





Submitted by IMMA

GTR3 amendment proposal		R78.04 (informal document)	
2.22.	"Emergency braking signal" means logic signal indicating emergency braking specified in paragraphs 3.1.15.1. to 3.1.15.2. of this Regulation.	2.30.	"Emergency braking signal" means logic signal indicating emergency braking specified in paragraphs 5.1.15 to 5.1.15.2. of this Regulation.
2.23.	"Disable the antilock brake system" means to put the system into a state where it will no longer fulfil the technical requirements in paragraph 4.9. of this Regulation.	2.31.	"Disable the antilock brake system" means to put the system into a state where it will no longer fulfil the technical requirements in paragraph 9 of Annex 3 to this Regulation.
3.1.14.	The effectiveness of the braking systems, including the anti-lock system, shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements in national standards or regulations, if applicable.	5.1.14.	The effectiveness of the braking systems, including the anti-lock system, shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of Regulation No. 10 (EMC) by applying: (a) The 03 series of amendments for vehicles without a coupling system for charging the Rechargeable Electric Energy Storage System (traction batteries); (b) The 04 series of amendments for vehicles with a coupling system for charging the Rechargeable Electric Energy Storage System (traction batteries).
3.1.15.	If a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of any service braking system when the conditions in paragraphs 3.1.15.1. through 3.1.15.2. are fulfilled:	5.1.15.	If a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of any service braking system when the conditions in paragraphs 5.1.15.1. through 5.1.15.2. are fulfilled:
3.1.15.1.	The signal shall not be activated when the vehicle deceleration is below 6 m/s ² but it may be generated at any deceleration at or above this value, the actual value being defined by the vehicle manufacturer.	5.1.15.1.	The signal shall not be activated when the vehicle deceleration is below 6 m/s ² but it may be generated at any deceleration at or above this value, the actual value being defined by the vehicle manufacturer.
3.1.15.2.	The signal shall be de-activated at the latest when the deceleration has fallen below 2.5 m/s ² ;	5.1.15.2.	The signal shall be de-activated at the latest when the deceleration has fallen below 2.5 m/s ² ;
3.1.15.3.	The signal may be activated at a speed above 50 km/h when the antilock system is fully cycling (as defined in paragraph 4.9.1.) and deceleration is at least 2.5 m/s ² . The signal shall be deactivated when the antilock system is no longer fully cycling.	5.1.15.3.	The signal may be activated at a speed above 50 km/h when the antilock system is fully cycling (as defined in paragraph 9.1. of Annex 3) and deceleration is at least 2.5 m/s ² . The signal shall be deactivated when the antilock system is no longer fully cycling.
3.1.16.	A means to disable the antilock brake system is allowed, if vehicles are fitted with a riding mode selector allowing an "off-road" or "all terrain" mode, and the following provisions are met:	5.1.16.	A means to disable the antilock brake system is not permitted. By derogation, a means to disable the antilock brake system is allowed, if vehicles are befitted with a riding mode selector allowing an "off-road" or "all terrain" mode, and the following provisions are met:
(a)	Disabling of the antilock brake system function shall only be allowed when the riding mode selector is in the "off-road" or "all terrain" mode; and	(c)	Disabling of the antilock brake system function shall only be allowed when the riding mode selector is in the "off-road" or "all terrain" mode; and
(b)	The vehicle is stationary; and	(a)	The vehicle is stationary; and
(c)	The disablement of the antilock brake system function shall be the result of a deliberate action by the rider according to one of the following methods:	(b)	The disablement of the antilock brake system function shall be the result of a deliberate action by the rider according to one of the following methods:
(i)	Simultaneous actuation of the antilock braking system disable-switch and a service brake system control (i.e. brake lever or pedal); or	(i)	Simultaneous actuation of the antilock braking system disable-switch and a service brake system control (i.e. brake lever or pedal); or
(ii)	The actuation of the antilock brake system disable-switch for a minimum of two seconds; or	(ii)	The actuation of the antilock brake system disable-switch for a minimum of two seconds; or
(iii)	The progression through at least two successive steps or levels of actuation of a control (e.g. rotating knob, a touch panel or a menu option selector).	(iii)	The progression through at least two successive steps or levels of actuation of a control (e.g. rotating knob, a touch panel or a menu option selector).
(d)	The antilock brake system function shall be automatically enabled when exiting from the "off-road" or "all-terrain" ride mode, or after each start-up of the vehicle.	(d)	The antilock brake system function shall be automatically enabled when exiting from the "off-road" or "all-terrain" ride mode, or after each start-up of the vehicle.
(e)	When disabled, the antilock brake system function shall be indicated by the activation of a yellow or amber tell-tale according to one of the following methods until the ABS is fully functional or operating again:	(e)	When disabled, the antilock brake system function shall be indicated by the activation of a yellow or amber tell-tale according to one of the following methods until the ABS is fully functional or operating again:
(i)	The following symbol as specified in B.18 in ISO 2575:2010:	(i)	The following symbol as specified in B.18 in ISO 2575:2010:
			
