Rapid Response Enabled by Metal AM Positively Impacted the First Sandia Sounding Rocket Flight

**Need**
- Metal housings were needed in less than a week on two different occasions to meet critical schedule timelines for the sounding rocket program and part delivery from external machine shops was three weeks or more.

**Approach**
- A Metal laser powder bed fusion, 3D Systems ProX 200, was used to print 316L stainless steel parts for the sounding rocket integration team.
- Housings were printed and post processed in less than one week.
- Additional material density and tensile test coupons were printed with the parts to provide material and process pedigree information while increasing foundational knowledge of the printing process.

**Impact**
- Sounding rocket program schedules were met without slippage.
- Metal additive parts were flown on flights tests to gain knowledge and confidence in part performance in real environments.
- Estimated time and cost savings of roughly 60%.

NTESS Additive Manufacturing News Notes
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316L SS cable mounting bracket to accommodate an unexpectedly short cable. Printed part (A). Assembled (B).

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