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English version

Car-Adaptations for Disabled Drivers - Requirements, test methods and best practise guidelines

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties on 3 September 2013, the constitution of which was supported by CEN following the public call for participation made on 10 August 2012.

A list of the individuals and organizations which supported the technical consensus represented by the CEN Workshop Agreement is available to purchasers from the CEN-CENELEC Management Centre. These organizations were drawn from the following economic sectors car adaptation manufacturers and installers; non profit making organisation involved with matters concerning cars for people with disabilities, charities, funding bodies, driving assessment, driver licensing, trade bodies and vehicle inspection, etc.

The CEN/CENELEC Workshop Agreement is a technical agreement, developed using an open workshop structure within the framework of CEN-CENELEC and owned by CEN-CENELEC as a publication, which reflects the consensus of the registered participants responsible for its contents only. The Workshop Agreement does not therefore represent the level of consensus and transparency required for a European Standard (EN) and is not designed to support legislative requirements (e.g. the New Approach) or to meet market needs where significant health and safety issues are to be addressed. It is instead designed to offer market players a flexible and timely tool for achieving a technical agreement where there is no prevailing desire or support for a standard to be developed.

The draft is made available for an external comments phase to ensure as transparent a process as possible. The CEN-CENELEC members will undertake necessary actions to make the draft available nationally. The document will be revised following the review of comments and will be accepted by consensus amongst the Workshop participants.

The following organisations participate in Workshop 69:

- European Mobility Group (EMG)
- Car-Adaptation Protocol Initiative (CAPI)
- Dienst Wegverkeer (RDW)
- Belgisch Instituut voor de Verkeersveiligheid (BIVV)
- CBR
- Elderly and Disable Project Consultancy (EDPC)
- Transportstyrelsen (Swedish Transport Agency)
- Vlaams Agentschap voor Personen met een Handicap (VAHP)

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The final review/endorsement round for this CWA was started on 30 May 2013 and was successfully closed on 30 July 2013. The final text of this CWA was submitted to CEN for publication on 11 September 2013.

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Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN-CENELEC Management Centre.

Introduction

Personal mobility provided by a car is of importance to most people but for people with a disability it can be just not important but vital in ensuring that they can play their full role in society. Whilst many disabled people can manage with a standard vehicle, for some there is the need for adaptations to be made to facilitate their entry/exit to the car and/or to the control systems to enable them to drive. To provide the products and install them into vehicles a reasonable sized industry has grown throughout Europe.

Most of the companies involved can trace their origins back to developing an adaptation that the founder, or a friend, required and was originally made as a one-off. Other disabled drivers became aware of this and requested them for their own cars and so a company was born. Over the years these cottage industries have grown, merged and become professional but never losing the focus on the requirements of the end customer and it is a reflection of this that sees the publication of this document.

Whilst all of the adaptation products used in cars have to comply with the relevant European directives and local legislation there is very little that is specific to the particular needs and requirements for adaptations and their suitability and use by a disabled person. There have been several initiatives involving many different parties across Europe to develop an agreed framework regarding the design, manufacture and installation of adaptations for the disabled motorist. This includes several European working groups, initiatives by individual user groups and charities and most recently the Car Adaptation Protocol Initiative (CAPI) sponsored by the European Mobility Group (EMG), a trade body representing the adaptation manufacturers.

A group comprising of a number of organisations including adaptation manufacturers and installers, funding bodies, driving assessment, driver licensing, trade bodies and vehicle inspection has used as a basis all the previous work to deliver this, the first independent standard for vehicle adaptations in the world. It marks a significant milestone in the development of the service of providing a disabled person with a car that is safe, reliable and dignified for them to use.

The publication is made up of a section covering general requirements for the manufacture and installation of car adaptations together with a number of appendices dealing with specific adaptation types. It is designed to be used by different people and groups working to provide a disabled person with a suitable solution to their personal mobility needs using a car. It does not have any content referring to the conversion of vehicles for disabled persons but where adaptations are used in conjunction with a converted vehicle then it would be applicable to the adaptations alone. In many cases the vehicle supplied will be for a disabled person to drive but the adaptations may also be for a disabled person to access and egress a car. In these cases the requirements regarding driving are not applicable but all other conditions apply.

