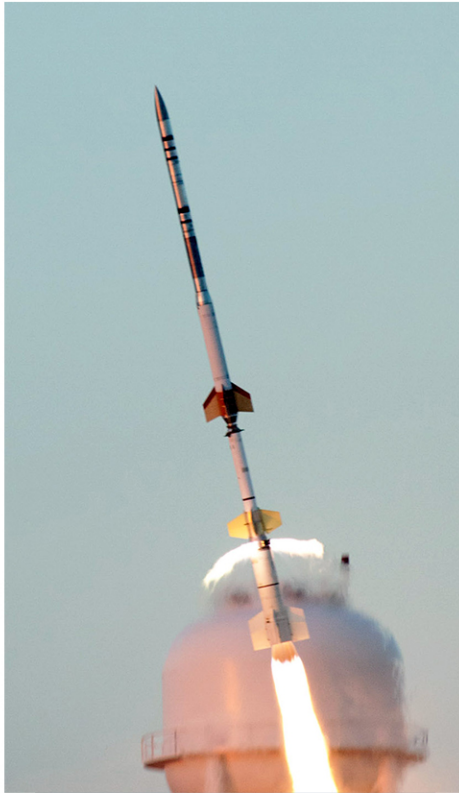


Talos-Terrier Oriole Sounding Rocket (TATEOR)



After two scrubbed launch attempts early in September, Research Range Services (RRS) personnel successfully supported tracking a new three-stage vehicle configuration – Talos Terrier Oriole (TATEOR) – in the early morning hours of September 22, 2012.

This was the first flight of the 65-foot tall Talos-Terrier-Oriole that is being developed to support high-altitude space science research.

This Oriole test launch was to verify performance and dynamic stability of the vehicle stack using an Oriole motor as the third stage. The mission also provided a test flight for the 20 Mbit MV encoder, a digital spin system, and the U.S. Air Force Altitude Prediction, Reporting and Accuracy (APRA) experiment.

The mission was critical to test the vehicle configuration as it is a possible replacement of current sounding rocket high-altitude vehicles. Vehicle anomalies have caused an increase in ballistic dispersion related to the third stage sustainer and subsequent concern for potential “hand off conditions” for fourth-stage ignition.

To test this configuration, multiple first-flight test innovations were included in the vehicle design. Most notably, the Oriole motor, normally a second-stage component, was flown as a third stage while the Terrier MK70 – a standard booster motor, was used as the vehicle’s second stage.

Full launch range data acquisition and tracking instrumentation at Wallops Flight Facility supported this launch.

RRS data collected during the mission included radar, telemetry, optical, command and control, and meteorological operations. This data, as well as other services, validated the vehicle’s performance, allowing for its use in upcoming launch campaigns

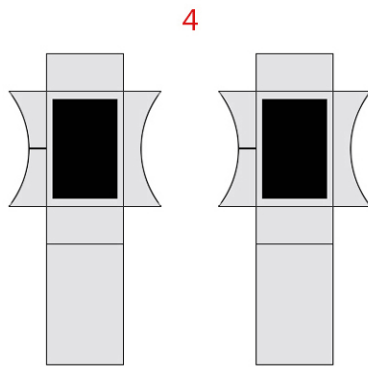
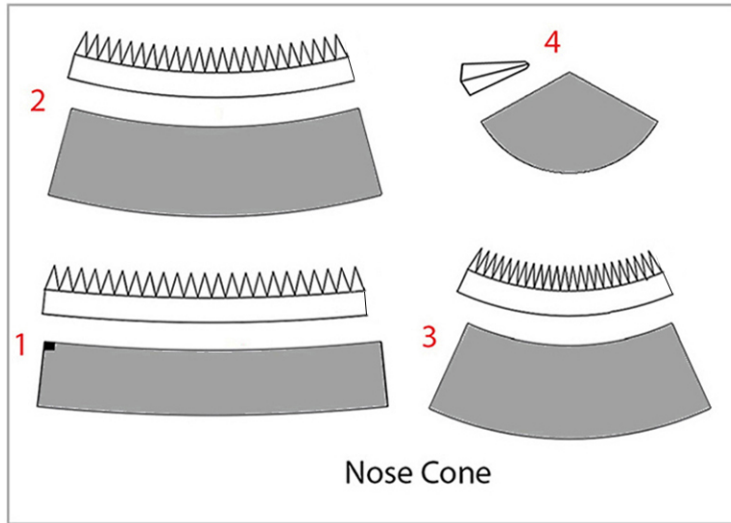


