



National Aeronautics and
Space Administration

Educational Product

Teachers &
Students

Grades 5-12

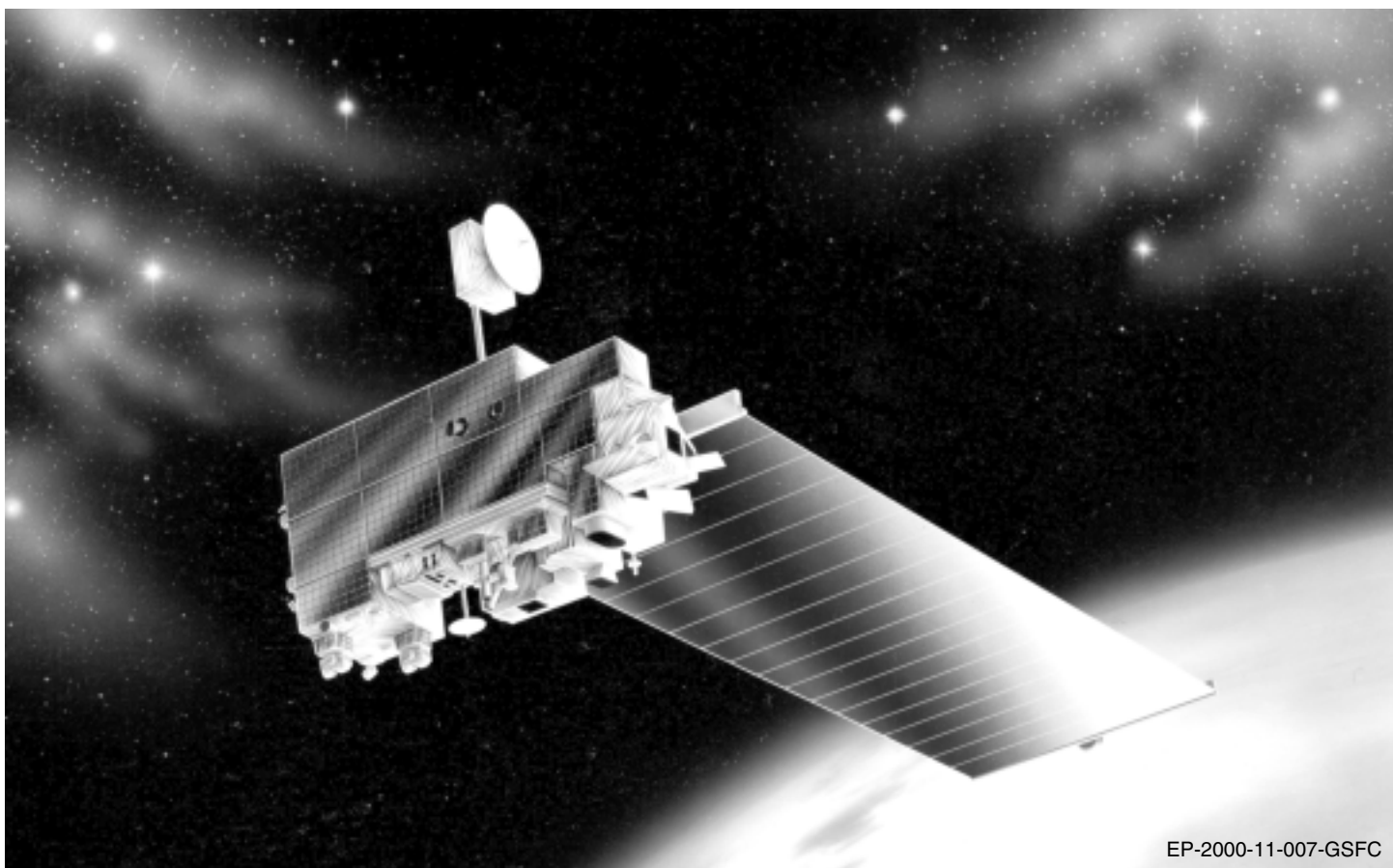
The Terra Spacecraft

On Dec. 18, 1999, NASA launched and deployed the "flagship" to the Earth Observing System series of satellites, Terra, part of a precedent setting program designed to provide daily information on the health of the Planet. A polar-orbiting spacecraft, Terra launched aboard an Atlas-Centaur IIAS expendable launch vehicle from Vandenberg Air Force Base, Calif.

