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(54) Title: VEHICLE INTERFACES

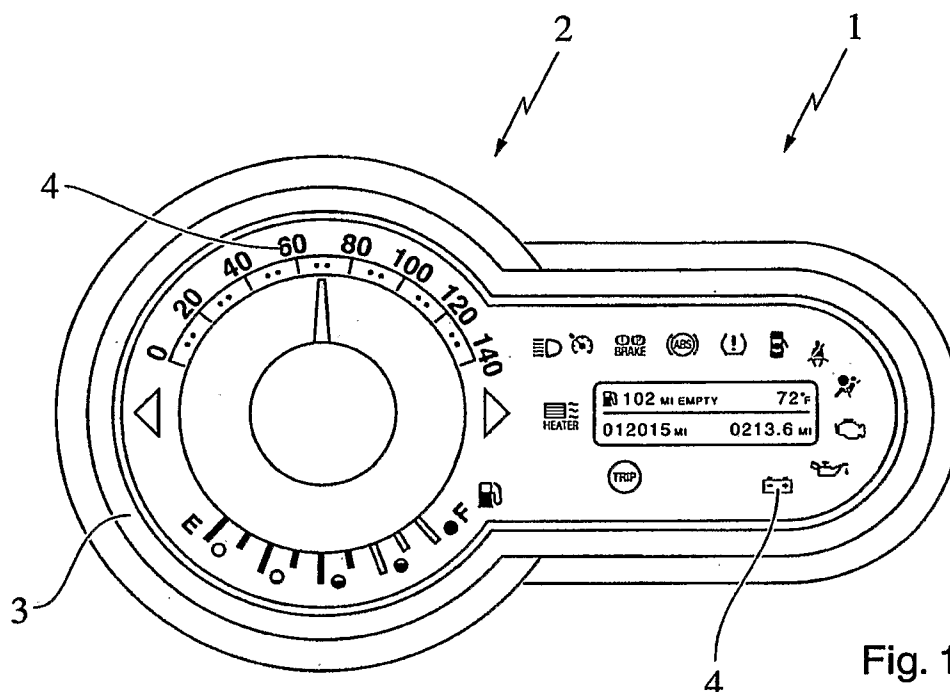


Fig. 1

(57) Abstract: The present invention relates to vehicle interfaces to display information about the status of the vehicle that comprises a front plate.

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VEHICLE INTERFACES

The present invention relates to vehicle interfaces to display information about the status of the vehicle that comprises a front plate.

Such vehicle interfaces are very well known in the state of the art and are usually located in the dashboard of the car. These vehicle interfaces display information about the state of the vehicle such as its velocity, the RPM of the motor, various temperatures such as the temperature of the cooling water and/or of the oil, the battery status and the like. Since vehicles nowadays have to be more and more cost efficient and must be reduced in their weight, there is an ongoing effort to improve these vehicle interfaces.

It was therefore the problem of the present invention to provide a vehicle interface with less weight than vehicle interfaces according to the state of the art. Furthermore, it was a problem of the present invention to provide a vehicle interface that is produced easily.

The problem is solved with vehicle interface to display information about the status of the vehicle, that comprises front plate, which comprises an indication produced by material removal from the front plate.

The present invention is related to a vehicle interface to display information about the status of the vehicle. Normally these vehicle interfaces are located in the dashboard of a car and display important information about the vehicle such as its velocity, the rotation pro minute of the motor, temperatures of the cooling water of the motor, its oil-temperature, and the like. Additionally, the display information can comprise warning- and/or status signals that inform the occupant of the vehicle about dangerous situations and/or important information.

In many cases, the vehicle interface comprises an indicator, such as a needle, and a scale. Based on the position of the indicator on this scale, the operator of the car gets information about the individual, relevant parameters.

According to the present invention, the vehicle interface comprises a front plate, which is preferably made from glass and/or a plastic material.

Furthermore, according to the present invention, indications such as a scale or various symbols are applied on the front plate by removing locally material from the front plate. Preferably, the material is removed to an extent, that the front plate is at least partially opaque in the region where the material has been removed, i.e. in the region of the indications. Preferably these regions are surrounded by transparent regions.

Preferably, the indication is etched on the front plate. This can be done preferably with a chemical substance and/or most preferably with a laser. Due to the etching, the material can be ablated and/or evaporated and/or oxidized.

The invention is now explained according to the only figure 1. These explanations are only exemplary and do not limit the scope of protection.

