



'Sea Scout'

Teknicraft Design's first quad propeller catamaran research vessel

All American Marine has delivered a catamaran research vessel featuring quad propeller propulsion to C & C Technologies. The 40.7 metre by 11.2 metre aluminum vessel was custom designed by Teknicraft Design to significantly increase C & C's surveying capabilities.

'Sea Scout's' design marks a shift for C & C, which typically operates steel monohull vessels. Commissioning a high performance and versatile catamaran design made the most sense for accomplishing C & C's diverse multi-mission requirements.

Getting to the site quickly means more time on the job and fewer trips offshore. In addition, the catamaran design offers great seakeeping ability which allows the survey team to operate in all kinds of weather.

The vision for the revolutionary survey catamaran began in 2008, when C & C Technologies vice president, Scott Croft, toured the 25 metre 'R/V Manta'. Croft envisioned that a properly designed catamaran hull would optimise C & C's capabilities for deep and shallow water oceanographic survey, geophysical research, seismic survey, and Autonomous Underwater Vehicle operations.

"The challenge was to design a vessel that would run at high speeds and over long distances to reach the project site, but also a vessel that would be efficient spending a long time on low power and low speed during surveying work," said Nic de Waal of Teknicraft Design, the naval architect behind 'Sea Scout'.

To meet this challenge, 'Sea Scout's' two engine rooms are each equipped with a C32 ACERT 1,194kW diesel engine, a C18 ACERT 412kW diesel engine and a C6.6 170 kW generator, all supplied by Caterpillar. The vessel can travel to a work site on all four engines at a cruising speed of 26 knots.

At the job site it runs on the two smaller engines coupled to ZF Marine gears with trolling valves to provide an economical speed range from four to 11 knots. For long range capabilities, the vessel has a fuel tank capacity of approximately 25,000 litres, plus two reserve tanks provide an additional capacity of 16,700 litres. Ballast tanks are located fore and aft to ensure optimal trim in various loading conditions.

The vessel is certified under ABS international load line standards and contains a certificate of inspection under

USCG subchapter "T" regulations. 'Sea Scout' was built to be SOLAS compliant and may be deployed internationally. The wide and open aft deck is completely reconfigurable depending on the mission.

The deck was reinforced to accommodate an equipment load of over 36,000kg, inclusive of two 6.1 metre van containers that are utilised for AUV operations.

Inside, the main deck and foc'sles are dedicated to crew accommodations, which comprise a commercial galley, walk-in cooler, lounge, fitness facility, laundry room, four heads, and 12 staterooms with a sleeping complement of 26 berths.

The 01 deck encompasses the survey lab, server room, and data processing office. The pilot house is on a raised mezzanine level to provide 360 degree visibility, while maintaining a profile with low wind resistance.

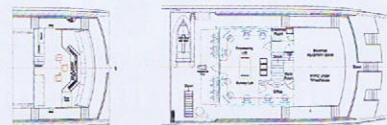
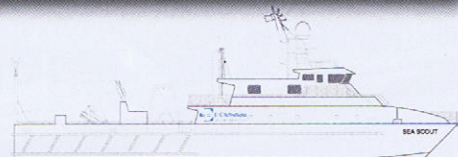
'Sea Scout's' decks are complemented with a 6,350kg stern A-frame, a 4,536kg side A-frame, 4.9 metre Zodiac skiff, 4,536kg hydraulic crane, and various mechanical and scientific winches.

'Sea Scout' carries a Kongsberg High Precision Acoustic Positioning system (HiPAP) for 3D tracking of underwater objects, a Kongsberg Hugin AUV, and has two transducer pods integrated into the hulls. The main deployable sonar strut is located aft of the superstructure and deploys through a large moon pool located on centreline.

Two additional struts are located in the sponsons and deploy through 43 centimetre watertight valves in the hulls. Croft noted, "We were able to put our own twist on the design and the builder was instrumental in helping us pull all the components together. They understand vessels, their client's needs, and how to properly integrate research and survey gear."

Teknicraft Design is a New Zealand registered company based in Auckland that supplies vessel designs to clients worldwide. Teknicraft's design experience includes custom monohulls, displacement multi-hulled vessels, and high speed catamarans with hydrofoil supportive systems.

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'Sea Scout'

SPECIFICATIONS

Type of vessel:	Catamaran Research vessel
In survey to:	SOLAS, ABS, USCG
Home port:	New Iberia, USA
Owner:	C & C Technologies, USA
Designer:	Teknicraft Design, NZ
CAD software:	Maxsurf, Australia
Builder:	All American Marine, USA
Construction material:	Aluminium
Length overall:	40.7 metres
Length waterline:	37.6 metres
Beam:	10.8 metres
Draught:	2 metres
Tonnage:	97 GRT (USCG), 419 GRT (INT)
Deadweight:	65 tonnes
Main engines:	2x Caterpillar C32, 1194kW/2300
Survey engines:	2x Caterpillar C18, 412kW/2100
Gearbox:	4x ZF
Propulsion:	4x ZF FP Propeller
Generators:	2x Caterpillar C6.6
Maximum speed:	26 knots
Cruising speed:	22 kn @ 80% MCR
Range:	3,800 nautical miles
Radar:	Furuno
Depth sounder:	Furuno
Sonar:	Kongsberg
Cranes:	Morgan
Windows:	Diamond/Seaglare
Interior fitout/furnishings:	Ayres
Deck cargo capacity:	40 tonnes
Fuel capacity:	42,000 litres
Freshwater capacity:	14,000 litres
Crew:	4
Berths:	26
Operational area:	Gulf of Mexico
Date of delivery:	Apr-12

