

Spinnaker Tower, Portsmouth Erection of the Cruciform and lower bows

Main Contractor: Mowlem Engineering Limited

Steelwork & Erection Contractor: Butterley Limited



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The Spinnaker Tower is a new national landmark at the entrance of Portsmouth Harbour. It is being built alongside Gunwharfs Quay as part of the Renaissance of Portsmouth Harbour Project. When complete the tower will reach a height of 165m and an observation gallery will offer breathtaking views of Portsmouth Harbour. The maritime inspiration for this design is obvious - a sail-shaped body of the tower designed to billow out over the water.

The main contract to construct the Spinnaker Tower was awarded to Mowlem Engineering Limited who took on the responsibility for the foundations, the slip-formed concrete towers and the steel spinnaker structures (bows). The fabrication and erection of the bows was awarded to Butterley Limited who contracted Fagioli PSC for the design, supply and operation of a strand jack system to lift, rotate



and place the lower parts of the bows complete with the cruciform centre piece. Working within very restricted site area including projecting over the sea, Butterley assembled the lower bows together with the cruciform into one piece weighing over 500 tonnes.

Fagioli PSC then provided computer controlled strand jacks (all within tension frames and anchor housings to allow them to articulate) for the following functions:

- Two L600 jacks for the main lifting operations.
- Two L50 jacks to lift the tail of the bows.
- Two L180 jacks to pull down the tops of the bows and effectively move the apparent centre of gravity of the assembly.
- Two L50 jacks to tie together the upper ends of the bows.
- Six L50 jacks fitted to the tail of the bows to control the horizontal location and for final location.



During this complicated rigging exercise the bows were lifted, rotated, moved horizontally and finally held in location whilst the permanent connections were made.

