Information Note

July 2010 Changes to roadworthiness test from 29 October 2010 for buses fitted with safety belts

Dear Bus Operator

I write further to the recent public consultation process about safety belts on buses. From 29 October, 2010 when presenting your bus for a roadworthiness test you will be required to present documentation which confirms that the safety belts fitted on your buses meet a minimum standard. If you do not present such documentation, your bus will not pass the roadworthiness test.

This Information Note has been prepared to assist you in ensuring that you have the appropriate documentation for the roadworthiness test of your bus after 29 October 2010. It sets out the background to the requirement and details of the documentation that will be accepted by a Vehicle Testing Network (VTN), Test Centre from 29 October 2010.

Ongoing checks on safety belts at the roadworthiness test

The safety belt verification exercise is distinct from the current safety belt check at the roadworthiness test which will continue to be undertaken on all vehicles fitted with safety belts.

The safety belt check at the roadworthiness test ensures that safety belts are operating correctly and free from damage while the verification exercise is a check to ensure that a bus has the relevant certification to show its safety belts were installed to a minimum standard of construction.

Your legal responsibility as a bus owner/driver

It is a key basic road safety requirement that all vehicles on our roads, and all components of those vehicles, conform to a minimum standard of construction.

It is the legal responsibility of the owner and driver of a bus to ensure that, when it is used in a public place, it is in such a condition that danger will not be caused to any person.

Individuals engaged in the supply of mechanically propelled vehicles also have a legal responsibility to ensure the vehicle and its components, including safety belts where fitted, comply with all applicable requirements set out in Road Traffic legislation\(^2\).\

The standards of all vehicles in use on a public road are set by the Road Traffic (Construction, Equipment and Use of Vehicles) Regulations 1963 (as amended) (the “CE&U Regulations”).

Each vehicle owner must ensure that his or her vehicle complies with all applicable CE&U Regulations. General provisions of the CE&U Regulations which apply to buses include:

- every large public service vehicle (including all bodywork, upholstery and fittings) must be properly constructed of suitable material and be of such a design that it is capable of withstanding the loads and stresses likely to be met with in operation and be otherwise suitable for the carriage of passengers³;

- every vehicle and trailer, and all parts and equipment of every vehicle and trailer must be maintained in good and efficient working order and be such and so maintained that no danger is liable to be caused thereby⁴;

- every vehicle while it is in use on a public road shall be such, and so maintained and used, that no danger is likely to be caused to any person⁵;

- the body of every vehicle must be secure and the floor must be strong and in good condition⁶.

The verification exercise at the roadworthiness test will confirm that buses with safety belts have certification which demonstrates that the safety belt installation meets a minimum standard. However, it will remain the legal responsibility of the owner and driver of a bus to ensure the vehicle and its components, including safety belts where fitted, comply with the appropriate requirements of Road Traffic legislation.⁷.

**Documentation required in connection with the roadworthiness test from 29 October 2010**

From 29th October certification showing that the safety belt installation meets minimum standards and an owner declaration form must be presented before the bus can be roadworthiness tested. For subsequent roadworthiness tests only the signed and stamped owner declaration form will be required provided that there have been no changes to the safety belt installation.

Appendix 1 to this Information Note provides details of the types of certification which will be accepted.

Appendix 2 to this Information Note sets out the owner declaration which you must complete and present with the certification. The declaration confirms the type of valid

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³ Regulation 67(1) of S.I. 190 of 1963.
⁴ Regulation 34(1) of S.I. 190 of 1963.
⁵ Regulation 96(1) of S.I. 190 of 1963.
⁶ Regulation 34(2)(h) S.I. 190 of 1963.
⁷ S.I. No. 190 of 1963, Road Traffic (Construction, Equipment and Use of Vehicles) Regulations
certification you have for your bus and confirms that the bus has not been modified in such a way that would render the certification invalid.

As described further in Appendix 1 the forms of acceptable certification are:

1. a type approval certificate/certificate of conformity;

2. certification from the vehicle manufacturer\(^8\) confirming that the safety belts and their fitment meet either EC type approval standards or UK national standards;

3. certification from a competent person that the safety belts and their fitment have been inspected and been passed for the school transport scheme (equivalent to UK visual inspection standard); or

4. certification from a competent person or vehicle manufacturer\(^9\) confirming that the safety belt installation conforms with the standards set out in the CE&U Regulations.

Bus owners should have or be able to obtain certification for the vast majority of buses. The cases where certification will already be available are set out in sections 1 to 3 of Appendix 1. Examples of these forms of certification are included in Annex 1 to Appendix 1 to assist you in determining whether you already have this certification in the paperwork for your bus.

In some cases certification will not be available and consequently the RSA has developed a form of certification which should be presented at the roadworthiness test and which is discussed in section 4 of Appendix 1. If your bus falls into this category, you will need to employ a competent person to inspect and certify the installation of the safety belts on your buses. Section 4 of Appendix 1 provides details of competent persons, the qualifications they should have and where they can be contacted.

The RSA has developed a guidance note, checklist and a certification form to assist competent persons in completing the inspection and certification. A copy of these documents can be found in Appendix 3.

**Proof that your vehicle has completed the safety belt verification exercise**

The safety belt verification exercise will only be carried out once on each bus.

It will not apply to buses registered after 29 October 2011 as these buses will have Whole Vehicle Type Approval.

On successful completion of the safety belt verification exercise the authorised tester at your VTN Test Centre will stamp the declaration (Appendix 2) you have supplied to verify that your bus has the required certification for the installation of its safety belts. The signed and stamped owner declaration form should be kept in a safe place as it will be required for future roadworthiness tests and if you intend being involved in the organized transportation of children.

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\(^8\) Vehicle manufacturer can also mean a vehicle body builder or safety belt installer engaged in the installation of safety belts to EC type approval or UK national standards

\(^9\) Vehicle manufacturer can also mean a vehicle body builder or safety belt installer engaged in the installation of safety belts to EC type approval standards.
**Requirement for buses involved in the organised transport of children to have safety belts from 29 October 2011**

Bus owners and operators should be aware that from October 2011 all buses involved in the organised transport of children will be required to be fitted with certified safety belt installations. This will include the transport of a group of three or more children on a trip which has been specifically organised to transport children such as school outings, trips by youth/sports clubs and also the transport of children to or from school or between school premises.

