Train Drivers – Suitability and Medical Fitness Requirements

Synopsis
This document sets out medical fitness requirements for train drivers.
Train Drivers -
Suitability and Medical
Fitness Requirements

Issue record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>03 December 2016</td>
<td>Replaces Railway Group Standard GORT3451 Issue Four could not be retained as a National Safety Rule and is therefore reclassified as a Rail Industry Standard</td>
</tr>
</tbody>
</table>

Superseded or replaced documents

The following Railway Group documents are superseded or replaced, either in whole or in part as indicated:

<table>
<thead>
<tr>
<th>Superseded documents</th>
<th>Sections superseded</th>
<th>Date when sections are superseded</th>
</tr>
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<tr>
<td>GORT3451 Train Driers – Suitability and Medical Fitness Requirements</td>
<td>All</td>
<td>04 March 2017</td>
</tr>
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</table>

GORT3451 issue four ceases to be in force as of 04 March 2017.

Supply

The authoritative version of this document is available at [www.rssb.co.uk/railway-group-standards](http://www.rssb.co.uk/railway-group-standards). Enquiries on this document can be forwarded to enquirydesk@rssb.co.uk.
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Part 1  Introduction

1.1  Purpose of this document

1.1.1  GORT3451 Train Drivers – Suitability and Medical Fitness Requirements, Issue 4 duplicates common requirements (legislation), in particular those set out in:

   a)  The Common Safety Methods for assessing conformity (CSM CA), on criteria for assessing conformity with the requirements for obtaining safety authorisations / safety certificates.

   b)  The Railways and Other Guided Transport Systems (Safety) regulations 2006 (as amended).


1.1.2  It was therefore formally ‘redundant’ as a national safety rule, and therefore also as a Railway Group Standard. As a consequence, it has been withdrawn.

1.1.3  However, the content of GORT3451 provided a basis for a European requirement in a Great Britain context relating to the medical fitness of existing train drivers.

1.1.4  GORT3451 set out the industries agreed position in the medical fitness requirements of existing drivers who by 2018 require a licence under the TDLCR.

1.1.5  GORT3451 has therefore been replaced by this Rail Industry Standard (RIS-3451-TOM) ‘Train Driving – Suitability and Medical Fitness Requirements’, which reproduces the text of GORT3451 in its entirety as Annex A.

1.2  Application of this document

1.2.1  Compliance requirements and dates have not been specified since these will be the subject of internal procedures or contract conditions.

1.2.2  The Standards Manual and RGS Code does not currently provide a formal process for deviating from RISs. However, a member of RSSB, having adopted a RIS and wishing to deviate from its requirements, may request a Standards Committee to provide observations and comments on their proposed alternative to the requirement in the RIS. Requests for observations and comments should be submitted to RSSB by e-mail to proposals.deviation@rssb.co.uk. When formulating a request, consideration should be given to the advice set out in the ‘Guidance to applicants and members of Standards Committee on deviation applications’, available from RSSB’s website.

1.3  Health and safety responsibilities

1.3.1  Users of documents published by RSSB are reminded of the need to consider their own responsibilities to ensure health and safety at work and their own duties under health and safety legislation. RSSB does not warrant that compliance with all or any documents published by RSSB is sufficient in itself to ensure safe systems of work or operation or to satisfy such responsibilities or duties.
1.5 Approval and authorisation of this document

1.5.1 The content of this document was approved by Traffic Operation and Management Standard Committee on 13 September 2016.

1.5.2 This document will was authorised by RSSB on 28 October 2016.
Annex A  Content of GORT3451 Train Driving – Suitability and Medical Fitness Requirements, Issue Four
Train Drivers – Suitability and Medical Fitness Requirements

Synopsis
This document mandates the medical fitness requirements for train drivers.
Issue record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Comments</th>
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<tr>
<td>One</td>
<td>August 2008</td>
<td>Original document.</td>
</tr>
<tr>
<td>Two</td>
<td>December 2008</td>
<td>Replaces issue one (small scale change-amendments are limited to clause 2.3.4.2).</td>
</tr>
<tr>
<td>Three</td>
<td>December 2011</td>
<td>Replaces issue two (small scale change to clarify who is covered by 2.1 and 2.3, to change 'general medical examinations' to 'medical examinations' in 2.1, to change title of 2.1.2 from 'general medical examinations' to 'general health', to update definitions and references.</td>
</tr>
<tr>
<td>Four</td>
<td>June 2014</td>
<td>Replaces issue three. This document has been changed so that it only deals with train drivers. This has been done following the Train Driving Licences and Certificates Regulations coming into effect for new drivers from October 29 2013. Including additional requirements within the current document would make the document a lot more difficult to navigate whereas, by separating the requirements for train dispatch staff, shunters and persons travelling with a train driver as a competent person and transferring them to a new RGS will provide greater clarity.</td>
</tr>
</tbody>
</table>

Amended or additional parts and/or sections of revised pages have been marked by a vertical black line in the adjacent margin. Revisions have not been marked in the Appendix A, because the whole appendix is new.

