Commission Regulation (EU) No 65/2012 of 24 January 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council as regards gear shift indicators and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance)

## COMMISSION REGULATION (EU) No 65/2012

## of 24 January 2012

implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council as regards gear shift indicators and amending Directive 2007/46/EC of the European Parliament and of the Council

## (Text with EEA relevance)

## THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor<sup>(1)</sup> and in particular Article 14(1)(a) thereof,

Whereas:

- (1) Regulation (EC) No 661/2009 requires the installation of gear shift indicators (GSI) on all vehicles, which are fitted with a manual gearbox, of category  $M_1$  with a reference mass not exceeding 2 610 kg and vehicles to which type-approval is extended in accordance with Article 2(2) of Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information<sup>(2)</sup>.
- (2) Regulation (EC) No 661/2009 requires the technical details of its provisions on GSI to be defined by implementing legislation. It is now necessary to set out the specific procedures, tests and requirements for such type-approval of GSI.
- (3) Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive)<sup>(3)</sup> should therefore be amended accordingly.
- (4) The measures provided for in this Regulation are in accordance with the opinion of the Technical Committee Motor Vehicles,

HAS ADOPTED THIS REGULATION:



## Scope

This Regulation applies to vehicles of category  $M_1$  which comply with the following requirements:

- they are fitted with a manual gearbox,
- they have a reference mass not exceeding 2 610 kg or type-approval is extended to them in accordance with Article 2(2) of Regulation (EC) No 715/2007.

This Regulation does not apply to 'vehicles designed to fulfil specific social needs' as defined in Article 3(2)(c) of Regulation (EC) No 715/2007.



For the purposes of this Regulation, the following definitions shall apply in addition to the definitions set out in Regulation (EC) No 661/2009:

- (1) 'vehicle type with regard to the GSI' means a group of vehicles, which do not differ with respect to functional characteristics of the GSI and the logic used by the GSI to determine when to indicate a gearshift point. Examples of different logics include, but are not limited to:
  - (i) upshifts indicated at specified engine speeds;
  - (ii) upshifts indicated when specific fuel consumption engine maps show that a specified minimum fuel consumption improvement will be delivered in the higher gear;
  - (iii) upshifts indicated when torque demand can be met in the higher gear;
- (2) 'functional characteristics of the GSI' means the set of input parameters, such as engine speed, power demand, torque and their variation in time, determining the GSI indication and the functional dependence of the GSI indications on these parameters;
- (3) 'operational mode of the vehicle' means a state of the vehicle, in which shifts between at least two forward gears may occur;
- (4) 'manual mode' means an operational mode of the vehicle, where the shift between all or some of the gears is always an immediate consequence of an action of the driver;
- (5) 'tailpipe emissions' means tailpipe emissions as defined in Article 3(6) of Regulation (EC) No 715/2007.



## Assessment of manual gearbox

For the purpose of assessing whether a gearbox meets the definition according to Article 3(16) of Regulation (EC) No 661/2009, a gearbox having at least one manual mode according to Article 2(4) of this Regulation shall be considered as a 'manual gearbox'.

For this assessment, automatic changes between gears, which are performed not to optimise the operation of the vehicle but only under extreme conditions for reasons such as protecting or avoiding the stalling of the engine, are not considered.



## EC type-approval

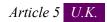
1 Manufacturers shall ensure that vehicles placed on the market, which are covered by Article 11 of Regulation (EC) No 661/2009, are equipped with GSI in accordance with the requirements of Annex I to this Regulation.

2 To obtain an EC type-approval for the vehicles covered by Article 11 of Regulation (EC) No 661/2009, the manufacturer shall fulfil the following obligations:

- a draw up and submit to the type-approval authority an information document in accordance with the model set out in Part 1 of Annex II to this Regulation;
- b submit to the type-approval authority a declaration laying down that, according to the manufacturer's assessment, the vehicle complies with the requirements set out in this Regulation;
- c present to the type-approval authority a certificate established in accordance with the model set out in Part 2 of Annex II to this Regulation;
- d either
  - (i) submit to the type-approval authority the GSI gear shift points determined analytically as provided for in the last paragraph of point 4.1 to Annex I; or
  - (ii) submit to the technical service responsible for conducting the type-approval tests a vehicle which is representative of the vehicle type to be approved to enable the test described in point 4 of Annex I to be carried out.

