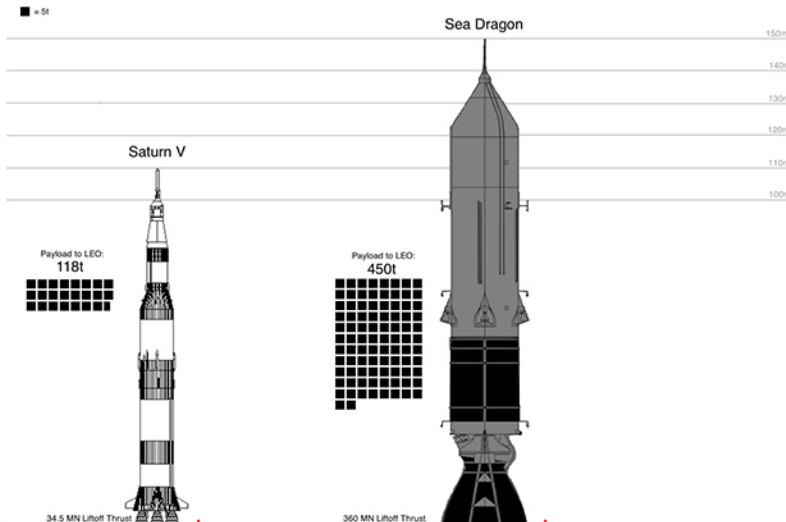
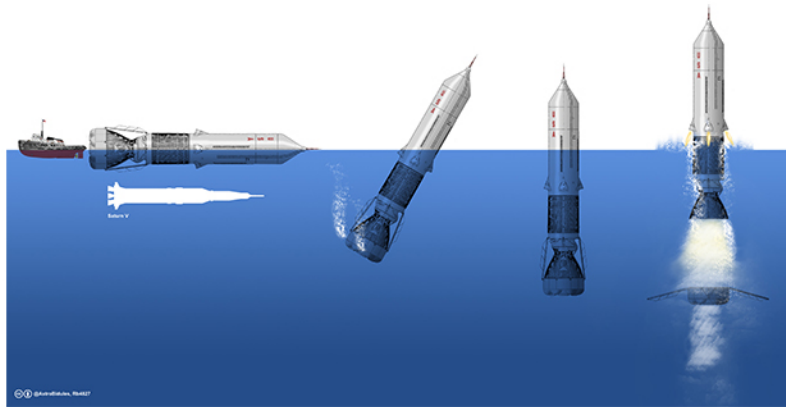


Sea Dragon



The Sea Dragon was a 1962 conceptualized design study for a two-stage sea-launched orbital super heavy-lift launch vehicle. The project was led by Robert Truax while working at Aerojet, one of a number of designs he created that were to be launched by floating the rocket in the ocean. Although there was some interest at both NASA and Todd Shipyards, the project was not implemented.

At the massive dimensions of 150 m (490 ft) long and 23 m (75 ft) in diameter, Sea Dragon would have been the largest rocket ever built. As of 2018, among rockets that have been fully conceived, it is by far the largest ever and, in terms of payload into low Earth orbit (LEO), equaled only by the Interplanetary Transport System (the predecessor to SpaceX Starship) in the latter's expendable configuration with both designed for 550 tonnes.

The first stage was to be powered by a single enormous 36,000,000 kgf (350 MN; 79,000,000 lbf) thrust engine burning RP-1 and LOX (liquid oxygen). The fuels were pushed into the engine by liquid nitrogen, which provided a pressure of 32 atm (3,200 kPa; 470 psi) for the RP-1 and 17 atm (1,700 kPa; 250 psi) for the LOX, providing a total pressure in the engine of 20 atm (2,000 kPa; 290 psi) at takeoff.

