

Black Brant X Sounding Rocket



Canadian sounding rocket. Three stage vehicle consisting of 1 x Terrier + 1 x Black Brant VB or VC + 1 x Nihka. Payload 90 kg to 1,200 km or 317 kg to 550 km.

The Black Brant X rocket system was a three-stage system, and unique because the third stage motor was ignited once the vehicle system reached exoatmospheric conditions.

The first stage booster consisted of a Terrier MK 12 Mod 1 rocket motor with four 0.22 square meter fin panels arranged in a cruciform configuration. The Terrier booster has an overall diameter of 18 inches.

The finless third stage was the Nihka rocket motor, developed specifically for the Black Brant X rocket system by Bristol Aerospace. The average thrust is 12,000 lbs. with a total impulse of 193,500 lb-sec. The Nihka motor weighs 894 lbs. including 756 lbs. of propellant.

The standard payload configuration for the Black Brant X vehicle was 44 cm in diameter with a 3:1 ogive nose shape. Payload length and weight limits for the Black Brant X were the same as the Black Brant V.

Standard hardware systems available for Black Brant V motors included aft recovery systems, payload separation systems (including High Velocity Separation System) and despin systems. These units were modular "stackable" so that a great deal of flexibility existed in meeting experiment requirements.

Status: Active.

Gross mass: 2,600 kg (5,700 lb)

Height: 14.50 m (47.50 ft)

Diameter: 0.44 m (1.44 ft)

Thrust: 257.00 kN (57,775 lbf)

Apogee: 900 km (550 mi)

