



Scout - Automated Bed Frame Machine

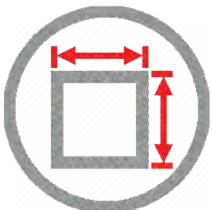
OUTCOME:



20% increase
in product output



50% decrease
in labor cost



Increase in floorspace
and consolidation

Customer Success

Background

Viking Engineering is an industry leading manufacturer of automated bedding, nailing, and pallet equipment. Hartfiel Automation has been a key supplier to Viking for many years.

The Scout is Viking's most accurate, automated bedding machinery on the market today. The Scout staples box springs onto wood frames by utilizing four CNC heads on dual gantries. Utilizing the B&R controls platform, the advanced motion control and fast cycle times at the core of this machine make B&R an excellent fit.



*Viking Scout
Automated Bed Frame Machine*

Challenge

The Scout was designed with the lofty goal of high accuracy and low cycle times. The proposed solution was to use multiple guns operating in tandem to divide the work of stapling a box spring to increase throughput. The frame and box spring would be conveyed into place and then the stapling would begin. Once finished, the product would be conveyed out while the next comes in for a continuous cycle.

A significant challenge in this process would be to identify where the box spring is located relative to the frame. This is especially difficult because the springs are often manufactured with tolerances outside that of the width of a staple. Furthermore, the spring can move slightly throughout the process.



*Let the engineering experts at Hartfiel help you create
the hi-tech equipment you need in today's manufacturing marketplace.*

Scout - Automated Bed Frame Machine

Excellence in creative innovation.

**Case Goodyear
Viking Engineering**

A strong sense of customer partnership
and commitment.

**Ben Hancock
Viking Engineering**



Motion and Control Technology



Sensor Intelligence.

SICK OD1000

Displacement Measurement Sensors

PAC50

Pressure Sensors

NanoScan

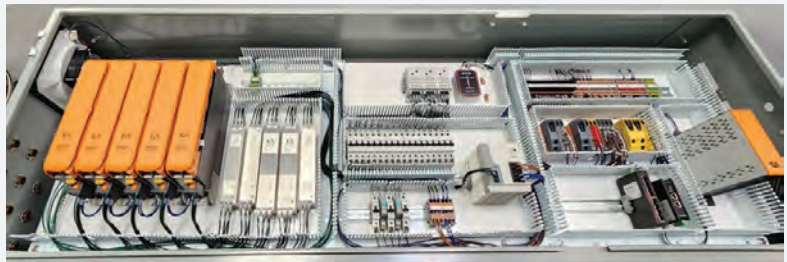
Safety Laser Scanner

Solution

This solution was achieved by developing four independent, 3-axis CNC machines that use shared dual drive gantries.

Each head can operate simultaneously to staple the rows of the box spring. Collision avoidance procedures were developed to allow operation in the same work zone. SICK laser distance scanners were mounted on each side of the staple guns. A custom algorithm was then developed to determine where wires are located from the distance data. These wire locations are passed dynamically to the CNC programs to adjust their planned positions on the fly.

Hartfiel's ATLAS team worked together with Viking engineers to utilize B&R's highly customizable motion and control platform to solve these complex challenges.



Outcome

- 50% labor cost reduction
- 20% increase in product output
- Significantly lowered ergonomic impact of employees
- Increase in manufacturing floorspace and consolidation

The Future

- Integration of multiple automated platforms with single piece product flow
- Automated product handling
- Vision system integration used for quality control
- Applications downstream in manufacturing process

About Hartfiel Automation's Engineering Services

Hartfiel Automation's ATLAS Controls Engineering Team focuses on partnering with customers to achieve success in their equipment design and manufacturing.

Starting with consultation in the selection and specification of components, through on-site training and start-up assistance—our team is committed to providing the engineering support required to create the high-tech equipment of today's manufacturing marketplace.

Hartfiel's ATLAS project approach provides a well-defined road map that gives clarity and provides structure and confidence to the process of migrating to a new, full featured and future-proof platform.

Whether you're looking for some short-term assistance with training or prototyping or outsourcing the programming and start-up of a complete system, we can help.



800.331.7301

| sales@hartfiel.com

| hartfiel.com