Pneumatic Frame Clamp

Client: Dr. Schultz and Dr. Hyun

Engineering Specializations: 3 MAE or 2 MAE and 1 ISE/IDM

Objective: Design and build a tool that clamps and holds four wood slats in a rectangular position so that glue and brads can be applied.

Requirements:

* Must be pneumatic activated (unless compelling reason to use alternative energy source).
* Must be adjustable to different sized frames.
* Max frame size is 24” x 24”.
* Min frame size is 6” x 6” (could relax this requirement if necessary).
* Foot pedal to activate clamp.
* Must be able to apply glue to joints before clamping.
* Must be able to shoot brad nails into joints after clamp activated.
* Clamping pressure must be sufficient to seal joint without causing the wooden slat to deflect.