First Launch: 1981.08.14

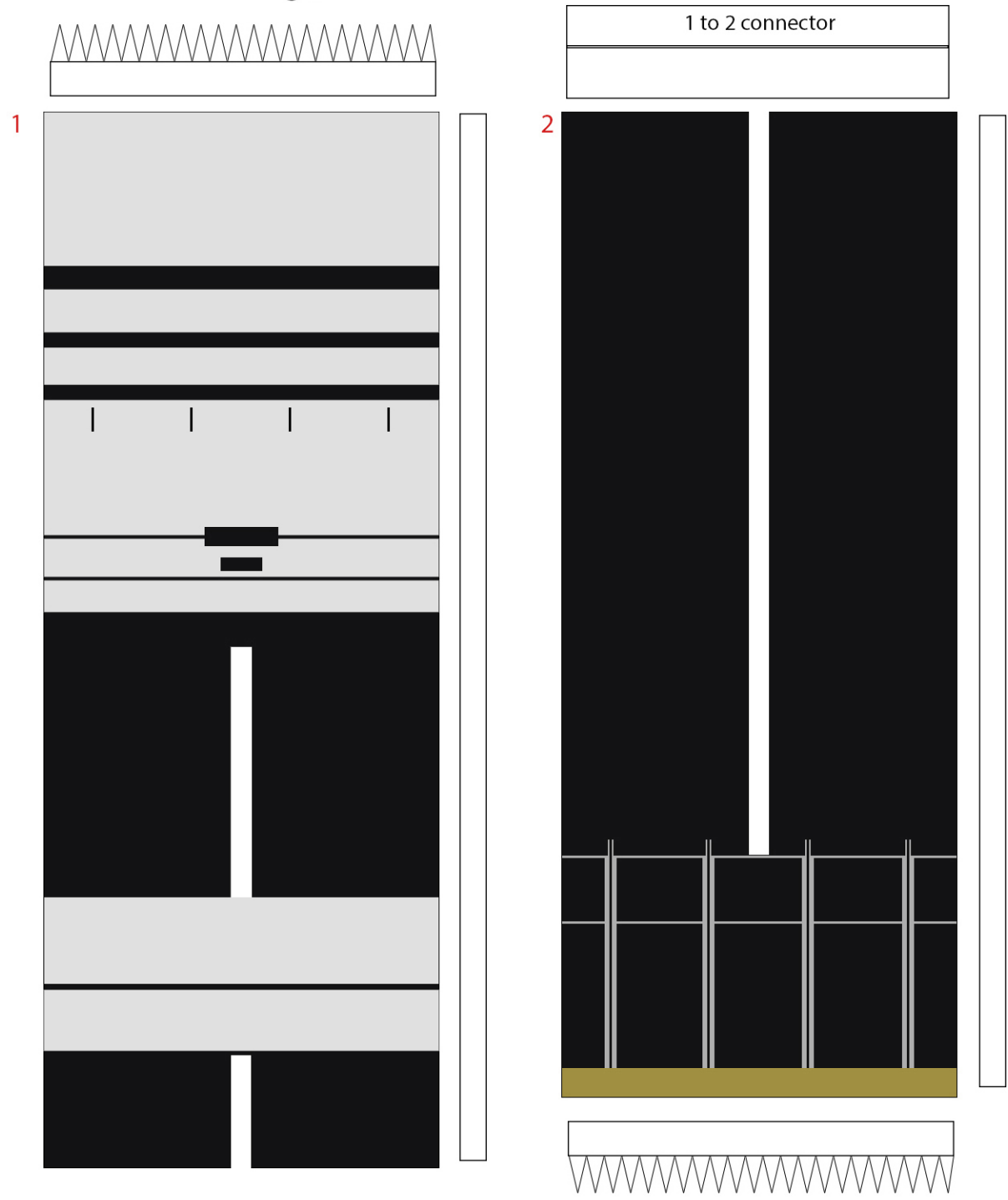
Last Launch: 2010.08.04

Number: 31

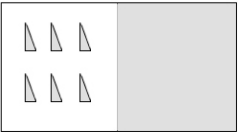


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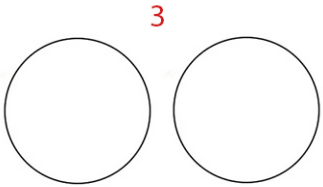
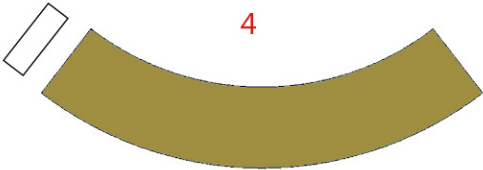
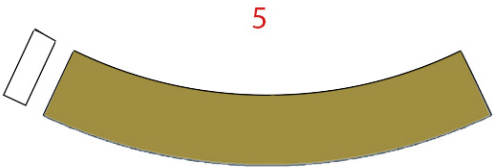
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Detail parts
- includes 2 spares

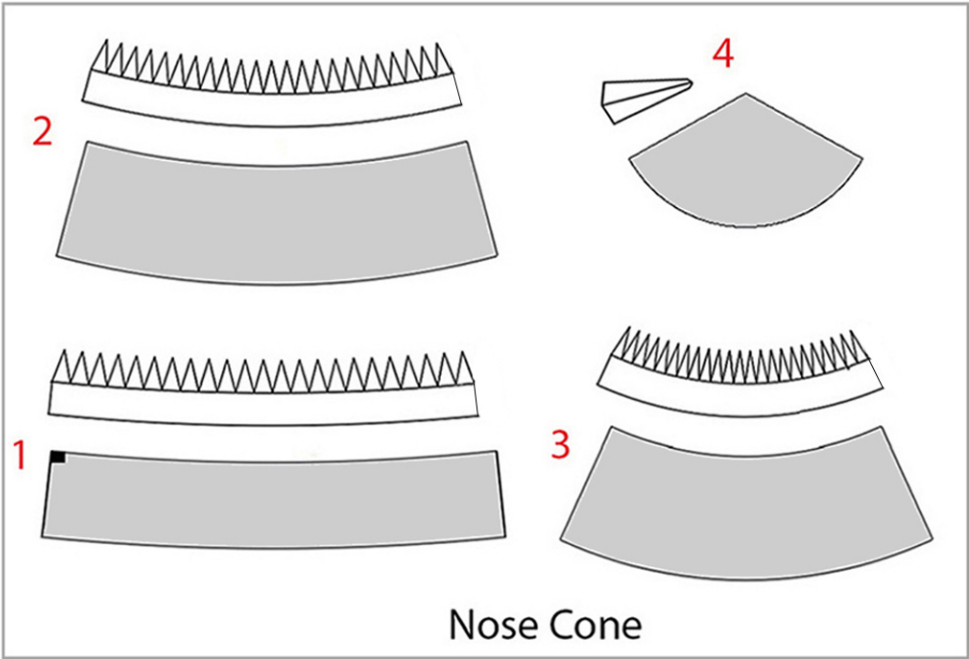


Fold in half - colors outside - and cut out the small rectangles.

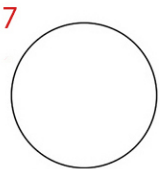
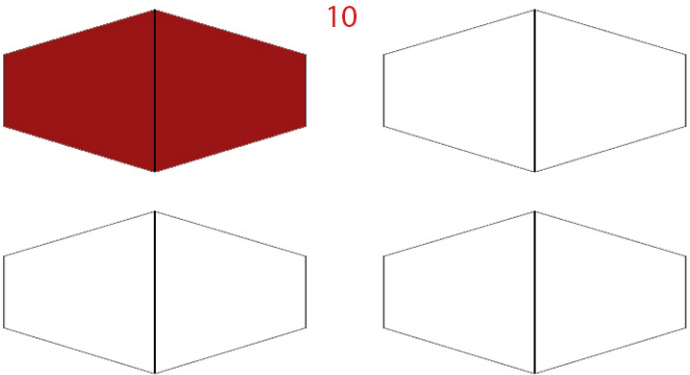