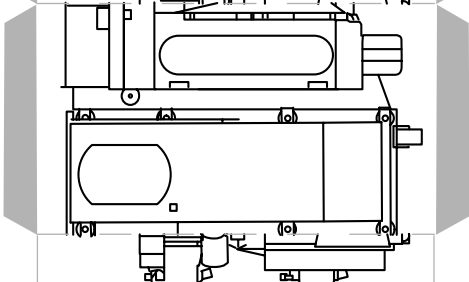
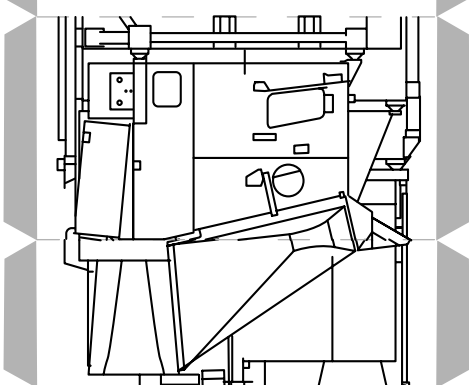
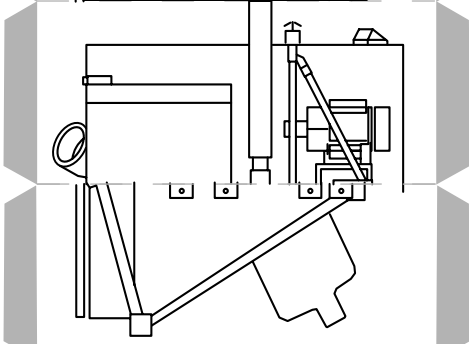
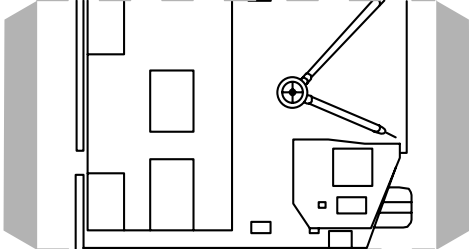
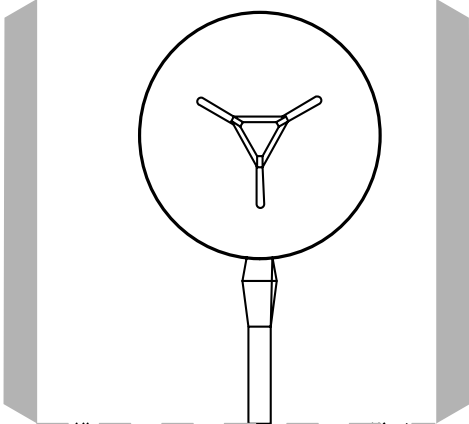
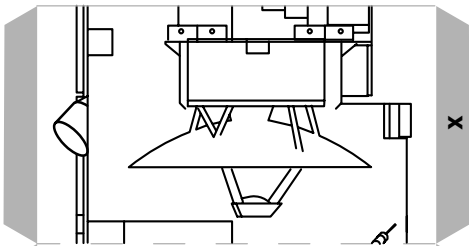
The Terra spacecraft, formerly known as "EOS AM-1," begins a new generation of Earth science - one that studies the Earth's land, oceans, air, ice and life as a total global system. Terra carries a complement of five synergistic state-of-the-art instruments. Researchers now recognize that the Earth - land, oceans, life, and atmosphere - operates as a system - one part impacting the other. EOS will help us to understand how the complex

coupled Earth system of air, land, water and life is linked. A series of 10 spacecraft, known as the first EOS series, are scheduled for launch into the next decade.

