

Comparison of Requirements for Seat Belt Reminder (Japan/ECE Proposal/EuroNCAP) □DRAFT□

Items		Current Japanese Standard		Revised Japanese Standard (Draft)		Proposed Amendments to ECE R16		EuroNCAP (Version. 1.0b June 2004)	
		Attachment 26 TECHNICAL STANDARD FOR WARNING DEVICES THAT GIVE WARNING SIGNALS IN EVENT OF NON-USE OF DRIVER'S SEAT BELT	Clause	Attachment 33 TECHNICAL STANDARD FOR WARNING DEVICES THAT GIVE WARNING SIGNALS IN EVENT OF NON-USE OF DRIVER'S SEAT BELT	Clause	Proposal from France TRANS/WP.29/GRSP/2004/26	Clause	SEAT BELT REMINDER ASSESSMENT PROTOCOL	Clause
Scope	Vehicle Category	<p>Ordinary-sized motor vehicles used exclusively for carriage of passengers, or small-sized motor vehicles or a minisized motor vehicles with a capacity of 10 persons or less (except two-wheeled motor vehicles with or without sidecars and motor vehicles with a maximum speed of less than 20 km/h)</p> <p>This standard shall not apply to the seats provided for in Items (1) to (5) inclusive of Paragraph 6 of Article 22 of the Safety Regulations (except those seats in which only the rear section can be folded, in the case of seats provided for in Item (2)).</p>	1.	<p>Motor vehicles (except vehicles mentioned from 1-1 to 1-8).</p> <p>However, respecting the components associated with warning while the vehicle is running, this technical standard shall apply only to motor vehicles used exclusively for carriage of passengers and having a capacity of 10 persons or less.</p> <p>1-1 Ordinary-sized motor vehicles and small-sized motor vehicles used exclusively for carriage of passengers and having a capacity of 11 persons or more. 1-2 Ordinary-sized motor vehicles used for transport of cargo 1-3 Two-wheeled motor vehicles 1-4 Two-wheeled motor vehicles with sidecars 1-5 Large-sized special motor vehicles 1-6 Small-sized special motor vehicles 1-7 Motor vehicles with a maximum speed of up to 20km/h 1.8 Trailers</p>	1	M1 category of vehicles.	1		2
Seating Position		Driver's seat	Title	Driver's seat	Title	Driver seating position	8.4.1.	<u>Only those seating positions, requested by the manufacturer</u>	

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Definition	Seat Belt Unfastened			“Seat Belt Unfastened” means the condition in which the buckle of the driver’s seat belt is not fastened or the length of webbing drawn from the seat belt retractor is 10 cm or less.	2-4	"Safety-belt is not fastened" means, at the option of the manufacturer, either the driver seatbelt buckle is not engaged or the webbing length pulled out of retractor is 100 mm or less."	2.44.		
	Ignition Switch Engaged			“Ignition Switch Engaged” means the condition in which the ignition switch is at the position of ON or START.	2-6				
Occupant Detection								Driver’s seat: Does not have to be capable of detecting whether or not the seat is in use. <u>Front seat passengers: Seat use must be detected. (5% female)</u> Rear seat: Occupant detection is recommended.	3.
Start of Device								- At the commencement of each “journey” that the vehicle makes. - Short breaks in the journey are allowed, where the reminder system is not required to start again. (for events such as stalling of the engine or re-fuelling, where passengers may remain in the vehicle, etc.)	6.
Visual Warning	Recognition	- Clearly distinguishable from other warning lights (except warning devices concerned with other seat belts). - Bright enough to be clearly visible even during daytime - Located that it can be clearly recognized by the driver	3.	- Clearly distinguished from other warnings (except for seat belt-related warnings). - Bright enough that it can be easily seen even in daylight - At a position where the driver can easily see it.	3-1 3-2	- Distinguishable from other alerts. - Located as to be readily visible and recognisable in the daylight by the driver	6.5.1.1.	- Clearly visible to driver, <u>without the need for the head to be moved from the normal driving position.</u> It is recommended that all front seat passengers can see the visual signal relevant to their seating position	7.1

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	Criteria for Recognition							- Assessed by a user, having normal hearing acuity, sitting in the relevant seat. - With the vehicle being driven at constant speed, in second gear. Vehicles with automatic transmission will have it locked in second gear if this is possible. - Ventilation fan set to its maximum setting. - All ventilation vents fully opened, if this is possible. - Radio / audio system switched off. Note: It is recommended, that reminder systems are designed so that, if they sound whilst the radio / audio system is playing, they interrupt the radio / audio sound. Alternatively, the radio/ audio system could be used to convey the reminder message. - Air conditioning switched off, if this is possible - Convertible roof closed. - All windows closed. Note: It is recommended that the reminder system is designed so that the audible signal can be easily heard under any normal usage conditions.	9.
	Operation	Audible sound	3(2)	Warning device sound.	2-2	Warning by sound signal.	2.41.		

