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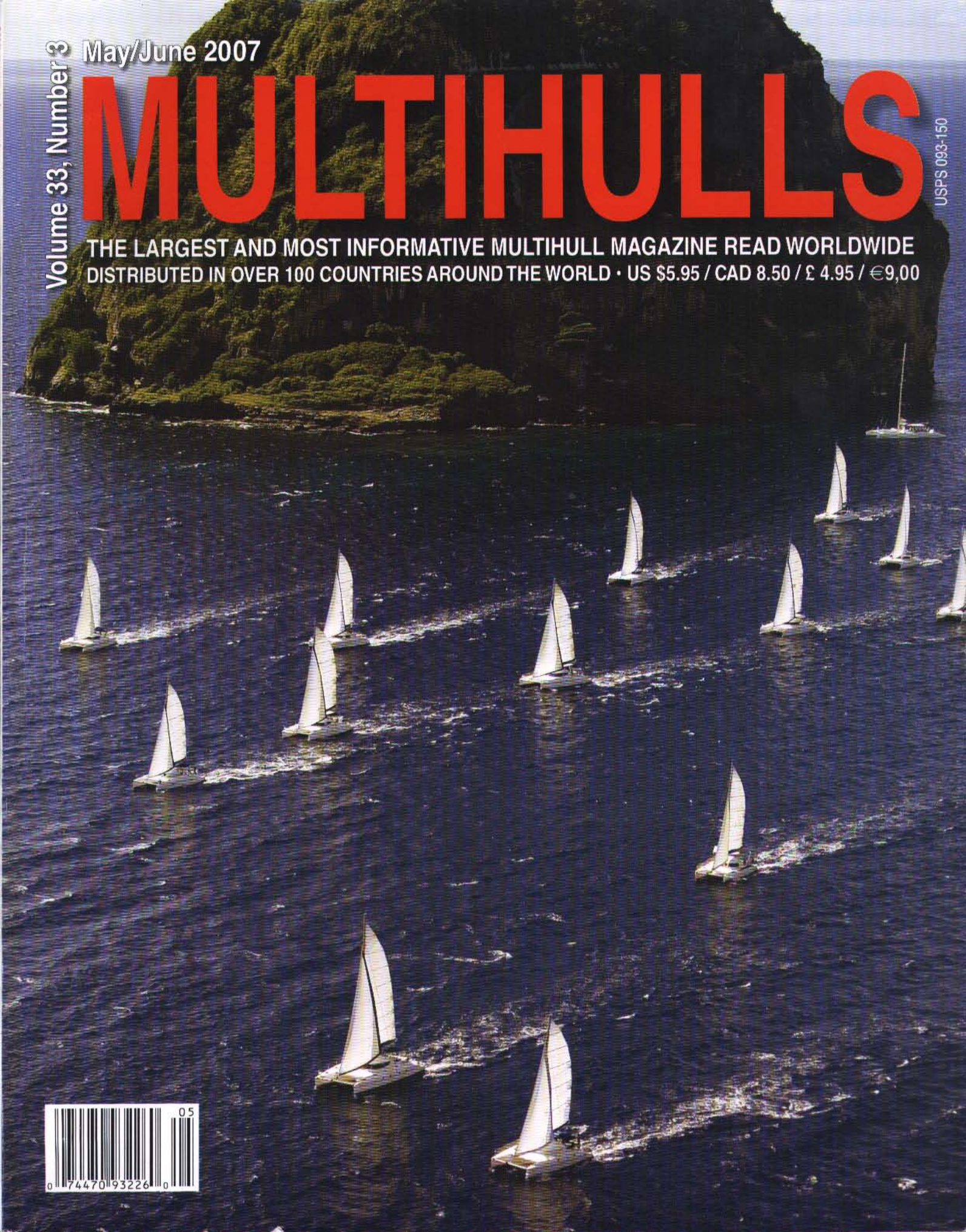

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Charles K. Chiodi

Electric Multihulls

Electric propulsion for watercraft is not new, but so far it was either used on a large scale for submarines, or inefficiently on small boats, like runabouts and fishing skiffs. The time has come to give an alternative to the diesel engine, and a good one at that! With fuel prices constantly climbing, oil companies making criminally high profits, and the environment suffering from exhaust fumes – electric cars and boats are beginning to look better and better by the day.

There are two theories for using electricity, neither proven to be the ultimate solution just yet.

In 2002 I tested Solomon Technology System's twin ST 74 (Solomon Technology #74) electric motors, each rated at 12 HP, powered by a bank of 10 large (and very heavy) batteries. The two motors were quieter (63 DB) when motoring than the wind in the sails (73 DB) when sailing. As long as *Split Second* (a Conser 47 catamaran) was sailing faster than 5 knots, the free-wheeling propellers regenerated electricity and fed the batteries. The boat would lose about 1-1.25 knot of speed because of propeller drag. An auxiliary generator of 10 KW was a backup electrical source for windless days. The installation cost was $4370 higher and 100 lbs lighter than equivalent diesel power. Depending on the amount of use and the cost of fuel, that $ difference may be recouped in a short time. (See "DCV or Diesel?" in MULTIHULLS July/Aug. 2002 issue, page 65-67.)

Five years later after the Miami Boat Show, at the end of February of this year, I went out on a 43' Leopard catamaran equipped with twin OSSA Powerlite systems. The difference between this and the Solomon system is in the power generation. An OSSA Powerlite 25 KW DC generator uses an advanced CRI (common-rail injection) diesel engine to provide the electricity to the driving motors. Unlike the Solomon system, the propellers are not recharging the batteries, therefore the CRI has to be always "on" when motoring. So then what is the "big deal" about the electric drives?

For one, they are more efficient. The generator has variable speed controlled by computers to match the power load on the fly. It runs as fast as it is needed to produce the required power at any given moment. Other generators run at a constant speed using much more fuel than necessary. The OSSA Powerlite is produced by Glacier Bay, Inc. (not to be confused with Glacier Bay Catamarans) in collaboration with Mercedes.

More information on diesel-electric propulsion will appear in a future article.