To ensure that a safe, suitable, reliable and dignified vehicle is provided to the end customer a number of important steps need to be undertaken:

- The initial assessment for fitness to drive including assessment of the driver's physical and cognitive capabilities
- Assessment of the driver's capabilities in relation to the generic types of adaptations that would be suitable for them
- Evaluation by the individual adaptation manufacturer/installer of the suitability of their particular equipment for the driver who is their potential customer
- Appropriate installation of the adaptations in the customer's vehicle
- Fitting the adaptations to the customer ergonomically to ensure the machine/human interface is suitable for the customer
- Final inspection to ensure that the completed vehicle is suitable and of the required quality at delivery

Whilst the methodology as to how all these steps are arrived at varies across Europe CEN WS69 has been written to allow for these slight variances and ensure that there is consistency in the quality of any adaptations and their installation supplied to a customer by any company working to it. Like all such publications it does reflect a minimum expected standard and does not preclude companies from exceeding these expectations.

Application and interpretation of the provisions of this document requires appropriate knowledge and experience with automotive standards, regulations and legislation. Within the document requirements are indicated by statements with '*shall*' or '*must*'. Where there is a recommendations then this is indicated in statements by '*should*' or '*could*'. Notes are also added throughout the document to aid in the interpretation and application of the provisions.

Care has been given that the provisions in this document are applicable to the widest range of car-adaptations as possible. There may be new innovations, rare adaptations or special circumstances that are not encompassed by one or more provisions of this document. In these cases it is the responsibility of the manufacturer and/or installer to explain and underpin how the spirit of the requirements of this document has been fulfilled.

This publication marks a significant milestone but is just another step in ensuring that customer needs are met by a professional, responsive adaptation industry. In order to facilitate this we would welcome any thoughts and constructive comments in order to assist in updating it to ensure that it remains relevant and credible. Contact details for this are given elsewhere in the publication.

1 Scope

This document sets out requirements and gives guidance for the design, performance and installation of car-adaptations for drivers with physical limitations. It concerns the complete car-adaptation process including driver assessment, risk analysis, information supply, manufacture, installation, and verification of the delivered product in relation to the physical and cognitive limitations and capabilities of the driver.

The document applies to car-adaptations manufactured for aftermarket installation as well as for the production and installation of customized or tailor-made solutions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ECE R10, *Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility*

ECE R13H, *Uniform provisions concerning the approval of passenger cars with regard to braking*

ECE R14, *Uniform provisions concerning the approval of vehicles with regard to safety-belt anchorages, ISOFIX anchorages systems and ISOFIX top tether anchorages*

ECE R16, *Uniform provisions concerning the approval of: (I) safety-belts, restraint systems, child restraint systems and ISOFIX child restraint systems, (II) vehicles equipped with safety-belts, safety-belt reminder, restraint systems, child restraint systems and ISOFIX child restraint systems*

ECE R17, *Uniform provisions concerning the approval of vehicles with regard to the seats, their anchorages and any head restraints*

ECE R79, *Uniform provisions concerning the approval of vehicles with regard to steering*

ISO 10542-1, *Technical systems and aids for disabled or handicapped persons — Wheelchair tiedown and occupant-restraint systems — Part 1: Requirements and test methods for all systems*

ISO 7176-19, *Wheelchairs — Part 19: Wheeled mobility devices for use as seats in motor vehicles*

ISO 7176-21, *Wheelchairs — Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and scooters, and battery chargers*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

assessment

process to determine a person's fitness to drive

Note 1 to entry: This term relates to Annex III of the 2006/126/EC directive on driving licences.

3.2

car-adaptation

modifications and/or adaptations of a motor vehicle that are necessary to overcome physical and/or cognitive limitations for a disabled driver