

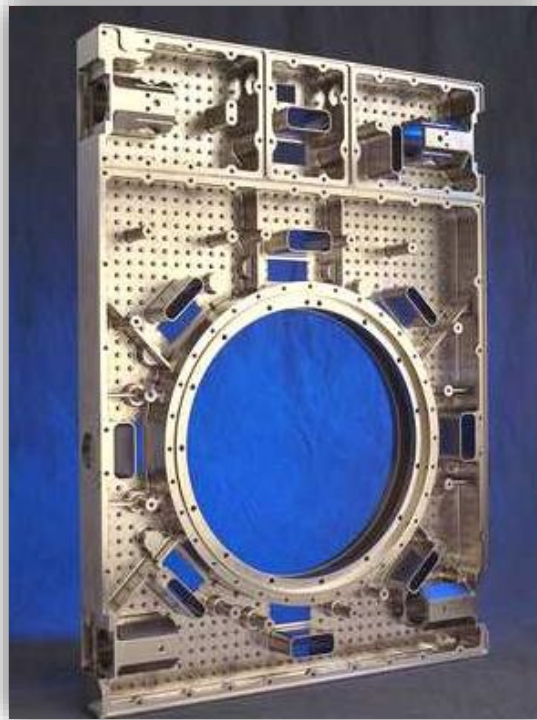
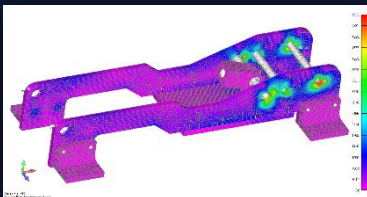
Mechanical Design Capabilities

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We hold ourselves to a higher standard ensuring what we design goes together the first time, every time. Utilizing both 2D and 3D CAD modeling we can develop the product from a hand drawn napkin sketch to a detailed drawing for fabrication. After creation of the complex models, we have the ability to export highly detailed parts and assemblies to be utilized for Structural and Thermal Analysis. Along with analysis, these exports can be used for CNC machining as well as 3D printing for rapid prototypes.

TOOLS:

The primary Mechanical Design Tool is CREO 7.0, but the team has experience using NX and SOLIDWORKS. All the tools allow for parametrically driven updates as components and features are modified or updated. CREO integrates well with our primary Electrical Design program, Altium, which allows for native files to be transferred between them. By integrating the two disciplines we are able to ensure that there is proper clearance for a good fitment.



From Class D (Experiments) Payloads to Class A (Crewed Vehicle) Modules, Zin Engineers and Designers are capable of executing to achieve a reliable product. We offer a complete lifecycle solution for aerospace products. The Zin team can take a list of requirements and provide design, development, and manufacturing of electro-mechanical aerospace products. Beyond design and manufacturing, Zin Engineers also are intimately involved with testing (Environmental, EMI, Shock, and Vibration) to validate the product and verify that the customer requirements are met. Designs are completed with the tools as described in Section 1.3.

ZIN has extensive experience in design for manufacture including 3D printing additive manufacturing, fixture design, low volume and high-volume manufacturing.

- The Design and Engineering teams have experience in all types of system development.
- Utilizing extensions and addons within the CAD modeling programs Zin Designers are able to create complex designs and assemblies.
- In order to determine that dynamic components, have enough clearance and swing, dynamic models are created allowing for movement prediction ensuring proper design spacing is created without the need for physical prototypes.
- All detailed parts are dimensioned using the tolerancing specification of ASME Y14.5M – 1994 to ensure that design geometry is clearly described.
- Our process has a built-in review cycle which peer reviews designs and detailed stack-up analysis to certify proper fit of all parts and assemblies.
- Our team creates designs with manufacturing involved to ensure the components are easily produced and assembled.