From October 2011, it will be illegal for a bus owner to transport children on an organised trip if the bus is not fitted with certified safety belts. It is, therefore, very important that bus owners retain the declaration form stamped by the authorised tester as proof.

**Helpline**

The RSA has set up a help line to assist bus owners with any queries you may have in relation to your legal obligations, upcoming safety belt requirements for the organised transport of children and the safety belt verification exercise.

This help line is open from 9.00 a.m. to 5.30 p.m. each day. Please feel free to contact us at 096-25014 or vehiclestandards@rsa.ie if you have queries on any of the issues set out in this information note.

We also invite you to send your contact details to the email address above so that we can keep you updated on future developments in this area.

Vehicle Standards Section  
Standards and Enforcement,  
RSA,  
Primrose Hill, Ballina,  
Co. Mayo.

**Appendix 1**

**Summary and examples of forms of certification for safety belt installations and where to obtain certification**

1. **Type Approval Certificate / Certificate of Conformity**

Buses fitted with safety belts from new may have certification to show they meet the requirements of the relevant EC type approval directives.

If a bus has EC type approval, the manufacturer will have provided or be able to provide official certification that the safety belts were installed to the requirements of Directives 2005/39/EC on seats, their anchorages and head restraints, 2005/40/EC on safety belts and restraint systems and 2005/41/EC on safety belt anchorages.
Bus owners who bought their vehicles with safety belts fitted and who do not already have appropriate certification can contact the main dealer who supplied the vehicle or the homologation department of their vehicle manufacturer or body builder.

The vehicle manufacturer’s homologation department ensures that a vehicle meets with the all applicable standards and regulations. The homologation department also maintains on file the details of each vehicle manufactured and can provide, on request from the vehicle owner, information as to the standards and regulations pertaining to a vehicle at the time of its manufacture.

If a vehicles safety belt installation has type approval then the main dealer or homologation department will be able to provide written confirmation of this.

This confirmation should include the Vehicle Identification Number (VIN) and / or Body Number of the vehicle and the type approval reference number.

2. **Certificate from the manufacturer of compliance with EC Type Approval or UK National standards**

Buses which do not have full EC type approval and are fitted with safety belts may be able to get confirmation from the company who carried out the installation (i.e. vehicle manufacturer, body builder or safety belt installer) that the safety belt installation complies with the EC type approval standard.

As buses imported from the UK may be approved to the UK national standard rather than the EC standard, it is proposed that approval to the UK national standard would also be acceptable.

Bus owners who bought their vehicles with safety belts fitted and who do not already have the appropriate certification should contact the company who installed the safety belts to see if this form of certification is available for their vehicle.

Any certification issued should confirm the standard to which the safety belts were fitted, the Vehicle Identification Number (VIN) and / or Body Number of the vehicle.

3. **Certificate from a competent person that the safety belts have been inspected and passed under the school transport scheme**

Since 2007, it has been a requirement of the School Transport Scheme that buses participating in this scheme be visually inspected to verify that the safety belts and their fitment meet the UK Public Service Vehicle visual inspection standard.

This was organised by the Department of Education and Science and Bus Eireann.

Bus owners, whose vehicles successfully completed the School Transport Scheme’s visual inspection, can use the certificates received as conformation of this for the safety belt verification exercise.

Bus Eireann does not retain on file a copy of the School Transport Scheme visual inspection certificate issued to bus owners. Therefore, if a bus owner is no longer in possession of this certificate they should contact the company who carried out the safety belt inspection for a new certificate.
4. Certification from a competent person confirming that the safety belt installation conforms with CE&U standards

If a bus owner is unable to get certification in categories 1 – 3 above they can employ the services of a competent person to inspect their vehicle and certify that the vehicle meets the requirements of CE&U Regulations (please see Guidance Note attached at Appendix 3).

This form of certification would have to meet the following requirements:

* be provided by a competent person meeting specific requirements (see section 4.1 below);
* be in the format set out in the Guidance Note; and
* verify that the vehicle meets the minimum requirements of the CE&U Regulations.

It is the responsibility of the bus owner to ensure the individual or company employed to certify a safety belt installation is competent to do so.

4.1 Requirements of a Competent Person

Bus owners should ensure that the person providing certification of a safety belt installation is competent to do so and is equipped to provide valid certification. Appropriate competent persons include:

* National Standards Authority of Ireland approved facilities, (Approved Test Centres); or
* Suitably Qualified Individuals.

4.1.1 National Standards Authority of Ireland Approved Facilities

Approved Test Centers (ATCs) have been approved by the National Standards Authority of Ireland (NSAI) to carry out national type approval testing of vehicles. They are located across the country and currently use the national minimum technical standard for inspecting new vehicles, including safety belt installations.

The national minimum technical standards in question include a visual inspection procedure for a safety belt installation\(^\text{10}\) as part of Individual Vehicle Approval (IVA) for certain types of vehicles\(^\text{11}\).

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\(^{11}\) S.I. 158 of 2009, European Communities (Road Vehicles: Type-Approval) Regulations 2009, Part 4 (National Approvals) and Schedule 7 (Individual Approval: Certain Varieties of Vehicle).
An ATC would visually inspect a vehicle's safety belt installation and issue certification if it was found to be of a minimum standard of construction. This certification should be in the format set out in Appendix 3.