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		- Continuous or intermittent	3(2)	- Continuous or intermittent ringing.	3-4	- Continuous or intermittent sound signal or by vocal information. - <u>May be constituted by more than one step.</u>	6.5.1.3.	A progressive or stepped audible signal is recommended. <u>If flashing or intermittent visual or audible signals are used, they must be in synchronisation.</u> <u>(Applied from Jan. 1, 2006)</u>	7 7.1																							
1st level Warning	Conditions for Activation			- Driver starts to run the vehicle without having fastened his/her seatbelt.	2-3	-Ignition switch is engaged (engine running or not) and the driver's safety-belt is not fastened.	2.42	1st level: Shortly after the ignition is switched on or shortly after the vehicle starts to move, where one or more seat belts are not in use. Intermediate Signal(Optional): - At some time before the "Final Signal" is required, where one or more seat belts are not in use.	6.1.																							
	Operation Requirements	Comply with (1) or (2). After the ignition switch has been set to the ON position, <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 10px;"><u>Visual</u></td> <td style="padding-right: 10px;"><u>Audible</u></td> </tr> <tr> <td>not fastened</td> <td>∞</td> </tr> <tr> <td>fastened</td> <td>≤8 sec.</td> </tr> </table> After the ignition switch has been set to the ON position, <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 10px;"><u>Visual</u></td> <td style="padding-right: 10px;"><u>Audible</u></td> </tr> <tr> <td>not fastened</td> <td>≥4 sec.</td> </tr> <tr> <td>fastened</td> <td>≤8 sec.</td> </tr> </table>	<u>Visual</u>	<u>Audible</u>	not fastened	∞	fastened	≤8 sec.	<u>Visual</u>	<u>Audible</u>	not fastened	≥4 sec.	fastened	≤8 sec.	3. 3. (1) 3. (2)	Comply with 5-1-1, 5-1-2, or 5-1-3. However, in the event that a warning device has been set to operate for a seat other than the driver's seat, that device can operate even if the seatbelt for the driver's seat has been fastened. After the ignition switch has been engaged. <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 10px;"><u>Visual</u></td> <td style="padding-right: 10px;"><u>Audible</u></td> </tr> <tr> <td>not fastened</td> <td>∞</td> </tr> <tr> <td>fastened</td> <td>≤8 sec.</td> </tr> </table> After the ignition switch has been engaged. <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 10px;"><u>Visual</u></td> <td style="padding-right: 10px;"><u>Audible</u></td> </tr> <tr> <td>not fastened</td> <td>≥4 sec.</td> </tr> <tr> <td>fastened</td> <td>≤8 sec.</td> </tr> </table>	<u>Visual</u>	<u>Audible</u>	not fastened	∞	fastened	≤8 sec.	<u>Visual</u>	<u>Audible</u>	not fastened	≥4 sec.	fastened	≤8 sec.	5-1 5-1-1 5-1-2	At least a visual warning activated for <u>4 seconds or longer</u>	6.5.2.	1st level: It is recommended that an audio and/or visual signal is started, Intermediate Signal: - Audiovisual signal * Sophisticated Intermediate Signal might be a clear, easily visible text message or a loud and clear voice message.
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				After the ignition switch has been engaged, <div style="text-align: center;"> <u>Visual</u> <u>Audible</u> </div> not fastened ≥ 60 sec. 4 to 8 sec. fastened Option Option	5-1-3				
	Test Procedures	(1) With the seat belt of the driver's seat in an unfastened state, turn on the ignition switch of the test vehicle. (2) Fasten the seat belt. Check that the warning device is operational.	2	- Test vehicle stopped - Ignition switch engaged - Seat belt is unfastened <u>After the initial warning has operated, fasten the seat belt and check the operational status of the initial warning device.</u>	4-1-1 4-1-2	- Vehicle stopped - Ignition switch engaged (engine running or not). - Safety-belt fastened * Error? should it be "not fastened"?	7.10.1.		
2nd Level Warning	Conditions for Activation			- While the vehicle is running and the driver has not fastened his/her seat belt. Any one of entries 3-6-1 to 3-6-3 below or in a combination of two or more of these entries.	2-7	- When a driver operates a vehicle without fastening the seatbelt.	2.43.	- Where one or more seat belts are not in use.	6.1
					3-6	- Vehicle is in forward motion - One of the following conditions or any combination of these conditions - Depending on the manufacturer's choice	6.5.4.	- One of the following: - Choice of which one or more of the above criteria is used is optional. * Where a "more sophisticated Intermediate Signal" is employed, the start of the Final Signal may be delayed.	6.1
				Warning during running need not operate when the vehicle is traveling in reverse or <u>the vehicle is going forward at a speed under 10km/h.</u> - Speed must be no faster than 25km/h.	3-7			6.1	
					3-6-1	- Speed greater to speed threshold; threshold ≤ 25 km/h.	6.5.4.2.	- Forward speed of 25 km/h (*Where a "more sophisticated Intermediate Signal" is employed, 40 km/h)	6.1

