Santa's little helper

Patterson Crane Hire's Demag AC 25 with 30-degree offset fly jib and core drilling attachment.

NO, THIS rig wasn't needed to enlarge a chimney for a slightly rounder than usual Santa last Christmas; it was actually built to bore out two French chimneys in a luxury clifftop home on the Mornington Peninsula. In some wind conditions the chimney did not draw properly for short periods of time and builder Rod Cull of Artform Builders believed that this could be solved by increasing the internal diameter of the chimney from 285mm to 325mm.

Cull works regularly with Laurie Patterson of Patterson Crane Hire on his projects and Patterson had handled the glass placement for the home, using a suction clamp suspended from his crane. It was not possible to support a core drill from the roof for fear of damaging the imported tiles, but Patterson and Cull proposed suspending the core drill from the crane.

Engineer David Allison, who had previously designed a man basket for use with Patterson's Demag AC 25 city crane, modified the frame of the man basket to allow it to be used with the diamond-tipped core drill. A ram was incorporated to allow the pitch to be adjusted as extra shaft lengths were added during the drilling.

Patterson's Demag has two features that contributed to the success of the project: a standard swingaway fly jib and a radio remote system fitted locally by Microtec Engineering.

The only place that the crane could be set up was on an easement outside the property so the 27m reach of the fly jib, along with its offset capabilities, was important in reaching the chimneys.

The remote control allowed Patterson to stand on the roof beside Cull (who operated the drill controls) and make fine adjustments to the position of the drill as required. This ensured that there was no damage to the chimney, that the drill did not bind in the chimney, and that the drilling was centred (there was 10mm deviation in one chimney and 15mm in the other). A wooden template was used to start the drill until the hole itself provided a guide.

Drop sheets were used inside the house to protect surfaces and a tray with dense foam in the bottom was used to collect rubble and water, which was used to cool and lubricate the drill, with rubble removed by hand as the work progressed. The method chosen had no impact on the house, inside or out, and work was completed in a day. The chimneys now draw perfectly in all weather conditions. – Greg Keane