Or		Or	
(ii)	The following symbol as specified in B.05 of ISO 2575:2010:	(ii)	The following symbol as specified in B.05 of ISO 2575:2010:
			
	With the word "OFF" as follows, according to Y.01 in ISO 2575:2010, whereby the tell tales are adjacent to each other:		With the word "OFF" as follows, according to Y.01 in ISO 2575:2010, whereby the tell tales are adjacent to each other:
			

Harmonisation of proposals R78 and GTR 3

- Legend:	
	Emergency brake
	ABS deactivation
	EMC
	Completely harmonized text

- Or;
- (iii) The text "ABS OFF", or "ABS not available", or,
 - (iv) The warning lamp referred to in paragraph 3.1.13., continuously activated (i.e. lit or flashing).
- (f) Enabling of a functional stage which complies with anti-lock brake system requirements in paragraph 4.9 shall be possible through the single actuation of a control (e.g. simple press of a button or switch) initiating ABS system start-up procedure.
- (g) The manufacturer shall not make available to consumers additional means of disabling ABS other than in compliance with the requirements set out in points (a) to (f). This provision does not apply to what is required to service the ABS (e.g. electrical connectors)."

3.1.17 A vehicle fitted with an ABS system active on both axles may be fitted with a rider selectable mode to deactivate the ABS function on the rear axle. When the ABS function is deactivated on the rear axle this shall be indicated by a yellow or amber tell-tale or check control messages* according to one of the following methods until the ABS is fully functional or operating on both axles again:

(i)The following symbol as specified in B.18 in ISO 2575:2010:



With the word "REAR" adjacent to it; or

(ii)The following symbol as specified in B.18 in ISO 2575:2010:



With a symbol of the vehicle adjacent to it with an arrow pointing to the rear axle; or

(iii)The following symbol as specified in B.05 of ISO 2575:2010:



With the word "REAR OFF" adjacent to it; or

(iv)The text " REAR ABS OFF", or " REAR ABS not available"; or

(v)The warning lamp referred to in paragraph 3.1.13., continuously flashing. If the disablement of the ABS system is also indicated by a flashing of this warning lamp as specified in 3.1.16 e-iv, the frequency of the flashing for indicating the deactivation of the ABS system on one axle shall be different from the frequency of flashing to indicate the disablement of the ABS system.

* Pop up messages in the instrument panel

- 4.9. ABS tests
- 4.9.1. General:
- (a) The tests are only applicable to the ABS if fitted and enabled.
 - (b) The tests are to confirm the performance of brake systems equipped with ABS and their performance in the event of ABS electrical failure;
 - (c) "Fully cycling" means that the anti-lock system is repeatedly or continuously modulating the brake force to prevent the directly controlled wheels from locking.
 - (d) Wheel-lock is allowed as long as the stability of the vehicle is not affected to the extent that it requires the operator to release the control or causes a vehicle wheel to pass outside the test lane.

