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Book Review

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Book review

Switch & Crossing Maintenance

D. L. Cope and J. B. Ellis, revised by B. Counter. Permanent Way Institution, Brentwood, UK, 2018, ISBN 978-0-9034-8914-0, £54, 404 pp.

In the foreword to this book, Steve Featherstone, past president of the Permanent Way Institution (PWI), identifies that the performance of switches and crossings is central to a high-performing railway because of the crucial interface between the track and signalling systems.

Switch & Crossing Maintenance is one of a suite of well-written, informative textbooks produced by the PWI. First published in 2002, it has been recently revised by the PWI's technical director. The authors and editors have had long careers in permanent way maintenance and this book gives those engaged in switch and crossing maintenance access to their accumulated knowledge and experience.

The book starts with a general introduction in which the authors make the point that a fundamental aspect of good switch and crossing maintenance is an understanding of the switch and crossing layout geometry, components and method of construction. The authors proceed to describe switch and crossing layouts, common modes of component failure and inspection requirements, before presenting detailed maintenance requirements, component by component.

The book sets out the particular requirements for maintaining switch and crossings on concrete bearers, which are fast becoming the standard track form on the British national rail network.

The detailed description of maintenance requirements is supplemented by nearly 50 diagrams and over 100 colour plates illustrating components and track layouts. While these plates show switch and crossings in Great Britain, the layouts, components and maintenance issues illustrated are universally relevant. There is a comprehensive glossary and index.

Best practice in switch and crossing maintenance is continually evolving and the authors stress in a number of places the need to consult and follow national and industry standards. They also give an invaluable piece of advice, which should be at the forefront of all engineers' minds – 'if in doubt, ask!'

The authors make the point that in addition to 'knowledge and understanding' there is a requirement for 'judgement tempered by experience'. This book provides a unique combination of knowledge and experience, and is an essential handbook for all those responsible for the specifying and execution of switch and crossing maintenance.

Chris Polack