

Proposal for draft amendments to Regulation No. 13-H

A. PROPOSAL

Paragraph 2.1.1., amend to read:

2.1.1. The service brakes shall be tested under the conditions shown in the following table:

(A) Type-0 test with engine disconnected	v	100 km/h
	$s \leq$	$0.1 v + 0.0060 v^2$ (m)
	$d_m \geq$	6.43 m/s^2
(B) Type-0 test with engine connected	v	$80\% v_{\max} \leq 160 \text{ km/h}$
	$s \leq$	$0.1 v + 0.0067 v^2$ (m)
	$d_m \geq$	5.76 m/s^2
	f	$6.5^1 - 50 \text{ daN}$

¹ **The lower limit value of applied force ‘f’ less than 6.5 daN shall be ignored in case of vehicles fitted with BAS.**

where:

v	=	test speed, in km/h
s	=	stopping distance, in metres
d_m	=	mean fully developed deceleration, in m/s^2
f	=	force applied to foot control, in daN
v_{\max}	=	maximum speed of the vehicle, in km/h

Paragraph 2.2.1., amend to include a sub clause for BAS as under :

2.2.1 The performance of the secondary braking system shall be tested by the Type-0 test with the engine disconnected from an initial vehicle speed of 100 km/h and a force applied to the service brake control not less than 6.5 daN and not exceeding 50 daN..

2.2.1.1. The performance of the secondary braking system having BAS shall be tested by the Type-0 test with the engine disconnected from an initial vehicle speed of 100 km/h and a force applied to the service brake control not exceeding 50 daN.

B. JUSTIFICATION:

Paragraph 2.1.1

The standard specifies pedal force to be applied during the type O test. The clarity on acceptance is needed if the specified deceleration is achieved with pedal force lesser than specified lower limit of 6.5daN.

This will take care of undue very sharp braking which is difficult to modulate.
In case of BAS activation, considering the emergency situation, the value of minimum brake pedal force is redundant.

Paragraph 2.2.1

For secondary braking the lower limit of 6.5daN needs to be ignored, since the primary aim is to achieve the desired deceleration of 2.44m/s^2 as quick as possible.

For vehicle with diagonal split, meeting service deceleration level of 6.43m/s^2 with pedal force just above 6.5daN; in case of secondary performance it will mean 3.21m/s^2 (50% of 6.43m/s^2) @ pedal force of 6.5daN. In other words 2.44m/s^2 deceleration will be achieved with pedal force less than 6.5daN.

For vehicle with front / rear split (H circuit) the condition will be still worst for front only condition, since the contribution from front is more than 50%.
