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PROPOSAL FOR A NEW DRAFT GLOBAL TECHNICAL REGULATION UNIFORM PROVISIONS FOR HAND CONTROLS, TELL-TALES AND INDICATORS PRESENT ON CATEGORY 1 AND 2 VEHICLES

Revision 3

Transmitted by the expert from Canada

Note: The text reproduced below was transmitted by the expert from Canada. It represents the proposed draft of the new global technical regulation. The text is based on document TRANS/WP.29/GRSG/2000/8/Rev.2 and subsequent GRSG discussions and consultations.

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UNIFORM PROVISIONS FOR HAND CONTROLS, TELL-TALES AND INDICATORS PRESENT ON CATEGORY 1 AND 2 VEHICLES.

1. SCOPE AND PURPOSE

This global technical regulation specifies requirements for the location, identification, colour, and illumination of motor vehicle hand controls, tell-tales and indicators. The purpose of this global technical regulation is to ensure the accessibility, visibility, and recognition of vehicle controls, tell-tales, and indicators and to facilitate the proper selection of controls under daylight and night-time conditions, in order to reduce the safety hazards that would otherwise be caused by the diversion of the driver's attention from the driving task and by mistakes in selecting controls.

2. APPLICATION

This global technical regulation applies to power-driven vehicles of categories 1 and 2 intended for use on the road, with or without bodywork and a maximum design speed exceeding 25 km/h. Contracting Parties may apply this global technical regulation to other categories of vehicles.

3. DEFINITIONS

For the purpose of this regulation

- 3.1. "<u>Device</u>" means an element or an assembly of elements used to perform one or more functions.
- 3.2. "Control" means the hand-operated part of a device that enables the driver to change the state or functioning of a vehicle or vehicle's subsystem.
 - 3.3. "<u>Tell-tale</u>" means an optical signal that, when illuminated, indicates the actuation of a device, a correct or defective functioning or condition, or a failure to function.
- 3.4. "Indicator" means a device that shows the magnitude of the physical characteristics that the device is designed to sense.
- 3.5. "Adjacent", with respect to a symbol identifying a control, tell-tale or indicator, means that the symbol is in close proximity to the control, telltale or indicator and no other control, telltale, indicator, identification symbol or source of illumination appears between an identification symbol and the control, tell-tale, or indicator which that symbol identifies.
- 3.6. "Common space" means an area on which more than one tell-tale, indicator, identification symbol, or other message may be displayed but not simultaneously.

- 3.7. "Multi-task display" means an area on which more than one item of information may be displayed simultaneously.
- 3.8. "Multi-function control" means a control through which the driver may select, and affect the operation of, more than one vehicle function.

4. REQUIREMENTS

A vehicle, if fitted with a control, tell-tale or indicator, listed in Table 1 or Table 2, shall meet the prescribed requirements of this global technical regulation respecting the location, identification, illumination, and colour of that control, tell-tale or indicator.

4.1. <u>Location</u>

- 4.1.1. The controls to be used by a driver while driving the vehicle shall be located so that they are operable by the driver under the conditions set out in paragraph 4.6.2.
- 4.1.2. The tell-tales and indicators listed in Tables 1 and 2, and their identification symbols shall be located so that they are visible to a driver during daylight and night time driving and under the conditions set out in paragraphs 4.6.1. and 4.6.2. Tell-tales, indicators and their identification symbols need not be visible when not activated.
- 4.1.3. Except as provided in paragraph 4.1.4., the identification symbols for controls, tell-tales, and indicators shall be placed on or adjacent to the controls, tell-tales or indicators that they identify.
- 4.1.4. Paragraph 4.1.3. does not apply to multi-function controls, if:
- 4.1.4.1. the control is depicted on an associated multi-task display,
- 4.1.4.2. the associated multi-task display is visible to the driver under the conditions of paragraphs 4.6.1. and 4.6.2., and
- 4.1.4.3. all of the vehicle systems for which control is possible from the multi-function control are identified on a multi-task display. Sub-functions of those systems need not be shown on the top-most layer of the multi-task display.
- 4.1.5. Despite paragraphs 4.1.1. to 4.1.4., the tell-tale for passenger air bag off, if fitted, must be located within the interior of the vehicle and forward of and above the design H-point of the driver's and the front passengers' seats in their forward most seating positions. The tell-tale must be located so as to be visible to the driver and front passengers under daylight and night time driving conditions and must not be located on or adjacent to a surface that may be used for temporary or permanent storage if use of the storage space could obscure the tell-tale from either the driver's or right front passengers' view.