Superseded documents

The following Railway Group documents are superseded, either in whole or in part as indicated:

<table>
<thead>
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<th>Superseded documents</th>
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<th>Date when sections are superseded</th>
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<tbody>
<tr>
<td>GO/RT3451 issue three</td>
<td>All sections relating to train driving</td>
<td>06 September 2014</td>
</tr>
</tbody>
</table>

Other parts of GO/RT3451 issue 3 (sections related to shunters, dispatchers and those travelling as a competent person with a train driver) are superseded by GO/RT3452, issue 1, Train Movement – Medical Fitness Requirements.

Supply

The authoritative version of this document is available at [www.rgsonline.co.uk](http://www.rgsonline.co.uk). Uncontrolled copies of this document can be obtained from Communications, RSSB, Block 2, Angel Square, 1 Torrens Street, London EC1V 1NY, telephone 020 3142 5400 or e-mail [enquirydesk@rssb.co.uk](mailto:enquirydesk@rssb.co.uk). Other Standards and associated documents can also be viewed at [www.rgsonline.co.uk](http://www.rgsonline.co.uk).
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<td>References</td>
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Part 1 Purpose and Introduction

1.1 Purpose

1.1.1 This document mandates requirements for railway undertakings relating to the medical fitness of train drivers.

1.2 Introduction

1.2.1 Background

1.2.1.1 The mandatory requirements specified within this document may be regarded as a sub-set of the broader medical fitness standards that a railway undertaking may identify for their train drivers.

1.2.1.2 The requirements within this document have been established to assist railway undertakings to control interface risks that have been identified and that require a degree of reciprocal action or co-operation. The risks relate to physical interfaces between equipment or systems and train drivers.

1.2.1.3 The Train Driving Licences and Certificates Regulations 2010 (TDLCR) come into effect in three phases:

a) New cross border drivers – on 29 October 2011.


c) Existing drivers (cross border and domestic) – by 29 October 2018.

1.2.1.4 The requirements contained within this document differentiate between the medical fitness standards for existing train drivers and persons who require a driving licence after the 29 October 2013 and will need to comply with the medical fitness standards contained within the TDLCR.

1.2.1.5 Appendix A contains non-mandatory guidance to help interpret the requirements contained within this standard.

1.2.2 Supporting documents

1.2.2.1 The following Railway Group documents support this RGS:

RIS-3751-TOM Rail Industry Standard for Train Driver Selection
GO/GN3655 Guidance on Medical Fitness for Railway Safety Critical Workers

1.3 Approval and authorisation of this document

1.3.1 The content of this document was approved by Traffic Operation and Management Standards Committee on 04 March 2014.

1.3.2 This document was authorised by RSSB on 02 May 2014.
Part 2 Requirements Relating to Train Drivers Medical Fitness Standards

2.1 Responsibilities of railway undertakings

2.1.1 Medical examinations

2.1.1.1 Railway undertakings shall arrange for medical examinations to be carried out by, or under the supervision of, a registered medical practitioner.

2.1.1.2 Where there is a requirement to comply with the medical requirements in the TDLCR, the registered medical practitioner referred to in 2.1.1.1 shall be registered with the Office of Rail Regulation as a Recognised Doctor.

2.1.1.3 Railway undertakings shall include an examination of sensory functions within medical examinations.

2.1.2 General health

2.1.2.1 Railway undertakings shall not permit train drivers to continue driving duties where there is reason to believe they may be suffering from any medical condition or be taking any medication, drugs or substances, which are likely to cause:

   a) Sudden loss of consciousness.
   b) A reduction in attention or concentration.
   c) Sudden incapacity.
   d) A loss of balance or co-ordination.
   e) Significant limitation of mobility.

2.1.2.2 Railway undertakings shall, as part of medical examinations of train drivers, include an electrocardiograph (ECG) examination at the first medical assessment, then at the first assessment after reaching the age of 40 and at each periodic reassessment thereafter.

