

North Carolina Department of Transportation

Division of Highways

Transportation Mobility and Safety Division

STANDARD PRACTICE

for

County/Town/City, North Carolina to Install

Sign Prohibiting Use of Unmuffled Engine Compression Brakes

The purpose of this Standard Practice is to provide guidance on this issue and specify the requirements for installation of a sign within a county/city/town limits prohibiting use of unmuffled engine compression brakes. Establishment of a prohibitory sign is not required for law enforcement to enforce G.S 20-128: "Exhaust system and emissions control devices." Therefore; we see these signs as discretionary and will allow others to pay to have them installed when approved and if space is available.

For the purpose of this standard practice, engine compression brakes are defined as a device primarily on large trucks for the conversion of the engine from an internal combustion engine to an air compressor for the purpose of braking without the use of wheel brakes. They are incorrectly referred to as "Jake" brakes (Jacobs ©brake). When not muffled, engine compression braking may cause excessive noise and vibration in violation with Federal Motor Carrier Safety Regulations 40 CFR 2002.10 and North Carolina G.S. 20-128.

The North Carolina Department of Transportation (NCDOT) considers appropriate engine braking an essential safety practice, and prohibiting use of engine brakes may have negative impacts. However, a properly installed muffler will reduce the excessive noise and vibration emitted. Therefore, NCDOT will allow the installation of "Unmuffled Engine Braking Prohibited" signs on NCDOT right-of-way inside municipal limits if all requirements herein are met. Additional criteria will be required for establishment of these signs outside a municipal limit. The compliance of these signs is analogous with installation of a no speeding sign.

This sign shall not apply to emergency driving situations requiring the utilization of an engine or exhaust brake to protect the safety and property of motor vehicle operators, pedestrians, and the operator and passengers of the motor vehicle involved in said emergency situation.

Requirements prior to requesting NCDOT approval to allow prohibitory sign within municipal limit:

- 1) An ordinance must be first adopted by a county, city, or town prohibiting the excessive noise due to unmuffled engine compression brakes within the official limits specifying the limits of the restriction.

2) A speed limit sign must be in place at the municipal limit, regardless of any statutory speed limit in effect. If speed reduction signs are required outside the municipal limits to notify the motorist and allow gradual braking, these signs must be installed prior to request. See MUTCD for requirements. If speed reduction signs are warranted, this request should be made prior to the request to allow the prohibitory engine braking sign.

Other Requirements:

3) Establishment of these signs outside a municipal limit on NCDOT right of way will require a completed NCDOT encroachment agreement by requesting party. The requesting party will be responsible for installation of sign and maintenance.

4) An NCDOT encroachment agreement is required for any request for signs to be installed within NCDOT right-of-way.

5) Signs must be installed by NCDOT or an NCDOT approved contractor, if outside municipal limits.

6) The county/town/city will be responsible for payment of sign, installation, enforcement, and sign maintenance.

7) The sign design will be provided by the NCDOT.

8) All sign requests should be made to the appropriate Division Engineer with required documentation.

9) NCDOT is not responsible for theft, damage, or destruction of the sign.

Guidance on information that may be included (or modified to fit the specific location) in ordinance:

- It shall be unlawful for any person to employ unmuffled engine compression brakes within the municipal limits on [route name] or such that can be detected within [distance] of sign.
- The penalty for usage of unmuffled engine compression brakes.
- This sign shall not be enforced when engine or exhaust braking is required due to an emergency driving situation such as to protect the safety and property of motor vehicle operators, pedestrians, and the operator and passengers of the motor vehicle involved in said emergency situation.
- It shall be unlawful for any person to operate or cause to be operated a motor vehicle unless the exhaust system is free from defects, which affect sound reduction.
- No person shall remove or render inoperative, or cause to be removed or rendered inoperative, other than for purposes of maintenance, repair or replacement, any muffler or sound dissipative device on a motor vehicle.
- It shall be unlawful for any person to modify the exhaust system of a motor vehicle by the installation of a muffler cut-out or bypass, and no person shall operate a motor vehicle which has been so modified.

Reference information:**GS 160A-187: “Noise Regulation”**

A city may by ordinance regulate, restrict, or prohibit the production or emission of noises or amplified speech, music, or other sounds that tend to annoy, disturb, or frighten its citizens. (1971, c. 698, s. 1; 1973, c. 426, s. 25.)

§ 153A-133. Noise regulation.

A county may by ordinance regulate, restrict, or prohibit the production or emission of noises or amplified speech, music, or other sounds that tend to annoy, disturb, or frighten its citizens. (1973, c. 822, s. 1.)

GS 20-128: “Exhaust system and emissions control devices”

(a) No person shall drive a motor vehicle on a highway unless such motor vehicle is equipped with a muffler, or other exhaust system of the type installed at the time of manufacture, in good working order and in constant operation to prevent excessive or unusual noise, annoying smoke and smoke screens.

(b) It shall be unlawful to use a "muffler cut-out" on any motor vehicle upon a highway.

(c) No motor vehicle registered in this State that was manufactured after model year 1967 shall be operated in this State unless it is equipped with emissions control devices that were installed on the vehicle at the time the vehicle was manufactured and these devices are properly connected.

(d) The requirements of subsection (c) of this section shall not apply if the emissions control devices have been removed for the purpose of converting the motor vehicle to operate on natural or liquefied petroleum gas or other modifications have been made in order to reduce air pollution and these modifications are approved by the Department of Environment and Natural Resources. (1937, c. 407, s. 91; 1971, c. 455, s. 1; 1983, c. 132; 1989, c. 727, s. 9; 1997-443, s. 11A.119(a); 2000-134, s. 6.)

40 CFR 202.20: STANDARDS FOR HIGHWAY OPERATIONS.**§ 202.20 Standards for Highway Operations.**

(a) No motor carrier subject to these regulations shall operate any motor vehicle of a type to which this regulation is applicable which at any time or under any condition of highway grade, load, acceleration or deceleration generates a sound level in excess of 86dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of 35 MPH or less; or 90 dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of more than 35 MPH.

(b) No motor carrier subject to these regulations shall operate any motor vehicle of a type to which this regulation is applicable which at any time or under any condition of highway grade, load, acceleration or deceleration generates a sound level in excess of 83 dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of 35 MPH or less; or 87 dB(A) measured on an open site with fast meter response at 50 feet from the centerline of lane of travel on highways with speed limits of more than 35 MPH.

[39 FR 38215, Oct. 29, 1974, as amended at 51 FR 852, Jan. 8, 1986]

(f) The provisions of § 202.20(a) and § 202.21(a) of Subpart B apply only to applicable motor vehicles manufactured prior to the 1986 model year.

(g) The provisions of § 202.20(b) and § 202.21(b) apply to all applicable motor vehicles manufactured during or after the 1986 model year.