Informal document GRSG-112-06
(112th GRSG, 24-28 April 2017,
Agenda item 9.)
ISO propulsion energy identification

- Proposal made by CTIF and worked out together with various manufactures/regulators/CTIF on behalf of ISO
- CTIF: organization of fire and rescue services, representing 40 member countries worldwide!
- After first ISO CD ballot and review of the comments: ISO propulsion energy identification is approved by all main vehicle manufactures countries
- Next stage: DIS ballot in progress for final approval

40 CTIF member countries
ISO propulsion energy identification

• Important: the location or position of labels on the vehicle, on the rescue sheet, or in the emergency response guide is outside the scope of the ISO 17840-4 standard in development
Current Situation

- Different kind of pictograms are used for the same type of fuel
- No “global standardized color coding” determined by a RGB code
Current Situation

- No update on the pictograms for already many years old ‘new’ technology...
- We are facing a safety problem!

Hydraulic Hybrid-Vehicle

Fuel Cell Electric-Vehicle

Hybrid-Vehicle

Electric-Vehicle
Current Situation

- Need for pictograms easy to understand by first and second responders (logical approach).
- Not be able to know the type of fuel from a distance...

- Important: the location or position of labels on the vehicle, on the rescue sheet, or in the emergency response guide is outside the scope of this standard.
Standardization: necessary for who?

First responder

• Individual, that is authorized, trained and qualified to provide primary response to victims of a traffic accident, fire, 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 if the personnel is trained in assessing and treating injuries.

Second responder

• Individual, that is authorized, trained and qualified to take care of vehicles after they have been subject to a traffic accident, fire, submersion...

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

The closer you come, the more information you get by reading the pictogram.
ISO propulsion energy identification

**Used Colors**

<table>
<thead>
<tr>
<th>GREY</th>
<th>DIESEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>GASOLINE</td>
</tr>
<tr>
<td>GREEN</td>
<td>GAS</td>
</tr>
<tr>
<td>WHITE</td>
<td>CRYOGEN LNG</td>
</tr>
<tr>
<td>BLUE</td>
<td>HYDROGEN</td>
</tr>
<tr>
<td>ORANGE</td>
<td>HIGH VOLTAGE</td>
</tr>
</tbody>
</table>
ISO propulsion energy identification

- These colors can be used in rescue information or can be used to color vehicle components in the vehicle
ISO propulsion energy identification

<table>
<thead>
<tr>
<th></th>
<th>First energy source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Second energy source</td>
</tr>
<tr>
<td>3</td>
<td>Density towards air</td>
</tr>
<tr>
<td>4</td>
<td>Stored state</td>
</tr>
</tbody>
</table>

1 2 3 4

Density towards air Stored state
Second energy source First energy source
ISO propulsion energy identification

**SYMBOLS**

1) FIRST ENERGY SOURCE
2) SECOND ENERGY SOURCE
3) DENSITY TOWARDS AIR
4) STORED STATE
ISO propulsion energy identification

Example:

• First energy source:
  1. CNG or LPG or LNG or H2
  2. Diesel/Gasoline/Full Electric

• Second energy source
  1. Diesel/Gasoline/Full Electric/Hydraulic Hybrid
ISO propulsion energy identification

DIESEL
ISO propulsion energy identification

GASOLINE
ISO propulsion energy identification

CNG
ISO propulsion energy identification

LPG
ISO propulsion energy identification

LNG
ISO propulsion energy identification

FULL ELECTRIC (HIGH VOLTAGE)
ISO propulsion energy identification

HYBRID
HIGH VOLTAGE and GASOLINE
ISO propulsion energy identification

**DUAL FUEL/BI FUEL:**
CNG AND DIESEL
ISO propulsion energy identification

FUEL CELL: HYDROGEN AND ELECTRIC
(HIGH VOLTAGE)
ISO propulsion energy identification

**HYBRID: DIESEL AND HYDRAULIC**
Questions?

Participants Kick-off meeting ISO Project
More information?

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