2.1.3 New train drivers from 29 October 2013 - Minimum age

2.1.3.1 Railway undertakings shall not permit persons to drive trains unless they have reached the minimum age specified by the TDLCR unless they are undergoing training and accompanied by a competent train driver.

2.1.4 Existing train drivers - Frequency of medical examinations

2.1.4.1 Railway undertakings shall arrange for medical examinations to be conducted at the following frequencies:

   a) Prior to employment.
   b) Every five years up to the age of 55 years.
   c) Every two years for staff aged between 56 and 62 years (inclusive).
   d) Every year for staff aged 63 years and over.

2.1.5 New train drivers from 29 October 2013 or existing drivers applying for a driving licence - Frequency of medical examinations

2.1.5.1 Railway undertakings shall arrange for medical examinations to be conducted at the frequencies required by Schedule 1 of the Train Driving Licences and Certificates Regulations.
2.1.6 Existing train drivers - Visual acuity
2.1.6.1 Railway undertakings shall not permit persons to drive trains where there is reason to believe that a person’s vision, or the means used to correct it, could impair their performance.

2.1.6.2 Railway undertakings shall use the following criteria to test the visual acuity of train drivers:

a) Distance vision shall be at least 6/9 in the better eye and 6/12 in the other eye; the use of spectacles or contact lenses is permitted to meet this requirement.

b) Where more than one type of correction will be used to meet the requirement, a separate test shall be performed to demonstrate that the driver can meet the requirement with each type of correction.

c) Where spectacles or contact lenses are used, uncorrected visual acuity shall be at least 3/60 in each eye.

d) No pathological condition likely to cause visual impairment shall be present.

e) No progressive eye diseases shall be present.

f) Binocular near vision shall be at least N8, with spectacles or contact lenses if worn.

2.1.7 New train drivers from 29 October 2013 or existing drivers applying for a driving licence - Visual acuity
2.1.7.1 Railway undertakings shall test driver’s visual acuity using the requirements contained within Schedule 1 of the Train Driving Licences and Certificates Regulations.

2.1.8 Colour vision - General (for new and existing drivers applying for a driving licence)
2.1.8.1 Railway undertakings shall not permit train drivers with defective colour vision to drive trains on Network Rail managed infrastructure.

2.1.9 New train drivers from 29 October 2013 or existing drivers applying for a driving licence - Colour vision
2.1.9.1 Railway undertakings shall test driver’s colour vision using the requirements contained within Schedule 1 of the Train Driving Licences and Certificates Regulations.

2.1.10 Hearing - General (for new and existing drivers applying for a driving licence)
2.1.10.1 Railway undertakings shall use an audiogram to test the hearing of train drivers.

2.1.10.2 Railway undertakings shall confirm that train drivers have sufficient hearing to enable them to hold a telephone conversation and to be able to hear warning sounds, alert tones and radio messages.

2.1.11 New train drivers from 29 October 2013 or existing drivers applying for a driving licence - hearing – testing requirements
2.1.11.1 Railway undertakings shall test driver’s hearing using the requirements contained within Schedule 1 of the Train Driving Licences and Certificates Regulations.
Train Drivers - Medical Fitness Requirements

Part 3 Application of this Document

3.1 Application - railway undertakings

3.1.1 Scope
3.1.1.1 The requirements of this document apply to the employment of train drivers.

3.1.2 Exclusions from scope
3.1.2.1 There are no exclusions from the scope specified in clause 3.1.1 for railway undertakings.

3.1.3 General compliance date for railway undertakings
3.1.3.1 This Railway Group Standard comes into force and is to be complied with from 06 September 2014.

3.1.3.2 After the compliance dates or the date by which compliance is achieved if earlier, railway undertakings are to maintain compliance with the requirements set out in this Railway Group Standard. Where it is considered not reasonably practicable to comply with the requirements, authorisation not to comply should be sought in accordance with the Railway Group Standards Code.

3.1.4 Exceptions to general compliance date
3.1.4.1 There are no exceptions to the general compliance date specified in clause 3.1.3 for railway undertakings.

3.2 Health and safety responsibilities

3.2.1 Users of documents published by RSSB are reminded of the need to consider their own responsibilities to ensure health and safety at work and their own duties under health and safety legislation. RSSB does not warrant that compliance with all or any documents published by RSSB is sufficient in itself to ensure safe systems of work or operation or to satisfy such responsibilities or duties.
### Appendix A  Guidance on drivers medical fitness standards

A.1 This is a non-mandatory appendix that provides guidance on the driver’s fitness requirements contained within this standard. It is divided into three parts; the first providing guidance for existing drivers, the second providing guidance on the on the requirements for new train drivers contained within this standard and the third providing clarification on the vision and hearing requirements contained within schedule 1 of the TDLCR.