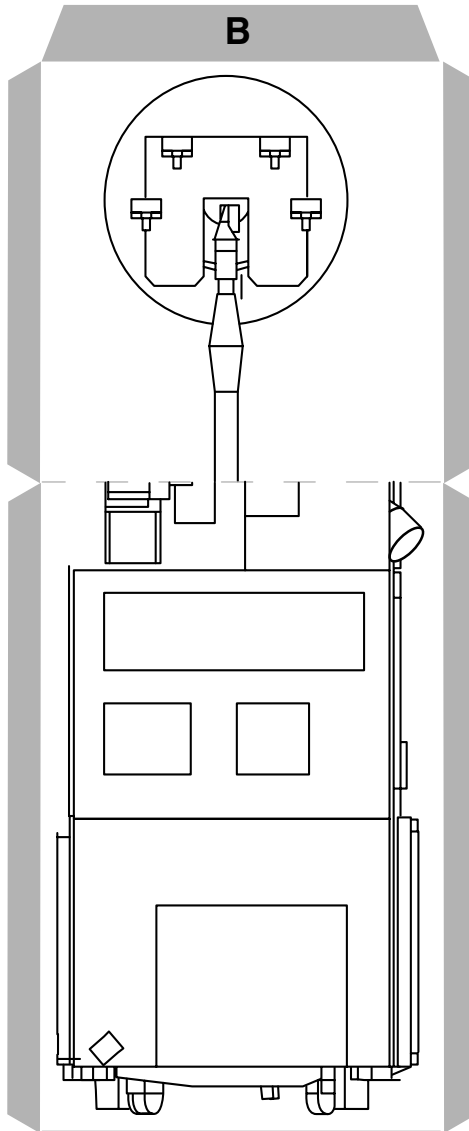
The EOS series spacecraft are the cornerstone of NASA's Earth Science Enterprise, a long-term coordinated research effort to study the Earth as a global system and the effects of natural and human-induced changes on the global environment. Terra uses this unique perspective from space to observe the Earth's continents, oceans, and atmosphere with measurement accuracy and capability never before flown. This approach enables scientists to study the interactions among these three components of the Earth system, which determine the cycling of water and nutrients on Earth.



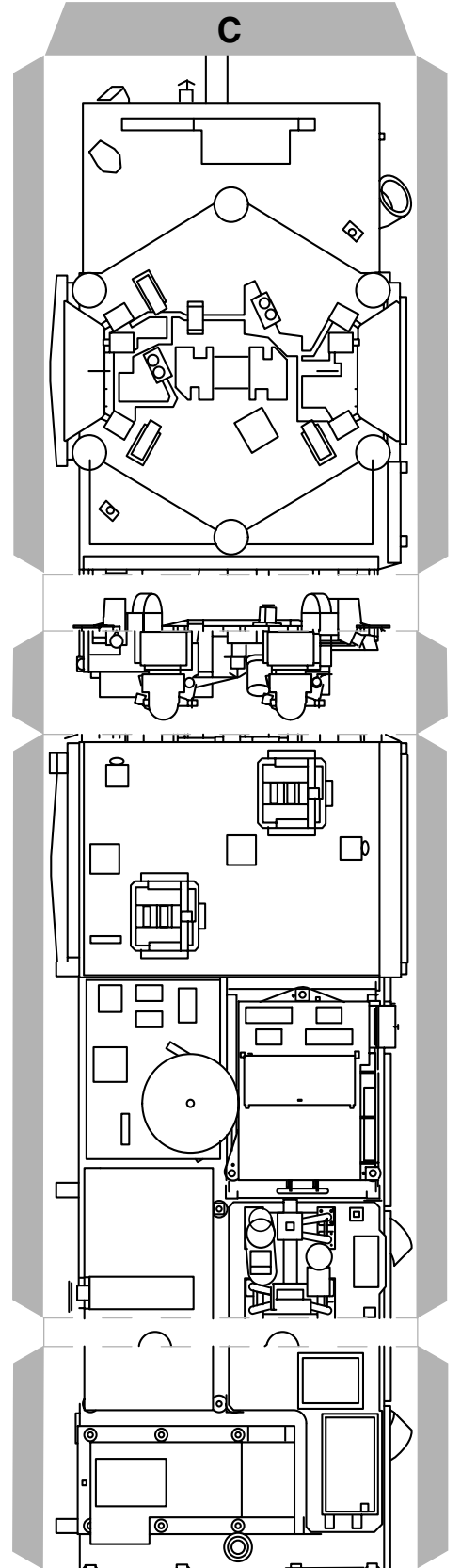
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A

