

ADM-Aeolus (Atmospheric Dynamics Mission Aeolus)



The Atmospheric Dynamics Mission (ADM), ADM-Aeolus, is a key part of the European Space Agency's Earth Explorer programme and is the world's first-ever satellite to study the Earth's wind patterns from space and will provide much-needed information to improve weather forecasting.

The main goal of this mission is to further the knowledge of Earth's atmosphere and weather systems. By recording and monitoring the weather in different parts of the world, Aeolus will allow scientists to build complex weather models, which can then be used to help predict how that environment will behave in the future.

These predictions will be useful in the short-term, since they can be applied to Numerical Weather Prediction in order to make forecasts more accurate. The mission will thus improve the knowledge of all sorts of weather phenomena, from global warming to the effects of air pollution. Aeolus is seen as a mission that will pave the way for future operational meteorological satellites dedicated to study Earth's wind profiles.

Aeolus satellite lifted off on a Vega rocket from Europe's Spaceport in Kourou, French Guiana on August 22, 2018. Aeolus carries one of the most sophisticated instruments ever to be put into orbit. The first of its kind, the Aladin instrument includes revolutionary laser technology to generate pulses of ultraviolet light that are beamed down into the atmosphere to profile the world's winds – a completely new approach to measuring the wind from space. By profiling the lowermost 30 km of the atmosphere, Aeolus will give scientists global information on the speed of the wind in near-real time.

This will improve our understanding of how wind, pressure, temperature and humidity are interlinked. This new mission will also provide insight into how the wind influences the exchange of heat and moisture between Earth's surface and the atmosphere. These aspects are important for understanding climate change. As well as advancing science and improving weather forecasts, data from Aeolus will be used in air-quality models to improve forecasts of dust and other airborne particles that affect public health.