<table>
<thead>
<tr>
<th>Guidance number</th>
<th>Related clause</th>
<th>Guidance</th>
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</thead>
<tbody>
<tr>
<td>A.1.1</td>
<td>2.1.1.1</td>
<td>Medical examinations should be carried out by, or under the supervision of, a registered medical practitioner who:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Has expertise of occupational medicine (for additional information, please refer to ARIOPS document at the ‘other references’ section of this document).</td>
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<tr>
<td></td>
<td></td>
<td>b) Has knowledge of the hazards of the work concerned and of the railway environment.</td>
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<td></td>
<td>c) Has an understanding of how measures intended to eliminate or reduce risks from those hazards could be affected by lack of medical fitness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Has an understanding of how hazards within a railway environment may affect health.</td>
</tr>
<tr>
<td>A.1.2</td>
<td></td>
<td>If it is not reasonably practicable for a physician meeting the requirements specified above to conduct or exercise direct supervision over medical assessments, then arrangements should be in place for the medical assessor and employer to have access to such a physician for advice on the interpretation of medical fitness standards, and to monitor consistency of their application.</td>
</tr>
<tr>
<td>A.1.3</td>
<td>2.1.1.3</td>
<td>Medical examinations should include, in addition to general health and sensory functions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Blood or urine tests to detect diabetes mellitus and other conditions as indicated by the medical examination.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Screening for drugs of abuse where clinically indicated.</td>
</tr>
<tr>
<td>A.1.4</td>
<td></td>
<td>Information and guidance in respect to diabetes is available in GO/GN3655.</td>
</tr>
<tr>
<td>A.1.5</td>
<td></td>
<td>GE/RT8070 Testing Railway Critical Workers for Drugs and Alcohol and GE/GN8570 Guidance on the Management of Drugs and Alcohol contain requirements and guidance on policies for preventing drug abuse and alcohol from affecting railway operations and to support compliance with the Transport and Works Act, 1992.</td>
</tr>
<tr>
<td>A.1.6</td>
<td>2.1.2.1</td>
<td>Railway undertakings should seek medical advice about treatment or adjustments that would reduce the likelihood of the conditions shown in clause 2.1.2.1 bullet points a) to e) to a safe level so that the individual could return to normal or modified duties.</td>
</tr>
<tr>
<td>A.1.7</td>
<td>2.1.2.2</td>
<td>No guidance is provided for this requirement.</td>
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### Train Drivers - Medical Fitness Requirements

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<th>Guidance number</th>
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<tr>
<td>A.1.8</td>
<td>2.1.4.1</td>
<td>At a pre-employment or periodic medical examination (the current examination), the date of an individual's next examination is determined with reference to their age at the time of the current examination.</td>
</tr>
<tr>
<td>A.1.9</td>
<td>2.1.6.1</td>
<td>Guidance on visual acuity and correction can be found in Appendix B of this document.</td>
</tr>
<tr>
<td>A.1.10</td>
<td>2.1.6.2</td>
<td>No guidance is provided for this requirement.</td>
</tr>
<tr>
<td>A.1.11</td>
<td>2.1.8.1</td>
<td>Coloured spectacles or contact lenses should not be used as a means of passing a colour vision test or to perform tasks requiring normal colour vision.</td>
</tr>
<tr>
<td>A.1.12</td>
<td></td>
<td>Drivers should be briefed on the requirement to advise their manager should they be advised, or become aware that, they have abnormal colour vision.</td>
</tr>
<tr>
<td>A.1.13</td>
<td></td>
<td>Wherever possible, a common method of testing should be adopted and changing the test or procedure should be avoided unless there is a clear benefit from doing so.</td>
</tr>
<tr>
<td>A.1.14</td>
<td></td>
<td>Further guidance can be found in GO/GN3655.</td>
</tr>
<tr>
<td>A.1.15</td>
<td>2.1.10.1</td>
<td>No guidance is provided for this requirement.</td>
</tr>
</tbody>
</table>
| A.1.16          | 2.1.10.2       | Hearing assessments should take account of the driver’s normal working environment, including ambient noise levels inside and outside the driving cab and the communications equipment that may be required to be used. The following values should be used as guidelines to assess a person’s audiometric test results:  
  a) The hearing deficiency should not be higher than 40 dB at 0.5 and 1 kHz.  
  b) The hearing deficiency should not be higher than 45 dB at 2 kHz for the ear with the worst air conduction of sound. |
| A.1.17          |                | Railway undertakings may decide that more stringent hearing values than those shown above are necessary to control any potential risks that may have been identified by an assessment of the required physical and sensory functions for a particular driving role. This may be particularly appropriate where an individual’s duties require them to be on or near the line. It should be noted that the widely adopted hearing standard for persons who are required to maintain their own safety when working on or near the line is that hearing loss should not exceed 30 dB averaged over frequencies 0.5, 1.0 and 2.0 kHz in either ear. |
| A.1.18          |                | It is also recommended that the following are not present:  
  a) Anomaly of the vestibular system.  
  b) Chronic speech disorder (given the necessity to exchange messages loudly and clearly). |
| A.1.19          |                | In special cases, subject to medical opinion, train drivers may be allowed to use hearing aids to meet the hearing levels shown above. Such cases would normally arise at a periodic medical examination, if an employee were found to have increased hearing loss. Measures, which railway undertakings are... |
recommended to take to prevent increased risk to railway operations from the use of hearing aids, are included in GO/GN3655.