Please see below and the NSAI’s website\textsuperscript{12} for a current list of ATC’s.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murphy Commercials (Galway)</td>
<td>Cloughaun, Claregalway, Co. Galway.</td>
<td>091 739700</td>
</tr>
<tr>
<td>Cawley Commercials Ltd</td>
<td>Drinagha, Knocknarra, Sligo, Co. Sligo</td>
<td>071 9169555</td>
</tr>
<tr>
<td>Westward Scania</td>
<td>Strokestown, Co. Roscommon</td>
<td>071 9634500</td>
</tr>
<tr>
<td>Galway Truck Centre</td>
<td>Sylaun, Headford Road, Galway, Co.Galway</td>
<td>091 751984</td>
</tr>
<tr>
<td>T. Nolan &amp; Sons Ltd</td>
<td>Limerick Road, Castleisland, Co.Kerry</td>
<td>066 7141140</td>
</tr>
<tr>
<td>Rolor Commercials Ltd</td>
<td>Slieverue, Co. Kilkenny</td>
<td>051 830 250</td>
</tr>
<tr>
<td>Riverstick Motors Ltd</td>
<td>Riverstick, Co. Cork</td>
<td>021 477 1362</td>
</tr>
<tr>
<td>Automotive Services Centre Ltd</td>
<td>Unit 58, Le Broquay Avenue, Parkwest, Industrial Park, Dublin 12</td>
<td>01 612 0922</td>
</tr>
</tbody>
</table>

4.1.2 Suitably Qualified Individuals (SQI)

Bus owners may also use an SQI who can inspect your vehicle's safety belt installation and issue certification (as set out in section 4.2 below) provided the installation meets a minimum standard of construction.

An SQI must have the appropriate facilities and equipment to conduct the inspection.

Bus owners must ensure that they only engage SQI’s who meet all of the following professional requirements:

- an Engineering/Technical Qualification (Level 7 or higher accredited courses\textsuperscript{13}) \textbf{or} appropriate accreditation with Engineers Ireland\textsuperscript{14} or the Institute of Automotive Engineer Assessors\textsuperscript{15}

- a minimum of 5 years experience of working in a suitable technical environment (preferably Automotive or Engineering Environment) \textbullet{} access to adequate facilities to carry out a thorough vehicle examination, and

- appropriate professional indemnity insurance.

or

- an authorised representative\textsuperscript{16} of a company or vehicle manufacturer engaged in the installation of safety belts to Type Approval standards.

\textsuperscript{12} \url{www.nsai.ie/Our-Services/Certification/Transport-Certification/Motor-Vehicle-ApprovalSchemes/Approved-Test-Centers.aspx}

\textsuperscript{13} See Engineers Ireland, Accredited Courses.

\textsuperscript{14} Chartered or Associate Engineer.

\textsuperscript{15} Member or Incorporated Member.

\textsuperscript{16} Such as a Director under the Companies Act, 1963 (as amended).
Contact details of SQI’s may be available in your local business directory or you can contact one of the professional associations such as the Institute of Automotive Engineer Assessors [http://www.iaea-online.org/](http://www.iaea-online.org/) . SIMI ([www.simi.ie](http://www.simi.ie) or 01-6761690) may also be able to help if you are having difficulties finding an SQI or if you are looking for contact details of vehicle manufacturers or convertors who are engaged in the installation of safety belts.

4.2 RSA guidance note for Competent Persons

The RSA has prepared a guidance note to assist Competent Persons in carrying out a safety belt installation inspection (See Appendix 3).

This guidance note is not an interpretation of the law and is not intended to interpret or displace the obligation in law on every owner and driver to ensure that their vehicle is safe and complies with minimum standards.

The RSA intention is that the guidance note be used in conjunction with, and supplement, the legal requirements and other information available including general type-approval standards and manufacturer’s specification.

The guidance note sets out, in the view of the RSA, the very minimum requirements to be assessed and considered when inspecting a safety belt installation in respect of seat strength, seat and safety belt anchorages and safety belts and restraint systems.

A bus owner should supply to the competent person, for reference, a copy of the RSA guidance note.

The competent person should fill out the check list at the end of the guidance note along with the *Construction, Equipment and Use Certification of Safety Belt Installations* document. A copy of both should be given to the bus owner and retained on file by the competent person.

The *Construction, Equipment and Use Certification of Safety Belt Installations* document can be attached to the Owner Declaration (Appendix 2) and used by a bus owner at their vehicles roadworthiness inspection for the safety belt verification exercise.
Annex 1 – Sample Certification for a Safety Belt Installation

Type Approval Certificate/Certificate of Conformity

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Please note: the Type Approval Certificate Numbers for the EU Directives relating Seat Strength, Safety Belts and Safety Belt Anchorages are outlined in this example. You must ensure that your Type Approval Certificate/Certificate of Conformity shows evidence of these and/or are valid for your vehicle. This can be confirmed by your vehicle manufacturer’s homologation office.
Sample Certification for a Safety Belt Installation

Letter from Manufacturer indicating safety belts fitted to Type Approval or UK PSV Standards
Dear

Subject: Ford Transit 350L 17-Seat Bus VIN:

I confirm herewith that the vehicle described above was built at the Genk (Belgium), assembly plant in November 2003 as a Diamond White RHD Ford Transit 17-Seat Bus with a 2.4 Diesel (90PS) engine, 5-speed manual transmission and 4.63 axle ratio for the United Kingdom market. This unit fully complied with the requirements of UK Public Service Vehicle Minibus National Type Approval applicable at that time.

I cannot comment on whether this vehicle complies with the current requirements applicable to category M2 buses in Ireland or whether it complied with the requirements that existed in Ireland at the time of build. However, I can confirm that in terms of the seating, seat belts and side door step dimensions, this vehicle is identical to the specification of the Transit 350L 17-Seat Bus that Ford supplied to the Irish market at that time.

Please be aware that I can only comment on the vehicle specification that left the Genk assembly plant in November 2003. Ford cannot be held responsible for modifications that may have been made by subsequent owners or operators.

Yours sincerely,

Supervisor – Environmental Systems Homologation
Vehicle Homologation and Conformity

Sample Certification for a Safety Belt Installation

Letter from Manufacturer indicating safety belts fitted to Type Approval or UK
PSV Standards

Super Coaches Ltd
Address 1
Address 2

Sample

09/06/10

To Whom It May Concern:

The Buckingham seat model has been tested on behalf of Super Coaches at the seat manufacturers facility. This model of seat have been fitted in a Mercedes Vario Vin# XYZ987564321. The seat model achieved the requirements of directive 96/39/EC of 17th June 1996 adapting to technical progress Council Directive 76/115/EEC relating to anchorages for motor vehicle safety belts.