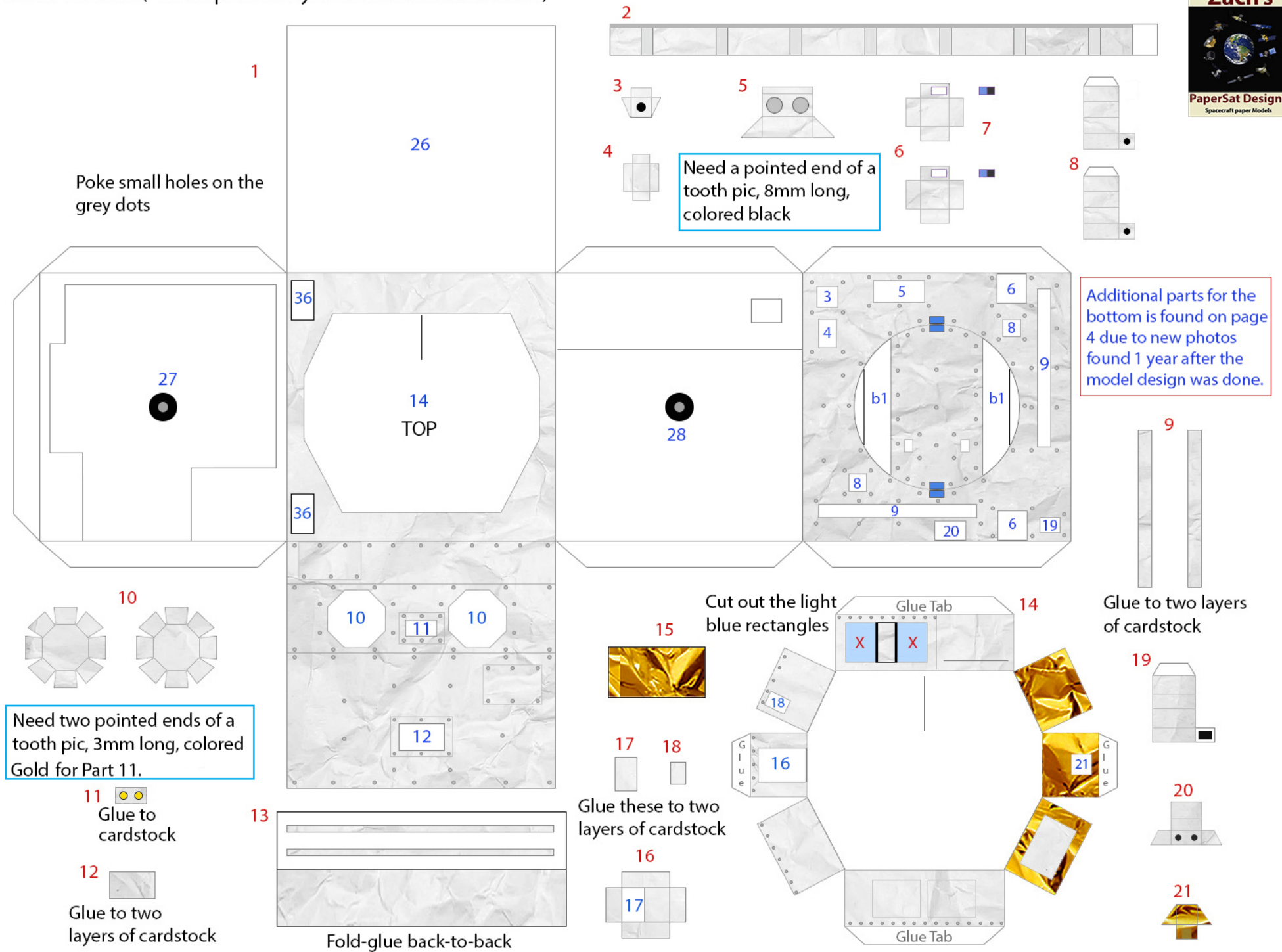


The Aeolus mission will:

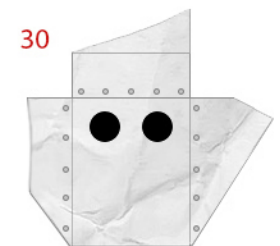
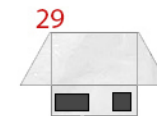
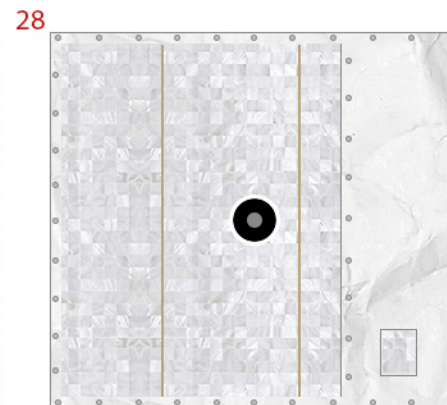
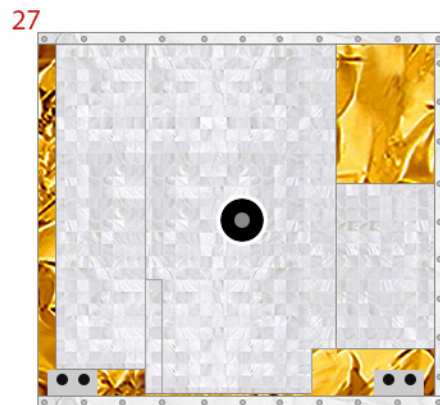
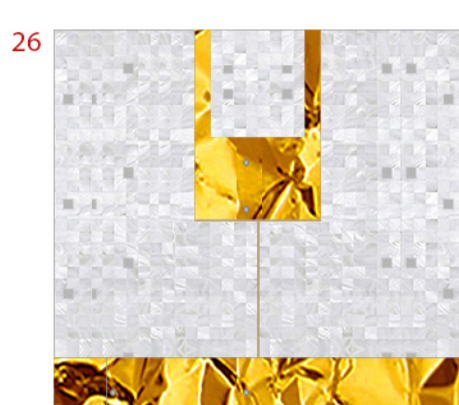
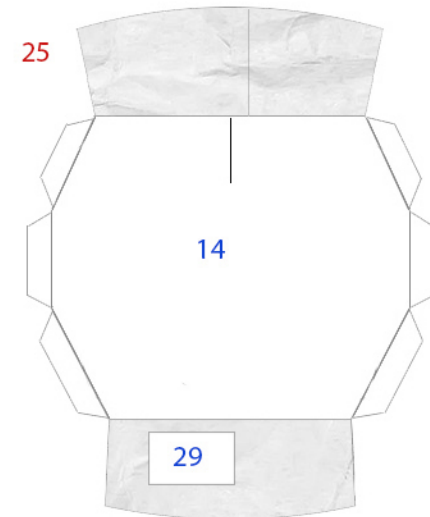
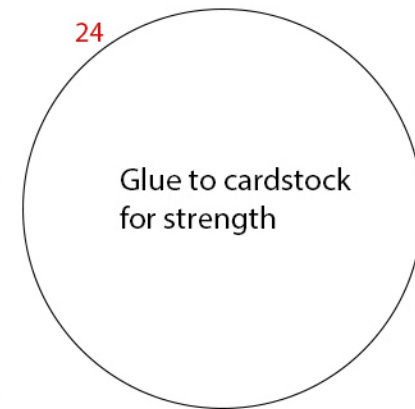
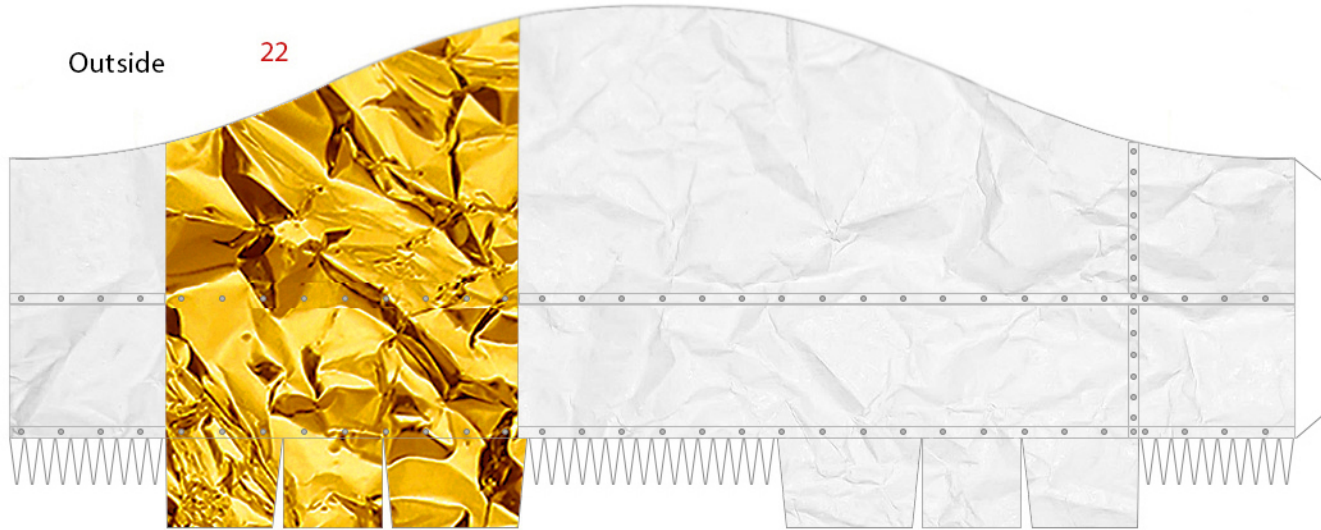
- Measure global wind profiles up to an altitude of 30 km
- Measure wind to an accuracy of 1 m/s in the planetary boundary layer (up to an altitude of 2 km)
- Measure wind to an accuracy of 2 m/s in the free troposphere (up to an altitude of 16 km)
- Determine the average wind velocity over 100 km tracks
- Measure 100 wind profiles per hour

In Greek mythology, Aeolus is the name of the ruler of the winds.

