Trinity seizes the day

Trinity Yachts of Gulfport, Mississippi, has delivered Carpe Diem. Kenny Wooton spoke to her proud owner about his close collaboration with the yard to create their latest semi-displacement hull form, and looks at an interior that makes the most of the added volume.

When a new-build project starts pushing 60m and beyond, aluminium and GRP generally turn to steel, and displacement speeds are the rule. Even with aluminium hulls that size, options for exceeding displacement speeds can require Herculean horsepower and rail cars of fuel to run.

About six years ago, Trinity Yachts received an inquiry from an owner requesting a yacht with interior volume greater than 500gt, that would comply with ABS and MCA rules, would have a maximum draught of 2.43m, would provide transatlantic range and would have a top speed greater than 20kn. The yard, which builds both full-custom and series motoryachts mainly of aluminium, sent its team to the drawing board and came up with a new semi-displacement hull form it has applied to four new yachts for repeat clients ranging from 57m to 60.3m. The latest to deliver is the 58.2m Carpe Diem.

In 2003, a client approached them interested in a larger yacht, driven by water jets, capable of speeds over 20kn. The company had wanted to develop a hull that significantly exceeded the 500gt mark. They designed a series of hulls around a 33.5ft (10.21m) beam and decided to investigate several hull forms. They had an external design group give them two different schemes, one having a hard chine and the other a rolled bilge. They had their own opinions about it, but decided to verify the designs with model testing. The model basin tested with many different displacements and speeds. They were able to achieve 30kn with both. That project died, but the basic concept remained active.

In 2005, an existing Trinity owner came along wanting a yacht with similar features - greater volume, shallow draught for the Bahamas, transatlantic range and 20kn-plus top speed, etc.

"When the first guy came to us, we started from a blank sheet of paper," said the company’s Vice-President Billy Smith. "And then the other guys talked to us and we said, ‘We’ve got this design. Let’s see if we can incorporate your ideas into this hull’.

CARPE DIEM | HULL T047
SPECIFICATION

<table>
<thead>
<tr>
<th>Builder: Trinity Yachts</th>
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<tbody>
<tr>
<td>LOA: 58.2m</td>
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<tr>
<td>LWL: 52.1m</td>
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<td>Moulded beam: 10.21m</td>
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<td>Draught (maximum): 2.43m</td>
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<td>Main engines: x2CAT 3516C 2,532kW</td>
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<td>Hull: Aluminium</td>
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<tr>
<td>Superstructure: Aluminium</td>
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<td>Displacement (full load): 557 tonnes</td>
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<tr>
<td>Naval architect: Trinity Yachts</td>
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<tr>
<td>Interior styling: Carol Williamson &amp; Associates</td>
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<tr>
<td>Classification: ABS A1 Commercial Yachting Service AMS. MCA compliant</td>
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Three more orders followed, including *Carpe Diem*. The original changed hands during construction and was launched last year as *Mi Sueña*. *Carpe Diem* was delivered in March. The third, now *Arete*, also changed hands during construction and is in the final stages of fitting out. The fourth, *Lady Linda*, is that owner's third Trinity and will be delivered next year.

While each of the four hulls retain the same basic design parameters, each is customised to its owner's specifications. One wanted a garage, and two wanted touch-and-go helicopter capability. One opted to not go for a fifth guest stateroom. Two have forward facing windows in the master suite, and two don't.

"All four are totally different in layout and exterior styling," said Smith, "yet all four were ordered by clients that had our 28ft (8.5m) beam semi-displacement designs. They wanted to keep the benefits of that design, but with more interior volume."

*Carpe Diem* is the owner's second Trinity. He bought the new yacht's 2002 50m series predecessor (now *Carpe Diem II*) on the brokerage market and has used her intensively. She is for sale, but he still plans to use her this season on the US east coast, while cruising the new boat in the Mediterranean.