4.2. Identification

- 4.2.1. Where fitted, each control, tell-tale and indicator that is listed in column 1 of Table 1 or 2, shall be identified by the symbol specified for it in column 2 of Table 1 or 2. No identification symbol is required for any horn (an audible warning signal) control that is activated by a lanyard. Each symbol provided in accordance with this paragraph must have the proportional dimensional characteristics of the symbol shown in Table 1 or 2.
- 4.2.2. To identify a control, tell-tale or indicator not included in Table 1 or 2, the manufacturer may use a symbol of its own conception.
- 4.2.3. Supplementary symbols (for example words) may be used in conjunction with any symbol specified in Table 1 or Table 2.
- 4.2.4. Each additional or supplementary symbol used by the manufacturer must not cause confusion with any symbol specified in this global technical regulation.
- 4.2.5. If the control, indicator or tell-tale for the same function are combined, one symbol may be used to identify that combination.
- 4.2.6. Except as provided in paragraph 4.2.7., all identification symbols for the tell-tales, indicators and controls listed in Table 1 or 2 must be positioned so as to appear to the driver to be perceptually upright. For rotating controls that have an "off" position, this requirement applies to the control in the "off" position.
- 4.2.7. The identification symbols for the following need not be positioned so as to appear to the driver to be perceptually upright:
- 4.2.7.1. a horn control,
- 4.2.7.2. any control, tell-tale or indicator located on the steering wheel, when the steering wheel is positioned for the motor vehicle to travel in other than a straight forward direction, and
- 4.2.7.3. any rotating control that does not have an "off" position.
- 4.2.8. Identification symbols shall be provided for the control of each function of the automatic vehicle speed system (cruise control) and the heating and air conditioning systems.
- 4.2.9 When fitted each control that regulates a system function over a continuous range shall have identification provided for the limits of the adjustment range of any such function.

If colour coding is used to identify the limits of the adjustment range of a temperature function, the hot limit shall be identified by the colour red and the cold limit by the colour blue.

If the status or limit of a function is shown by an indicator that is not adjacent to the control for the function, both the control and the indicator must be independently identified in compliance with this global technical regulation.

4.3. Illumination

- 4.3.1. Timing of illumination
- 4.3.1.1. Except as provided in paragraph 4.3.1.3. wherever the word "Yes" is indicated in column 4 of Table 1, the corresponding identification symbol for a control listed in column 1 in Table 1 shall be capable of being illuminated whenever the headlamps are activated. This does not apply to controls located on the floor, floor console, steering wheel, steering column, in the area of the windscreen header, or to those controls for a heating or airconditioning system that does not direct air directly upon the windscreen.
- 4.3.1.2. Except as provided in paragraph 4.3.1.3. wherever the word "Yes" is indicated in column 4 of Table 1, the corresponding indicator and its identification symbol shall be illuminated whenever the vehicle's propulsion system and the headlamps are activated.
- 4.3.1.3. The indicators, their identifications and the identifications of controls need not be illuminated when the headlamps are being flashed or operated as daytime running lamps.
- 4.3.1.4. Any control, indicator and their respective identification symbols may be capable of being illuminated at any time.
- 4.3.1.5. A tell-tale shall emit light when the malfunction or vehicle condition it is designed to indicate occurs. It shall not emit light at any other time, except during a bulb check.
- 4.3.2. Brightness of illumination regarding controls and indicators
- 4.3.2.1. Means shall be provided for illuminating the indicators and identification symbols for indicators and controls listed in Table 1 to make them visible to the driver under daylight and nighttime driving conditions.
- 4.3.2.2. The means of illumination required by paragraph 4.3.2.1.:
- 4.3.2.2.1. shall be adjustable to provide at least two levels of brightness, at the lower of which the indicators and identification symbols for controls and indicators are barely discernible to the driver who has adapted to dark ambient roadway condition; and

