INDY-CATOR®

Shifter knob with digital gear display

Instructions for fitting and use

GASLOCK GmbH

ENGLISH

Contents

Preliminary note

The shifter knob with digital gear display functions on the principle of calculating the difference between two sensors. The result is indicated in the display as the gear selected. The electronics detect minimal changes in shifter knob position. It therefore functions completely independent of the vehicle transmission. The display only changes when a positional change has been reliably detected as a gearshift.
This may require 1 to 1,5 sec.

This gear display is intended to serve as an aid. No warranty is given for the correctness of indication.

In the event that gears are not displayed correctly, the teach procedure should be repeated with the engine/transmission at operating temperature. Depending on the particular type of vehicle and gear positions, brief crossfading in the display may occur at extreme acceleration. This is due to the physical characteristics of the sensors and is not a fault.

Package contents

1x	Shifter knob (1)
1x	with cable assembly and electronics box (2)
1x	Connecting data cable (3)
1x	Clamping ring (4)
2x	Set screws, length 10 mm & 14 mm (5)
1x	Instructions for fitting and use (6)
1x	Control slip (7)

Figure. 1

1. Examples for removing existing shifter knob

1.1.1
On some vehicles, the shifter knob is connected to the shift rod via a thread, e.g. VW, Vauxhall, Ford etc.

A check should be made to ascertain whether the shift-lever boot is joined to the shifter knob. If this is not the case, turn the shifter knob until it separates from the shift rod, then pull off.

If this is the case, carefully remove the shift-lever boot from the centre console.

Turn the shifter knob with shift-lever boot until it detaches from the shift rod, then pull off both parts.

1.1.2
On other vehicles such as BMW, for example, the shifter knob is pushed on to the shift rod and can be pulled off.

1.2.1
If the vehicle is one described under Item 1.1.1, the shift-lever boot is already removed with the shifter knob. Remove the shift-lever boot from the shifter knob; this usually joined to the shifter knob with a ring (Figure 3.0). The ring must be removed carefully with a suitable tool. The shift-lever boot can be removed from the shifter knob.

Figure 2

1.2.2

If the vehicle is one described under Item 1.1.2 **(Figure 2)**, the shift-lever boot must be removed from the centre console and pulled off over the shift rod until only the shift rod is visible **(Figure 4)**.

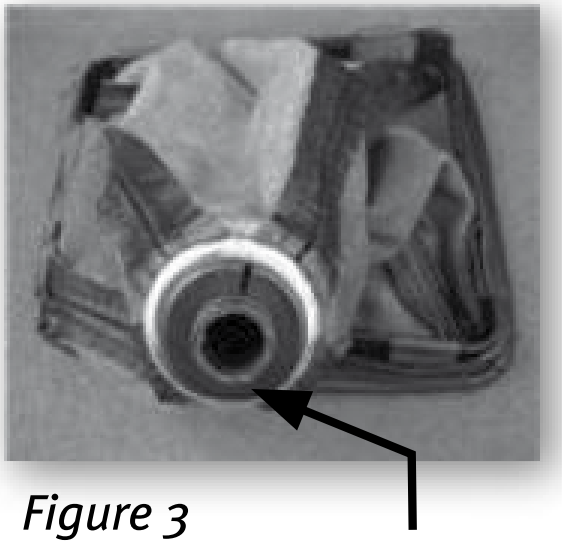


Figure 3
Clamping ring (example VW Golf)

Figure 4

2. Examples for fitting new shifter knob

2.1

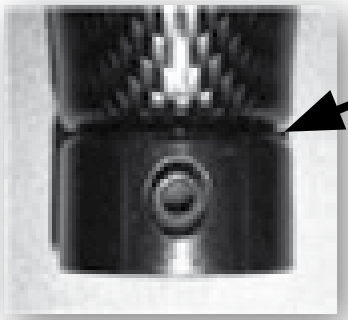
Fit the shift-lever boot over the new shifter knob. This applies only to vehicles using this specific factory arrangement! It can happen that the existing shift-lever boot is not wide enough. In this case, it should be widened with suitable tools to enable it to be fitted over the bottom end of the LCD shifter knob.

