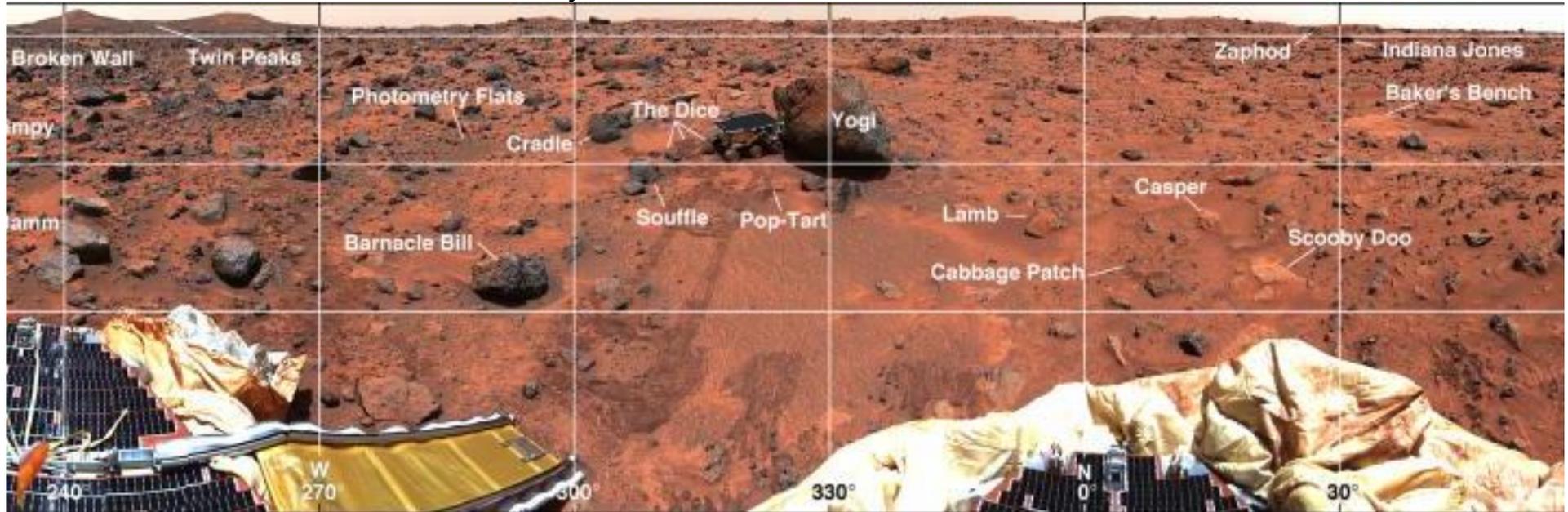


Pathfinder Mars Mission – Sojourner mini-rover

1:12 scale



NASA's Mars Pathfinder mission -- the first spacecraft to land on Mars in more than 20 years and the first ever to send a rover out to independently explore the Martian landscape – touched down on July 4, 1997 and initiated a new era of scientific exploration of the red planet.

Mars Pathfinder was one of the first of NASA's Discovery class of missions, designed to foster rapidly developed, low-cost spacecraft with highly focused science objectives. Pathfinder's atmospheric entry and landing on the Martian surface were the centerpiece of the mission. After a fiery entry, the spacecraft released a large, billowing parachute to slow its descent through the thin Martian atmosphere. Then a giant cocoon of airbags inflated seconds before landing to cushion the spacecraft's impact.

Sojourner, the small rover onboard Mars Pathfinder, is named after an African-American crusader, Sojourner Truth, who "travel(ed) up and down the land" advocating the rights of all people to be free during the American Civil War. The vehicle travels 1 centimeter (0.4 inch) per second and is about 65 centimeters (2 feet) long by 48 centimeters (1.5 feet) wide by 30 centimeters (1 foot) tall.