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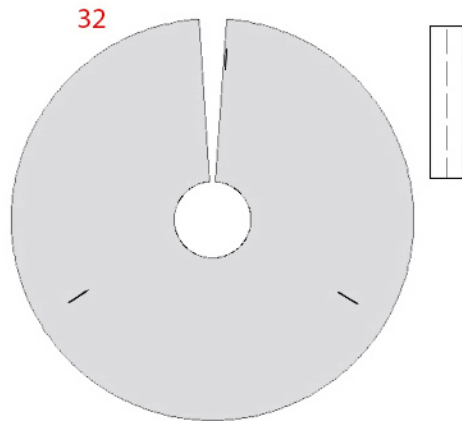
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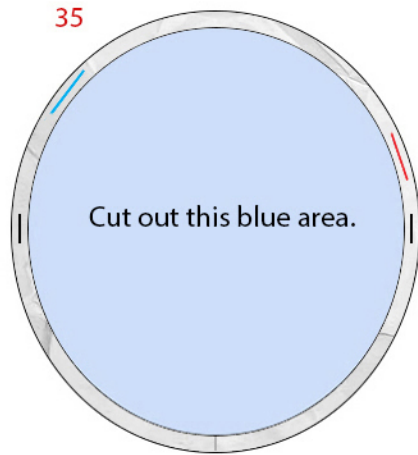
Color back black

Poke small holes on the grey dots
Need six (6) pointed ends of tooth pics, 3mm long, colored Gold.

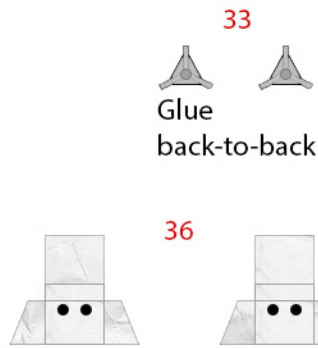
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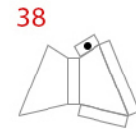
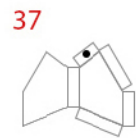
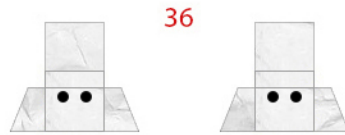
Cut out the three lines on the dish for the legs



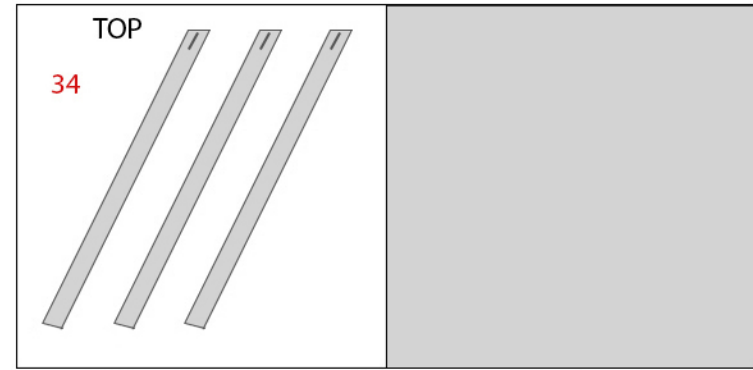
Need two pieces of plastic broom straws or similar material, 4mm long, colored light grey or silver for parts 37 and 38.



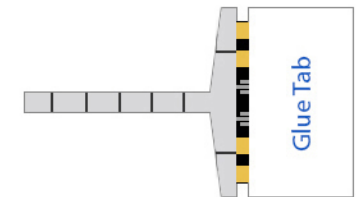
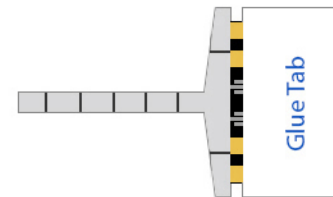
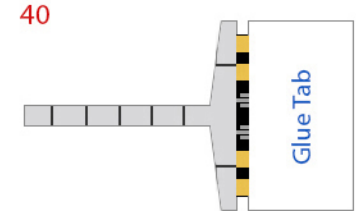
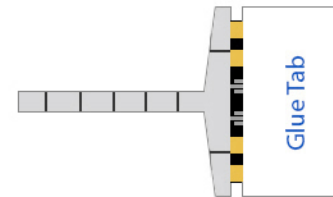
Need four pointed ends of tooth pics, 3mm long, colored gold for parts 36.