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			<p>- Time period set must be no longer than 60 seconds. <u>In this case, time periods can be added up except those periods given in 3-6-2-1 and 3-6-2-2.</u> <u>3-6-2-1 The time the vehicle is traveling in reverse and the time when the vehicle is going forward at a speed under 10km/h.</u> <u>3-6-2-2 The time up to completion of initial warning.</u></p>	3-6-2			<p>- "Forward Motion" for 60 seconds, (*Where a "more sophisticated Intermediate Signal" is employed, 90 seconds)</p>	6.1
			<p>- Distance set must be no longer than 500m. <u>In this case, distance increments can be added up except for the distance the vehicle travels in reverse or the distance the vehicle travels forward at a speed under 10km/h.</u></p>	3-6-3	<p>- Distance driven greater to distance threshold; threshold ≤ 500 m.</p> <p>- Duration time (engine running) greater than duration time threshold; threshold ≤ 60 seconds.</p>	6.5.4.1.	<p>- Forward motion for 500 metres, (*Where a "more sophisticated Intermediate Signal" is employed, 1000 metres)</p> <p>- Engine has been running for 60 seconds, (*Where a "more sophisticated Intermediate Signal" is employed, 90 seconds)</p>	6.1.
	Operation Requirements		<p>- Display and alarm for warning</p> <p>However, in the event that a warning device has been set to operate for a seat other than the driver's seat, that device can operate even if the seatbelt for the driver's seat has been fastened. * Applicable to a motor vehicle used exclusively for passenger carriage and having a capacity of 10 persons or less only</p>	5-2 5-1	- Visual and audible signal	6.5.4.	- Audio and visual.	7.1

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Operating Duration		- 30 seconds or longer <u>(except for cases in which the warning stops for over 3 seconds).</u>	- 30 seconds or longer	<p><u>- At least 90 seconds.</u></p> <p><u>If the audiovisual Final Signal is not continuous:</u></p> <ul style="list-style-type: none"> <u>- Gaps of more than 1 second in the signal must not occur more frequently than every 5 seconds.</u> <u>- Gaps of less than 1 second, which allow for visual signals which flash and audio signals which “beep,” are ignored.</u> <u>- If gaps in the signal exceed 3 seconds, that time is not included in the “Duration” time.</u> <u>- No gap must last for more than 25 seconds.</u> 	6.1
Stop				<p><u>Once the Final Signal has started, it must only stop under one of the following circumstances:</u></p> <ul style="list-style-type: none"> <u>- The signal has operated for the Duration specified</u> <u>- The related seat belts are put into use</u> <u>- The ignition has been switched off</u> <u>- The engine has been switched off</u> <p><u>It is recommended that the relevant visual signals are illuminated for the whole of the time that the seat is occupied without the seat belt being used.</u></p>	6.1

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	Test Procedures			<u>In the case that the initial warning stops after elapse of a fixed time period, once the initial warning has stopped, check warning during running as prescribed in 4-2-2.</u> <u>If the initial warning does not stop after elapse of a fixed time period, check warning during running as prescribed in 4-2-2 while the initial warning is operating.</u>	4-2-1				
				With the seat belt unfastened, <u>accelerate the test vehicle from its fully stopped position until the vehicle reaches a fixed speed of 25+10-0km/h and has run for at least 60 seconds, traveling a distance of at least 500m, then check the operational status of warning during running.</u>	4-2-2	The second level warning shall be tested with the safety-belt not fastened and with <u>one or any combination of the following conditions, according the manufacturer's choice:</u> 7.10.2.1. the test vehicle <u>speeded up from a halt position to 25 -0/+10 km/h.</u> 7.10.2.2. the test vehicle has been <u>driven for a distance of least 500 m.</u> 7.10.2.3. the test vehicle has had its <u>engine running for at least 60 seconds.</u>	7.10.2.		
Reactivation during driving								<u>If, during the journey, any seat belt experiences a "change of status," where a buckled belt is unbuckled, the reminder must indicate immediately or the reminder sequence must start, as if a new journey had commenced.</u>	8.
Equivalent Standards		FMVSS No. 208 (Federal Resister Vol. 56 No. 81-April 26, 1991) (only limited to the portion of S7.3 concerned with the warning device)	4.						
Other Requirements								Rear seating positions	6.2 7.2
								Removable Seats	5

Items	Current Japanese Standard		Revised Japanese Standard (Draft)		Proposed Amendments to ECE R16		EuroNCAP (Version. 1.0b June 2004)	
							Deactivation (to avoid tampering)	10
							Scoring	11