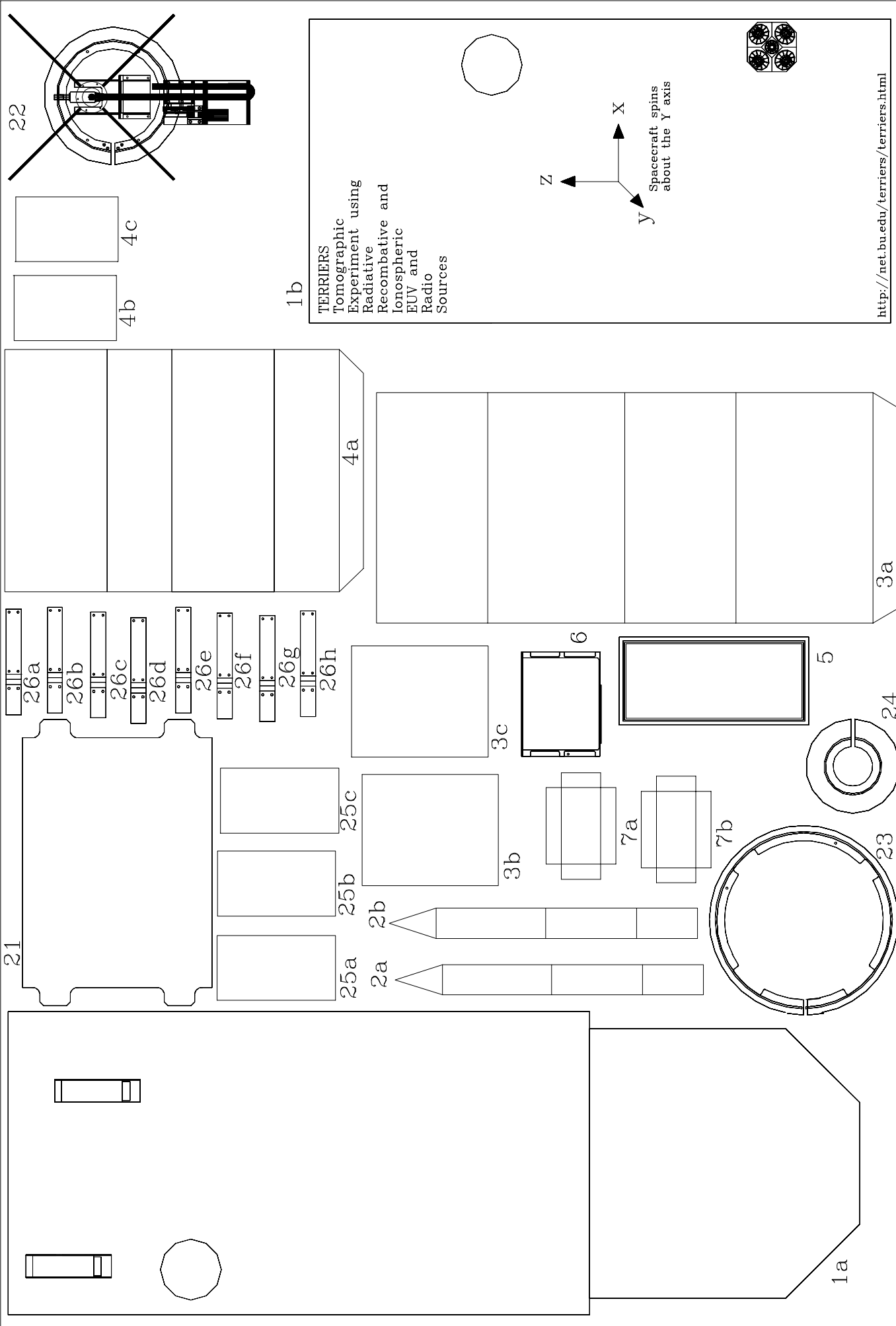


Instructions for assembling the TERRIERS spacecraft

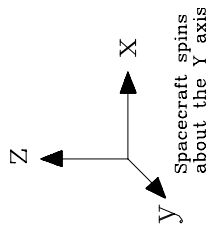
Note:

