



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

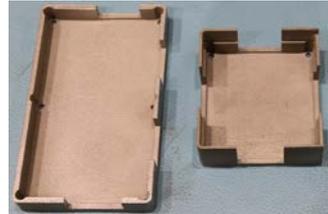
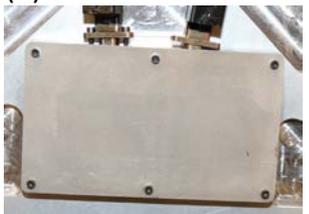
- A Metal laser powder bed fusion, 3D Systems ProX 200, was used to print 316L stainless steel parts for the sounding rocket integration team.
- Housings were printed and post processed in **in less than one week**.
- Additional material density and tensile test coupons were printed with the parts to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

Impact

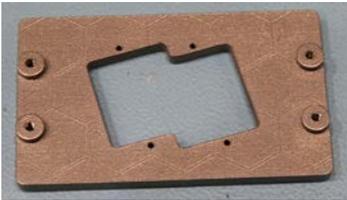
- Sounding rocket program schedules were met without slippage.
- Metal additive parts were flown on flights tests to gain knowledge and confidence in part performance in real environments.
- Estimated time and cost savings of roughly 60%.



NTES Additive Manufacturing News Notes
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(A)  (B) 

316L SS ESD faraday cage covers for sounding rocket telemetry circuit boards. Printed parts (A). Assembled (B).

(A)  (B) 

316L SS cable mounting bracket to accommodate an unexpectedly short cable. Printed part (A). Assembled (B).

