

Supplement Notice

Information for users

The attached standard:

RT/CE/S/063

Issue 1

has essential supplementary information

Instructions for use

It is essential that you first read and understand the supplement pertaining to the standard before proceeding to the standard. You must then apply the requirements of the supplement to the standard.

[Proceed to supplement ►](#)[I have read & understand the supplement.
Proceed to standard ►](#)

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Issue	I
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Serviceable Switches and Crossings (formerly RT/CE/S/063)

This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.

The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.

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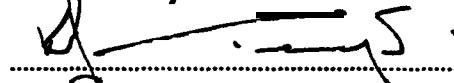
SPECIFICATION

SERVICEABLE SWITCHES AND CROSSINGS

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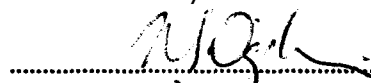
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Summary

Switch and crossing layouts and components form a very expensive element of the track structure so displaced units which are not life expired must find further use. This specification sets out the minimum standards to be observed for serviceable switches and crossings being considered for reinstallation in Railtrack infrastructure.

Issue Record

This specification will be updated when necessary by distribution of complete replacement. Amended or additional parts of revised pages will be marked by a vertical black line in the margin.

Issue: 1 **Date:** October 1996 **Comments:** New specification

Responsibilities

This specification shall be complied with by all personnel who are responsible for constructing or renewing Railtrack's permanent way.

Persons using this specification shall ensure that they use the latest version of any document to which reference is made.

Implementation

The provisions of this specification are mandatory and apply as follows:

- RTIA maintenance contract: from six months after the date shown at the top of this page;
- RTIB renewals contracts: to all new proposals/projects, from two months after the date shown at the top of this page

unless a temporary non-compliance has been agreed by the Director Civil Engineering.

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SERVICEABLE SWITCHES AND CROSSINGS

1 PURPOSE

This specification is designed to assist the assessment of used switch and crossing (S&C) units to ascertain their suitability for reuse, to define permitted remedial work that economically maximises their viability, and to identify restrictions of reuse in certain circumstances.

2 SCOPE

This specification covers all S&C layouts, sub-assemblies and components which are not in an “as new” condition but are being considered for reuse in running lines or sidings owned by Railtrack.

3 DEFINITIONS

Bearers	Timber or concrete transverse “sleepers” supporting the rails in S&C.
Crippled rail	A rail that has been locally bent by mishandling, derailment or other impact.
Refurbishment	Replacement of minor components such as broken baseplates, bolts, pads etc. possibly with repair welding of wear to the rail components where allowed. It may extend to the disassembly and reconstruction of a layout to a modified alignment.
S&C	Switches and crossings. The specially machined rails designed to permit trains to transfer between different tracks.
S&C Layout	A crossover, turnout, double junction etc complete with all its bearers and associated pieces except point motors.
S&C Unit	Half or full set of switches, a crossing, check rail, expansion switch, cast crossing, or other sub-assembly machined or shaped for a use as part of S&C.
Serviceable S&C	Material which retains a useful lifespan if used in a location appropriate to its design and condition.

4 INTRODUCTION

The number of condition parameters, combined with the range of possible reuse situations, requires this specification to cover a broad spectrum. It may be used in the assessment, for relocation, of a complete layout. More often it will find use in identifying recoverable individual S&C units, and for the assessment of serviceable S&C material offered from outside sources. It could also involve the review of material of some age which has seen little or no traffic.

It is important to recognise that this specification does not set “removal from track” standards, nor should it prevent a Maintenance Contractor retaining a unit that has been replaced in the normal maintenance cycle if it has enough life left to act as an emergency spare at the same site. Railtrack Line specification RT/CE/S/102 *Track construction standards* does not detail the permitted use of serviceable S&C. Nevertheless it lays down types of material which are applicable in particular track categories, and these MINIMUM standards must be followed. Within these criteria the reuse of serviceable S&C will be dictated by the quality of specific material and its likely residual life in a particular traffic environment. An item giving acceptable

SERVICEABLE SWITCHES AND CROSSINGS

further life and reduced maintenance in a low category track may have an uneconomically short life in a higher category track. The Zonal Civil Engineer is responsible for accepting particular material for reuse in any given site or defining specific requirements in relation to a particular (re)installation.

The process of recycling S&C falls into three stages - Assessment, Refurbishment and Reuse. As these are interlinked it is important to take account of practicable refurbishment and the extent of potential reuse when carrying out an assessment.

Certain designs of unit may not be perpetuated when being replaced - see Appendix A.

5 ASSESSMENT

Units failing to meet the following criteria may be capable of refurbishment - see section 6.

5.1 Design

All layouts or units being considered for (re)use must have been designed to the Railtrack or BR standards applicable at the time of initial manufacture. This will normally be apparent by comparison of key components with relevant RE/PW drawings.

5.2 Rail**5.2.1 Rail grades and sections**

The grade of rail must be clearly established, usually by reference to the rolling marks. Only 95lb bullhead, 109, 110A, 113A flatbottom or UIC33 and UIC54B sections are permitted for reuse.

5.2.2 Distorted rail

Units which contain crippled rails must have the crippled rails replaced or be rejected.

5.2.3 Rail depth

Units for re-installation in running lines must not be worn by more than 5 mm, measured in areas of full cross section.

If, owing to past differential traffic loading, rail depths differ between parts of a unit by more than 3mm, measured away from any galled area, reuse is not permitted unless the bias of traffic is to be reversed at the new site, when 5mm difference will be permitted.

5.2.4 Rail corrosion

Corrosion and pitting must not reduce the rail section by more than 1mm on any surface.

5.2.5 Rail gall

Gall of the rail foot must not exceed 2mm either vertically or horizontally.

5.2.6 Rail sidewear

Sidewear, measured at positions of full rail section, must not exceed a value of 13 when measured using the plain rail sidewear gauge defined on Drawing RE/PW/428.

