

Hold Down & Release Mechanism

Prototype Demo

Sponsored by General Atomics – Electromagnetic Systems

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Recap – What is an HDRM?

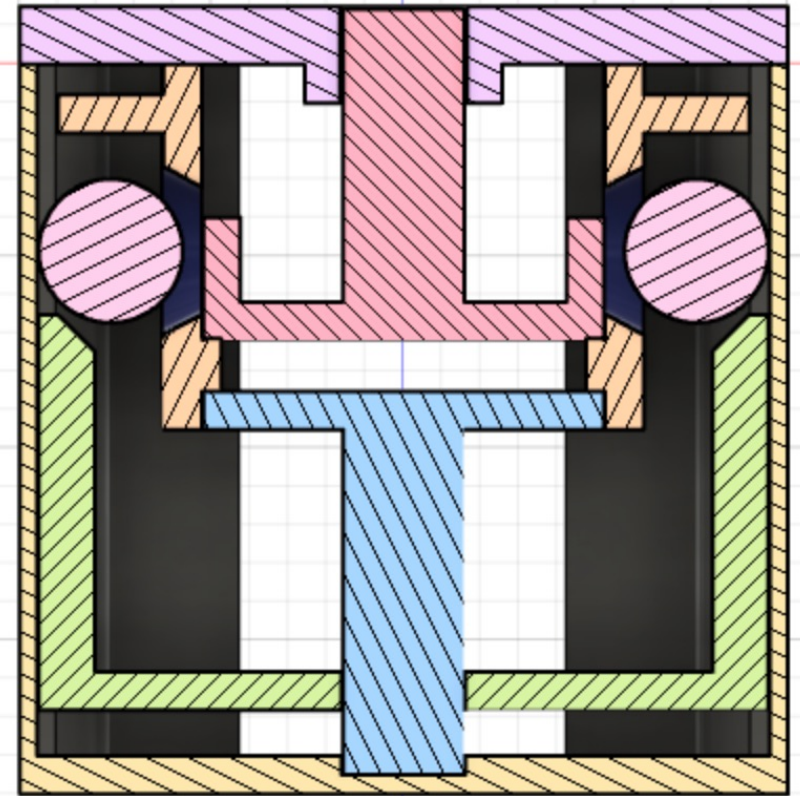
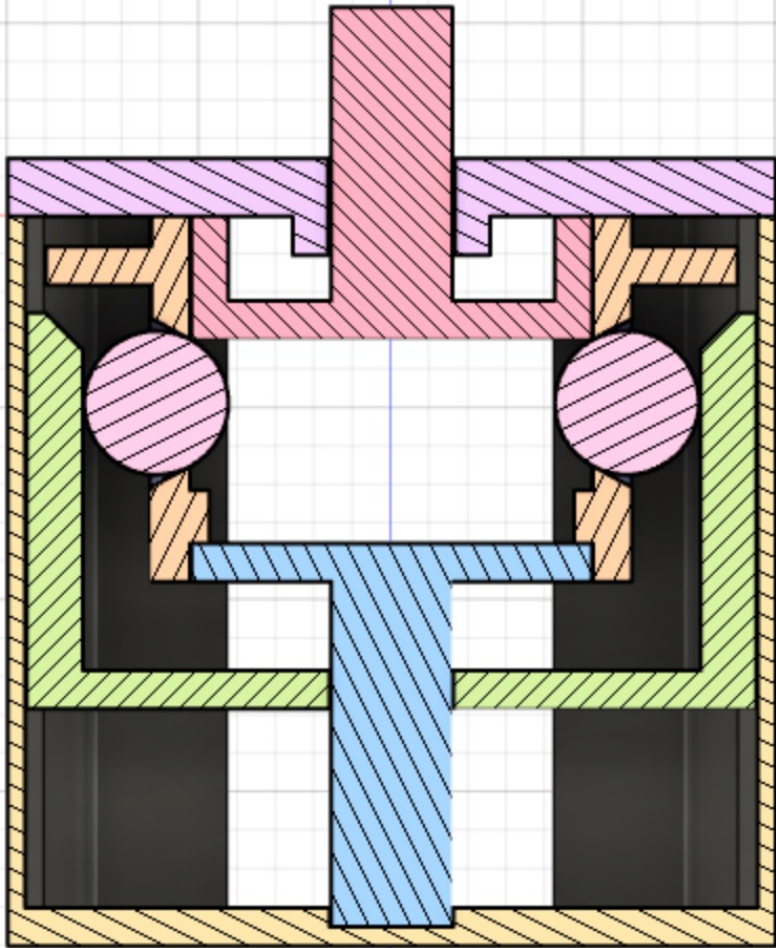
- ◆ Device that holds a load – and then releases the load on command
- ◆ Mechanically simple and extremely reliable
- ◆ Resettable per client requirement



