

# Low-Speed Vehicles

What is a low-speed vehicle and where can it be operated?

## **North Carolina General Statutes say:**

§ 20-121.1. Operation of a low-speed vehicle on certain roadways.

The operation of a low-speed vehicle is authorized with the following restrictions:

- (1) A low-speed vehicle may be operated only on streets and highways where the posted speed limit is 35 miles per hour or less. This does not prohibit a low-speed vehicle from crossing a road or street at an intersection where the road or street being crossed has a posted speed limit of more than 35 miles per hour.
- (2) A low-speed vehicle shall be equipped with headlamps, stop lamps, turn signal lamps, tail lamps, reflex reflectors, parking brakes, rearview mirrors, windshields, windshield wipers, speedometer, seat belts, and a vehicle identification number.
- (3) A low-speed vehicle shall be registered and insured in accordance with G.S. 20-50 and G.S. 20-309.
- (4) The Department of Transportation may prohibit the operation of low-speed vehicles on any road or highway if it determines that the prohibition is necessary in the interest of safety.
- (5) Low-speed vehicles must comply with the safety standards in 49 C.F.R. § 571.500. (2001-356, s. 5.)

## **The North Carolina Department of Motor Vehicles says:**

Low-speed vehicles may be operated only on streets and highways where the posted speed limit is 35 miles per hour or less. It may cross a road or street at an intersection with a posted speed higher than 35 mph. The low-speed vehicle must be equipped with headlamps, stop lamps, turn signal lamps, tail lamps, reflex reflectors, parking brakes, rearview mirrors, windshields, windshield wipers, speedometer, seat belts and a vehicle identification number. It must be insured and registered.

## Requirements for Titling & Registration

- Inspection

An inspector's report confirming that the vehicle is equipped for road use and meets all DOT safety standards.

### **The U.S. Department of Transportation Federal Motor Vehicle Safety Standards says:**

#### §571.500 Standard No. 500; Low-speed vehicles.

- S1. Scope. This standard specifies requirements for low-speed vehicles.
- S2. Purpose. The purpose of this standard is to ensure that low-speed vehicles operated on the public streets, roads, and highways are equipped with the minimum motor vehicle equipment appropriate for motor vehicle safety.
- S3. Applicability. This standard applies to low-speed vehicles.
- S4. [Reserved.]
- S5. Requirements.
- (a) When tested in accordance with test conditions in S6 and test procedures in S7, the maximum speed attainable in 1.6 km (1 mile) by each low-speed vehicle shall not more than 40 kilometers per hour (25 miles per hour).
- (b) Each low-speed vehicle shall be equipped with:
- (1) Headlamps,
  - (2) Front and rear turn signal lamps,
  - (3) Tail lamps,
  - (4) Stop lamps,
  - (5) Reflex reflectors: one red on each side as far to the rear as practicable, and one red on the rear,
  - (6) An exterior mirror mounted on the driver's side of the vehicle and either an exterior mirror mounted on the passenger's side of the vehicle or an interior mirror,

(7) A parking brake,

(8) A windshield that conforms to the Federal motor vehicle safety standard on glazing materials (49 CFR 571.205).

(9) A VIN that conforms to the requirements of part 565 Vehicle Identification Number of this chapter, and

(10) A Type 1 or Type 2 seat belt assembly conforming to Sec. 571.209 of this part, Federal Motor Vehicle Safety Standard No. 209, Seat belt assemblies, installed at each designated seating position.

S6. General test conditions - Each vehicle must meet the performance limit specified in S5(a) under the following test conditions.

S6.1. Ambient conditions.

S6.1.1. Ambient temperature - The ambient temperature is any temperature between 0 °C (32 °F) and 40 °C (104 °F).

S6.1.2. Wind speed - The wind speed is not greater than 5 m/s (11.2 mph).

S6.2. Road test surface.

S6.2.1. Pavement friction - Unless otherwise specified, the road test surface produces a peak friction coefficient (PFC) of 0.9 when measured using a standard reference test tire that meets the specifications of American Society for Testing and Materials (ASTM) E1136, "Standard Specification for A Radial Standard Reference Test Tire," in accordance with ASTM Method E 1337-90, "Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using a Standard Reference Test Tire," at a speed of 64.4 km/h (40.0 mph), without water delivery (incorporated by reference; see 49 CFR 571.5).

S6.2.2. Gradient - The test surface has not more than a 1 percent gradient in the direction of testing and not more than a 2 percent gradient perpendicular to the direction of testing.

S6.2.3. Lane width - The lane width is not less than 3.5 m (11.5 ft).

S6.3. Vehicle conditions.

S6.3.1. The test weight for maximum speed is unloaded vehicle weight plus a mass of 78 kg (170 pounds), including driver and instrumentation.

- S6.3.2. No adjustment, repair or replacement of any component is allowed after the start of the first performance test.
  - S6.3.3. Tire inflation pressure. Cold inflation pressure is not more than the maximum permissible pressure molded on the tire sidewall.
  - S6.3.4. Break-in - The vehicle completes the manufacturer's recommended break-in agenda as a minimum condition prior to beginning the performance tests.
  - S6.3.5. Vehicle openings - All vehicle openings (doors, windows, hood, trunk, convertible top, cargo doors, etc.) are closed except as required for instrumentation purposes.
  - S6.3.6. Battery powered vehicles - Prior to beginning the performance tests, propulsion batteries are at the state of charge recommended by the manufacturer or, if the manufacturer has made no recommendation, at a state of charge of not less than 95 percent. No further charging of any propulsion battery is permissible.
- S7. Test procedure - Each vehicle must meet the performance limit specified in S5(a) under the following test procedure. The maximum speed performance is determined by measuring the maximum attainable vehicle speed at any point in a distance of 1.6 km (1.0 mile) from a standing start and repeated in the opposite direction within 30 minutes.

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