

Letter of instruction

Information for users

The following document:

NR/BS/LI/336 Issue 1

 has had changes made to it, most recently, with effect from **15 October 2014**.

Instructions for use

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

NR/BS/LI/336	Issue 1	Expired November 2015	Proceed to letter ►
NR/L3/TRK/4900	Issue 1	05 March 2011	Proceed to standard ►

For further information, please contact:
IHS Customer Support

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

Level 3

Track gauge specification

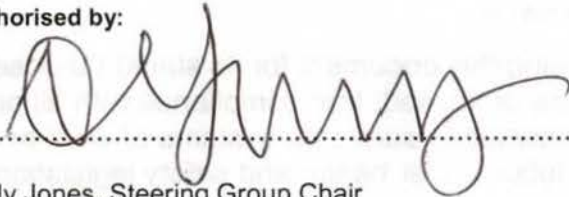
Endorsement and Authorisation

Endorsed by:



Phil Winship, Working Group Chair

Authorised by:



Andy Jones, Steering Group Chair

Accepted for issue by:



Mick McManus, National Standards Manager

This document is the property of Network Rail. It shall not be reproduced in whole or part nor disclosed to a third party without the written permission of Network Rail.

© Copyright 2011 Network Rail.

Uncontrolled copy once printed from its electronic source.

Published and Issued by Network Rail, Kings Place, 90 York Way, London. N1 9AG.



Documents

Document Sharing Hub

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

Issue record

Issue	Date	Comments
1	March 2011	First issue

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 3 March 2012.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Reference documentation

NR/L2/TRK/0053, *Inspection and repair to reduce the risk of derailment at switches.*

Disclaimer

In issuing this document for its stated purpose, Network Rail makes no warranties, express or implied, that compliance with all or any documents it issues is sufficient on its own to ensure safe systems of work or operation. Users are reminded of their own duties under health and safety legislation.

Supply

Copies of documents are available electronically, within Network Rail's organisation. Hard copies of this document may be available to Network Rail people on request to the relevant controlled publication distributor. Other organisations may obtain copies of this document from IHS. Tel: 01344 328039.

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

Contents

1 Purpose	4
2 Scope	4
3 Definitions	4
4 Classification of track gauges	6
5 Construction	6
6 Track gauge measuring capabilities	8
7 Measured track dimensions	8
8 Gauge verification	8
9 Calibration	8
10 Product acceptance	9
Appendix A Track gauge measuring capabilities	10
Appendix B Measured track dimensions	11
Appendix C P8 wheel profiles	12
Appendix D Measuring pin details	14
Figure C.1 – P8 wheel profiles	12
Figure C.2 – 60 degree line	13
Table 1 – Classification of track gauges	6
Table A.1 – Track gauge measuring dimensions	10
Table B.1 – Measured track dimensions	11
Table D.1 – Measuring pin details	14

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

1 Purpose

This standard is required so that manufacturers supply Network Rail with gauges that we have control over and that meet our track standard requirements.

2 Scope

This Network Rail standard specifies the minimum required product specification for track gauges.

This specification is applicable to track gauges that are required to assist Network Rail in the management of plain line track and switch and crossing units found on the railway infrastructure.

3 Definitions

For the purpose of this standard, the following terms and definitions apply.

accuracy

degree of correctness of the measured dimension

calibration

method of determining the dimensional accuracy of a gauge

cant

amount by which one rail of a curved track is raised above the other running rail

check rail flangeway

gap between the rear face of a check rail and the running edge of the adjacent rail

continuous check rail

check rail that is found throughout curves of 200 m radius or less in plain line

cross level

measured difference in the height of the running rails of straight track

Field face

outside edge of the rails as installed in track

folding/split body

where the main shaft of a track gauge is split into two sections for ease of transportation and storage

free wheel clearance

FWC

gap between the running edge of a stock rail and the rear face of the adjacent switch rail

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

free wheel passage

FWP

gap between the rear face of an open switch and the running edge of the closed switch

gauge body

main shaft of the gauge to which all of the measuring equipment is attached

gauge verification

check to confirm individual track gauge readings are accurate

layout

assembly of multiple switch and crossing units

measuring pins

parts of a track gauge that contact the rails when taking measurements.

measuring scales

part of the gauge that provides a visual indication of the dimension value being measured.