Signed:

[Signature]

General Manager.

Sample Certification for a Safety Belt Installation

Letter from Manufacturer indicating safety belts fitted to Type Approval or UK
Final Inspection Certificate VR 40 Date 2nd October 2008

I hereby certify that.
The vehicle described below is of the type for which XYX Coaches issued pull test certificate reference number 12345.

The standard of workmanship and specifications of this job meet industry standards and EU Standard Seat Belts fitted by manufacturer were in place.

The alterations/modifications carried out to this vehicle do not diminish the technical status or integrity of the vehicle.

The inspection detail is as per our reference xyz 12345 attached.

Details of certified vehicle:

<table>
<thead>
<tr>
<th>VEHICLE MANUFACTURER</th>
<th>Volvo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle type</td>
<td>Coach</td>
</tr>
<tr>
<td>Manufacturer's model designation</td>
<td>Plaxton</td>
</tr>
<tr>
<td>Chassis Number</td>
<td></td>
</tr>
<tr>
<td>Registration Number + VR</td>
<td></td>
</tr>
</tbody>
</table>

SIGNED
Mr. John Smith
Consulting Engineers and Project Managers

Address 1
Address 2

DATED 26/02/2009

STATUS Chartered Engineer

Sample Certification for a Safety Belt Installation

School Transport Scheme Certification
Sample Certification for a Safety Belt Installation

School Transport Scheme Certification

Safety Belts on Buses - Owner declaration

(This is an important document – please retain for future use)

Part A - To be completed by the Vehicle Owner
Bus owners must present this declaration to the authorised tester. You must confirm the type of certification accompanying the vehicle (tick box 1 – 4 below as appropriate) and attach such certification to this document. By making this declaration you will also be stating that, to the best of your knowledge, the seat and safety belt installations of the vehicle have not been modified in any way since the attached certification was issued.

Upon successful completion of the verification exercise* the authorised tester will stamp the original owner declaration, as completed by you, and return it to you. You should retain the original stamped declaration as proof.
that your bus has passed the verification exercise. You will require this proof from October 2011 in order to provide services for the organised transport of children. You will also require this proof at your next roadworthiness test.

*Important Note:
The verification exercise at the roadworthiness test confirms only that the appropriate certification (which demonstrates that the safety belt installation meets a minimum standard) has been presented to the authorised tester. It is not, and should not be regarded as, a confirmation of anything else and it remains each bus owner’s legal responsibility to ensure the vehicle and its components, including safety belts where fitted, comply with the appropriate requirements of Road Traffic legislation.18.

To be signed by vehicle owner:

I hereby declare that the attached:

- type approval certificate/certificate of conformity
- certification from the vehicle manufacturer confirming that the safety belts and their fitment meet either EC type approval standards or UK national standards
- certification from a competent person that the safety belts and their fitment have been inspected and been passed for the school transport scheme (equivalent to UK visual inspection standard)
- certification from a competent person or vehicle manufacturer confirming that the safety belt installation conforms with the standards set out in the CE&U Regulations

is valid for the vehicle, with vehicle identification number (VIN) ______________________ and registration number __________________, and the seat and safety belt installations of this vehicle have not been modified in such a way that would render the attached certification invalid.

Signed (Vehicle Owner) _________________________ Date ____________________________

Part B - To be completed by the Authorised Tester

This declaration and accompanying certification has been checked as part of the roadworthiness inspection of the above vehicle. I am satisfied that:

- the Owner Declaration is completed and signed
- the appropriate certification for the safety belt installation is attached, and
- that the Owner Declaration and the attached certification are valid for the vehicle presented.

A copy of this declaration and attached certification has been retained on file in this Test Centre. [The original stamped declaration must be given to the vehicle owner.]

Signed (Authorised Tester) _________________________ Date ____________________________

Appendix 3

RSA Guidance Note for Safety Belt Inspections

1. Introduction and General Information
This Guidance Note may be used as supplementary information to assist a competent person in determining whether a safety belt installation meets with a minimum standard.

18 S.I. No. 190 of 1963, Road Traffic (Construction, Equipment and Use of Vehicles) Regulations
19 Vehicle manufacturer can also mean a vehicle body builder or safety belt installer engaged in the installation of safety belts to EC type approval or UK national standards.
The Guidance Note sets out, in the view of the RSA, the very minimum standards and design features to be taken into consideration when inspecting safety critical components of a safety belt installation.

The competent person conducting the inspection can compare the safety belt installation against these minimum standards and design features. Such a comparison will help the competent person determine if the safety belt installation is acceptable.

If the competent person determines the safety belt installation to be acceptable they can certify this by filling out the Construction, Equipment and Use Certification of Safety Belt Installations form at the end of this document.

The Guidance Note is broken into the following topics: seat strength, seat and safety belt anchorages and safety belts and restraints systems. A minimum standard and specific design features are included to assist in the determination of whether a seat and/or safety belt has been correctly installed/modified.

While minimum acceptable standards and design features are outlined for some components, many areas of the safety belt installation are left at the discretion of the tester to determine if appropriate.

The subjective nature of the assessment may allow for some variations in certified safety belt installations. However, such variation should not compromise the safety of a safety belt installation. Unsafe installations must not be certified.

The inspection and certification of a safety belt installation should be carried out by an individual or company with the appropriate competence and facilities to do so.

Where applicable, the vehicle owner should supply to the competent person all available documentation indicating that the safety belts were installed to an acceptable standard. The competent person should request such information as part of the inspection procedure and ensure it is valid for the vehicle presented.

The RSA recommends that the competent person thoroughly examines the safety belt installation of each vehicle to be certified. This examination should ensure that the vehicle, at a minimum, adheres to the guidelines in this document and any other support information being used by the competent person.

As part of the vehicle inspection the competent person may have to ask the bus owner to remove seat cushions/squabs (backrests) and to open any access flaps or luggage locker doors to allow as much as possible of the safety belt installation to be seen. Some parts of the installation may only be visible with the vehicle on a pit or hoist.

Where seat cushions/squabs have been removed to aid inspection of the belt and mountings they must be replaced to allow the complete safety belt installation to be inspected.