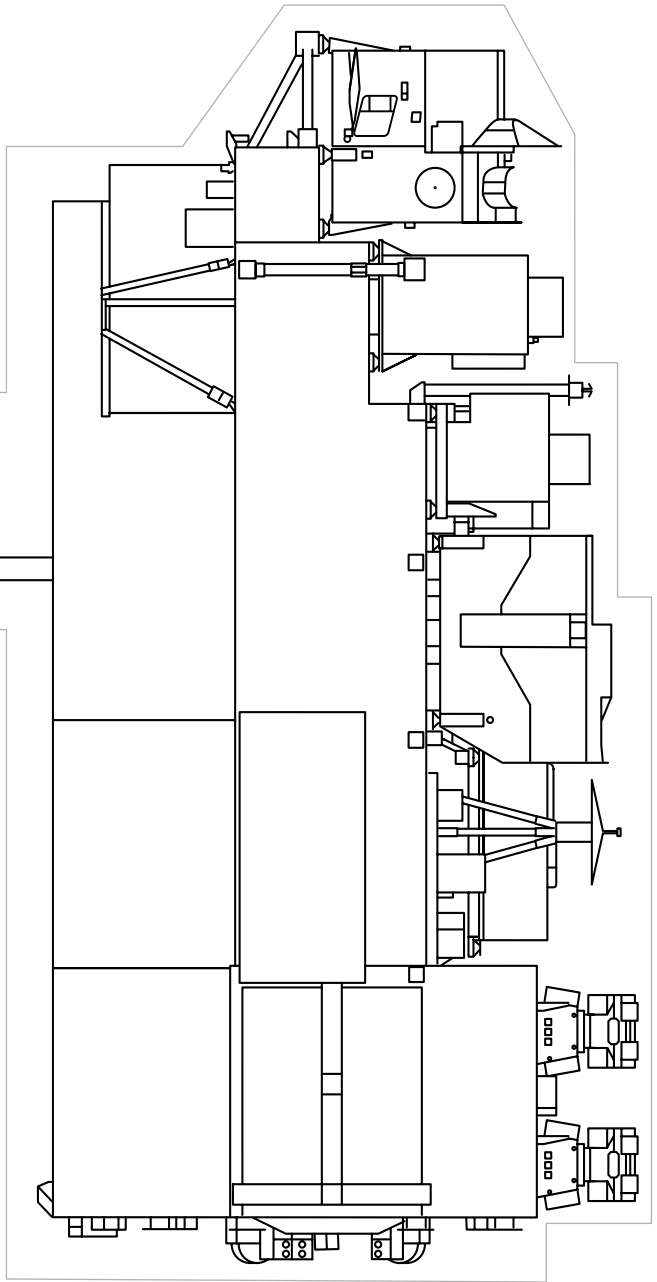
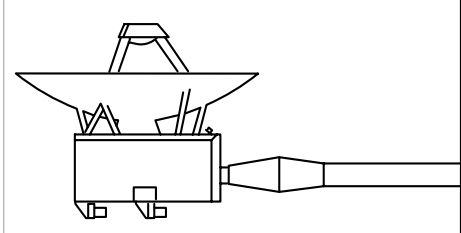