2016

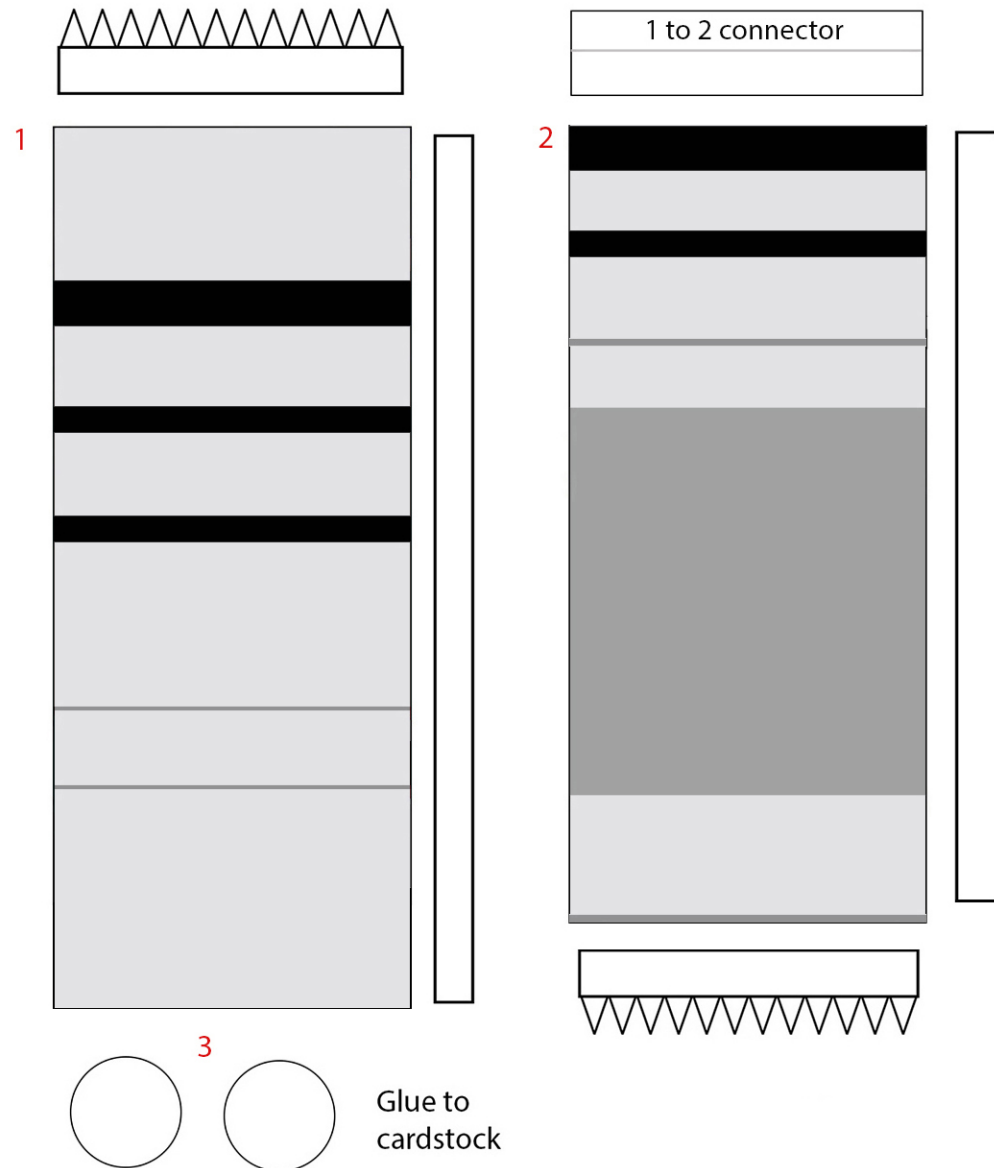
Talos-Terrier Oriole Sounding Rocket (TATEOR)