- 4.3.2.2.2. may be operable manually or automatically.
- 4.3.3. Brightness of illumination regarding tell-tales

Means shall be provided for illuminating tell-tales and their identification symbols to make them visible to the driver under daylight and nighttime driving conditions.

4.4. Colour

- 4.4.1. Except as provided in paragraph 4.5.1.6, the light of each tell-tale listed in column 1 of Table 1 shall be of the colour specified for that tell-tale in column 5 of that table.
- 4.4.2. The colour of indicators, tell-tales and the identification symbols for indicators and controls not listed in Table 1 shall be selected by the manufacturer in accordance with paragraphs 4.4.3. and 4.4.4. The colour selected must not interfere with or mask the identification of any tell-tale, control or indicator specified in Table 1.
- 4.4.3. Colours must be selected in accordance with the following colour code:
- 4.4.3.1. red: danger to persons or very serious damage to equipment is immediate or imminent;
- 4.4.3.2. yellow or amber: caution, outside normal operating limits, vehicle system malfunction, damage to vehicle likely, or other condition which may produce hazard in the longer term;
- 4.4.3.3. green: safe, normal operating condition (where blue or yellow is not required).
- 4.4.4. Each symbol used for the identification of a tell-tale, control or indicator shall be in a colour that stands out clearly against the background.
- 4.4.5. The filled-in part of any symbol may be replaced by its outline and the outline of any symbol may be filled in.
- 4.5. Common space for displaying multiple information
- 4.5.1. Except as provided in 4.5.1.3., a common space may be used to show information from any source, subject to the following requirements:
- 4.5.1.1. The tell-tales and indicators displayed in the common space shall illuminate at the initiation of the condition they are designed to identify.
- 4.5.1.2. Except as provided in 4.5.1.4., when the condition exists for actuation of two or more tell-tales, the information shall be either
 - (i) repeated automatically in sequence, or

- (ii) indicated by visible means and capable of being selected for viewing by the driver under the conditions of paragraph 4.6.2.
- 4.5.1.3. The tell-tales for any brake system malfunction, air bag malfunction, side air bag malfunction, passenger air bag off, headlamp driving beam, low tyre pressure, direction indicator and seat belt shall not be shown in the same common space.
- 4.5.1.4. In the case of the telltale for a brake system malfunction, air bag malfunction, side air bag malfunction, passenger air bag off, low tire pressure, high beam, direction indicator, or seat belt that is designed to be displayed in a common space, that telltale must displace any other information in that common space while the condition for the telltale's activation exists.
- 4.5.1.5. Information displayed in the common space may be cancellable automatically or by the driver, except that tell-tales for headlamp driving beam, passenger air bag off, low tire pressure, a direction indicator and those for which the colour red is required by Table 1 shall not be cancellable if the condition exists for their activation.
- 4.5.1.6. The colour requirements regarding telltales for engine oil pressure and parking brake do not apply when those telltales appear in a common space.

4.6. Conditions

- 4.6.1. The driver has adapted to the ambient light roadway conditions.
- 4.6.2. The driver is restrained by the installed crash protection system, adjusted in accordance with the manufacturer's instructions, and is free to move within constraints of that system.

