

(19) Japan Patent Office (JP)
(12) Patent Disclosure Publication (A)

(11) Patent Application
Disclosure
H8-220118
(43) Disclosure August 30 1996 (H8)

(51) Int. Cl. ⁶	Classification	Internal Control No	FI	Technical Index
G01P 1/07			G01P 1/07	Z
B60K 31/00			B60K 31/00	Z
G01D 7/00			G01D 7/00	K
G01P 1/10			G01P 1/10	Z

Examination requested Not requested Number of Inventions 9 (Total 10 pages)

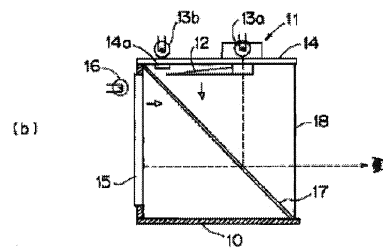
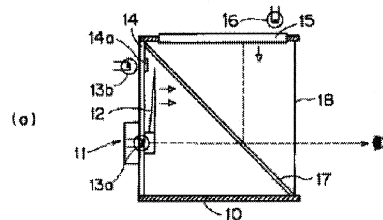
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**(54) SETTING VEHICLE SPEED DISPLAY DEVICE
FOR CRUISE CONTROL UNIT**

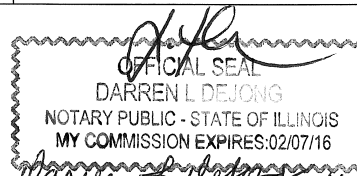
(57) (Summary)

[Purpose] The purpose is to provide a vehicle display indicator equipped with set speed identification readout such as set speed identification readout only during cruise travel speed according to a cruise travel speed unit.

[Composition] a speedometer (11) is arranged rearward of a half-mirror (17) which is housed in a case (10), a set speed display panel is equipped which displays the set speed during cruise travel speed transmitting according to the cruise travel speed unit above a half-mirror (17), the scale (14a) of the dial face (14) and the indicator needle of the speedometer are transmitted by the half-mirror (17) and can be recognized, and reflects the set speed display while the cruise speed is set which is vehicle information superimposed in the scale (14a) position of the dial face (14) this vehicle readout displays.



10: Case
11: Speedometer
12: Indicator needle
13a and 13b: Illumination
14: Dial face
14a: Scale
15: Established speed display panel
16: Illumination means
17: Half-mirror
18: Cover glass



[Scope of the Patent Claims]

[Claim 1]

In a vehicle display readout equipped with a cruise travel speed unit for set speed display readout, the vehicle display readout is equipped with a set speed display read out of the cruise travel speed unit consisting of display in a scale position of a speedometer dial face for a set speed which is established by the cruise travel speed unit.

[Claim 2]

A vehicle display readout, for a vehicle display readout is provided with a set speed display read out of a cruise travel speed unit, is comprised of a speedometer displaying travel speed, and a display means displaying the dial face the scale position of the speedometer for a set speed which is stabled by the cruise travel speed unit.

[Claim 3]

A vehicle display readout provided with setting speed display readout of cruise control unit, wherein a half-mirror stored in a case, a speedometer having a dial arranged in the back of the half-mirror and indicator needle, and the setting speed display board arranged in the upper part of the half-mirror are provided, is characterized by reflecting and superposing with the half-mirror a setting speed display light reflected from the setting speed display board on the scale display position of dial of the speedometer transmitted through the half-mirror and displayed.

[Claim 4]

A vehicle display readout provided with setting speed display readout of cruise control unit, wherein a half-mirror stored in the case, a setting speed display board which emits display light displaying setting speed during cruise control arranged in the back of the half-mirror, and a speedometer having a dial and indicator needle arranged in the upper part of the half-mirror are provided, is characterized by superposing setting speed display emitted from the setting speed display board on the scale display position of dial of the speedometer reflected with the half-mirror.

[Claim 5]

The vehicle display readout provided with setting speed display readout of cruise control unit according to Claim 3 or Claim 4, wherein display of the setting speed display board is by LED.

[Claim 6]

The vehicle display readout provided with setting speed display readout of cruise control unit characterized by being provided with a first indicator needle which instructs setting speed during cruise control by the cruise control unit, a second indicator needle which instructs scale of speedometer, and the display means which displays setting speed by projecting the first indicator needle on to the scale of the speedometer during cruise control.

[Claim 7]

A vehicle display readout provided with setting speed display readout of cruise control unit provided with a half-mirror stored in the case, a speedometer having the first indicator needle and a dial arranged in the back of the half-mirror, the second indicator needle which instructs the setting speed during cruise control by the cruise control unit set up in the upper part of the half-mirror, and the display means which superposes display light of the second indicator needle during cruise control by reflecting with the half-mirror on the scale display light of dial of the speedometer transmitting through the half-mirror.

[Claim 8]

A vehicle display readout provided with setting speed display readout of cruise control unit characterized by being provided with a half-mirror stored in the case, the first indicator needle which instructs a scale of speedometer set up in the upper part of the half-mirror, the second indicator needle which instructs the setting speed during cruise control by the cruise control unit set up in the back of the half-mirror, and the display means which superposes display light of the first indicator needle displaying setting speed during cruise control by reflecting with the half-mirror on the display light of the second indicator needle transmitting through the half-mirror.

[Claim 9]

The vehicle display readout provided with setting speed display readout of cruise control unit according to Claim 7 or Claim 8, wherein the first and second indicator needle and the scale of dial face of the speedometer are optical transmission type.

