



Motor Range Erector

Approx. Dimensions: 17.8ft W x 63.3ft L x 55.3ft H; Weight w/Payload: 210,000 lbs

Requirement:

- Develop a Solid Rocket Motor Erection System that maximizes off-the-shelf components capable of transport to and from launch site with minimal setup time.

Solution:

- Develop a hydraulic winch system to transfer the Solid Rocket Motor and its strongback onto the Range Erector.
- Develop an erection system which is powered by hydraulic motors to drive a chain lift system and horizontal dolly system.
- Design a fully redundant drive system to ensure personnel and flight hardware safety.
- Develop a 4-axle transport system that utilizes off-the-shelf systems for transport to and from launch site.
- Utilize Nastran Finite Element Analysis system to optimize the design of all structural members to ensure a lightweight structure that meets transport requirements.
- Utilize Unigraphics CAD system to develop system designs, envelopes and clearances.



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