39
Glue these to two layers of cardstock

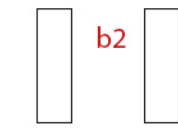
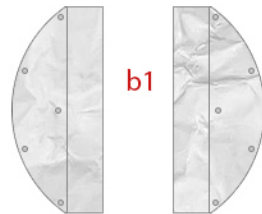


Fold and glue back-to-back, cut out the three legs

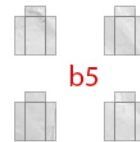


Glue each pair back-to-back

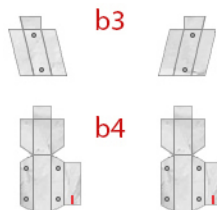
Need a wood skewer or similar material, around 2mm (or less) in diameter, cut at the same length as the line below. Colored light grey or silver. This is the solar array support rod.



Glue to cardstock



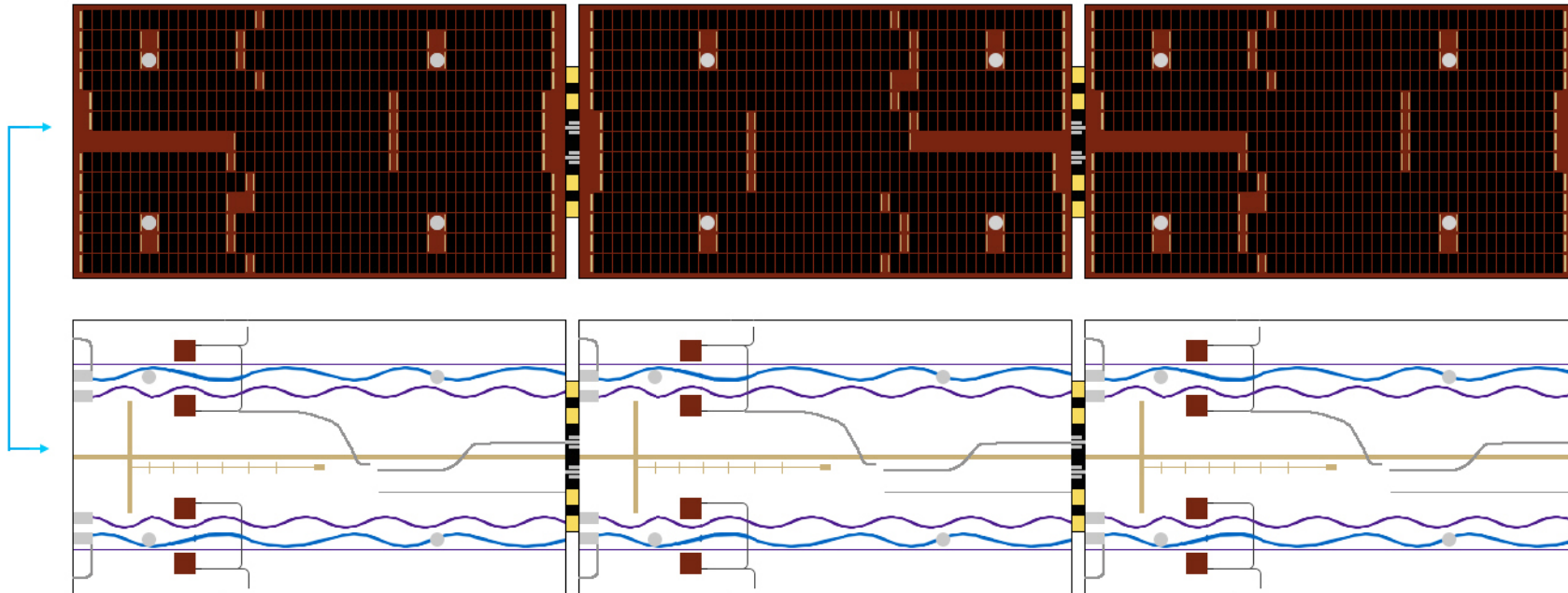
Additional parts after a new photo was found 1 year after the model design was completed.



b3

b4

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Glue each pair back-to-back with the solar array support arms (Part 40)