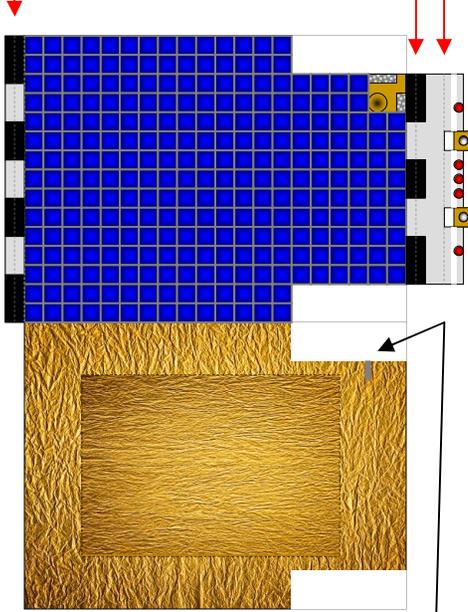
During the cruise to Mars, it was folded in its stowage space and measured only 18 centimeters (7 inches) tall. The Sojourner Rover was equipped with three cameras -- a forward stereo system and rear color imaging system – and a laser system to detect and avoid obstacles. Sojourner also carried an alpha proton X-ray spectrometer to measure the elemental composition of rocks and soil.

The Pathfinder mission was a great success, providing scientists with large amounts of data, pioneering many new technologies, and demonstrating the feasibility of developing, designing launching and operating a planetary mission according to NASA's new "faster, better, cheaper" philosophy.

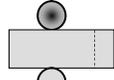
The identification of rounded pebbles and cobbles on the ground, and sockets and pebbles in some rocks, suggests conglomerates that formed in running water, during a warmer past in which liquid water was stable. This was confirmed with more detailed results from the Mars Exploration Rovers, Spirit and Opportunity.

Pathfinder Mars Mission – Sojourner mini-rover

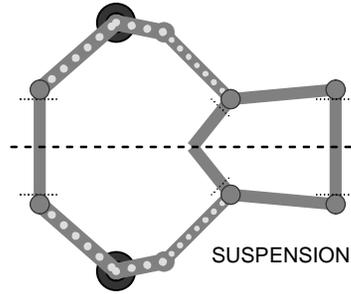
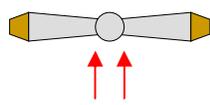
TOP



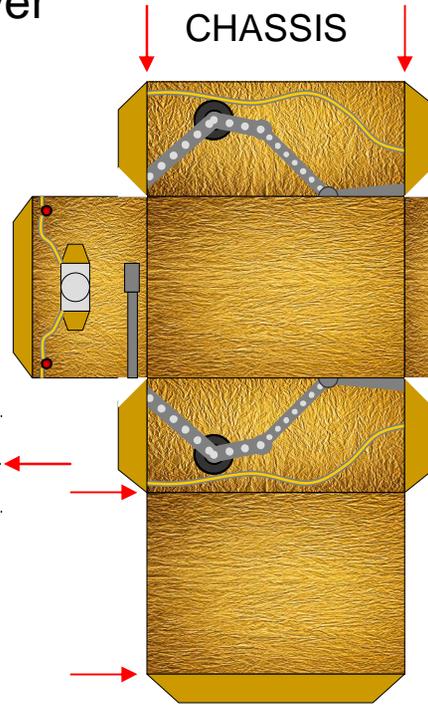
X-RAY SPECTRO



MOUNT

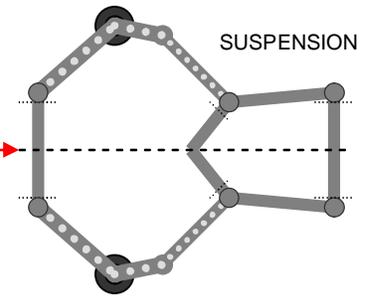
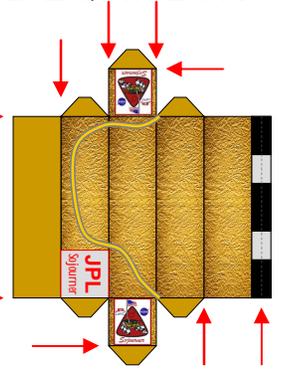


SUSPENSION



CHASSIS

1:12 scale
FWD EQUIP BOX

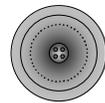
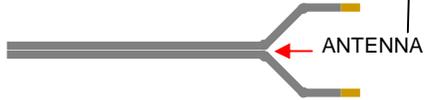