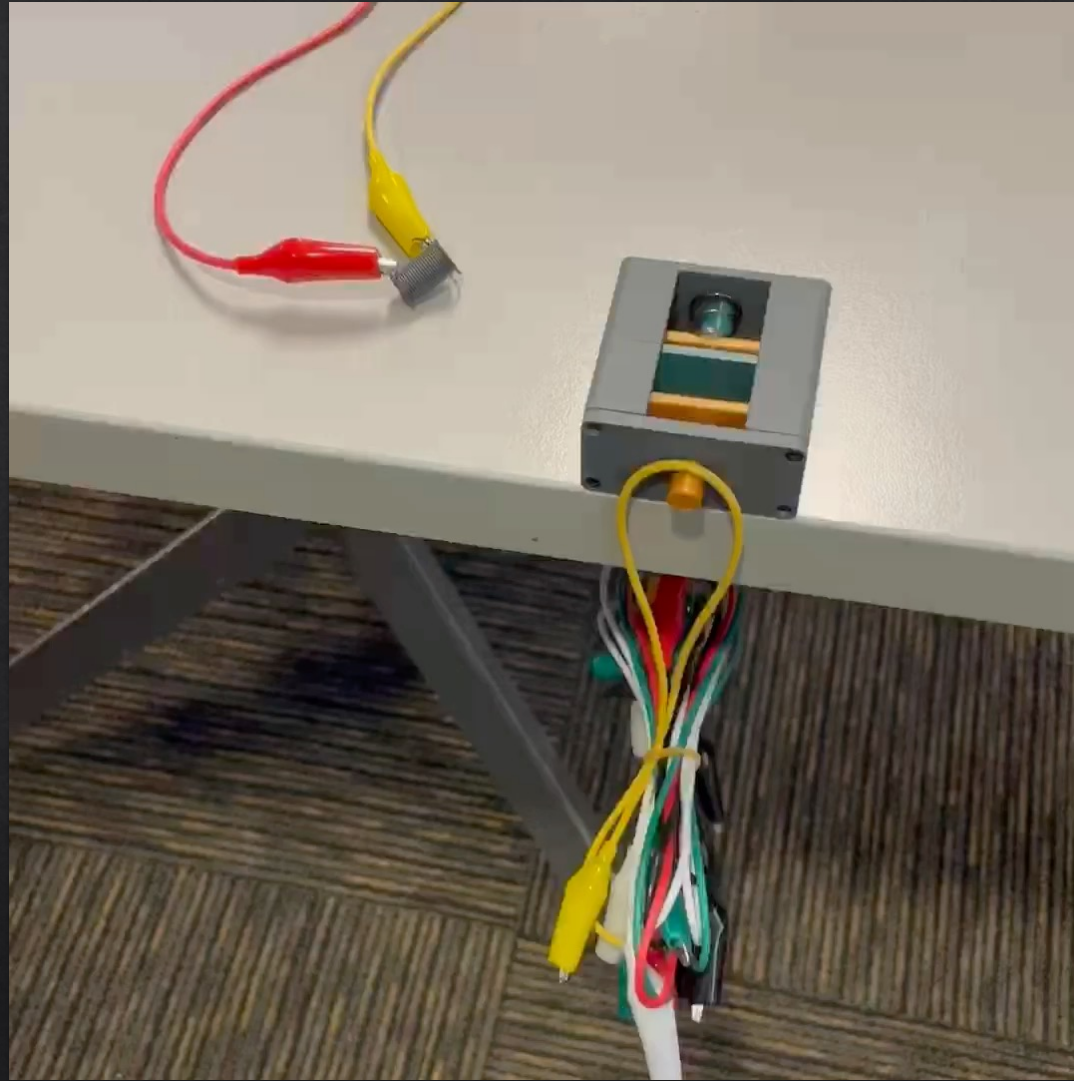
Final Design - Prototype



Final Design - Prototype



Video



Purpose of Prototype

Verified Subsystems:

- ◇ Lock System
- ◇ Pin-puller mechanism
- ◇ Reset method
- ◇ Potential for SMA Spring functionality

What does it not solve?

- ◇ Desired size requirement
- ◇ Actuation through SMA Spring
- ◇ Full system test
- ◇ Friction from 3-D printing

Next Steps

- ◇ Integrate SMA spring into mechanism
- ◇ Continue testing SMA spring for power requirements & behavior
- ◇ Continue decreasing size of assembly
- ◇ Manufacturing of final model
- ◇ Testing

Thank you!