2.2

It is recommended to position the shift-lever boot between the shifter knob and clamping ring in order to keep the clamping ring covered with the clamping screw. On some vehicles, this is unfortunately not possible. In such cases, the clamping ring should be positioned over the shift-lever boot.

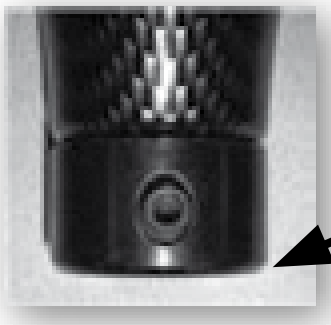
The position of the clamping ring must be noted here:

- Where this is a shift-lever boot in between, the clamping ring must be fitted with the radius towards the top, the radius rests against the leather!
- Where there is no shift-lever boot in between, the clamping ring must be fitted with the radius towards the bottom.



Radius at the top – here is the gap for the shift-lever boot!

Figure. 5.0



Radius at the bottom!

Figure. 5.1

2.3

As a next step, push the complete shifter knob on to the shift rod and align it so that the front is straight in the direction of travel. Push the shifter knob on to the shift rod fully up to the inner stop in order to prevent it from subsequently loosening. The set screw can then be tightened using an Allen key. The set screw to be used depends on the shift rod diameter. If the shift rod has a small diameter, a 14 mm set screw should be used; with a large shift rod diameter, a 10 mm set screw should be used.

2.4.1

Now plug the connecting data cable into the side of the small electronics box and attach this box to a point that is protected from external influences. An adhesive strip is provided on one side of the box for this purpose.

2.4.2

The box must not subsequently slip!

Attention:

After initial use, the position of the shifter knob must not be altered **(do not turn, etc.)** as this can cause malfunctions. If this should happen, the shifter knob must be reprogrammed with the teach procedure.

Figure *6*

Important note:
The electronics box should preferably be attached to a flat surface (GASLOCK logo at the top), whereby the direction of the cable is irrelevant. It must be ensured that the electronics box is not mounted on heating elements or shafts to prevent heating or at locations that are possibly subject to cooling due to draughts. Furthermore, parts of the vehicle exposed to the heat radiated by the heating can under certain circumstances deform mechanically to the extent that a change in the position of the electronics box can take placer.

According to our experience, this preferred mounting position ensures maximum accuracy and stability of indication without incorrect display!

Temperature differences between the shifter knob and electronics box can cause intermittent incorrect display.

Any subsequent change in the position of the shifter knob or electronics box will result in incorrect display!!!

2.4.3

Connect the red cable to an onboard power cable that is supplied via the ignition lock and connect the black cable to ground. The cable assembly must be routed so that no subsequent damage can occur!
It is therefore recommend to refer installation only to trained persons or a specialised vehicle workshop!

2.4.4

Now connect the electronics box to the shifter knob by plugging the other end of the connecting data cable into the small socket at the bottom of the shifter knob.
This should be carried out with the utmost care. The connector must be plugged in correctly to prevent damage or malfunctions.

No liability is accepted for any damage attributed to incorrect installation!

3 Performing for shifter knob

3.1
Starting the teach procedure

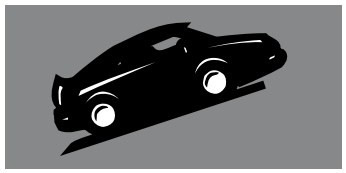
PLEASE READ THE FOLLOWING CAREFULLY!

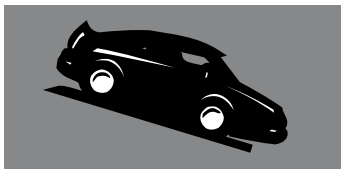
After switching on the system, the user is always asked whether a teach procedure should be started.

The two segments at the top left in the display flash **(see Fig. 7.13)** as a request to select the first gear. This may already be selected.

