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Format for Vehicle Gauging Data
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Format for Vehicle Gauging Data

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Superseded or replaced documents

This Rail Industry Standard does not supersede or replace any other Railway Group documents.

Supply

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Part 1 Introduction

1.1 Purpose of this document

- 1.1.1 This document provides a standard format for defining the gauge of a vehicle for the purposes of compatibility assessment when undertaking absolute gauging. It can also be used for the purposes of assessment against standard dynamic vehicle gauges.
- 1.1.2 This document describes a process which, if followed, would meet the requirements of GM/RT2149 sections B6 and B13. This Rail Industry Standard defines the parameters required and their presentation, such that gauging calculations may be undertaken using vehicle data conforming to a standard format, methodology and sign convention.
- 1.1.3 Vehicle Structure System Interface Committee (V/S SIC) recommended that a format for standard vehicle gauging data be developed, which would provide for:
 - a) Consistency of content and format.
 - b) Current and new methodologies.
 - c) Compatibility and comparison of methodologies.
 - d) Reduce costs for gauging compatibility assessment.
- 1.1.4 This document also provides a format in which gauging data may be stored for use by authorised parties, for its long-term use and protection.
- 1.1.5 This document refers to a standard format for data provision and makes no attempt to address issues such as data security.

1.2 Related requirements in other documents

- 1.2.1 GM/RT2149 sets out a requirement to supply sufficient data to accurately define the swept envelope of a vehicle. This data is required so that an assessment of compatibility can be made against infrastructure, standard gauges and other vehicles.
- 1.2.2 GE/RT8270 requires a compatibility file which is to 'contain or reference all the evidence that demonstrates the compatibility of new or changed rolling stock with the infrastructure it operates over and with other rolling stock that operates on that infrastructure; or the compatibility of new or changed infrastructure with the rolling stock that operates over it and any other infrastructure with which it interfaces'. The vehicle gauging data would be referenced as the base data that is used to define the vehicle model.
- 1.2.3 In this Rail Industry Standard use of the word 'shall' indicates a requirement. Clauses which use the terms 'may' or 'should' define suggested actions or recommendations. Where relevant, industry practice and supporting explanations are noted and are shown as guidance. The guidance is indicated by prefixing the paragraph number with the letter 'G'.

1.3 Application of this document

- 1.3.1 A RIS defines functional or technical requirements that may be adopted by a member of the Rail Safety and Standards Board (RSSB) in circumstances where management of a railway sub-system does not necessitate the use of a RGS, but where there are expected to be benefits from a group of RSSB's members all using a common standard.
- 1.3.2 A RIS contains only functional or technical requirements that are:
 - a) Railway specific.
 - b) Applicable to part of a subsystem.
 - c) Applicable to a process prescribing how an individual subsystem should be operated or managed.

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- 1.3.3 A member of RSSB may choose to adopt all or part of this document through company procedures or contract conditions. Where this is the case the member of RSSB will specify the nature and extent of application. Specific compliance requirements and dates have therefore not been specified since these will be the subject of the internal procedures or contract conditions of the companies which choose to adopt this standard.

1.4 Health and safety responsibilities

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1.6 Approval and authorisation of this document

- 1.6.1 The content of this document was approved by Rolling Stock Standards Committee on 30 November 2012.
- 1.6.2 This document was approved by RSSB on 24 January 2013.

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Part 2 Requirements for Completing Worksheets

2.1 Data media

2.1.1 Vehicle gauging data shall be compiled in accordance with the requirements in this RIS and presented in the associated suite of worksheets.

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- G 2.1.1.1 The following sections act as a guide to the preferred process.
- G 2.1.1.2 A standard blank electronic spreadsheet (provided in Microsoft® Excel) is available on the RSSB website, (RIS-2773 Vehicle Gauging Data (VGD) spreadsheet: <http://www.rssb.co.uk/groups/SIC/Documents/VGDspreadsheet.xls>).
- G 2.1.1.3 An example spreadsheet for a typical bogied passenger vehicle is also available on the RSSB website (RIS-2773 VGD example: <http://www.rssb.co.uk/groups/SIC/Documents/VGDexample.xls>). The values are not to be used for gauging purposes).
- G 2.1.1.4 Note that shading on the worksheet has been used to provide clarity; it serves no data purpose.
- G 2.1.1.5 The format and specific data specified has been developed in a manner consistent with that required for computerised gauging software.
- G 2.1.1.6 Each aspect of the gauging data is presented on its own worksheet.
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2.2 General worksheet

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- G 2.2.1.1 The general worksheet presents general vehicle data that would be used to build a vehicle gauging model.
- a) The **Vehicle** block provides general issue information for the vehicle gauging data. The vehicle type adequately describes the particular vehicle class and type, which the data covers.
 - b) The **Worksheet Index** block identifies the worksheets and their tab headings within the workbook.
 - c) The **Dynamic Conditions** block indicates vehicle loading conditions and the maximum speed and cant allowed for each condition.
 - d) The **Bogies** block indicates bogie types, spacing and wheel / track parameters.
 - e) The **Datum Points** block shows the heights of the nominal datum points.
 - f) The **Drawing Numbers** block indicates the source of the data.
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2.3 Cross section worksheets

2.3.1 Cross section points

2.3.1.1 Vehicle cross sectional features that are likely to be of significance to gauging shall be identified as critical points. Curved surfaces shall be defined with sufficient critical points which, when joined with straight lines, represent the shape within a maximum error of 1 mm. These points shall then be entered into the worksheet as a series of x, y coordinates.