- a. Cut out around lines, never through them.
 - b. All slanted edges are tabs to facilitate gluing together.
- 1) Cut out pieces 1a and 1b. These are the solar panel and interface plate. Fold 1a along the line with the printed sides of the paper facing each other. Glue 1b onto the back of 1a with the printed side facing out. Glue together so that the large rectangles mate.
 - 2) Cut out pieces 2a and 2b. These are the brackets that hold the solar panel at a 90-degree angle to the interface plate. Glue together the two brackets so that they each form a right triangle. Glue together using pointed tab. Next glue them at the bottom of the solar panel to the far edges of the interface plate.
 - 3) Cut out pieces 3a 3b and 3c. Fold 3a together to make a 4-sided tube and glue 3b and 3c onto each open end. These pieces form the satellite main electronics box.
 - 4) Cut out 4a 4b and 4c. Fold and glue to make a box as above. These pieces form the satellite radio electronics box.
 - 5) Cut out pieces 5 and 6. These are more satellite electronics.
 - 6) Glue the box made with pieces 3a-c and 4a-c together. Glue the sides that are similar in size to each other. Centrally Onto the other side of the 3a-c box, glue piece 5. Then glue piece 6 onto piece 5.
 - 7) Cut out pieces 7a and 7b. Fold all the sides into each other so as to make a box with no lid. Glue these into the outer top corners of the 3a-b box.
 - 8) Cut out pieces 8a 8b 8c and 8d. Fold 8a and 8b to form trapezoidal tubes. Glue together and glue pieces 8c and 8d onto the one side of each tube. These are the satellite batteries. Now glue them to the outer bottom of the 3a-c box. The edges should be flat against the 3a-c box.
 - 9) Cut out pieces 9a 9b and 9c. Fold 9a together and glue. Glue 9b and 9c at the ends to form a box.
 - 10) Cut out pieces 10a and 10b. These pieces fold together to make right triangles. Glue the 9a-c box and these pieces onto the middle of the interface plate. The short end of the box should face out, and the two triangular pieces should face each other and sit along side the box. Next glue all of the other boxes that are glued together down onto the interface plate. The 8a-d boxes should sit on the interface plate and the 7a and 7b pieces should glue to the solar panel.
 - 11) Cut out piece 11. Make a cut along the black line located at each end of the piece. Fit the piece together into a loop and secure by fitting the tabs together. Glue this piece onto the underside of the interface plate.
 - 12) Cut out pieces 12a 12b and 12c. Fold 12a together and glue. Glue 12b and 12c at each end. This is the satellite payload. The next steps will be assembling all the things that go on the payload. Then the whole thing will be glued to the top of the 3a-c box.
 - 13) Cut out 13a and 13b. Fold 13a and glue and glue 13b to the top. These are the main payload electronics. They glue to the side of the payload that has the asymmetric side of 12b pointing towards it.
 - 14) Cut out 14a and 14b. Fold 14a and glue. Glue 14b to the top. These are more payload electronics. They glue to the other side of the payload box.
 - 15) Cut out 15a and 15b. Fold 15a and glue. Glue 15b to the top. These are the payload high voltage power supplies. They glue onto the middle of the 14ab piece.
 - 16) Cut out 16a 16b and 16c. Fold 16a together and glue. Glue 16b and 16c to the ends to make a box. This is the payload radio beacon. It is located opposite the asymmetry on the back corner of the payload.
 - 17) Cut out 17a and 17b. Fold 17a together and glue, glue 17b onto the top. These are the main electronics for the GISSMO instrument. They are located beside the radio beacon.
 - 18) Cut out piece 18. This is the payload-lifting fixture. It is located in the middle of the payload box.
 - 19) Cut out piece 19. This is the GISSMO bracket. Fold it along the line.
 - 20) Cut out 20a 20b and 20c. This is the GISSMO instrument. On piece 20a cut along the black lines at each end and roll into a cylinder. Glue 20b and 20c to each end. Glue piece 19 to one side of GISSMO. Then glue GISSMO to the top of the payload onto the asymmetric piece at the top. See illustration. Also glue piece 19 to the top of the payload box.
 - 21) Cut out piece 21. Glue to the top of box 3a-c.
 - 22) Cut out piece 22. This is the beacon antenna and the Y torque coil. Glue to the middle of the 4a-c box.
 - 23) Cut out piece 23. This is the Z torque coil. It is located inside the ring on the bottom underside of the interface plate.
 - 24) Cut out piece 24. This is the X torque coil. It is located on the bottom of the 3a-c box.
 - 25) Cut out pieces 25a 25b and 25c. These are antennae.
 - 26) Cut out pieces 26a-26h. These are brackets. 6 of them are used to hold pieces 25a-c onto the solar panel. Glue one bracket on each end of each of those three pieces. One antenna is located at the top of the solar panel in the middle. The other two are located at the top of each side.
 - 27) The last two brackets hold the solar panel to the payload. Glue them to the top corners of the payload box on the GISSMO side. They should be directly opposite one another. Now you are ready to glue the payload on to the top of piece 21. The brackets should also glue to the solar panel.



1b

TERRIERS
 Tomographic
 Experiment using
 Radiative
 Reombative and
 Ionospheric
 EUV and
 Radio
 Sources



<http://net.bu.edu/terriers/terriers.html>

22

4c

4b

4a

3a

26a

26b

26c

26d

26e

26f

26g

26h

3c

6

5

24

21

25c

25b

25a

2a

2b

3b

7a

7b

23

1a