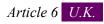
3 Based on the elements provided by the manufacturer under points (a), (b) and (c) of paragraph 2 and the results of the type-approval test referred to in point (d) of paragraph 2, the type-approval authority shall assess compliance with the requirements of Annex I.

It shall issue an EC type-approval certificate according to the model set out in Part 3 of Annex II to this Regulation for the vehicles covered by Article 11 of Regulation (EC) No 661/2009 only if such compliance is established.



#### Monitoring the effects of legislation

For the purpose of monitoring the effects of this Regulation and evaluating the need for further developments, manufacturers and type-approval authorities shall make available to the Commission, upon request, the information set out in Annex II. This information shall be treated in a confidential manner by the Commission and its delegates.



## Amendments to Directive 2007/46/EC

Annexes I, III, IV, VI and XI to Directive 2007/46/EC are amended in accordance with Annex III to this Regulation.



**Entry into force** 

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 24 January 2012.

For the Commission The President José Manuel BARROSO



#### SPECIAL REQUIREMENTS FOR VEHICLES EQUIPPED WITH GEAR SHIFT INDICATORS (GSI)

### 1. **Characteristic of the GSI appearance U.K.**

- 1.1. The shift recommendation shall be provided by means of a distinct visual indication, for example a clear indication to shift up or up/down or a symbol that identifies the gear into which the driver should shift. The visible indication may be complemented by other indications, including audible ones, provided that these do not compromise safety.
- 1.2. The GSI must not interfere with or mask the identification of any tell-tale, control or indicator, which is mandated or supports the safe operation of the vehicle. Notwithstanding point 1.3, the signal shall be designed so that it does not distract the driver's attention and to avoid interfering with proper and safe vehicle operation.
- 1.3. The GSI shall be located in compliance with paragraph 5.1.2 of UNECE Regulation No 121. It shall be designed such that it can not be confused with any other tell-tale, control or indicator the vehicle is equipped with.
- 1.4. An information display device may be used to display GSI indications provided that they are sufficiently different from other indications so as to be clearly visible and identifiable by the driver.
- 1.5. Temporarily, the GSI indication may be automatically overridden or deactivated in exceptional situations. Such circumstances are those that may compromise the safe operation or integrity of the vehicle, including activation of traction or stability control systems, temporary displays from driver assistance systems or events relating to vehicle malfunctioning. The GSI shall resume normal operation after the exceptional situations ceased to exist, and within a delay of 10 seconds or longer, if justified by specific technical or behavioural reasons.

#### 2. Functional requirements for GSI (applicable to all manual modes) U.K.

- 2.1. The GSI shall suggest changing the gear when the fuel consumption with the suggested gear is estimated to be lower than the current one giving consideration to the requirements laid down in points 2.2 and 2.3.
- 2.2. The GSI shall be designed to encourage an optimised fuel efficient driving style under reasonably foreseeable driving conditions. Its main purpose is to minimise the fuel consumption of the vehicle when the driver follows its indications. However, regulated tailpipe emissions shall not be disproportionately increased with respect to the initial state when following the indication of the GSI. In addition, following the GSI strategy should not have any negative effect on the timely functioning of pollution control devices, such as catalysts, after a cold start. For this purpose vehicle manufacturers should provide technical documentation to the type-approval authority, which describes the impact of the GSI strategy on the vehicle's regulated tailpipe emissions, under at least steady vehicle speed.
- 2.3. Following the indication of the GSI must not compromise the safe operation of the vehicle, e.g. to prevent stalling of the engine, insufficient engine braking or insufficient engine torque in the case of high power demand.

