
**Road vehicles — Information for first
and second responders —**

Part 2:
**Rescue sheet for buses, coaches and
heavy commercial vehicles**

*Véhicules routiers — Information pour les premier et second
intervenants —*

*Partie 2: Fiche de secours pour les autocars, bus et véhicules
commerciaux lourds*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 22, *Road vehicles*, Subcommittee SC 36, *Safety and impact testing*.

A list of all parts in the ISO 17840- series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

For first and second responders initiating a rescuing action at a traffic accident site it is of utmost importance to make the correct decisions quickly to save lives of the traffic victims, and to avoid risking their own lives in the rescuing activity. For these decisions, it is necessary to have access to unambiguous information about the vehicles involved.

This document provides manufacturers of buses, coaches and heavy commercial road vehicles with a uniform way to present the data needed for rescue teams in a rescue sheet.

Similar to ISO 17840-1 (applicable to passenger cars and light commercial vehicles), this document addresses pictograms and design of the rescue sheet, taking into account the added complexity and specific needs for the heavy vehicles. This document considers the various propulsion systems applicable to state-of-the-art vehicle technology.

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Road vehicles — Information for first and second responders —

Part 2:

Rescue sheet for buses, coaches and heavy commercial vehicles

IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. For the purposes of colour matching, see ISO 3864-4 which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This document defines the content and the layout of the rescue sheet providing necessary and useful information about a vehicle involved in an accident/incident to support the rescue team in rescuing the vehicle occupants as quickly and safely as possible.

This document is applicable to buses, coaches and heavy commercial vehicles according to ISO 3833. This document could be applicable also to other types of vehicles using similar technologies.

The contents and layout considers that the rescue sheet has to be easy to use by rescue teams over the world and can be communicated in paper or electronic format.

Applicable pictograms for use in the rescue sheet are provided in ISO 17840-3. Information related to propulsion energy identification is given in ISO 17840-4.

The identification of the vehicle and of the model via a database using the license plate, the VIN number, an automatic emergency call system (e.g. e-Call) system or other identifiers (e.g. bar code or QR code) is not covered by this document.

The rescue process or the process of handling the rescue sheets is not covered by this document.

NOTE The template for structuring of more in-depth rescue information is given in ISO 17840-3.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 17840-1, *Road vehicles — Information for first and second responders — Part 1: Rescue sheet for passenger cars and light commercial vehicles*

ISO 17840-3:2019, *Road vehicles — Information for first and second responders — Part 3: Emergency response guide template*

ISO 17840-4, *Road vehicles — Information for first and second responders — Part 4: Propulsion energy identification*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions in ISO 17840-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org>

3.1 first responder

individual who is authorized, trained and qualified to provide primary response to victims of a traffic accident, fire or submersion

Note 1 to entry: Included, but not limited to, fire departments, rescue squads, emergency medical personnel, law enforcement personnel, and in some instances military personnel where the personnel are trained in assessing and treating injuries.

3.2 second responder

individual who is authorized, trained and qualified to take care of vehicles after they have been subject to a traffic accident, fire or submersion

Note 1 to entry: Included, but not limited to, tow/recovery personnel, vehicle storage operators, repair/service technicians, dismantlers and auto salvage personnel.

4 Pictograms for components to be considered

4.1 Colour coding principles

Colour codes according to [Table 1](#) are applied in this document.

Table 1 — Colour coding principles

| Colour | RGB code ^a | Components/functions |
|------------|-----------------------|--|
| Yellow | RGB: 255,255,0 | Low voltage electrical system/components, including SRS control unit |
| Orange | RGB: 255,165,0 | High voltage (class B voltage) electrical system/components |
| Blue | RGB: 77,77,255 | Occupant protection system, e.g. airbags |
| Purple | RGB: 152,43,143 | Seat belt pretensioner |
| Red | RGB: 255,0,0 | Surrounding colour for triggered systems e.g. airbag, gas inflator or preloaded spring actively triggered by sensor or similar |
| Lime green | RGB: 0,255,0 | Gas, liquid and pre-tensioned spring components |
| Sea green | RGB: 0,128,128 | High strength zones |
| Grey | RGB: 127,127,127 | Liquid group 1 (Diesel, Bio Diesel, ...) tank/lines |
| Dark red | RGB: 139,0,0 | Liquid group 2 (Petrol/Gasoline, Ethanol, ...) tank/lines |
| Green | RGB: 0,176,80 | Gas tank/lines (generic) |
| White | RGB: 255,255,255 | Cryogen Gas Group (LNG, ...) tank/lines |
| Light blue | RGB: 0,176,240 | Hydrogen tank/lines |
| Purple | RGB: 204,0,204 | Air-condition components/lines |
| Brown | RGB: 183,120,29 | Oil tank/lines |
| White | RGB: 255,255,255 | Air tank |

^a RGB colour components as expressed in terms of digital 8-bit per channel (from 0 to 255).

NOTE RGB colour components are also given in ISO 17840-3:2019, Annex B, for the respective pictogram.