Table 1 Symbols for Controls, Tell-tales and Indicators

No.	Column 1	Column 2	Column 3	Column 4	Column 5
NO.	ITEM	SYMBOL	FUNCTION	ILLUMINATION	COLOUR
1.	Master lighting switch		Control	No	-
	Tell-tale may not act as the tell-tale for the position (side) lamps.	-¤-	Tell-tale <u>11</u> /	Yes	Green
2a.	Headlights	≣ D	Control <u>6</u> /		
		<u>1</u> /, <u>2</u> /	Tell-tale	Yes	Green
2b.	Headlamp driving beams		Control	No	
		≣ O <u>1/2</u> /	Tell-tale	Yes	Blue
3.	Direction indicator	♦ 1 / <u>3</u> /	Control	No	
			Tell-tale	Yes	Green
4.	Hazard warning signal		Control	Yes	
		<u> 1</u> /	Tell-tale <u>4</u> /	Yes	Red
5.	Front fog lamps		Control	No	
		非 D <u>1</u> /	Tell-tale	Yes	Green
6.	Rear fog lamp		Control	No	
		_ () ≢_1/	Tell-tale	Yes	Yellow
7.	Fuel level		Tell-tale	Yes	Yellow
		or D	Indicator	Yes	
8.	Engine oil pressure	5 /	Tell-tale	Yes	Red
			Indicator	Yes	
9.	Engine coolant temperature	<u>\$5/</u>	Tell-tale	Yes	Red
			Indicator	Yes	
10.	Electrical charging	<u>-</u>	Tell-tale	Yes	Red
	Condition		Indicator	Yes	
11.	Windscreen wiping system (continuous)	Ø	Control	Yes	

No.	Column 1	Column 2	Column 3	Column 4	Column 5
	ITEM	SYMBOL	FUNCTION	ILLUMINATION	COLOUR
12.	Power window lock	or	Control	No	
13.	Windscreen washing system		Control	Yes	
14a.	Windscreen washing and wiping system	₩ <u></u>	Control	Yes	
14b.	Headlamp cleaning device (with separate operating control)	2/	Control	No	
15.	Windscreen defrosting and defogging system	W	Control	Yes	
			Tell-tale	Yes	Yellow
16.	Rear window defrosting and defogging system		Control	Yes	
			Tell-tale	Yes	Yellow
17a.	Position, side marker, and/or end- outline marker lamps	→ 0€ <u>1/,6/</u>	Control	No	
			Tell-tale <u>11</u> /	Yes <u>6</u> /	Green
17b.	Parking lamps	P≒	Control	No	
			Tell-tale	Yes	Green
18.	Seat belt	A or A	Tell-tale	Yes	Red
19.	Airbag malfunction		Tell-tale	Yes	Red
20.	Side airbag malfunction		Tell-tale	Yes	Red

No.	Column 1	Column 2	Column 3	Column 4	Column 5
	ITEM	SYMBOL	FUNCTION	ILLUMINATION	COLOUR
21.	Brake system malfunction		Tell-tale	Yes	see brake
	Draw system martined on	① _{7/}	Ten tuic	105	Regulation
22.	Antilock brake system malfunction	(ABS) <u>8</u> /	Tell-tale	Yes	Yellow
23.	Regenerative brake system malfunction	(RBS)	Tell-tale	Yes	Yellow
24.	Antilock brake system malfunction in tow vehicle		Tell-tale	Yes	Yellow
25.	Antilock brake system trailer fault	(ABS)	Tell-tale	Yes	Yellow
26.	Low brake air/fluid pressure	() <u>1/</u>	Tell-tale	Yes	Red
27.	Low brake fluid condition		Tell-tale	Yes	Red
28.	Speedometer	km/h and MPH (upper or lower case) <u>12/13/</u>	Indicator	Yes	
29.	Parking brake applied	(P) <u>8</u> /	Tell-tale	Yes	Red
30.	Horn	₫	Control	No	

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No.	Column 1	Column 2	Column 3	Column 4	Column 5
	ITEM	SYMBOL	FUNCTION	ILLUMINATION	COLOUR
31a.	Engine on-board diagnostics or engine malfunction		Tell-tale	Yes	Yellow
31b.	Diesel pre-heat	00	Tell-tale	Yes	Yellow
31c.	Choke (cold starting device)	X	Control	No	
			Tell-tale	Yes	Yellow
32.	Air Conditioning System	or A/C	Control	Yes	
33.	Automatic (park) transmission (reverse) control (neutral) position (drive)	P R N D <u>9</u> /	Indicator	Yes	
34.	Engine Stop	[<u>10</u> /	Control	Yes	
35.	Brake lining wear-out condition		Tell-tale	Yes	Yellow
36.	Heating system	<u> </u>	Control	Yes	
37.	Heating and/or air conditioning fan	S <u>1</u> /	Control	Yes	
38.	Headlamp levelling	or and and	Control	No	

