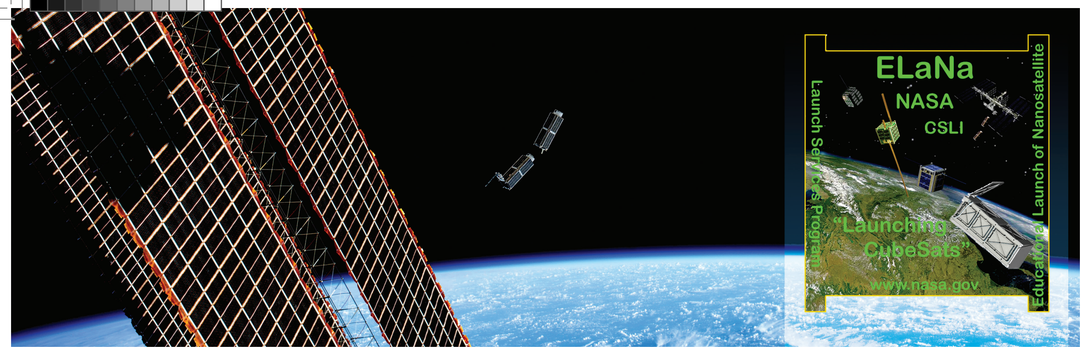


ELaNa missions are the first educational cargo to be carried on expendable launch vehicles (ELVs) for NASA's LSP.

Educational Launch of Nanosatellites (ELaNa)

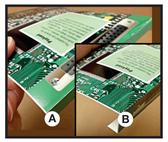
Educational Launch of Nanosatellites (ELaNa) is an exciting initiative created by NASA to attract and retain students in the science, technology, engineering and mathematics disciplines. Managed by the Launch Services Program (LSP) at NASA's Kennedy Space Center in Florida, ELaNa reaches students by introducing educational spaceflight in schools and colleges across the United States.

Students are heavily involved in all aspects of the mission from developing, assembling, and testing payloads to working with NASA and the launch vehicle integration teams. The ELaNa CubeSats are held to rigorous standards similar to that of the primary spacecraft.

CubeSats, also called U-Class Payloads, are designed in standard units of 10x10x10 centimeters, about 4 inches cubed. U-Class Payloads can be built in a single unit or are scalable in units of two, three, six, and twelve and beyond. A single unit must weigh less than 1.33 kilograms, or 3 pounds.

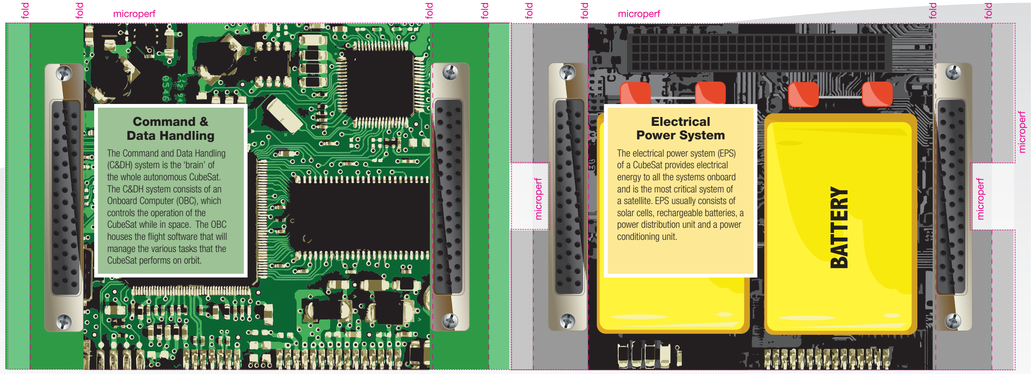
CUBESAT Circuit board tray assembly instructions