4.2 Pictograms for rescue sheet application

Components/functions/dangers to be considered during the rescue procedure are represented by dedicated pictograms. The pictograms are used:

- to indicate the location of the respective components/functions in the vehicle, in conjunction with the rescue sheet illustration; and
- to communicate a specific function or danger, for use under the rescue sheet additional pages headings and ERG headings.

Applicable pictograms from ISO 17840-3:2019, Annex B shall be used.

5 Layout and contents of a rescue sheet

5.1 General requirements

As applicable, all information of relevance for the rescuing action shall be shown in the rescue sheet.

All components and functions that may expose the vehicle occupants or the rescue personnel to risks during the rescue process (including e.g. cutting of the vehicle) shall be identified and shown in the rescue sheet. Devices/measures to inhibit a dangerous state (e.g. high voltage disconnect) shall also be shown.

Pictograms for use on the front page and additional pages shall be selected from those given in ISO 17840-3:2019, Annex B.

Information on propulsion energy shall be shown in accordance with ISO 17840-4.

Transparency should be used to show when one component is behind another in the views. If clarity can be improved, a pictogram may be positioned outside the vehicle shape, with arrow pointing to the location within the vehicle.

The technology of the HV battery shall be stated (e.g. Li-Ion or Ni-MH), and the voltage may be mentioned, because the actions in case of a rescue could be different. For vehicles with gas propulsion the gas type shall be stated (e.g. LNG, CNG, H₂).

The rescue sheet may be created as one sheet covering all vehicle variants and body shapes and drives. There may be instances where the position of the components may differ from one vehicle variant to another. In these instances, it will be necessary to create additional rescue sheets to cover these differences, or by other means ensure that an unambiguous position information is provided in the rescue sheet.

Two examples of rescue sheets are shown in [Annex C](#).

5.2 Front page

5.2.1 General

The front page of the rescue sheet is mandatory and shall be designed according to [Annex A](#).

This includes the header, the top view, the side view and the legend which show all relevant components/functions to be considered.

5.2.2 Header

The header consists of two parts.

First part of header shall include:

- the logo(s) of the vehicle brand¹⁾;
- the name of manufacturer and vehicle model²⁾ as well as the body type(s) covered by the rescue sheet;
- the date of release of the vehicle model, and the end of production when applicable³⁾, presented as year of start of production — year of end of production.

This first part of the header may be in a colour band linked to the colour of the brand.

Second part of header consists of perspective photos of the vehicle from the front and from the back in the position as defined in [Annex A](#).

A white double-framed rectangle may be placed on the perspective photos to alert the rescue teams of components requiring additional attention. The need for additional attention is linked to an uncommon technology or unusual location of a specific component, uncommon/unusual meaning not frequently found in the vehicle fleet.

5.2.3 Top view

The top view of the vehicle shall show the shapes of the vehicle and the shapes of doors, windows, bonnet (as applicable) in black lines. The creator of the rescue sheet decides regarding clarity which components/functions will be placed in the top view.

5.2.4 Side view

The side view of the vehicle shall show the shapes of the vehicle and the shapes of doors, windows, etc. in black lines. The creator of the rescue sheet decides regarding clarity which components/functions will be placed in the side view.

5.2.5 Legend

The legend shall be placed as shown in [Annex A](#) showing all pictograms used.

5.2.6 Footer

The footer shall include:

- Document ID number of the rescue sheet;
 - The document ID number shall be a unique and logically structured identification number allowing the selection of the right rescue sheet. The rescue sheet identification number can be used as a simple identifier in communication (e.g. between dispatch and emergency vehicles);
- Version number of the rescue sheet starting at “01” for the first release;
- Version date (optional);
- Page number (out of the total number of pages); and
- Space available to the left may be used for additional information, e.g. applicable country or region for the vehicle model.

1) Taking into account the applicable copyright rules.

2) Vehicle model name may include regional information as decided by the creator of the rescue sheet.

3) Applicability to be decided by the creator of the rescue sheet.

5.3 Additional pages

The template for additional pages is given in [Annex B](#) and shall be followed. The additional pages shall provide condensed information and follow the same normative headings and colour coding of sections as used in the Emergency Response Guide template (ISO 17840-3).

Known hazards should be stated, e.g. type and amount of coolant agent. If a hazard is applicable to several headings, the general principle is that it should be repeated under each heading.

Relationship between component/system and related hazard(s) should be obvious from the arrangement of the information.

Additional pages may contain pictures and drawings for clarification.

Header (see [5.2.2](#)) and footer (see [5.2.6](#)) may be repeated in the additional pages.

