blue squares

5

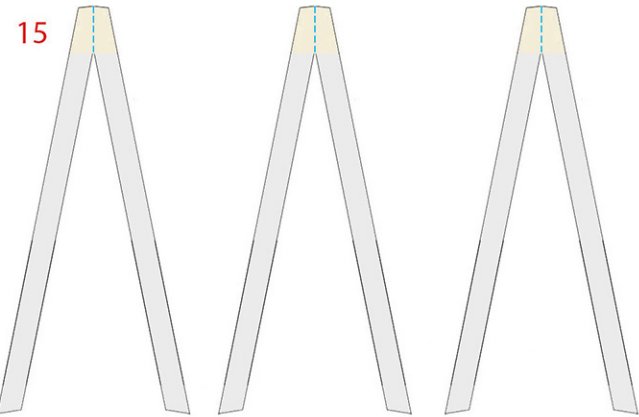
Score-fold at the glue lines - poke holes on the black dots

14

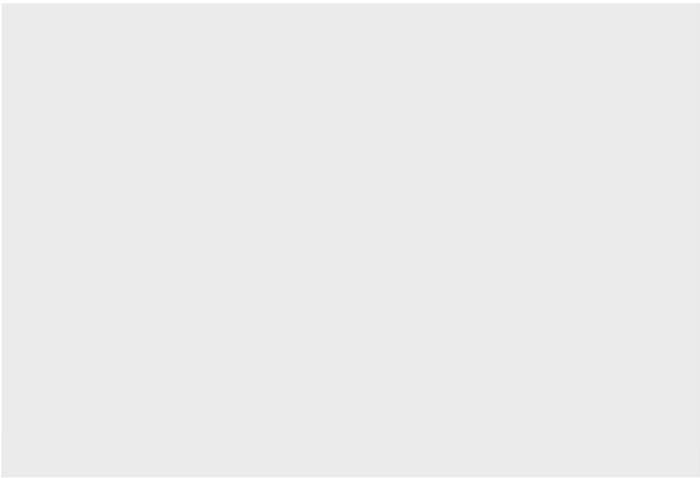
Bottom


Glue to thick cardstock, color  
edges light grey

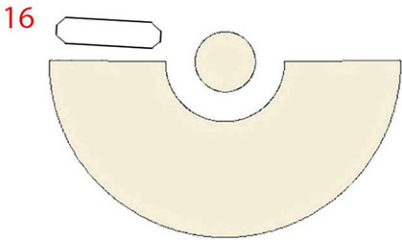
# Nimbus-1 Satellite



Glue these to thick cardstock, then to backside of the grey rectangle for strength and color in both sides.  
For more realistic look, use long tooth pics, colored light grey. Use one of the legs as a glue pattern



19  If using tooth pics for the legs, glue these onto the bottom end of the legs.



Need 20 plastic broom straws, painted grey  
Cut and bend using the pattern below.



Need 13 plastic broom straws, painted grey,  
cut at the same length below.