### Part 2 – Guidance for the requirements contained within this standard relating to new train drivers.

<table>
<thead>
<tr>
<th>Guidance number</th>
<th>Related clause</th>
<th>Guidance</th>
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</thead>
<tbody>
<tr>
<td>A.1.20</td>
<td>2.1.3.1</td>
<td>The TDLCR permits persons to drive trains provided they have attained the age of 20 years.</td>
</tr>
<tr>
<td>A.1.21</td>
<td>2.1.5.1</td>
<td>The TDLCR requires that medical examinations are carried out at least every three years up to the age of 55, thereafter every year.</td>
</tr>
<tr>
<td>A.1.22</td>
<td>2.1.7.1</td>
<td>See part 3 of this Appendix for guidance on schedule 1 of the TDLCR.</td>
</tr>
<tr>
<td></td>
<td>2.1.9.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.1.11.1</td>
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### Part 3 - Clarification on the vision and hearing requirements contained within schedule 1 of the TDLCR

<table>
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<tr>
<th>Guidance Number</th>
<th>Related TDLCR Schedule 1 requirement</th>
<th>Guidance</th>
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</thead>
<tbody>
<tr>
<td>A.1.23</td>
<td>(2) (a) Aided or unaided distance visual acuity: 1.0; minimum of 0.5 for the worse eye,</td>
<td>Visual acuity must be at least 1.0 (6/6 Snellen) with both eyes open and 0.5 (6/12 Snellen) in the weaker eye when the eyes are tested individually. Testing performed with permitted correction if worn.</td>
</tr>
<tr>
<td>A.1.24</td>
<td>(2) (b) Maximum corrective lenses: hypermetropia + 5 / myopia -8, (derogations may be authorised in exceptional cases and after having obtained the opinion of an eye specialist, the recognised doctor then takes the decision),</td>
<td>If corrective lenses are needed to meet the requirements in (a) then a current prescription provided by a registered ophthalmic optician is sufficient evidence for the purposes of this requirement. The limits in 2b should be taken to refer to the higher power meridian.</td>
</tr>
<tr>
<td>A.1.25</td>
<td>(2) (c) Near and intermediate vision: sufficient, whether aided or unaided,</td>
<td>As determined by the recognised doctor, taking into account the nature of the near and intermediate visual tasks performed.</td>
</tr>
<tr>
<td>A.1.26</td>
<td>(2) (d) Contact lenses and glasses are authorised when periodically checked by a specialist,</td>
<td>Contact lenses should be prescribed and fitted by a registered optician.</td>
</tr>
<tr>
<td>A.1.27</td>
<td>(2) (e) Normal colour vision: use of a recognised test, such as Ishihara, as well as another recognised test if required,</td>
<td>Individuals who pass a properly conducted Ishihara test can be considered to have normal colour vision for the purposes of this requirement. The recognised doctor may also use other validated tests of colour vision at their discretion, for example if acquired colour vision deficiency is suspected.</td>
</tr>
<tr>
<td>A.1.28</td>
<td></td>
<td>Different tests may not be equivalent when measuring the same aspect of colour vision. Therefore, some individuals may be able to pass one test but not another and this has important implications for interoperability and for the employee that wishes to change their employer or job.</td>
</tr>
<tr>
<td>A.1.29</td>
<td></td>
<td>Advice on other validated tests of colour vision can be found in RSSB’s final research report T940 Identification of a robust colour-vision testing protocol for the rail industry.</td>
</tr>
</tbody>
</table>
### Guidance Number | Related TDLCR Schedule 1 requirement | Guidance
--- | --- | ---
A.1.30 | (2) (f) Field of vision: full, | Visual field may be tested by normal clinical examination. Specialist testing may be needed if significant visual field defect is suspected.
A.1.31 | (2) (g) Vision for both eyes: effective; not required in a case where a person loses binocular vision after starting job as train driver when that person has adequate adaptation and sufficient compensation experience, | Requirements (f) and (h) take precedence. The requirement relating to a person losing binocular vision is under review at European level.
A.1.32 | (2) (h) Binocular vision: effective, | The individual must have effective vision in both eyes with correct fusion i.e. no diplopia.
A.1.33 | (2) (i) Recognition of colour signals: the test must be based on recognition of single colours and not on relative differences, | The use of “lantern tests” is not mandatory. Where such tests are used the individual should be able to correctly name colours presented singly rather than comparing two or more colours presented simultaneously.
A.1.34 |  | Advice on other validated tests of colour vision can be found in RSSB’s final research report T924 ‘Identification of a robust colour-vision testing protocol for the rail industry’.
A.1.35 | (2) (j) Sensitivity to contrasts: good, | Poor contrast sensitivity may accompany other visual abnormalities, resulting in a failure to meet one of the other requirements. If all of the other requirements are met but there is reason to suspect that the subject's vision is poor in sub optimal lighting conditions or conditions of poor visibility such as fog then further screening or specialist evaluation can be arranged at the discretion of the recognised doctor.
### Train Drivers - Medical Fitness Requirements