No.	Column 1	Column 2	Column 3	Column 4	Column 5
	ITEM	SYMBOL	FUNCTION	ILLUMINATION	COLOUR
39.	Odometer	km, if kilometres are shown or miles, if miles are shown (upper or lower case)		Yes	
40.	Tyre malfunction (e.g. low tyre pressure)	<u>u</u> or	Tell-tale	Yes	Yellow

1/ Framed areas of the symbol may be solid.

2/ The number of parallel lines in the symbol may be 4 or 5.

 $\underline{3}$ / The pair of arrows is a single symbol. When the controls or tell-tales for left and right turn operate independently, however, the two arrows may be considered separate symbols and be spaced accordingly.

 $\underline{4}$ / Not required when arrows of turn signal tell-tales that otherwise operate independently flash simultaneously as hazard warning tell-tale.

5/ Combination of the engine oil pressure symbol and the engine coolant temperature symbol in a single tell-tale is permitted.

6/ Separate identification not required if function is combined with master lighting switch.

7/ Contracting Parties which, at the date of coming into force of this global technical regulation, allowed or required the use of text for this function may, until [sixty months] after the date of coming into force of this global technical regulation, continue to allow or require the text in addition to the prescribed symbols for vehicles to be registered in their country.

 $\underline{8}$ / If a single tell-tale is used to indicate more than one brake system condition, the brake system malfunction symbol must be used.

9/ Letter "D" may be replaced or supplemented by other alphanumeric character(s) or symbol(s) chosen by the manufacturer to indicate additional selection modes. The indicators shall be displayed top to bottom or left to right.

10/Use when engine control is separate from the key locking system.

11/ Not required if instrument panel lights are lit automatically on activation of the master lighting switch.

- $\underline{12}$ / Digital speedometers that switch between kilometres per hour and miles per hour are allowed if the unit of measure is identified.
- 13/The analogue speedometer scale intervals shall increase in a clockwise direction. Major graduations and numerals shall appear at 10 kilometres per hour intervals and corresponding minor graduations at 5 kilometres per hour intervals. In vehicles manufactured for countries where imperial units are used, the speedometer shall also be marked in mph (miles per hour). Major graduations and numerals shall appear at 10 miles per hour intervals and corresponding minor graduations at 5 miles per hour intervals.

Table 2 Other Symbols

Column 1	Column 2	Column 1	Column 2
ITEM	SYMBOL	ITEM	SYMBOL
(Reserved)	(Reserved)	Interior compartment illumination	深
(Reserved)	(Reserved)	Long range light	ΞD
Exterior bulb failure	- ; ∯-	Working light)));
Reading/map light	, Sill	Beacon	<u>-</u> D-
Taxi sign light	TAXI	Medical assistance sign light	<u>+</u>
Loading light	₽ 0 0	Elevated headlights Loading platform and rear axle may be omitted if appropriate	□
Roof sign illumination	% -	Instrument panel illumination	()

Column 1	Column 2	Column 1	Column 2
ITEM	SYMBOL	ITEM	SYMBOL
Low windshield washer fluid		Electrically heated windshield	®
Windshield wiping system (intermittent)	Δ	Low rear window washer fluid	<u></u>
Rear window wiping system (continuous)	\Box	Rear window wiping system (intermittent)	Ţ
Rear window washing and wiping system	\$	Rear window washing system	$\hat{\Box}$
Exterior mirror heating		Exterior mirror adjustment Symbol allows for mirror image and 90 degree rotation. Arrows can be omitted if the function does not exist.	⊕ €
Power folding exterior mirror		(Reserved)	Reserved
Hand throttle)~(Engine malfunction	©
Engine heating	(®)	Electronic diesel control	(ECT)
Engine start	, C	Central lubrication	P