The person conducting the inspection should fill out the check list at the end of this document for each safety belt installation inspected. Copies of this check list should be given to the owner of the vehicle and retained on file by the competent person.

It is ultimately the responsibility of each bus owner to ensure that their vehicle, its seats and safety belt installations comply with the requirements of Road Traffic law and are correctly certified as such.

Issues to note

Side facing seats are not currently prohibited by Road Traffic Regulations. Type Approval will prohibit side facing seats on M_{20}^{20} and M_{21}^{21} category vehicles designed for the carriage of seated passengers. For

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20 Vehicles designed and constructed for the carriage of passengers with more than 8 passenger seats and a maximum mass of less than 5 tonnes
21 Vehicles designed and constructed for the carriage of passengers with more than 8 passenger seats and a maximum mass of greater than 5 tonnes
the purpose of these inspection guidelines side facing seats fitted with safety belts should be inspected in the same manner as forward facing seats.

Seats facing rearwards fitted with safety belts should be inspected in the same manner as forward facing seats. All seats fitted with safety belts must pass the inspection criteria set out below.

Seats in a vehicle not intended for use when the vehicle is in motion and seats that may not be used by a child seated in a rearward facing child restraint system because of an airbag must be clearly marked.

Due to the inherent difficulties associated with fitting safety belts to the upper deck of a double deck buses extra care must be taken when inspecting such a vehicle. The competent person must ensure that the safety belt and/or seat anchorages and surrounding structure of the upper deck of the vehicle are of adequate strength to withstand the load likely to be imposed in the event of a road traffic collision.

2. Seat Strength
Check each seat is firmly and securely attached to the vehicle structure, or other obvious suitable load bearing parts of the vehicle.

Each seat mounting must be of adequate strength to support the loads likely to be imposed.

The rear parts of the seats must not have rough or sharp edges likely to increase the risk of injury to the occupants.

All head restraints must be securely attached to the seat and a head restraint must not have any roughness or sharp edges likely to increase the risk or severity of injury.

Check the seats to which safety belts are attached for security and for cracks or fracture of the leg and frame.

Where seats have tubular frames or tubular “H” pattern legs and are fitted with lap belts or 3 point belts integral to the seat, then, the seats must be reinforced. This will include welding metal buttresses, of similar thickness material as the foot, between the foot and the leg (see Diagram 1) and the welding of a diagonal brace, either in compression or tension, between the foot and the seat base attachment of each leg. (Alternatively documentary evidence of compliance with Directive 2005/39/EC can be presented for each type of seat installed).

__________________________________________

On seats constructed with a wooden frame it is unacceptable to mount the belts either directly to the frame or to a metal base which is attached to the frame only by wood screws. Unless there are additional reinforcement brackets fitted that provide a direct load path to the seat leg and side mounting the installation is to be rejected. This reinforcement could take the form of steel angle sections or plates, alternative materials may be used provided that they are of comparable strength (Diagrams 2 and 3).
Removable and folding seats fitted with safety belts must be inspected in their operational position and must be capable of being locked in place. The fixings/latches of these seats should be carefully considered in the overall assessment of seat strength. This is especially important if these items form part of the safety belt load path.

3. Seat and Safety belt Anchorages

The anchorage and surrounding structure of a vehicle must be of adequate strength to withstand the load likely to be imposed in the event of a vehicle impact. In a severe collision the seated occupant can exert huge loads upon their safety belts (in the region of 1.5 tonnes for a 75kg person). Safety belt anchorages together must withstand these large loads from the attached safety belts.

During the Type Approval test\(^{23}\) of safety belt anchorages fitted to passenger cars (M1 vehicles\(^{24}\)), forces equivalent to approximately 3 tonnes per seating position are applied to the belt anchorages of all forward-facing seating positions with 3 point safety belts. For M2 and M3 vehicles these forces are reduced to 1.5 tonnes and 1 tonne per seating position respectively.

You must check that each seating position is fitted with the correct number of anchorage points\(^{25}\), and that where there is an anchorage a belt of the correct type is fitted\(^{26}\).

Where safety belts are directly mounted to a seat (integral safety belts) consideration must be given to the seat mounting as a belt anchorage point and materials and construction methods must be taken into account.

In assessing the strength of all anchorages, it is essential to consider:

- The vehicle structure in the immediate vicinity of the anchorage.
- The parts of the vehicle structure into which the loads from the anchorages will be dissipated.

As far as is practicable without dismantling, check the condition of the vehicle structure around the safety belt anchorage points (i.e. within 300mm of the anchorage). Where a safety belt is mounted to a seat frame the condition around the seat mounting points must be checked. Floor-mounted anchorage points may need to be inspected from underneath the vehicle. Pull the webbing of each safety belt against its anchorage to see that it is properly secured to the vehicle structure.

Welding should appear neat and of good quality; whilst it is impossible to judge the quality of a weld just by looking at it, messy welding is rarely strong welding.

3.1. Seat Anchorages of Seats with Integral Belt Anchorages

For pedestal Seats (seats mounted on box or tubular section legs) with Integral Belt Anchorages it is the seat itself that becomes part of the belt anchorage and the loads generated on a belt must be dissipated through the seat frame and into the surrounding vehicle structure.

In the case of a double or triple seat, the total forces applied to the anchorages will be multiplied by the number of seating positions. This results in far greater loads being transmitted through pedestal seats with multiple seating positions into the structure of the vehicle.

In a seat with integral anchorages, this load must travel down the seat back and sides, into the pedestals and then into the floor of the vehicle. The height of the pedestals above the floor will act as a lever...


\(^{24}\) Vehicles designed for the carriage of passengers with less than 8 passenger seats

\(^{25}\) Appendix 1, Directive 76/115/EEC (as amended)

\(^{26}\) Section 3, Directive 77/541/EEC (as amended)
causing the front seat legs to be pushed down into the vehicle floor and the rear seat legs to be pulled upwards out of the floor.

Depending on the pedestal height, the forces being fed into the floor could be considerably larger than the force applied to the safety belts.