<table>
<thead>
<tr>
<th>Guidance Number</th>
<th>Related TDLCR Schedule 1 requirement</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1.36</td>
<td>(2) (k) No progressive eye disease,</td>
<td>For the purpose of this requirement ordinary refractive errors correctable with spectacles are not considered to be progressive eye disease.</td>
</tr>
<tr>
<td>A.1.37</td>
<td>(2) (l) Lens implants, keratotomies and keratectomies are allowed only on condition that they are checked on a yearly basis or at intervals set by a recognised doctor,</td>
<td>No guidance is provided for this requirement.</td>
</tr>
<tr>
<td>A.1.38</td>
<td>(2) (m) Ability to withstand dazzle,</td>
<td>If all of the other requirements are met but there is reason to suspect that the subject's vision is poor in sub optimal lighting conditions then further screening or specialist evaluation can be arranged at the discretion of the recognised doctor.</td>
</tr>
<tr>
<td>A.1.39</td>
<td>(2) (n) Coloured contact lenses and photochromatic lenses are not allowed, but UV filter lenses are allowed.</td>
<td>No guidance is provided for this requirement.</td>
</tr>
<tr>
<td>A.1.40</td>
<td>Hearing and speaking requirements (3) Sufficient hearing confirmed by an audiogram, i.e.— hearing good enough to hold a phone conversation and to be able to hear warning sounds and radio messages. The following values should be taken as guidelines— (a) the hearing deficiency must not be higher than 40 dB at 500 and 1000 Hz, (b) the hearing deficiency must not be higher than 45 dB at 2000 Hz for the ear with the worst air conduction of sound, (c) no anomaly of the vestibular system, (d) no chronic speech disorder (given the necessity to exchange messages loudly and clearly), (e) the use of hearing aids is allowed in special cases.</td>
<td>Infrastructure managers and railway undertakings should consider whether some occupations, even those where mandatory hearing standards currently exist, require additional or more stringent hearing standards in order to control other identified risks. This might be, for example, a train driver working on or near the line. It should be noted that the widely adopted hearing standard for persons who are required to maintain their own safety when working on or near the line is that hearing loss should not exceed 30 dB averaged over frequencies 0.5, 1.0 and 2.0 kHz in either ear.</td>
</tr>
</tbody>
</table>
Appendix B  Visual acuity for train drivers

B.1  Introduction

B.1.1  General

B.1.1.1  The visual standard is intended to enable train drivers to perform their duties safely and efficiently in the cab as well as when outside the train on or near the line.

