The images on the right showcase the lab’s test infrastructure when I joined LPL in August of 2016. All testing is conducted at Friends of Amateur Rocketry (FAR) in Mojave, California.

The test infrastructure had several issues:

• Took hours to set up & take down
• Safety concerns, cylinders not secured & extremely high line velocity in oxygen line
• All components were recycled components that were not properly sized
• Instrumentation not rated for operating conditions
• Data acquisition & controls system vulnerable to crashes
The first project I announced when I became laboratory lead in January 2017 was developing a new test stand that would feature the following:

- Mobility - to reduce setup & shutdown time
- Designed for oxygen use – material selection & cleanliness
- Sizing & securing oxygen cylinders – to reduce line velocity and ensure safe operation
- Minimal amount of flex lines
- Reliable instrumentation
- Robust data acquisition & controls system – Purchase of a NI DAQ system that integrated with LabVIEW software