



# GEM 63XL VM-1 STATIC TEST

January 21, 2021

## Validation Motor

This booster motor is being validated to power ULA's Vulcan Centaur launch vehicle with a design that leverages Northrop Grumman's GEM 63 motor in an extended length configuration.



# GEM 63XL VM-1 STATIC TEST

## 4 TEST OBJECTIVES, 182 INSTRUMENTATION CHANNELS

- Thermally-conditioned hot (90° F) to validate ballistic predictions
- Measure ballistic performance data
- Determine insulation/nozzle thermal performance factors
- Measure ablative nozzle erosion

## SECOND STATIC TEST IN A TWO-MOTOR SERIES TO QUALIFY (QM-1) AND VALIDATE (VM-1) THE GEM 63XL BOOSTER FOR FLIGHT ON THE NEW VULCAN LAUNCH VEHICLE

### QM-1

- All test objectives were met with the August 13, 2020 test firing
- Test Temperature: Cold 40°F

### VM-1

- Objective: Risk mitigation for the U.S. Air Force through demonstration of a second static test
- Test Temperature: Hot 90°F



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