B.1.1.2  This appendix does not cover laser eye surgery, which is covered in GO/GN3655.

B.1.1.3  This appendix does not cover colour vision, which is covered in GO/GN3655.

B.2  Visual acuity

B.2.1  General

B.2.1.1  The near vision standard for existing drivers of N8 with permitted correction applies to enable train drivers to interpret written material and instruments in the course of their duties. Similar requirements are likely to apply to drivers who require a driving license.

B.2.1.2  Distance vision is usually applied to objects over 3 m away. ‘Near vision’ is intended to mean the normal reading distance of approximately 30 cm. Where the driving task includes visually demanding tasks at intermediate distances some individuals may require a specific correction for that distance.

B.2.1.3  Limitations relating to unaided visual acuity or to the maximum prescription strength are intended to avoid problems of visual distortion related to higher power corrective lenses that may be needed by those individuals.

B.2.1.4  All train drivers (and other staff) who rely on their ability to differentiate between colours to make safety critical decisions should understand the importance of regular vision examinations and, if visual correction is required, the need to wear up-to-date prescription lenses. This will help provide adequate visual acuity when driving and to minimise the occurrence of colour misperception.

B.2.2  Visual correction

B.2.2.1  Train drivers may use spectacles or contact lenses to meet the vision standard during the course of their duties, as long as their uncorrected and corrected vision meets the minimum requirements shown in GO/RT3451 or TDLCR, as appropriate.

B.2.3  Spectacle design

B.2.3.1  There is no mandatory standard for the design of spectacles for train drivers (nor any requirement for employers to supply such spectacles), however, individual employers may have specific arrangements for the supply of spectacles to their train drivers and these arrangements may stipulate particular design characteristics.

B.2.3.2  In general terms, it is recommended that lenses be as large as possible while being comfortable and lightweight. Frames should also be lightweight and not impede peripheral vision. For bifocals, the reading segment should be as small as practicable in order to provide the maximum area of lens for unimpeded distance vision.
B.2.4 Correction types

B.2.4.1 The following types of lenses are in general use for spectacles:

a) Single vision – distance.

b) Single vision – near.

c) Bifocal.

d) Plano-reading bifocal.

e) Progressive ('varifocal').

B.2.4.2 Any of the above lens types can be obtained as photochromic (photochromatic) lenses, designed to darken as light levels increase and which are an alternative to ‘clip-on’ sunglasses over clear spectacles or to prescription sunglasses. Photochromic lenses are not permitted for drivers licensed under TDLCR. They may adjust to low light conditions unpredictably and have an unforeseen effect on drivers’ visual acuity when moving from bright light to dim light, for example, when entering a tunnel after being in bright sunlight. In addition, photochromic lenses rely on ultraviolet light for their action and modern windscreen glass may exclude ultraviolet light, rendering them ineffective as sunglasses. The dispensing optician should be able to state the lens manufacturer’s specification for the expected rate of change.

If railway undertakings have decided to permit existing drivers to use photochromic lenses when on duty they should:

a) Remind drivers of the need to inform their optician of the essential need for them to maintain forward vision, without impairment of colour perception, when passing from high to low lighting conditions.

b) Monitor the use of such lenses.

B.2.4.3 It is recommended that permanently tinted prescription lenses are not permitted for train driving, other than as sunglasses of a specified colour and depth of tint (see below). This is because some tints may affect colour perception and reduce visual acuity in poor lighting conditions.

B.2.5 Bifocal spectacles

B.2.5.1 Bifocals with a reading correction in the lower segment but no correction in the main part of the lens (plano-reading) may be supplied in preference to full lens reading spectacles. Some train drivers find this less distracting than putting on and removing reading glasses repeatedly. Train drivers could also use full lens reading spectacles if they cannot adjust to bifocals.

B.2.6 Progressive ('varifocal') spectacles

B.2.6.1 The inclusion of a middle distance correction (between long distance and reading) will reduce the amount of the lens available for distance vision. If a train driver reports problems with middle distance vision then specialist advice will be needed on the design of suitable spectacles for this purpose.
B.2.6.2 Research in Australia (Wood, Atchison and Chaparro) has shown that it is possible for red signal lights to be misperceived by spectacle wearers as orange or yellow in specific circumstances. Typically, the effect occurs when the signal light appears small because it is 600-900 m away and there are generally bright surrounding lighting conditions. The effect is most noticeable for the spectacle wearer when the distance portion of their correction is slightly too strong. Wearers of progressive spectacle lenses may be more likely to report this effect because of the possibility of viewing the signal through the portion of lens intended for intermediate vision. However, the effect may also occur with single vision spectacles if the correction is slightly too strong.