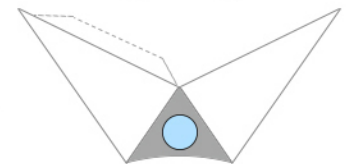
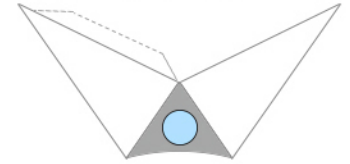
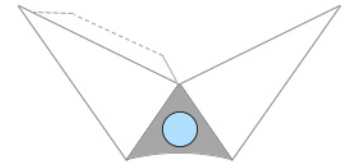
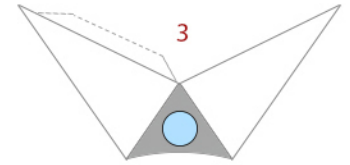
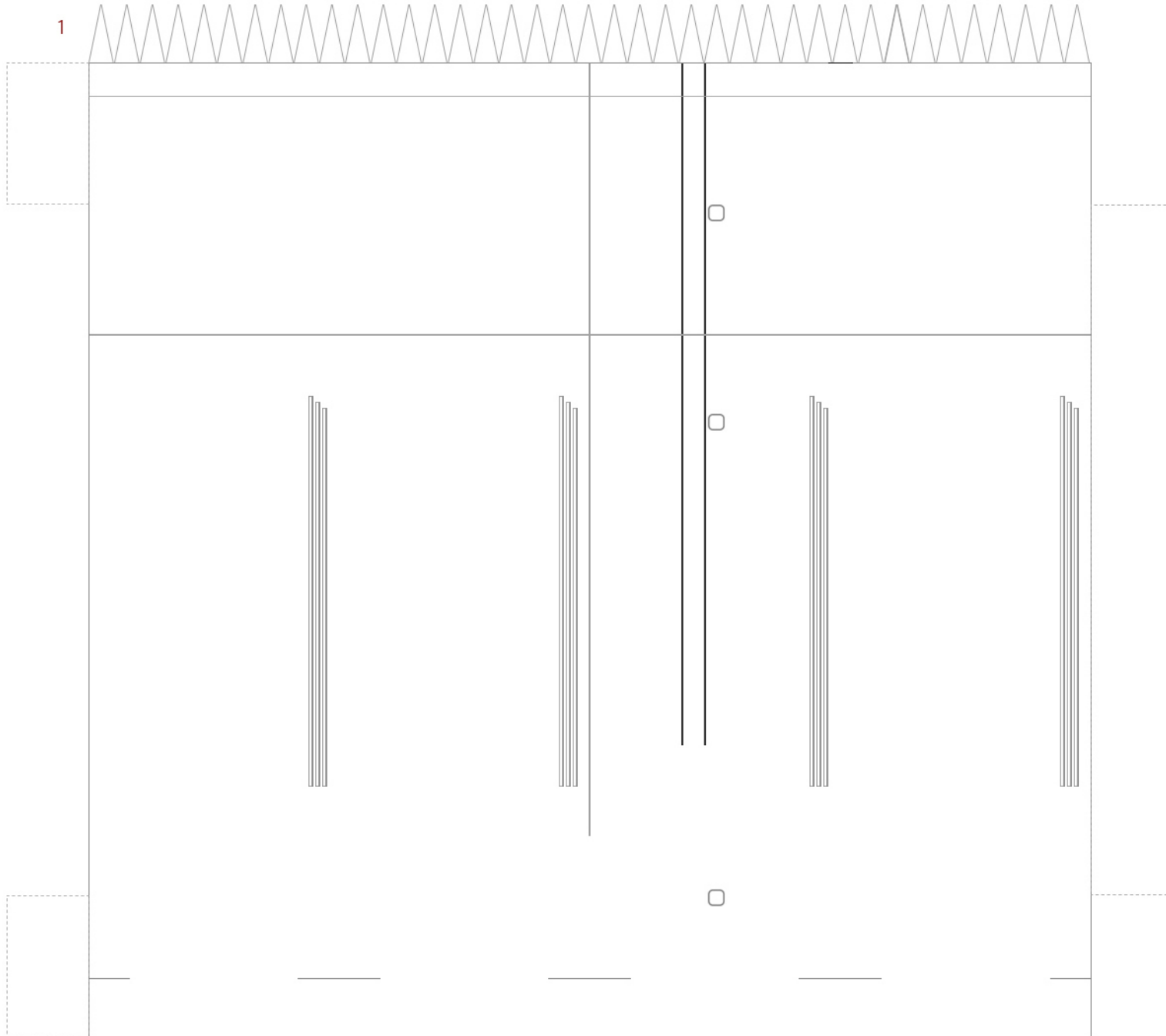
The second stage was also equipped with a single very large engine, in this case a 6,000,000 kgf (59 MN; 13,000,000 lbf) thrust engine burning liquid hydrogen and LOX.

The rocket would have been able to carry a payload of up to 550 tonnes (540 long tons; 610 short tons) or 550,000 kg (1,210,000 lb) into LEO. Payload costs, in 1963, were estimated to be between \$59 to \$600 per kg (roughly \$500 to \$5,060 per kg in 2020 dollars).

