

1 19A NCAC 03D .0543 is proposed for readoption without substantive changes as follows:

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3 **19A NCAC 03D .0543 INSPECTION PROCEDURE FOR EMISSIONS EQUIPMENT**

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5 (a) In addition to the required safety inspection, all gasoline-powered motor vehicles which are registered or based
6 in an ~~exhaust~~-emission county and which are ~~1975-1966~~ model year or newer shall have an ~~exhaust~~-emission
7 ~~test excluding vehicles within the three most current model years and less than 70,000 miles.~~ This ~~exhaust~~-emission
8 test is in addition to the safety inspection required in the rules in this Section and shall be administered as a part of
9 the regular annual inspection only. ~~The exhaust emission readings resulting from the test must be at or below the~~
10 ~~standards as set forth in Paragraph (c) of this Rule or a waiver must be issued by the Commissioner of Motor~~
11 ~~Vehicles or his designated agent as specified in 19A NCAC 3D .0551. The current year model vehicle shall be~~
12 ~~subject to the exhaust emissions inspection if presented for reinspection at anytime after the original inspection.~~

13 (b) Vehicles which are purchased in a ~~non-exhaust~~-emission county and which are to be based in an ~~exhaust~~
14 emission county, shall, within ~~40 days~~ 12 months of purchase, be reinspected in compliance with the Safety
15 Equipment ~~Exhaust~~-Emission requirements.

16 (c) The following requirements shall be adhered to by the license inspection ~~station;~~ station for calibration of the
17 ~~exhaust emission analyzer(s) used for state inspections. The requirements are:~~

18 (1) ~~Inspections inspections~~ shall be performed only with an analyzer and software which has been
19 certified by ~~N.C. DEHNR,~~ the North Carolina Department of Environmental Quality (NCDEQ).

20 (2) ~~All certified analyzers shall automatically require the inspection mechanic to perform a self-~~
21 ~~calibration and leak test every three days. If the analyzer does not require a gas calibration/leak~~
22 ~~test every three days, no additional inspections shall be performed and the DMV Inspector shall be~~
23 ~~notified.~~

24 (3) ~~All analyzers must be equipped with two tanks of span gases in the following concentrations:~~

25 (A) ~~1.0% carbon monoxide, 6.0% carbon dioxide and 300 PPM Propane;~~

26 (B) ~~4.0% carbon monoxide, 12.0% carbon dioxide and 1200 PPM Propane.~~

27 (4) ~~All analyzer maintenance shall be performed according to the manufacturer's specifications and~~
28 ~~reported on a maintenance log which shall be maintained at each station. Items to be recorded~~
29 ~~include:~~

30 (A) ~~all filter replacements;~~

31 (B) ~~water trap service; and~~

32 (C) ~~any replacement or repair of the probe or sample line.~~

33 (5) ~~Multi Point Calibration Requirements.~~

34 (A) ~~In high volume stations (those performing 5000 or more tests per year), analyzers shall~~
35 ~~undergo two point calibrations each operating day and shall continually~~
36 ~~compensate for changes in barometric pressure. Calibration shall be checked at least~~
37 ~~every four hours and the analyzer adjusted if the reading is more than 2% different from~~

1 the span gas value.

2 Each time the analyzer electronic or optical systems are repaired or replaced, a gas
3 calibration shall be performed prior to returning the unit to service.

4 ~~(B)~~ In high volume stations, monthly multi point calibrations shall be performed. Low
5 volume stations shall perform multi point calibrations every six months. The calibration
6 curve shall be checked at 20%, 40%, 60%, and 80% of full scale and adjusted or repaired
7 to meet specifications listed in 40 CFR Part 51, Appendix D(I)(b)(1) which is hereby
8 incorporated by reference, including all subsequent editions. This publication is available
9 upon request at no cost from DMV Enforcement, 1100 New Bern Avenue, Raleigh, NC
10 27697, telephone (919) 733 7872. The necessary additional calibration gas bottles
11 need not be a permanent part of the analyzer, but the analyzer software must require the
12 periodic multi point calibration and the analyzer hardware must accept the calibration gas
13 from an external source.

14 ~~(C)~~ Gas calibration shall be accomplished by introducing National Bureau of Standards
15 traceable gases into the analyzer either through the calibration port or through the probe.
16 Span gases utilized for calibration shall be within two percent of the required span points.

17 ~~(6)(2)~~ Requirements for keeping and submitting records are as follows:

18 (A) Copies of the "~~Receipt and Statement~~" Vehicle Inspection Receipt/Statement shall be
19 removed from the analyzer at the time of download and filed with other business records
20 and kept in sequence for review by the DMV Inspector during his or her audit. These
21 copies of the "~~Receipt and Statement~~" Vehicle Inspection Receipt/Statement must be
22 retained for 18 ~~months~~ months; and

23 ~~(B)~~ A monthly report shall be submitted electronically by the analyzer on the date and time
24 specified by the Division. It is the station's responsibility to connect the analyzer to the
25 proper telephone line and leave the machine properly powered for the telephone
26 transmittal of records on the specified date and time each and every month. Failure to
27 comply with this requirement may result in the suspension of the station license.