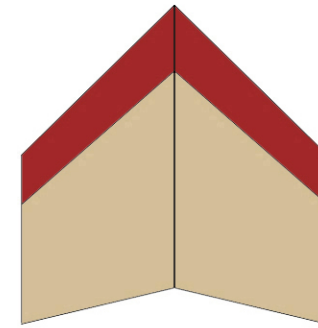
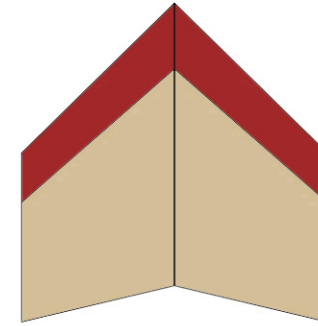
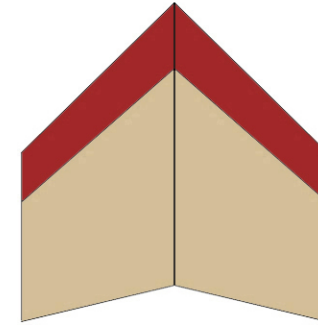
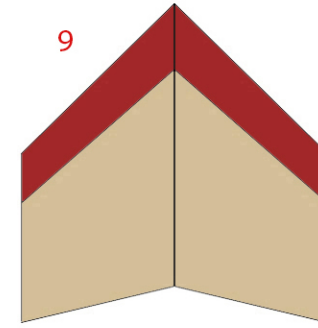
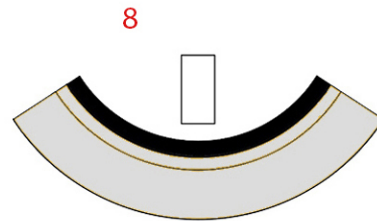
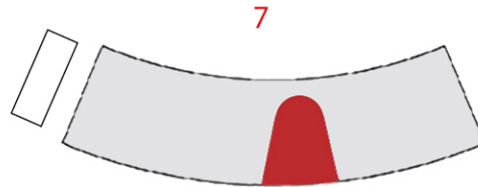
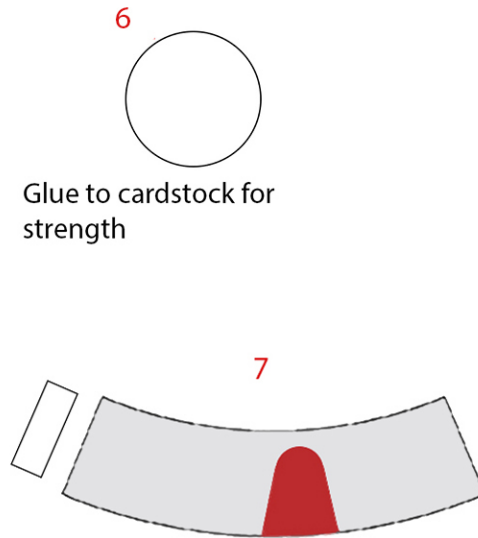
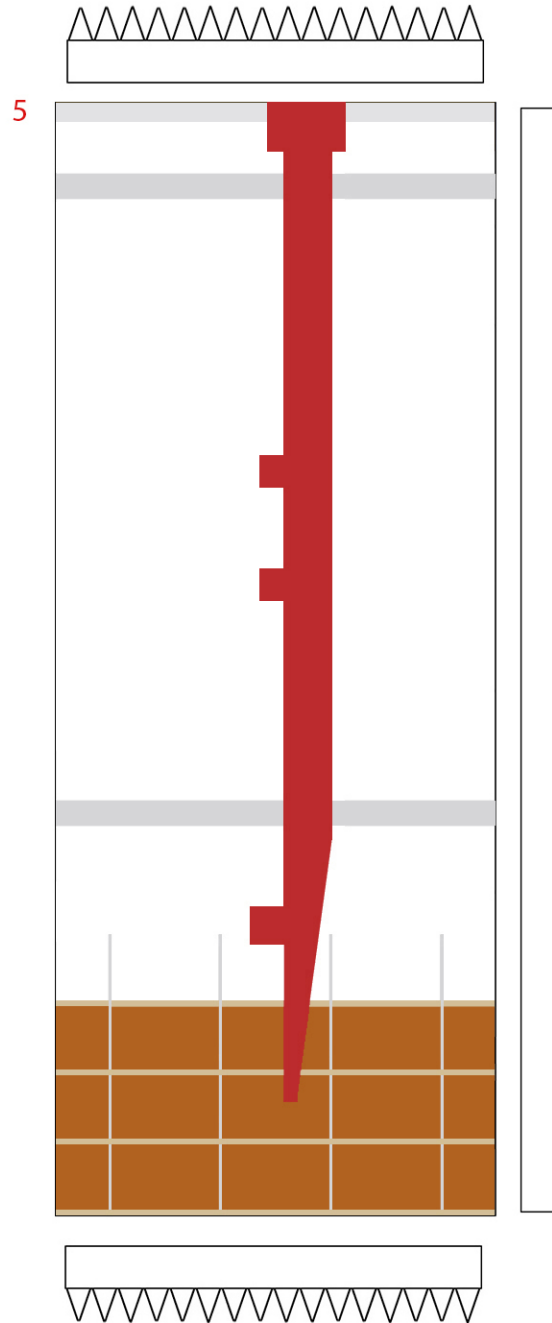
2016



