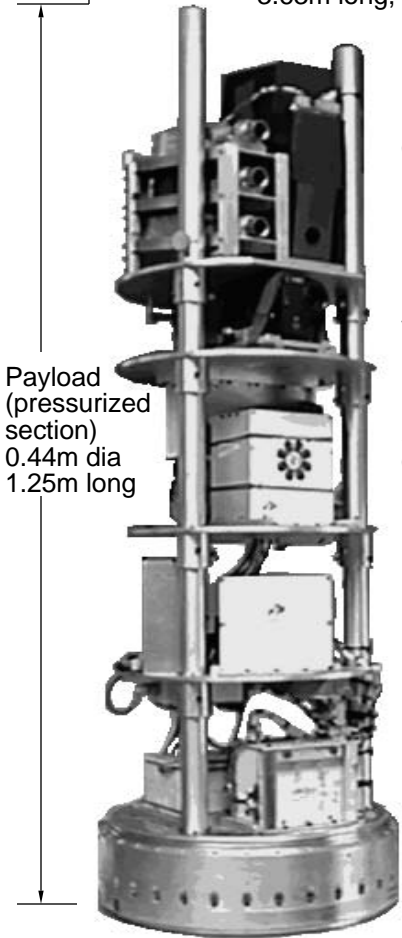
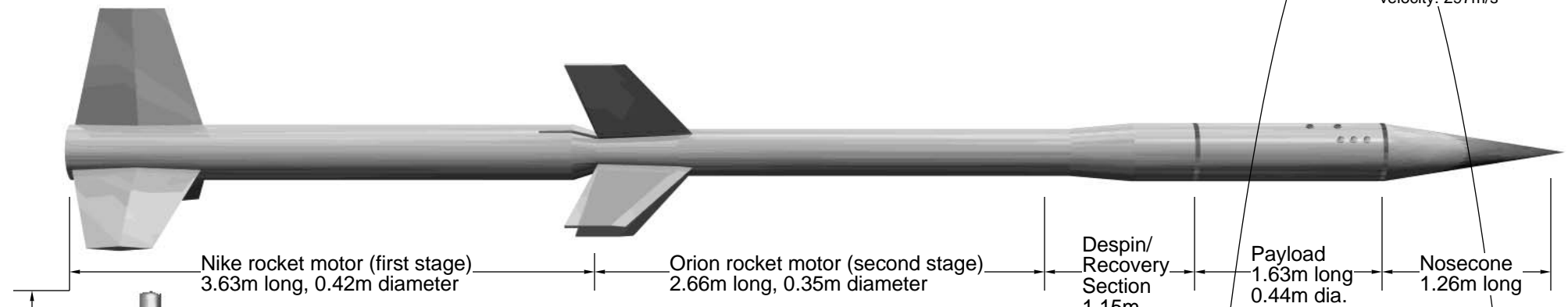


HOMER High-Altitude Ozone-Measuring Educational Rocket



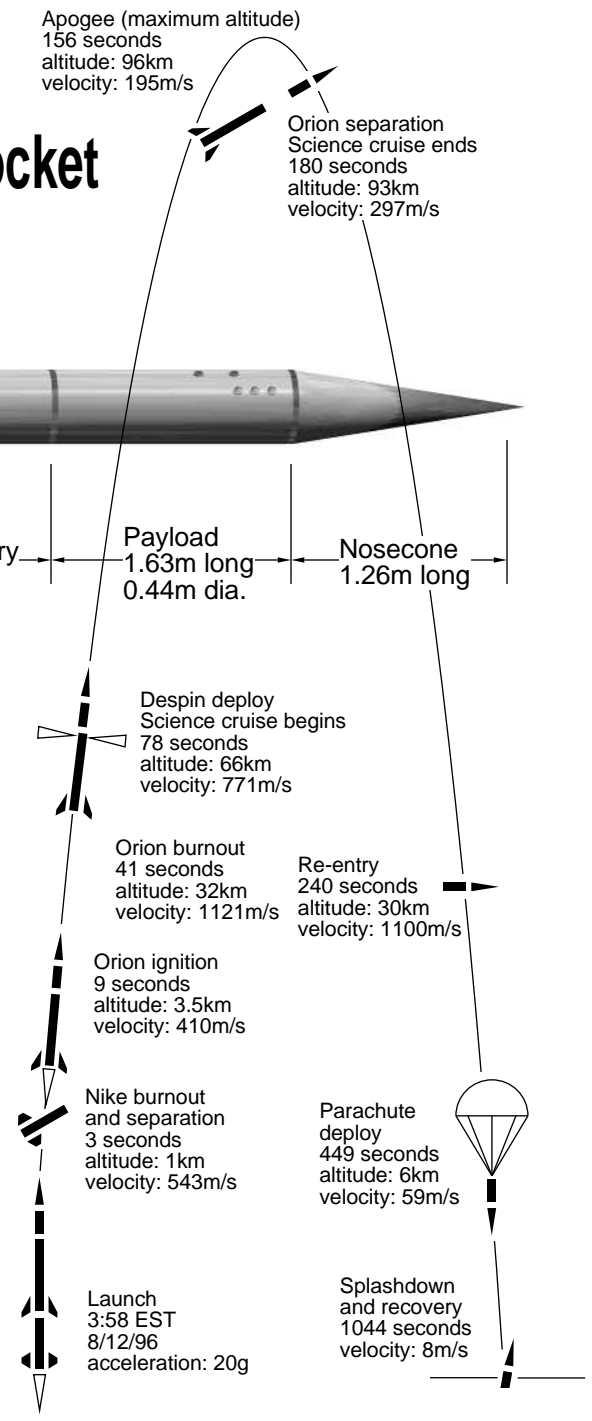
- CCD Spectrometer (UV 190-250nm)
- Photometer 1 (visible 450nm)
- Photometer 2 (UV 290nm)
- IR Photometer (IR 1270nm)
- Magnetometer
- Video Camcorder Experiment
- Spectrometer Computer
- Command & Data Handling Computer
- Power Distribution Unit
- Relay Boards
- 28 Volt Battery Stack
- 9 Volt Battery Stack
- Transmitters
- Transponder
- Sun Sensors
- Antenna
- External Pressure Sensor (Below)

HOMER is the third sounding rocket to be flown by the Colorado Space Grant Consortium. Launched from the NASA Wallops Island Flight Facility in Virginia on August 12 1996, the mission was a complete success.

HOMER carried experiments which took remote measurements of **ozone** and related gases. Light from the sun is reflected and absorbed by gases in the upper atmosphere. This reflection and absorption occurs at various frequencies, depending on the amounts of gas present. On the HOMER rocket, three **photometers** measured light levels at three specific frequencies, and one **spectrometer** measured light levels across a range of frequencies. By comparing all these measurements, a profile of the amount and types of gases along the flight path can be computed. Also on board was a **video camcorder** which recorded the flight and provided field-of-view information for the other experiments.

HOMER was designed and constructed over a two-year period starting in the fall of 1994. The skin, nosecone, and specialized mating sections were donated by NASA and local organizations. Almost everything else was designed and built from scratch by students, with a budget of \$20,000.

The **Colorado Space Grant Consortium** is dedicated to supporting student-designed and operated space experimentation. With divisions at sixteen colleges and universities in Colorado, the Consortium is involved in ongoing sounding rocket launches and Space Shuttle flights, and is currently developing small satellite and deep-space missions. The Consortium is funded by grants from NASA, and is also supported by local research and aerospace firms, and of course an extremely dedicated student contingent.



Colorado Space Grant Consortium

visit our **web site** for more information on this and other projects: <http://www-sgc.colorado.edu>