28 ~~(C)~~(B) Station owners ~~owner(s)~~ shall maintain the printer in a condition so that all copies of the
29 Vehicle Inspection Receipt/Statement are clear and legible. Failure to comply with this
30 subsection shall result in an immediate suspension until corrected.

31 (d) The procedures for inspection shall be as follows:

32 (1) ~~The vehicle's engine must be at normal operating temperature, and all accessories must be off.~~

33 ~~(2)(1)~~ The exhaust system from the engine manifold to the rear most portion of the tailpipe shall be
34 examined to determine that the exhaust system is free from cracks, holes or dents which would
35 restrict, reduce, allow leakage or any way prohibit the free flow of exhaust from the engine to the
36 rear most portion of the tailpipe. The Exhaust Emissions Test requires one analyzer probe to be
37 inserted 10" to 16" in the end of tailpipe. If the exhaust system is defective (leaking joints, holes,

1 ~~leaking seams, or leaking patches) this could interfere with an accurate exhaust emissions reading.~~

2 A defective exhaust system is a failure item under the safety inspection requirements.

3 ~~(3)(2)~~ The inspection mechanic shall conduct the emission test with the use of an exhaust-emission
4 analyzer which has met ~~N.C. DEHNR-NCDEQ~~ certification and has been approved by the North
5 Carolina Commissioner of Motor Vehicles ~~or his designated agent.~~ Office. Standards for
6 inspection are found in the publication, "Specification for the North Carolina Analyzer System"
7 which is hereby incorporated by reference, including all subsequent amendments and editions.
8 This publication is available at no cost from the North Carolina Department of Environment,
9 Health, and Natural Resources, Division of Environmental Management Air Quality Section,
10 Mobile Sources, 15 North West Street, Raleigh, NC 27626, telephone 919-733-1481.

11 ~~(4)(3)~~ The emission's test shall be conducted using the following prompts displayed on the emissions
12 analyzer. ~~All procedures:~~ ~~(All instructions provided by the analyzer must be followed.)~~ followed):

13 (A) ~~Idle Mode Emission Test:~~

14 (i) ~~Analyzer must be warmed up.~~

15 (ii) ~~The analyzer shall prompt the inspector to test the vehicle in as received~~
16 ~~condition with the transmission in neutral or park. All accessories shall be~~
17 ~~turned off and the engine running at normal operating temperature.~~

18 (iii) ~~The inspector shall deploy a tachometer, insert the sample probe into the~~
19 ~~tailpipe, then the test sequence shall begin.~~

20 (iv) ~~Pre condition mode shall initiate when engine speed is between~~
21 ~~2200 and 2800 RPM and continue for 30 seconds.~~

22 (v) ~~Idle mode test shall start when the vehicle engine speed is between 350 and~~
23 ~~1100 RPM. The mode shall last a minimum of 30 seconds and a maximum of 90~~
24 ~~seconds.~~

25 (vi) ~~If the vehicle passes, the reported scores shall be the passing readings. If the~~
26 ~~vehicle fails, the inspector shall proceed to the second chance test.~~

27 (vii) ~~Second chance pre condition mode shall initiate when engine speed is~~
28 ~~between 2200 and 2800 RPM and continue for 180 seconds.~~

29 (viii) ~~Second chance idle test shall start when the vehicle engine speed is~~
30 ~~between 350 and 1100 RPM. The mode shall last for a maximum of 90 seconds.~~

31 ~~NOTE: The engine shall be shut off and restarted for 1981-1986 Ford Motor~~
32 ~~Company products and 1984-1985 Honda Preludes, as instructed by the~~
33 ~~analyzer.~~

34 (ix) ~~The pass/fail analysis shall begin after an initial time delay of 10~~
35 ~~seconds.~~

36 (x) ~~The pass/fail determination is made based on a comparison of the HC and~~
37 ~~CO readings against the idle emission standards for that particular vehicle.~~

(B) ~~The analyzer shall test and disapprove a vehicle when the Carbon Monoxide (CO) or Hydrocarbon (HC) reading of the inspected vehicle is higher than the standards set forth in Paragraph (e) of this Rule.~~

(e) ~~The following chart indicates the maximum allowed Emission Standards which became effective April 1, 1991:~~

VEHICLE CLASS	MODEL YEAR	CARBON MONOXIDE	HYDROCARBON
		CO STANDARD AT IDLE (0%)	HC STANDARD AT IDLE (PPM)
Light duty vehicles	1975-1977	4.5	450
	1978-1979	3.5	350
	1980	2.0	250
	1981 & later	1.2	220
Heavy duty vehicles	1975-78	5.0	500
	1979 & later	4.0	400

(f) ~~A challenge waiver may be issued by the Commissioner of Motor Vehicles or his designated agent, Office. If the owner/operator of the vehicle suspects the analyzer is incorrect, he or she may petition the Division of Motor Vehicles to test the vehicle in question to determine the analyzer's accuracy. If the test determines the vehicle to be in compliance with the Emission Standards, a challenge waiver shall be issued and the Division shall immediately require an examination of the station analyzer in question and take corrective action.~~

*History Note: Authority G.S. 20-2; 20-39; 20-183.3;
Eff. October 1, 1994. 1994;
Readopted Eff. _____, 2021.*