These are glued to top of Part 14 (First Stage).
Match the small black line on Part 4 to the small
grey line on one side of the 1st stage tube.
Match the small black line on the other one to
the seem on the other side of the 1st stage tube.



Talos-Terrier Oriole Sounding Rocket (TATEOR)

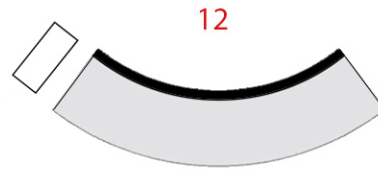
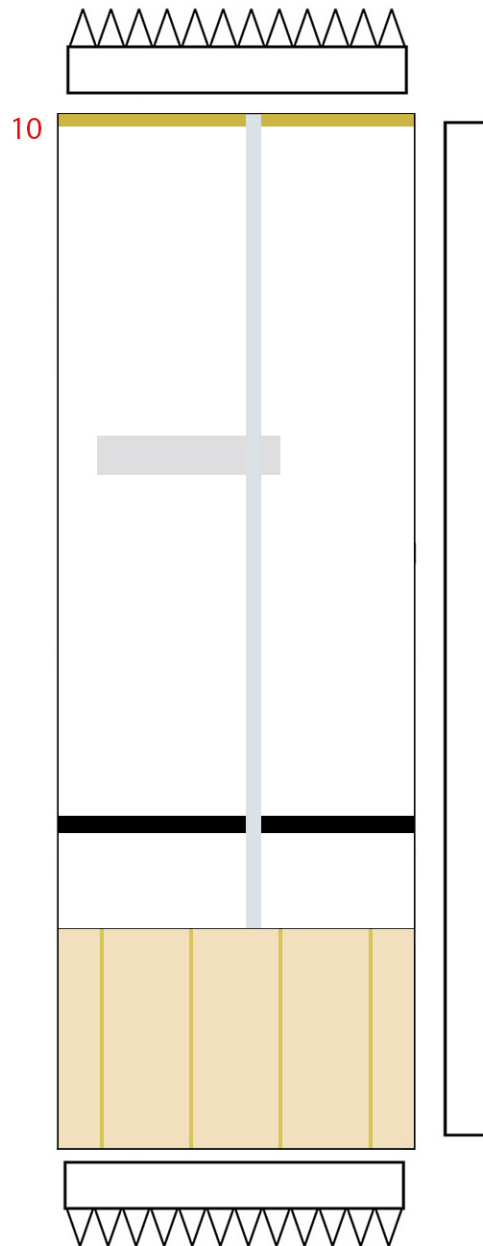