In view of the high loads that a seat with an integral safety belt may experience, it is important that a thorough assessment of the load path from each anchorage to the vehicle structure is made. This will begin at each of the belt anchorages and might end some considerable distance away from the attachment of the seat to the vehicle.

There are a variety of ways in which a vehicle floor can be designed to cope with the loading from a seat with integral safety belt anchorages. One commonly used method is to secure the seats to a beam or box section or framework inside the vehicle, running the length of the saloon area. This framework is then attached to the vehicle in a variety of locations over a large area and close to strong points under the floor (such as junctions between chassis members). Such systems are difficult to inspect once the vehicle is assembled as the structure is normally concealed under a cosmetic “plywood” floor (appropriate documentation from the vehicle manufacturer or safety belt installer must be provided in this instance).

Fixed Single Seats are likely to require (Diagram 4):

- Load spreading plates at least 100 x 100 x 4mm thick.
- Spreader plates fitted between the front legs and the inside of the vehicle floor.
- Spreader plates between the rear leg securing nuts and the underside of the vehicle floor.
- Where the rear mounting bolts are located within 50mm of a chassis member, the plate may be folded (not reduced in size) to clear the obstruction and the fold should abut snugly against the chassis member.

Double seats fitted with integral three-point belts and two or three seating pedestals impart significantly higher loads into the vehicle floor than a single seat imparts. As a result, it is extremely difficult to restrain such a seat using simple reinforcements alone. Where a double seat with integral three-point belt anchorages is fitted with four or more pedestals, approximately evenly spaced, a spreader plate extending at least the full width of the seat should be fitted between the front legs and the vehicle floor. Such a plate might typically be in the region of 5mm thick, 150mm long and at least the width of the complete seat (including cushions).
The safety belts on rear-facing single seats with integral belt anchorages are only required to withstand loads approximately one third of the magnitude of a forward-facing seat. As such, mounting arrangements can be less substantial than those for forward-facing seats. In many cases, rear-facing seats are mounted on a bulkhead rather than free-standing. Often, the bulkhead structure will be impossible to assess due to the presence of trim on both surfaces (appropriate documentation from the vehicle manufacturer or safety belt installer should be requested in this instance).

It should be noted that rear facing seats must be adequately secured to the chassis similar to the requirements of front facing seats.

3.2. Safety belt Anchorages

The large loads that may be experienced by a safety belt anchorage must in turn be dissipated by the vehicle structure.

Diagram 5 shows typical methods of attaching safety belts.

Where safety belts, other than looped belts, are anchored to the seat frame or the vehicle floor they should be secured with mounting bolts in accordance with the following (Table 1):

<table>
<thead>
<tr>
<th>Minimum Acceptable Size and Grade of Bolts for Safety belt Anchorages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Anchorage</strong></td>
</tr>
<tr>
<td>Single Anchorage</td>
</tr>
<tr>
<td>Double Anchorage</td>
</tr>
</tbody>
</table>

Table 1
Note: Bolt head marks (please see Table 2 for examples)
Standard Material = 4.6 or SAE equivalent
High Tensile Steel = 8.8, or SAE equivalent
No Markings = Standard Material

Table 2

If the examiner cannot determine the grade of bolt it must be assumed to be of Standard Grade.

It is essential that the appropriate sized bolt and bolt holes are used for the safety belt anchorage (i.e. an 8mm bolt should not be used in an 11.5mm diameter hole). The only exception to this is where a “stepped washer” or collar is used to eliminate the excessive clearance and a suitable washer is fitted between the bolt head and the anchorage to prevent the bolt pulling through. The use of smaller bolts, self tapping screws or wood screws is not acceptable.

It is not acceptable to drill tubular seat frames to allow belts to be bolted to the frame except in cases where a manufacturer has approved the installation and the bus owner presents documentation/certification issued by the manufacturer or his agent declaring that such an installation is satisfactory.

Clamp type brackets are acceptable provided that they are properly secured (Diagram 6).

Diagram 6

Where safety belts are attached to seat frames made out of pre-fabricated sheet metal the bolts anchoring the belt must be of the minimum dimensions shown in Table 1 and must be adequately supported by the use of load spreading washers between the frame and the nut. Typically this is at least 25mm in diameter and 2mm thick. If two belts are attached at the same point with a single bolt then a larger reinforcement plate 35mm diameter x 3mm thick (or a rectangular plate of minimum dimensions
21 x 46 x 3 mm) must be used. The sizes quoted are for steel reinforcement plates, alternative materials may be used but must provide comparable strength.

Where safety belts anchorages are attached directly to a metal floor a load spreading washer must be used between the nut and the floor. The bolts must be at least the sizes specified in Table 1. Typically this load spreading washer is at least 25 mm in diameter and 2 mm thick. If two belts are attached at the same point with a single bolt then a larger reinforcement plate of minimum dimensions 35mm diameter x 3mm thick (or a rectangular plate of minimum dimensions 21 x 46 x 3 mm) must be used. The sizes quoted are for a steel reinforcement plates, alternative materials may be used but must provide comparable strength. Reinforcement plates should follow, as far as practicable, any contours in the floor to which they are attached.

Where safety belt anchorages are attached directly to a floor made of a material other than metal, or where safety belts are fitted to the rear seats of a bus, check the anchorage to ensure that it is not anchored solely to the floor or the material which separates the boot area from the passenger compartment (plywood or thin metal sheet).

Safety belt anchorages in both these cases must be secured to a strong cross member connected to the structural members of the vehicle. This connection should be to such a standard that there is confidence that it will be able to transfer the safety belt loads into the structure of the vehicle.

This may involve the fabrication of an additional framework at the rear of the vehicle (Diagram 7). An example of typical reinforcement of this area is the use of additional square section tubing 40 x 40 x 3 mm, or angle plate 50 x 50 x 4 mm across the full width of the vehicle. The sizes quoted are for steel reinforcement, alternative materials may be used but must provide comparable strength. A full width reinforcement that is only attached to the thin metal sheet is unacceptable and is a reason for failure. All bolts used for such anchorages must be at least the sizes specified in Table 1.