P8 Wheel Profile

nominal wheel profile used by trains on Network Rail infrastructure

plane of the rails

flat plane tangential to the crown of the two running rails of a track

Product Acceptance

internal Network Rail process for the approval of products to be used on Network Rail controlled infrastructure.

Personal Digital Assistant

PDA

mobile handheld computer

resolution

fineness of the dimensional reading capability

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

4 Classification of track gauges

Track gauges shall be classified according to the intended end user of the gauge, as specified in Table 1.

Type	Description	For use by
Type 1	Basic Track Gauge	Track maintenance gangs for fault rectification
Type 2	Track Inspection Gauge	- Section Manager [Track] (SM[T]); - Track Maintenance Engineer (TME); "053" (NR/L2/TRK/0053) competent personnel; for the inspection of plain line, switches and crossings
Type 3	Layout Inspection Gauge	Track Engineers for the pre-delivery check, post-build and installation check of new switch and crossing layouts.
Type 4	Field Face to Field Face Gauge	- Section Manager [Track] (SM[T]); - Track Maintenance Engineer (TME); for re-gauging work through switch panels
Type 5	S&C Confirmation Gauge	Signalling staff for the measurement of switch openings in S&C

Table 1 – Classification of track gauges

5 Construction

5.1 General

The gauge shall be constructed such as to prevent track circuits being made when the gauge is placed across the rails of the track.

Each gauge type shall be free-standing when in use.

All track gauge types shall have a fully insulated main shaft that can be used in 750V d.c. third rail areas.

The colour of the gauge body shall be pre-agreed with Network Rail and form part of the product acceptance requirements.

Ref:	NR/L3/TRK/4900
Issue:	1
Date:	5 March 2011
Compliance date:	3 March 2012

5.2 Gauge body

The gauge body shall be constructed from material that does not flex when the gauge is in normal use.

The gauge shall have a temperature stability of ± 2 mm at 1435 mm between the temperature range of -10°C and $+40^{\circ}\text{C}$.

The body cross-section shall be such that it permits all of the required dimensions to be measured without hindrance to any track components during its use.

A suitable carrying handle may be incorporated in the gauge body. If so, it shall not hinder the use of the gauge. The carrying handle shall be positioned at the longitudinal centre of gravity.

All fastenings shall be of a type or positioned to avoid track circuits being made.

Components shall be made from material that will not suffer from corrosion within the normal service environment for this product.

All measuring surfaces on the gauge shall be made from material that does not wear in normal use and therefore compromise the accuracy of the gauge.

5.3 Measurement scales

The scales used to read dimensions when measured, shall be visible and legible in normal use and meet the required dimensional accuracy specified for each gauge type in Appendix A. All scales shall be positioned within the body of the gauge and be protected by clear scratch-resistant material through which readings can be taken.

5.4 P8 wheel profiles

Where P8 wheel profiles are fitted to a track gauge, they shall be securely affixed to the gauge body by mechanical means. Adhesive may only be used in conjunction with mechanical fasteners.

The P8 profiles shall be marked with a scribed line to indicate the "60 degree" line as specified in Figure C.2.

NOTE The "60 degree" line is at right angles to the tangent point of the face of the flange and a line at 60° to the horizontal.

Two lighter scribed parallel lines shall also be marked on the P8 profile 2 mm above and below the "60 degree" line as shown in Appendix C.

P8 Wheel profiles shall be fixed on the upper surface of the gauge body at a distance of 1360 mm (+1/-0) between the profile backs.

The profiles shall be fixed so the back of the wheel profile are at right angles to the plane of the rails.