#### 3. **Information to be provided U.K.**

- 3.1. The manufacturer shall provide the following information to the type-approval authority. The information shall be made available in the following two parts:
- (a) the 'formal documentation package' that may be made available to interested parties upon request;
- (b) the 'extended documentation package' that shall remain strictly confidential.
- 3.1.1. The formal documentation package shall contain:
- (a) a description of the complete set of appearances of the GSIs which are fitted on vehicles being part of the vehicle type with regard to GSI, and evidence of their compliance with the requirements of point 1;
- (b) evidence in the form of data or engineering evaluations, for example modelling data, emission or fuel consumption maps, emission tests, which adequately demonstrate that the GSI is effective in providing timely and meaningful shift recommendations to the driver in order to comply with the requirements of point 2;
- (c) an explanation of the purpose, use and functions of the GSI in a 'GSI section' of the user manual accompanying the vehicle.
- 3.1.2. The extended documentation package shall contain the design strategy of the GSI, in particular its functional characteristics.
- 3.1.3. Notwithstanding the provisions of Article 5, the extended documentation package shall remain strictly confidential between the type-approval authority and the manufacturer. It may be kept by the type-approval authority, or, at the discretion of the type-approval authority, may be retained by the manufacturer. In the case the manufacturer retains the documentation package, that package shall be identified and dated by the type-approval authority once reviewed and approved. It shall be made available for inspection by the approval authority at the time of approval or at any time during the validity of the approval.
- 3.2. The manufacturer shall provide an explanation of the purpose, use and functions of the GSI in a 'GSI section' of the user manual accompanying the vehicle.
- 4. The fuel economy impact of GSI recommended gear shift points shall be determined according to the following procedure: U.K.
- 4.1. Determination of vehicle speeds at which GSI recommends shifting up gears U.K.

This test is to be performed on a warmed up vehicle on a chassis dynamometer according to the speed profile described in Appendix 1 to this Annex. The advice of the GSI is followed for shifting up gears and the vehicle speeds, for which the GSI recommends shifting, are recorded. The test is repeated 3 times.

 $V^n_{GSI}$  shall denote the average speed at which the GSI recommends shifting up from gear n (n = 1, 2, ..., #g) into gear n + 1, determined from the 3 tests, where #g shall denote the vehicle's number of forward gears. For this purpose only GSI shift instructions in the phase before the maximum speed is reached are taken into account and any GSI instruction during the deceleration is ignored.

For the purposes of the following calculations  $V_{GSI}^0$  is set to 0 km/h and  $V_{GSI}^{\#g}$  is set to 140 km/h or the maximum vehicle speed, whichever is smaller. Where the vehicle cannot attain 140 km/h, the vehicle shall be driven at its maximum speed until it rejoins the speed profile in Figure I.1.

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ANNEX I
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Alternatively, the recommended GSI shift speeds may be analytically determined by the manufacturer based on the GSI algorithm contained in the extended documentation package provided according to point 3.1.

## 4.2. *Standard gear shift points* U.K.

 $V_{std}^{n}$  shall denote the speed at which a typical driver is assumed to shift up from gear n into gear n + 1 without GSI recommendation. Based on the gear shift points defined in the type 1 emission test<sup>(4)</sup> the following standard gear shift speeds are defined:

V <sup>0</sup> <sub>std</sub>	=	0 km/h;
V <sup>1</sup> <sub>std</sub>	=	15 km/h;
$V_{std}^2$	=	35 km/h;
V <sup>3</sup> <sub>std</sub>	=	50 km/h;
$V_{std}^4$	=	70 km/h;
V <sup>5</sup> <sub>std</sub>	=	90 km/h;
V <sup>6</sup> <sub>std</sub>	=	110 km/h;
$V_{std}^7$	=	130 km/h;
V <sup>8</sup> <sub>std</sub>	=	V <sup>#g</sup> <sub>GSI</sub> ;

 $V_{min}^{n}$  shall denote the minimum vehicle speed the vehicle can be driven in the gear n without stalling of the engine and  $V_{max}^{n}$  the maximum vehicle speed the vehicle can be driven in the gear n without creating damage to the engine.

If  $V_{std}^{n}$  derived from this list is smaller than  $V_{max}^{n+1}$ , then  $V_{std}^{n}$  is set to be  $V_{max}^{n+1}$ . If  $V_{std}^{n}$  derived from this list is greater than  $V_{max}^{n}$ , then  $V_{std}^{n}$  is set to be  $V_{max}^{n}$  (n = 1, 2, ..., #g - 1).

If  $V^{\#g}_{std}$  determined by this procedure is smaller than  $V^{\#g}_{GSI}$ , it shall be set to  $V^{\#g}_{GSI}$ .

