



Latin NCAP Moose Test Maneuver

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The primary purpose of this procedure is to objectively evaluate the vehicle's directional stability and recorded entrance speed while executing a double lane change maneuver as prescribed by the Latin American and Caribbean New Car Assessment Program (Latin NCAP).

1.2 Applicability. This test procedure applies to any two-axle pneumatic rubber tired vehicle at all load conditions.

1.3 Remarks. This test procedure describes a method for assessing vehicle direction control characteristics during a double lane change. This maneuver is defined by the Latin NCAP publication as an avoidance maneuver. The maneuver consists of an alignment lane, an offset gate, and a recovery lane. The objective assessment will determine a vehicle speed the vehicle can achieve and meet the requirements specified by the Latin NCAP publication. From this point forward, there is no pedal input from the driver. This test is not part of standard development work. This test should be conducted after completing the standard development work and shall not require specific vehicle tuning for this specific vehicle maneuver.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- CG190 Evaluation Report (ID)
- CG5992 Latin NCAP Moose Test Maneuver
- Latin American and Caribbean New Car Assessment Program (Latin NCAP)
- Verband der Automobileindustrie (VDA) (German Association of the Automotive Industry) information can be found at www.vda.de/en.html

(ID) This document is limited to internal use within General Motors and shall not be accessed outside this company. Contact the GM Lead Engineer for further instructions.

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.1.3 The test requires a uniform paved surface that is wide enough to provide two (2) lanes and appropriate run-off to safely perform the maneuver. The road surface gradient shall not exceed 2.5%.

3.1.4 The path for the test vehicle should be demarcated by traffic cones. All traffic cones should have an outline marked on the pavement with paint or chalk to ensure proper placement. The traffic cones shall be set up in three (3) segments:

3.1.4.1 Alignment Lane. The alignment lane is 18.29 m (60 ft) long (from center of first traffic cone to center of last traffic cone) and 2.44 m (8 ft) wide (from the inside of the traffic cone to inside of opposite traffic cone). Traffic cones should be placed every 3.05 m (10 ft).

3.1.4.2 Offset Gate. The offset gate is marked by two (2) cones, 3.66 m (12 ft) wide (from inside to inside). The distance between the end of the alignment lane and the offset gate is 18.29 m (60 ft). The distance between the offset gate and the recovery lane is 18.29 m (60 ft).

3.1.4.3 Recovery Lane. The recovery lane is 18.29 m (60 ft) long (center to center) and 3.66 m (12 ft) wide (inside to inside). Traffic cones should be placed every 3.05 m (10 ft).

3.1.5 The vehicle path shall always be a left turn followed by a right turn.

3.1.6 See Appendix A, Figure A1 for a diagram of the maneuver. Note that this maneuver is NOT the same maneuver as the Verband der Automobileindustrie (VDA) Lane Change Maneuver (GMW14556).

3.2 Equipment. As this procedure is primarily designed to objectively assess vehicle performance while executing the Latin NCAP Moose Test Maneuver (CG5992), no instrumentation is necessary other than the following:

3.2.1 Corrected Vehicle Speedometer or equivalent such as VBox. In the event that instrumentation is used to gain additional insight to vehicle performance, the following instrumentation may be considered.

3.2.2 Data Acquisition System (DAS).

3.2.3 Instrumented steering wheel with steering wheel angle transducer.

3.2.4 Speed and Sideslip Transducer.

3.2.5 Roll Transducer.

3.2.6 Yaw Velocity Transducer.

3.2.7 Lateral Acceleration Transducer.

3.2.8 Longitudinal Acceleration Transducer.

3.2.9 Appropriate Cabling.

3.3 Test Vehicle/Test Piece. This test procedure applies to any two-axle, pneumatic rubber tired vehicle at all load conditions.

3.4 Test Time.

Calendar time:	1 d
Test time:	2 h
Coordination time:	2 h

3.5 Test Required Information.

3.5.1 (Optional) Channel Assignment and Full Scale Value:

- Steering Wheel Angle: 200 degrees
- Vehicle Speed: 150 km/h
- Vehicle Yaw Rate: 50 degrees
- Vehicle Roll Rate: 10 degrees
- Lateral Acceleration: 10 m/s²
- Longitudinal Acceleration: 10 m/s²
- Sideslip Angle: 40 degrees