

AMENDMENT NO. 3 JULY 2024

TO

**IS 15986: 2015 AUTOMOTIVE VEHICLES – UNIFORM PROVISIONS CONCERNING
THE APPROVAL OF VEHICLES OF CATEGORIES M1 AND N1
WITH REGARD TO BRAKING**

(Foreword, Para 3) — Substitute following for the existing Paragraph:

‘This standard is aligned with ECE R13H (Revision 4 Amendment 4). However, keeping in view Indian context this standard is having following differences as compared to ECE:’

(Page 6, Clause 5.2.10) — Substitute following for the existing clause:

‘5.2.10 The service, secondary and parking braking systems shall act on braking surfaces connected to the wheels through components of adequate strength.

Where braking torque for a particular axle or axles is provided by both a friction braking system and an electrical regenerative braking system of category B, disconnection of the latter source is permitted, providing that the friction braking source remains permanently connected and able to provide the compensation referred to in 5.2.7 (a).

However, in the case of short disconnection transients, incomplete compensation is accepted, but within 1s, this compensation shall have attained at least 75 percent of its final value.

Nevertheless, in all cases, the permanently connected friction braking source shall ensure that both the service and secondary braking systems continue to operate with the prescribed degree of effectiveness.

Disconnection of the braking surfaces of the parking braking system shall be permitted only on condition that the disconnection is controlled by the driver from his driving seat or from a remote-control device, by a system incapable of being brought into action by a leak.

The remote-control device mentioned above shall be part of a system fulfilling the technical requirements of an ACSF of Category A as specified in AIS-193, as amended from time to time.’

(Page 8, Clause 5.2.19.4) — Substitute following for the existing clause:

‘5.2.19.4 After the ignition/start switch which controls the electrical energy for the braking equipment has been switched off and/or the key removed, it shall remain possible to apply the parking braking system, whereas releasing shall be prevented. However, the parking braking system may also be released when this action is part of an operation of a remote-control system fulfilling the technical requirements of an ACSF of Category A as specified in AIS -193, as amended from time to time.’

(Page 10, Clause 5.2.22.2) — Substitute following for the existing clause:

‘5.2.22.2 Requirements for vehicles equipped with automatically commanded braking and/or regenerative braking which produce a retarding force (e.g., upon release of the accelerator control).

NOTE – At the time of approval, compliance with this requirement shall be confirmed by the vehicle manufacturers

Deceleration by automatically commanded braking and/or regenerative braking

$\leq 1.3 \text{ m/s}^2$	$> 1.3 \text{ m/s}^2$
May generate the signal	Shall generate the signal

Once generated the signal shall be kept as long as a deceleration demand persists. However, the signal may be suppressed at standstill or when the deceleration demand falls below 1.3m/s^2 or that value which generated the signal, whichever is lower.

An appropriate measure (e.g., switch-off-hysteresis, averaging, time delay) shall be implemented in order to avoid fast changes of the signal resulting in flickering of the stop lamps.'

(Page 10, *Clause 5.2.22.3*) — Substitute following for the existing clause:

'**5.2.22.3** Activation of part of the service braking system by "selective braking" or by functions whose primary intention is not to decelerate the vehicle (e.g., slight actuation of the friction brakes to clean the discs) shall not generate the signal mentioned above.

NOTE – During a selective braking event, the function may change to automatically command braking.'

[Page 10, *Clause 5.2.22.4* (*see* also Amendment No.1)] — Substitute following for the existing clause:

'**5.2.22.4** The signal shall not be generated when retardation is solely produced by the natural braking effect of the engine, air-/rolling resistance and/or road slope.'

(Page 15, *Clause B-1.5.3.1*) — Substitute following for the existing clause:

'**B-1.5.3.1** Vehicles equipped with an electrical regenerative braking system of Category B may have their batteries recharged or replaced by a charged set. In this case, further reconditioning of the linings shall be performed in order to complete the recovery procedure.'