The decision to go with a semi-displacement hull over full displacement was pegged to the original customer's requirements of speed, volume, draught and range. "We did it as an in-house R&D project with design parameters from the prospect," said Phil Nuss, Trinity Yachts' Vice-President – Engineering. "We wanted the design to be a bit more flexible for the future. We decided to go with the more efficient rolled-bilge hull, which had a 39ft (9.75m) moulded beam [measured inside the hull] and developed what the customer wanted. He wanted props instead of jets, so we designed it for props."

They made those changes without further model testing. "We took that hull and started out at 180ft [54.6m], then tweaked it for additional customers, who wanted to go slightly bigger," said Nuss. "We kept the moulded hull structural depth at 14.6ft, whereas our old 50m, 8.5m-beam boats were 19.9ft (4.2m). That gave us a little extra space for engine room headroom, guest headroom, piping installation, etc.

"We did the calculations and put in 3516s [Caterpillar diesels] and we had a 20kn boat based on the model test data. We found we had a lot of inherent design stability in the hull. That was good because we found the typical owner putting more and more tenders and toys and heavier things up top. Since we were over 500gt, they could include enclosed flybridges, huge hot tubs, and things like that without us worrying about stability or tonnage issues."

At first, Nuss said, all four hulls were going to be identical. But as they got into the projects, the lengths grew and in one case, draught increased by 30 inches (0.76m) to accommodate
a submarine. To eliminate issues with chine slapping at anchor, they brought the spray rail back to about midships, a foot above the waterline, and faded it out. The new hulls feature a longer skeg to aid directional stability.

One primary goal with the series was to make the contract speed without using exotic propulsion systems such as water jets, triple engines or fuel-thirsty horsepower. "If [an owner] said: 'Look, I want more than 20kn dead. Period,' then we're probably going to stay away from a displacement hull and stick to semidisplacement and get the beam-to-length ratio and the horsepower to give us what he wants," Nuss said. "The biggest I'd be comfortable going is probably no more than 250ft (76.2m)."

The hull the engineering team settled on for the series hits its speed targets using twin Caterpillar 3516C HPs at 2,523 kW each. According to Carpe Diem's captain, his yacht will consume 40.2 gallons per hour at 10kn with a range of 4,361 nautical miles. At 18.5kn, fuel consumption is 237.4gph with a range of 1,732nm. At 20.6kn, with trial load, the package burns 319.4gph and provides 1,437nm.

With this series, the yard decided to keep the engine rooms simple and avoid exotic powerplants. The main difference between them is the size of the generators. One has 235kW generators and other three are 280kW.

Contrary to some perceptions, the cost to build a steel displacement yacht the same LOA as Carpe Diem can be similar owing to factors such as the additional prep cost steel carries and the larger engines needed to reach the speeds Carpe Diem and her sisters produce. Using most of the existing hull design and engineering developed for the new series offered clients more than a million dollars in savings over a full-custom boat, Smith said. To avoid the spectre of rolling at anchor with a shallow, soft-chine boat, Trinity engineers worked closely with Quantum on a zero-speed, two-fin system positioned amidships that addresses the issue, while not adversely affecting steering under way.

Other design challenges the builder faced with the series were windows. "The challenge is how to have all these big windows and still meet the strength requirements for ABS, and for just a practical boat that works," Nuss explained. "You’ve got a forward owner’s suite, which is just above the top foredeck, and then you have the pilothouse above that, and all that area under the pilothouse is windows. And then you have all the side decks.

"You’ve got a lot more flexibility in the interior design just due to the ship's additional volume."
CLOCKWISE FROM TOP LEFT: DINING SALON, MASTER BATHROOM, FOYER & ENTRANCE, MASTER SALON AND SKYLounge BAR
There's nothing but windows on the main deck. Everybody wants to minimise structure and maximise viewing area, but you've still got to work the loads in. We've been going to strengthened glass. With this vessel, we've eliminated storm shutters. You have to increase your strength 30 per cent in order to be able to eliminate storm shutters.