## 4.3. *Fuel consumption speed curves* U.K.

The manufacturer shall supply the type-approval authority with the functional dependence of the vehicle's fuel consumption on the steady vehicle speed when driving with gear n according to the following rules.

 $FC_i^n$  shall denote the fuel consumption in terms of kg/h (kilograms per hour) when the vehicle is driven with the constant vehicle speed  $v_i = i \times 5 \text{ km/h} - 2,5 \text{ km/h}$  (where i is a positive integer number) in the gear n. These data shall be provided by the manufacturer for each gear n (n = 1, 2, ..., #g) and  $v_{min}^n \leq v_i \leq v_{max}^n$ . These fuel consumption values shall be determined under identical ambient conditions corresponding to a realistic driving situation that may be defined by the vehicle manufacturer, either by a physical test or by an appropriate calculation model agreed between the approval authority and the manufacturer.

#### 4.4. *Vehicle speed distribution* U.K.

The following distribution should be used for the probability  $P_i$  that the vehicle drives with a speed v, where  $v_i - 2.5 \text{ km/h} < v \le v_i + 2.5 \text{ km/h}$  (i = 1, ..., 28):

i	P <sub>i</sub>
1	4,610535879

2	5,083909299
3	4,86818148
4	5,128313511
5	5,233189418
6	5,548597362
7	5,768706442
8	5,881761847
9	6,105763476
10	6,098904359
11	5,533164348
12	4,761325003
13	4,077325232
14	3,533825909
15	2,968643201
16	2,61326375
17	2,275220718
18	2,014651418
19	1,873070659
20	1,838715054
21	1,982122053
22	2,124757402
23	2,226658166
24	2,137249569
25	1,76902642
26	1,665033625
27	1,671035353
28	0,607049046
	1

Where the maximum speed of the vehicle corresponds to step i and i < 28, the values of  $P_{i+1}$  to  $P_{28}$  shall be added to  $P_i$ .

### 4.5. *Determination of the model fuel consumption* U.K.

 $FC_{GSI}$  shall denote the fuel consumption of the vehicle when the driver follows the advice of the GSI:

 $FC^{GSI}_{i} = FC^{n}_{i}, \text{ where } V^{n-1}_{GSI} \le v_{i} < V^{n}_{GSI} \text{ (for } n = 1, ..., \#g) \text{ and } FC^{GSI}_{i} = 0 \text{ if } v_{i} \ge V^{\#g}_{GSI}$   $FC_{GSI} = \sum_{28}^{i=1} P_{i} \times FC_{GSI}^{i} / 100$ 

FC<sub>std</sub> shall denote the fuel consumption of the vehicle when standard gear shift points are used:

 $FC_{std}^{std} = FC_{i}^{n}, \text{ where } V^{n-1}_{std} \le v_i < V_{std}^{n} \text{ (for } n = 1, ..., \#g) \text{ and } FC_{i}^{std} = 0 \text{ if } v_i \ge V^{\#g}_{GSI}$   $FC_{std} = \Sigma_{2s}^{i=1} P_i \times FC_{std}^{i} / 100$ 

The relative saving of fuel consumption by following the advice of the GSI of the model is calculated as:

 $FC_{rel. Save} = (1 - FC_{GSI}/FC_{std}) \times 100 \%$ 

4.6. *Data records* U.K.

The following information shall be recorded:

- the values of  $V^n_{GSI}$  as determined according to point 4.1,
- the values  $FC_{i}^{n}$  of the fuel consumption speed curve as communicated by the manufacturer according to point 4.3,
- the values  $FC_{GSI}$ ,  $FC_{std}$  and  $FC_{rel. Save}$  as calculated according to point 4.5.