B.2.6.3 Progressive lenses are permitted for equivalent roles in other transport sectors and individual railway undertakings should decide whether to permit their train drivers to use spectacles with progressive lenses. The growing popularity of progressive lenses and changing cab or instrument design may increase the demands for this type of correction. On the other hand, the risk of restricted visual field when viewing distant objects, of signal colour misperception and of the uncertain impact on signals passed at danger (SPAD) occurrence and investigation may outweigh these demands.

B.2.6.4 The Australian research paper referenced above does not advocate prohibition of progressive lenses for such tasks. However, it is important that considerable care is taken with the design and fitting of the spectacles so that the train driver is not looking through the intermediate vision corridor during distance tasks and thus experiencing unwanted positive defocus when looking for signals or signs. It is important that train drivers inform their manager if they are wearing or intending to acquire spectacles fitted with progressive lenses, so that they can be advised of the potential problems and ways of mitigating them.

B.2.7 Sunglasses

B.2.7.1 To provide protection from sun glare and to prevent adverse effects on signal colour recognition, train drivers may wear frame or clip-on sunglasses. Sunglasses worn for driving duties should comply with the relevant requirements of BS EN ISO 12312-1:2013, including the requirements of Filter Category 2, so that colour perception is not impaired. Drivers who wear corrective spectacles may wear prescription sunglasses as an alternative to clip-on sunglasses, which meet the recommended requirements for sunglasses specified above.

B.2.7.2 See B.2.4.2 for guidance about the use of photochromic lenses.

B.2.8 Contact lenses

B.2.8.1 Contact lenses are acceptable as a means of correcting visual acuity by train drivers. However, it is possible that someone wearing them for the first time may experience discomfort, which may be distracting and persistent while their eyes become accustomed to the lenses and the wearer becomes used to the techniques of inserting contact lenses and the disciplines of caring for them. When discomfort occurs, the wearer may be tempted to remove the lenses to alleviate the problem.

B.2.8.2 If a train driver wishes to wear contact lenses (instead of spectacles) at work, especially if they have not worn them previously, it is recommended that railway undertakings are satisfied that:

a) The wearer is able to show that the lenses can be tolerated in place for the duration of a complete turn of duty of the maximum rostered length.
b) The nature of the driving task and the working environment is suitable for the wearing of contact lenses (for example, the duration of any expected exposure to dust).

c) A pair of spectacles capable of correcting the user’s visual acuity to the minimum standard is, where required, carried when on duty, in the event of the loss of a lens or discomfort prompting removal of a lens (es).

B.2.8.3 Where more than one type of correction will be used to meet the requirement, a separate test should be performed to demonstrate that the driver can meet the requirement with each type of correction.

B.2.8.4 Where contact lenses are prescribed and corrective spectacles are not an alternative for medical reasons, it may be necessary to seek specialist advice as well as addressing points (a) and (b) above, before making a final decision on employment as a train driver, in case there is a pathological condition present.
Definitions

Driving License
A Train Driving License issued in accordance with TDLCR.

Registered Medical Practitioner
A medical practitioner registered in accordance with the Medical Act 1983, as amended.

Sensory functions
Visual acuity, colour perception and hearing.

Train driving
For the purpose of this document, the term ‘train driving’ refers to the control of trains or traction units from a driving cab by a train driver.
Train Drivers - Medical Fitness Requirements

References

The Catalogue of Railway Group Standards gives the current issue number and status of documents published by RSSB. This information is also available from www.rgsonline.co.uk.

RGSC 01  Railway Group Standards Code
RGSC 02  The Standards Manual

Documents referenced in the text

Railway Group Standards
GO/GN3655  Guidance on Medical Fitness for Railway Safety Critical Workers
RIS-3751-TOM  Rail Industry Standard for Train Driver Selection
GE/RT8000  Rule Book

Other references


Other relevant documents

Definitions

Relevant definitions are given in Annex A, and are not reproduced here.
References

The Catalogue of Railway Group Standards give the current issue number and status of documents published by RSSB. This information is also available from www.rgsonline.co.uk.

RGSC 01 Railway Group Standards Code
RGSC 02 Standards Manual

Documents referenced in the text

Railway Group Standards
GORT3451 Train Drivers – Suitability and Medical Fitness Requirements (Ceases to be in force from 04 March 2017)

Other references