

Review

This jokey-styled book relating the history of Tower Bridge is most appealing in its illustrations, which offer both delight and technical interest, finds **Angus Low**.

Tower Bridge: Operations Manual (1894 to date)

Author: John M. Smith

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DECADES AGO, THE OWNER OF a second-hand car could do much basic maintenance and repair with a few tools and the relevant Haynes Manual open on the kerb beside them. Newer cars do not lend themselves to tinkering and it is likely that sales of Haynes Manuals have slumped. It seems that Haynes is now following a trend set by books such as the *Ladybird Story of Brexit* and *Five Go Gluten Free* – chasing long-past loyal readers into their current lives.

The hard covers, their size and colour are all familiar. So, too, is the style of the cut-away drawing of Tower Bridge which appears on the front cover and reappears inside with full annotations. But the content is not the 'Operations Manual' which the top half of the front cover promises. The subterfuge ends shortly before you reach the bottom of the front cover, where the text reads: 'Insights into the history, design, construction and operation of this London icon.'

The book is most readable where it is telling the genesis of the bridge. The need for the bridge had been discussed publicly for some time. There was confusion as to which public body would be responsible for the provision of the new crossing – both bridges and tunnels were being considered – so there was a delay.

Into this void, several people with inventive minds offered proposals. There was never a formal design competition, but 11 different unsolicited schemes are illustrated in the book – one tunnel, one transporter bridge, three opening bridges and six high-level fixed bridges. A number of the bridges were by noted engineers of the period.

Parliament eventually passed the responsibility for the crossing to the City of London. It had wealth and it had a City Architect, Sir Horace Jones. The icon we see today is his creation, working with the engineer Sir John Wolfe Barry.

It is interesting to read how the positions of the towers were determined by the lines of the moored seagoing vessels which formed an avenue along the river. Between the moored vessels and the banks there

was a melee of different craft following direct routes between ships and warehouses. Jones did not want to disrupt this melee and so he provided clear spans of 270ft on each approach. The clear width of the opening span is 200ft.

The detailed descriptions provided in the book make it clear that the designers were cautious in specifying the requirements. They were aware that the City could afford whatever they specified. The deflection limits they specified for the approach spans could not be met with a normal suspension chain, so they developed what may be described as braced swags.

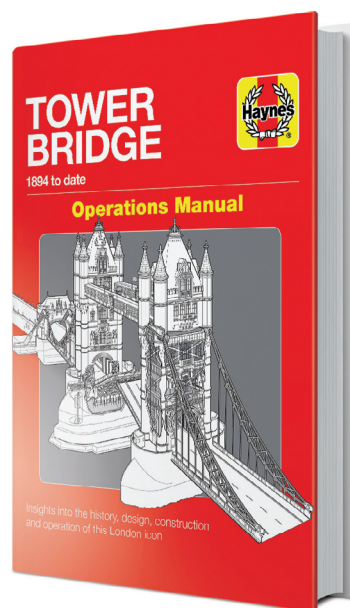
The book does not give insights into how Jones chose the other idiosyncratic feature of the design, the fairy-tale castle cladding for the towers. His report is said to refer to the blending of the architecture with that of the Tower of London, but it seems to be a blatant attempt to overwhelm it.

A lengthy section of the book uses words to describe the configurations and components of the structure. Descriptions of the opening mechanisms are more absorbing, but time is better spent looking at the reproductions of some of the original drawings, together with photographs, both current and historic. Within the illustrations there is both delight and technical interest.

The book is rounded off with interesting short biographies of eight 'men who built the bridge', followed by a record of countless modifications made to the bridge during its 125-year life, and diagrams with 'suspension bridge force estimates'.

The jokey format of the book suggests that it is aimed at the gift market. The recipient of the gift will find plenty to enjoy, but they might not get all the way to the end.

“
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Angus Low

Angus Low joined Arup in London 50 years ago and has spent most of his time with the firm as a bridge engineer, designing bridges. He is now retired.