



**LATIN AMERICAN & CARIBBEAN
NEW CAR ASSESSMENT PROGRAMME
(Latin NCAP)**

TESTING PROTOCOL – MOOSE TEST

Version 1.0.0

January 2020

ACKNOWLEDGEMENT

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1. Introduction

Latin NCAP will conduct “moose tests” in two different scenarios; *Moose Test A* and *Moose Test B*. Both tests will be conducted by a professional driver from the accredited crash test facility. The objective of the “moose test” assessment is to assure the real-life robustness of the electronic stability control systems fitted in cars for the Latin American and Caribbean region.

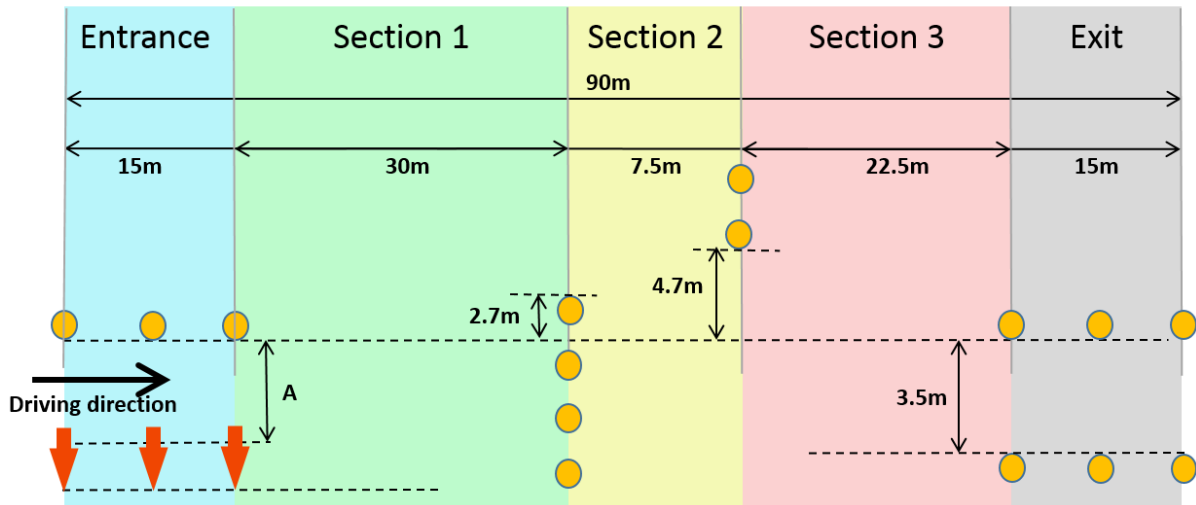
2. Test conditions

Both Moose Tests configurations will be tested in runs of increasing speed by 5km/h starting at 60km/h, until at least one of the fail conditions detailed on **Section 5 - Pass / Fail Criteria** are met.

- The Manufacturer must provide to Latin NCAP the rim and tire specifications for all variants sold in Latin American and Caribbean markets.
- In the case of more than one possibility, the vehicle’s test weight, rim size and other specifications will be decided by Latin NCAP for each model according to specification.
- The vehicle must be loaded with 4 adult passengers (70kg per passenger) and 30kg load in the cargo area.
- The vehicle should be set up (tyre pressure) according to normal load condition specified on the vehicle or in the vehicle’s manual.
- The driver (from the testing laboratory) will be designated by Latin NCAP.
- In the case that an OEM would like to pre-test the car in advance of the Official Moose test, a car manufacturer designated driver may be allowed to drive up to 4 runs ahead of the start of the official test. In this case, the car to be used as a pre-test by the car manufacturer should not be any of the official test units and the manufacturer must provide an extra car for this purpose, selected under the exact same conditions as the official test vehicles (modified, “updated”, “test unit” or pre-production vehicles will not be accepted). Latin NCAP and the test facility are not liable for any incident or damage in the case of a pre-test scenario. The OEM must notify Latin NCAP with at least one month in advance that an OEM driver will drive the car in advance of official test.
- Once the official test runs begun, the OEM designated driver cannot drive the OEM car in the test track until the test is finished.
- All drivers, including OEMs should wear a helmet.
- In the case that instability is noticed at a certain test speed the higher-speed condition will not be tested.
- It is a top priority to ensure driver and car integrity, for this reason manufacturer might be approached to confirm the need of rigs and safety precautions. In this case, rig contact with surface will also be considered as a fail added to the criteria described below.
- **Latin NCAP and the test facility reserves the right to stop the pre-test by the OEM driver at any point if timing, in the case safety or any potential damage could compromise the completion of the test in any way.**
- 2 cameras should be set in safe positions, both aiming to both $\frac{3}{4}$ front view of the car.
- 2 cameras should be set in safe positions, both aiming to both $\frac{3}{4}$ rear view of the car.
- Position of the cameras should allow clear view of the 4 wheels from different angles during the test