The Sea Dragon appears in the season finale of the 2019 Apple TV+ series *For All Mankind*. The series is set in an alternate timeline in which the '60s era "space-race" did not end. In the post-credits scene, which takes place in 1983, a Sea Dragon is depicted launching from the Pacific Ocean to resupply the US lunar colony. An astronaut claims in a voice-over that the ocean launch is being used as a safety measure because the payload includes plutonium.

Sea Dragon

Print all pages on 110 lb paper is recommended



Cut out the blue circles

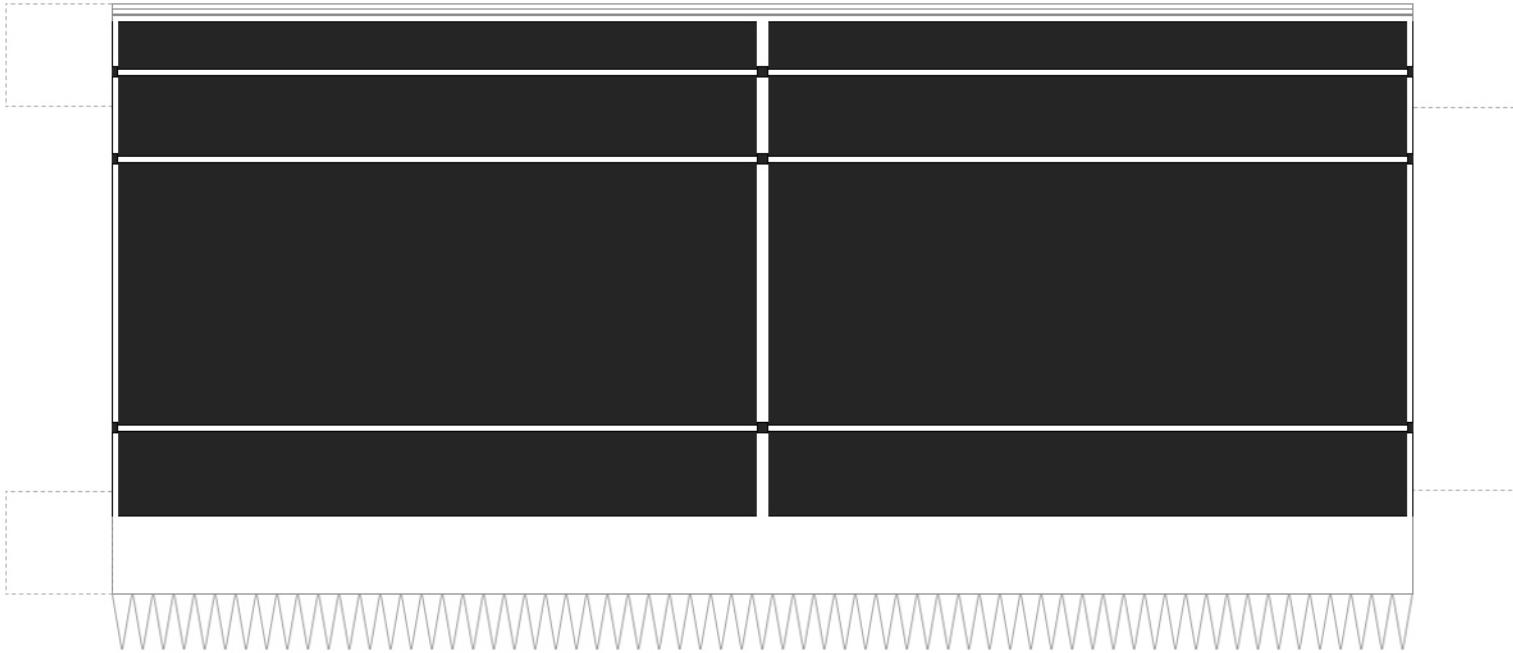


Color back Black

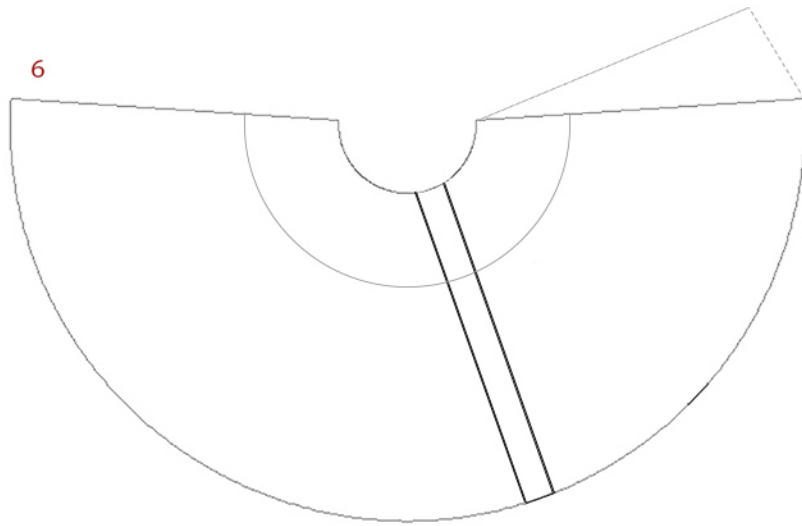
