



Colten Brunenn
Product Manager
Engineer
ALM Positioners

Jack Stephens
Owner
Chesapeake
Yachts

A better boat in half the time.

Colten Brunenn, Product Manager and Engineer at ALM Positioners, said this is how the Chesapeake Yacht project began. *"A few months ago we received a call from Jack Stephens, owner of Chesapeake Yachts. He said he had a crazy idea to build boat hulls using a welding positioner. The specs were 75 foot long, 14 and a half foot wide, plus less than 3/4" deflection over the entire length. We spent about a month on the design and built a 35,000 pound extended vertical travel positioner that has 416,000 inch pounds of rotational torque with six foot of travel on the tail stock for adjustability. The movable tail-stock allows Jack to change the length from boat to boat or move the headstock and tailstock to different elevations to adjust the horizontal alignment."*

Colten asked Jack. *"Before the positioner, how did you assemble the frame for the boat?"* Jack said. *"We built the frame inverted on the shop floor, climbing in and out to do the welding, sliding under the frame on a creeper."* Colten asked. *"Have you visited your competitors? How do they fabricate their frames?"* Jack replied. *"Yes, they do it the same way we used to. Climbing in and out frequently on their backs on a creeper."* Jack said. *"This boat, using the positioner, is about 3,000 man hours to complete. The first boat we built like this on the ground took 6,000."*



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Jack said. *"The positioner has been really good. It's been surprising to me how much better it has made everything...weld quality. The guys work so much better than they did. They were so tired and ready to quit at three o'clock in the afternoon. Now, we've been here until 5 and 6 o'clock and don't realize what time it is. It's really better. The boat is 64 feet by 16 feet wide and it is about 20,000 pounds on top of the cradle. The cradle itself weighs about 13,800 pounds. The deflection of the center on the cradle is about fifteen sixteenths with no load on the cradle. Once the boat is framed it isn't going anywhere the deflection goes away. When we put the cradle beams together we lasered the beams and one end was out only ten thousandths. At 70 feet that wasn't too bad. The engineering was done correctly that's for sure."*

Colten commented on a later conversation with Jack. *"I just talked to Jack and he said that the best testimonial to the weld quality was that they just passed the Coast Guard inspection with flying colors." Jack said, "Inspections are much easier, to be able to rotate the boat directly to the ground. They do not have to climb inside with flashlights to do the inspections. The Coast Guard loves coming over here. A few weeks ago they brought some cadets from the Coast Guard Academy engineering group to view the construction and they were definitely impressed."*

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8080 Centennial Expressway
Rock Island, IL 61201-7316
sales@almmh.com