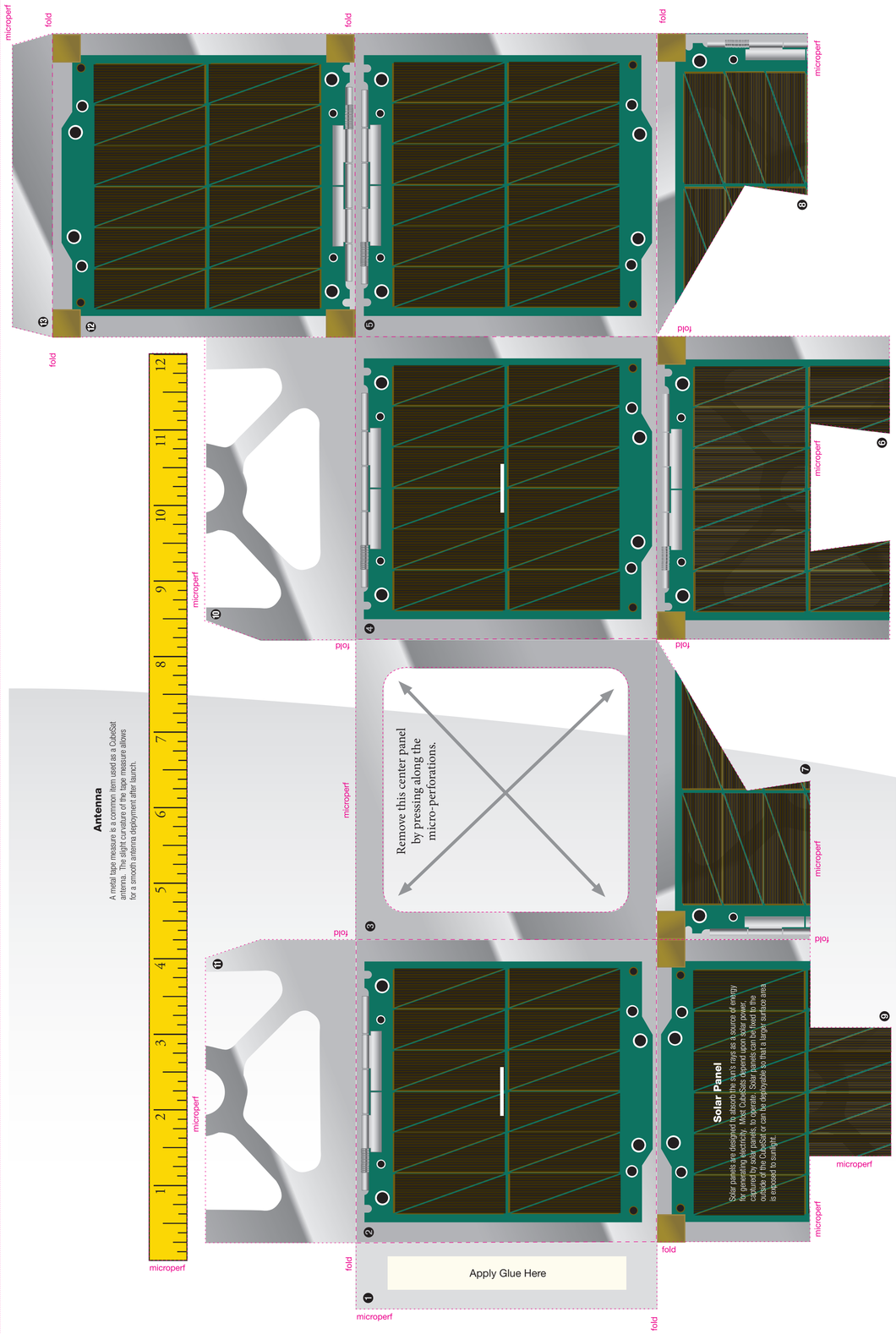
STEP 1
Carefully punch-out the four trays below along the micro-perforated edges until you have successfully separated them from the brochure.



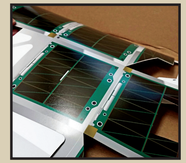
STEP 2
With a tray in hand, start at one end and fold **FLAP A** downward into a right angle. Next, fold **FLAP B** into a right angle as well.

STEP 3
Continue folding **FLAP A** and **FLAP B** on the opposite end of the tray. Folding of the flaps is necessary to create stackable circuit board trays for the inside the CubeSat model.

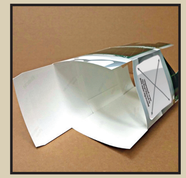




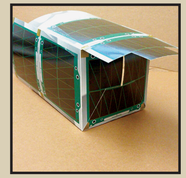
Assembly Instructions



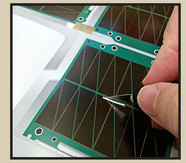
Step 1
Carefully press along the micro-perf edges to eject the CubeSat diagram from the brochure.



Step 2
Apply glue to flap ❶ and begin folding the box edges ❷, ❸, ❹ and ❺. Carefully align flap ❺ with the glued tab ❶ and press them together until the glue sets.

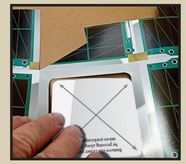


Step 3
Fold flap ❻ inward and then fold over flaps ❼ and ❽. While holding those flap together, insert the tab on flap ❾ into the slot created. This is the bottom of the CubeSat.



Step 4
Use an X-acto or similar razor knife to cut the small slits indicated on both sides. These will allow the ruler to pass through the CubeSat.

Step 5
Apply pressure along the micro-perforated edges to successfully separate the ruler from the brochure.

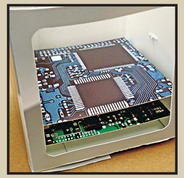


Step 6
In a similar fashion, remove the center panel from the CubeSat model.

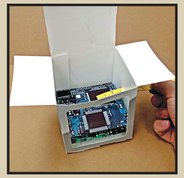
***(Step 7** begins on other side)*

Assembly Instructions

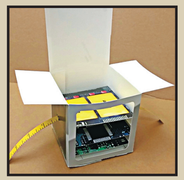
Step 7
Sit the CubeSat upright.



Step 8
Load the **"Payload"** Tray into the Cubesat. Continue the assembly by stacking the **"Communication System"** Tray - matching pin connectors on the board trays to the ones inside the CubeSat.