![Diagram 7](image)

The upper anchorage point should be at least 450mm above the height of an uncompressed seat cushion (27) (more often between 475mm and 500mm). This dimension is to be measured parallel to the backrest. The upper anchorage point should be a minimum of 120mm from the centre line of the seat back to the side of the seat (24).

Lower anchorages should be at least 350 mm apart. This need not be the distance between the anchorage points of the belt but it can be between two structural parts of the seat that the belt is routed round. If the measurement is between mounting bolts it should be measured between bolt centres.

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27 Please see Figure 1 of Annex II, Directive 76/115/EEC
Check that the belt will not raise or significantly compress the seat cushion when subjected to a load. There will always be a small amount of compression which is acceptable.

4. Safety belts and Restraint Systems

Safety belt and restraints should be “e” / “E” marked\(^\text{28}\).

Check that each safety belt is secured:

- to the vehicle structure, or where the belt is integral with the seat, to the seat structure
- using a fixing of adequate strength
- such that it can be separated from the anchorage without causing damage to the anchorage.

Check each belt for damage. Check the lock mechanism releases as required. Safety belt components should not be fitted to seats in such a way that they significantly intrude into the gangway space and are likely to cause injury to passengers either by tripping or by hitting the component.

Examine the condition of the attachment fittings and adjusting fitting on each belt. For seats with integral safety belts, it might not be possible to examine the fixing of the safety belt to the seat.

Check each belt operates correctly by fastening each belt locking mechanism (buckle) and trying to pull the locked sections apart. On retracting safety belts, check that, with the mechanism fastened and the seat unoccupied, excess webbing is wound into the retractor unit. Where a lap/diagonal retracting belt is fitted, check the position and operation of the retractor mechanism. A retractor mechanism must be correctly positioned to ensure the correct operation of the belt. Non-retracting safety belts should not be an obstruction or hazard when not in use (if possible they should be stored or clipped out of the way).

Check that whilst sitting in each seat in turn, and wearing the safety belt, secured and correctly adjusted, that the position of the webbing on the torso and the location of the effective belt anchorage points in relation to the seated body position are correct. A lap belt or the lap section of a 3 point belt must be positioned to lie across the wearer’s pelvis and not the stomach. This is to reduce the risk of abdominal injury and to prevent “submarining”. In practice this may result in the belt lying across the top quarter of the thigh.

Submarining is when the hips of an occupant wearing a poorly fitting or loose safety belt slide under the lap part of the belt. If this happens the lap part of the safety belt will apply crash forces to the soft abdominal area between the pelvis and ribs.

Check the vehicle structure, fitments and components near each belt for sharp edges likely to cause abrasion or damage to the belt during normal use.

Examine flexible buckle stalks for:

- Signs of corrosion or weakness. Pull the sheaths aside, if this can be done without damage.
- ‘Waggle’ flexible buckle stalks and listen for a clicking noise indicating broken strands of cable.

Examine the condition of all safety belt webbing for cleanliness, cuts or obvious signs of deterioration. Pay particular attention to webbing around anchorages, buckles and loops.

Subsequent cutting or reworking of the webbing will be a reason for failure. It is acceptable for the free end of looped belts or static belts to be reworked to the extent of folding and stitching the webbing so

that it cannot pass back through the buckle to prevent the buckle from being dismantled. Any knots in
the belt webbing are unacceptable.

A “looped” type safety belt fitting (See Diagram 5) is acceptable provided its anchorage point it is not
free to move or “float” along any part of the seat structure. Any free movement in excess of 25mm is a
reason for failure.

4.1. Important Point to Note

If lap belts are fitted and there is the possibility of passengers hitting their heads on any harsh object
such as a grab rail or seat stanchion, padding or other suitable protection must be provided on these
objects\(^\text{29}\). The protection does not need to cover the full length of a seat grab rail but should cover a
length of at least 300\(\text{mm}\) directly in front of each passenger. Padding must be compressible and of a
depth of at least 50\(\text{mm}\), measured to the surface of the bar and not compress more than 25\(\text{mm}\) under
reasonable thumb pressure, or is 25\(\text{mm}\) thick and not compress more than 5\(\text{mm}\). Ordinary seat foam
or pipe lagging foam is unlikely to be of sufficient density for this purpose.

\(^{29}\) As per the requirements of Appendix 6 of Annex III of Directive 74/408/EEC
## Check List

### Vehicle Owner details:
- Address:

### Vehicle identification: (VIN, Reg No. etc)

<table>
<thead>
<tr>
<th>VIN No.</th>
<th>REGISTRATION No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Vehicle manufacturer/convertor details:

Record and Attach evidence of compliance with Appropriate Standards/Engineers Reports/Letters from Vehicle Manufacturer or Vehicle Convertor

### Inspection carried out by: ____________ Date: ____________

### Number of:
- Forward facing seating positions: ____________
- Rear facing seating positions: ____________
- Side facing seating positions: ____________
- Locations for a wheelchair: ____________

### 1. Safety belt (including wheelchair occupant restraints):

- Are all seats fitted with a safety belt: **Yes** No
- Are all safety belts either diagonal fixed at 3 points or lap belts: **Yes** No
- Are all safety belts ‘e’ or ‘E’ marked: ____________

### 2. Anchorages (including wheelchair restraints/anchorages):

- Is the vehicle structure free from corrosion, serious deterioration or fractures within 300mm (12") of the anchorage: **Yes** No
- Note: Where a safety belt is attached to a seat frame this will apply to all seat mounting points: ____________
- Are all safety belts securely fixed to the seat or to the vehicle structure: **Yes** No

### 3. Locking Mechanism, Stalks, Retracting Mechanism and Fittings:

- Do all locking mechanisms lock and release as intended: **Yes** No
- Are all attachment and adjustment fittings free from defects and are they operating correctly: **Yes** No
- Are all flexible stalks in sound condition. (A clicking noise when waggling the stalk indicates broken strands): **Yes** No
- Do all retracting mechanism retract the webbing sufficiently to remove all of the slack from the belt with the locking mechanism fastened and the seat unoccupied: **Yes** No

