

## Portable structure ingenuity

**A**t this very moment, the Transportable Engineering Night Test Structure (TENTS) could be anywhere. The double-layered tent was developed by Regal Tent Productions Ltd., Stoney Creek, Ont., Canada, in response to Boeing Rotorcraft's need for the proper environment to test the night vision equipment on Chinook and Apache helicopters. The structure deploys virtually anywhere: on a hanger, the tarmac, even an aircraft carrier.

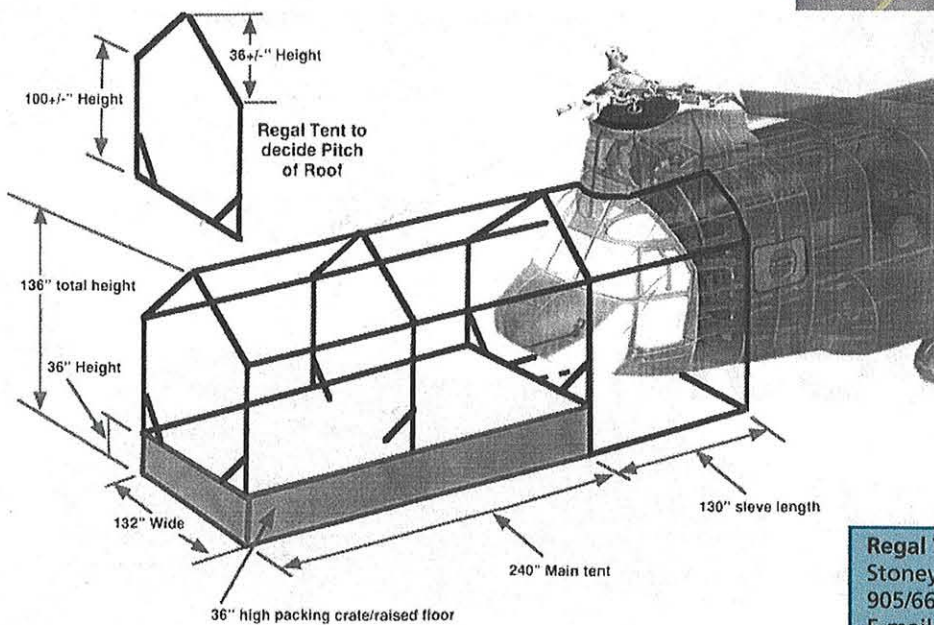
"We have not been informed as to where, when and how the structure is being utilized, only that it has continued to be used and performs beyond the initial expectations," says Gregg Chipman, Regal's sales and marketing manager.

Boeing's old assessment system, which required them to test on a mock panel within the Boeing facility and later make changes to the actual aircraft, was time-consuming and lacked versatility. An ideal system would allow testing and repair to take place on the aircraft itself, in any location. Since the structure would contain a live crew, it needed to be outfitted with HVAC and communications systems. Boeing Flight System Engineers found Regal Tent Productions Ltd. through Regal's Web site and offered the company the chance to bid.

According to Chipman, "We expressed a great deal of interest. However, we chose to ask a variety of qualifying questions and told the client we were unable to give a firm indication of the price, as the project essentially required us to create something that had not previously existed." The risk paid off for the company. "They felt the degree of detail we asked for in our inquiry, and our attitude towards design and innovation, far outweighed the fact that we had very little idea of the final price tag."

Regal created an 11-by-20-by-8 foot A-frame clearspan tent. Standard white opaque blackout vinyl composed the outside skin, while double blackout vinyl made up the interior liner. The structure, with one end removed, rolls up to the aircraft on an aluminum truss understructure until the nose of the aircraft rests inside the tent. A custom sleeve is added to the gable end and married to the fuselage of the aircraft, making a light-tight seal at a point past all flight deck windows. Once the crew enters the flight deck, they are shrouded by total darkness. Testing begins.

Reusable shipping crates allow the structure to be loaded onto a standard CH-47 Chinook helicopter or any larger fixed-wing cargo transportation aircraft. Such innovation marks Regal's continued efforts to embrace challenges. "The search is constant to separate yourself from the competition," Chipman explains. "Innovation, creative design solutions, and working on exciting and challenging projects can only benefit a company. Call it the 'necessity is the mother of invention' complex, call it the corporate version of exploration, or call us nuts!"



**Regal Tent Productions Ltd.**  
 Stoney Creek, Ont., Canada  
 905/664-6173, fax 905/664-4820  
 E-mail [mgm@regaltent.com](mailto:mgm@regaltent.com)  
 Web site [www.regaltent.com](http://www.regaltent.com)