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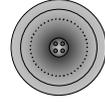
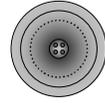
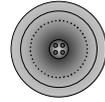
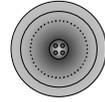
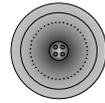
SUSPENSION

CHASSIS

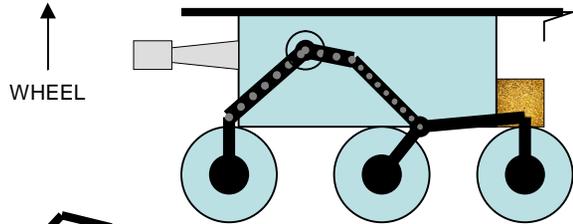
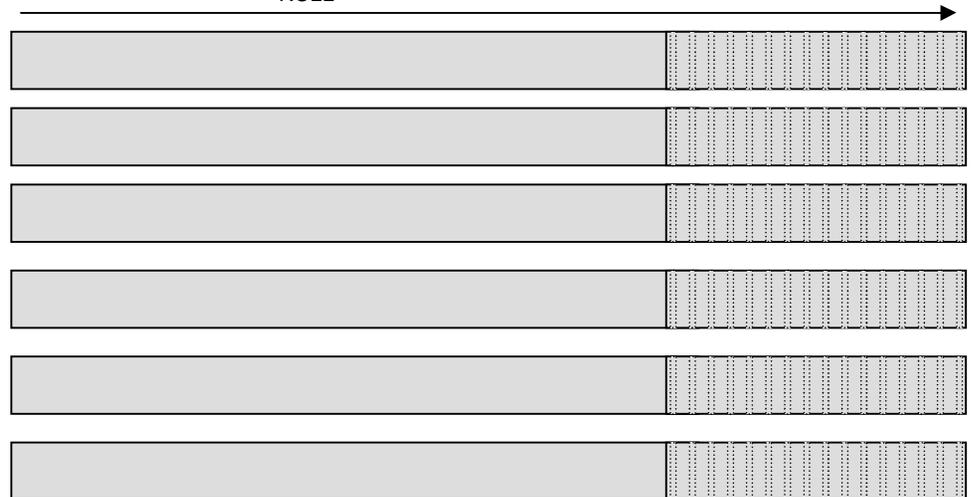
ANTENNA