This figure shows a vehicle interface that depicts, in the present case, the velocity of the car and the fuel-status of the tank. The velocity of the car is depicted with a scale from 0 to 140 miles per hour and a needle. The position of the needle in combination with the scale gives the vehicle occupant information about the velocity of the car.

According to the present information, the scale from 0 to 140 is laser etched on the front plate of the vehicle interface. Due to the laser-etching, the surface of the front-plate is locally modified in the region of an indication. This modification of the surface results preferably in a local reduction of the transparency, i.e. the front plate is in the region of the indications partially opaque, so that they are visible for the vehicle occupant.

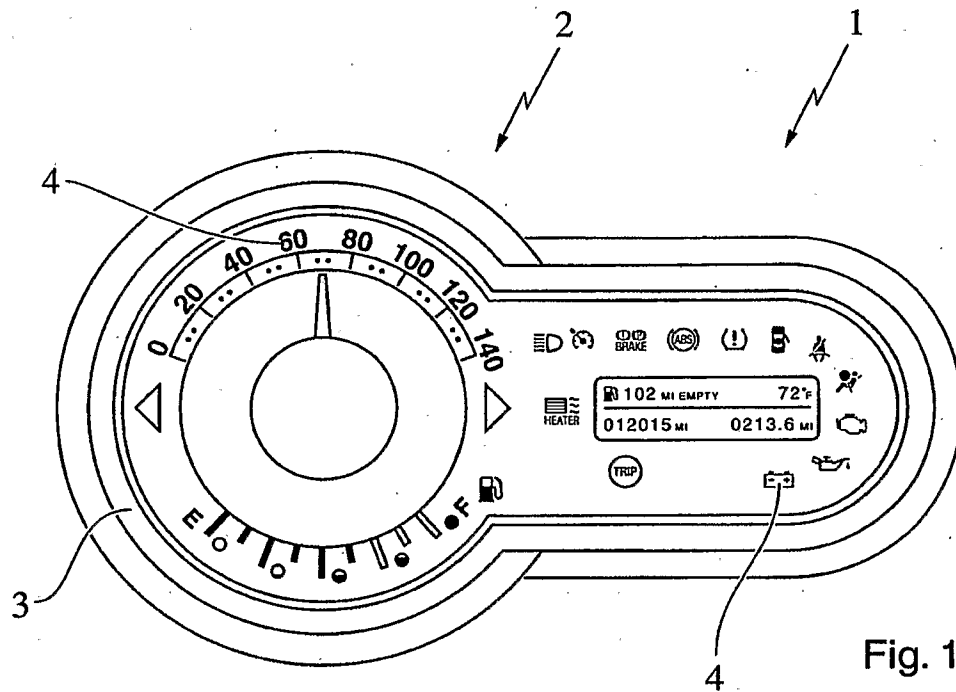
List of reference signs:

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- 1 vehicle interface
- 2 information
- 3 front plate
- 4 indication

Claims:

1. Vehicle interface (1) to display information (2) about the status of the vehicle, that comprises front plate (3), characterized in that it comprises an indication (4) produced by material removal from the front plate (3).
2. Vehicle interface according to claim 1, characterized in, that the front plate (3) is made from glass- and/or plastic-material.
3. Vehicle interface according to one of the preceding claims, characterized in, that the indication is etched on the front plate.
4. Vehicle interface according to one of the preceding claims, characterized in, that the indication is laser etched on the front plate.
5. Vehicle interface according to one of the preceding claims, characterized in, that the indication is a velocity, a velocity, rpm, a temperature.
6. Vehicle interface according to one of the preceding claims, characterized in, that the indication is a warning- or status-signal.



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. B60K35/00 B60K37/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B60K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 100 24 232 A1 (VOLKSWAGEN AG [DE]) 22 November 2001 (2001-11-22) paragraphs [0015], [0017], [0020], [0021]; figures 1,2	1-6
X	US 3 053 337 A (HANS PROHASKA ET AL) 11 September 1962 (1962-09-11) column 6, lines 10-26; figure 4	1-6
X	US 2005/139143 A1 (DINH NANCY [US] ET AL) 30 June 2005 (2005-06-30) sentences 1-3, paragraph 16	1-6
X	WO 2006/074349 A (JOHNSON CONTROLS TECH CO [US]; EICH RODGER W [US]) 13 July 2006 (2006-07-13) paragraph [0035]; figures 4,5	1-6

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

5 March 2009

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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