



Prototype Assembly

Victor Guarino – ANL

January 29, 2005

Victor Guarino
HEP-ANL



Purpose of Prototype

- Evaluate the flatness of large extrusions and how this affects the assembly.
- Evaluate the minimum amount of epoxy needed for structural strength and to eliminate bowing of the extrusion.
- Evaluate methods for compressing extrusions together and maintaining required flatness and straightness of plan.
- Cost and design of fixtures needed.
- Time and effort required for assembly.
- Understand methods of applying epoxy
- Understand how the manifold design impacts assembly
- Apply pressure to evaluate how the extrusions perform.



Prototype Setup

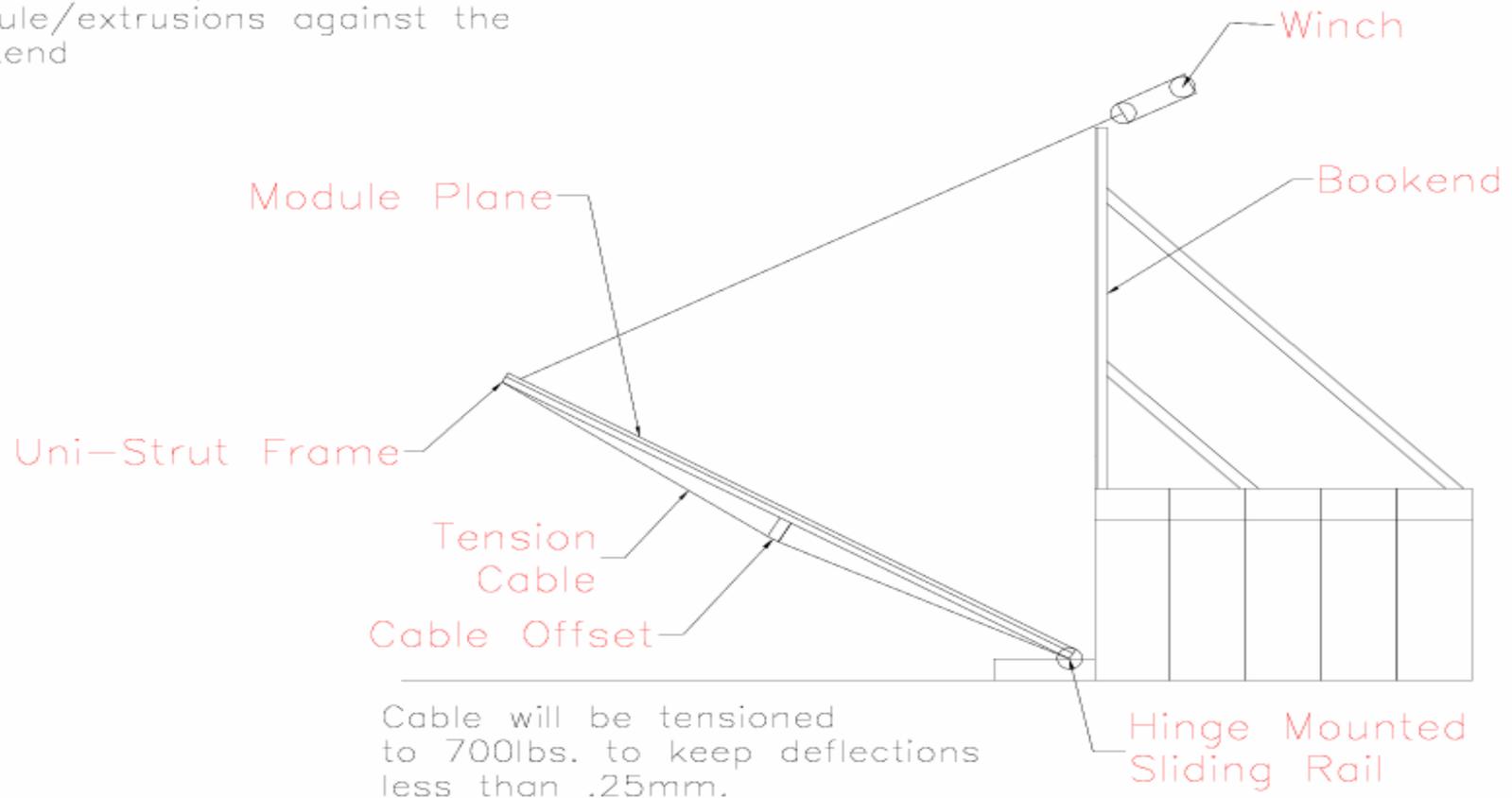
- Uni-strut Frame
- Wire tension eliminates deflection
- Bicycle Tubes used to form compression.



Prototype Setup

Inflatable tube inside uni-strut will press the module/extrusions against the bookend

Bookend will be constructed to a flatness of .25" over the entire 27ft. x 15ft surface



Cable will be tensioned to 700lbs. to keep deflections less than .25mm.

Victor Guarino
HEP-ANL