

The Steersman, a new self steering gear for Yachts

Inventor Rob Chicken has developed a revolutionary self steering system using the wind pressure in the foresail balanced against a spring to sense and steer the boat.

By mounting each jib sheet winch on a swinging platform, the wind pressure in the genoa pulls the appropriate platform forward, whilst a spring holds it back. Any imbalance is then transmitted to the helm using a simple mechanical linkage.

Installation

To install the Steersman, both jib sheet winches (must be self tailing) are unbolted from the deck, and the swinging platforms are bolted down in roughly the same position on the coaming. The winches are then re-mounted on top of each platform. An arm extends at the stern end of each platform and the platform in use links to the wheel or tiller via a simple pole, or link arm. The swinging platforms can also be locked off when not in use.

The spring is made from a long piece of shock cord fed in to a block and tackle arrangement with a double block attached to the stern of the boat, and a single block and the fixed end clipped to the swinging platform being used. The tail end is passed through a jamb cleat also mounted on the swinging platform and this provides the final adjustment.

Setting up

To set the Steersman in operation, the swinging platform being used is “locked off” and the jib sheet is adjusted in the normal way. The spring is then tensioned up to roughly balance the load in the jib sheet. The lock is released, and the final adjustment is made using the jamb cleat. The link arm to the helm is then dropped into position, and the Steersman is in control.

To accommodate different wind strengths, both the fixed end of the spring, and the single block can be unclipped, and reconnected to a fixed eye, mounted on a nearby stanchion. This gives a spring variation from one strand to four strands, and for really light winds, the whole spring can be replaced with a lighter single strand of shock cord.

Typically for close hauled, four strands make up spring, narrow reach to beam reach, three strands, beam reach to broad reach one to two strands.

Wind on the quarter

Interestingly from beam reach to broad reach, the relationship between the wind pressure in the sails and the helm reverses. A gust steers the boat up wind, and a dip steers the boat downwind. To make The Steersman work on this quadrant, the spring and jib sheet are reversed. The double block is moved to a stanchion forward of the cockpit, and the jib sheet is fed from the sail, round a block attached at the stern end of the boat, then back to the winch via the top cheek block mounted on the platform.

Benefits of using the Steersman

The Steersman reacts instantly to the slightest change in wind pressure ensuring the boat is always kept on course, and always sailing at its best speed.

It works from close hauled down to about 160 degrees off the wind

The whole assembly is within the cockpit area leaving the stern free for boarding ladders, davits etc.

Unlike windvane systems it does not have the additional drag of a second rudder, it does not have any vulnerable framework outside the hull, and it does not upset the balance of the boat.

It only uses a natural force that readily available – the wind. It does not use up any valuable battery power.

It is eco friendly, ruggedly built, and should last a lifetime.

