Woods Equipment: Batwing Assembly
Process Improvement

Project Objectives:
• Design and implement new layout for 15 ft. Batwing assembly
• Reduce non-value added time by 50%
• Reduce operator travel distances by 50%
• Address ergonomic and safety issues in assembly

Design Tasks:
• Conduct time studies on current assembly process
• Develop Spaghetti diagram and heat map to show excessive operator travel
• Document and improve ergonomic and safety issues
• Create new standard operating procedure
• Develop assembly line layout for Batwing production
• Balance operations for assembly line
• Research new technology for transportation of Batwing on assembly line

Final Design:
• Implemented assembly line layout
• Balanced assembly line operations
• 5S and point of use storage for parts and tools on assembly line
• Proposed new technology for transportation of Batwing
• Kanban and visual management replenishment system
• New material handling system to move the Batwing along the assembly line

Cost Analysis and Results:
• Reduced annual required production time by 25%
• New layout increased throughput by 20%
• Reduction of inventory due to POUS and Kanban replenishment system
• Less ergonomic strain on operators due to new technology and reduced travel

New improved layout with two stations, POUS for tools and Parts, etc.
Spaghetti map shows the unnecessary operator travel in the current layout
Batwing Assembly