

HIGH-SPEED FERRIES

'PATROL ONE'

New Mauritian yard launches impressive high-speed passenger vessel/patrol boat



'Patrol One' is a motor yacht undertaking charter operations between Mauritius and the Cargados Carajos Shoals (also known as Saint Brandon Rocks) in the Indian Ocean – 250 nautical miles of open ocean.

She is configured as a two-deck, wavepiercer trimaran, offering a large external cockpit, an adjacent galley and dinette and a bridge area capable of seating a pilot and seven passengers in an aircraft-style, "one plus one" seating arrangement. Sleeping accommodation for eight persons is provided in three double cabins plus a twin bunk arrangement.

Craig Loomes Design Group (CLD) of New Zealand not only designed the vessel but also undertook to establish a build yard in Mauritius, Diogene Marine, with an on-site New Zealand management team. CLD was also responsible for sourcing and shipping all materials, components and systems used during the build from within New Zealand.

The yard was specifically set up to build commercial wave-piercing trimaran passenger and fast cargo ferries, which would service routes around the world that regularly experience sea conditions that would keep other more conventional fast ferries in port, thus making the service economically unviable. Of particular significance to Mauritius is the open ocean route from Mauritius to Reunion Island, approximately 110 nautical miles.

'Patrol One' was built, equipped and finished to pleasure yacht standards. The construction medium is E-glass, epoxy, foam-cored sandwich composite, utilising stitched E-glass reinforcement materials,

epoxy resins and both linear and cross-linked PVC foam cores. Carbon fibre reinforcement is used extensively in stiffness-critical areas.

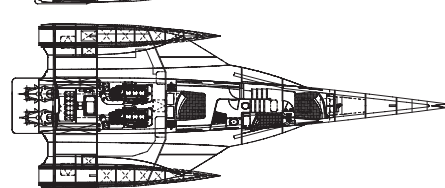
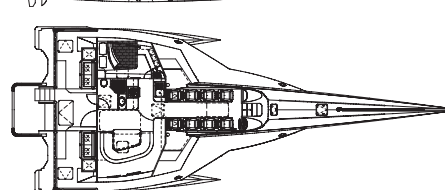
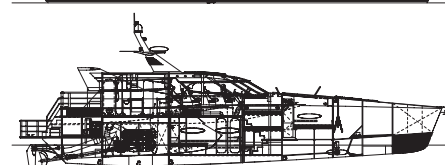
The form of the craft is relatively novel and intended to maximise passenger comfort at high speeds in rough water. The central hull is designed for wave piercing, rather than pitching, rising and falling over oncoming waves. A seawater ballast tank is fitted in the centre hull bow to be used as required when heading into the sea.

'Patrol One' has met all the expectations of its owner, designer and builder, with impressive results on sea trials. "I recently completed some proving runs on the Craig Loomes-designed, 23-metre wavepiercer trimaran built by Diogene Marine in Mauritius," commented Mike Watson, one of the team of four New Zealanders that was involved in a training and supervisory role in the construction of the vessel.

"Our first passage involved a 260 nautical mile journey in open ocean between the islands of Mauritius and St. Brandon, and we left with the boat fully loaded with fuel, water, provisions and crew. The vessel averaged 20 knots in sea conditions that varied between 2.0 and 3.5 metres. Testimony to the boat's ride qualities is the fact that apart from the on-watch crew, all passengers slept comfortably, despite the boat maintaining a relatively high speed in moderate seas.

"The Seafury surface drives performed perfectly, propelling the boat to a sprint speed of over 30 knots, but also allowing slower passage, making speeds of just 15 knots when required. Manoeuvrability is excellent – the autopilot handles the helming duties at speed in the rough without problem and although one of the negatives often attributed to surface drives is poor backing performance, reversing of the boat is good – as would be expected of a shaft-driven boat."

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'Patrol One'

SPECIFICATIONS

Type of vessel:	Passenger vessel
Designer:	Craig Loomes Design Group, New Zealand
Builder:	Diogene Marine, Mauritius
Length overall:	22.4 metres
Length on waterline:	19.9 metres
Main hull beam:	2.5 metres
Overall beam:	8.3 metres
Nominal draught:	1.4 metres
Nominal displacement (light):	21 tonnes
Construction material:	FRP
Main engines:	2 x Caterpillar C18 diesel engines, 750kW at 2,300rpm
Gearbox:	ZF 550A, 2:1
Propulsion:	2 x Seafury SF36 surface drives
Bow thruster:	24V Sidepower SP220TC
Maximum speed:	32 knots
Cruise speed:	28 knots
Navigation electronics:	24-mile radar with closed array scanner; GPS chart plotter; Colour sounder; Autopilot
Liferaft:	8-man RFD liferaft
Paints/coatings:	International Paints
Fuel capacity:	6,600 litres
Freshwater capacity:	1,000 litres