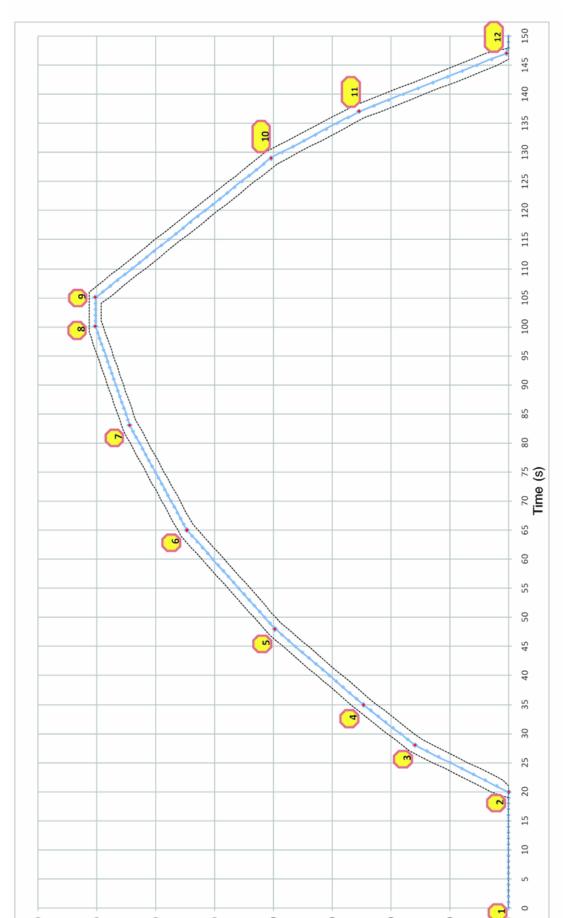
## Appendix 1 U.K.

No of operation	Operation	Acceleration(m/ s <sup>2</sup> )	Speed(km/h)	Cumulative time(s)
1	Idling	0	0	20
2	Acceleration	1,1	0-31,68	28
3		0,7	31,68-49,32	35
4		0,64	49,32-79,27	48
5		0,49	79,27-109,26	65
6		0,3	109,26-128,70	83
7		0,19	128,70-140,33	100
8	Steady state	0	140,33	105
9	Deceleration	-0,69	140,33-80,71	129
10		-1,04	80,71-50,76	137
11		-1,39	50,76-0	147
12	Idling	0	0	150

## Description of vehicle speed profile referred to in point 4.1

The tolerances for deviation from this speed profile are defined in point 6.1.3.4 of Annex 4a of UNECE Regulation No 83, 05 series of amendments. *Figure I.1* 

# Graphical representation of the speed profile referred to in point 4.1; solid line: speed profile; dashed lines: tolerances for deviation from this speed profile



The following table provides a second by second description of the speed profile. Where the vehicle is unable to attain 140 km/h, it shall be driven at its maximum speed until it rejoins the above speed profile.

Time (s)	Speed (km/h)
0	0,0
1	0,0
2	0,0
3	0,0
4	0,0
5	0,0
6	0,0
7	0,0
8	0,0
9	0,0
10	0,0
11	0,0
12	0,0
13	0,0
14	0,0
15	0,0
16	0,0
17	0,0
18	0,0
19	0,0
20	0,0
21	3,96
22	7,92
23	11,88
24	15,84
25	19,8
26	23,76
27	27,72
28	31,68
29	34,2
30	36,72

31	39,24
32	41,76
33	44,28
34	46,8
35	49,32
36	51,62
37	53,93
38	56,23
39	58,54
40	60,84
41	63,14
42	65,45
43	67,75
44	70,06
45	72,36
46	74,66
47	76,97
48	79,27
49	81,04
50	82,8
51	84,56
52	86,33
53	88,09
54	89,86
55	91,62
56	93,38
57	95,15
58	96,91
59	98,68
60	100,44
61	102,2
62	103,97
63	105,73
64	107,5
	I

65	109,26
66	110,34
67	111,42
68	112,5
69	113,58
70	114,66
71	115,74
72	116,82
73	117,9
74	118,98
75	120,06
76	121,14
77	122,22
78	123,3
79	124,38
80	125,46
81	126,54
82	127,62
83	128,7
84	129,38
85	130,07
86	130,75
87	131,44
88	132,12
89	132,8
90	133,49
91	134,17
92	134,86
93	135,54
94	136,22
95	136,91
96	137,59
97	138,28
98	138,96
	1

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Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 65/2012. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