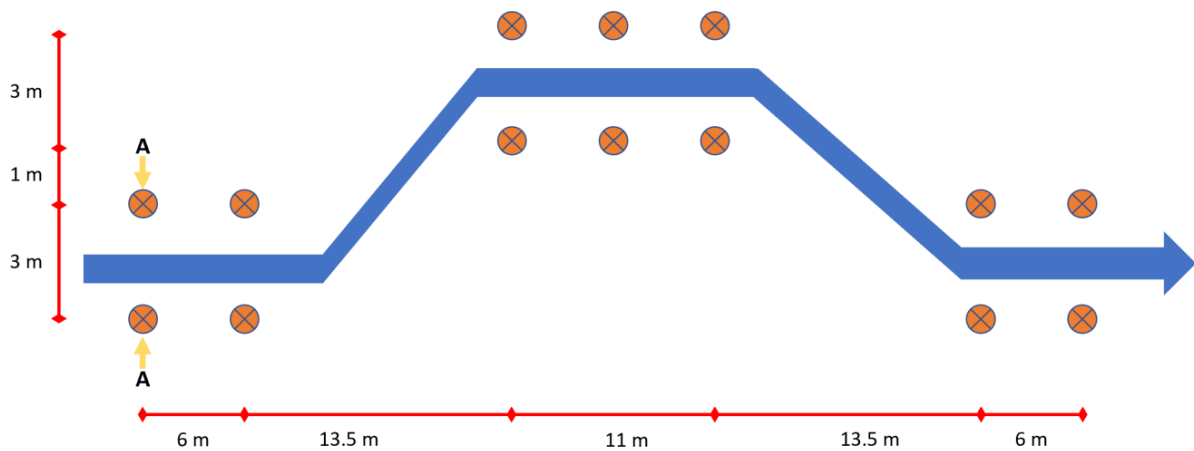
3. Moose test Scenarios

3.1. Moose test SCENARIO A



Entrance in lane A in highest gear at least 2000 RPM; after passing the first cones push ESC activated in Standard mode.
 $A = 1.1 \cdot \text{vehicle width} + 250\text{mm}$

3.2. Moose test SCENARIO B¹



4. Procedure

- For both scenarios (A and B), the test vehicle must enter the first section of the defined track (first line of cones) at a speed of 60 km/h in the first run and start increasing speed on 5km/h until the car meet any of the fail criteria points.
- The throttle must be released at the point of entry described above. The vehicle must remain un-throttled during the rest of the test.
- At the exit of the first cone section, the vehicle must be in the highest gear at least 2000RPM. ESC activated in standard mode.

¹ Geometric track base on *TEKNIKENS VÄRLDS* moose test

- The track and weather conditions for both moose test scenarios are identical to those indicated for ESC regulation UN-140 or GTR8 testing procedures.

For each test speed, both runs in Scenario A and B need to be successful (no fail criteria detected) to confirm that at that speed the result is a “Pass”.

Example:

Test at 60km/h, Moose test scenario A: OK, Moose test scenario B: OK then 60km/h is OK

Test at 65km/h, Moose test scenario A: NOT OK, Moose test scenario B: OK then 65km/h is NOT OK

Latin NCAP will report the maximum speed at which both scenarios show no detection of “fail” criteria.

5. Pass / Fail Criteria

The following criteria will be used as a “fail” considering all runs:

- Rim contact with track.
- Two or more wheels in the air
- Contact with any cone.
- Rollover or significant loss of stability.

6. Results and reporting

Until 31st December 2021, the results of both Moose tests scenarios will be reported as additional information for consumers indicating the maximum speed reached in both tests before any fail criteria is recorded. The consumer will be presented with a brief overall analysis of the performance of the ESC system in both scenarios, along with the maximum speed in which one of the fail conditions was met.

From January 1st, 2022 until December 31st, 2023, the ESC total points within the SAS box will be affected according to section 6.2 in the latest version of Latin NCAP **“ASSESSMENT PROTOCOL – SAFETY ASSIST”**.

As this assessment is pioneered by Latin NCAP in the region, Latin NCAP will monitor the performance of the vehicles along 2020 and 2021 and reserves the right to propose further changes to the setup, scenario, criteria or rating for 2022 and 2023, if any. These may include an increase in the test speed.