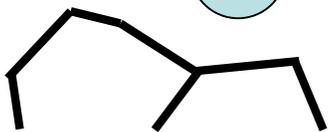
WHEEL DISK



WHEEL TREAD
ROLL

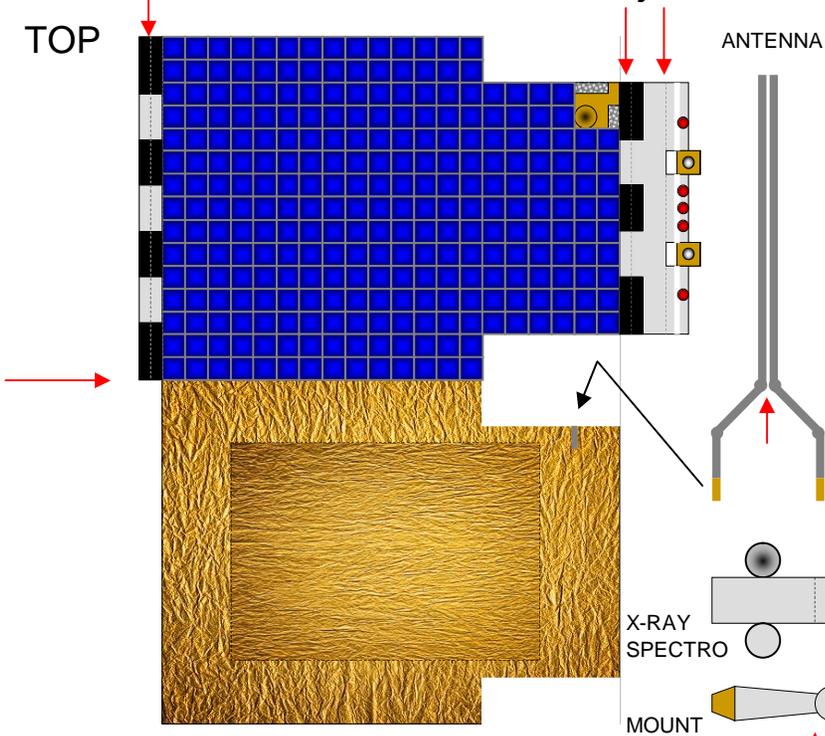


WHEEL

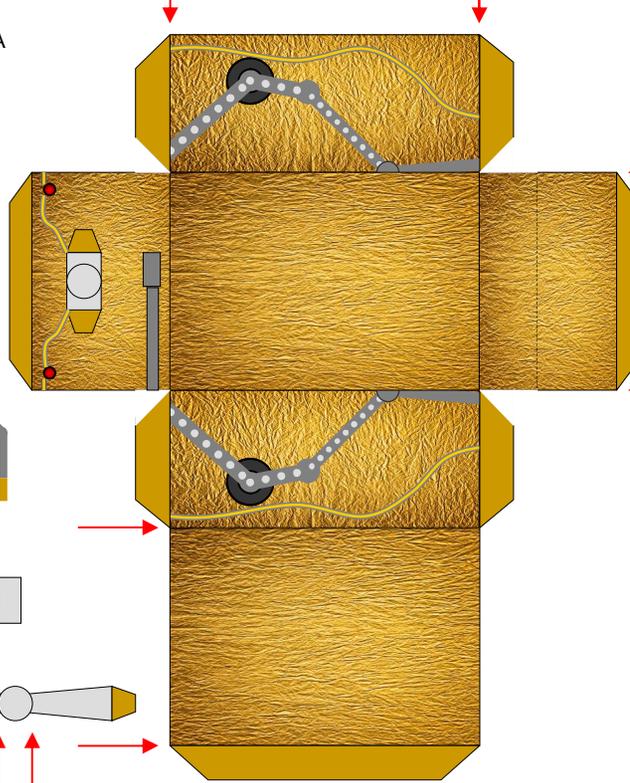


Pathfinder Mars Mission – Sojourner mini-rover CHASSIS

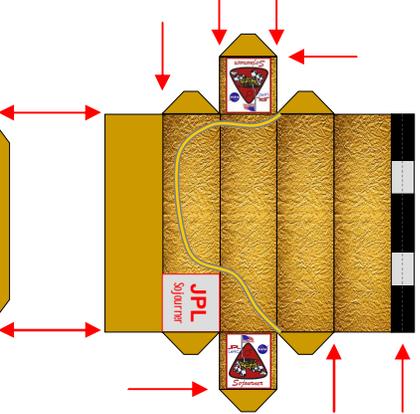
TOP



CHASSIS

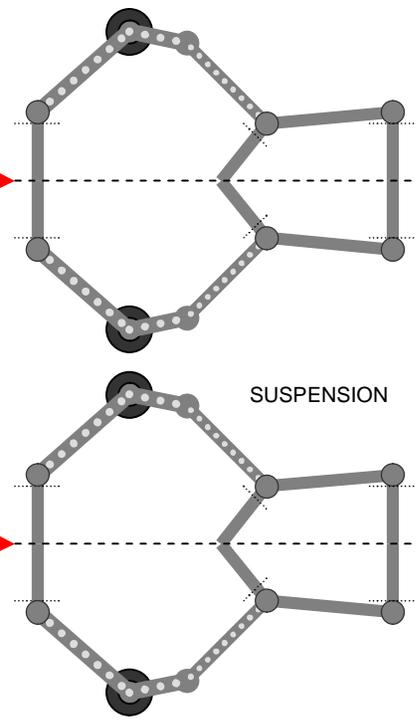
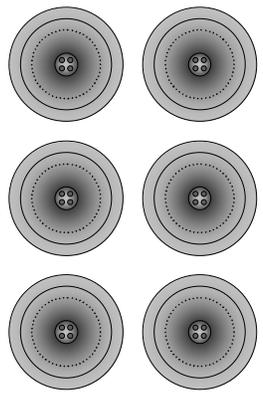