With their additional draughts and moulded hull depth, displacement hulls of similar LOA and beam generally have considerably more internal volume. Trinity's 60m steel displacement Bacarella, for instance, delivered last year, measures 1,052gt, versus Carpe Diem's 749. As with many displacement boats, though, much of the additional volume is contained on her tank deck below the engine room, guest areas and crew quarters. Still, even with Bacarella's wider beam, the two have a similar number of finished square metres devoted to guests and crew. There are 510.5 on Bacarella, versus 494.2 on Carpe Diem. Bacarella's draught – 3.5m – while providing greater overall internal volume, would prevent her from cruising most places in the Bahamas, a key element of the design brief for the four yachts in the Carpe Diem series.

Carpe Diem II was a five-stateroom boat with berths for nine crew. Her replacement has six staterooms and accommodations for 12 crew, indicative of the substantial additional interior volume she carries. The old boat measured 446gt. The new boat, as noted, measured 749. "You've got a lot more flexibility in the interior design just due to the ship's additional volume," said Smith. "Aside from the additional beam, the owners appreciate the added headroom. It gave us more flexibility in building the boat and it gave Carol [Williamson] more flexibility in how she was laying out the rooms. With the increased headroom, you can scale up the furniture somewhat." The additional space also accommodated space between decks for wiring, duct work and design features, such as garages.

Williamson's interior is a contemporary amalgam evocative of an urban boutique hotel. "The owner requested a modern interior with an understated French deco influence," she said. "The ultimate goal was to create an elegant, but inviting environment. The subtle use of stepped ceiling softs, understated panelled, ebonised doors with polished nickel deco hardware and select pieces of vintage Parisian deco furniture and lighting complete the blend of modern and deco detailing. Continuity throughout the spaces was key to creating a modern, clean-lined look throughout the yacht.

*Story continued on page 62*
The owner

Carpe Diem is the owner's second Trinity. He participated in the build and design at every step along the way, meeting regularly with the Trinity team, the interior designer and many of the vendors and craftsmen. The project took considerably longer than projected, but in the end, he got it his way.

**TSR:** Many owners stay in regular contact with the design and build team and visit the yard several times during a yacht’s construction, but it seems you had your hands in the process more than most.

**Owner:** We’re very, very detail oriented. I personally drove to Brooklyn and out to Long Island in the rain and the snow. We sent people over to Carrara, Italy, just to find stuff and look at stuff and pull things out. We were on site every few weeks having meetings with all the Trinity executives and we spoke to them at least once or twice a week. We were also involved with the major contractors such as Zepsa Industries of North Carolina, who did the joinery. I went to Zepsa on a couple of occasions and worked closely with Peter Zepsa and his father, Ed. We continued to work with them on everything from the selection of the wood, where it would come from, the curing process – we really got into very minute details. We spoke to people who had had other Trinity yachts and tried to locate what potential problems they’d had – minor things where some saltwater had come in and may expose something to potential corrosion.

**TSR:** You have some specific needs and places you’d like to cruise that made you interested in a semi-displacement boat over full displacement. Carpe Diem has a relatively shallow draught for a yacht her size.

**Owner:** Correct. For instance, we had a christening party in Nassau at Atlantis, and then the yacht went cruising in the Bahamas. That just wouldn’t be possible with a full-displacement hull.

**TSR:** The day we arrived at Trinity for a yard visit was the day of your owner trial. I recall it was a pretty nasty day. How did the trial go?

**Owner:** I think it was five-thirty or six in the morning. John Dane, president of Trinity, met me. I believe we were in six, eight, 10ft waves. It was pretty rough out there. We were having the time of our lives because we couldn’t believe the boat ran so well. Then Billy in this terrible, terrible storm, had to follow us in a 43ft (13.10m) RIB with no radar and he was having trouble keeping up with us.
After the trial, he got us off, which was not an easy thing at all. He, John and I went back to the yard. John and Billy thought they'd fractured their spines by the time we got home. They looked at me and said, "Are you happy now?"