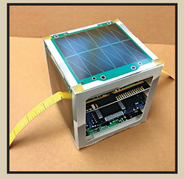


Step 9
Begin threading the ruler through the slits in the sides of the Cubesat until 4 inches of ruler extends beyond the CubeSat on both sides.

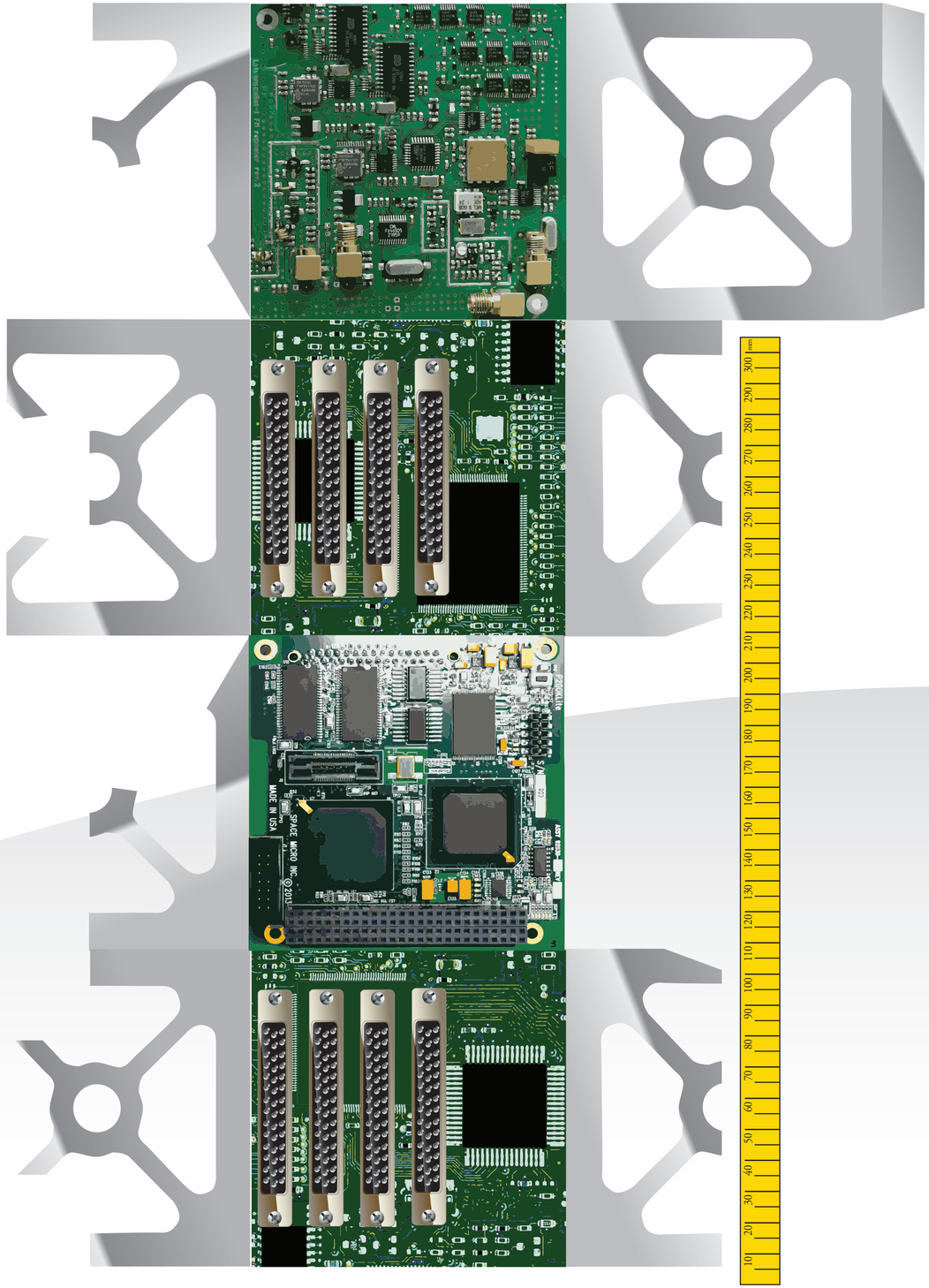


Step 10
Once the ruler is in place, add the **"Electrical Power System"** tray so that the notches fit over the ruler.

Step 11
Place the "Command and Data Handling" tray on top to complete the inside of the CubeSat.



Step 12
The final step is to fold over the two side flaps and then close the the CubeSat by securing the top lid in place.



National Aeronautics and Space Administration

NASA

CubeSats

NASA's CubeSat Launch Initiative (CSLI) provides launch opportunities for small satellite payloads. These CubeSats are flown as auxiliary payloads on previously planned missions or as primary payloads on Venture Class launchers. CubeSats are a class of research spacecraft called nanosatellites. To participate in the CSLI program, CubeSat investigations should be consistent with NASA's Strategic Plan and the Education Strategic Coordination Framework. The research must address aspects of science, exploration, technology development, education or operations.

www.nasa.gov

SP-2015-09-375-KSC