[Detailed Description of the Invention]

[0001]

[Industrial Field of Application]

The present invention, relates to the set speed readout of a cruise travel speed unit, and in detail, pertains to the set speed readout displaying the established speed during cruise travel speed on a speedometer scale.

[0002]

[Prior Art]

Traveling a long time such as on a high-speed highway without operating the accelerator or the brake, what is called, driving in auto-drive, there is constant travel speed device (cruise control) implementation controlling a constant vehicle speed. Setting the cruise control is possible in the range is within a low speed limit to a high speed limit that is established by the travel speed of the vehicle before hand, when setting the cruise control, this is a cruise speed control that stores vehicle speed when vehicle speed is set and adjusts the throttle opening to maintain the vehicle speed. Conventionally, in a vehicle with this manner of cruise control unit, a set speed display readout displaying the vehicle speed while cruise travel speed is set is provided in addition to the speedometer.

[0003]

In Figure 10, a set speed display readout is depicted which displays the cruise travel speed which was disclosed in Utility model disclosure publication JP 4-102059. In the same figure, (1) is a partial depiction of a combination meter and incorporated in speedometer (2). The set speed display readout (3) is formed in which are arranged a dot shaped indicator (5) formed from such as light emitting diode (LED) with 5 Km increments in the circumference of the look-back plate of the speedometer (2) scale (2a).

[0004]

In explaining this cruise travel speed display readout, first, the cruise travel speed is set, the speed is computed at that point by the CPU (central processing unit) and the vehicle speed is stored in memory (RAM). The vehicle speed data which was stored is readout, turning on the indicator of the set speed display readout to display the set speed. Moreover, controlling the degree of slot opening based on this vehicle speed and the vehicle speed at the set speed. In contrast, the speedometer displays the actual speed.

[0005]

[Problem(s) to be Solved by the Invention]

In the above described set speed display readout, as depicted in figure (10), the dot-shaped LED of indicator (5) are provided in the set speed display readout in a cover plate (4) facing separately to speedometer (2). However, there are difficulties in providing indicator (5) with 1 Km increments in order to raise the resolution with the conventional configuration. Moreover, the cruise speed readout is an unnecessary meter during normal driving, and there is the disadvantage that the indicator is obtrusive during normal driving in order to have set speed display readout around the periphery of the speedometer scale. In addition, in order to have the dot-shapes in the periphery of the speedometer scale for the set speed display readout, the appearance of the design is not superior, there may be some discomfort with the design, and there is room for improvement. Furthermore, there is a burden in that the line of sight must be shifted to be able to read the scale of the speedometer in order to confirm the speedometer scale during driving and the set speed of the set speed display readout because the set speed display readout is present in the periphery of the speedometer scale.

[0006]

The present invention is in response to the disadvantages described above, and the object is to provide vehicle speed readout equipped with a set speed display readout which shows the set speed display only during the cruise travel speed according to the cruise travel speed unit. Moreover, another purpose of the present invention is to provide vehicle display readout equipped with a set speed display readout improving on the resolution of display during cruise speed travel.

[0007]

[Means for Solving the Problem(s)]

In order to achieve the purpose above, the first invention is characterized by vehicle display readout provided with setting speed display readout of cruise control unit, wherein the setting speed set up by the cruise control unit is displayed on the scale position of dial face of the speedometer.

[0008]

Moreover, the second invention is characterized by vehicle display readout provided with setting speed display readout of cruise control unit, wherein the speedometer, which displays travel speed, and display means, which displays the setting speed set up by the cruise control unit on the scale position of dial face of the speedometer, is provided.

[0009]

Moreover, with regards to the third invention, a vehicle display readout provided with setting speed display readout of cruise control unit, wherein a half-mirror stored in the case, a speedometer having a dial arranged in the back of the half-mirror and indicator needle, and the setting speed display board arranged in the upper part of the half-mirror are provided, is characterized by reflecting and superposing with the half-mirror a setting speed display light reflected from the setting speed display board on the scale display position of dial of the speedometer transmitted through the half-mirror and displayed.

[0010]

Furthermore, with regards to the fourth invention, a vehicle display readout provided with setting speed display readout of cruise control unit, wherein a half-mirror stored in the case, a setting speed display board which emits display light displaying setting speed during cruise control arranged in the back of the half-mirror, and a speedometer having a dial and indicator needle arranged in the upper part of the half-mirror are provided, is characterized by superposing setting speed display emitted from the setting speed display board on the scale display position of dial of the speedometer reflected with the half-mirror. In addition, the fifth invention is a vehicle display readout provided with setting speed display readout of cruise control unit according to Claim 3 or Claim 4, wherein display of the setting speed display board is by LED.

[0011]

Moreover, the sixth invention is a vehicle display readout provided with setting speed display readout of cruise control unit characterized by being provided with the first indicator needle which instructs the setting speed during cruise control by the cruise control unit, the second indicator needle which instructs scale of speedometer, and the display means which displays setting speed by projecting the first indicator needle on to the scale of the speedometer during cruise control. Moreover, the seventh invention is a vehicle display readout provided with setting speed display readout of cruise control unit characterized by being provided with a half-mirror stored in the case, a speedometer having the first indicator needle and a dial arranged in the back of the half-mirror, the second indicator needle which instructs the setting speed during cruise control by the cruise control unit set up in the upper part of the half-mirror, and the display means which superposes display light of the second indicator needle during cruise control by reflecting with the half-mirror on the scale display light of dial of the speedometer transmitting through the half-mirror.

[0012]

Furthermore, the eighth invention is a vehicle display readout provided with setting speed display readout of cruise control unit characterized by being provided with a half-mirror stored in the case, the first indicator needle which instructs a scale of speedometer set up in the upper part

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