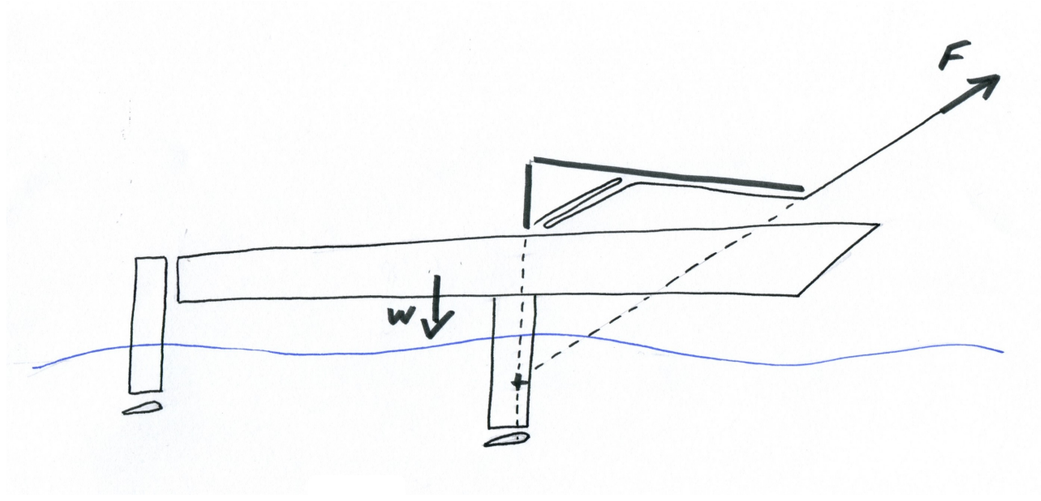

Figure 9.1 *WINDFLY Rig* mounted forward

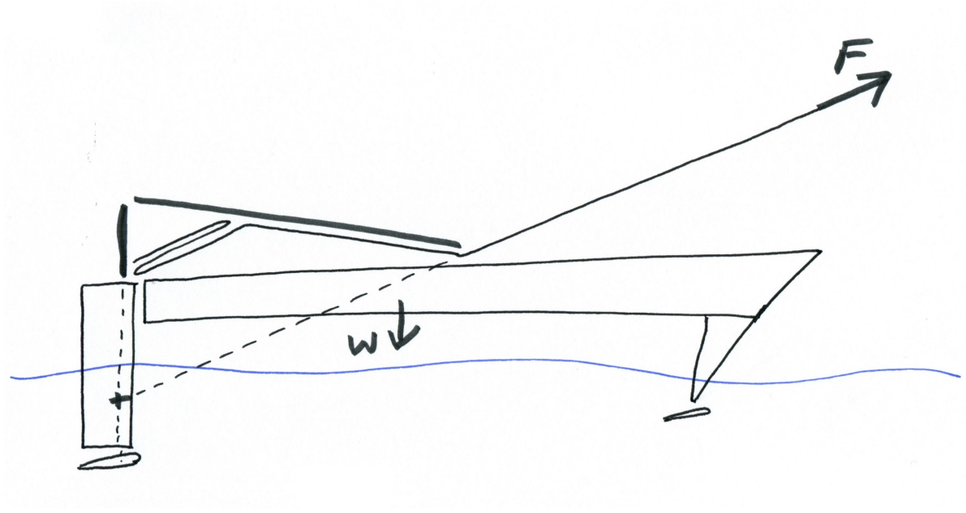

Figure 9.2 *WINDFLY Rig* mounted aft

9 Mounting the *WINDFLY Rig* on a foiling boat

The *WINDFLY Rig* may be mounted on a boat with hydrofoils that lift the hull clear of the water.

A centreboard(s) or keel(s) is (are) required to resist the lateral component of the kite load. To avoid causing the boat to rotate the *WINDFLY Rig* is located above the centre of lateral resistance while foiling. The *WINDFLY Rig* is proportioned so that the drive force acts through the centre of lateral resistance while foiling so that no heeling moment is applied.

At slower speeds when the hydrofoils do not lift the hull clear of the water the submerged length of the centreboard(s) / keel(s) is greater so the centre of lateral resistance is raised above the point of action of the drive force. This causes a small misalignment of the lateral component of the kite load and the centre of lateral resistance, which results in a small heeling moment when the boat is travelling at low speed in the displacement mode: the boat heels slightly to windward to resist this heeling moment.

At times when the boat is moving through the water at very low speed there is insufficient load generated by the keel(s) / centreboard(s) to resist the lateral component of the kite load. If the *WINDFLY Rig* is located forward of the centre of mass the boat rotates so that the bow follows the kite and the boat starts to move forwards. If instead the *WINDFLY Rig* is located behind the centre of mass the boat rotates so that the stern follows the aerofoil and the boat starts to move backwards.

Therefore it may be preferable to locate the *WINDFLY Rig* forward of the centre of mass of the boat. This arrangement provides the maximum deck area free from rigging and reduces the risk of the boom sweeping across the deck.

Alternatively the *WINDFLY Rig* may be mounted aft of the centre of mass, for example at the stern above a combined 'keel-rudder' which balances the lateral component of the kite load so that there is no leeway of the boat. In this arrangement, at low speed the kite lines can be run through a guide at the bow so that the bow follows the kite until steerage way has been built up and the lines can be released from the guide. Typically the bow guide will be used during launch and retrieval of the kite / wing when the kite / wing is likely to be flown at low elevation for sustained periods.