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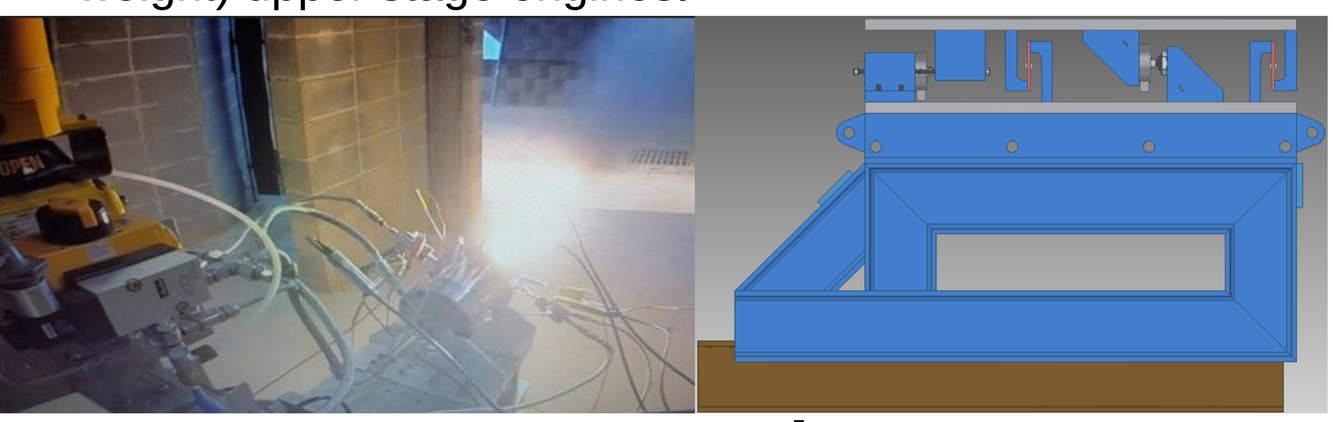
UAH Propulsion Research Center Rocket Test Capability Upgrade

Daniel A. Jones, Propulsion Research Center

This upgrade will augment the capability of the UAH test facility at the Johnson Research Center to support larger scale hot-fire testing.

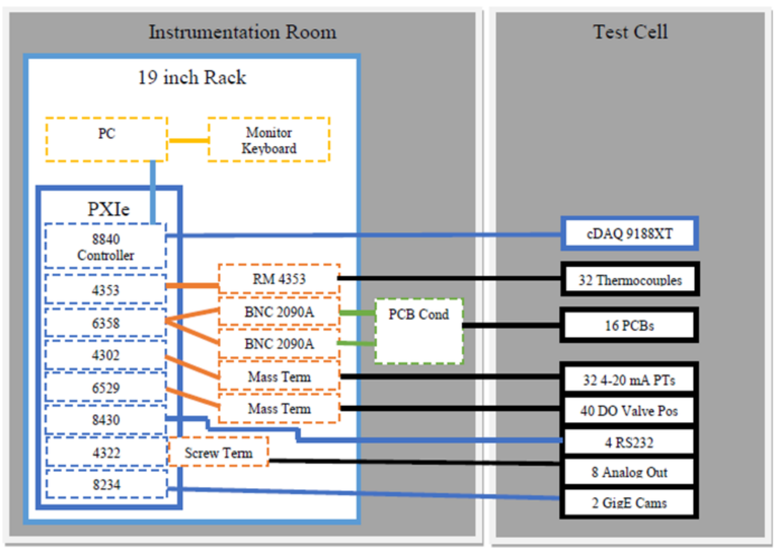
Thrust Stand

- Increase the capability of the hot-fire thrust stand to handle 2000 lbf engines.
- Allows for ground level testing of larger scale (flight weight) upper stage engines.



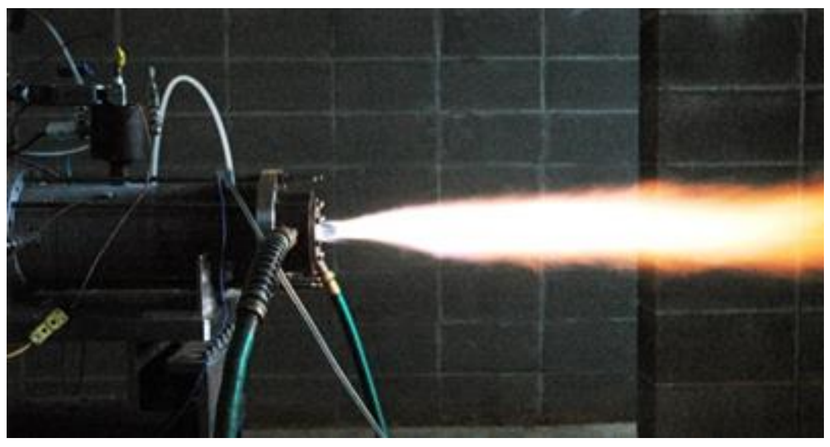
Instrumentation

- Expand the data acquisition capability to provide higher quality and increased measurement capability.
- Supports increased test instrumentation and improves quality of experimental data.



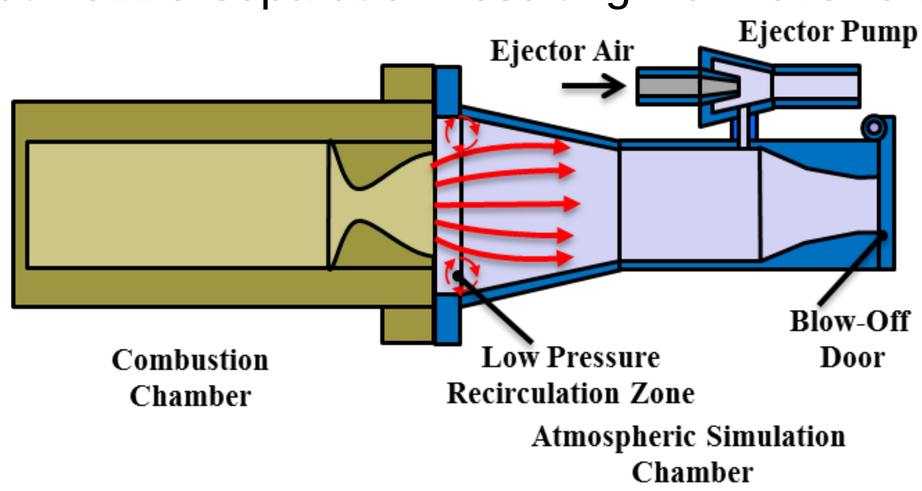
Liquid Oxidizer

- Enlarge the liquid oxidizer flow capability to provide increased flow rates for longer duration testing.
- Allows for ground level testing of larger scale (flight weight) upper stage engines.



Altitude Simulation Chamber

- Provide a method to reduce nozzle back pressure for hot fire rocket engine tests.
- Enables ground testing of high expansion ratio nozzles without nozzle separation resulting from over-expanded flow.



System Pressurization

- Enhance the system pressurization capability to provide a wider range in engine operating condition testing.
- Facilitates a wider range of full scale pressure and propellant flow operating conditions.

Impact

- Enables UAH to provide more relevant test operating conditions for propulsion system development programs.
- Increases the capability for UAH to provide independent verification of emerging technologies that could support current and future missions.
- Allows UAH to support a wider range of industry and government propulsion research efforts programs. (SBIR/STTR, MSTAR, etc.)

Acknowledgements

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UAH PROPULSION RESEARCH CENTER

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