Glue to cardstock for strength

Black Brant X Sounding Rocket

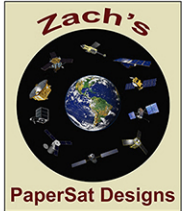
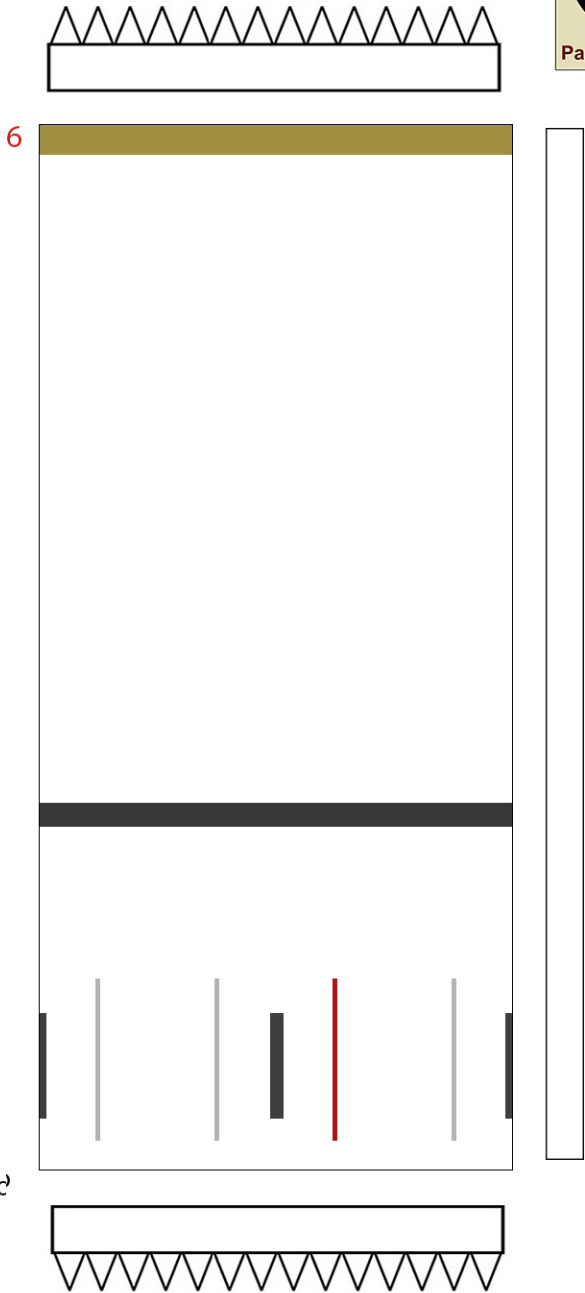
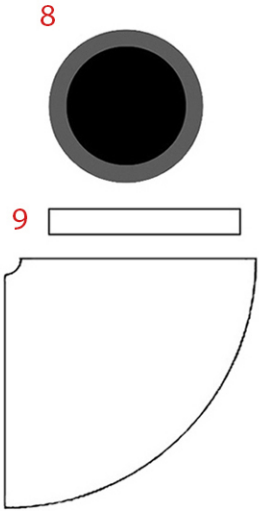


Score and fold these fins in half



Glue to cardstock for strength

Remove black circle from Part 8.
Color backside of 9 black and Roll and glue into a cone.
Glue 9 to the back side of 8 for an embedded nozzle.

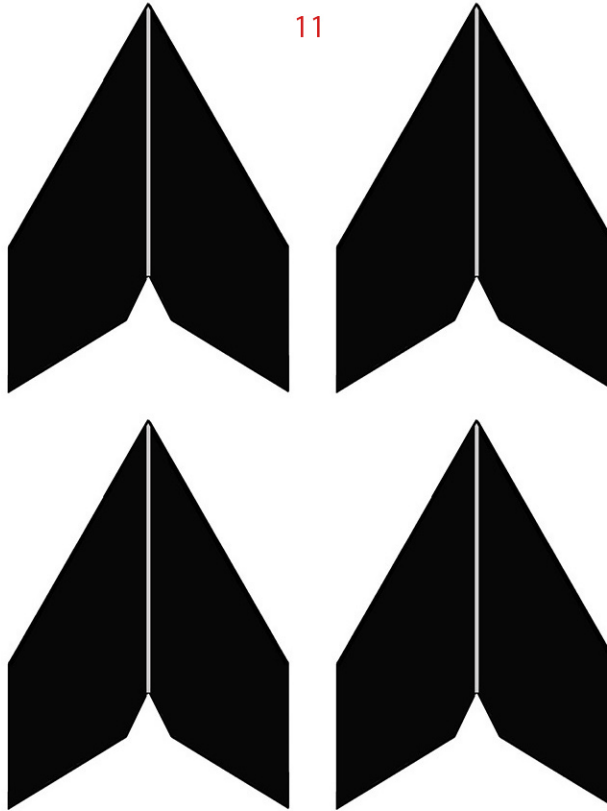


2016

Black Brant X Sounding Rocket

Score and fold all these fins in half

11



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