



BREAKING THE 50-KNOT BARRIER

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The technology is here now. Combining the ingredients to make a perfect stew is all that remains

The sailing speed world record of 46.52 knots set by the wing-sail three-point planing proa, *Yellow Pages*, has now stood for five years. Although the 50-knot barrier has been elusive, it could be broken this year, because the same group behind *Yellow Pages* is back in business—with a vengeance.

Skipper Simon McKeon and designer Lindsay Cunningham have a new, vastly advanced speed-sailing craft that they hope will shatter their 1993 record.

Only a few years ago, boats had a very difficult time sailing faster than the wind. In 1956 a U.S. Navy hydrofoil named *Monitor* lifted up out of the water and sailed at 22 knots. In 1980, the record of 36 knots was set by the long multihull *Crossbow*. In 1988, Thierry Bielak of France piloting a sailboard, raised the speed bar to 40.48 knots in about 40 knots of wind. Then in 1992, Russell Long sailed *Longshot*, a trifoiler designed by Greg Ketterman, to a 43.55 A Class record. Except for the sailboard, which sailed at roughly 1.1 times the speed of the wind, each of the other craft sailed at more than twice wind speed. *Yellow Pages*, in fact, sailed at 2.6 times wind speed, having set her record in 18 knots of wind.

To achieve even greater speed, boats will need to be very light in weight, have low-friction hulls and a powerful, efficient sail plan. Sophisticated composites of epoxy resin/carbon fiber or Kevlar over a Nomex core allow the light weight and strength; planing hulls (hulls because you need the wide base of a multihull to use the rig's power), similar in shape on the bottom to those of seaplanes or sailboards, will see to the low-friction, but

A simple wing sail and three low-resistance planing hulls are part of the formula Cunningham brewed to take *Yellow Pages* to a record 46.52 knots in 1993.

the rig is anybody's guess. Wing sails have proven to be the most efficient to date, but Cunningham will abandon the traditional tall wing in favor of one that resembles a sailboard's rig. "The rig will be a lower profile, like a fixed sailboard wing," McKeon said.

One of America's top speed gurus is Duncan MacLane, designer of *Cogito*, the winning Little America's Cup catamaran. MacLane sees three keys to setting a new record:

1. You must be able to build your own apparent wind, much like an iceboat.
2. The craft must have low drag and a clean rig.
3. The boat must be sailed in smooth water.

McKeon says that Cunningham is well on his way to finding the correct formula. He notes that in 1993 they

cracked the 50-knot barrier, but a fitting on the rig failed and the whole boat broke apart. "Actually, it is the 100 kilometer per hour record (53.9 mph) that we are after," McKeon said, with a laugh. When you consider the success of *Yellow Pages*, you will not be surprised to learn that the new boat is similar in dimensions to *Yellow Pages*, differing mostly in the sail plan.

MacLane believes McKeon and Cunningham will reach their goal, but luck is important. After all, without the right wind and sea conditions there is no hope. For the World Sailing Speed Record Council to recognize a speed as an official record, a boat must sail over a precisely documented 500 meter course. Also, to reach high speeds, the water must be smooth and the winds relatively strong, which is a difficult combination to find, so the right wind and sea conditions are a big part of the hurdle.

Past records have been set at two venues with the correct criteria. The first is a trench in Les St. Maries, France, which has been constructed near the ocean to take advantage of the powerful mistral winds. The other is near Melbourne, Australia, called Sandy Point Beach. This is a remote, crescent-shape cove blasted by strong land breezes. The 50-knot barrier will undoubtedly fall at one of these locations. For this reason the Australian group has scheduled several weeks at Sandy Point to wait for the optimum conditions. The boat and crew must be ready at any moment. If history is any guide, "you must not be over-anxious," explains McKeon. "That's why we broke apart last time."

Other than bragging rights, designers have little incentive to break the speed records. Most of the top naval architects in the world have used their energy exploiting various handicap rules (America's Cup, IMS) or have designed boats for fast ocean passages (Whitbread, Vendee Globe, Jules Vern). But if Cunningham and crew break the 50-knot, or even 100-kilometer, record we may see renewal of interest in speed sailing. What is the ultimate speed? We will likely find out this year. □

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