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## 5. Travelling Crane at Work on the Onaruto Bridge (Japan)

The 2400-P Travelling Crane is playing a central role in the construction of the Onaruto Bridge, scheduled to open in the spring of 1985. This suspension bridge is one in a series of bridges which will eventually link Honshu and Shikoku, two of Japan's four major islands. The 2400-P has a maximum boom length of 39.62 m, with a lifting capacity of 85 tons at 28 m (15.5 tons at 35 m with the auxiliary jib) and an operational weight of approximately 348 tons. It is used to set reinforcing girders in place, which evenly distribute the load on the bridge cables (preventing the cables from bending) and provide the overall bridge structure with the proper amount of rigidity. The crane lifts prefabricated blocks weighing 85 tons, which have been transported to the construction site by ship.

Operations of this kind require precise control coupled with perfect safety. In order to satisfy these requirements, the 2400-P is equipped with computerized digital controls which utilize information stored in cartridges. Boom load limit and angle are displayed digitally, while boom moment is shown as a percentage. The design of the display panel makes it possible to determine the machine's operating condition at a glance. Standard features include overload and scamper prevention devices, as well as an automatic levelling mechanism that regulates the angle of the swing axis. Safe operation is further assured by a long list of safety devices, including mechanisms to prevent boom reversal and oil depletion, a swing parking brake and

swing warning device. The swing clutch incorporates the highly reliable «magnetorque» system, providing smooth swing with precise control.

The 2400-P can be fitted to a barge to form a floating crane, or to a crawler undercarriage to become a crawler crane. This interchangeability makes the 2400-P a versatile crane for a wide variety of construction jobs.

*(T. Enjoji)*

