Team Meeting 2/10/20 - **~1 ½ Weeks Until PDR (~Feb 21)**

Meeting Agenda

- Review progress
- Deliverables for Friday

Current Tasks (New items)

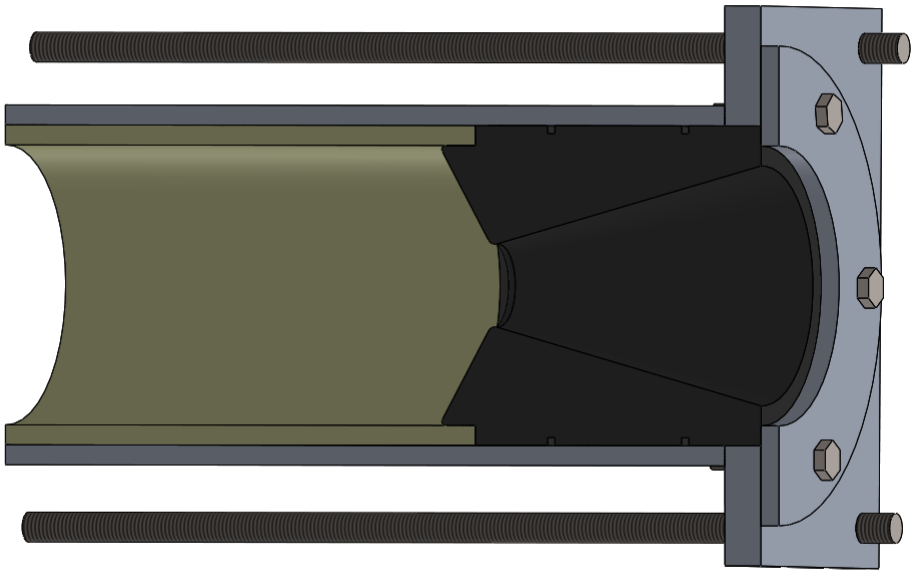
- Tabulate mdot values for potential chamber pressure, throat dia. Combinations - Jeff

Prop Feed

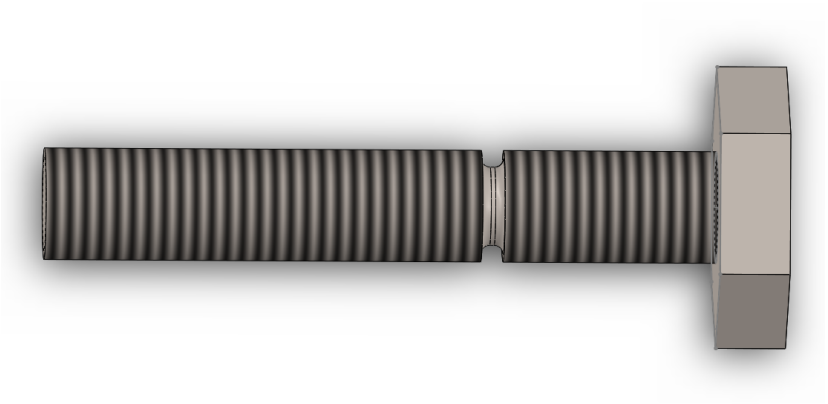
- P&ID
    - Update P&ID with Greg feedback - **DONE, REV 05**
        - Igniter fluid streams fully independent
        - Swapped ball valves - solenoid valves (cheaper)
        - Added main CH4 regulator
        - Added actuated vents for LOx tank & feedline
        - Get Greg feedback on edits - Jeff
    - Redo interactive P&ID as MATLAB script
        - Gas & two-phase fluid tank models - Rishav
        - Decide how many CH4 tanks needed for main stream - Jeff
            - Document top-level params that match (Pc=150psi/10bar)
- BOM
    - Find actual part numbers for flow controls
        - Fill in relief valve, solenoid valves - Alec
    - Catalog existing hardware in lab & update BOM
        - Found several ball valves, hoses, solenoid valves, check valves, regulators, press transducers - still need to catalog
        - Look for actuators for cryo ball valves - Alec
    - Find high-flow, high-pressure regulator for CH4 stream - **DONE**
        - Swagelok KPF series Cv=1.0, quoted $1291
        - Tescom 26-2000 series in Cantwell lab (need to figure out Cv - Jeff)
    - Compile fitting list for each prop stream (see BOM)
    - Get propellant/fluid quotes
- Design/sketch dip tube fitting for scuba tank
    - **Discussed w/Greg, CAD on grabcad (Alec)**
    - Check material compatibility at P, T, flow vel - Jeff

Nozzle/Chamber

- CAD of nozzle & chamber **- DONE (mostly)**
    - Move bolts towards edge of flange to create clearance for nuts/wrench



- Nozzle bolt notch design **- DONE**
    - ***From Alec (use a shoulder bolt instead of a full thread bolt**
        - Tom - It'll be easier to notch on an unthreaded section threads only need to be on the part that threads into the flange)



    - Prelim - can we test before PDR?
        - I have access we just need to schedule (Alec)
    - Look into v-groove notch (based on whatever turning tools are in PRL)

- BOM - **Not done**

Injector/Igniter

- P&ID requirements

    - Look into recourse after failed test - what knobs to turn? - **DONE**
        - Added regulator for CH4, added needle valves for igniter streams
- CAD
    - Injector element design
    - Injector manifolding first pass
    - Igniter design
- BOM
    - Talk to potential sponsors - **DONE (Walker)**
        - **Write abstract for paper using AM and/or casting to get sponsorship**
        - **Due 2/11**
            - **Min. 1000 words**
        - 3D systems is willing to print stuff for us if we write a paper and list them as co-author.
            - Follow-up: talk with Cantwell to confirm we're allowed to do this (Walker)

Test

- Test plan drafts
    - Subsystem tests
    - Full system test ops
    - What hardware is needed?
    - What data are needed?
- CAD
    - Test stand prelim design
    - Define where the test stand attaches to the rocket
- BOM

Avionics

- Avionics diagram
- BOM

Notes

- **PDR is finished design deadline, esp. for all parts required for igniter test**