B

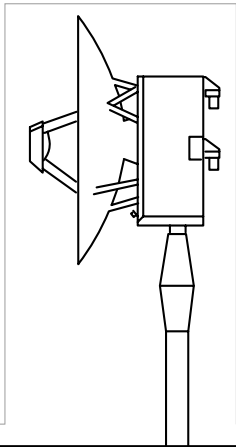


C

Right Side

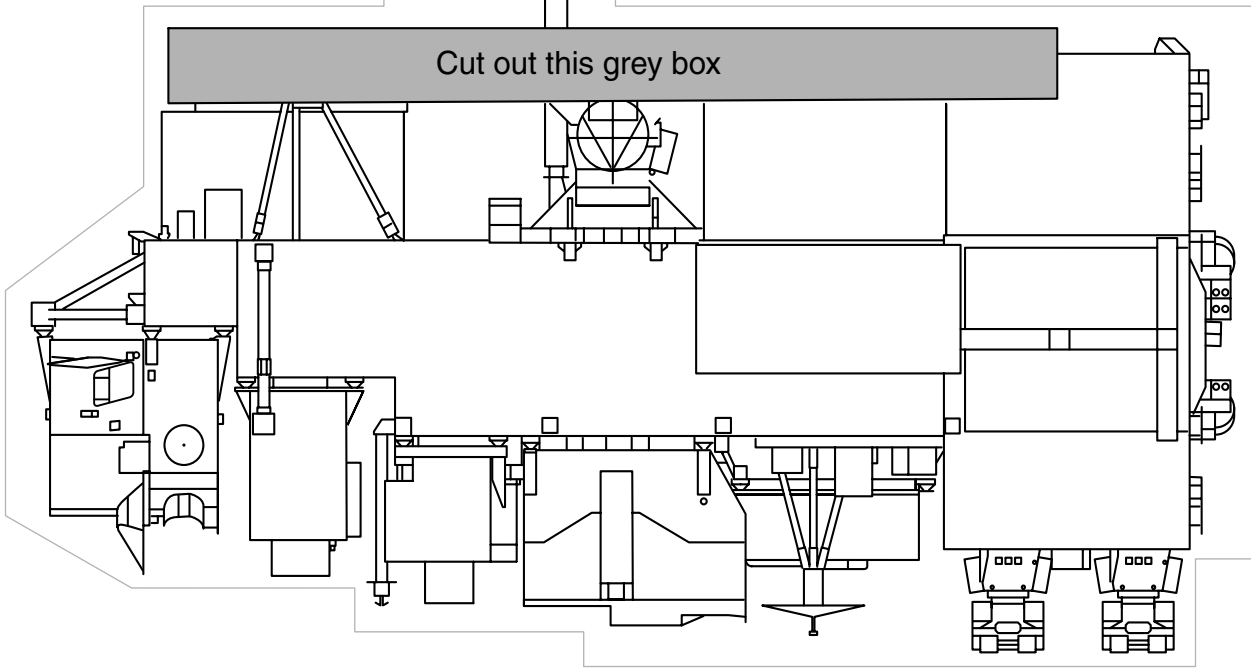


x
↓

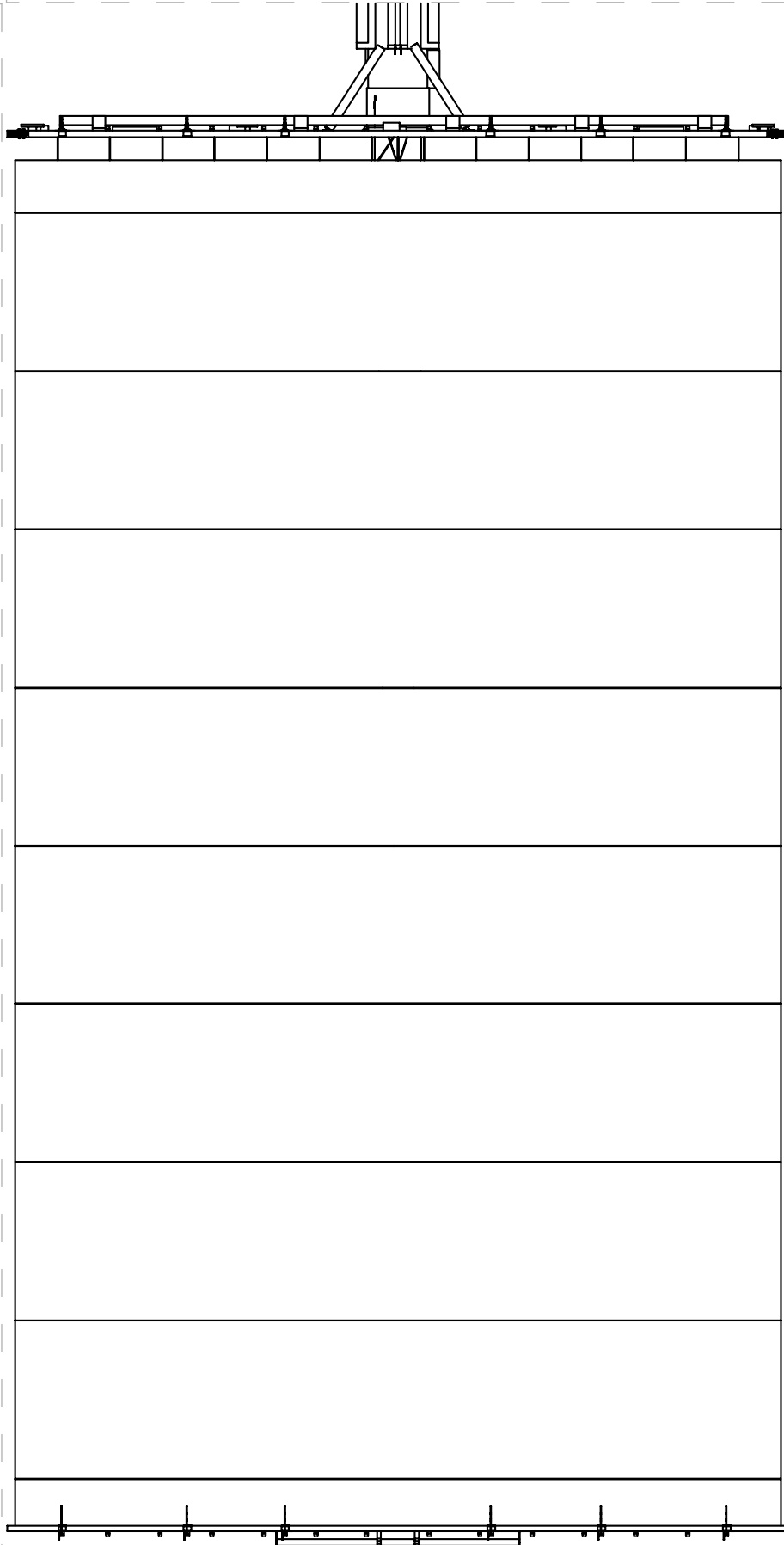


Left Side

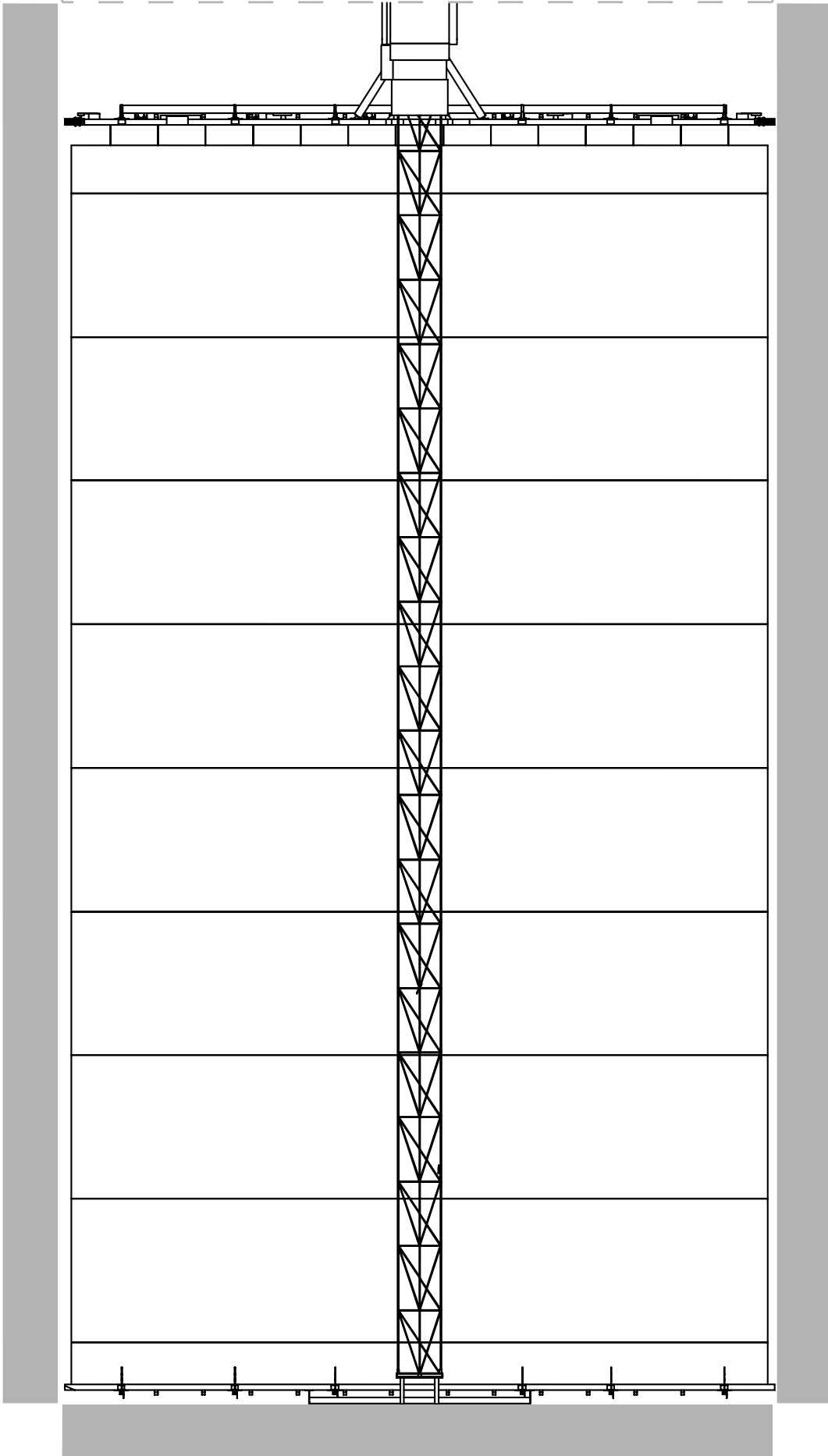
Cut out this grey box



Solar Panel - Top
Insert this end into the left side panel of spacecraft



Solar Panel - Underside
Insert this end into the left side panel of spacecraft



Assembly Directions

1. Cut out all parts. Remember, the more careful the cutting, the better the finished spacecraft will look.
2. Fold paper on all dashed lines.
3. Fold paper wherever there is a gray tab.