Column 1	Column 2	Column 1	Column 2
ITEM	SYMBOL	ITEM	SYMBOL
Engine oil temperature	باله	Engine oil level	1
Engine oil filter	* *** **	Engine coolant heating	<u> </u>
Engine coolant level		Engine coolant fan	*
Engine inlet air filter	≱	Engine inlet air pre-heat	令下
Emission system malfunction	± İ 3	Engine exhaust gas filter	- <u>¶</u> 3>
Turbo	A.	Battery malfunction	₽
Battery shut off	这	Battery fluid level	ĒĒ
Fuel economy		Fuel filter	B
Fuel system malfunction	°. ₽j	Fuel shut off	Ú
(Reserved)	(Reserved)	Tachometer	RPM or r/min

Column 1	Column 2	Column 1	Column 2
ITEM	SYMBOL	ITEM	SYMBOL
Hood opener	*	Door lock	
Trunk opener	-	Child lock	R
Immobilizer/theft protection	FB	Door ajar	1
Sun shade		Power window	4
(Reserved)	(Reserved)	(Reserved)	(Reserved)
Power on/off switch	மு	Owner's manual	
Upper air outlet	ننز	Lower air outlet	نب
Upper and lower air outlets	نڼ	Defrost and lower air outlet	***
Passenger compartment air filter	**	Vent open	*
Vent closed	\boxtimes	Fresh air	**************************************

No.	Column 1	Column 2	Column 1	Column 2
	ITEM	SYMBOL	ITEM	SYMBOL
	Recirculated air	(E)	Temperature	°F if degrees Fahrenheit is shown, or °C if degrees Celsius is shown
	Lighter	2	(Reserved)	(Reserved)
	Longitudinal seat adjustment	4	Seat back recline	-1
	Seat height adjustment	#	Seat cushion front height adjustment	
	Seat cushion rear height adjustment	_ 4	Head restraint adjustment	4
	Seat lumbar adjustment		Seat heater	, 411 /
	Steering circuit 1	⊕ ¹	Steering circuit 2	⊘ 2
	Steering malfunction	⊕!	Steering fluid level	<u>@</u>
	Four wheel steer	3	Traction control	(<u>TC</u>)

Column 1	Column 2	Column 1	Column 4
ITEM	SYMBOL	ITEM	SYMBOL
Parking aid	P	(Reserved)	(Reserved)
Brake temperature		Retarder	(
Exhaust gas brake	(Spring brake release	+((())+
Fresh air — Truck	18 −	Recirculated air — Truck	<u> </u>
Roof ventilation — Truck	% -	(Reserved)	(Reserved)
Load tipping	₽ \$	Load tipping — trailer	
Diverging flap release	₽	Diverging flap release — trailer	-0 00
Truck height control	6 <u>↑0</u>	Truck front height control	100
Truck rear height control	6 0↓	Trailer lock up	<u>\$</u>
Fifth wheel height adjustment	₽ [‡]	Snowplow Platform and rear axle may be omitted from the symbol if appropriate.	₽6-

Column 1	Column 2	Column 1	Column 2
ITEM	SYMBOL	ITEM	SYMBOL
Fuel temperature		Fuel heating	-
Transmission malfunction	Ф	Transmission fluid level	\$
Transmission temperature	(1)	Transmission converter temperature	₹ }
Transmission converter fluid level	35	Transmission converter malfunction	용!
Axle malfunction	Юİ	Axle lifting	••
Axle fluid level	떮	(Reserved)	(Reserved)
Cab lock Platform and rear axle may be omitted if appropriate.	€;	Winch	¥11J4
Tire temperature	8° °	(Reserved)	(Reserved)

Notes:

- 1 Symbols employing four lines instead of five may also be used.
- 2 Framed areas of the symbol may be solid; solid areas may be framed.
- 3 Reserved.
- 4 Use when engine control is separate from the key locking system.