

Electric Paddle Provides a Lightweight Push

Pactical Sailor recently tested the Electric Paddle—a pre-production unit built by Propele Electric Boat Motors (www.electricpaddle.com). This mini-outboard motor represents the lower thrust end of the electric propulsion scale. It comprises an electric motor with a drive train in a small upper unit that sends torque to a lower unit that spins a high-aspect ratio two-bladed prop.

A large, high-molecular-weight plastic drive gear is directly attached to the prop, which is a slow-turning, large-diameter, aircraft-like propeller. Water floods the drive components and acts as the lubricant. The resulting thrust is modest but enough to accelerate a kayak, canoe, efficient dinghy, or small sailboat at a 2- to 3-knot clip. We found that three-knot bursts were possible, but after five minutes of such romping, the voltage began to drop, slowly diminishing the boat speed as well. Settling for 2 knots, the unit pushed a kayak along for two hours worth of sightseeing.

The fuel tank is a 24 V/10 Ah waterproof NiMH battery in a nylon bag that sits on the stern seat or straps to the engine bracket. It's easy to connect the battery to the motor via a short supply cable. The throttle is part of the handle grip, and a simple twist controls the current sent to the motor.

Underway, the Electric Paddle is noisier than the Torqeedo because its drive train and motor are above water, not submerged as they are in the Torqeedo. The high-aspect ratio, slow-turning prop loves flat calm conditions, but any pitching motion caused by chop or a boat wake decreases performance. The engine can be rotated to deliver reverse, but this is rarely needed. We found the unit to be a handy aid aboard a kayak being used for photography or for those simply looking to lower the paddle for a while. The unit lacked enough power to be much use in breezy, choppy conditions, but if you are interested in mostly flat-water propulsion, the Electric Paddle is worth a look.

Joe Grez, the inventor of the Electric Paddle and president of the company, is a physicist with a fascination for efficient hull shapes driven by electric power. He has already upgraded the unit we tested. The Electric Paddle represents the minimalist side of electric propulsion and is a viable choice for those with small, efficient boats who are looking for just a little boost when it comes time to cope with a calm sea.



The Electric Paddle had several features that stood out during testing, clockwise from top: The lightweight motor was able to propel our small dinghy at a 2- to 3-knot clip in calm water; the thin, high aspect ratio propeller loved flat calm conditions but performance dropped in a chop; the battery and cables fit in a rugged bag that took up very little space; the motor was very light and easy to carry.