

Moonsatellite Competition Spot Lander design by Tom and Pavel Pinkas

Moon Satellite is a model rocket I created together with my son Tom during his Science Fair project. Tom's project is dealing with a rocket stability and besides all the others factors that may change the stability, effect of the spin around axial axis was investigated.

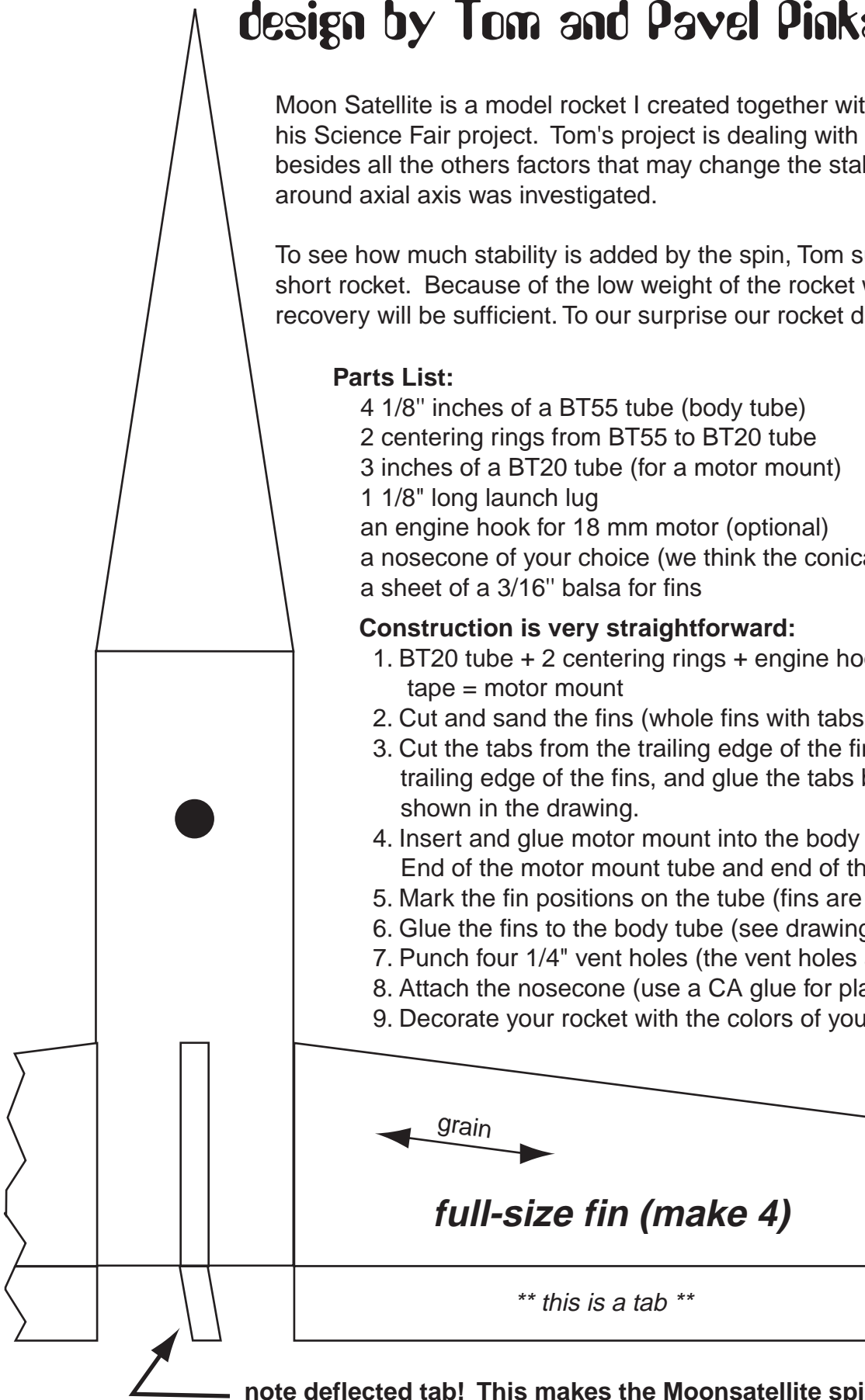
To see how much stability is added by the spin, Tom suggested to try a very short rocket. Because of the low weight of the rocket we figured, that tumble recovery will be sufficient. To our surprise our rocket did not tumble but autorotated.

Parts List:

- 4 1/8" inches of a BT55 tube (body tube)
- 2 centering rings from BT55 to BT20 tube
- 3 inches of a BT20 tube (for a motor mount)
- 1 1/8" long launch lug
- an engine hook for 18 mm motor (optional)
- a nosecone of your choice (we think the conical one is the best looking)
- a sheet of a 3/16" balsa for fins

Construction is very straightforward:

1. BT20 tube + 2 centering rings + engine hook + glue + tape = motor mount
2. Cut and sand the fins (whole fins with tabs together).
3. Cut the tabs from the trailing edge of the fins, sand a bevel at the trailing edge of the fins, and glue the tabs back at an angle as shown in the drawing.
4. Insert and glue motor mount into the body tube.
End of the motor mount tube and end of the body tube are even.
5. Mark the fin positions on the tube (fins are 90 degrees apart).
6. Glue the fins to the body tube (see drawing for correct placement).
7. Punch four 1/4" vent holes (the vent holes are in the line with the fins)
8. Attach the nosecone (use a CA glue for plastic nosecone).
9. Decorate your rocket with the colors of your choice.



Except for nose cone
this is a full size
drawing of the
Moonsatellite

note deflected tab! This makes the Moonsatellite spin!