The test series comprises the following individual tests, which may be carried out in any order:

ABS TESTS	PARAGRAPH
a. Stops on a high friction surface - as specified in paragraph 4.1.1.1.	4.9.3.
b. Stops on a low friction surface - as specified in paragraph 4.1.1.2.	4.9.4.
c. Wheel lock checks on high and low friction surfaces.	4.9.5.
d. Wheel lock check - high to low friction surface transition.	4.9.6.
e. Wheel lock check - low to high friction surface transition.	4.9.7.
f. Stops with an ABS electrical failure.	4.9.8.

- (e) Vehicles with driver selectable ABS modes (e.g. a dual channel ABS system whereby the ABS on the rear axle can be disabled) shall comply with the technical requirements of this paragraph in all modes where ABS is enabled.

- Or;
- (iii) The text "ABS OFF", or "ABS not available", or,
 - (iv) The warning lamp referred to in paragraph 3.1.13., continuously activated (i.e. lit or flashing).
- (f) Enabling of a functional stage which complies with anti-lock brake system requirements in paragraph 9 of Annex 3 shall be possible through the single actuation of a control (e.g. simple press of a button or switch) initiating ABS system start-up procedure.
- (g) Prohibition of any software and/or hardware defeat device compromising or allowing to circumnavigate one or more of the requirements set out in points (a) to (f); and

5.1.17 A vehicle fitted with an ABS system active on both axles may be fitted with a rider selectable mode to deactivate the ABS function on the rear axle. When the ABS function is deactivated on the rear axle this shall be indicated by a yellow or amber tell-tale or check control messages* according to one of the following methods until the ABS is fully functional or operating on both axles again:

(i)The following symbol as specified in B.18 in ISO 2575:2010:



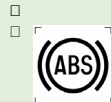
With the word "REAR" adjacent to it; or

(ii)The following symbol as specified in B.18 in ISO 2575:2010:



With a symbol of the vehicle adjacent to it with an arrow pointing to the rear axle; or

(iii)The following symbol as specified in B.05 of ISO 2575:2010:



With the word "REAR OFF" adjacent to it; or

(iv)The text " REAR ABS OFF", or " REAR ABS not available"; or

(v)The warning lamp referred to in paragraph 5.1.13., continuously flashing. If the disablement of the ABS system is also indicated by a flashing of this warning lamp as specified in 5.1.16 e-iv, the frequency of the flashing for indicating the deactivation of the ABS system on one axle shall be different from the frequency of flashing to indicate the disablement of the ABS system.

* Pop up messages in the instrument panel

9. ABS tests
- 9.1. General:
- (a) The tests are only applicable to the ABS if fitted and enabled.
 - (b) The tests are to confirm the performance of brake systems equipped with ABS and their performance in the event of ABS electrical failure;
 - (c) "Fully cycling" means that the anti-lock system is repeatedly or continuously modulating the brake force to prevent the directly controlled wheels from locking;
 - (d) Wheel-lock is allowed as long as the stability of the vehicle is not affected to the extent that it requires the operator to release the control or causes a vehicle wheel to pass outside the test lane.

The test series comprises the following individual tests, which may be carried out in any order:

Table 3

ABS Tests	Paragraph
a. Stops on a high friction surface - as specified in paragraph 1.1.1.	9.3.
b. Stops on a low friction surface - as specified in paragraph 1.1.2.	9.4.
c. Wheel lock checks on high and low friction surfaces.	9.5.
d. Wheel lock check - high to low friction surface transition.	9.6.
e. Wheel lock check - low to high friction surface transition.	9.7.
f. Stops with an ABS electrical failure.	9.8.

- (e) Vehicles with driver selectable ABS modes (e.g. a dual channel ABS system whereby the ABS on the rear axle can be disabled) shall comply with the technical requirements of this paragraph in all modes where ABS is enabled.