2016

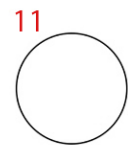
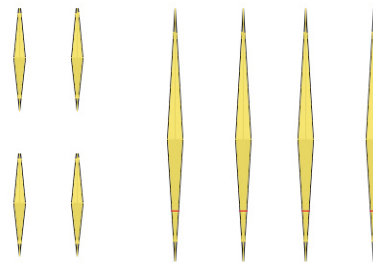
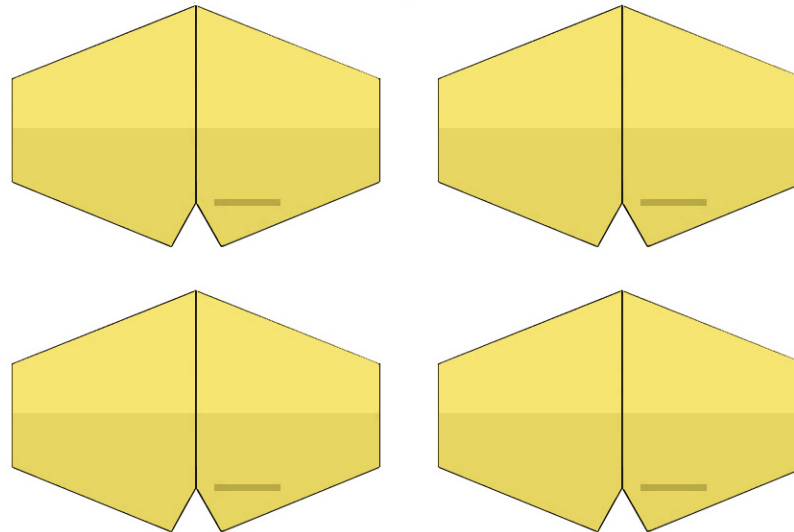
Talos-Terrier Oriole Sounding Rocket (TATEOR)



2016



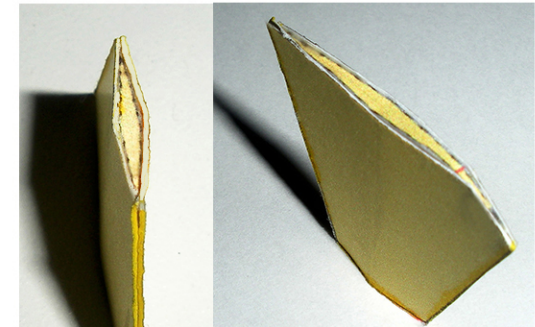
13



Glue to
cardstock

Optional Fin Detail - for 3D look

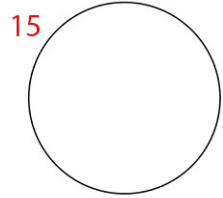
After cutting the fins in half on the black line, glue the small long diamond shaped part to the outside edge. Glue the larger long diamond shape part to the inside edge, fold at the red line.



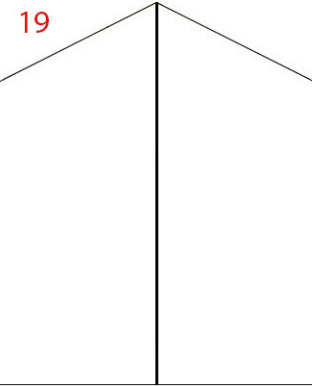
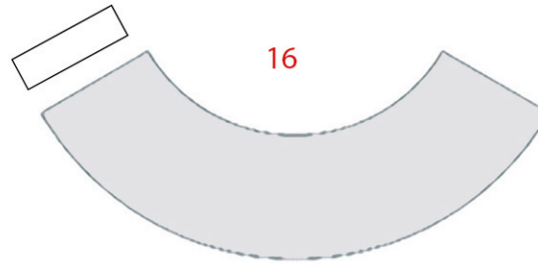
Talos-Terrier Oriole Sounding Rocket (TATEOR)