4. Cut out the grey box on the left side panel.
5. Assemble parts for the Solar Panel by gluing or taping the gray tabs of the underside part to the back of the tabs on the top part. Do this to form a thin box. See Figure 1.
6. Insert finished Solar Panel assembly into the rectangular hole you cut out on the left side panel of the spacecraft. Tape or glue tabs to the back side of the panel.
7. Attach tab "x" from strip "A" to the back side of the left and right panels. Apply glue or double-sided tape to all of the gray tabs. See Figure 2.
8. Fold and attach remaining tabs of strip "A" following the contour of the side panels.
9. Attach the end tab on strip "B" to the back of the flat edge on strip "A". Likewise, attach the tab on strip "C" to the back of the flat edge on strip "B". See Figures 3 and 4.
10. Fold and attach remaining tabs of strips "B" and "C" following the contour of the side panels to complete assembly.

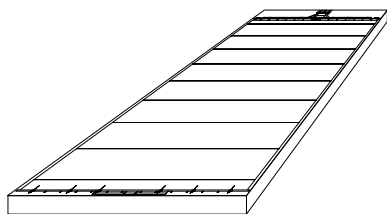


Fig. 1
Finished Solar Panel Assembly

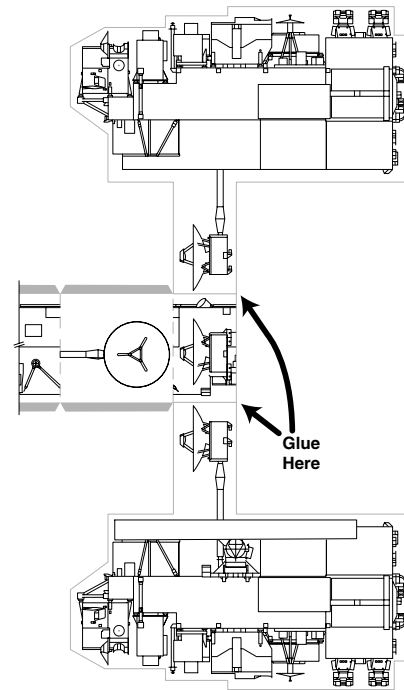


Fig. 2

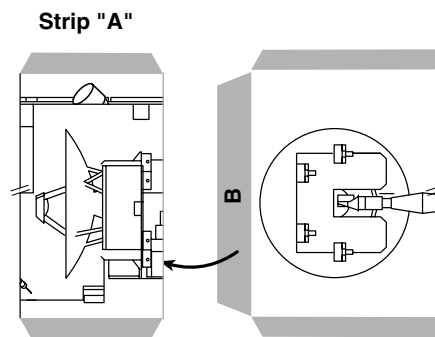


Fig. 3

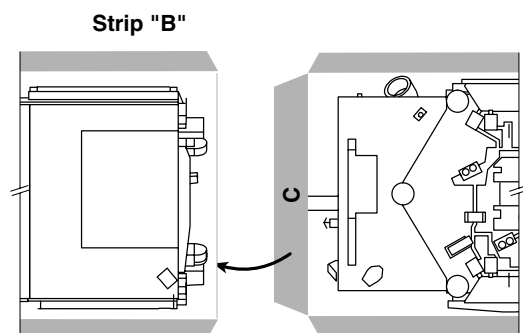


Fig. 4