100       140,33         101       140,33         102       140,33         103       140,33         104       140,33         105       140,33         106       137,84         107       135,36         108       132,88         109       130,39         110       127,91         111       125,42         112       122,94         113       120,46         114       117,97         115       115,49         116       113,0         117       110,52         118       108,04         119       105,55         120       103,07         121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22         132       69,48 <th>99</th> <th>139,64</th>	99	139,64
102       140,33         103       140,33         104       140,33         105       140,33         106       137,84         107       135,36         108       132,88         109       130,39         110       127,91         111       125,42         112       122,94         113       120,46         114       117,97         115       115,49         116       113,0         117       110,52         118       108,04         119       105,55         120       103,07         121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	100	
103       140,33         104       140,33         105       140,33         106       137,84         107       135,36         108       132,88         109       130,39         110       127,91         111       125,42         112       122,94         113       120,46         114       117,97         115       115,49         116       113,0         117       110,52         118       108,04         119       105,55         120       103,07         121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	101	140,33
104       140,33         105       140,33         106       137,84         107       135,36         108       132,88         109       130,39         110       127,91         111       125,42         112       122,94         113       120,46         114       117,97         115       115,49         116       113,0         117       110,52         118       108,04         119       105,55         120       103,07         121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	102	140,33
105       140,33         106       137,84         107       135,36         108       132,88         109       130,39         110       127,91         111       125,42         112       122,94         113       120,46         114       117,97         115       115,49         116       113,0         117       110,52         118       108,04         119       105,55         120       103,07         121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	103	140,33
106 $137,84$ $107$ $135,36$ $108$ $132,88$ $109$ $130,39$ $110$ $127,91$ $111$ $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	104	140,33
107 $135,36$ $108$ $132,88$ $109$ $130,39$ $110$ $127,91$ $111$ $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	105	140,33
108 $132,88$ $109$ $130,39$ $110$ $127,91$ $111$ $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	106	137,84
109 $130,39$ $110$ $127,91$ $111$ $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	107	135,36
110 $127,91$ $111$ $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	108	132,88
111 $125,42$ $112$ $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	109	130,39
112 $122,94$ $113$ $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	110	127,91
113 $120,46$ $114$ $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	111	125,42
114 $117,97$ $115$ $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	112	122,94
115 $115,49$ $116$ $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	113	120,46
116 $113,0$ $117$ $110,52$ $118$ $108,04$ $119$ $105,55$ $120$ $103,07$ $121$ $100,58$ $122$ $98,1$ $123$ $95,62$ $124$ $93,13$ $125$ $90,65$ $126$ $88,16$ $127$ $85,68$ $128$ $83,2$ $129$ $80,71$ $130$ $76,97$ $131$ $73,22$	114	117,97
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	115	115,49
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	116	113,0
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	117	110,52
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	118	108,04
121       100,58         122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	119	105,55
122       98,1         123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	120	103,07
123       95,62         124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	121	100,58
124       93,13         125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	122	98,1
125       90,65         126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	123	95,62
126       88,16         127       85,68         128       83,2         129       80,71         130       76,97         131       73,22	124	93,13
127     85,68       128     83,2       129     80,71       130     76,97       131     73,22	125	90,65
128     83,2       129     80,71       130     76,97       131     73,22	126	88,16
129         80,71           130         76,97           131         73,22	127	85,68
130     76,97       131     73,22	128	83,2
131 73,22	129	80,71
	130	76,97
132 69,48	131	73,22
	132	69,48

133	65,74
134	61,99
135	58,25
136	54,5
137	50,76
138	45,76
139	40,75
140	35,75
141	30,74
142	25,74
143	20,74
144	15,73
145	10,73
146	5,72
147	0,72
148	0,0
149	0,0
150	0,0

## ANNEX II U.K.



#### **Information document**

#### MODEL

Information document No ... relating to EC type-approval of a vehicle with regard to gear shift indicators.

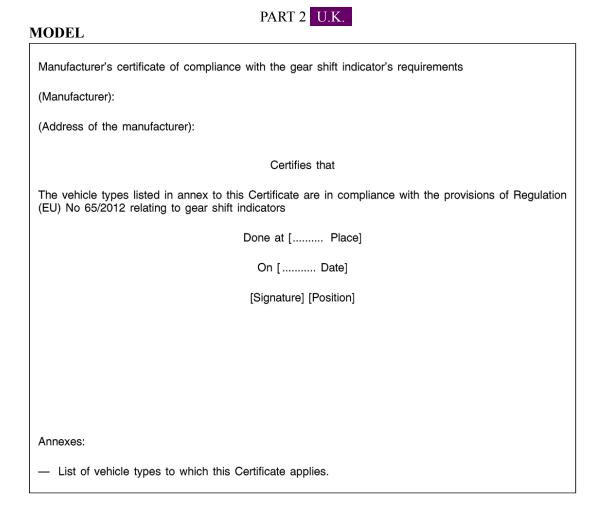
The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, must show sufficient detail.