The segments at the bottom right in the display subsequently flash **(see Fig. 7.14)** as a request to select the fourth gear. If the user follows this request, the system remembers the gearshift positions in the just selected gears. The user is now requested in a second phase to reselect gears 1 and 4. If this is successful, the teach procedure starts. If a gear is not selected in this phase, the teach procedure is aborted.

3.2
Perform teach procedure:
Switch on ignition!
In the following sequence, the user is indicated all gear positions of the system by a number or segment flashing on the display. The respective gear position must be selected by the user. Gear selection takes place in two phases, whereby the vehicle must be located on two different gradients. A vehicle could, in the first phase for example, be standing forward on a gradient and in the second phase, positioned with





its back towards the gradient.

The end of the first phase is indicated by the display of a line **(see Fig. 7.12)**. Between the two phases, the user is allowed about 60 seconds to change the position of the vehicle. The lapse of this time is indicated on the display by a downward count from 9 to 0.

The gear positions to be taught in the phases are in succession the gears 1 to 6 **(see Figs. 7.2 - 7.7)**, reverse gear **(see Fig. 7.11)**, centre neutral position **(see Fig. 7.15**), left neutral position **(see Fig. 7.16 keep in position here)** and right neutral position **(see Fig. 7.17 keep in position here)**.

Where vehicles do not have a sixth gear, the same cannot be selected. When requested in the first phase to select the sixth gear, the gear shift lever can remain in the assumed position. The system recognises the absence of the sixth gear and skips this in the second teach phase.

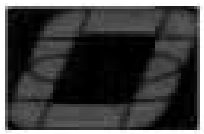


Fig. 7.1

Fig. 7.2

Fig. 7.3

Fig. 7.4

Fig. 7.5

Fig. 7.6

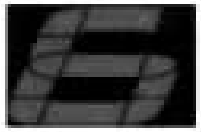


Fig. 7.7

Fig. 7.8

Fig. 7.9

Fig. 7.10

Fig. 7.11

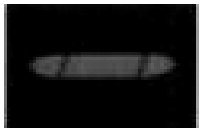


Fig. 7.12

Fig. 7.13

Fig. 7.14

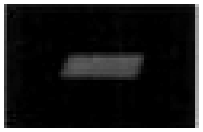


Fig. 7.15

Fig. 7.16

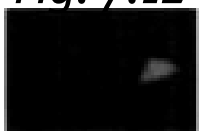


Fig. 7.17

This applies similarly to the absence of the fifth gear in which case the sixth gear is similarly omitted during the teach phase.
Once the teach phase is completed, the system stores the gear positions and subsequently assumes gear recognition status (flashing ceases). A renewed teach phase can be initiated each time the system is switched on.

A once started teach procedure can be interrupted by switching off the power supply. This can be useful if errors are made during the teach procedure and the same needs to be restarted (switch on ignition again)

Each time the ignition is switched on, the display flashes for several seconds. If the first and fourth gear are not selected within the given time (as described), the electronic display changes to a normal mode – the last teach assignment is retained.

4 Troubleshooting

Fault	Remedy
• No function/Display does not light	• Check power supply • Check cable
• A capital E is indicated on the display	• Faulty/interrupted cable between shifter knob and reference board
• Teach procedure does not start	• Select alternative combination 2nd and 5th gear for starting (instead of **1st and 2nd)**
• Wrong gear is displayed	• Repeat teach procedure if necessary Select alternative combination 2nd and 5th gear for starting • Check for horizontal/flat mounting position of electronics box • Check shifter knob for correct lignment
• Gear jumping	• Mount electronics box at a different location at which no temperature fluctuations occur

5 Spare parts

Spare parts can be ordered quickly and easily according to the following list:

GL03-0037 *Clamping ring*

GL08-0024 *Set screw, long*

GL08-0023 *Set screw, short*

GL07-0115 *Connecting data cable*

GL98-0251 *Electronics box with cable assembly*

6 Disposal

The device should be disposed of using appropriate facilities and not in domestic waste!

7 Complaints

In case of a complaint or warranty claim, the control slip and proof of purchase must be enclosed when returning the device!

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