### 4. Condition of Webbing:

- Is all webbing original not having been and/or reworked. (e.g. belts knotted, fraying or fluffing removed by burning etc.): **Yes** No
- Is the webbing free from fluffing or fraying which may obstruct correct operation of the belt or which has clearly weakened the webbing: **Yes** No
- Is all stitching in good condition, complete, free from repairs and not frayed: **Yes** No
- Is all webbing clean so that it is unlikely to soil passengers’ clothing: **Yes** No

### 5. Safety belt Fittings:

- Are all guides, stalks or pivots free from obvious signs of structural weakness such that failure is likely: **Yes** No
6. Seat or seats to which safety belts are attached:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are all seats securely fastened to the chassis or sub-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all set legs and frames free from cracks or fractures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Installation:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are all parts of the installation free from sharp edges which could or is likely to cut or abrade the webbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all directly attached anchorages secured by standard safety belt mounting bolts and washers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all directly attached anchorages attached to a load bearing member or do they have suitable reinforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do all anchorages attached to the floor have reinforcement plates of a suitable size and contour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where belts have been retrofitted to seats with tubular frame legs or tubular “H” pattern legs, the seat frames been reinforced with buttressing and diagonal bracing, or buttressing where a floor mounted belt is fitted close to a seat leg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where tubular seat frames are fitted, they have not been drilled for the purpose of attaching a safety belt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is suitable padding provided in reference zones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all lower anchorages more than 350 mm apart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all lower anchorages positioned so that the occupant is restricted from effectively moving forward. (the belt should lie across the stomach or forward of the top quarter of the thigh)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all upper anchorage of three point belt greater than 475 mm above uncompressed seat cushion measured parallel to the seat back</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all upper anchorages of three point belt(s) more than 110 mm from centre line of seat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For claw type seat mountings is there adequate means of securing the claws</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On seats fitted to a flat rail does the bolt pass through the leg, rail, floor and a suitable reinforced structural member or the floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is all tracking for securing seats and wheelchairs securely attached to the chassis or structural members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For any looped belts fitted is the free movement at the anchorage less than 25mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the gangways free from any obstructions caused by the safety belt components that are likely to cause injury to a passenger</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall assessment of Vehicles Safety Belt Installation

Acceptable               Unacceptable         (please tick as appropriate)

Signed:                                                                 Date:
6. Certification template
Construction, Equipment and Use Certification of Safety Belt Installations

This document is to be completed by the individual inspecting and certifying a safety belt installation or the company who installed the safety belts. To complete this certificate you must satisfy yourself that the safety belt installation on this vehicle meets the requirements of the Road Traffic (Construction, Equipment and Use of Vehicles) Regulations. In making your assessment you should consider the appropriate manufacturer’s specifications, Type Approval standards, and additional reference material (including RSA guidance note) when inspecting and certifying a safety belt installation.

Vehicle Certifier Details

Name (and/or Business Name) ____________________________ Date________________
Address____________________________________
Telephone _________________ Email address: ___________________________________________

Please give details of your professional qualifications:

Engineering Qualification and/or Professional body accreditation __________________________
______________________________________________ Number of year’s relevant experience _____

Details of professional indemnity insurance ______________________________________________

Vehicle Owner Details

Name (and or Business Name) ____________________________ Date _________________
Address____________________________________________________________________________
Telephone _________________ Email address: ___________________________________

Vehicle Details
Registration Number_________ Vehicle Identification Number (VIN) ___________________________

Number of Seats __________ Number of wheelchair spaces _______________________________

Design Gross Vehicle Weight (kgs) __________ Month and Year of Manufacture ________________

Safety Belt Installation Details

No. of seats fitted with safety belts _____ No. of seats fitted with two point safety belts _______

No. of seats fitted with three point safety belts ________ No. of wheelchair restraint devices _____

Location of wheelchair restraint devices_____________________________________________________

No. of wheelchair anchorages __________ Type: (webbing/clamps etc.) _______________________

Wheelchair occupant restraints type: (2 point/3 point) _______________________________________

Safety Belt Inspection

Date of Inspection _________________ No. of safety belts inspected __________________________

Location of Inspection ________________________________________________________________

Additional Information in support of safety belt installation Yes/No __________ If yes please give details:

(Attach copy of any additional information provided)

Requirements for Certification

By certifying a safety belt installation you are declaring that each safety belt in the above vehicle satisfies the following requirements of Road Traffic (Construction, Equipment and Use of Vehicles) Regulations, (Statutory Instrument No. 190 of 1963\(^{30}\)) in respect of safety belts and their installation:

For all buses:

34. (1) Every vehicle and trailer, and all parts and equipment for every vehicle and trailer, shall be maintained in good and efficient working order, and shall be such and so maintained that no danger is liable to be caused thereby.

96. (1) Every vehicle while used in a public place shall be such, and so maintained and used, that no danger is likely to be caused to any person.

67. (1) Every vehicle (including all bodywork, upholstery and fittings) shall be properly constructed of suitable materials and shall be of such a design that it is capable of withstanding the loads and stresses likely to be met with in operation and is otherwise suitable for use for the carriage of passengers.

Declaration

I hereby declare that the above information to be true and correct and that I am in possession of the professional requirements set out in Note 1 below.

Signature of Certifier ____________________________________________ Date ________________

\(^{30}\) S.I. No. 190 of 1963
Note 1:

This certification must be completed by the authorised representative of an Approved Test Centre (ATC) or by a competent person who meets the following minimum requirements:

- an Engineering/Technical Qualification (Level 7 or higher accredited courses or appropriate accreditation with Engineers Ireland or the Institute of Automobile Engineer Assessors)
- a minimum of 5 years experience of working in a suitable technical environment (preferably Automotive or Engineering Environment)
- access to adequate facilities to carry out a thorough vehicle examination, and
- appropriate professional indemnity insurance.

Or

- be an authorised representative of a company or vehicle manufacturer engaged in the installation of safety belts to Type Approval standards.

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31 See Engineers Ireland, Accredited Courses.
32 Chartered or Associate Engineer.
33 Member or Incorporated Member.
34 Such as a Director under the Companies Act, 1963 (as amended).