1:15 scale
FWD EQUIP BOX



WHEEL TREAD
ROLL TO 1/2
INCH DIAMETER

WHEEL DISK



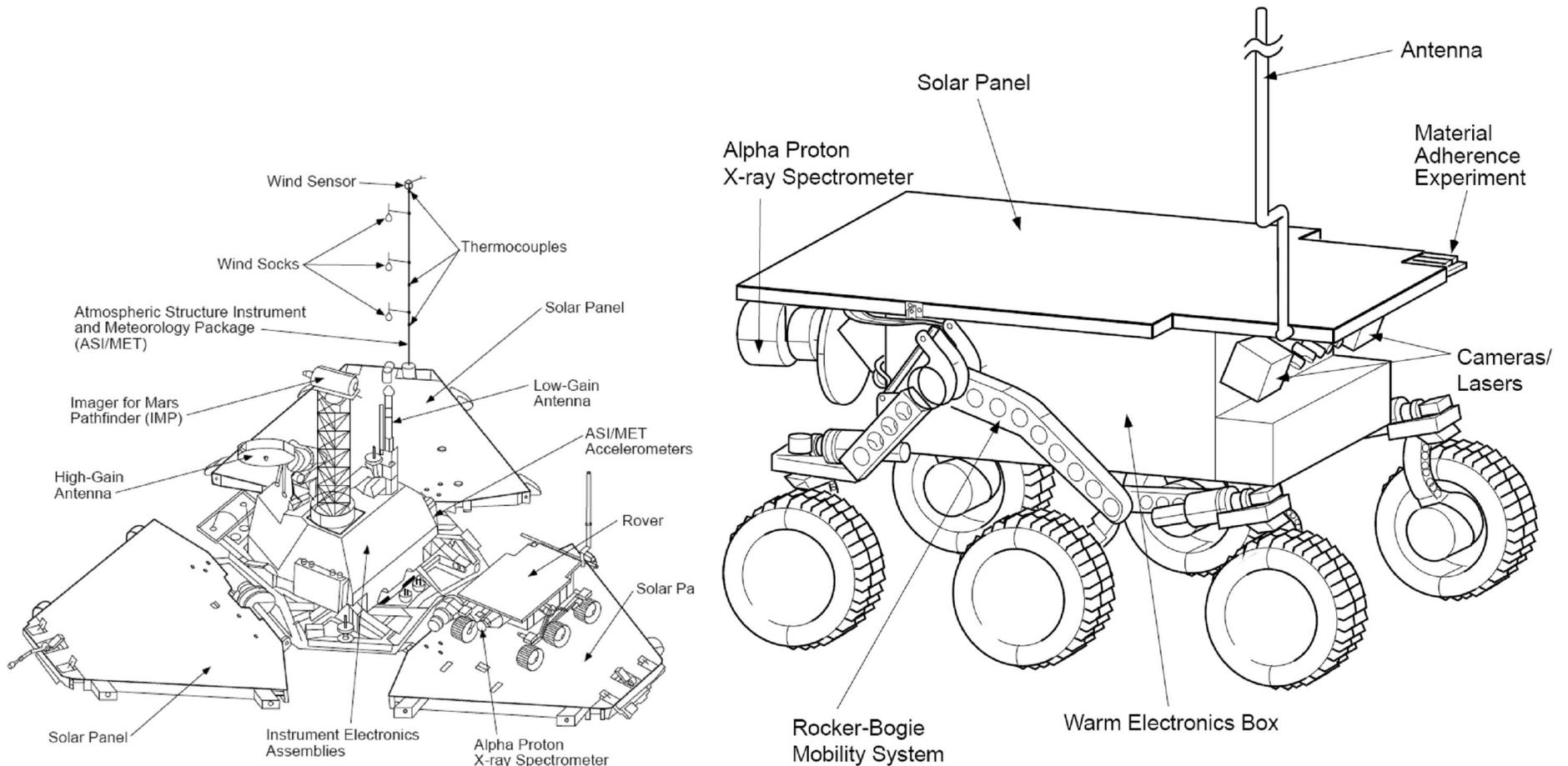
Pathfinder Mars Mission – Sojourner mini-rover

Rover dimensions: 65 cm (2 feet) long by 48 cm (1.5 feet) wide by 30 cm (1 foot) tall

Weight: 10.6 kilograms (23 pounds)

Science instruments: alpha proton x-ray spectrometer, 3 cameras (also technology experiments)

Power: 16 watts peak power, up to 100 watt-hours per day from solar panels, batteries



Pathfinder Mars Mission – Sojourner mini-rover