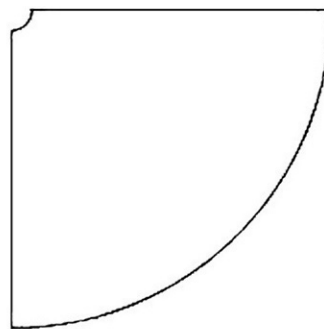
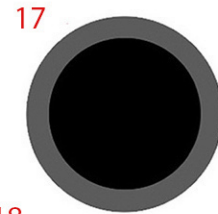
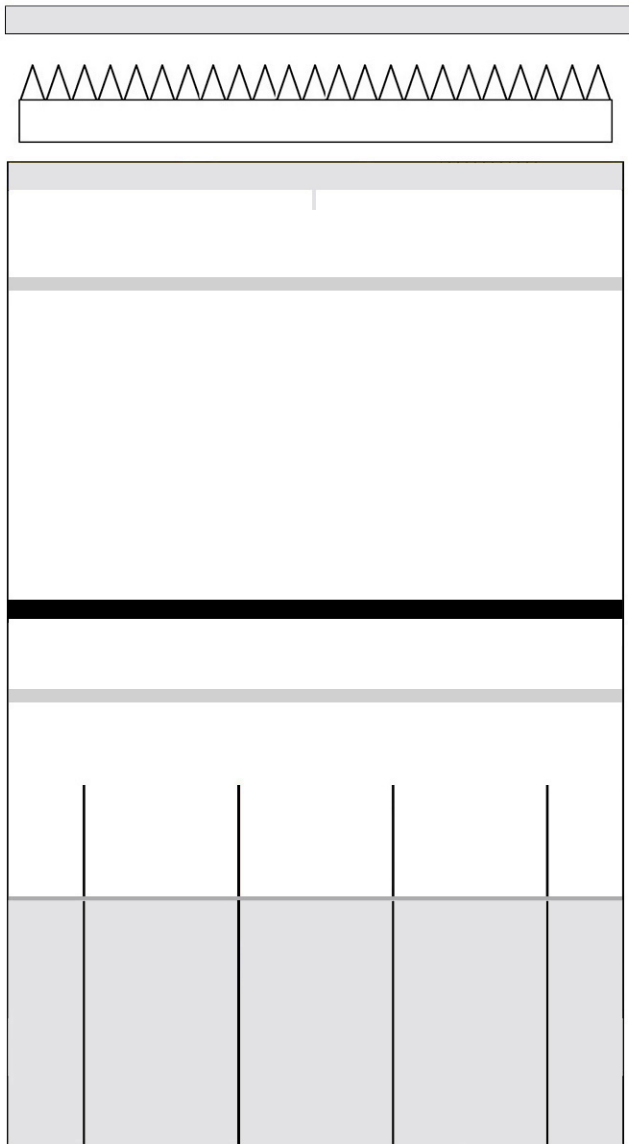
2016



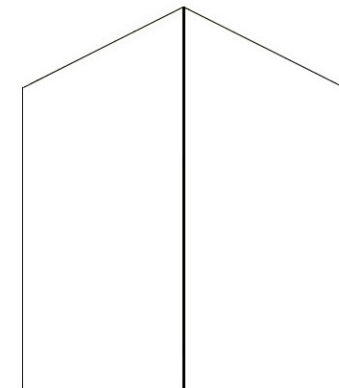
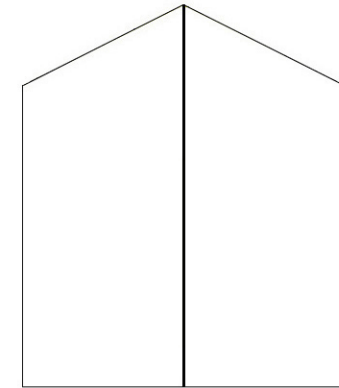
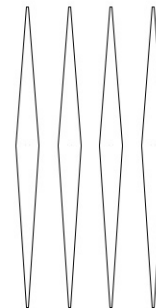
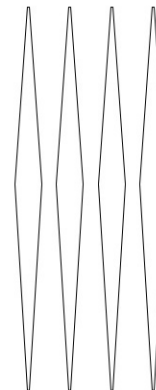
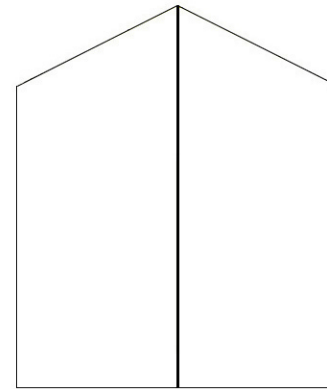
Glue to cardstock
for strength



14



Remove the black circle from 17.
Color backside of 18 black and
roll - glue to a cone.
GLue 18 to the backside of 17
for an embedded nozzle.



Optional Fin Detail
See previous page for example.
Short end of each long diamond
shaped part should be the top end.