Sea Dragon

1 to 2 connector

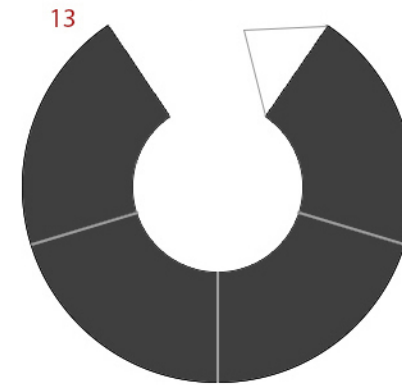
2



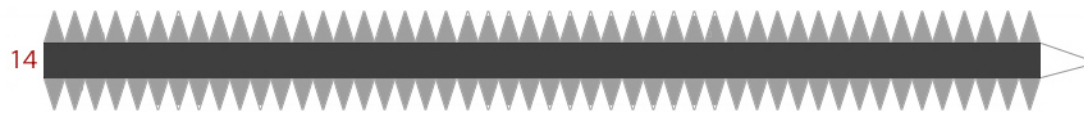
Sea Dragon



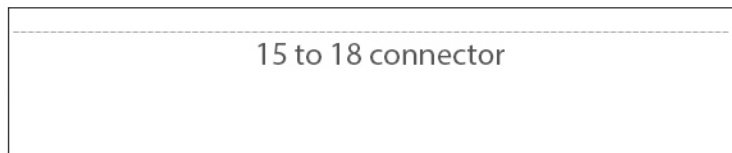
You can use part 7 OR cut a tooth pic with the pointed end the same length as the line below, colored white.
Slide the bottom end (flat end) into part 8 around 2mm in and glue in place.



Color back light grey or silver



Color back side of all these light grey or silver.



15 to 18 connector



Glue all to cardstock, then glue to backside of the black rectangle below

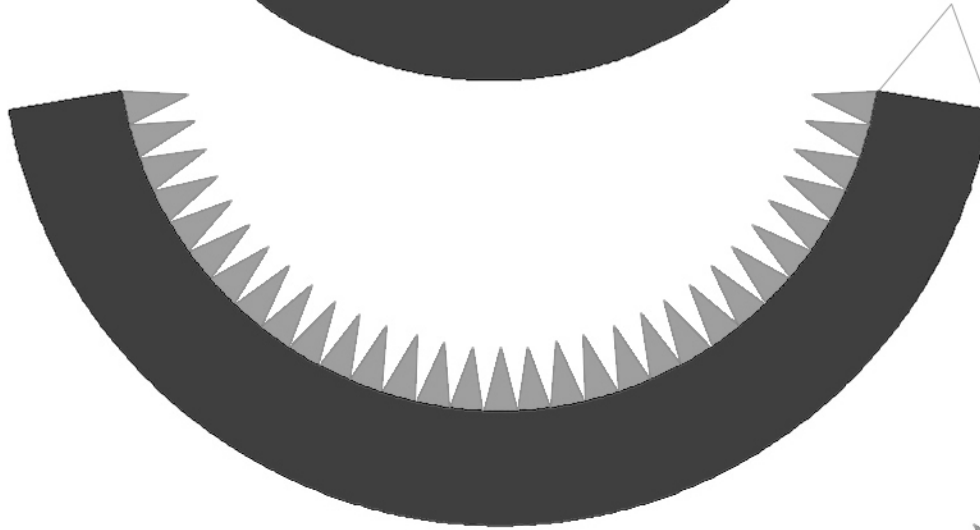


Color backside of all these Black

18



19



20

