

# Heavy Lift Helicopter Manufacturing Line Platforms

SIKORSKY

## SUMMARY

Spika designed and manufactured work platforms to improve the speed of CH-53K helicopter manufacturing. The large stands needed to be lightweight and easy to move and reposition. Extension sliders required a positive lock system, with lights above and below deck indicating status. During the manufacturing phase, change orders were requested and quickly incorporated into existing and new builds.



Sikorsky is an American aircraft manufacturer based in Stratford, Connecticut. It was established by aviation pioneer Igor Sikorsky in 1923 and was among the first companies to manufacture helicopters for civilian and military use. Previously owned by United Technologies Corporation, Sikorsky was sold to Lockheed Martin in 2015.

Sikorsky was expanding its production line for the CH-53K helicopter. The CH-53K has been designed and built to the exacting standards of the U.S. Marine Corps (USMC) to serve as its critical land and sea-based logistics connector. The heavy lifter will

allow the USMC and international militaries to move troops and equipment from ship to shore, and to higher altitude terrain, more quickly and effectively than ever before.

Sikorsky had an original set of work platforms used for aircraft assembly, but they could not tolerate the effort and time required to position the system each time the aircraft had to move. The adjustment of the massive steel structures was too costly.

Design requirements of this project included:



NOTHING IS OUT OF REACH



- The ability to move and reposition the stands with minimal effort
- The ability for an aircraft to enter and exit position without repositioning the work stand
- An electric, positive locking function on movable features, with locking status visible to workers on top of and below the platform
- Cable and hose routing from stand to stand
- Full system powder coat

Spika had a history building successful products for both Sikorsky and Lockheed Martin. The company was ultimately selected for this project because of their expertise in working with aluminum structures, their ability to build a system that conformed to the requirements of the project, and their flexibility to adapt to any changes required through the design reviews.



Sikorsky worked directly with Spika designers throughout the design and review process.

The resulting product met the requirement for a lightweight, easy to move system with retained rigidity in specific locations by employing a combination of aluminum and steel components. The platform utilized an electronic solenoid locking slider system and contained extensive multi-circuit electric service both above and below deck. Warning lights allowed personnel to know when hydraulic pressure or electric power were on. A large jib arm allowed runs of hose and cable to bridge above the aircraft rather than running along the floor.



Spika delivered four units of one system, and two of another. In between deliveries, change orders were requested and the Spika team quickly incorporated them into existing and new builds to ensure Sikorsky received a product that met all their needs. Spika also provided on-site

setup of the systems.