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Annex A (normative)

Front page of rescue sheet

| | | | |
|--|--|--|---------|
| Logo of brand | Name of manufacturer and vehicle model Body type(s) covered by the rescue sheet (year of start of production — year of end of production*) *) leave empty if the vehicle is still in production | RHD pictogram or LHD pictogram <i>NOTE Leave blank when LHD and RHD are covered by the same rescue sheet.</i> | |
| Photos | | | |
| Rescue sheet illustration | | | |
| Legend | | | |
| Field may be used for additional information, e.g. applicable country or region for the vehicle model. | ID No. | Version No. | Page N° |

Front page of rescue sheet, landscape mode

| | | | | | |
|--|---|--|--|-------------|---------|
| Logo of brand | Name of manufacturer and vehicle model Body type(s) covered by the rescue sheet (year of start of production — year of end of production*) <i>*) leave empty if the vehicle is still in production</i> | | RHD pictogram or LHD pictogram <i>NOTE Leave blank when LHD and RHD are covered by the same rescue sheet.</i> | | |
| Photos | | | | | |
| Rescue sheet illustration | | | Legend | | |
| Field may be used for additional information, e.g. applicable country or region for the vehicle model. | | | ID No. | Version No. | Page N° |

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Annex B
(normative)

Additional page(s) of rescue sheet

Additional page(s) headings of the rescue sheet correspond to the Emergency Response Guide template (see ISO 17840-3).

Only the relevant headings shall be included in the additional page(s).

NOTE White text can be used to improve legibility.

1. Identification / recognition

2. Immobilisation / stabilisation / lifting

3. Disable direct hazards / safety regulations

4. Access to the occupants

5. Stored energy / liquids / gases / solids

6. In case of fire

7. In case of submersion

8. Towing / transportation / storage

9. Important additional information

10. Explanation of pictograms used

Annex C (informative)

Rescue sheet examples

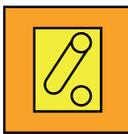
The following annex provides rescue sheet examples for:

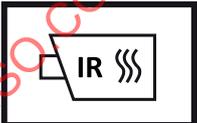
- an electric bus with inductive charging; and
- a truck with fuel cell propulsion.

NOTE The examples are included as an illustration of how the rescue sheet principles can be applied. They are not intended to reflect realistic cases.

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| | | | | | |
|--|--|--|----------------------------|------------------------------|--------------------------------|
| Logo of brand | Name of manufacturer and vehicle model Body type(s) covered by the rescue sheet (year of start of production — year of end of production*) *) leave empty if the vehicle is still in production | RHD pictogram or LHD pictogram <i>NOTE Leave blank when LHD and RHD are covered by the same rescue sheet.</i> | | | |
| Photos | | | | | |
| | | | | | |
| Electric propulsion | Induction charging | High voltage Li-Ion battery | High voltage component | High voltage power cable | Disconnect high voltage |
| Low voltage battery | Emergency exit | Break to obtain access | Emergency door opener | Auto fire suppression | Air-conditioning component |
| Airbag | Lifting point | Height control | Seat adjustment | | |
| Field may be used for additional information, e.g. applicable country or region for the vehicle model. | | | ID No. | Version No. | Page N° |

| 1. Identification / recognition | |
|---|--|
|  | Electric bus with inductive charging |
| 2. Immobilisation / stabilisation / lifting | |
|  | Height control bus in driver cabin |
|  | Seat height adjustment in driver cabin |
|  | Use only these lifting points |
| 3. Disable direct hazards / safety regulations | |
|  | Shutdown high voltage possible at two places |
| 4. Access to the occupants | |
|  | Three door exits |
|  | One roof exit |
|  | Break these windows to obtain access |
| 5. Stored energy / liquids / gases / solids | |
|  |   |
| |   |

| | | | |
|---|---|---|---|
|  | |  | Induction power High voltage magnetic field |
|  | |  | |
|  |  |  | |
| |  |  | |
| 6. In case of fire | | | |
|  |  |  |  |
|  |  |  |  |
| 7. In case of submersion | | | |
|  | Follow heading 3. Disable direct hazards / safety regulations once out of the water | | |
| 8. Towing / transportation / storage | | | |
|  |  | Check battery temperature | |

| | | | | | |
|---|---|--|----------------------------------|--|------------------------|
| <p>Logo of brand</p> | <p>Name of manufacturer and vehicle model Body type(s) covered by the rescue sheet (year of start of production — year of end of production*) *) leave empty if the vehicle is still in production</p> | <p>RHD pictogram or LHD pictogram NOTE Leave blank when LHD and RHD are covered by the same rescue sheet.</p> | | | |
| <p>Photos</p> | | | | | |
| | | | | | |
| <p>Fuel cell propulsion</p> | <p>Hydrogen tank</p> | <p>Manual gas shut-off valve</p> | <p>Overpressure safety valve</p> | <p>Overpressure valve direction up</p> | <p>Fuel cell</p> |
| <p>High voltage Li-Ion battery</p> | <p>Disconnect high voltage</p> | <p>Low voltage battery</p> | <p>Air tank</p> | <p>Height control</p> | <p>Seat adjustment</p> |
| <p>Airbag</p> | <p>Seat belt pretensioner</p> | | | | |
| <p>Field may be used for additional information, e.g. applicable country or region for the vehicle model.</p> | | | <p>ID No.</p> | <p>Version No.</p> | <p>Page N°</p> |