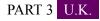
If the systems, components or separate technical units have electronic controls, information concerning their performance shall be supplied.

Information set out in points 0, 3 and 4 of Appendix 3 to Annex I of Regulation (EC) No 692/2008<sup>(5)</sup>:

4.11. Gear shift indicator (GSI)

- 4.11.1. Acoustic indication available yes/no<sup>(6)</sup>. If yes, description of sound and sound level at the driver's ear in dB(A). (Acoustic indication always switchable on/off): ...
- 4.11.2. Information according to point 4.6 of Annex I (manufacturer's declared value): ...
- 4.11.3. Information according to point 3.1.1 of Annex I: ...
- 4.11.4. Information according to point 3.1.2 of Annex I: ...
- 4.11.5. Photographs and/or drawings of the gear shift indicator instrument and brief description of the system components and operation: ...
- 4.11.6. Information on the GSI in the vehicle's user manual: ...





#### EC type-approval certificate

**MODEL**(maximum format: A4 (210 × 297 mm)) U.K. EC TYPE-APPROVAL CERTIFICATE

Stamp of EC type-approval authority

Communication concerning the

- EC type-approval<sup>(7)</sup>
- extension of EC type-approval<sup>(7)</sup>
- refusal of EC type-approval<sup>(7)</sup>
- withdrawal of EC type-approval<sup>(7)</sup>

of a type of a vehicle with regard to gear shift indicator

with regard to Regulation (EU) No 65/2012 as last amended by Regulation (EU) No .../2012<sup>(7)</sup>

EC type-approval number: ...

Reason for extension: ...

SECTION0.1.

Ι

Make (trade name of manufacturer): ...

0.2. Type: ...

- 0.2.1. Commercial name(s), (if available): ...
- 0.3. Means of identification of type, if marked on the vehicle ...
- 0.3.1. Location of that marking: ...
- 0.4. Category of vehicle: ...
- 0.5. Name and address of manufacturer: ...
- 0.8. Name(s) and address(es) of assembly plant(s) ...
- 0.9. Name and address of the manufacturer's representative (if any) ...

SECTIOM.

Ш

- Additional information (where applicable): see addendum
- 2. Technical service responsible for carrying out the test and evaluations:
- 3. Date of test report:
- 4. Number of test report:
- 5. Information according to point 4.6 of Annex I to Regulation (EU) No 65/2012 (determined at type-approval):
- 6. Remarks (if any): see addendum
- 7. Place:
- 8. Date:
- 9. Signature:

Attachments : Information package

Test report

Additional information: ...

Addendum to EC type-approval certificate No ... concerning ...

## ANNEX III U.K.

#### AMENDMENTS TO FRAMEWORK DIRECTIVE 2007/46/EC

Directive 2007/46/EC is amended as follows:

- 1. In Annex I the following points are inserted:
  - 4.11. Gear shift indicator (GSI)
  - 4.11.1. Acoustic indication available yes/no (<sup>1</sup>). If yes, description of sound and sound level at the driver's ear in dB(A). (Acoustic indication always switchable on/off)
  - 4.11.2. Information according to point 4.6 of Annex I to Regulation (EU) No 65/2012 (manufacturer's declared value)
  - 4.11.3. Photographs and/or drawings of the gear shift indicator instrument and brief description of the system components and operation:
- 2. In Annex III the following points are inserted:
  - 4.11. Gear shift indicator (GSI)
  - 4.11.1. Acoustic indication available yes/no (<sup>1</sup>). If yes, description of sound and sound level at the driver's ear in dB(A). (Acoustic indication always switchable on/off)
  - 4.11.2. Information according to point 4.6 of Annex I to Regulation (EU) No 65/2012 (determined at type-approval)
- 3. Part I of Annex IV is amended as follows:
  - (a) in the table, the following point 63.1 is inserted:

Sub	SubjeRtegul@főicjalpplicability											
		Jou renefe	rn <b>val</b> ı rence	<b>M</b> <sub>2</sub>	<b>M</b> <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	<b>O</b> <sub>1</sub>	<b>O</b> <sub>2</sub>	<b>O</b> <sub>3</sub>	<b>O</b> <sub>4</sub>
·63.1	(EU) No 6 65/2	L Sar 1912.1. ndicate 24.	X' 2012, ors									

(b) in the Appendix, in the table, the following point 63.1 is inserted:

Subject	Regulatory act reference	Official Journal reference	M <sub>1</sub>
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<b>'63.1</b>	Gear shift indicators	(EU) No 65/2012	L 28, 31.1.2012, p.	N/A'
			24.	

4. In the Appendix to Annex VI, in the table, the following point 63.1 is inserted:

Subjec	t	Regulatory act reference	As amended by	Applicable to versions
<sup>63.1</sup>	Gear shift indicators	(EU) No 65/2012'		

- 5. Annex XI is amended as follows:
  - (a) In Appendix 1, in the table, the following point 63.1 is inserted:

Item	Subject	Regulato act reference	$\operatorname{pr}_{1} \leq 2$ 500 kg ( <sup>1</sup> e	M <sub>1</sub> > 2 ) 500 kg ( <sup>1</sup>	M <sub>3</sub>
·63.1	Gear shift indicators	(EU) No 65/2012	G	G'	

#### (b) In Appendix 2, in the table, the following point 63.1 is inserted:

Item	Sub	jeRteg	uDato	ryM <sub>2</sub>	<b>M</b> <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	01	02	03	04
		act refe	rence									
<sup>•</sup> 63.1	shift	(EU)	G'									

(c) In Appendix 3, in the table, the following point 63.1 is inserted:

Item	Subject	Regulatory act reference	<b>M</b> <sub>1</sub>		
·63.1	Gear shift indicators	(EU) No 65/2012	G'		

(d) In Appendix 4, in the table, between the columns headed 'Regulatory act reference' and ' $M_2$ ' a column ' $M_1$ ' is added and the following point 63.1 is inserted:

Item	n Sub	act	u <b>lxi</b> tpi rence	ryM <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	01	<b>O</b> <sub>2</sub>	03	O <sub>4</sub>
·63.1	shift	(EU) No a6651/2(										

- (**1**) OJ L 200, 31.7.2009, p. 1.
- (2) OJ L 171, 29.6.2007, p. 1.
- **(3)** OJ L 263, 9.10.2007, p. 1.
- (4) Defined in Annex 4a of UNECE Regulation No 83, 05 series of amendments.
- (5) OJ L 199, 28.7.2008, p. 1.
- (6) Delete where not applicable
- (7) Delete where not applicable

#### **Changes to legislation:**

There are outstanding changes not yet made to Commission Regulation (EU) No 65/2012. Any changes that have already been made to the legislation appear in the content and are referenced with annotations.

View outstanding changes

#### Changes and effects yet to be applied to :

- Annex 2 Pt. 1 words substituted by S.I. 2022/1273 reg. 67(5)(a)(i)
- Annex 2 Pt. 1 words substituted by S.I. 2022/1273 reg. 67(5)(a)(ii)
- Annex 2 Pt. 3 heading words substituted by S.I. 2022/1273 reg. 67(5)(b)(i)
- Annex 2 Pt. 3 words substituted by S.I. 2022/1273 reg. 67(5)(b)(i)
- Annex 2 Pt. 3 words substituted by S.I. 2022/1273 reg. 67(5)(b)(ii)
- Art. 4 heading words substituted by S.I. 2022/1273 reg. 67(2)(a)
- Art. 4(2) words substituted by S.I. 2022/1273 reg. 67(2)(b)
- Art. 4(3) words substituted by S.I. 2022/1273 reg. 67(2)(b)
- Art. 5 omitted by S.I. 2022/1273 reg. 67(3)

## Changes and effects yet to be applied to the whole legislation item and associated provisions

- Signature words omitted by S.I. 2022/1273 reg. 67(4)