TSR: Were you?

Owner: I was. We really had a fun time; that's really how involved it got. I mean, listen: you don't want to go out in bad weather, but when we saw the forecast, I had a discussion with the captain and the Trinity guys, and I said: "Look, take it out of there. Let's beat the hell out of it. How else are we going to know if this thing is really built the way we want it?"

There were a few hatch locks or something that broke, but that was pretty much it. The way it rode that day was really great. It was such a clean, smooth ride. We had water coming up on the windshield, but the boat was ploughing through. I don't know if 'ploughing' is really the right word. It was just gliding. It drove so well and we were moving at over 20knots.

TSR: The interior design by Carol Williamson is spectacular. What was your brief to her?

Owner: There are many, many yachts out there -- in fact I would say the majority -- that have that very heavy look of the interior of a traditional colonial house or an English manor: very heavy and over the top. We really wanted to make this clean art deco.

TSR: What are you unhappy with, either a decision you made or some execution or feature that didn't make it into the final product, or something that just didn't meet your expectations?

Owner: You know what? I was unhappy about the foyer, specifically, the headroom. There was nothing wrong with it, but you know, as these boats come together it's really not until the last end that you see whether everything works. What was daunting and what really caused some aggravation was the time. It took much longer than we thought it would, but we came to an agreement (with Trinity). We decided we'd just put all the contracts aside and build the best of the best and get it done, and that's it.

I know we drove Trinity crazy, but they did a terrific job. I'm confident that Billy will tell you that more hours went into this yacht than anything they've ever built.
"I know we drove Trinity crazy, but they did a terrific job. I’m confident that Billy will tell you that more hours went into this yacht than anything they’ve ever built."

The guest staterooms are rich in the use of velvets, sateen accents and silks, which create complex textural plays of iridescent sheen and warm depth of colour. Each stateroom is complemented by beautifully detailed baths with ebonised cherry and Macassar ebony casework, with exquisite stone counters, floors and showers. The owner’s stateroom features elegant French diamond-tufted upholstered walls in platinum grey sateen that create a dramatic backdrop to the scalloped, ebonised built-in furniture that features custom nickel inlay and custom mother of pearl and nickel pulls.

The wall panels are Macassar ebony with ebonised cherry trim and doors. The staterooms are a combination of those woods with the addition of upholstered fabric panels. Mozambique was used in the galley and pilothouse with the ebonised cherry accents. The stonework on the yacht includes light crystal onyx, Calcutta marble and light Italian marble, among others.

Except for the vintage deco pieces, most of the freestanding furniture was designed by Williamson’s company and fabricated by Durante Furniture of Vancouver, British Columbia. “The owner requested the use of upholstery fabrics on the furniture that play with light,” said Williamson. “To achieve that, we utilised velvets that were constructed with fibres that ranged from wool mohair, camel hair velvet, French silk velvets and matte cotton velvets. Iridescent accent fabrics such as silks, sateens and opalescent leathers complete this effect.”

Changed orders, delays on interior outfitting and completion and production rescheduling added a number of months to the original delivery time, but, by all accounts, the owner is happy with what the yard produced, particularly her performance.

The owner’s trial was conducted in the Gulf of Mexico on a winter morning that featured a passing front that produced 2m to 3m seas, and wind gusts up to 60kn. In those conditions, the yacht achieved her 20kn contract speed. “It certainly gave the owner a lot more confidence in his boat,” said Smith. “It wasn’t until he got onto the RIB that he said, ‘Holy s**t; this is crazy out here. Are you sure it’s safe for us to go in?’ I told him yes, we were going in. We made it in time for lunch. That was a ride he’ll never forget.”

Images: Jim Raycroft and Trinity Yachts

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